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THE PHARMACIST'S MEDICATION COUNSELING ROLE: ATTITUDES AND BEHAVIOR OF COMMUNITY PRACTITIONERS

BY

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CHAPTER ONE

STUDY OVERVIEW

Introduction and Background

> Should the patient know what drug he is taking? Should the name of the drug be written on the label where anyone can see it? Do patients know too much about their illness and its treatment? These are some of the questions physicians are asking themselves today.[1]

A 1963 editorial of the Journal of the American Medical Association, exemplifies some of the initial debate within the medical profession regarding the merits of informing patients about their therapy. Sixteen years later health care professionals are facing questions that significantly expand on issues relating to patient information for prescription drugs. Patients are requesting more information regarding their drug therapy and health professionals generally recognize the necessity of providing this information.

The Traditional System

In our traditional system of medical care it has been the role of the physician to make the decision as to exactly how much to tell the patient about his medications. Being

dependent on the patient-education philosophy, knowledge, and/or time constraints of the individual physician, efforts at patient drug counseling under the traditional system have been quite erratic. As a result, prescription medications still have a great deal of mystique associated with them. In this traditional system the patient often receives a prescription not knowing the name of the medication, nor the condition he is taking it for; and, as likely as not, the pharmacist presents to the patient a medication vial with a label that instructs him how often to take the drug and very little else. Frequently the patient receives no verbal instruction relating to his medications.

The negative consequences of our traditional process of disseminating prescription-drug-information are quite apparent. Significant numbers of people suffer adverse drug reactions that involve hospitalization, prolonged illness, or even death. As many as five percent of the patients in general medical services at a major university hospital are admitted because of a drug reaction.[2] Once hospitalized, a patient has a ten to thirty percent chance of acquiring another adverse drug reaction. Comparable data suggests that these figures are at least matched in pediatric populations.[3]

In addition, research consistently demonstrates that the extent of noncompliance in the utilization of medications is at a higher level than many health professionals

consider acceptable. Most noncompliant patients do not require hospitalization, but they may suffer prolonged illness, unnecessary medication expenditures, and degeneration of chronic conditions. The literature indicates noncompliance rates commonly over thirty percent. This rate has been found to range from four percent to one hundred percent over a number of investigations.[4] As with cases of hospitalization resulting from adverse drug reactions, drug taking errors cannot be completely eliminated as a result of better drug-usage information. However, it is reasonable to conclude that providing information and instruction generally increases compliance and leads to improved therapeutic outcomes.[5]

The overall social and monetary costs to the patient population resulting from insufficient drug information are most difficult to estimate, but it is assumed that they are considerable. Thus, there is little disagreement among health professionals as to the desirability of patients receiving more information regarding the medications they consume. It is strongly believed that more adequate information will lead to a higher degree of proper medication utilization and a minimization of undesirable reactions to drug therapy, along with a concomitant reduction in patient costs.

The fact that health professionals are still not providing optimal counseling regarding prescription

medications has not gone unnoticed. Even with increased attention by physicians and a new emphasis on patient counseling by other health care providers, there is a considerable "drug information gap" between the medication providers and consumers. The average patient just does not receive all the information necessary for safe and effective drug therapy.

Health care consumers are becoming more aware of the need for additional information about the medications they use. The growing number of published medication guides, directed at the lay person, reflects this awareness, as well as the belief that this type of information is not currently being provided by health professionals.[6]

Patient demand for more drug information has been formalized in a petition filed with the Food and Drug Administration (FDA), in March 1975, on behalf of several consumer interest groups.[7] This petition requests that the agency require written warning information be included on prescription labels and as patient package inserts (PPIs) for certain medications thought by the petitioners as most likely to cause adverse side effects, drug interactions, or for which verbal instruction might not be adequate. The FDA is acting on this proposal by developing an initial group of 50 to 75 PPIs for general distribution.[8]

In response to the rising concern about the "drug information gap" significant resources are being invested

to provide patients with better medication counseling. To facilitate this goal, health care professionals other than the physician are increasingly involved in the patient drug education process as a new approach to medical care evolves from our traditional system.

Evolving Role of the Pharmacist

The entrenched role of the physician as the single purveyor of medication information and instruction is being modified. The physician is still preferred and utilized by most patients as their primary counselor regarding proper drug usage, but the previously mentioned need for safer and more effective drug use has tended to foster expanded sources of medication counseling.[9] Of these the pharmacist is the health care professional most likely to take on increased responsibility for patient medication counseling. The impetus for this role expansion emerges from the patient-oriented or "clinical" pharmacist.

In the traditional system of prescription practice the pharmacist has been product-oriented as opposed to people-oriented. His primary role revolved around product-related functions involving the procurement, storage, and distribution of medications. It is acknowledged that there is not yet any agreed upon definition of clinical pharmacy, but one common idea is present in all of its manifestations: this idea is the emphasis on drugs as they are utilized by and in

the patient.[10] Hence, the clinically oriented pharmacist directs much of his work activity toward interaction with the patient. Counseling patients regarding their medications is a substantial component of this interaction.

Pharmacy schools are attempting to develop patient-oriented practitioners to fill the role of the patient medication counselor in order to bridge the aforementioned drug information gap. This goal is supported through efforts of pharmacy organizations and the profession's leaders who actively promote the patient advising role to practitioners.

Available evidence indicates that adequately trained pharmacists can ably function in the patient advising role. A growing number of demonstration projects show that pharmacists can intervene in counseling patients, improving their medication utilization, with a resulting positive effect on treatment outcomes.[11] Armed with this evidence that pharmacists are able to perform adequately in the medication counseling role, the profession's attention increasingly is being focused on encouraging practitioners to act in this capacity.

Despite enthusiastic endorsements and promising demonstrations, the patient advising role is still in the early stages of implementation. As will be discussed, this circumstance is evidenced by the low frequency of pharmacist-patient verbal interactions reported in research

describing how the pharmacist allocates his time. When the pharmacist does interact with the patient the information transmitted is often limited in content and quality. Even the written information supplied to patients with their medications is frequently decried as unsatisfactory.

Research Needs

Baseline Data

Even though research indicates poor practitioner performance, the fact that early evaluations of pharmacist counseling are being conducted is important for pharmacy. The effective implementation of the patient counseling role necessitates a commitment to continued monitoring and assessment. In today's health care climate providers are being forcefully asked to justify their activities on the basis of their contribution to improved patient outcomes. A first step in linking an activity to a patient outcome is to establish the extent to which that activity is being engaged in. Once a baseline measure of the pharmacists' counseling can be accurately determined, variations in counseling can be examined with respect to evolving quality criteria, and ultimately, with patient outcomes.

Those interested in evaluating the quality of pharmacist communications face a difficult task. There is yet no consensus within pharmacy as to what constitutes quality medication counseling. A segment of the profession is

grappling with this problem by going through a process of developing general competency statements for pharmacy practice.[12] From this beginning one could expect that standards for the patient counseling component of practice will eventually be delineated.

Investigators interested in pharmacist counseling activity, however, should not and cannot wait for explicit standards to be finalized. Standards alone do not insure quality counseling and the need to gather baseline data on pharmacist medication counseling exists here and now. A measure of current counseling practices is an invaluable yardstick by which to gauge changes as the implementation of the counseling role progresses.

Researchers' response to this need have been only partially satisfactory. A good deal is known about what portion of the day pharmacists spend communicating with patients, but little is known about how this time is divided among patients. More importantly, the content of pharmacist counseling has not been measured in any systematic and comprehensive manner. Too often researchers have developed limited measures of communication content, applicable only for specific research questions. As a result, we have little idea as to what, if any, norms for patient counseling are emerging among pharmacists.

In the following chapter it is argued that in order to provide information to the profession that is useful for

continuing reassessment of the counseling role, it is desirable to utilize an objective, systematic approach to the measurement of actual pharmacist counseling behavior. Only such an approach can take into account all dimensions of pharmacist-patient interaction, forming a basis for future evaluations based on changing practice standards. And, over and above its evaluation utility, a systematic measure of pharmacist communication has direct applications for exploring the determinants of counseling behavior.

Understanding Pharmacist Counseling

To move beyond the level of descriptive evaluations to an exploration of factors accounting for variation in pharmacist medication counseling requires adoption of a systematic behavioral measurement technique. This kind of measure lends itself well to the delineation of variables affecting pharmacist-patient interactions. Those educators entrusted with the task of developing patient-oriented practitioners need to understand the effect of certain variables on the pharmacists' counseling behavior.

Efforts to improve pharmacist medication counseling have concentrated primarily on upgrading future and current practitioners' knowledge of drugs and drug therapy. This focus is changing. Based on the premise that many pharmacists are not counseling because they lack the necessary communication and interaction skills, pharmacy

educators are asking for more emphasis on patient counseling in the pharmacy school curriculum in order to impart these skills to students. This same trend is apparent in continuing education materials and formal programs for practitioners which frequently stress the patient counseling role and often provide instruction on communication techniques.

These educational activities are necessary and commendable, but it is unrealistic to expect that they can serve to attain a desired level of practice performance until instructional strategies are utilized that encompass a fuller understanding of the factors affecting the pharmacists' patient counseling.

Although the desirability of understanding factors which facilitate or inhibit pharmacist-patient communication is obvious, little is known regarding these factors. Our discussion in Chapter Two points out that there has been little scientific study on the specific topic of pharmacist prescription-medication counseling. Because of the aforementioned varied problem conceptualizations and unstandardized methodologies employed by the few investigators in this area, it is hardly surprising that only fragmented, and often contradictory information regarding variables influencing the counseling role is available.

The limited amount of research does identify certain types of factors that may affect pharmacist communication

with patients about their medications. The current task then, is to sort out, integrate, and expand on this preliminary research, to develop ultimately a conceptually unified model explaining variations in pharmacist medication counseling.

The Present Study

The Research Focus

It is beyond the scope of any single investigation to develop an all-inclusive conceptual model of pharmacist-patient communication. However, it is possible to investigate a set of related variables to provide information which can form a basis for future, integrateable research.

One starting point from which to consider the counseling behavior of the pharmacist begins with the pharmacist himself. An understanding of the manner in which he views the counseling role has both theoretical and practical implications. The fact that the pharmacist can either effectively block patient counseling or greatly facilitate patient understanding of his therapy places the practitioner directly in the center of any model of medication counseling. Moreover, findings regarding pharmacist perceptions and attitudes about patient advising have direct application in planning education. If it is shown that the way pharmacists view their counseling role is related to the extent to which they counsel patients,

instructional strategies could be developed to reinforce positive aspects of these attitudes and/or minimize negative aspects.

There have been no systematic studies examining the counseling role from the pharmacists' vantage point, much less any attempt to link these views to actual behavior. But studies showing a high level of negative feelings among pharmacists toward patient contacts and the provision of drug information suggest that attitudinal orientation may play an important role in influencing levels of patient advising.

The probability that attitudinal variables affect counseling behavior is further supported by the observations of researchers who find that despite demonstrating the requisite knowledge to provide the patient with medication counseling, practitioners often do not effectively counsel.

These indications are congruent with possibilities suggested by the role theory approach taken in the present study. This role perspective is anchored on the basic premise that behavior is largely guided by expectations held by oneself and others. On this basis it will be argued that lacking counseling norms, practitioners rely on their self-expectations--essentially attitudinal in nature--to guide their behavior. A discussion of sources of pharmacist self-expectations that potentially influence practitioners' counselor role orientation is presented in Chapter Three.

Purpose of Study

This exploratory study investigates pharmacists' views (attitudes) regarding the patient prescription-medication counseling role, their behavior in that role, and the relationship between pharmacists' views and counseling activity. The purpose of the study, stated in general terms, is to investigate the following questions:

1) How do pharmacists view their role as counselor to patients regarding prescription medications? What are the variations in the way pharmacists view this counseling role?

2) How do pharmacists behave as patient medication counselors? What are the variations in the way pharmacists carry out this counseling role?

3) What are the relationships between pharmacist views of the counseling role and their behaviors as medication counselors?

Scope of Study

Data generated from in-depth personal interviews with forty pharmacists practicing in independently owned community pharmacies provide the basis for describing the way pharmacists view their patient counseling role. This study segment, designated as Phase I, is designed to solicit both quantitative and qualitative data regarding practitioner attitudes toward prescription medication advising activity.

The basic data-collection instruments of Phase I are intended to ascertain the pharmacist's Counselor Role Orientation and identify those component views of this

general role orientation that influence practitioner's actual counseling activities. A role theory framework is utilized to guide the selection of the attitudinal components to be investigated as determinants of the pharmacists' role orientation and which potentially affect their patient counseling.

Phase II of the investigation applies an objective and systematic methodology for measuring several dimensions of pharmacist-patient interactions. Using trained observers, data are obtained to ascertain the extent to which the subject-pharmacists interview patients, provide verbal instruction, act in an approachable manner, provide written instruction, and generally spend time interacting with patients. These measures of actual counseling practices constitute a baseline measurement of pharmacist activity in patient medication advising.

Quantitative data generated from the two study phases are utilized to examine the statistical relationship between the subjects' Counselor Role Orientation and their behavior on the five counseling dimensions enumerated above. Exploratory regression analysis is conducted to investigate the combined effects of additional pharmacist and system variables on counseling behavior. This process is intended to help delineate critical variables affecting the pharmacists' medication counseling and to provide direction for future investigations.

Because of the exploratory nature of this study, the following constraints apply: 1) only a small sample of pharmacists are studied, 2) practitioners are selected from only one type of practice setting, 3) selection of Counselor Role Orientation attitudinal components to be investigated is guided by a role theory framework interpretation of existing, primarily speculative literature in the area, and 4) measurement of behavior is derived from pharmacist-observer interactions for only two drug products.

Chapter Preview

Chapter Two reviews the empirical literature regarding the pharmacist as patient counselor, and emphasizes the potential importance of attitudes in influencing his behavior in that role. Methodological difficulties in prior research are discussed and suggestions are presented to overcome these problems.

The role framework guiding the investigation is presented in Chapter Three. Sources of expectations potentially influencing practitioner counseling views are discussed. The rationale behind the selection of other independent variables for statistical or sampling control is presented. Similarly, conceptual justification for utilization of the behavioral dimensions is offered.

The study methodology is described in Chapter Four. This chapter includes a discussion of the research

instrument development, data collection protocols, and interaction scoring procedures.

Chapter Five presents qualitative and quantitative data regarding the subject's views of the patient counseling role. The data presentation focuses on consistencies and inconsistencies between the views held by high and low Counselor Role Orientation scale scorers.

Chapter Six details the pharmacists' counseling activity for each of two drug products as determined from encounters with field observers.

The statistical relationships between pharmacist attitudes, in conjunction with additional variables, and their counseling behaviors are explored in Chapter Seven.

Chapter Eight draws together conclusions indicated from the research findings, and suggests practical applications based on these findings as well as directions for future investigations.

FOOTNOTES

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5. See the general conclusions in Ivan Barofsky, Medication Compliance: A Behavioral Management Approach (Thorofare, N.J.: C. B. Slack, 1977).

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10. Pharmacists for the Future: The Report of the Study Commission on Pharmacy, John Millis, Chairman (Ann Arbor: Health Administration Press, for the American Association of Colleges of Pharmacy, 1975), p. 93.

11. For examples of pharmacist intervention demonstrations, see Andrew Canada, "The Pharmacist and Drug Compliance," In Compliance with Therapeutic Regimens, pp. 129-134, edited by David L. Sackett and R. B. Haynes (Baltimore: Johns Hopkins University Press, 1976).

12. A first step in this process is the identification of the pharmacists' work activities. This has been undertaken in A National Study of the Practice of Pharmacy, by the Center for Occupational and Professional Assessment, for the American Pharmaceutical Association and the American Association of Colleges of Pharmacy (Washington: American Pharmaceutical Association, 1978).

10. Pharmacists for the Future: The Report of the Study Commission on Pharmacy, John Millis, Chairman (Ann Arbor: Health Administration Press, for the American Association of Colleges of Pharmacy, 1975), p. 93.

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12. A National Study of the Practice of Pharmacy, by the Center for Occupational and Professional Assessment, for the American Pharmaceutical Association and the American Association of Colleges of Pharmacy (Washington: American Pharmaceutical Association, 1978).

CHAPTER TWO

THE PHARMACIST AS PATIENT COUNSELOR

To date there are relatively few studies of pharmacist-patient interactions regarding prescription medications. This chapter reviews literature primarily relating to pharmacist verbal counseling of patients in the community practice setting.

The first portion of this chapter details our ground-level, descriptive knowledge regarding the extent to which pharmacists interact with patients, in terms of their counseling involvement, interaction frequency, and encounter durations.

Then prior empirical assessments of pharmacist counseling are examined. Based on these studies, factors that appear to potentially influence the practitioners' patient counseling are identified. Practitioner attitudinal orientations are singled out as neglected, yet possible crucial determinants of counseling activity.

Finally, we turn to a summary of and expansion on problems in the measurement and assessment of pharmacist-patient interactions which have been pointed to throughout the chapter. A methodological approach is suggested in

consideration of providing direction for the present investigation.

Verbal Counseling: A Description

Descriptive information regarding the time the pharmacist spends with his patients is of more than passing interest to those concerned with developing patient-oriented practitioners. Examination of the varied approaches taken by investigators provides methodological pointers for directing more extensive analysis in the area. Although it tells us little of the content comprising these interactions, this information furnishes an indication of the degree to which practitioners now involve themselves in counseling activity.

Extent of Involvement

Linn and Davis surveyed 108 community pharmacists who reported that "advising and discussing health problems with patrons" is second only to activities related to preparation of prescription orders in terms of time spent.[1] This study based its findings on practitioners' rank ordering of six activity categories, allowing for only a relative comparison of time spent in the various activities.

A recent nationwide survey of practitioners located principally in community settings, shows a similar level of involvement in direct patient care activities.[2] One portion

of this study reports on 1402 pharmacists who designated how they allocate their time among seven dimensions of practice. The results show that "patient care functions" consume approximately the same amount of time as management and administrative functions, both ranking behind prescription processing functions. But, these patient care functions are reported to involve little more than ten percent of the pharmacists' activity, compared to prescription processing functions that account for almost fifty percent of the pharmacists' time.

While one may have reason to question the validity and reliability of self-reported activity percentages in studies of this type, it is still clear that patient-related activities constitute a small, but significant, dimension of pharmacy practice.

A problem equally important as the questionable meaning and accuracy of self-reported activities is the inability of these measures to differentiate between subcategories of patient care activities. For instance, it is impossible to determine how much time the pharmacist spends counseling patients about prescription medications as compared to over-the-counter products.

This constitutes a problem even if respondents were asked to further subclassify their activities, as the magnitude of errors in estimating less frequently occurring activities increases substantially.[3] This lack of

sensitivity in activity categorization for self-report surveys presents a significant barrier to further analysis of pharmacist-patient interactions using this approach.

Other investigators have quantified the amount of time the pharmacist spends interacting with patients utilizing work sampling techniques.[4] This direct observation method substantially overcomes objections relating to the validity and reliability of self-reports. But, unfortunately, most of these studies are concerned primarily with the total spectrum of the pharmacists' activities. Thus, the quantification of pharmacist-patient interaction is still confined to placement in a limited, albeit larger, number of categories compared with self-report surveys. As a result, professional communication with patients generally cannot be differentiated from among other times of consultative activity (e.g. physician)[5] or separated by method of communication (e.g. verbal vs. written; in person vs. telephone).[6]

In one research report specifically focusing on pharmacist communications, Dickson and Rodowskas subclassified pharmacist-patient interaction into five categories, somewhat overcoming these limitations.[7] They distinguished verbal professional communication regarding prescriptions from written communication, professional and nonprofessional communication about over-the-counter products, and nonprofessional communication about prescriptions. While still

not allowing for an examination of communication content, this study provides us with perhaps the best descriptive overview of pharmacist-patient interactions.

The findings from this study sample of 22 chain pharmacies indicate that the most frequent type of communication pharmacists engage in is with patients (36 percent). But only around one quarter of this communication is professional interaction regarding prescription drug products. Even more striking is the finding that communication with patients, taken as a whole, amounts to little over five percent of all pharmacist activity. Thus, it appears that the pharmacist spends only a small portion of his work day counseling patients about their prescription medications.

This knowledge by itself tells us little about the extent to which pharmacists interact with <u>individual</u> patients. Some answers to this question are provided through investigators who report on the frequency with which pharmacists verbally counsel patients.

<u>Frequency of Consultation</u>

Rowles and associates reported that 73 of 100 patients received absolutely no instruction on compounded medications they obtained.[8] Kotzan and Williams found that nearly 82 percent of the patients obtaining prescriptions (n=209) from a sample of community pharmacies received no verbal

professional communication from the pharmacist.[9]

A recent study by Puckett and his colleagues reports that a somewhat higher percentage of practitioners verbally counsel patients.[10] They found that 41 percent of 95 pharmacists studied voluntarily counseled the patient when delivering the drug product. This counseling figure ranged from 29 percent in chain/discount pharmacies to 56 percent in the professional category pharmacy.

Research in the state of Washington, approximately one year after a regulation requiring patient consultation went into effect, shows that pharmacists explained directions to the patient in only 47 percent of 192 opportunities.[11] In 19 percent of these observations, no pharmacist-patient communication occurred at all. This study also shows that pharmacists practicing in settings classified as "professional" provided instructions more often than those in "super self-service" pharmacies (54 vs. 38 percent).

Similar findings from another state with a mandatory patient counseling regulation indicate that some professional communication occurred for just over half of 158 prescriptions obtained from pharmacists by research accomplices.[12]

These descriptive "frequency" studies show somewhat varied findings, but they do indicate pharmacists generally provide verbal counseling for less than a majority of the prescriptions they dispense. It is reasonable to believe

that the differences among studies are attributable to a combination of factors: the methodologies investigators utilized, practice regulations affecting the subjects, and the year in which the research was conducted.

Each study utilized covert investigation, but Kotzan and Williams depended on an unobtrusive observer who listened in on pharmacist counseling for both new and renewal prescriptions. Their data analysis did not differentiate between counseling for original and refill orders. The other studies employed experimental accomplices who obtained new prescriptions from selected pharmacies. The prescription products obtained varied from a single compounded medication used by Rowles to one of four commonly dispensed products in the Puckett study.

Finally, the two studies indicating the lowest frequency of counseling were conducted prior to the other investigations described, and the two reports showing the highest counseling frequency are from states with mandatory counseling regulations.

These observations lead one to speculate that new vs. renewal prescription status, type of medication, time-linked role emergence, and legal mandates all affect the frequency with which pharmacists counsel patients. However, as will be noted later, these types of variables have not been studied with respect to their effects on counseling.

The above studies furnish us with some idea regarding

how often pharmacists counsel individual patients, but they lack depth in their classification scheme. With the exception of the Puckett study, which will be discussed later, the measurement of pharmacist counseling in each of these investigations is essentially in terms of a dichotomized, present-absent categorization. In order to gain a further understanding of the pharmacists' medication counseling practices it is desirable to delve beneath this surface level of measurement.

Duration of Encounters

A third descriptive dimension of pharmacist counseling, the duration of encounters, has not been reported in the literature on community pharmacy practice. Most investigators have not attempted to quantify counseling beyond the aforementioned present-absent dichotomization. Only Hanson's unpublished data suggests an answer to this question.[13] His findings indicate that when the pharmacist does counsel the patient some 90 percent of all interactions are completed in less than 30 seconds. These data are based on 84 encounters timed at 30 second intervals, prohibiting a more exact determination of encounter durations.

Two studies conducted in hospital out-patient departments have reported on the length of pharmacist-patient encounters. Both these investigations were demonstration projects designed to evaluate the effect of increased

privacy on various aspects of pharmacist communication. Ludy and associates reported mean patient-estimated interaction times of 1.7 minutes in a traditional outpatient pharmacy and 5.8 minutes in a satellite pharmacy with a private consultation room.[14] These figures are not on a per prescription basis, but rather for total counseling time in which patients received from one to five medications.

Beardsley and associates used a tape recorder to determine exact interaction times for each medication dispensed to out-patients.[15] Pharmacists were asked to provide two levels of counseling for 106 patients who were assigned to high or low privacy settings. The authors determined that the mean duration for pharmacist-patient interactions ranged from almost three minutes in the high privacy-high education group down to 23 seconds in the low privacy-low education group. Pharmacists assigned to the low education level made no "concerted effort to educate these patients," while pharmacists categorized in the high education level followed specific instructional protocols.

If the low education level is considered to be the study pharmacists' normal counseling practice, the 23 second average interaction time at the traditional outpatient window may lend itself to comparison with community practice data. This, of course, assumes that counseling activity in traditional hospital pharmacies does not substantially differ in kind from that in retail settings.

Summary

The counseling of patients regarding their prescription medications is an important component of pharmacy practice, but this activity clearly takes a back seat, in terms of time spent, to functions related to prescription processing. Nevertheless, the pharmacist spends more time talking with patients in person than with others.[16] But this communication is spotty, as research reports indicate that a minority of patients are counseled by the pharmacist; and, when medication counseling is provided it is brief.

These measures of practitioner advising are only a descriptive device to get a feel for the nature of current counseling practices. Researchers should now move beyond the level of interaction quantification found in the above research.

Assessment and Measurement

The first part of this review provides us with a descriptive indication of the extent to which pharmacists interact with patients. Next we examine assessments of counseling content and the issues these findings give rise to.

Variables potentially affecting counseling activity are identified; and to the extent they have been investigated, their relationship with pharmacist behavior is noted. This overview provides a basis for suggesting concentration

on pharmacists' attitudes as determinants of medication counseling.

Methodological hurdles for the study of pharmacist communication are discussed and solutions are offered to facilitate this kind of research. An approach to the study of the influence pharmacist attitudes have on behavior is proposed. This method utilizes systematic behavioral measures, intended to overcome perceived difficulties in prior research.

Assessments of Written Counseling

Written instructions pharmacists furnish to patients has received little attention from researchers. The limited empirical evidence indicates that a number of pharmacists fail to perform satisfactorily in labeling prescriptions, occasionally with potentially serious consequences.

Fleckenstein and his colleagues examined the accuracy of 232 labels from prescriptions purchased at 33 randomly selected retail pharmacies.[17] Six labels (2.6 percent) had directions for use other than those intended by the prescribers. Two of these major labeling errors were attributed to the pharmacies where the prescriptions were prepared.

This investigation discerned some omission or inaccuracy in all but eight of the 232 prescription labels. While many of these errors could be judged as trivial, such

as omission of the patients' address (on well over half of the labels), the authors believe that these errors collectively represent a significant problem.

These authors also cite additional studies that indicate inadequate prescription labeling is not limited to their particular locality. Two investigations, conducted in Oklahoma and Oregon, found that 40 and 53 percent of prescription labels examined did not show the medication name despite prescriber requests that this information be included. Fleckstein cites a third study indicating that 23 of 100 pediatric prescriptions assessed were either inadequately dispensed or incorrectly labeled.

Svarstad found that 20 percent of 239 prescriptions obtained by patients had labels that were not consistent with the physician's written medication order.[18] A study by Wertheimer and his associates found 29 of 223 prescription labels in error (13 percent).[19] Some 60 percent of these errors related to directions on the label, almost all potentially dangerous inaccuracies, as the authors did not count trivial changes or modifications as errors.

Another investigation, by Wingert and his colleagues, surveyed more than 2,000 prescriptions written in a pediatric emergency room.[20] According to the authors' criteria only 5 percent of these orders had no errors or omissions. A substantial number of these prescriptions were prepared with vague or nonspecific label instructions.

Pharmacists seldom attempted to obtain clarifications or supplemented the instructions contained on prescription orders. Further, pharmacists rectified few incorrect orders, and changes they did make were frequently in error.

The above investigations point to pharmacist deficiencies in prescription labeling. The authors of these studies imply these shortcomings arise from factors such as pharmacists' lack of time, limited physician availability for clarifications, or their unwillingness to make an effort to verify the accuracy of medication orders and/or the labels they prepare. Wertheimer speculates that some pharmacists simply have become lax in their professional responsibility, treating prescriptions too casually.[21]

However, no actual impact of the potential causes of poor pharmacist written counseling has been demonstrated. It has been established that problems exist with respect to pharmacist labeling practices, but an answer to the "why" behind these inadequacies awaits empirical investigation.

The research conducted thus far describing pharmacist written instruction employs varied definitions of proper labeling. As will be seen, this circumstance is shared by investigations focusing on verbal counseling and it is viewed as a hindrance in sorting out factors influencing pharmacists' behavior.

Assessments of Verbal Counseling

Knapp and his associates examined the performance of the community pharmacist in the drug advising role.[22] Although not specifically analyzing the pharmacist-patient interaction, the poor performance by the study subjects indicates the quality of pharmacist counseling left something to be desired. Just six of thirty-six pharmacists correctly identified potentially harmful drug interactions, and only one of twelve other pharmacists, in another study phase, detected drug product contraindications presented in test situations.

An analysis of three case studies concerning pharmacist handling of OTC medication requests leads Wertheimer and his colleagues to suggest that pharmacists should begin to make more professional judgments and communicate these judgments to patients.[23]

In this same vein, the Massachusetts Consumers' Council reported on advice and consultation received regarding prescriptions obtained in 69 pharmacies. The Council concluded that the "results clearly demonstrate that most pharmacists surveyed either dispensed no information at all, or only partial information--in derogation of their legal and professional obligation to protect the patient's health and well being."[24]

Jang conducted an evaluation of the quality of drug-related services provided by community pharmacists in an

urban area.[25] He had observers present 16 problem situations to 48 pharmacists who were stratified into poverty and non-poverty work locations. By presenting prescriptions and/or asking questions, the observers obtained performance measures on each of the 16 problems over the course of two visits. Pharmacists' responses to the problems were scored on pass-fail grading criteria established by an eight member expert panel. Results were analyzed for quality of service in four activity categories, three of which (prescription drug usage control, drug monitoring, OTC drug usage control) comprise pharmacist-patient interaction activities.

Drug monitoring performance was judged to be poor as only one of 48 pharmacists acted to correct a penicillin prescription presented by a patient allergic to that medication. The author further identified inadequate performance in prescription and OTC usage control activities, noting that pharmacists did not volunteer information and when they were asked questions they did not provide correct answers. Viewing the overall study results Jang concluded that ". . . it is evident that pharmacists have not adopted the role of drug advisor to patients."[26]

Watkins and associates conducted a study examining the effect of a continuing education program on pharmacist drug advising behavior.[27] In this study experimental accomplices obtained from each of 55 pharmacists six problem

prescriptions, about which patients should be counseled. Practitioners in a group completing a continuing education program prior to the test situations had a mean behavior score of just under five points while a control group averaged slightly over two out of a possible eighteen points. Although the experimental group had a significantly higher behavior score than the control group, the authors believe that the pharmacists' performance is still inadequate in terms of patient services.

Finally, the previously mentioned research by Puckett and associates further confirms the assertion that pharmacists on the average have been providing only minimal patient counseling services.[28] This investigation examined the level of prescription information and advice supplied to observers by 95 pharmacists practicing in three midwest urban areas. Based on predetermined standards, practitioner scores for four study drugs averaged 19 percent of optimal counseling activity. Additionally, the authors' subjective analysis of the counseling stresses that there were many instances of ambiguity, incompleteness, or incorrect advice given. From these study findings the authors rightfully concluded that counseling received would still be considered poor and inadequate, even if less stringent standards were utilized.

A prime feature in each of these evaluations is a performance judgment based on either explicit or implicit

quality standards of counseling. However, because this role is in the early stages of implementation, no agreed upon standards have been developed. Lacking such norms, Donabedian has observed, "The definition of quality may be anything anyone wishes it to be."[29] This seemingly cavalier statement underscores the difficulty in defining, operationalizing, and measuring the quality of pharmacist counseling.[30] The practical consequences of this problem are reflected in the dependent variables utilized in the studies just described. Counseling quality is variously conceptualized and evaluated in terms of: question asking and patient knowledge,[31] responses to test problems,[32] and levels of information provided based on published drug reference sources.[33]

Such diverse standards restrict the applications of these research findings for the purpose of monitoring implementation of and changes in the counseling role over time. Furthermore, the noncomparability of these studies hinders efforts to understand the effects of variables that inhibit or facilitate pharmacist-patient interactions. This fact may very well contribute to the inconsistent findings evidenced in literature reports on the relationship between selected variables and pharmacists' medication counseling.

Variables Related to Pharmacist Counseling

Although this study is primarily concerned with variations in counseling related to the manner in which the pharmacist views the counseling role, an overview of the general field of inquiry in the area is appropriate at this point. Assuming an ultimate research goal is the development of a comprehensive model of pharmacist-patient interaction, it is imperative to consider the range of factors potentially affecting this interaction. Moreover, an investigator's focus on a particular set of variables without controlling or otherwise accounting for other possible sources of variation casts doubt on interpretations of the research findings.

Although some researchers have examined the relationship between pharmacist counseling and several variables that may affect this behavior, the findings of these investigations are anything but conclusive. For heuristic purposes variables potentially influencing the pharmacist's patient advising may be simply divided into three classifications: 1) patient-related variables, 2) system-related characteristics, and 3) pharmacist-related variables.

Patient variables consist of such things as patient: expression of need for information, past experience with a medication, state of health, availability for advising, age, and sex. There has been virtually no research on these variables. The only American investigation known to this

writer examined, in a limited manner, patient expectations as reflected by pharmacist reports of patient-initiated interactions.[34] Findings of this study indicate that patients do hold certain expectations for the pharmacist which differ somewhat by patient age and sex.

There has been somewhat more study of system variables. Nonetheless, research findings provide no clear picture of the effects of these variables.

Two published studies indicate there is more pharmacist-patient communication when private consultation space is available.[35] But potential behavioral bias present in these studies, due to practitioner knowledge of the research being conducted, casts doubt on the conclusiveness of this finding.

Pharmacy staffing patterns also have been examined, and the presence of technicians has been found to result in less patient contact in one study[36] and more interaction in another.[37]

The intuitive belief that performance varies by pharmacy type is evidenced in several studies.[38] But, this has not been completely verified as other research points to no difference by setting.[39]

Similarly, an unexpected finding that prescription volume is positively related to pharmacist-patient communication[40] is disputed by research indicating prescription volume has little impact on communication.[41] The finding in

the former study might be questioned, however, as the authors did not control for the number of opportunities to advise patients.

Other system variables lie unexplored. Analysis of varied pharmacy operating procedures, practice regulations, prescription order specificity, medication renewal status, rural vs. urban location, and the amount of pressure under which the pharmacist works have not been conducted.

Pharmacist variables also have received some attention from researchers. In general, these investigations concern themselves with the relationship between descriptive practice variables and counseling performance. Research findings regarding pharmacist-related variables are sometimes inconsistent, just as with investigations of system-related variables.

For example, one might expect younger pharmacists to provide more counseling than older practitioners because pharmacy school curriculums are stressing patient-oriented practice. Findings of investigations tend to support this conclusion,[42] but two recent studies report no significant correlation--one actually a slight trend in a negative direction--between consultant behavior and age or years of practice.[43]

It appears on the basis of one study that there is no difference between pharmacist owners and employees in the portion of time they engage in patient advising.[44] Likewise,

a single study demonstrates that pharmacist exposure to a specific continuing education program and their consequent knowledge gain from this program relate positively to their counseling regarding medications used to treat urinary tract infections.[45]

Other potentially important practitioner variables have not been investigated, except in a limited manner. These descriptive variables include the pharmacist's sex, professional organization activity, geographic location, and specific educational level.[46]

Finally, the relationship between pharmacist attitudes and counseling behavior has received little empirical analysis.

Attitudes and Counseling

The fact that researchers have almost completely neglected consideration of the pharmacists' views--his attitudinal orientation--as they relate to counseling behavior is noteworthy but hardly surprising. It is much less difficult to record objective information as opposed to developing and collecting subjective materials; and, as will be noted in the following chapter, the difficulties in relating attitudes to behaviors are well documented.

In any case, the neglect of this type of variable might well help explain some of the inconsistent findings reported by researchers examining the relationship between selected

variables and pharmacist counseling practices. It is reasonable to speculate that attitudinal orientations exert a contributory influence or that they actually have a greater, independent effect on pharmacist behavior than certain other variables.

While a theoretical case will be presented in the next chapter suggesting this possibility, only limited empirical evidence regarding pharmacists is presently available to support the contention. However, as will be seen, investigations of other health care provider-patient relationships are relevant to this issue. In any case, examination of the limited amount of pharmacy-related research illustrates both the research potential and some of the difficulties faced in conducting this type of study.

In his dissertation aimed at determining continuing education needs, Shannon examined the relationship between pharmacists' attitudes toward providing patients with drug information and their performance on a written test.[47] Results of the pencil and paper test revealed very low correlations between attitudes, as measured by bi-polar adjective scales, and performance.

The author expressed initial surprise at the almost complete lack of a relationship between attitudes and test scores since attitudes, to a lesser or greater degree, are believed capable of influencing behavior. Shannon does, however, supply three possible explanations for the low

correlations found in his study. These include: 1) a possible discrepancy between pharmacist definitions of drug information and that intended in the study, resulting in invalid attitude measures, 2) the fact that subjects will attempt to answer test questions to the best of their ability regardless of attitudes, or that 3) the pencil and paper test is too far removed, in a pharmacy practice sense, from the attitudes toward counseling tapped by his bi-polar scales. Each of these explanations is plausible, but until field research is undertaken relating attitudes to actual pharmacist counseling they remain speculative.

A potentially difficult task for the researcher is separating the effects of pharmacist knowledge about medications and their counseling attitudes as they affect behavior. Shannon surmises that the high percentage of subjects in his study scoring well indicates that the poor performance by community practitioners in providing drug information, demonstrated in previous studies, may be due largely to factors other than practitioner knowledge. If any of his explanations regarding the lack of correlation between attitudes and performance are correct, it could still be that pharmacist views about their counseling role are prime factors influencing their communication about medications.

The previously mentioned study, by Watkins and associates, looked at the relationship of both knowledge and

attitude measures to actual pharmacist counseling in test situations.[48] Pharmacist behavior in response to the test situation was scored by assigning one point each for problem solving, dose discussion, or the provision of cautions or side effects. After field observations were completed, experimental and control group pharmacists were given a knowledge test over material included in the educational program the former group completed. The subjects also completed a 24 item attitude scale, the content of which was based on the premise that the pharmacist should provide consultant advice to patients and physicians.

The results show that the experimental group had significantly higher knowledge and behavior scores than the control group, while the two groups' attitude scores were essentially the same. Thus, it seems that the course was able to change the knowledge and behavior of the experimental group, but not their attitudes. This finding is foreseeable because a difference in attitude is not necessarily expected to result from a single educational program composed mainly of cognitive material. What is of concern, however, from the point of view of the present study, is the fact that analysis across the entire sample showed there is no main effect for attitude or interaction between attitude and knowledge categories related to behavior--an effect that would be expected were attitude an important determinant of this behavior.

The authors speculate this could be attributed to a reactive effect on the part of the subjects, as they knew that the local college of pharmacy was supporting the study and that faculty members would examine their individual attitude scores. Two other explanations are conceivable, having to do with the attitude scale and the behavioral measures.

First, the scale employed (no items reproduced) may not be directed strictly toward the behavior being measured, as it refers to the provision of consultant advice to patients and physicians. Depending on how the scale items were constructed, the term consultant may be misunderstood. Or, the scale may be measuring two different sets of attitudes in examining advice to both patients and physicians.

Assuming that the scale does not present these problems, it is quite possible that one of the three behavioral measures (problem solving) is a much stronger predictor than the others. It may be that any problem solving behavior by the pharmacist will lead to a discussion of dosage or side effects and precautions. In this instance, it is believed that knowledge will be the primary determinant of behavior as it is defined. This is because specific knowledge would be necessary to arrive at a positive behavior score, regardless of the pharmacist's attitude toward counseling. However, the authors present no data detailing the behavioral scores. In any case, this

reinforces our earlier observation that broader behavioral measures are indicated for research in this area.

A subsequent analysis of the data from this study demonstrates that although the correlations between knowledge and consultation behavior are significant, the level of these correlations is low.[49] This finding leads the authors to note that attitudinal or other variables must be impeding counseling.

Results of two empirical investigations discussed earlier similarly lead their authors to speculate that pharmacist attitudes, alone or in combination with a lack of knowledge contribute to their poor counseling performance.[50]

Support for this writer's belief that attitudes--over and above a generalized lack of practitioner knowledge--are major factors influencing counseling performance is found in some of the other research reviewed earlier. Two recent studies evaluated pharmacist counseling on the basis of the level of information provided.[51] Although these findings indicate poor practitioner performance, it is reasonable to assume that the information pharmacists were expected to provide is standardized, readily accessible, and should be considered basic knowledge for the vast majority of practitioners.[52] This belief is further endorsed by results of a recent survey indicating a majority of pharmacists feel they possess expertise in the area of medication counseling.[53]

The potential impact of counseling views on behavior becomes more apparent considering that these attitudes are not uniformly held by pharmacists. Surveys indicate that a significant minority of pharmacists are not favorably oriented to clinical role components.[54] Further, Shannon's analysis of the attitude responses by subjects in his study attests to the fact that pharmacists frequently feel that providing drug information is unrewarding and not well accepted by recipients.[55] Gold and Nelson likewise report that many respondents to their survey indicate that patient contacts are often negative or unsatisfactory.[56] Based on these and other findings cited, a focus on the relationship between pharmacist attitudes and advising behavior is recommended.

Methodological and Conceptual Issues

Several problems inhibiting our understanding of pharmacist counseling behavior have been identified. This section reviews these and related problems, suggesting possible solutions to facilitate research in the area.

Possibly the most striking feature of the pharmacist-patient interaction research literature is the diversity in conceptualizing the dependent variables employed. "Patient counseling" ranges, on a continuum, from a description of the percentage of patients receiving counseling and how much time the pharmacist spends interacting with the patient to

multiple-item categorization defining "quality" counseling.

Descriptions of the pharmacists' time involvement, while giving us some idea regarding the activity structure of practice, tells us nothing about the content of counseling. On the other hand, categorization of interaction content is more desirable, but we have observed investigators often limit these categories to the presence-absence of problem solving activity derived from their conceptualization of counseling quality. This writer believes the current lack of counseling standards is largely responsible for this diversity in operationalizing counseling variables.

Rather than employ value-laden standards, it is preferable to classify the content of pharmacist medication counseling objectively, in a comprehensive manner, utilizing a number of distinct categories. Such a systematic classification scheme would accommodate the entire content of a pharmacist-patient verbal interaction. This approach allows for the collection of baseline data that can be used to monitor role changes over time. Other researchers can utilize data derived from such a system to make comparisons with their findings. Additionally, in the event that standards for counseling are developed, previous research results can be evaluated on the basis of the current and future criteria.

The best way to collect this type of data is through direct observation methods.[57] Indirect approaches, such as

self-reports collected via surveys or interviews, have more room for error resulting in less reliable data. The use of direct observation and categorization of interactions has gained wide acceptance since the introduction of Bales' basic analytic system some three decades ago.[58] Although the application of these systems are minimal in pharmacy research, various aspects of physician-patient interactions have been successfully studied using increasingly refined classification schema.[59] Problems do exist with regard to subject reactivity and observer reliability, but they can be overcome. Methods of dealing with these potential problems in relation to the present investigation are discussed in Chapter Four.

A desirable feature of this kind of measurement method is its applicability to interactions regarding any medication in any pharmacy setting--the bulk of the past research bases reports of behavior on medication or situation-specific data collection methods. The comprehensive nature of this kind of scheme also makes assignment of "interaction scores" possible. This allows for comparisons among medications; but more importantly, it provides a basis for the quantification of behavior necessary to conduct multivariate analysis aimed at teasing out the effects of the numerous aforementioned factors potentially influencing pharmacist counseling.

Such a system facilitates the specification of the

several dimensions of communication. Instead of measuring just verbal communication as a general variable, one can identify the extent to which the pharmacist interviews the patient, provides instruction, answers questions, and so forth. The dimensions of patient communication can be similarly measured. It is reasonable to believe that different factors affect these several dimensions and these activities are not performed uniformly among practitioners. This approach allows the researcher to focus on both independent and dependent variables with greater precision.

Of course each of these dimensions are seen as having several basic content categories that can be rearranged, combined, and specifically enumerated as a research problem warrants. This permits the investigator to focus on any number of specific aspects of an interaction.

Even though the potential for this systematic approach is apparent, pharmacy applications are just being initiated. We have noted that prior research is essentially descriptive or reports on such situation-specific behaviors that the relative effects on counseling within or among patient, system, and pharmacist variables have not been ascertained. No published research has attempted to analyze the effects of more than a very few variables; and then, system and practitioner background variables have attracted most of the attention.

This situation can be attributed to both the difficulty

in developing good measures for the more subjective variables and the problems in controlling for the effects of multiple variables under consideration. Unless the researcher has sufficient resources to conduct large-scale investigations, he must inevitably make a choice regarding the potentially most important variables and be content to focus on these variables, isolated through sampling procedures and research protocols.

Svarstad has developed and utilized a direct observational methodology to record pharmacist-patient interactions.[60] This system has the features necessary to delineate the relative influence of a number of factors on the several dimensions of pharmacist counseling. Her multivariate analysis is the first to consider patient variables, along with system and pharmacist independent variables.[61] Counseling for some 1600 prescriptions was observed in Svarstad's study, allowing for the statistical controls necessary to simultaneously examine the effects of all study independent variables. When completed, this investigation will be the most comprehensive study of variables influencing counseling, and it should serve as an example for future research in the area.

The purpose of a comprehensive variable analysis is to determine which factors are more important and how they are interrelated. The way pharmacists view their counseling role and the relationship of these views to their behavior

in every-day practice has not been investigated. The approach in the present study is to elaborate on the relationships among pharmacist-related variables, focusing on their attitudes, and the extent to which they explain counseling activity.

This goal can be accomplished by employing a pharmacist-specific counseling classification scheme based on that developed by Svarstad. In order to reap the benefits of a systematic measurement approach, patient-related and most system-related variables will be controlled by sampling and standardization so far as possible.

These procedures and the details regarding the measures are presented in Chapter Four. Through this approach it is believed the study findings are applicable to the development of expanded research incorporating other types of variables.

It has been suggested that pharmacist-related independent variables, particularly those of a subjective nature, are difficult to measure and separate from one another (e.g. attitudes and knowledge). Because of this fact, and because there is a lack of firm evidence that pharmacist attitudes are related to behavior, it is reasonable to measure pharmacists' views on two levels of generality. This is done in anticipation of two possibilities: 1) If a general measure is found to be related to behavior, the relative influence of the measure's component

attitudes can be assessed; or 2) if a general measure is not shown to be related to behavior, it may still be possible to identify specific components of that measure that affect counseling.

We have criticized the measures utilized in the few empirical investigations as not reflecting attitudes specific to the general behavioral object (counseling). In order to develop a good measure of this type one must be aware of the attitudes comprising the pharmacists' role orientation. These component attitudes have not been investigated empirically, but the pharmacy literature suggests certain of them may be important determinants of counseling behavior. Thus, at an initial level, measurement of views toward the counseling role will be accomplished through the development of a general Counselor Role Orientation scale, comprised of items derived from counseling attitude components proposed in the literature. It follows that the second level of investigation will involve exploration of the identified attitude components, with the intention of gaining some idea of their relative importance in structuring the practitioner role orientation.

The attitude components of interest in the present investigation are identified in the following chapter and their combination into a general attitude scale is detailed in the subsequent chapter.

Summary

Previous assessments of pharmacists' counseling activity indicate that the individuals sampled usually performed poorly in relation to standards employed by researchers. However, in these past investigations, methodological and/or conceptual difficulties, often combined with a limited research focus has hindered progress in accomplishing needed research on pharmacist medication counseling.

Two research priorities identified in Chapter One are the development of baseline data on pharmacist counseling involvement and a determination of factors affecting pharmacist counseling behavior. To accomplish these research goals we should:

1) Recognize that past investigations have been atheoretical in their approach to pharmacist counseling behavior. It has been suggested that this gives rise to a non-comparability of investigations, due to diverse problem conceptualizations, which contributes to inconsistent findings regarding variables influencing behavior.

2) Begin to develop a comprehensive model delineating the relative effects that specific patient, system, and pharmacist variables have on counseling. In the past only a limited number and type of independent variables have been studied. Particularly neglected have been pharmacists' attitudes toward the counseling role. These variables are offered as potentially important influences in literature that speculates on the source of practitioner counseling activity that is less than desired.

3) Differentiate and clarify various dimensions of counseling activity, with the intent of developing standardized, quantifiable behavioral measures. This is necessary for eventual quality assessments based on evolving standards.

4) Employ a systematic and reliable methodology for measuring actual pharmacist counseling behavior. This methodology should be non-evaluative and versatile enough for application over a variety of practice settings. It is suggested that direct observation methods can accomplish this.

FOOTNOTES

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CHAPTER THREE

THE STUDY FRAMEWORK

This chapter begins by examining three general approaches to the study of pharmacist counseling determinants. Then a role theory perspective is introduced as a particularly viable alternative for guiding investigation of pharmacist views regarding the patient medication counseling role and their behavior in that role. Through this role framework a case is presented arguing the importance of personal norms--which are based on self-expectations, conceptualized as equivalent to attitudes--as determinants of counseling practices.

The chapter serves to enumerate the self-expectation sources which constitute the set of variables to be investigated when interviewing practitioners. Taken together, these factors form a basis for operationalization of the pharmacist Counselor Role Orientation scale which is employed as a general attitude measure.

Each of the major behavioral variables to be analyzed in the investigation is discussed. Justification is presented for the selection of these dependent variables in

terms of their potential contribution to improved efficacy and safety in medication utilization.

Perspectives on Pharmacist Counseling Behavior

It was observed in the last chapter that previous investigations of pharmacist medication counseling have been approached in an essentially atheoretical manner. Nonetheless, the types of "variable analysis" undertaken in these investigations hint at underlying perspectives which have guided prior research efforts.

Most research on pharmacist counseling behavior has concentrated on the more or less traditional sociological determinants of a structural nature. But, it was suggested in the literature review that other types of patient, system, and pharmacist variables appear to have potential explanatory power. Their exploration necessitates application of a research perspective other than the dominate traditional sociological perspective that implicitly underlies prior investigations.

There are subtle differences among many of the potential approaches researchers could take in investigating pharmacist-patient interactions. But from the point of view of the present study, the general orientations inherent in the theories of psychology, sociology, and social-psychology reflect three basic perspectives that investigators might apply when examining pharmacist counseling behavior. In the

following pages each of these perspectives is discussed in terms of its potential for advancing our knowledge in this area, as well as how they share characteristics with, or diverge from, the role theory approach taken in the present study.

Psychological Perspective

Personality-based explanations appear to be least valuable for understanding pharmacist counseling activity. This kind of approach assumes that the extent to which pharmacists engage in counseling can be predicted on the basis of their individual personality characteristics.

A researcher employing a personality approach would utilize various test batteries designed to isolate the most influential of these traits. As a hypothetical example, let us say that pharmacists who do not participate in patient counseling tend to display authoritarian characteristics. This finding might suggest a practical application in "training" pharmacy practitioners and students to be more aware of instances where this trait impinges on their successful counseling, thereby minimizing the trait's negative aspects.

This individualistic approach to pharmacist behavior is weak on several counts. It is especially problematic when considered in terms of the traditional emphasis on personality as a product of early childhood socialization

experiences. This traditional view conceptualizes personality as relatively immutable and enduring, a view denying the effects of educational and practice socialization experiences. The occupational socialization literature indicates that non-trivial personality changes do occur from these experiences.[1]

Even dynamic personality conceptualizations are lacking with reference to the social structure's effect on individuals' behavior. If personality characteristics were primary behavioral determinants, one would expect individual pharmacists (at a given point in time) to counsel uniformly from patient to patient irrespective of, for example, pharmacy staffing or prescription volume. The literature review indicates this is just not the case. Conversely, one would expect to find pharmacists with similar personality traits--identified as influencing counseling--to engage in similar counseling activity over the several practice settings. Although this is still an empirical question, evidence pointing to counseling differences by setting suggests this variability is greater than one could claim solely on the basis of unequal pharmacist "counseling personality" distributions among settings.

This approach also has difficulty adequately explaining the emergence of expanded practice activities. It has been suggested that by not recognizing forces in the individual's external environment, personality researchers assume that

change is only personality-determined and that social reality is essentially an "amorphous blob" structured by the individual to suit his inner needs.[2] This view denies the influence of other individuals' (or groups') wants and needs, as well as the effect of structural characteristics, in shaping the medication counseling role. It is difficult to imagine that differential counseling role adoption or assumption of new practice activities can be ascribed primarily to variations in pharmacists' personalities.

Perhaps because of these basic difficulties little research has been undertaken with regard to health care providers' personalities and their patient interactions. At least two authors have hypothesized that information supplied by physicians to patients might depend largely on the practitioners' personality.[3] However, it is revealing to note that a time-span of more than 15 years has elapsed since these authors suggested this relationship, and to the investigator's knowledge no empirical study has substantiated this claim.

This is not to say that personality has no impact on behavior. Neither can it be suggested that it is not beneficial to train individuals to develop an understanding of their motivations and a sensitivity to the consequences of their actions. Rather, it is concluded that the individualistic trait-approach cannot, in and of itself, adequately explain pharmacist counseling behavior.

Sociological Perspective

Just as a strict personality approach cannot satisfactorily account for pharmacist behavior, the traditional structural-sociological perspective similarly has limitations. Clearly pharmacist counseling does not mirror the image of a mold established for him by the social structure any more than his behavior emerges from the depths of his personality.[4]

A basic axiom in traditional sociology is that structure determines action and that the researcher must begin with an understanding of the social-environmental matrix in which conduct takes place. This perspective, as noted, underlies much of the prior research conducted on pharmacists' communication with patients. Studies that focus primarily on practice variables such as staffing, prescription volume, and practice setting hold implicit the tenets of this perspective.

To some extent, this perspective is believed to be successful at identifying important structural variables that provide a basis from which to conduct further research in the area. However, it was suggested earlier that the inconclusive and somewhat contradictory findings of prior research derives from this perspectives' limited acknowledgment of the extent to which behavior is attributable to individual views, or attitudes.

This macro-level approach views the individual as a

decision-making actor who is constrained by both normative and structural factors, the latter giving rise to the former. It is the conceptualization of these normative factors that present the most difficulty in advocating this perspective for use in pharmacist counseling behavior investigations.

Social norms have long been viewed by sociologists as the glue which holds society together. Because interactions among individuals are considered to be based on common standards of evaluation, or norms, behavior becomes intermeshed to produce a stable social system.[5] This traditional perspective holds that these shared expectations are essential for the conduct of social behavior; lacking norms, accomplishment of even day-to-day activities is seen as problematic.

Social norms are enforced through actual or threatened social sanctions directed at a person (or group) with the intention of encouraging a desired behavior. A transition from social sanction-guided behavior to norm acceptance and self-guided behavior results from the internalization of a norm into the individual's personality structure.

The socialization process accomplishes the implicit goal of inducing members to behave in accordance with prevailing norms, replacing the need for external sanctions with internally-perceived sanctions for norm violation. In general, but particularly with regard to the individual and

his occupation, socialization can be defined as ". . . the process by which people selectively acquire the values and attitudes, the interests, skills, and knowledge--in short, the culture (that is) current in the group of which they are, or seek to become a member."[6]

Traditional sociological analysis has been frequently criticized for its overemphasis on end-point socialization results, or what is termed "normative determinism"--corresponding with a lack of attention to the individual--when investigating the behavior of occupational incumbents.[7] A research trend aimed at rectifying this oversocialized view of the individual is the development of the personal norm concept, an idea central to the perspective from which this study derives. This concept will be discussed later.

Another consequence of adopting this perspective is its tenuous assumption--at least in terms of the present research interest--that social system components are in equilibrium and strive to maintain stability. It may be argued that this perspective can accommodate an explanation as to why pharmacists, as a group, might come to adopt the patient counseling role over time.[8] However, this approach does not satisfactorily address itself to the question of why <u>individual</u> pharmacists engage in new or expanded pharmacy practice activities.

This is particularly problematical in the early stages of role development where normative guidelines are not

available to the individual. Earlier it was suggested that pharmacists have no shared standards for evaluation of their behavior, either from within their occupational group or from society at large. As this writer observes elsewhere, there is a "lag period" during which new normative guidelines for changing behavior filters through society.[9]

Therefore, it is argued that to understand factors that influence pharmacist counseling behavior during this developmental period, more attention should be given to individual practitioners' beliefs regarding this activity as they arise from their perceptions of developing norms. Hypotheses regarding behavior which are based only on a static view of structural variables and the norms surrounding them, while useful, cannot be expected to adequately reflect the status of pharmacists' developing role component.

Social-Psychological Perspective

The general social-psychology approach overcomes some of the difficulties associated with sociology's lack of attention to the individual in explaining behavior. Indeed, this writer believes that the social-psychological perspective often over-concentrates on the individual at the expense of giving consideration to the influence of social structure.

There is a relatively wide range in emphasis among the

several social-psychological frameworks. Partly in response to this writer's belief that there is an over-emphasis on psychological processes on the part of some of these frameworks, the symbolic interaction perspective is singled out as potentially a more useful framework from which to examine pharmacist counseling behavior. In addition, it will be seen that this perspective shares many characteristics exhibited by the role framework utilized in this investigation.

In general, the symbolic interaction approach assumes that behavior is guided by the process of individual interpretation and assessment of situations confronting him. The individual is seen as acting on the basis of the meaning social objects have for him. The "objects" in this perspective include the person doing the acting, other people and their actions, and the person's environment and the physical objects within.[10]

This perspective, then, is dynamic and formative rather than static. Its focus is on interaction with others. Through this interaction, attitudes and beliefs become internalized or altered.

Part of the value of this perspective is its allowance for individual changes. Attitudes and beliefs are seen as being modified throughout the individual's interaction history. These kind of individual attitudes and beliefs are a type of "background" norm, similar to the personal norm

concept as it will be employed in the present study. This approach overcomes the limitations a static sociological view presents with regard to expanding pharmacy practice activities.

The nature of this framework dictates that behavior varies with the person an individual interacts with. This perspective lends itself well to the study of effects the patient has on the pharmacists' counseling behavior. It was observed in the previous chapter that patient-related variables have garnered more than their share of neglect. A growing body of research indicates that patient characteristics are related to the behaviors of health-care providers, suggesting that this approach has applications for the study of pharmacist behavior.

The researcher employing a symbolic interaction perspective would be likely to make the pharmacist-patient interaction process the focus of his attempt to explain practitioner counseling behavior. No doubt he would begin by somehow measuring the pharmacist's basic beliefs and perceptions regarding his counseling role, and then take into account how interaction with the individual patient, in combination with these background norms, influences behavior. Practical applications of research projects based on this perspective would, in turn, focus on developing the individual's background attitudes (e.g. role training/ models) and teaching practitioners to better "manage" their

interactions.

Although this writer has little doubt that interaction process variables are important influences on behavior, it is believed that this perspective's focus on interaction is over-emphasized in that this process is seen as almost entirely determining what I have called "background norms." This perspective views these norms as changing in a relatively fluid manner.

This is problematical in three areas. First, even though the individual is assumed to continuously act to interpret the objects around him, the extent to which structural factors are viewed as contributing to background norms--and thus as determinants of behavior--is relegated to second class status in relation to behavioral adjustments the individual is assumed to make as a result of his interaction with others. In other words, this perspective does not place pharmacist-patient interaction in historical perspective, suggesting these relationships are quicker to change than is likely the case.

Secondly, when there is little or no interaction directed toward individuals other than patients, this symbolic interaction approach suggests that others' expectations (e.g. physicians) do little to influence behavior. And thirdly, when there is no pharmacist-patient "interaction" as such--when information is furnished to a more or less passive patient, which may be the rule rather than the

exception--explanation of behavior rests on a vaguely defined interaction history which must be assumed to be comprised of unknown proportions of others' expectations and structural constraints.

Thus, while the above objections are simplifications, presenting a caricature of this perspective, the basic problem rests on symbolic interaction's one-sided interpretation that denies the effects of social relationships, social structure, and social organization.[11] It is this writer's position that individuals have norms to guide behavior which arise from and which are influential over and above immediate perceptions. The role theory approach adopted in the present investigation conceptualizes pharmacists' behavior as being shaped in this manner.

In some respects the symbolic interaction and role theory perspectives are closely aligned as they are both concerned with the relationship between the individual and society. However, their assumptions and images of society differ to such an extent that each implies a different strategy for approaching the subject of pharmacist counseling behavior.

> The differences between role theory and symbolic interactionism become clearly evident when human interaction is viewed as varying along a continuum. At one pole of this continuum, individuals are seen as players in the "theater," while, at the other end, players are considered to be participants in a "game." When human action is seen as occurring in a theater, interaction is likely to be viewed as

> highly structured by the script, directors, other actors, and the audience. When conceptualized as a game, however, interaction is more likely to be seen as unstructured and as influenced by the wide range of tactics available to participants. Thus, in contrast with the tendency of role theory to visualize human interaction as structured by expectations, symbolic interactionists tend to conceptualize human interaction and society in terms of strategic adjustments and readjustments of players in a game. While games have rules, symbolic interactionists are likely to focus attention on how players interact in ways that, depending on the course of the interaction, create, maintain, and change the rules of the game.[12]

The Role Theory Framework

> People do not behave in a random manner; their behavior is influenced to some extent by their own expectations and those of others in the group or society in which they are participants.[13]

This statement reflects the underlying basis for explanation of behavior from a role perspective. Three ideas that form a foundation for the concept of role are that: 1) individuals are in social locations (occupations), 2) they behave in certain ways, and 3) they do so with reference to their own and others' expectations. Hence, a person's role in any occupational situation is defined by the set of expectations for his behavior held by others and by the person himself.[14]

Role expectations are normatively based. Earlier we noted that norms derived from shared societal expectations for behavior are called social norms. The second kind of

norm alluded to, personal norms, reflect one's self-expectations for behavior. This concept incorporates both the structural influences of the social system and a more subjective perceptual-component derived from individuals' interpretation of their changing role.

Personal Norms

Personal norms are closely related to internalized social norms, but they retain a unique character. While personal norms may often coincide with or reflect social norms, this is not always the case.

Schwartz's recent work on development of the personal norm concept specifies that they are less deep-seated in the personality than are internalized social norms: "Individuals sometimes act in response to their own self-expectations, their own personal norms. What distinguishes personal norms from social norms is that the sanctions attached to them are tied to the self-concept." He further observes that, "By calling self-expectations 'norms' I emphasize the ideas that they arise or are learned from shared expectations in social interaction, that they are modified in the singular interaction history of each person, and that they represent ideals against which events are evaluated."[15]

This formulation contains a strong subjective determinant for personal norms, a feature much less prominent in conceptualizations of internalized social norms. Fishbein's

earlier assessment of personal norms concurs with this basic conceptualization as he regards them as being simply an individual's beliefs about what he personally feels he should do.[16]

Focusing on the essential differences between personal norms and internalized social norms, Black highlights Schwartz's conceptualization of personal norms as: 1) being actively constructed through role experience, as opposed to passively accepted and internalization from existing social norms, and 2) including both strong feelings of obligation, as with internalized social norms, and relatively weak norms that fluctuate with time and changing circumstances.[17] Accordingly, personal norms can be conceptualized as representing the individual's up-to-date role orientation, based on a composite perception and evaluation of his and others' behavioral expectations and his current circumstances.

This broad conceptualization is akin to Sabin and Allen's view of role expectations, which is adopted in the present investigation. This outlook considers expectations to be comprised of a whole set of individual's beliefs, perceptions, subjective probabilities, and other elements of knowledge.[18]

The distinction between internalized social norms and personal norms has been made to form a foundation on which to develop two important points. First, is the idea that

self-expectations acquire particular importance in explaining behavior in instances where role changes are emerging. Second, is the indicated potential for measuring self-expectations in terms of attitudinal orientation to empirically investigate the relationship between individual role orientations and behavior. These points will be taken up in order.

Emerging Roles

When role changes are in the process of becoming established, as in the instance of the pharmacist medication counseling role, shared behavioral expectations are not present among various role definers. Individuals form a role definition on the basis of their self-expectations. Merton's observations on reference groups suggest these expectations derive from several sources.[19]

Some individuals may adopt new role expectations on the basis of past socialization experience and/or their perception and acceptance of their membership group's expectations. Some may look to emerging expectations of non-membership reference groups in their role-set. These groups consist of significant others the individual frequently interacts with in the course of his work or those who hold power over his group.

Rather than relying on specific perceptions of reference groups' expectations, others may adopt a role orientation

purely with respect to the expectations held by certain individuals in their role-set. Finally, others at this stage of role establishment have little knowledge of any emerging expectations. Their personal norms reflect a role definition comprised of self-expectations developed over time from their individual interpretation of the role.

In reality, factors influencing the formation of personal norms cannot be separated into clear components; and, in all likelihood, self-expectations derive from various combinations of the sources enumerated above. As a result, emerging role expectations must be thought of as often vague, indefinite, and uncertain to the person viewing them. This confusion, termed role ambiguity, is seen as common to occupations expanding their role to include new activities.[20]

To the extent that roles are defined and influenced by unique sets of self-expectations, one might suspect considerable behavioral variation to occur among individuals involved in emerging roles. Even for roles with well established social norms, neither mutually shared role orientations nor behavioral consistency among individuals can be assumed. Gross, Mason, and McEachern demonstrated this in their work challenging the "postulate of role consensus," where they found the extent of agreement about a role among members of a social group is itself a variable.[21]

In any case, given our assumption that expectations

significantly influence behavior, measurement of an individual's self-expectations for a role should facilitate prediction of his behavior. This brings us to our second topic, the application of attitude scales to measure the self-expectations comprising personal norms. These attitudes, in turn, can be employed to empirically relate role orientation to behavior.

Norms and Attitudes

Although correspondence between role performance and attitudes have been clearly associated in laboratory situations, attitude theorists have generally ignored role concepts and role theorists have generally ignored attitude variables.[22] This is partly due to the traditional separation of psychology and sociology, but more importantly, I believe it derives from the previously alluded to conceptual proximity of personal norms and attitudes.

Some authors simply state or assume that attitudes are equivalent to norms.[23] Others, if not certain of this equivalence, admit that most investigators measure norms with attitude scales.[24]

Moreover, this approach is deemed successful in an empirical sense. Komarovsky, for example, while expressing concern about the tendency to move too far away from social-normative explanations of behavior by engaging in "premature psychologizing," readily agrees that:

> Obviously, attitudes toward a given role differ among individuals. The incorporation of the actor's own interpretation of his role, built into the design of the study will, equally obviously, increase our power to account for variance in 'actual (i.e. concrete) role behavior.'[25]

Regarding the differences between attitudes and norms, Karvonen asserts that: "In terms of the social system and the personality system, attitudes and norms can be regarded as instruments for attaining certain objectives. These objectives can be called values."[26] So, it appears that norms and attitudes are quite similar. The view taken by this writer is that differences between the two concepts are insignificant in terms of practical consequences.

Heberlein lends support for this view, suggesting the perceptable differences between attitudes and norms are slight, as both concepts exist only in the minds of men. But, he does offer that: "In a man's head, in his cognitive sphere, norms can be thought of as a component of attitudes."[27]

This observation is congruent with the investigator's belief that self-expectations, reflecting both internalized social norms and more subjective evaluations, may be considered as measurable attitudes. Social norms are shared attitudes. Not withstanding the variable nature of role consensus, to the extent that standards regarding role activities are internalized, individuals should show consistency in their attitudes and subsequent behavior.

Conversely, if norms are not present or are unevenly interpreted, varient role orientations and behaviors should be exhibited among individuals in an occupational group. This, of course, assumes that these individual role orientations are capable of influencing behavior. In reality this is still an empirical question.

It is this situation the present investigation focuses on. An instance where shared expectations are not yet present is an attractive research problem. It allows for investigation of personal attitudes' influence on behavior in the absence of social norms. Just as importantly, this situation offers an opportunity to reveal the influences contributing to evolving shared expectations.

Counselor Role Orientation as a General Attitude

In line with our conceptualization of role expectations, various aspects of a pharmacist's views about his counseling role will be quantified through attitude measures. Taken as a group, these component views constitute the pharmacist's Counselor Role Orientation (CRO)--his general counseling attitude.

Component views potentially contributing to pharmacists' CROs will be enumerated later in this chapter. The development of the CRO measure, based on items related to the attitude object of patient medication counseling, is described in the following chapter.

For the purposes of this study we are employing a broad definition of attitude. This approach is consistent with our self-expectation conceptualization. As a point of reference we shall use the definition of attitude supplied by Katz:

> Attitude is the predisposition of the individual to evaluate some symbol or object or aspect of his world in a favorable or unfavorable manner. . . . attitudes include both the affective, or feeling core of liking or disliking, and the cognitive, or belief elements which describe the object of the attitude, its characteristics, and its relations to other objects.[28]

By employing this definition of attitude we are able to encompass views based on perceived expectations of others as well as affective feelings associated with evaluations of ones' own perceptions and of situational factors that define the counseling role. This enables us to examine expectations arising from both the social system and personality system.

In Lewin's classic formulation, behavior is a function of the interaction between the person's inner determinants and all environmental factors as <u>perceived</u> by the individual.[29] Our approach endeavors to include individual perceptions of environmental (situational) factors as they appear to influence self-expectations for counseling behavior.

Deutscher has commented that situational characteristics only considered in terms of an individual's attitude

toward them may result in misleading findings.[30] He argues that these attitudes do not necessarily have meaningful behavioral relevance and he further suggests that many important situational variables may not be perceived by the subject.

While this may be the case, it is also true that other types of attitudes have no corner on the behavior correspondence market. It is acknowledged that certain variables are not perceived by the individual. But this does not justify the exclusion of those which are perceived and which have a potential impact on behavior. Indeed, the inclusion of these attitude components in the general CRO measure should facilitate the prediction of counseling behavior and lead to better understanding of the relative influence of each component in the measure.

Therefore, our approach asserts that the major determinant of pharmacists' behavior is their perception and evaluation of all factors affecting counseling. This structures their views toward the counseling role, which then determines their behavior. In this respect the research framework holds attitudes as determinants of conduct, preceding it.

However, the true relationship between attitudes and behavior is not as simple as indicated above. In terms of causality, it should be acknowledged that attitudes and behavior are mutually interdependent. Role theorists

recognize this fact. It has been said that in forging a role definition that: ". . . opinions and beliefs appropriate to a new role should be assumed at the same pace as new overt behavior. New attitudes are not seen as occurring consequent to behavior; rather, both attitudes and behavior occur concomitantly as the result of a new set of role expectations."[31]

The present effort to predict behavior from attitudes, as opposed to the reverse, is arbitrary, but logical from the point of view of practical and research applications. Next we briefly take up the problem of behavioral predictability from attitudes, a difficulty that has long troubled researchers.

Attitudes and Behavior

Earlier investigations relating attitudes to behavior have been plagued by consistently low and generally insignificant levels of association between the measures. Based on his 1969 literature review, Wicker concludes that: "Product-moment correlation coefficients relating the two kinds of responses are rarely above .3 and are often near zero. Only rarely can as much as 10 percent of the variance in overt behavior be accounted for by attitudinal data."[32]

In recent years, however, Ajzen and Fishbein have forcefully argued that under the right methodological conditions attitudes are good predictors of behavior.[33]

Their particular emphasis has been on the necessity of using attitude measures that are act-specific to the behavior being investigated. Implied in this approach is a high level of direct individual involvement in the social system which provides opportunities to engage in the behavior of concern.

Although it is beyond the scope of this study to thoroughly analyze this issue, it is appropriate to note that steps will be taken to facilitate more accurate assessment of the attitude-behavior counseling relationship.

Recall that in reviewing the pharmacy literature on pharmacist counseling, possible explanations offered for the weak relationships between attitude and behavior concerned such problems as subject confusion regarding definitions, attitude scales employed, reactivity to test situations, and failure to separate the effects of other variables. The present research design strives to reduce these possible sources of error.

Community pharmacists have the chance to interact frequently with patients, affording counseling opportunities if desired. Therefore, the research topic is of immediate interest to most practitioners. And, as will be seen, CRO scale items relate specifically to patient medication counseling, having undergone pretesting and item analysis to insure selection of the "best" items for the final scale. Moreover, the CRO instrument is to be administered in an

environment and manner so as to minimize subject reactivity. Finally, the systematic behavioral measures to be employed are non-evaluative, so pharmacist CROs are not likely to be intermeshed with knowledge-based problem solving ability.

The specific details involved in these steps to establish a sound methodological basis are presented in the next chapter. It is believed these steps will accomplish their intended purpose of minimizing problems that could distort findings regarding any pharmacist attitude-behavior association.

Counselor Role Orientation Component Variables

On the basis of our role framework, self-expectations, representing individuals' personal norm structure, have been conceptualized as arising from perception and interpretation of: 1) generalized social norms, 2) expectations of others in the individual's role-set, and 3) their self-derived expectations, including those based on individual practice-circumstances.

Because the pharmacist's medication counseling role is in its early stages of implementation, it has been asserted that no generalized social norms regarding behavior in that role are yet established. Thus, perception and interpretation of expectations held by others in the pharmacist's role-set and expectations from personal role understanding comprise the two basic types of self-expectation sources

shaping pharmacists' CROs.

Sources of Others' Expectations

Major expectation sources in the pharmacist's role-set include: physicians, patients, other pharmacists, pharmacy practice regulators, pharmacy educators, and pharmaceutical manufacturers.

The pharmacy literature indicates that each of these groups hold general expectations considered favorable toward increased pharmacist participation in the patient counseling role.[34] Any actual influence these several expectation sources have on pharmacists' role orientations, however, is still unproven. The extent to which pharmacists even perceive these others' expectations is uncertain. For this reason, discussion will be pursued with the subjects in this study regarding each of the various expectation sources enumerated above to ascertain those which are influential in determining pharmacists' CROs.

Merton indicates three important features differentiating the manner in which others' behavioral expectations are expressed to pharmacists depend on: 1) the intensity with which these groups hold expectations, 2) the amount of power or sanctioning authority these groups have with respect to pharmacists' behavior, and 3) the extent to which these others have the opportunity to observe pharmacists' behavior.[35] The following brief analysis of these

expectation-transmittal mechanisms illustrates the difficulty one would have in hypothesizing which reference groups are influential.

Because the concept of patient-oriented practice is of recent origin, the primary impetus behind the development and promotion of the patient counseling role derives from the pharmacy educational system. No other group is as visible in the articulation of these role expectations.

Pharmacy educators may express their beliefs about the counseling role with a relative degree of intensity. However, it also could be argued that because expanded patient counseling is still in its preliminary stages of implementation, many pharmacists have no clear idea of these expectations as they have minimal contact with the education system.

Findings of a recent study lend credence to this belief, reporting that even pharmacists currently holding "clinical" positions find their role relatively more ambiguous than other pharmacists. This leads the authors to conclude that these patient-centered pharmacy roles still lack clarity in definition.[36]

This lack of clarity may be a result of pharmacy's long-time identification with drug-distribution rather than information-distribution. This kind of tradition may act to distort the pharmacist's view of his counseling role. Sarbin and Allen suggest that "because of experience with a

prior role a person may inaccurately construe the role expectations, if the transition to the new role is not clear and definite."[37] With their traditional lack of input into patient education, it is understandable that many pharmacists are unsure about the expanded patient counseling role.

Three groups appear to have potential to exert sanctions aimed at influencing pharmacists' counseling behavior; patients, physicians, and the practice regulatory system.

Patients have the option of utilizing the services of another pharmacist if their expectations are not met. This possible sanction is most significant because the pharmacist depends on patients for his livelihood. But lacking any indication that patients (as a group) hold strong expectations for pharmacist counseling, their sanctioning power may be diffused, applied only on an individual-by-individual basis.

On the other hand, the pharmacist has always been subject to economic threats and sanctions by physicians when they depart from their "normal" practice activities with regard to patient care. Because the pharmacist depends upon the physician for prescription orders, conflicting physician views are a real concern for some pharmacists. The application of sanctions by an individual physician looms larger than a patient's sanctions as the physician potentially holds influence over a large number of patients. To the

extent pharmacists perceive and attach importance to physician expectations for their counseling role, these expectations should influence their orientation toward the role.

However, some pharmacists may not attach that much importance to physician expectations. This potential lack of concern about physician sanctions should be expected for newly evolving role activities. Gross and his associates suggest that negative sanctions are not likely to be applied when another's behavior deviates from one's expectations if the person holding sanctioning power is uncertain of his own groups' expectations for that person's behavior.[38]

Unless members of both professions hold shared role expectations which are in direct opposition to one another, outright role conflicts are not likely to occur. Instead, role ambiguity is most commonly manifested on the part of practitioners in both professions. We have noted this role uncertainty among pharmacists. Investigations verify that physicians also exhibit uncertainty as to what the pharmacist's counseling role should be.[39]

Pharmacy practice regulations are beginning to hold the pharmacist accountable for patient counseling. At least eight states currently mandate some type of patient consultation, and two others are considering similar legislation.[40]

Pharmacy regulations tend to emphasize a definitive list of punishments for specific acts. For example,

pharmacist dispensing of certain medications only by prescription is a widely accepted norm. Any departure from this norm substantial enough to come to the attention of pharmacy regulators is dealt with according to established penalties.

However, none of the present statutes or regulations clearly defines the scope of required consultation.[41] Most generally refer to the provision of "proper counseling" on the part of the pharmacist. For example, Wisconsin's practice regulation states that "The practice of compounding and dispensing a prescription includes, . . . final transfer of completed prescription medication to, and appropriate consultation with the patient or agent of the patient . . ."[42]

Thus, legal counseling mandates, as they are currently expressed, are not yet codified so as to be enforced through specific legal sanctions. As a result, they are unlikely to be uniformly perceived or accepted by pharmacists. A priori reasoning suggests their influence on pharmacist attitudes is no greater in comparison to other expectation sources for this role.

Finally, the extent to which others in the pharmacist's role-set have the opportunity to observe their counseling activity is minimal. Patients have this chance, and may choose to voice their reaction to pharmacist behavior on an individual basis. But, because there are no indications that patients hold uniform expectations for the pharmacist's

behavior, the influence of individually articulated expectations would appear diluted.

Physicians have some opportunity to observe pharmacist counseling activity, but this is usually second-hand, through their patients. The traditional separation of practice locations with a lack of in-person encounters between members of the two professions more or less insures that the pharmacist's counseling is not monitored by physicians.

Pharmacists' observability by reference groups such as educators, consumer groups, or even regulatory agencies is even more insulated because of these groups' minimal day-to-day contact with practitioners. This lack of interaction should tend to make their behavioral expectations less salient to practitioners.

Expectations from Self-Perceptions

The pharmacist's role orientation is conceptualized as being influenced by two kinds of individually-perceived attitudes. These are attitudes which are not derived from perceptions of other role-set members' expectations. One type relates to individuals' understanding of their counseling responsibility and their perception of patients' informational needs.

The second type, individuals' attitudes regarding certain situational characteristics, also will be explored

for influence on pharmacists' CRO structure. These are relatively stable types of situational factors, more structural than those based on variable day-to-day occurrences.

These factors include: time limitations, reimbursement for services, the physical pharmacy environment, and informational uncertainty. Pharmacists' confidence in their counseling ability also is seen as contributing to their CROs.

Vollmer and Mills assert that the concept of individual professional responsibility characterizes much of the behavior in the client-practitioner relationship.[43] This concept emphasizes role performance based on occupational norms established to satisfy client needs.

Lacking specific counseling norms, it is logical that pharmacists ascertain their counseling responsibility by generalizing from their beliefs regarding other aspects of their practice responsibility. However, it is likely that practitioners do not hold anything approaching uniform perceptions in this respect. Rather than applying sanctions to encourage conformity to standards, pharmacy relies on continuing professional socialization for individual norm internalization.

The socialization emphasis, however, in both undergraduate pharmacy education and practitioner continuing education programs has concentrated almost exclusively on

cognitive learning, as opposed to affective learning.[44] The consequences of this often criticized approach are evident in Manasse's observation that:

> Nowhere in the socialization scheme for the pharmacy student are the actors integrated nor are the behavioral norms clearly defined. The structure for professional socialization in pharmacy is likewise undefined and ambiguous such that a great tolerance for deviates and deviance is accommodated. In addition, there seems to be no application of sanctions for those who do not conform, since in reality, this is not possible. Role conformities are not evident and thus enforcement toward conformity is nonexistent.[45]

On this basis it is reasonable to assume that many practice expectations are not uniformly internalized by pharmacists. As a consequence, pharmacists are likely to vary in the extent to which they feel responsible for performing specific practice duties. This should be particularly true for still-evolving patient-oriented role components.

Indirect evidence that attitude toward counseling responsibility has behavioral relevance is found in research cited by Kagon.[46] He indicates that court caseworkers who do not perceive their roles as requiring or including communication skills made no significant gains in learning these skills during an educational program.

Waitzkin and Stoeckle, reviewing a study which found pediatricians favor delegation of counseling activities, conclude these practitioners do not view information

transmittal as very important.[47] This finding further suggests that the physicians studied do not perceive the counseling process as being their responsibility.

This study also could be interpreted as indicating that these practitioners believe parents do not need extensive counseling regarding their childrens' conditions. Pratt and her associates' study indicates that physicians tend to underestimate patients' need for information. Those physicians who most frequently underestimated their patients' level of knowledge were found to provide significantly less verbal information.[48] In commenting on his research in progress, Haynes also specifies physician attitudes about patient informational needs as a factor affecting their level of counseling activity.[49]

These findings lead one to hypothesize that pharmacists' counseling is similarly influenced by their beliefs regarding patients' information needs. It would be expected that these attitudes vary according to the medication involved, the patient, and the type or specificity of the information under consideration.

There is limited support found in the literature for the importance of attitudes toward situational factors as behavioral influences. As observed earlier, researchers have not yet focused on these types of variables.

Based on a review of the pertinent literature and his own subjective analysis, Fletcher suggests that the most

important reason why physicians are unwilling to communicate with patients is because they feel it takes too much time.[50] Shuval has studied the reciprocal sets of role expectations held by physicians and patients and their congruence. She hypothesizes that physicians become frustrated and annoyed as a result of such things as time pressures and reimbursement difficulties, which lead them to be less attentive to the needs of their patients.[51]

In the pharmacy literature writers have argued that even pharmacists who wish to counsel their patients cannot afford the time it takes. However, practitioners' perceptions of this constraint have not been assessed empirically.

It has been shown, though, that the principal practice stresses perceived by pharmacists are economic in character.[52] Time consuming counseling services they are not directly paid for can only add to this stress. The Study Commission on Pharmacy recognizes this, and goes further in noting, "Not only is there no economic incentive to communicate with the patient, there is the reverse incentive not to communicate."[53] If practitioners share this belief it is bound to carry some weight in influencing their CROs.

The traditional pharmacy environment also has been identified as a barrier to patient counseling. It has been suggested that both patients and pharmacists may be inhibited in discussing personal medical concerns at public prescription counters. In the last chapter we cited

instances of privacy increasing communication. The movement to provide private counseling areas is growing, along with expansion of the pharmacist counseling role. But, for the present, pharmacists who perceive the traditional environment unconducive to counseling may structure their role orientation with this in mind.

Another situational characteristic, informational uncertainty, has received attention in the literature on physician behavior. Here though, the major focus is on how the physician maintains some level of uncertainty, and thus control of the provider-patient relationship by regulating the flow of information to patients.[54]

Davis' analysis of a series of poliomyelitis cases indicates that physicians' uncertainty about prognosis reduces their communication with children's parents.[55] Svarstad and Lipton examined the attitudes of clinicians (principally physicians) as to their certainty in the diagnosis and prognosis of mentally retarded children with respect to their communication to parents.[56] They found no statistically significant relationships, although clinicians tended to be more frank and informative when they were certain about the prognosis.

The pharmacist is faced with uncertainty resulting from the discontinuities surrounding information transfer in pharmacy practice. The medication transfer process from pharmacist to patient begins with the acquisition of a

prescription from the physician. But the prescription blank is a one-way form of communication. Information contained on the prescription order frequently is all that is available to the pharmacist regarding the physician's intentions. The fact that the physician often holds vital, but exclusive, information about the patient complicates pharmacist counseling efforts; especially considering the multiplicity of indications for many drug products and the numerous factors that must be weighed in instituting therapy.

Likewise, pharmacists generally are not aware of what, if anything, the physician has told the patient. Instead of taking the risk of providing advice which may affect some therapeutic intent unknown to the pharmacist, he may hesitate to discuss the patient's medications. To the extent pharmacists believe uncertainty to be a significant problem it should be expected to influence their counseling attitudes and behavior.

Pharmacists' belief in their counseling ability is another factor which may influence their general counseling attitude, and hence, their counseling activity. It has been found with respect to mental health workers that individuals who are confident in their professional ability engage in more frequent communications with other workers.[57]

This suggests that pharmacists' attitudes regarding their counseling ability may likewise influence their behavior. This attitude indicates little regarding

practitioners' actual counseling ability or skills. Although a necessary feature for quality counseling, this determination is beyond the scope of the present investigation.

Other Independent Variables

Two kinds of additional independent variables are of concern in this investigation; pharmacist background characteristics, and factors which are to be controlled through methodological standardization.

Pharmacist background characteristics to be measured include their; age, years of practice, work week length, employment status, organizational memberships, and previous practice-setting experience. Prescription volume and pharmacy staffing in the subject's place of practice also will be assessed.

These measures are to be used in quantitative assessments of these variables' relationships to pharmacist counseling behavior. Because the primary focus of this investigation is on attitudes and their relation to behavior, the interest is not directed toward these variables' independent association with pharmacist counseling. Rather, these characteristics are meant to be analyzed in conjunction with pharmacists' CROs and component attitudes to ascertain their influence on behavior, over and above that accounted for by the attitudinal variables.

The majority of these variables have been previously examined with respect to pharmacist communication behavior. Most have been shown to affect this behavior, but as discussed in the previous chapter, many of the past studies exhibit inconsistent findings. It is hoped the present investigation will clarify these variables' behavioral effects.

Previous practice-setting experience and organizational memberships have not been investigated in the past. The former variable is included because of the investigator's interest in possible carry-over socialization effects of the work environment. Organizational memberships are to be ascertained simply to determine whether such affiliations--as potential expectation sources--are associated with practitioner behavior.

Factors which are to be controlled through standardization do not enter directly into the data analysis. The exploratory nature of this investigation, along with a limited sample size imply greater insight is attainable if a manageable number of independent variables are focused on. Because the study is primarily concerned with pharmacist-related characteristics and attitudes, it is important that other potentially important variables do not confound the findings.

Investigations of pharmacists and other health care providers indicate that behavior may vary by patient

demographic characteristics, the style and extent of patient participation in encounters, clinical practice setting, prescription content and specificity.[58] The procedures by which these variables will be standardized are set forth in the following chapter.

The Behavioral Variables

Interactions between health care providers and patients have been increasingly shown to be important for the delivery of safe and effective health care. Although investigations have produced mixed results, there is a growing body of research indicating that the counseling of patients increases their understanding and satisfaction with treatment, compliance with therapy, and ultimately their therapeutic outcomes.[59]

It was noted earlier that some pharmacists are able to effect these same kinds of positive results with respect to patients' drug therapy. However, it also has been shown that neither the mere acts of providing, interpreting, and reinforcing information for patients, nor patients' acquisition of information regarding their medications are sufficient to insure proper drug utilization.[60] Nonetheless, some type of patient counseling (verbal or otherwise), from some source is logically a necessary condition for safe and effective drug therapy.

It is beyond the scope of this study to examine the

effectiveness of pharmacist counseling practices with respect to patient outcomes. However, this study employs five major dependent variables indicative of the extent to which the sample pharmacists engage in particular counseling activities.

Patient counseling in each of these dimensions is believed to be an important contributor, if not individually necessary, for safe and effective medication utilization. These counseling dimensions are the degree to which pharmacists; interview patients, provide verbal instruction, act in an approachable manner, provide written instruction, and generally spend time interacting with patients.

A brief description of each of these variables follows. Their operationalization in the form of behavioral indices is found in Chapter Four.

Written Instruction

Pharmacists have long relied on the prescription container label as their only vehicle for providing instructions to the patient. However, various studies demonstrate that this singular reliance is unfounded.

Galloway and Eby found that 80 percent of the poverty area residents they queried could not correctly interpret relatively simple, straightforward prescription labeling.[61] Hermann's research shows that patients were either unable to state a dosage schedule or that their interpretations varied

greatly for close to 50 percent of the prescriptions she reviewed.[62]

Similarly, Mazzullo and colleagues found interpretive errors ranging from 9 to 64 percent in their survey.[63] Illustrative of the problem is this study's finding that when given the direction to "take for fluid retention," some 52 percent of the patients incorrectly indicated they believed it to mean the medication "causes fluid retention," while another six percent stated they did not understand the directions at all.

Boyle's investigation showing there is a significant discrepancy between patient and physician interpretation of common medical terms, considered along with the above example, indicates that many patients do not really understand how to use their medications, even when they think they do.[64]

These findings suggest that pharmacists should expand beyond their traditional practice of transfering instructions from the prescription order to the prescription container as written, without any amplification. A number of the studies demonstrating that patient counseling can increase the likelihood of therapeutic success utilize <u>additional</u> written materials, both alone and in combination with verbal counseling.[65]

Pharmacists with a positive counseling orientation would be expected to furnish more than just the basic

prescription order instructions. This could be done through expansion and/or clarification of the prescription order instructions, by the addition of auxiliary labeling, or through the provision of separate patient instruction sheets. Hence, this variable is defined as the extent to which pharmacists supply written items of information generally accepted as desirable by pharmacy leaders and educators as contributing to more effective medication utilization.

Verbal Instruction

Verbal instruction is defined on the same basis as written instruction. That is, verbal instruction is comprised of orally supplied informational items which are believed to assist patients in their utilization of medications.

This dimension of patient counseling has been the primary focus of researchers interested in improving therapeutic outcomes. With all the attention to this counseling variable it is hardly surprising that of all the criticisms leveled at physicians, the most common concerns their failure to provide patients with adequate information and instructions.[66] The research findings discussed in Chapter Two testify that this basic criticism also is applicable with respect to pharmacists' professional activities.

Pharmacist verbal instruction is viewed as an especially significant counseling dimension. Whether the pharmacist furnishes initial verbal instructions to patients or supplies interpretation of instructions already provided by the physician probably matters little in terms of relative importance. As with written instructions, verbal instructions are just as easily misunderstood--perhaps even more so because the patient has no permanent document to refer to. Further, failure to remember instructions about treatment is deemed to be one of the most serious problems associated with physician-patient communication.[67]

Ley and Spelman found that the percentage of instructions forgotten is proportional to the amount given.[68] Verbal instructions about treatment were recalled less frequently than statements about diagnosis. The authors offer two explanations for this finding: 1) They found that information given earlier is retained better than that given later. Because most physicians tend to tell their patients what is wrong with them first and give treatment instructions later, diagnostic information is remembered better, and 2) Patients were found to better retain information which they regard as important. They consistently rate diagnostic information more important than treatment instructions.

To compound matters, it has been shown the patient's memory deteriorates over time. The typical individual

forgets 20 percent of information provided within two days, 60 percent after nine days, and only 25 percent of instructions given are retained after a one month period.[69]

Thus, the pharmacist is seen as frequently having the opportunity to provide verbal instructions in instances where the patient has; received no instruction, has misinterpreted instructions given, or has forgotten instructions that have been provided. Each of these circumstances point to the importance of pharmacist activity in this counseling dimension as contributing to improved therapeutic outcomes.

Interviewing

It is clear that health care providers frequently make the assumption that "the patient doesn't know what he doesn't know," resulting in the patient's needs being assessed without his input.[70] From the above discussion, it is also certain that patients often do not carry out the pharmacists' intentions for therapy because they simply forget, misinterpret, or do not understand their instructions. These situations are exacerbated by reports that patients frequently indicate reluctance in initiating discussions with pharmacists.[71]

A pharmacist needs sufficient information to supply adequate counseling and patients must understand this counseling for proper drug utilization. Pharmacist

interviewing is a mechanism to reduce the difficulties associated with these circumstances.

In this study interviewing is any inquiry made by the pharmacist intended to: 1) solicit information from patients to identify potential problems with the use of a prescribed medication, or to 2) assess the patient's understanding of instructions for taking a medication or of any other information pertinent to its safe and effective use. Thus, interviewing allows for patient involvement in their medication discussion and the prevention of both pharmacist and patient errors resulting from inadequate information or understanding.

Approachability

As with interviewing, approachability is viewed as an invitation, demonstrating pharmacist receptivity to patient questions. Approachability is also an indicator of general interest in the patient.

Friedson observes that the interest a physician expresses in a patient becomes the patient's major cue for assessing the physician's competence.[72] Further, the manner with which physicians present instructions has been shown to affect patients' subsequent recall of those instructions.[73] Svarstad found that friendliness and receptivity is a common strategy physicians use to motivate patients to follow their therapeutic regimens.[74] When combined with an appropriate

level of instruction this physician approachability was shown to facilitate patient compliance. There is every reason to suspect that the above findings and processes are equally applicable to pharmacist-patient interactions.

In the present investigation, approachability is employed as a general measure, comprised of both objective and subjective assessments. It includes pharmacist verbalizations such as greetings and small talk, along with nonverbal approachability cues like smiles and frowns or a hurried as opposed to an unhurried manner.

In a sense, approachability has always been a valuable pharmacist characteristic. In the past it has helped cement the businessman-customer relationship. Now it should be considered in terms of its contribution to the foundation of a professional-patient relationship in which both parties can feel comfortable in discussing medications.

Interaction Time

This variable is a general indicator of the extent that the pharmacist verbally interacts with the patient, whether it is spent in furnishing instructions, interviewing, or just general communication.

A major patient complaint is the lack of time their physician spends talking with them. One study reports that during the 10 minutes general practitioners spend with their average patient, less than two minutes are allocated to the

provision of "health information and counseling."[75] It is not unreasonable to assume medication-related discussion occupies somewhat less than a majority of this two minutes.

But, over and above the level of professional counseling that patients are provided with, physicians' willingness just to spend time with the patient (even just socializing) is interpreted as another cue as to the professional's ability.[76] It is suggested that pharmacists who take the time to talk with patients will be viewed in the same light, particularly as their mix of professional versus non-professional communication increases.

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CHAPTER FOUR

STUDY METHODOLOGY

Field research was conducted in two distinct phases designed to collect data necessary to accomplish the study objectives stated in Chapter One.

Phase I consisted of personal interviews with 40 community pharmacists. In-depth information regarding the subject's views of various aspects relating to their patient counseling role, as well as background data were collected during this study phase.

In study Phase II, measures of the pharmacist's actual medication counseling were obtained, using trained observers. After the field data were collected and quantified, the relationships among the Phase I independent variables and the Phase II dependent variables were statistically explored.

This chapter begins with a discussion of the sample selection procedure, development of the Counselor Role Orientation attitude instrument, and interview schedule. Then, the procedures involved in gathering interview data, training observers, and the specifics regarding the collection of behavioral data are detailed. Finally, the scoring

of pharmacist-observer encounters is described, and the approach to data analysis is previewed.

Sample Selection and Instrument Development

Population and Sample

Forty pharmacists participated in the investigation. The subjects were selected on the basis of criteria enumerated below.

The sampling population consists of all pharmacists practicing full-time in independent community pharmacies which are situated in rural locations, over a six county area in the state of Wisconsin.

Full-time practitioners are defined as currently working at least twenty hours in an average week. For the purposes of this study, an independent community pharmacy is defined as a pharmacy which has a name distinctly different from all others and is not located in a clinic or hospital facility.[1] A rural location is arbitrarily defined as being situated greater than fifteen air-miles from a city with a population of 20 thousand or larger.[2]

Utilizing rosters of pharmacies and pharmacists obtained from the Wisconsin State Board of Pharmacy, 112 practitioners who met the population criteria were identified.[3] A simple random sample of forty pharmacists (plus alternates) was selected from this population using a table of random numbers.[4] The selection of alternates was

necessary in case pharmacists chosen refused participation or no longer met the population criteria at the time the study began.

Both practical and methodological considerations led to the definition of the sampling population employed in the investigation. The physical and monetary limitations on extensive traveling by the investigator dictated a limited sample size and a specified geographic study area.

The investigator is of the opinion that in comparison to rural areas, a substantially larger percentage of pharmacists located in more urbanized areas of the state where the research was conducted have been participants in past research projects. This introduces the possibility of non-cooperation or bias in subject responses to interviews, based on their prior experience--being "overstudied"--with other researchers from the involved school of pharmacy. This, combined with the proximity and possible direct influence of the school of pharmacy and the state regulatory and enforcement agencies on pharmacists in the major urban location bordering the sampling area increases the potential for atypical practitioner views.

The literature indicates that pharmacist counseling may vary by pharmacy setting and/or geographic location. Since more pharmacists practice in independent community pharmacies than any other setting, it is reasonable to believe that results of a study in that setting have greater

generalizability.[5] Moreover, the fact that independent pharmacies dispense one billion, or 75 percent of all prescriptions in the community setting, further emphasizes the research significance of this setting.[6]

A final justification for concentrating on a single setting derives from the relatively small sample size that can be accommodated in a study of this nature. Limiting the investigation to a single type of location and setting affords a desirable, natural control for these variables in conducting data analysis.

Counselor Role Orientation Scale

Given the scarcity of information regarding pharmacist views and their relationship to patient consultation, it was decided to construct an instrument to measure practitioner's general orientation toward the counseling role. The purpose of this Counselor Role Orientation (CRO) scale is: 1) to determine whether variation exists among practitioners with regard to their orientation to the counseling role, and if this is the case, 2) to provide a basis for examining the relationship between subjects' role orientation and their actual counseling practices.

An initial pool of 64 attitude statements related to pharmacist counseling for prescription medications was generated as a result of a review of the pharmacy literature, discussions with pharmacists, and investigator beliefs

regarding pharmacist views about counseling. Attention was given in the selection of these initial attitude statements to assure content validity--the extent to which the attitude domain is represented in the pool of items.[7]

It has been noted that the way in which the relevant attitude domain is defined ultimately depends upon the conceptual and theoretical approach utilized by the investigator.[8] The initial statement pool contained several items related to each of the factors identified in Chapter Three as potentially influencing pharmacist counseling role views. However, no extensive effort was made to balance the number of items comprising these various aspects of the attitudinal domain, as it is not the purpose of the CRO instrument to specifically delineate the mix of factors that best explain counseling views. Given the exploratory nature of the investigation, it would be unrealistic to expect such a task could be accomplished employing a single, newly developed instrument.

While such a precise determination is beyond the scope of the study, a preliminary exploration of these factors is pursued in the interview with pharmacist-subjects during which the final CRO scale is administered.

Three community pharmacists reviewed the 64 attitude items for clarity and relevance. This process resulted in minor changes in the wording of some statements. The pharmacists also verified the attitude direction assigned to

each statement. Approximately equal numbers of items were classified as favoring and not favoring pharmacist counseling of patients regarding their prescription drugs.

The revised items were placed in a randomly assigned order and presented to 278 fourth- and fifth-year pharmacy students enrolled at the University of Wisconsin School of Pharmacy. Individuals were asked to respond to each item within a five point Likert format.[9] Respondents indicated their level of agreement with each statement by marking appropriate code letters on a computerized answer sheet. The code letters were assigned as follows:

A - Strongly Agree

B - Agree

C - Uncertain

D - Disagree

E - Strongly Disagree

Students also were asked to indicate their pharmacy practice experience on the separate answer sheet. The final form of this preliminary instrument is presented in Appendix A.

Each item was scored on a one-to-five point basis. Positive statements were scored five for a "strongly agree" response, down to one point for "strongly disagree" responses. Scoring was reversed for negative statements. Item scores were added to produce a total attitude score for each respondent. Thus, higher scores indicate more favorable attitudes toward patient counseling.

An initial analysis indicated a different item response pattern between students who had community pharmacy practice experience and those who did not have this experience.[10] Practice experience was defined as the completion of at least three months of a recognized internship or externship program in a community setting.

Since the final scale was to be administered to community pharmacists, it was decided to exclude from further analysis those students who had no formal exposure to community practice. This decision was based on the belief that students experienced in community practice will respond to the items with a level of understanding more closely approximating that of practicing pharmacists.

This action was designed to improve on the chances of selecting items for the final CRO scale that discriminate well between pharmacists holding positive and negative attitudes toward patient medication counseling. Exclusion of the non-experienced students left a group of 106 students who completed the preliminary instrument. This sample size is considered sufficiently large for construction of a final Likert-type scale.[11]

An item analysis was conducted on the responses of the 106 community-experienced students in order to select statements for the final CRO scale. This process was aided by computer analysis employing BMDP data description programs.[12] The goal of this procedure was to select some 20 to 25 items

that best discriminate between positive and negative attitudes.

Initially, each item was examined with respect to its variance, evenness of frequency distribution, and interquartile range.[13] Items with little variance or skewed response distributions, resulting in a small interquartile range, were eliminated from the pool. Then inter-item correlations were examined. In conducting this analysis, Babbie cautions that:

> The researcher should be wary of items that are not related to one another empirically. It is unlikely that they measure the same variable if they are unrelated. More to the point, perhaps, a given item that is unrelated to several of the other items probably should be dropped from consideration.
>
> At the same time a very strong relationship between two items is another danger sign. At the extreme, if two items are perfectly related to one another, then only one is necessary for inclusion . . . since it completely conveys the indications provided by the other.[14]

It has also been observed that statement subsets that correlate among themselves more highly than with the final scale indicate scale multidimensionality.[15] This multidimensionality is undesirable for a measure of general attitude intended in this study. Hence, items were eliminated that were essentially duplicates of one another, or that were unrelated to one another as determined by examination of inter-item correlations.

On the basis of this analysis, twenty items were selected and randomly ordered for inclusion in the final CRO

scale. The final scale was retested on 36 of the students with community practice experience four weeks after the first scale administration. The correlation coefficient for the two scale administrations was .81, indicating a high degree of reliability in discrimination between high and low scale scorers. This final CRO instrument, as administered in the field study, is shown in Appendix B.

The Interview Schedule

An interview instrument was designed to collect background data and to solicit information regarding various aspects of the pharmacists' medication counseling role. The primary purpose of this schedule is to facilitate qualitative exploration of the pharmacists' views regarding several factors potentially affecting their counseling activities. Factors explored are principally those attitudinal variables identified in Chapter Three. An effort was made, however, to gather other appropriate data for a quantitative examination of the relationship between various independent variables and counseling behavior. The additional quantitative variables that were measured also were described in the preceding chapter.

The interview schedule follows a semi-structured format. Several standard topical introductions are included in the instrument to aid the investigator in pursuing lines of inquiry. Individual questions are of the open-ended

variety, designed to stimulate discussion. The specific wording of questions and their order of presentation is intended to be redefined in order to fit with the flow of the subject's train of thought.

The instrument further functions as a vehicle for presentation of the CRO scale. A copy of the interview schedule used by the investigator is shown in Appendix C.[16]

Prior to initiating field research the interview instrument was pretested on five pharmacists. The purpose of this activity was to familiarize the investigator with the interview procedures to be followed and to allow for alterations of ambiguous questions. This process was meant to produce a smooth-flowing and consistent interview. The early interviews in this research phase might otherwise be particularly susceptible to investigator effects, resulting in non-comparable findings.

Field Procedures and Data Collection

The Pharmacist Interview

Interviews with pharmacist-subjects were conducted over a two month period in the spring of 1978. Initial contact was made with each subject by way of an introductory letter from the investigator's advisor (see Appendix D). The introductory letter was followed by a phone call from the investigator.

The phone contact served three purposes. First, the

subject's continued employment status was verified. This check resulted in the selection of alternates for two of the original subjects.[17] The second purpose of the phone contact was to explain the nature of the research study and to answer any questions the subject might have regarding it. The study was described in general terms with a stated purpose of gaining a better understanding of pharmacist-patient relations. Thirdly, the investigator asked for the cooperation of the subject in granting preliminary consent for participation in the study, and a mutually convenient time was arranged to meet for a personal interview.

Subjects were grouped by geographical location within the sampling area for initial contact. Letters were sent out in four groups of ten, at approximately two week intervals. This assured a minimal time-lapse between the scheduling and completion of the interviews. The possibility of conducting more than one interview per day, as a result of reduced travel distance, accounts for the initial contact and interview scheduling based on geographic location.

Upon meeting with each subject, the investigator presented his background and described how his interest in the research project developed. Again the general nature of the study was discussed with the subject. The investigator indicated that information would be collected from the interview and through unannounced visits, by research confederates, to the pharmacist's place of practice. It was

stressed that the study would not involve collection of data from any of the pharmacy's patients, nor from their prescription records. Further, the investigator assured the pharmacist that data collected would be held confidential with regard to source; and that subsequent reports would identify neither the subject nor his place of practice.

After answering any questions for the subject, the investigator asked him/her to complete and sign a consent form indicating willingness to participate in the investigation. All forty pharmacists agreed to this study participation. A copy of the consent form is found in Appendix E. This process of obtaining informed consent, although desirable for any research, was conducted in this specific manner to ensure compliance with standards established by the Committee for the Protection of Human Subjects at the investigator's institution.[18]

Then a taped interview was conducted with each of the pharmacists. Every consideration was given during the interview to avoid subject reactivity. This problem is widely recognized. Denzin warns that:

> It seems likely that respondents in the interview situation are also involved in attempts to understand what the interviewer wants from them. The demand characteristics of the situation, coupled with the social-desirability factor, often produce interview findings that do not accurately reflect the attitudes, definitions, and opinions held by the respondents.[19]

He goes on to suggest that this difficulty can be reduced if

the interview is approached as a personal conversation, where the main focus derives from the questions that comprise the interview schedule.

With this goal in mind, attention was given to establishing rapport with the pharmacist. This was approached in the initial presentation of the investigator's pharmacy background and by engaging in a general discussion about pharmacy practice in a smaller community. Periodically during the interview, the investigator stressed the idea that he was interested in the pharmacist's own opinions and that he was not "testing" the subject. All questions and additional probes were stated in a neutral, non-leading manner.

The basic format of the interview was described in the previous section of this chapter. However, discussions often ranged far beyond the specific questions contained in the interview schedule. Indeed, these digressions were encouraged, as they supply a richness and depth to the interview, as well as a spontaneity that may form a basis for hypothesis generation.[20]

The interviews ranged in length from 45 minutes to over three hours. Pharmacists were interviewed at their place of practice, with the exception of two subjects who were met at their homes after an initial contact at their pharmacy.

Occasionally, the interviews were interrupted for a time while the pharmacist attended to work activities. When

this activity involved the preparation of prescription products, the resultant patient consultation frequently provided a measure of insight into the pharmacist's patient education philosophy. Additional field notes were taped following the interview, based on these observations.

The investigator made mental notes while conducting the interview regarding the physical appearance of the pharmacist and the layout of the pharmacy. This information was recorded on the interview cover sheet after concluding the interview. The purpose of this information was to aid the field observers in identifying the subject and presenting their prescriptions in study Phase II.

The taped interviews were transcribed in a near-verbatim manner, omitting only discussion far afield from the research topic. A sample transcript is shown in Appendix F. These transcripts form the foundation for a qualitative analysis of pharmacists' views regarding patient advising. Additional background and other quantifiable data were extracted, scored, and coded for computer analysis. Scoring procedures are presented, along with a discussion of these data in Chapter Five.

Measurement of Behavior

Phase II of the study involves the measurement of each subject's counseling behavior under actual practice conditions. The methodology employed in this phase involves

the use of the "shopper" as a data collection technique. This technique utilizes a research confederate, herein referred to as an observer, who assumes the role of a patient and presents a prescription order to the pharmacist-subject for dispensing. The trained observer carefully notes, and then later records the behavior of the pharmacist during their encounter. The strategy underlying this technique is to remove the reactivity that often arises when a known observer is present. This method has been successfully used by others to measure various aspects of pharmacists' behavior.[21]

In this investigation, observers supply the data for the verbal counseling measures, as well as specified situational variables. A written counseling measure is derived from an examination of the prescription labeling the pharmacist provides with the drug product to the observer. This data for the behavioral measures is based on counseling supplied for two medications obtained by the observers from each subject.

The drug products selected for procurement from the pharmacists were tetracycline and Actifed.® [22] These medications were chosen because they: 1) are commonly prescribed, 2) have potential medical use for the observer, 3) are non-controlled (nonscheduled) products, and 4) are fairly inexpensive.

Commonly prescribed medications were selected to help

insure the pharmacy had sufficient product information available for counseling, as well as a supply of the drug. Further, a commonly prescribed, non-abused medication that the observer may have a need for would not be expected to raise any suspicions on the part of the subject regarding the observer or his connection with the study. And, in any case, legal and economic considerations respectively, dictated selection according to criteria three and four above.

Because these medications are commonly prescribed it is believed that pharmacists have the necessary product knowledge (through experience) to enable them to counsel patients. This selection criterion was designed to minimize any negative effect lack of knowledge has on counseling, independent of pharmacist attitude. This step does not resolve the issue of differential interpersonal communication skills. However, the selection of these particular products is assumed to prevent this influence from being intensified due to subjects' unequal cognitive ability regarding the medications.

On the other hand, selection of these two products may bias the study findings in that the results could reflect a higher level of counseling activity than would be found with other commonly prescribed medications. Each drug has associated with it side effects that would be readily noticeable to the patient as well as drug interactions of

clinical significance. For example, Actifed is known to cause drowsiness due to its antihistamine component, and it interacts with alcohol to produce greater central nervous system depressive effects than would be found with either drug alone. In these instances, one could speculate that counseling is more likely to be undertaken than it would be for medications without such visible problems associated with them (e.g. conjugated estrogens).

Standardized Actifed and tetracycline prescription orders were written for each of the observers by three cooperating physicians located at University Hospitals in Madison, Wisconsin. The orders were issued on standard outpatient department prescription blanks. All subjects indicated, when interviewed, that it was not unusual to receive such orders for dispensing in the course of their practice. Appendix G indicates the standard information contained on these orders.

Observer Training

Three observers were utilized for the investigation; two females and one male. They were all Caucasians, ranging in age from 27 to 29. At the time of the study, all were students in health-care related fields. Thus, each observer was familiar with the medical terminology. Because the observers were older than the typical college student, they probably were not perceived as such by the subjects.

Observer training was conducted over five sessions, totaling 20 hours per person, during July 1978. This training included extensive role playing, in both simulated and actual pharmacy environments. After the observers attained a high level of proficiency in data recording skills and in carrying out field protocols, final field tests were performed at pharmacy sites not in the study.

Reliability in recording verbal communications was a prominent consideration in observer training. The training did not conclude until "near perfect" observer reliability was obtained over a series of trials. The observer training procedures, including this attention to reliability, are detailed in Appendix H.

Field Observation Procedures

The counseling behavior of the forty pharmacist-subjects was measured for each of the two study medications during the summer of 1978. Different observers obtained single prescriptions from subjects over the course of two visits spaced a minimum of one week apart.

The investigator transported individual observers to the practice location of each subject according to a pre-determined schedule. The travel route was based on presumed subject availability, as determined from a work week description obtained during the interview study phase. No attempt was made to randomize the sequence of visits because

of the travel distances involved and constantly changing observer and investigator time availability.

Prior to entering the practice location of a subject, observers examined a Pharmacist Description Sheet supplied by the investigator as an aid to subject identification. Along with the investigator, they also reviewed their informational "cover story," and discussed any potential problems that might arise. Then, after completing the first section of an Encounter Report Sheet and making sure their timing devices were in working order, the observer received the proper prescription order along with purchase funds from the investigator and entered the pharmacy.

According to study protocols, the observer attempted to present the prescription order to the subject. In order to standardize the level of work activity in the pharmacy, the observer did not approach the prescription counter if two or more people were present in that area. After presenting the prescription, the observer stationed himself near the prescription counter, where he remained while he carefully observed the behavior of the pharmacist and noted other activity. The observer took a passive role in any interaction with the pharmacist or other personnel, answering questions, but not initiating any conversation.

Immediately upon completing the prescription transaction, the observer returned to the investigator's car where he completed the remaining sections of the Encounter

Report Sheet; including a verbatim tape recording of the interaction with the pharmacist and other pharmacy employees. The investigator concurrently coded the prescription purchase, Encounter Report Sheet, and the tape recording to correspond to the interview phase subject code.

The Pharmacist Description Sheet, completed from interview notes made by the investigator, is shown in Appendix I. The observer field protocols, including the basic "cover story" are detailed in Appendix J. Appendix K contains a copy of the Encounter Report Sheet.

All 80 observer-subject encounters were completed within six weeks of initiation of this data collection phase. However, this success was not without overcoming some expected difficulties. Although field protocols called for the observer to hand the prescription to the subject if possible, this was clearly not feasible in certain situations--due to pharmacy physical layout or intervening clerks who accepted the prescription. In cases where more than one pharmacist was present, sometimes the "wrong" pharmacist prepared the prescription. This happened on eight occasions.

In two other instances, a non-subject pharmacist was mistakenly identified by the observer as being the correct subject. In cases where there was any post-encounter doubt as to the identity of the pharmacist, the investigator verified the subject's presence or absence via a telephone

call. To minimize this problem, pre-encounter unobtrusive observations were made by the investigator to supplement the observer's Pharmacist Description Sheet when the layout of the pharmacy allowed for such observation.

The original study design called for two primary observers, designated observers A and B, to attempt to obtain one medication from each of the subjects. The third observer (C) was to collect data in certain cases where more than one study pharmacist was employed in the same pharmacy. This back-up procedure was designed to avoid previous interaction experience with an observer from becoming a variable, if both medications were, by chance, obtained from a subject by the same observer. The use of a third observer also avoided multiple presentations of the same prescription by an observer if a non-study pharmacist prepares a prescription at a first visit. As was noted above, this occurred a total of ten times.

While observer C was used for these purposes, he also completed other prescription encounters. All three observers were utilized as they were available, because of the extensive travel involved and problems observers encountered in arranging for the large blocks of time necessary to conduct the study.

This approach was further indicated by frustrations encountered in finding the subject present according to their work week description obtained during Phase I.

Several telephone calls and numerous non-encounter pharmacy visits were necessary to determine pharmacist availability. Indeed, completion of the 80 encounters required a total of some 70 additional pharmacy checks, the majority via non-obtrusive observations by the investigator or an observer. Telephone verifications were used infrequently for fear of arousing subject suspicions; and, since most pharmacy locations were directly on the daily travel route preplotted by the investigator, brief pharmacy visits resulted in little delay of the day's field work.

The observers completed the encounters with the following frequency: A-33, B-30, and C-17. At no time during this study phase did subjects question the observer's status as a patient, nor did they indicate, in any way, suspicion that the observer was associated with a research study.

Although subjects expected visits from observers at some point in time, there was a three month lapse between the interview and the prescription encounters. And, in any case, subjects were located in what is considered a vacation and recreational area; during the summer season it is not uncommon for out-of-town patients bearing prescriptions to be present in the area.

Encounter Scoring and Data Analysis

Scoring the Encounter

Each pharmacist-observer encounter was scored on a series of indices, based on those developed for an earlier project the investigator assisted with.[23] The four indices, modified for use in this study, quantified pharmacists' verbal instruction, written instruction, interviewing activity, and approachability. A fifth behavioral variable, pharmacist-observer interaction time, was measured directly with the use of a concealed stop-watch (see protocols in Appendix J).

Scores for verbal instruction and interviewing activity from pharmacists were derived through analysis of transcripts made from observer tape recordings detailing each encounter. A sample encounter transcript is shown in Appendix L. Prescription labeling for each drug product obtained provided the source for a written instruction score. An approachability score and other information (e.g. pharmacy staffing) were extracted directly from the completed Encounter Report Sheet.

Verbal instruction points were scored for supplying items of information generally accepted as desirable by pharmacy leaders and educators as contributing to more effective or safe medication utilization. Instruction furnished was examined and scored with regard to 18 distinct

categories of informational content. These categories were designed to be all-inclusive with respect to potential instructional content.

For example, one point was scored if the pharmacist stated the brand or generic name of the medication. If the subject provided a discussion of possible side effects or adverse reactions, another point was awarded, and so forth. In some categories it is possible to score two, rather than one point for providing more detailed information. If the practitioner told the observer, in a general sense, how to take the medication with regard to meals (e.g. before or after), he was awarded one point. On the other hand, if he gave specific hourly instructions, such as "take one hour before, or two hours after meals," two points were scored. The Verbal Instruction Index used for this investigation is shown in Appendix M. The potential score on this measure ranges from 0 to 25 points.[24]

It should be noted that this and the other study indices are designed to quantify pharmacist instruction for a complete range of drug products. Hence, instructional points are unlikely to be scored in some categories for the medications obtained in this study.[25] One would not expect, even with extremely thorough counseling, the maximal instruction score for most medications.

All written information provided to the observer, including auxiliary labels, form the basis for obtaining a

written instruction score. The scoring of the Written Instruction Index parallels that of the Verbal Instruction Index. Even though the presentation of written information may be structured differently from verbal instruction, the content categories and scoring procedures for the Written Instruction Index remain essentially the same. A single category excluded from this Index concerns the provision of advice in the event the patient has difficulties with, or questions about their medication. So, the maximum possible score on this Index is 24 rather than 25 points. This 17 category Index is found in Appendix N.

A score indicating the amount of interviewing activity the subject engages in was derived through analysis of the questions he asked the observer. In this study, interviewing consists of inquiries intended to: 1) solicit information from the patient in order to identify potential problems associated with the use of the prescribed medication, or 2) assess the patient's understanding of instructions for taking the medication or of other information pertinent to its safe and effective use.

In general, these interviewing questions were given a score of one point, but questions requiring more specific responses by the observer were awarded two points. For instance, if the pharmacist asked the observer whether he had been told how to take the drug, one point was scored. However, if he requested that the observer summarize the

instructions given--necessitating a detailed response--an additional point was awarded. Inquiry regarding medication allergies was also given two interviewing points due to the assumed importance of this knowledge to the practitioner as a basis on which to make dispensing decisions.

The Interviewing Index is presented in Appendix O. The minimum possible score on this measure is zero; but a maximum score cannot be specified, as the items comprising the index--unlike those in the verbal and written measures--are determined from the content of the encounters, and therefore, may not represent all potential aspects of interviewing behavior. Moreover, it is conceivable that interviewing activity could be pursued in great depth and detail under certain circumstances, further frustrating efforts to determine the potential range of scores on this measure.

A subject approachability score also was obtained for each pharmacist-observer encounter. This score, ranging from -4 to +7, is based on a combination of objective and subjective assessments. Positive points were scored if the pharmacist did such things as: greet the observer, speak slowly (not too rapidly), or smile during the encounter. Negative points were given if the practitioner acted in a hurried way, frowned, or otherwise behaved in an unapproachable manner. The activities constituting this measure are shown in Appendix P. This approachability score was

determined by totaling the assigned values for activities occurring, as reported by observers on the Encounter Report Sheet.

The investigator and one of the study observers independently assessed the data from each encounter to obtain index scores on the verbal, interviewing, and written measures. This procedure was employed to ensure uniform and unbiased scoring, as well as to provide a check on the clarity of the index categorizations and resultant scoring reliability. The scoring was conducted under "blind" conditions. That is, scorers knew neither subject names or code numbers, the latter being present only on the back of the encounter transcripts. Similarly, the exact content of all prescription labeling had been transferred to paper and coded on the reverse side prior to scoring.

For each encounter, the three sets of index scores were compared for differences. Over all cases there was never a difference between scorers greater than two points on any index. In fact, there were only a total of 11 disagreements among the 240 pairs of index scores. Correlation coefficients were calculated to verify the high degree of correspondence indicated between the initial index scores for each encounter. The values for this statistic on the Verbal, Written, and Interviewing indexes were, respectively, .995, .996, and .980, demonstrating the simplicity and reliability in scoring the measures. In the few instances

where the scorers disagreed, the encounter records were examined again by both scorers and a final score was agreed upon.

Data Analysis

Various nominal, ordinal, and interval scale data were collected in the two field research phases. A substantial amount of qualitative conversational data, essentially categorizable only by topic, also were gathered from subject interviews.

Discussion of the presentation and analysis of pharmacist interview comments is detailed in the following chapter. These qualitative data is explored to supply evidence regarding the differences between the perceptions of and the relative importance of attitudes held by subjects divided into high and low CRO score groups.

Chapters Five and Six, respectively, present data concerning pharmacist counseling views and behavior. Variable response distributions are both analyzed descriptively and the relationships among the variables discussed in the chapters are examined for significant statistical associations.

In Chapter Seven, the relationships between the various independent and dependent variables are explored, following the lead of Cohen and Cohen who have detailed the potential use of parametric statistics for analysis of all

quantifiable data, regardless of level of measurement.[26] This approach allows for simultaneous consideration of the effects of the CRO measure, along with other ordinal and categorical variables on pharmacist behavior.

Quantitative data collected in the field research were analyzed with the aid of the facilities at the Madison Academic Computing Center of the University of Wisconsin. Minitab and SPSS programs were employed to obtain correlation and multiple regression statistics, and to run t-tests and F-tests on group means.[27] All quantitative variables displayed in tables are based on complete data for each of the forty subjects.[28] Statistical tests employed are two-tailed and initially set at the five percent significance level. Tests for significance levels found to surpass five percent probability are appropriately noted in the text.

FOOTNOTES

1. Definition adopted from Jang, p. 47.

2. Based on 1974 population estimated found in Wisconsin Blue Book, pp. 668-677.

3. Wisconsin Pharmacy Directory, Wisconsin State Board of Pharmacy, August 22, 1977.

4. William Mendenhall et al., Elementary Survey Sampling (Belmont, Calif.: Duxbury Press, 1971), pp. 31-33.

5. C. Rodowskas and W. M. Dickson, Pharmacy Manpower Information Project, American Association of Colleges of Pharmacy, 1971-1975, supported by the Bureau of Health Manpower, Health Resources Administration, Department of HEW.

6. "Third Party Rx Ratio Drops for First Time," American Druggist, May 1978, p. 17.

7. Nigel Lemon, Attitudes and Their Measurement (New York: Wiley, 1973), p. 39.

8. Ibid., p. 42.

9. The basic source for understanding the general method for construction of a Likert type scale is found in: Rensis Likert, "A Technique for the Measurement of Attitudes," Archives of Psychology #140, 1932.

10. For the most part these response patterns differed in degree rather than kind. In general, response distributions of students who had community practice experience are skewed more toward the ends of the response continuum than are those of students without community experience. For a summary of these findings, available through the investigator: "Attitude Survey Summary," University of Wisconsin, March 14, 1978 (mimeographed).

11. A. Oppenheim, Questionnaire Design and Attitude Measurement (New York: Basic Books, Inc., 1966), p. 134.

12. W. J. Dixon, ed., Biomedical Computer Programs, Data Description Programs (Berkeley, Calif.: Univ. Calif. Press, 1975), pp. 81-258.

13. Earl Babbie, Survey Research Methods (Belmont, Calif.: Wadsworth Publishing Co., 1973). This analysis is based on procedure described on pp. 256-257, 266-270.

14. Ibid., p. 257.

15. Lemon, p. 181.

16. One component of the original study design, subsequently eliminated, focused on the utilization of PPIs. A section of the interview schedule contains material directed primarily toward this topic. When conducting pharmacist interviews, discussions in this area centered around both PPIs and the more general topic of prescription labeling and written information for patients.

17. One subject was not currently practicing in Wisconsin, and a second subject was no longer working following a prolonged illness.

18. Protocol for Research Involving Human Subjects #78-728-034, University of Wisconsin, Center for Health Sciences, Committee for the Protection of Human Subjects, approved March 6, 1978.

19. Norman Denzin, The Research Act (2nd ed.; New York: McGraw-Hill Book Co., 1978), p. 119.

20. Oppenheim, p. 41.

21. Studies using the shopper technique are discussed in Chapter Two. For example, see: Jang, Knapp, and Knapp; Watkins and Norwood; or Puckett et al.

22. Actifed® is a registered trademark of Burroughs-Wellcome Company for their product containing 60mg of pseudoephedrine and 2.5mg of triprolidine.

23. Bonnie L. Svarstad, "Procedures for Measuring Pharmacist-Patient Communication: A Handbook for Coders," University of Wisconsin, November 1977 (mimeograph).

24. A higher total score is theoretically possible under exceptional circumstances. See items 11 and 12 in Appendix M.

25. For example, one might expect the subject to inform the patient that his Actifed contains triprolidine and pseudoephedrine, resulting in a score of two points in category 2b (medication name). However, in order to score a point in 17a (medication description), he would have to state the exact strength of these component drugs: 2.5mg and 60mg respectively.

26. Jacob Cohen and Patricia Cohen, Applied Multiple Regression/Correlation Analysis for the Behavioral Sciences (Hillsdale, N.J.: Lawrence Erlbaum Associates, 1975).

27. Norman Nie et al., Statistical Package for the Social Sciences, Second Edition (St. Louis: McGraw-Hill Book Company, 1975); Thomas Ryan et al., Minitab Student Handbook (North Scituate, Mass.: Duxbury Press, 1976).

28. Any statistical comparisons utilizing the NARD membership variable are based only on data from the 32 subjects who are eligible for full membership in that organization--the eight employee subjects are eligible only for associate membership.

CHAPTER FIVE

PHARMACISTS VIEW THE COUNSELING ROLE

Introduction

> Professions change in response to both external and internal forces, but response to such forces is greatly affected by the attitudes, motivations, and aspirations of the individual human beings who collectively comprise the profession. They may resist the forces of change, blunting them or changing their direction. They may welcome change and align themselves with the forces causing it.[1]

This chapter examines the views the sample pharmacists hold toward the concept of patient medication counseling. Variations in pharmacists' counseling expectations and perceptions of factors influencing these expectations are presented and analyzed in terms of their potential for influencing behavior. The material for this chapter originates from the personal interviews conducted with each subject during study Phase I.

Data Presentation Approach

The data presented in this chapter are a mixture of qualitative and quantitative materials. In essence, the pharmacist interview sessions were entered into with a set of implied hypotheses about factors affecting pharmacists'

views toward the counseling role. The premise developed in Chapter Three is that a pharmacist's general attitude--his role orientation--guides his behavior. The CRO scale was developed to measure this orientation.

A primary concern in this investigation is establishing the extent to which pharmacists' role orientations are related to their counseling behavior. But, perhaps an equally important purpose in this analysis is delineation of influential attitude components affecting pharmacists' role orientations.

However, the CRO scale is only intended to differentiate between those pharmacists with positive and negative role orientations. Scores on this scale tell us little about the factors that constitute the pharmacists' orientations. If a future goal is to effect changes in counseling activity, it is essential to understand pharmacists' attitudinal makeup and the forces structuring it.

Much of this chapter is concerned with identification of both commonalities and discrepancies in the way high and low CRO scorers view their counseling role. A substantial amount of the material presented herein is based on subject reports about themselves. These qualitative data are complemented by a limited number of quantitative scales assessing particular attitude dimensions.

In presenting qualitative data, researcher decisions regarding selection of illustrative examples are difficult

to adequately explain. Essentially, one strives to present "evidence," enabling the reader to make judgments as to the adequacy of the proof and the confidence to be placed in the conclusions derived. To facilitate this judgment, much of the evidence presented is in the form of pharmacist remarks extracted verbatim from interview transcripts. In supplying these quotes, strict attention is paid to the context of the discussion unless otherwise noted.

Although the interview schedule was partially structured, questions were not asked in any established order; the subjects were encouraged to talk openly and freely. The fact that the investigator is a pharmacist and is familiar with the subject's jargon facilitated some rather lengthy pharmacist monologues, during which multiple issues were taken up. On the whole, subject remarks should be considered to be volunteered statements, as the number of investigator-directed questions were minimal and usually of a general nature.

Rich verbal responses were elicited from the pharmacists which indicate their perceptions of the important factors affecting their patient counseling. These kind of data point out the types of things that may influence patient counseling, but they provide little chance to quantify these factors. Thus, these variables are not amenable to statistical analysis in the traditional sense.

If one explores qualitative data with hypothesis

building in mind, one is searching for similar and different sorts of beliefs among subjects. However, seldom do all respondents potentially classified in a particular manner share the same beliefs or express them the same way. This requires the investigator to decide whether a pattern he believes he observes is actually present. Just as difficult to interpret is an attitude which may be common to only a minority of subjects, yet their comments may be so striking as to suggest the attitude has a real impact.

Because this study is essentially exploratory, it is worthwhile to accept some risk of making what are called, in the statistical sense, "Type I" errors. That is, within reason it is better to chance being wrong by identifying a non-existent pattern than to miss an important relationship when assessing verbally expressed beliefs. In any case, the findings on the quantitative measures serve as a point of reference to aid in "keeping the qualitative analysis honest," and vice versa. The limited extent to which this risk taking is engaged in is discussed later in the chapter.

Sample Characteristics

The forty subjects in this study range in age from 26 to 74, with a mean of almost 44 years. Their years in pharmacy practice--from 3 to 52--reflect this age range. All but one of the sample pharmacists received their pharmacy degrees from the University of Wisconsin. While practically

all have completed continuing education programs of one type or another, none of the subjects has engaged in formal-academic study past the bachelor of science degree.

A slight majority of subjects belong to the National Association of Retail Druggists (NARD), and three of every four are American Pharmaceutical Association (APhA) members. Only three sample pharmacists are women, unfortunately too few to allow for comparisons based on subject sex.

Most are pharmacy managers or owners, rather than employees. About half have practiced in hospital or chain pharmacies prior to their present community practice. A majority practice in "one-man pharmacies." That is, 24 of the 40 subjects work in their place of practice without another pharmacist being present at least half of the time.

Most of the pharmacies where the subjects practice might be considered low-prescription-volume stores. Only five of the pharmacies dispense more than 39 new prescriptions per day. Nonetheless, over half of the subjects work 50 or more hours a week; several more than 65 hours. But, it must be pointed out that these individuals putting in extremely long hours are owners or managers, who spend additional time each week tending to administrative matters.

The subject background data collected are summarized in Table 5-1. These variables are examined with respect to the attitudinal variables in this chapter and in combination with these latter variables for explaining pharmacist

TABLE 5-1

DESCRIPTION OF BACKGROUND VARIABLES

Variable	Categories	N	Coded[1]
Years of practice	actual years	40	3-52
Work week (hours worked in store)	20 - 40	11	0
	41 - 50	11	1
	51 or more	18	2
Usual staffing (pharmacist)	RPh alone more than half time	24	0
	RPh works with one or more other RPhs	16	1
Encounter staffing[2] (pharmacist:clerk ratio)	less than 1:1	6	0
	one to one	17	1
	more than 1:1	17	2
Employment status	owner/manager	32	0
	employee	8	1
Prescription volume (average new/day)	less than 21	18	0
	21 - 39	17	1
	more than 39	5	2
Previous practice[3] experience	independent community only	22	0
	hospital or chain	18	1
National Association of Retail Druggists	non-member	15	0
	member	17	1
	not applicable	8	-
American Pharmaceutical Association	non-member	11	0
	member	29	1

[1]Code number refers to classifications used in the Chapter Seven data analysis.

[2]This variable is not discussed in this chapter. It is used in the Chapter Seven data analysis.

[3]Previous practice experience refers to the completion of at least one year of work in another pharmacy setting. A further distinction is made between prior hospital (n=8) and chain (n=10) experience in some of the data analysis presented. A subject who has had both types of experience is placed in the category which he has practiced in for the greatest length of time.

counseling behaviors in Chapter Seven.

As noted in the previous chapter, the subjects' places of practice are located in smaller cities (and towns). These cities range in population from about 400 to 7,500. In only a single case is there more than one other pharmacy located in the city where subjects practice.

These pharmacies are all "traditional" community pharmacies in that they carry assorted non-pharmaceutical goods such as greeting cards, cosmetics and newspapers. In some locations a vestige of the past remains in the form of a soda fountain which has been converted to serve other purposes.

The local patient populations served are generally a 50-50 mixture of individuals living on farms and city/town dwellers. However, because the geographic area where these pharmacies are located has numerous year-round recreational attractions, a substantial number of tourists depend on the sample practitioners for their pharmaceutical services.

Counselor Role Orientation Scale

The research perspective leading to the use of the Counselor Role Orientation (CRO) scale, as a global attitude measure, was presented in Chapter Three. The scale development and item-response scoring procedures were detailed in Chapter Four. This section describes the pharmacists' scores on the scale and their distribution

among the various background variable categories.

Subject scores on the CRO scale range from 52 to 84, with a mean score of 68.73 and a standard deviation of 7.32 points. The grouped distribution of subjects' CRO scores is shown in Table 5-2. The scores appear to be more or less normally distributed, with a few scores in the lower end of the range slightly skewing the distribution. Examination of the subjects' scale scores substantiates the belief that pharmacists vary in their orientation toward the patient counseling role.

It is difficult to assess whether the score distribution represents a generally negative or positive patient counseling orientation. Likert scaling distributes the subjects along a continuum, but without reference to any absolute neutral point. However, if we make the assumption that the middle response ("uncertain") for each scale item reflects neither a positive or negative orientation to counseling, a total scale score of 60 points represents this neutral point. On this basis it would be suggested that most study subjects have a positive orientation toward the patient medication counseling role.

Pharmacist background variables were examined to determine their relationship to CRO scores. The background variables considered were the subject's employment status, practice setting experience, length of work week, pharmacy organization membership, years of practice, and age.

TABLE 5-2

GROUPED DISTRIBUTION OF COUNSELOR ROLE ORIENTATION SCORES

Score	Frequency	Relative Frequency (%)
50 - 54	1	2.5
55 - 59	4	10.0
60 - 64	5	12.5
65 - 69	7	17.5
70 - 74	16	40.0
75 - 79	5	12.5
80 - 84	2	5.0

Ungrouped Mean: 68.73; Standard Deviation: 7.32

Pharmacy prescription volume of variation and whether the subject usually worked alone or with other pharmacists also were thought to potentially affect CROs. With the exception of the subjects' years in pharmacy practice and their age, these variables are all nominally categorized.

One-way analysis of variance (ANOVA) was used to test whether the categories of the nominal variables differed in their mean CRO scores. There were no significant differences within any of these variables on their mean category scores (Tables 5-3 through 5-9).

TABLE 5-3

CRO SCORE BASED ON EMPLOYMENT STATUS

Employment Status	N	Mean	Std. Dev.	Min.	Max.
Owner/Manager	32	68.5	7.2	52	81
Employee	8	69.5	8.4	55	84

Analysis of Variance

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Probability
Between groups	1	6.0	6.0	.11	ns
Within groups	38	2082.0	54.8		
Total	39	2088.0			

TABLE 5-4

CRO SCORE BASED ON PRACTICE EXPERIENCE

Practice Experience	N	Mean	Std. Dev.	Min.	Max.
Community Only	22	66.6	7.3	52	79
Hospital	8	73.4	6.8	66	84
Chain	10	69.6	6.3	55	76

Analysis of Variance

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Probability
Between groups	2	276.6	138.3	2.83	ns
Within groups	37	1811.4	49.0		
Total	39	2088.0			

TABLE 5-5

CRO SCORE BASED ON PRESCRIPTION VOLUME

New Prescriptions Per Day	N	Mean	Std. Dev.	Min.	Max.
0 through 20	18	67.4	8.6	52	79
21 through 39	17	69.8	6.3	55	84
40 or more	5	70.0	6.0	56	76

Analysis of Variance

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Probability
Between groups	2	58.6	29.3	.53	ns
Within groups	37	2029.3	54.8		
Total	39	2088.0			

TABLE 5-6

CRO SCORE BASED ON LENGTH OF WORK WEEK

Work Week	N	Mean	Std. Dev.	Min.	Max.
20 to 40 hours	11	70.4	5.6	56	81
41 to 50 hours	11	70.6	7.1	55	84
50 or more	18	66.6	8.0	52	79

Analysis of Variance

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Probability
Between groups	2	154.4	77.2	1.48	ns
Within groups	37	1933.6	52.3		
Total	39	2088.0			

TABLE 5-7

CRO SCORE BASED ON APhA MEMBERSHIP

APhA Membership	N	Mean	Std. Dev.	Min.	Max.
Non-member	11	69.7	4.1	60	75
Member	29	68.3	8.3	52	84

Analysis of Variance

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Probability
Between groups	1	15.2	15.2	.28	ns
Within groups	38	2072.8	54.5		
Total	39	2088.0			

TABLE 5-8

CRO SCORE BASED ON NARD MEMBERSHIP

NARD Membership	N	Mean	Std. Dev.	Min.	Max.
Non-member	15	68.9	6.8	55	84
Member	17	68.2	7.7	52	81

Analysis of Variance

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Probability
Between groups	1	4.6	4.6	.09	ns
Within groups	30	1587.4	52.9		
Total	31	1592.0			

TABLE 5-9

CRO SCORE BASED ON USUAL PHARMACIST STAFFING

Pharmacist Staffing	N	Mean	Std. Dev.	Min.	Max.
One Pharmacist	24	68.6	6.4	55	81
Two or More Pharmacists	16	68.9	8.7	52	84

Analysis of Variance

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Probability
Between groups	1	0.6	0.6	.01	ns
Within groups	38	2087.4	54.9		
Total	39	2088.0			

An interesting trend, just short of statistical significance, does show up among types of practice experience the subjects have had (Table 5-4). Those pharmacists who have previous work experience primarily in the hospital setting have higher CRO scores than those with chain experience, who in turn have higher scores than pharmacists who have worked only in independent community practice. Perhaps the most startling feature of this relationship is the finding that the practice setting experience reported by the subjects was, almost without exception, their first position after becoming registered as a pharmacist. Moreover, so far as could be determined, most subjects also interned in that same setting prior to pharmacy licensure. This finding has implications in terms of the socializing effect of the first job and the stability of this influence. This issue will be addressed more fully later.

Pharmacist age and years of practice are highly correlated ($r=.97$), as would be expected. To avoid redundancy in data presentation, only years of practice will be used for making statistical comparisons and the two variables will be referred to interchangeably in the text. This variable is significantly associated with the subject CRO scores ($r=-.37$, $p < .01$), with pharmacists in practice longer scoring lower on the CRO scale.

To allow the reader to better visualize this relationship, the subjects were grouped by years of practice and

ANOVA was performed. Upon visual examination of Table 5-10, it is clear that the group of pharmacists in practice more than 25 years have substantially lower CRO scores than subjects on the other two levels of the variable.

Views of Factors Affecting Counseling

The following sections of the chapter present an analysis of factors potentially affecting the patient counseling role, as they are viewed by the pharmacist. We have essentially asked the study subjects which things related to counseling they find to be problematic and to identify those things having some certainty. Which aspects make it easy to counsel, which make it hard, or should one even counsel? In other words, we are exploring the structure of the variable role orientations indicated by the CRO scale scores.

The investigation is focused on those variables identified in Chapter Three as potential sources of self-expectations defining the subject's role orientation. These expectations are conceptualized as emanating from both the social system (other's expectations) and the individual's personality system (self-perceptions). The differential perception and internalization of others' expectations along with those derived from the individual's personal role interpretation is reflected in varied pharmacist attitudes, or orientations toward their role, as they are

TABLE 5-10

CRO SCORE BASED ON YEARS OF PRACTICE

Years of Practice	N	Mean	Std. Dev.	Min.	Max.
Less than ten	14	69.8	7.5	55	84
Ten to twenty-five	15	71.3	5.0	64	81
More than twenty-five	11	63.9	8.0	52	74

Analysis of Variance

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Probability
Between groups	2	367.8	183.9	3.96	$p < .05$
Within groups	37	1720.2	46.5		
Total	39	2088.0			

operationalized in this study.

The broad definition of attitude takes into account an array of factors that may contribute to a role interpretation, including self-expectations arising from the perception of situational factors inhibiting or facilitating counseling. We have noted the global CRO scale is unable to adequately furnish information on its attitudinal components, because it is designed to be only an attitude differentiation measure.

Now we inspect the way pharmacists interpret the effects of factors that determine their counseling attitudes. A component of this analysis examines quantitative scale data, focusing on a limited, nonetheless important, number of attitude dimensions. These quantitative data--intended to mirror part of the pharmacist CRO structure--were collected on the basis of prior beliefs about important role orientation influences.

Most of these quantitative measures exhibit insufficient variation to be analyzed in relation to role orientations or behavior. Still, they furnish insight as to which attitude dimensions are associated with a relative degree of pharmacist consensus.

An additional source of quantitative evidence is the sample pharmacists' responses to each of the 20 items comprising the CRO scale. The subjects' mean level of agreement or disagreement is taken to indicate an overall

positive or negative orientation toward factors considered. These response tendencies are presented in the context of the relevant discussion. Because there is little numerical difference between the mean item scores for any arbitrary grouping of total CRO scores, only total-sample item means are reported in these instances.

To aid in the qualitative data interpretation, subjects were arbitrarily divided into two groups, based on CRO scale score position--above or below the mean (68.7). Although the sample pharmacists should be visualized as lying on an attitude continuum, this classification scheme permits the investigator to search for generalizable consistencies between pharmacists with positive and negative CROs.

In scrutinizing the qualitative data illustrative examples are held to be "typical" or reflecting an attitude common to "most" or "several" subjects. This is where the investigator must rely on his decision-making objectivity so as not to bias the presentation.

Given the reality that every factor of interest was not discussed with each subject further complicates the identification of a view as being common to the entire group of subjects. One convention established in reporting similarities or dissimilarities between the CRO groups is that no generalization is stated or implied unless the topic under consideration was commented on by at least half of the subjects in a CRO group. In any case, it is believed that

quantitative and qualitative findings, taken as a whole, should mutually support any conclusions arrived at.

Expectations of Others

Pharmacists were asked how much advising about prescription drugs various significant others expect them to furnish. Their response-choices were limited to selections in a "more-same-less" format. In a sense, these single expectation questions did not "work." Essentially all of the subjects responded that they believe local physicians, other pharmacists, and their patients want them to provide about the same amount of counseling that they currently do. Similarly, practically every pharmacist indicated that the state pharmacy board, "pharmacy professors," and "consumer groups" would all like to see them supply more counseling than they presently do. And, as to their own feelings, almost all stated that they were satisfied with their current level of advising.

What does this signify? It cannot be concluded that the subjects all perceive others' expectations for them as being similar. This becomes obvious from responses to interview inquiries. Rather, it testifies to the hypothesis that pharmacists are influenced to act in accordance with what they perceive to be the counseling expectations of physician, pharmacist, and patient reference groups, as well as with their own expectations. On the other hand, the

subjects uniformly perceive certain others as demanding additional counseling; yet, they do not feel influenced to conform to these demands.

Our discussion in Chapter Three suggests this is attributable to the circumstance that the state pharmacy board, pharmacy professors, and consumer groups are more distant reference groups. The expectations of these groups are thus acknowledged only in the abstract, and they are not seen as being necessary to accommodate in actual practice.

The above explanation is plausible, but it may be somewhat pretentious considering the data limitations. In order to discern the more subtle similarities and differences in the way positive and negative CRO scoring pharmacists perceive others' expectations for their counseling activity, it is imperative to expand beyond our simple more-same-less categorical responses. Examination of subject comments and replies to questions related to their perceptions of what others expect of them enables us to do this.

The following pages investigate the pharmacists' beliefs about counseling expectations held by physicians, patients, other pharmacists, legal regulatory bodies, and pharmacy's educational faculties. Subject views regarding consumer group and pharmaceutical manufacturer counseling expectations are not analyzed.

These latter two reference groups are given little

thought by the pharmacists. Virtually no unsolicited observations were offered relating to the expectations of either group. None of the subjects admitted to having prior encounters with organized consumer groups. Further, their solicited remarks tend to emphasize the importance of individual patient's expectations as opposed to any group's expectations.

With regard to pharmaceutical manufacturers, most pharmacists indicated that they had little idea what their counseling expectations are, or else they observed that the manufacturers do not care one way or another. The single comment relating to manufacturer expectations, going beyond the "don't know" or "it doesn't matter to them" type of response, was offered by a young practitioner who said: "All they want to do is sell their products. Those that detail us do it in order to get at the doctor through the back door--they don't tell us much that applies to patients."

Physician Expectations

Pharmacists are somewhat divided as to what they believe physicians expect of them. Low CRO subjects tend to feel that "most don't want much said to their patients . . . and especially no details." These individuals often believe the physician is not concerned one way or another if the prescription label instructions are reiterated. But, going beyond the point of "giving the information to reaffirm what

the doctor says, and starting to cross that invisible line," is seen as inviting trouble.

Half of the negative CRO individuals produced anecdotal examples of situations where they had unhappy physicians on their hands. Normally these incidents would be considered minor (e.g. a patient concerned about drowsiness a medication may cause). However, virtually all of the low CRO subjects make a point of emphasizing that they have good relationships with the local doctors and they convey the feeling they do not wish to risk harming this relationship. This might be summarized by the pharmacist who observes: "Medicine is practiced differently in a small town. The doctor holds the power and pharmacy must be practiced with this in mind."

High CRO scorers were not as unanimous in pointing out their positive relationship with physicians. It was never asserted that these relationships are not good, but almost half of this group admit that they do not know the local physicians very well. Pharmacists in this group readily agree that some physicians do not expect the pharmacist to counsel much, but as one remarked: "We do a lot of counseling anyway. Dr. ____ has never said anything, but he usually acts like he doesn't think we are doing any of it."

Comments of several pharmacists pointed out that physician expectations vary by the individual, with older practitioners often wanting the pharmacist to counsel less.

Younger physicians, conversely, are viewed by the positive CRO group as "leaving much of it to us, as they see we have been doing a good job at it."

Another high CRO pharmacist seconds that opinion in noting that counseling "for the elderly is a particular problem. It depends on who they see--the young ones--for example, Dr. ____, who is just out of school. He just called me and said, 'Anna ____ is coming over and she isn't taking her drugs right. Go over them with her. Tell her how important it is to take the potassium, with the hydrochlorothiazide, and so forth. Please reinforce the idea that they work together.' So this is what I do."

When asked on the CRO scale whether "most physicians expect pharmacists to reinforce label instructions of prescription medications" (item 7), the overall subjects' mean item score is 3.5, indicating a tendency to agree with this statement (Table 5-11). The sample pharmacists are undecided, however, in their responses to the statement: "Many physicians do not want the pharmacist to discuss therapeutic rationale, drug interactions, or side effects with patients" (item 18). These results reflect the idea that the subjects, overall, feel that physicians expect them to reinforce label instructions; but, beyond this activity it is unclear to the pharmacists what is expected.

For the lower CRO group pharmacists, physician expectations appear to hold greater importance than for subjects in

TABLE 5-11

PHYSICIAN EXPECTATION CRO ITEMS

CRO	Item*	Mean	Scoring	Response Frequency SA	A	U	D	SD
7	Reinforce instructions on label	3.50	5 - 1	4	19	10	7	0
18	Do not discuss drugs beyond label	3.08	1 - 5	0	13	11	16	0

*See Appendix B for complete item wording.

the high CRO group. Customarily, the negative CRO individuals, using the local physicians as a reference point, perceive their expectations to be in the direction of little or no patient counseling activity. These low CRO pharmacists know, and socialize with, the local physicians and these perceptions may very well be correct.

Upper level CRO scorers do not seem to be guided as much by general perceptions of physician expectations. Perhaps this is because they are cognizant of physician-to-physician differences, or perhaps they are not as aware of physician expectations because they know them personally less often. More likely, however, the high CRO pharmacists are demonstrating an attitude of professional independence from medicine in expressing the views they do.

Patient Expectations

Study pharmacists tend to concur with the notion that they are able to determine what counseling patients expect--on a patient-by-patient basis. This expectation assessment is variously described as "reading the patient" or "developing a feel for it--sort of like ESP." No pharmacists admit to being unaware of what counseling their individual patients expect from them.

Few subjects are willing to suggest that patients just do not want to listen to them. What does come through is an allegation that some percentage of people are unwilling to take the time to listen to the pharmacist, and that these people usually make this expectation clear. As one subject stated:

> Some of these people walk in here and say--before you get in a word--'My kids are in the car and I'm late. Charge it please!'--and they're off. Others take the attitude they have all the instructions they need, and here's something else to slow them up--after they've waited two hours in the doctor's office and their wheels are really spinning. They refuse to rehash what's been done in the doctor's office!

Based on the subjects' response to the inquiry as to the percentage of patients do not want counseling at all (mean 15 percent), one may conclude that the same pharmacists believe the "constantly hurried" individuals are a relatively small, but still visible group. The distribution of responses to this question are found in Table 5-12.

TABLE 5-12

GROUPED DISTRIBUTION OF RESPONSES TO QUESTION:

"About what percentage of your patients do not want to receive information from you about their new prescription medications?"

Percent Not Wanting Information	Frequency	Relative Frequency (%)
0 - 4	2	5.0
5 - 9	8	20.0
10 - 19	17	42.5
20 - 29	7	17.5
30 - 39	3	7.5
40 - 49	1	2.5
50 - 59	2	5.0

Ungrouped Mean: 15.0; Standard Deviation: 12.3

A further characteristic common to both high and low CRO scorers is the realization that patients want their counseling provided in easily understandable terms. "These people don't want a lot of gibberish from you. They want it plain and simple," is the way one pharmacist sums it up. Another alleged that physicians confuse patients with their terminology and patients often expect them to act as a translator of the instructions into "real English."

Subjects in both the positive and negative groups notice that patients are becoming more aware of their

medications and that this awareness translates into an expectation for more pharmacist counseling. This perception also is indicated by the subjects' earlier noted agreement that "consumer groups" would like to see more medication advising. However, the two groups differ in their reaction to these rising expectations.

Negative CRO individuals' comments are frequently along the lines of "Many times they ask too many questions," or, "Now that there is no mystique about drugs, a lot of them pressure us for all kinds of detailed information." This irritation about <u>having</u> to provide more instruction is present in a number of the low CRO scorers. The investigator also received the impression that low CRO individuals harbor resentment because they feel that patients want information, but do not need it, resulting in a waste of the pharmacist's time.

The positive CRO group subjects customarily do not acknowledge feeling pressured by rising patient expectations. Indeed, most seem to welcome this challenge: "To tell you the truth, I don't think most people in town realize we have any education--that we go to school for pharmacy or anything . . . . They really seem surprised and grateful when I can give concise answers to questions that really concern them."

Another pharmacist suggests that "the patient basically wants a personal relationship with the pharmacist. If you

can cement that, counseling them is no problem." He goes on to say that: "I think the problem--the primary problem--is that patients don't realize that information is available beyond the basics. I am trying to change the image of this pharmacy to where the patients will expect more in terms of advice. They don't now, and a lot of it is my own fault." An elderly pharmacist philosophizes that patients can be easily satisfied if someone is just willing to listen to them, because he firmly believes that "part of the cure for a lot of people is just some kind words and reassurance."

In brief summary, pharmacists in both high and low CRO groups boast of their ability to read the patient's expectations and to know when their advice is not wanted. Although they acknowledge that a larger number of patients today want to know more about the medications they take, low CRO individuals tend to feel "pressured" by these rising expectations, while high CRO scorers often see this trend as a way to build better relationships with their patients.

Other Pharmacists' Expectations

> Pharmacists are like the pioneer farmers of yesterday. They are separated geographically, don't know what each other is doing, and don't have time to care. Everyone seems to think differently and their subsequent actions are just as varied.

This analogy sums up the majority of views offered by pharmacists when they are asked to assess the practice expectations of their colleagues. This feeling of isolation

does not appear to differ between CRO groups. However, at the risk of simplifying matters, there seems to be a difference in the way CRO groups react to this situation.

One high CRO scorer says: "Sure I feel isolated out here. The only pharmacist I talk to is Jim, my relief man. I make a point of stopping in local pharmacies just to talk when I'm on vacation. It's my only way of knowing what the other guy is doing." Others lament that they seldom get away from their work except for vacations and occasional professional meetings. And, with regard to their discussions with other pharmacists at meetings, the typical comment is:

> We really don't get to find out the details of the other guy's practice. We usually just bitch about our medicaid /reimbursement/ problems. Or, we end up sitting all day, listening to speakers giving their academic presentation about a topic and don't get the practical how-to, or even find out if anyone is actually doing any of the things they tell us we should be doing.

Another positive CRO pharmacist offered a solution, perhaps impractical, aimed at alleviating this situation, by suggesting:

> The problem with pharmacy practice . . . is the fact that you don't see how others do it. I've always said we should have some kind of exchange program; where you can watch the other guy run his store. You don't get that through meetings or reading. After a while . . . you start to assume that the way your situation is, is the way it is everywhere. So, there is no reason to institute changes. I used to have a relief pharmacist from Madison who I would pump for information, but business is down and I can't afford the extra help now.

While positive CRO individuals usually express concern regarding the lack of knowledge about, and interaction with colleagues, negative CRO subjects seem to be much more accepting of this fact. Even though none of the forty individuals in the study does the majority of his socializing with other pharmacists, negative CRO scorers stated less frequently (65 vs 90 percent) that they have personal friends who are pharmacists. As one individual stated:

> I knew when I came to this town that it was sort of off the beaten path. I've gotten completely out of touch with the guys I graduated with. But I've got enough problems here in running my store, without worrying about what the other guy is up to. I had enough of that when I first started pharmacy. I can do what I want here.

Although the comment suggests this pharmacist chose to move to his present location particularly to escape certain pressures, remarks from other low CRO scorers primarily emphasize a general lack of interest in their colleagues. On the basis of the information available, one can only guess as to whether this low CRO scorer lack of colleague orientation is a cause or a result of subjects practicing in somewhat isolated areas.

Thus, most pharmacists in the sample have little information as to what <u>general</u> things their colleagues are doing, to say nothing about the counseling they provide. Lacking a gauge for peer behaviors, it is clear that the subjects do not rely extensively on their colleagues as a reference

point for their counseling role orientation. The higher CRO group pharmacists stand out as being concerned about their lack of colleague interaction. They contrast with the low scorers, who appear to be more resigned to a kind of occupational isolation.

Legal Expectations

Earlier it was suggested that because of their uniform perception that the State Pharmacy Board desires more practitioner counseling activity, pharmacists do not see the Board's expectations as being a significant influence in the way they interpret their counseling role. This assertion is in line with our earlier discussion which suggested that vagueness associated with legal expectations leads only to acknowledgement of a general counseling expectation, but does little to bring about self-expectation development in pharmacists.

All of the study pharmacists affirmed that they are aware of the Wisconsin pharmacy practice regulation which mandates patient counseling. One can characterize the subjects as viewing the regulation's effect on practice activities as having minimal direct influence. Most see the counseling requirement as "just another law layered on top of all our other laws," or they ask, "Why have more unenforceable laws?"

One subject, looking at it another way, remarks that

"if you haven't broken at least one law by ten in the morning, you aren't practicing much pharmacy." He goes on to say that for 24 years he has followed the advice his jurisprudence instructor gave to his class in school: 'Boys,' he said--there were only two women--'do what you know is right and you won't have any problems.'"

Two pharmacists alleged the counseling requirement has led to little adjustment on their part, because they have been counseling patients all along. Two others expressed the belief that it will be "business as usual" for most pharmacists; or as one noted, "those that counsel will, those that don't won't."

Most of the other subjects commenting on the regulation reacted with a philosophical "it's good, but . . . ." These analyses feature such themes as: "you can't legislate professionalism," and "the guys working in the chains won't do it." One practitioner's comments are representative of a number of subjects' remarks:

> I think the inspectors think it should be enforced. The hierarchy--the State Board and the educators--I appreciate what they are trying to do. I think this is a role of the pharmacist today. However, I don't think you can legislate this any more than you can legislate a solution to the bussing problem. You can't force people to do things they don't want to do.
>
> The little old pharmacist who sits in his back room and passes the prescriptions out through a little slot in the wall is never going to consult, no matter what you do. So, I think to try and enforce it by regulation is wrong. I think it will have to come naturally, with the new breed of pharmacists replacing the older

> ones--with their education and their basic attitudes toward this role--and the appreciation of the role that they play. I think this is the way to go.

Only two pharmacists directly attacked the regulation. One merely suggests that the necessity of "providing a consultation for each medication we prepare . . . is too extreme." The other, an older practitioner, launched a full-scale attack on the counseling provision. He spoke at great length, and his tirade includes the following comments, edited due to length.

> I can't believe they can pass a law like that! They have to learn to keep their fingers out of other's business.
>
> They say they do research and find out giving all this information is good. Well, the guys doing the research have never had the experience we have. All this information is screwing up both the patients and the doctors. I think that the less you say, the better. But the law requires you talk to people--it infringes on the patient's, the doctor's and my rights! Hell, what are you going to do with cancer drugs--tell them they are going to die whether they take the drug or not? They're going to have to stand over my shoulder with a gun to get me to go through all that stuff!

It is needless to say that this subject is one of the lower CRO scorers. This individual obviously is not influenced to counsel by the practice-regulation-derived expectation that he should; nor do other subjects seem to be swayed by the practice regulation. Moreover, it can be pretty well concluded that the subjects are not concerned about any legal liability arising from what they do or do not say to the patient.

Of thirty pharmacists with whom the topic of counseling liability was brought up, one said she was concerned, and the remainder were either forthright with a "not concerned" answer (n=16) or they denied the relative importance of their verbal liability (n=13). The latter individuals frequently made reference to the substantially greater liability they face by making product dispensing or written labeling errors. This lack of concern about liability was sometimes coupled with a fatalistic attitude such as one practitioner expresses: "I'm really not concerned about it. Everyone is sue crazy today. That's why I have insurance--you can't afford to worry or you get gunshy. You pay your money and take your chances, as they say."

The one individual expressing concern regarding counseling liability attributes this concern to a potential injury suit against her employer when she first began to practice pharmacy. Based on that experience, she indicates she now will only repeat label instructions and tell people "if they notice anything unusual to call their doctor right away--period. That's all I'll say!"

The sample's mean score on CRO scale item 14 is 4.05 points (Table 5-13). This indicates disagreement with the statement "there should be legal restrictions on what the pharmacist is allowed to tell patients about their medications." Asked if "the pharmacist should be legally responsible for making sure the patient understands how to

TABLE 5-13

LEGAL REQUIREMENT CRO ITEMS

CRO	Item*	Mean	Scoring	Response Frequency SA	A	U	D	SD
14	Restrictions on advice	4.05	1 - 5	0	3	4	21	12
16	Responsible for pt. understanding	2.98	5 - 1	2	15	7	12	4

*See Appendix B for complete item wording.

properly use his medications" (item 16), practitioners' responses have a mean score of 2.98, indicating uncertainty. Responses to these two items reiterate the subjects' indicated desire to be free of additional legal requirements, either restricting or mandating their practice activities.

At the present time then, legal expectations do not appear to directly influence pharmacist views toward their counseling role. But, a number of subjects recognize the practice regulation mandating counseling is a harbinger for the future. As we will see, some are happy with the trend toward expanded patient counseling and some are not.

There are no discernable differences between the high and low CRO groups in the nature of their comments generally minimizing the importance of their legal liability for verbal counseling. Finally, pharmacists in both groups express various degrees of concern about an increasing

tangle of laws regulating all phases of their practice.

Expectations from the Pharmacy Education System

Almost all study pharmacists perceive current pharmacy education as having little direct influence on their medication counseling. As with legal expectations, expectations arising from the educational system are viewed as favorable to increased patient counseling, but only remotely relevant to the subjects' day-to-day activities.

The isolation that subjects identify in relation to other pharmacists also is present with respect to the University of Wisconsin School of Pharmacy. This school should be their basic reference source for educational expectations as 39 of the 40 subjects received their pharmacy degrees there, and it is the only pharmacy school located in the state.

It was not uncommon for pharmacists in both the high and low CRO groups to state that they have lost touch with educational developments in pharmacy. The vast majority of practitioners indicate that they have engaged in continuing education activities over recent years, but this may actually contribute to their feeling of alienation and isolation. This possibility is suggested by numerous subject comments reflecting disappointment in the continuing-education offerings. The most common complaint was directed at the applicability of such courses' content to the pharmacists'

current practice situation.

Nonetheless, the study pharmacists acknowledge the trend toward patient-oriented practice being advocated by pharmacy educators. Their overall agreement with the idea that a patient communication course should be in the pharmacy educational curriculum (Table 5-14), demonstrates general acceptance of this movement.

High CRO scorers tend to take the stance that this trend is in the right direction, but they generally feel that thoughtful choices must be made as to how, when, and where this new training is applied. Several state that they wish they had more clinically oriented training, adding comments such as: "It's time we got out of our back room," and "patient services are where pharmacy's future is--too many pharmacists don't realize it." Others concur with this assessment, but they add cautions, similar to one recent graduate's:

> I like the new patient-oriented approach advocated by the school. But, I don't know if you can use your training in 95 percent of the positions available in the community. If you do try to do it, it's not well accepted. But, it was good background anyway. . . . A lot depends on who you are working with--younger docs are a lot easier. Even pharmacists sometimes make it hard. I'm concerned about the interns who work in stores with older pharmacists who discourage talking with the patient.

A number of pharmacists in each CRO group express the opinion that pharmacy education is too hospital-practice oriented. One older practitioner summed up several of the

TABLE 5-14

EDUCATIONAL TREND CRO ITEM

CRO Item*	Mean	Scoring	Response Frequency SA	A	U	D	SD
5 Communication course in curriculum	3.98	5 - 1	11	21	4	4	0

*See Appendix B for complete item wording.

concerns expressed with the following remarks:

> I think for hospital work, the current educational offering is probably good--but in the community, I can't see all the technology they are trying to put into it. They are not getting the basic things they need for community or clinic work. Hospital practice is too different from community pharmacy, and the UW Hospital is not like any other hospital; so, the application of the education is two steps removed from our practice.

Low CRO scorers tend to share the opinion that pharmacy education is too hospital oriented, but their concerns with the current skills being taught center on problems they cause, rather than on a lack of opportunity to use these skills. Typical comments reflect this attitude: "This counseling scares patients to death . . ." and "Why do they want us to tell people what side effects they are going to get?--sure as anything they will." It is reasonable to conclude that this group does not express the same positiveness with respect to patient-oriented activities as does the high CRO group.

Most subjects concede they have little contact with the pharmacy educational system. Therefore, it is not surprising they have varied impressions as to what patient counseling this system expects from them. However, they do recognize that a trend toward patient-oriented education is now being advocated. In general, high CRO scorers welcome this trend, but they question whether the new training can be applied. On the other hand, most low CRO subjects are doubtful as to the value of current training and they fear the consequences of its applications.

Expectations from Self-Perceptions

The previous pages of this chapter have focused on the sample pharmacists' interpretation of expectations others hold for their behavior. Others' expectations are potentially significant determinants of subjects' CROs. But, as pointed out in the discussion of our role perspective, one's expectations derived from self-perceptions similarly are important. In instances where group norms are evolving, we have hypothesized that expectations derived from one's personal understanding of his role and from perceptions of situational characteristics acquire special prominence in structuring the individual's role orientation.

The following segments of the chapter present the subjects' views regarding several inter-related factors which may influence their CRO. The first section examines

the pharmacists' interpretation of the physician's medication counseling role, their own role, and each profession's relative counseling responsibilities.

Then our attention turns to practitioners' perceptions as to the amount and kinds of medication information they feel they should provide to patients. This section also features an examination of pharmacists' beliefs regarding patients' actual counseling needs.

Finally, pharmacists' attitudes regarding several factors possibly limiting or facilitating pharmacist-patient communication are discussed. These factors include; time availability, reimbursement for counseling services, the community pharmacy environment, informational uncertainty, and the pharmacists' counseling ability.

Physician and Pharmacist Counseling Roles

In interview comments describing the physician's medication counseling role, there is a clear difference between the views of subjects in the positive and negative CRO groups. Among high CRO scorers, the overwhelming opinion is that the physician and pharmacist should share medication advising activity. Again and again these pharmacists stress that both they and the physician should assist the patient in understanding his medications. An example illustrative of this theme is provided by one subject who remarks:

> There are some things I can do for the patient that the doctor isn't able to. I keep a record of all their OTC purchases--we always check for interactions. We have better records than they do at the clinic. I can tell if they get their meds on schedule . . . . And, we fill in a lot of things the physician doesn't tell them. I get a lot of simple questions about stuff he should've told them. I think patients get so nervous they forget half of what he says.

Just as striking among the high CRO group is the pervading attitude that pharmacists must be careful about crossing some thin line demarcating the practice of medicine. For example, one subject asserts that: "The physician's role is diagnosis--I'm not trained in it. But so long as I'm not diagnosing--anything beyond that I feel is Ok. If a patient comes in and says 'I have such and such a disease state,' then I say, 'If you have X, then this is the advice I give you.' But I won't cross the line into diagnosis."

Two similar comments express this same concern: "I don't think that the pharmacist should take the role of being the doctor. I'm proud of being a pharmacist, but making therapy decisions and doing diagnosis is not my specialty," and the other notes, "My belief is that when patients go to the doctor they pay him to make therapy decisions. I will go from that point; but, if he won't do it, the patient should get a different doctor."

Positive CRO scorers uniformly believe they have a role to play in patient counseling. In discussing their counseling philosophy, pharmacists frequently tie their conduct in

with their previously identified ability to "read" the patient. Nonetheless, when asked for their general counseling approach, almost all the high CRO subjects state they repeat directions as a minimal, first activity. Most comment that they then go beyond this basic repetition when they feel it is necessary. "The patient has to be able to know the important things about his drugs when he walks out," are the words of one subject which sum up this attitude.

The negative CRO pharmacists are just as outspoken in their reluctance to engage in counseling activity as the high scorers are concerned about intruding on the physician's turf. This reluctance appears to stem, in part, from an opinion that patient counseling is the physician's private domain. This attitude is variously expressed as: "The physician gives them the prescription, he should tell them what he wants them to know," or, "The doctor should explain everything--that's his job" and, "I don't counsel because it depends so much on what the doctor wants the drug to do for the person."

These feelings are underscored with similar concerns about "not contradicting" or "second guessing" the physician's instructions. This view, characterized as the "Physician as Captain of the Ship," carries the implication that pharmacists should have little or no medication counseling responsibility.

This low CRO group's "no-counsel" guideline appears not

to be steadfastly adhered to. Table 5-15 demonstrates a uniform subject response tendency to disagree that a properly prepared label contains all the information a patient should receive from the pharmacist (CRO item 13, mean 3.8). This indicates some level of disagreement is contributed by members in the low CRO group. For example, one negative CRO individual allowed, "Well, I do give them basic information if they ask for it, but I won't go into details." This approach to patient questions also differentiates the two CRO groups, as is discussed in the following section.

The contribution of the counseling-sharing attitude among the high CRO group and the no-counsel attitude for the low CRO scorers results in an overall disagreement with CRO item 9, which asserts that all patient discussion of prescribed medications should be left with the pharmacist. One positive CRO subject observes that "even if we had the training to do it all, why should we have the complete responsibility? Some people would rather get their information from the doctor, others are more comfortable with us. . . . It works out better for everybody that way."

Two low CRO individuals mentioned that they utilize clerks to pass along basic instructions to patients. Nonetheless, the subjects' indicated disagreement with the statement that clerks should be trained to give advice on certain commonly prescribed drugs (CRO item 19) suggests belief in the delegation of counseling responsibility is

TABLE 5-15

PHARMACIST-PHYSICIAN RESPONSIBILITY CRO ITEMS

CRO	Item*	Mean	Scoring	Response Frequency SA	A	U	D	SD
13	Label information is enough	3.75	1 - 5	0	9	1	21	9
9	Leave all counseling to pharmacist	1.80	5 - 1	0	0	1	30	9
19	Train clerks to advise patients	4.00	1 - 5	0	5	2	21	12
17	Unethical to discuss medication purpose	3.73	1 - 5	0	7	3	24	6
15	Warn about dangerous side effects	4.03	5 - 1	9	24	6	1	0

*See Appendix B for complete item wording.

not widespread.

During the interview each pharmacist was requested to complete a sheet assigning responsibility for providing various kinds of prescription information to patients. Subjects were asked whether the pharmacist, physician, both, or neither has the basic responsibility for counseling in each of 15 informational categories. Table 5-16 shows the distribution of responsibility assigned for these categories by the 40 subjects.

A majority of subjects feel the pharmacist has basic counseling responsibility for four informational categories:

TABLE 5-16

PERCENTAGE DISTRIBUTION OF ASSIGNED COUNSELING RESPONSIBILITY BY INFORMATION CATEGORY

Informational Category*	Assigned Responsibility (%)				
	Pharmacist	Shared	Physician	Neither	Total
Medication name	25.0	65.0	10.0	--	100
Medication purpose	--	45.0	55.0	--	100
Frequency of use	22.5	67.5	10.0	--	100
Dosage	22.5	67.5	10.0	--	100
When to take	57.5	35.0	7.5	--	100
Scheduled/Unscheduled	20.0	50.0	30.0	--	100
Side effects	17.5	67.5	10.0	5.0	100
Drug interactions	37.5	55.0	5.0	2.5	100
Administration	27.5	55.0	17.5	--	100
How drug works	20.0	45.0	17.5	17.5	100
Foods/Beverages	67.5	25.0	7.5	--	100
Storage/Handling	95.0	2.5	2.5	--	100
Answer questions	65.0	32.5	2.5	--	100
Therapy duration	2.5	40.0	55.0	2.5	100
Monitor compliance	17.5	60.0	20.0	2.5	100

*See Appendix C, Sheet I, for complete category wording.

instructing when to take with regard to meals, explaining what foods and beverages should or should not be taken with a drug, checking for understanding and answering questions, and giving storage and handling instructions. Ninety-five percent of the pharmacists see the latter category as their primary responsibility.

In most other instructional categories, the pharmacists indicate they have shared counseling responsibility with the physician. However, a majority believe that the physician should tell the patient the purpose of his medication, as well as how long his therapy should continue. Overall, the sample pharmacists do not feel the discussion of the therapeutic purpose of a medication is unethical (CRO item 17), but rather they appear to believe that it is just not part of their responsibility. This reiterates the high CRO group's attitude that they should not be involved in diagnosis or final therapy decisions. It is interesting to note that almost one in five pharmacists thinks the patient should not be told by either professional how the medication works (the general mechanism of action).

Also of interest is the fact that although a minority of subjects believe they have a basic responsibility for discussing common medication side effects, they agree overall, that they should warn the patient about side effects that may threaten the patient's health (CRO item 15). This suggests perception of responsibility is higher

in situations where lack of counseling may lead to problems.

A perceived Counseling Responsibility Index score was derived for each subject. If the pharmacist sees himself as responsible for supplying information in a category from Table 5-16, two points were scored. Assignment of shared responsibility was scored as one point. Information the physician is believed to be responsible for was given a score of zero; and if the subject feels neither he nor the physician has responsibility for an information category, a minus one point was awarded. Thus, a higher score indicates the pharmacist perceives himself as being more responsible for patient counseling, and a lower score suggests the opposite.

The range of subjects' Responsibility Index scores is from 0 to 23, with a mean of 17. The grouped distribution of these scores is presented in Table 5-17. If subjects assigned shared responsibility to each item, a mean score of 15 would result. Thus, the mean score of 17 signifies that the sample pharmacists generally feel that counseling responsibility should be shared.

Responsibility Index scores do not vary significantly when examined by background variables (using ANOVA), suggesting the subject's perception of their counseling responsibility does not derive from any of these influences. The zero-order correlations between the responsibility measure and the background variables are shown later in the

TABLE 5-17

GROUPED DISTRIBUTION OF RESPONSIBILITY INDEX SCORES

Score	Frequency	Relative Frequency (%)
0 - 12	2	5.0
13 - 15	11	27.5
16 - 18	10	25.0
19 - 21	13	32.5
22 - 24	4	10.0

Ungrouped Mean: 17.13; Standard Deviation: 4.21

chapter summary (Table 5-29).

For the most part, the study pharmacists feel they have a certain amount of counseling responsibility. The extent to which this responsibility is acknowledged appears to depend on the subjects' interpretation of their counseling role vis-à-vis the physician's role. High CRO scorers tend to view patient medication teaching as a responsibility to be shared with the physician on a more or less equal basis.

In contrast, the low CRO pharmacists feel the physician is primarily accountable for patient education. Both groups share a concern about treading on the physician's turf, and they hold in common the belief that there are counseling activities the physician is responsible for. However, low CRO scorers view their counseling responsibilities as being

very circumscribed, resulting in their expression of a higher concern level with respect to encroachment on the physician's territory.

Informational Needs

Even though the sample pharmacists generally believe they have some responsibility to provide medication instruction, their interview remarks point out that fulfillment of this responsibility is dependent on additional factors. One group of related factors includes: the extent to which patients express a need for instruction, the pharmacist's judgment as to what and how much instruction is appropriate for a particular drug, and their beliefs as to what counseling individual patients actually need.

Pharmacists' attitudes toward patient requests for information stand out as having a real impact on their orientations toward medication counseling. Possibly the most frequent unsolicited remark by study pharmacists is their declaration that they are available to answer patient questions that arise. Pharmacists in the high CRO group, particularly, advance this belief as exemplified by one individual's statement that "one of the most important services we have to offer is to have someone here to answer people's questions."

Both high and low CRO scorers often asserted that the extent to which they furnish advice is contingent on the

patient indicating a desire to receive information. In one form or another, numerous subjects volunteered similarly to one practitioner, who said that: "I'll answer their questions--they'll usually ask if they don't understand something or have any doubts." The sample pharmacists' agreement that they should provide a medication's contra-indications if requested (CRO item 6, Table 5-18) supports a hypothesis that pharmacists are willing to answer questions, even by supplying a type of information they identify as not being particularly their responsibility (see Table 5-16).

Although sharing the belief that the patient will usually ask about things he is concerned with, the CRO groups demonstrate clear-cut differences in their reported reactions to these questions.

The low CRO individuals generally view their responses to patient questions as a counseling initiation-point. Members of the high CRO group see questions as an appeal for instruction over and above "the standard information," which is often given prior to any patient inquiry.

For example, two low CRO subjects submit that: "We tell them nothing unless they ask" and, "I don't say anything unless they come out and ask me questions." In contrast, an illustration of the high scorers' attitude is found in one practitioner's comment that "I go through the label directions and add any necessary cautions. If they

TABLE 5-18

INFORMATIONAL NEED CRO ITEMS

CRO Item*	Mean	Scoring	Response Frequency SA	A	U	D	SD
6 Provide contraindications on request	3.78	5 - 1	10	16	9	5	0
1 Patients take drugs as instructed	2.50	1 - 5	3	25	3	7	2

*See Appendix B for complete item wording.

ask for more specifics, I'll give them the information. Sometimes I don't know the answer--I'll try to look it up."

This latter quote highlights another difference between the CRO groups. The positive scorers often state they make a practice of providing specific information, whereas many negative scorers say they prefer to talk in general terms only. This is exemplified in the observation by one low CRO pharmacist, who says that, "I'll try to answer their questions, but I stick to generalities. I just try to be myself and that usually satisfies them. If they have other questions, I suggest they go back to the doctor."

All of this notwithstanding, individuals in both groups show concern about giving too much information--either general or specific. For instance, high CRO individuals comment: "Unless you have time to completely cover a drug, sometimes it's better to say as little as possible than to

give someone a wrong impression" and, "All this information confuses people. I'm pretty selective about what I say." Similarly, two negative CRO group subjects note that "you can really mess things up if you get too mouthy" and, "if they know just a little too much, they can cause themselves real problems." Overall this view essantially translates into "give them what they ask for--or less."

Much of this concern seems to stem from the belief of many sample pharmacists that patients are easily frightened and confused, or prone to experience side effects enumerated by the pharmacist. The two CRO groups, nonetheless, approach this perceived problem in different ways.

Positive CRO pharmacists consistently state that they deal with this situation by being careful about how they present information. Several indicate that their ability to "read" the patient allows them to counsel in such a way so as not to upset anyone. On the other hand, the negative CRO subjects' comments suggest they avoid the problem by not furnishing information unless pressed to do so. Even then, these practitioners endeavor to confine themselves to general responses.

The following analogy presented by one low CRO scorer illustrates his belief that there is no need to respond to a question in depth when a simple response will suffice. This pharmacist observes that "if they want detailed advice, they will get around to asking you." He goes on to say:

> I always go back to the story of the little kid who came into the kitchen and asked, 'Mommie, where did I come from?' Well, she pours him a glass of milk and gives him some cookies, and proceeds to go through the whole story of the birds and the bees. But when she got done, he said, 'Wow, wait til I tell Johnny, he said he came from Dallas.' So you see--you can suck yourself into things that are not necessary. . . . And going back to answering children's questions again--I say when he asks a question, give a general answer, if he is not satisfied, he will ask another, more specific question--and I try to do this with patients. I think they like this approach.

Even though there is some anxiety among pharmacists that a little knowledge can be dangerous, most practitioners allow that patients should have more information about certain drugs than others. In particular, they cite antibiotics and drugs that have potentially serious side effects associated with them. In the words of one practitioner, "I go with the medication. If the necessary information is not on the bottle I will fill in."

An example of this "go with the medication" attitude was demonstrated by another subject, who temporarily broke off the interview to prepare a prescription. The prescription order instructions called for "one capsule three times a day, may repeat two times." The pharmacist volunteered that: "I have no idea of what this doctor has in mind for this . . . Oh well, this drug won't hurt him. I'll put it down like it reads. I hope he [the patient] knows what he is doing with it." The drug in this example was a mild antihistamine. When asked, the subject told the

investigator that he would have given the physician a call for clarification if the medication were "a crucial one." This incident supports the belief that certain informational ambiguities are tolerated by pharmacists when they perceive them as trivial in affecting therapy.

At any rate, perceptions of who needs what information seem to vary considerably. A real fear expressed among low CRO scorers is that they will "insult the intelligence" of the patient by: 1) repeating label instructions they can easily read for themselves, or 2) covering things their doctor has already told them ("it sure makes you feel foolish sometimes"). Specific remarks about not wanting to insult the patient's intelligence came up in the interviews, completely unsolicited, on six occasions.

This attitude may spring from these pharmacists' narrow view of potential counseling content. If a subject believes patient instruction should not go beyond information present on the medication label, he may indeed feel this type of advice is "insulting" to patients.

Conversely, the tendency among positive CRO pharmacists is to believe as one suggests, that "patients just don't get the instructions they need from the doctor. Many don't even know the purpose of the drugs they take." Most pharmacists, when asked, responded that they believe people usually do know the purposes of their medications, but the perception that many patients need additional information is widely

held among the high CRO scorers. Nor do these individuals seem concerned about "insulting patients' intelligence" by going over basic information. This attitude is reflected in the views of one young practitioner who offers:

> On new prescriptions I go through the directions with them. If it's a very simple drug with no problem in administration or side effects, or when to take it, there isn't much else to say besides repeating the directions. A lot of people don't really need this kind of information--to repeat it doesn't hurt either--but, in all probability, they don't need it.

An idea expressed in this quote and implied in prior statements by low CRO pharmacists is that many patients do not need repetition of basic information. This may derive from the subjects' general agreement that most patients take their medications according to instructions anyway (CRO item 1, Table 5-18).

However, when subjects were asked what percentage of their patients they believe need some information from them, a good deal of variation in responses was observed. The responses, grouped for ease in presentation, are shown in Table 5-19. It can be seen from this table that the subjects, as a group, feel that close to 50 percent of their patients need to receive some information with new prescription orders. Of interest is the declaration by five pharmacists that 90 percent or more of their patients need instruction from them.

TABLE 5-19

GROUPED DISTRIBUTION OF RESPONSES TO QUESTION:

"About what percentage of your patients need to receive some information from you about their new prescription medications?"

Percent Who Need Information	Frequency	Relative Frequency (%)
0 - 9	2	5.0
10 - 19	4	10.0
20 - 29	4	10.0
30 - 39	5	12.5
40 - 49	5	12.5
50 - 59	8	20.0
60 - 69	4	10.0
70 - 79	2	5.0
80 - 89	1	2.5
90 - 99	5	12.5

Ungrouped Mean: 46.75; Standard Deviation: 25.4

Pharmacist responses to this question were examined for differences on levels of the several background variables. The only variable that shows a difference among group means is the subjects' previous practice-setting experience. The relationship between perceived patient information need and previous experience is similar to that between subjects' CRO

scores and this variable. In this case, though, the relationship reaches a higher level of statistical significance ($F=4.99$, $p < .05$). Subjects with previous hospital experience, on the average, believe that some 65 percent of new prescriptions need accompanying counseling, as compared to only 37 percent indicated by subjects with only community experience. Chain experienced pharmacists have a mean response between the two (54 percent). This relationship is shown in Table 5-20.

A complete summary of the relationships between the patient need variable and the several background variables is presented at the end of this chapter (Table 5-29).

One final view, which is shared by virtually all subjects is the assumption that medication instruction is not necessary for prescription refills, other than when specifically requested. Most of the interview topics were framed in terms of new prescription orders, but the general opinion that counseling is not indicated for prescription renewals came through clearly.

Two subjects remarked that they occasionally follow-up on the progress of a patient's therapy, especially those with interesting conditions. An additional minority of practitioners observe that they identify obvious non-compliance problems from their patient profiles. But, time after time subjects stated, with little variation, "we don't say anything to them about refills."

TABLE 5-20

PATIENT NEED BASED ON PRACTICE EXPERIENCE

Practice Experience	N	Mean	Std. Dev.	Min.	Max.
Community Only	22	36.8	19.1	5	50
Hospital	8	65.0	27.8	25	95
Chain	10	54.0	27.6	20	95

Analysis of Variance

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Probability
Between groups	2	5360.0	2680.0	4.99	$p < .05$
Within groups	37	19867.0	537.0		
Total	39	25227.0			

In summary, the study pharmacists feel that patients often need to receive counseling regarding their medications. Yet, both high and low CRO subjects tend to hold off on counseling unless the patient requests information. High CRO scorers usually express willingness to deliver requested information. On the other hand, most low CRO scorers prefer to answer questions in general terms, supplying specific instructions only in response to specific questions; and then, only to the degree they feel comfortable in so doing.

Pervasive among practitioners in both groups is the claim patients can become confused or upset about information given to them. High CRO individuals indicate they attempt to provide instruction in a manner so as to minimize these problems. The majority of low CRO scorers lean toward the exclusion of information that may lead to increased patient concern--the discussion of side effects, for example.

Limiting and Facilitating Factors

Along with pharmacists' interpretation of their counseling responsibility in contrast with that of the physician and with their perceptions of informational needs, practitioner beliefs about circumstances which limit or facilitate counseling also may influence their self-derived counseling expectations. These potential influences include situational factors such as pharmacy layout and the amount

of time available to devote to counseling. Also, pharmacist confidence of their ability to counsel, constraints arising due to informational uncertainty, and beliefs about economic considerations related to patient advising may affect practitioner behavior. The views of the sample pharmacists regarding these topics are investigated in this section.

Sample pharmacists perceive lack of sufficient time to be a prime constraint on their counseling activity. High and low CRO pharmacists alike, admit they provide less counseling than usual at certain times when they are faced with the preparation of several prescription orders for waiting patients. Just one practitioner denies that he occasionally skimps on counseling.

> I take the necessary time--up to 10 minutes in some cases. I don't want to sound egotistical, but there is little I would change in the way I counsel patients. Those who have to wait understand--they can always leave it /the prescription/ and stop back. Most seem really appreciative of what I'm trying to do.

A more typical comment, similar to those offered by virtually all the other subjects, is: "I try to talk with most everyone, but I can't--primarily because our business comes in gushes. When you have four or five people looking at you, it's kind of hard to go out and have a friendly discussion. It would be good if we had more time. We use warning labels that tell them a lot of the extras."

Some pharmacists place part of the blame for their occasional lower level of counseling on the patient.

Earlier it was pointed out that a minority of patients are "constantly hurried." The existence of a patient-caused time pressure is remarked on by an elderly practitioner responding to a question about how often he is busy by saying:

> I'm not rushed very often, it's only certain people who rush you with their attitude. It's not that they need the medication right away--it's just the way they look at you with disgust on their faces. I've threatened to build this counter up solid to protect myself from them. They are right up there jawing at you. But, overall it really isn't that bad.

The nature of pharmacy practice is such that busy periods do occur daily--almost without exception. But few sample pharmacists feel rushed during a major portion of the day. Only one in four subjects state that they are constantly busy with prescription work more than four hours a day. Moreover, the sample pharmacists disagree that it takes too much time to counsel patients on their drugs (CRO item 3, Table 5-21).

Nonetheless, a significant minority of the low CRO subjects assert they do not have time to supply medication counseling. As one stated: "You just can't fill prescriptions and then tell people about them. It's impossible to do both--you would never keep up." This view is not advanced among subjects in the high CRO group, even though these individuals exhibit a slight tendency to practice in higher prescription volume pharmacies, as was evidenced in

TABLE 5-21

TIME AND MONEY CRO ITEMS

CRO	Item*	Mean	Scoring	Response Frequency SA	A	U	D	SD
3	Takes too much time to counsel	3.88	1 - 5	1	6	1	21	11
8	Economic incentive to counsel present	2.98	5 - 1	2	16	6	11	5
10	Patients want fast and inexpensive service, not advice	3.58	1 - 5	0	8	5	23	4

*See Appendix B for complete item wording.

Table 5-5.

It is difficult to separate the issues of available time and monetary reimbursement for time spent counseling the patient. As a group, Table 5-21 indicates that the pharmacists are uncertain whether there is any economic incentive to counsel patients (CRO item 8). Analysis of the practitioners' observations on the topic indicated no discernable differences between CRO groups. However, the general tenor of subject views about the financial aspects of counseling seem to fall into two classifications, which may be characterized as "worthwhile, but . . ." and, "of no value."

Pharmacists in the former category recognize that counseling builds a loyal clientele, but they feel other

activities must often take priority. This view is nicely expressed in the remarks of a recently registered pharmacist:

> I talk to patients enough so I know they will be back again. Its been the philosophy of my father [the prior owner] and I've carried it on--but you have to balance it with practicality. As you know, there's a lot more to practicing community pharmacy than prescriptions. Since I don't get a bigger fee for spending extra time with people--and since I do depend on my out-front business, I have to do that justice time-wise too.

An older pharmacist also voiced this attitude in observing that "it becomes a question of how much you can do for what you make--it's a cost factor. There is not a lot of incentive to do what could be done, much less what is 'required' to be done. If they want to pay us for it, ok--but I'm better off spending my time trying to solve my third party reimbursement problems."

Others falling in this grouping insist that patient counseling is a public service they willingly provide without regard to potential economic gains. A female subject verbalizes this view, noting that she sees counseling "as a service to the patient. They appreciate it, but there's no way you can think of it as a money making or losing proposition--it doesn't fit into our fee system." When speaking about a particular drug product, one pharmacist supplemented this opinion by suggesting that "most people would rather ask me than the doctor, because it's free, I'm

more accessible, and they can get a quick answer."

Agreeing with this assessment, another practitioner notes the irony in the product markup-based pricing system prevalent in pharmacy:

> I sure could save them patients a lot of money on doctor's bills, but I sure don't make any for myself. For example, Mrs. ____ just told me she spent twelve dollars on an office call. She brought me a prescription calling for 'something to prevent sunburn'--those were the exact words on the script. So, I select an over-the-counter sunscreen, spend five minutes getting the prescription ready and explaining to her how to use it. I get $2.65--same as if she would've stopped and asked me first.

Those pharmacists viewing patient counseling as "of no value," tend to believe this applies to both the pharmacist and the consumer. As one subject succinctly puts it: "Counseling certainly puts nothing in my pocket and it sure means nothing to the patient. They see no value in it. If you ask him if he is willing to pay for counseling he will say 'hell no!'" Another pharmacist expounded at length on the subject, chastising those who advocate more counseling:

> First off, Americans are notoriously unfaithful when it comes to price. They tell me that counseling will bring people back into the store, but they can't fool me about that. Some are doing it and making out alright, but there is too much competition most places. Most people don't give a lick about what we say. Those so called 'pharmacy leaders' say that when we go out and talk to people about their drugs they are going to think you are a nice guy and real smart and they will come back to hear more. But they are not recognizing the fact that, in essence, this is not happening--and won't happen until they make the chains counsel too. They are not doing

> it now--they couldn't pump out the scripts at those prices if they did--and I can't compete with talk. Talk is cheap, prescriptions aren't!

These "no value" pharmacists are fewer in number than those in the former classification, but they generally hold strong opinions, as the two prior quotes attest. On the whole, though, the study pharmacists feel that the patient is interested in receiving advice rather than just quick and inexpensive service, as indicated by the responses to CRO item 10 (mean 3.6).

A factor often cited as restraining pharmacist counseling is the traditional pharmacy environment. The two CRO items asking if there is enough privacy in a pharmacy to counsel (item 4) and whether the typical pharmacy has a relaxing atmosphere that encourages patient questions (item 20) have means indicating the study pharmacists are uncertain in this regard (Table 5-22).

Four subjects indicate they are somewhat concerned about these situational constraints. Most other practitioners in the study seem to consider their pharmacy environment as a "given," and thoughts about its relationship to patient advising are given low priority.

Two of the concerned individuals actually remodeled their pharmacies to provide quiet counseling areas, although one admits: "I don't use the booth as much as I should, but with this new counseling regulation I'm glad I have it for the future." Another subject says he wishes he had a

TABLE 5-22

PHARMACY ENVIRONMENT CRO ITEMS

CRO	Item*	Mean	Scoring	Response Frequency SA	A	U	D	SD
4	Enough privacy to counsel	2.80	1 - 5	0	21	7	11	1
20	Relaxing atmosphere encouraging patient questions	2.95	1 - 5	0	15	13	11	1
11	Know patients well enough to counsel	3.98	5 - 1	7	28	2	3	0

*See Appendix B for complete item wording.

consulting area because he feels "it is difficult to talk with people from behind the register." He goes on to say that "some people get embarrassed if I tell them--for example, that AzoGantrisin® will change the color of their urine. I don't even think about it until I see their face turn red when there are other people in the vicinity. I wish we had a place where both the customer and I would feel comfortable."

One matter is cited again and again as frustrating pharmacist counseling efforts--informational uncertainty. This uncertainty arises from several sources, centering on a lack of information as to the patient's diagnosis, the advice he has been given about his condition and/or medication, and the physician's intent when he initiates therapy.

There is a distinct stylistic difference between the CRO groups in the handling of uncertainty. Low CRO pharmacists typically use their lack of information about a patient's diagnosis or the physician's therapeutic intent as a way to rationalize their shying away from counseling in such situations. The high CRO group subjects acknowledge that uncertainty hinders counseling efforts, but most see ways to reduce its effects.

Again, a quote illustrates the negative CRO subjects' approach to uncertainty: "I'm usually a little leary to say much. You don't know what the doctor has said to them and many, many medications have more than one purpose. Look at prednisone--and it's getting worse because more and more people are asking questions. I tell them . . . to ask their doctor!"

The group differences in handling uncertainty are contrasted strikingly by a high CRO scorer who coincidentily uses the same medication example as the previously quoted subject: "Sometimes I'm not sure what some drugs are prescribed for. The corticosteroids--prednisone, for example. I can usually guess pretty well, but I usually don't have a diagnosis. I can kind of squeeze out of them what it's for by asking why they went to the doctor."

Multipurpose medications are seen as sources of trouble by most practitioners. Yet, even single-indication drugs present problems because "the prescription is so vague many

times" and, "a lot of people forget how the doctor told them to take the drug."

Subjects also cite the problem of patient understanding vs. professional understanding of medications and their uses. "A lot of times you can confuse them if you don't approach it right," notes one pharmacist in recounting how he suggested a patient taking hydrochlorothiazide get her blood pressure checked because she hadn't seen her physician for a year. He goes on to say, "Well, she got this scared look on her face. She said: 'blood pressure? What do you mean--I'm supposed to be taking these for swelling!' . . . Now I have something that I have to talk my way out of. It also decreases my credibility--she will probably never listen to another thing I ever say."

In this case, even though the pharmacist was probably correct in assuming the medication was intended for blood pressure control he had no way of knowing whether the patient had misunderstood her physician, or if the physician had explained her condition in terms of "swelling" so as not to alarm her.

Several low CRO scorers appear particularly concerned about telling the patient something which contradicts the physician's advice, so they react by answering questions only in general terms. This concern is often viewed as being for the good of both themselves and the patient. As one states: "You can confuse the patient if you contradict

the doctor. He often stops taking the drug and the pharmacist ends up in the middle of some very sticky situations. I know, I've been burned too many times on innocent comments."

Some high CRO scorers admit that they do not go beyond "repeating the label or using the standard manufacturer directions" when it is not clear what the physician intends. But as mentioned, many indicate that they try to clarify these situations. "You have to let the patient tell you what he knows and go from there," is the strategy suggested by one pharmacist.

One individual in the positive CRO group senses that patients are faced with some of the same problems he is:

> It's kind of hard when you are on this side of the fence to see medications from the patient's point of view. I'm pretty casual about the advice I give. But, maybe this isn't a good approach for some people.
>
> It's kind of like going to the garage when something is wrong with your car. The mechanic isn't apprehensive, but you sit there wondering what's wrong with it, what they have to do, and how much it's going to cost you. . . . So with patients you almost have to ask if they understand what you have said--and the same for the doctor's instructions too.

This pharmacist's analysis once again points out a basic difference between the high and low CRO groups. The former group attempts to deal with uncertainty, the latter group shrinks away from it.

The pharmacist's perception of his <u>ability</u> to provide instruction is another element which contributes to his

counseling predisposition. Overall, subjects believe it is necessary that they have the ability to counsel, as verified by their disagreement with the assertion that it is not essential for them to be able to discuss medication side effects (CRO item 12). The sample also expresses some doubt that the physician is better qualified to counsel than the pharmacist (CRO item 2, Table 5-23).

The study pharmacists each completed a sheet indicating how confident they feel about their ability to provide patients with various types of instruction. The instructional categories were the same as those used to ascertain the previously discussed subject perceptions of their counseling responsibility vis-à-vis the physician's. Table 5-24 shows the percentage distribution of the sample pharmacists' reported confidence in their ability to furnish each type of information, if they were required to do so.

A majority of the subjects are "very confident" about their counseling ability in 11 of the 15 instructional categories. Conversely, a majority were either "somewhat confident" or "not at all confident" in four areas; discussing drug interactions, monitoring patient compliance, explaining how the drug works, and determining the duration of therapy. In only the latter two categories did as many as 10 percent of the subjects indicate they feel "not at all confident."

TABLE 5-23

PHARMACIST ABILITY CRO ITEMS

CRO	Item*	Mean	Scoring	Response Frequency SA	A	U	D	SD
12	Do not need ability to advise on side effects	4.23	1 - 5	1	1	1	22	15
2	Physician better qualified than RPh	3.33	1 - 5	2	5	15	14	4

*See Appendix B for complete item wording.

TABLE 5-24

PERCENTAGE DISTRIBUTION OF INDICATED COUNSELING ABILITY BY INFORMATION CATEGORY

Informational Category*	Not Confident	Somewhat Confident	Very Confident	Total
Medication name	--	7.5	92.5	100
Medication purpose	2.5	15.0	82.5	100
Frequency of use	2.5	17.5	80.0	100
Dosage	2.5	25.0	72.5	100
When to take	2.5	20.0	77.5	100
Scheduled/Unscheduled	7.5	22.5	70.0	100
Side effects	5.0	40.0	55.0	100
Drug interactions	5.0	50.0	45.0	100
Administration	5.0	27.5	67.5	100
How drug works	10.0	60.0	30.0	100
Foods/Beverages	2.5	42.5	55.0	100
Storage/Handling	--	12.5	87.5	100
Answer questions	2.5	25.0	72.5	100
Therapy duration	12.5	55.0	32.5	100
Monitor compliance	7.5	47.5	45.0	100

*See Appendix C, Sheet II, for complete category wording.

Thus, most subjects feel they have the ability to instruct patients. Interview statements back this conclusion. For example, one pharmacist stresses that "I feel I can cover most drugs pretty well, I have some limitations--I don't diagnose, but other than that, I can give advice if they want it." Once again this comment underscores the widespread belief that the patient who wants information will ask for it. The comment also reaffirms the relatively high degree of confidence in their ability that a number of subjects express.

Two pharmacists though, question whether such confidence is misplaced. One observes that "it's getting to where we are qualified to give advice to the point of people not wanting it--and besides, do we really know enough about the clinical effects of drugs? I think not!" The second doubting pharmacist expresses amusement at pharmacy's "turnaround" with respect to patient advising:

> It's really crazy. We always used to tell people in past years that we didn't know anything about drugs--and that's the way the school taught us--to prepare them, not talk about them. Now they turn around and tell us we are supposed to be experts. Wow! . . . The way I put it is a little extreme, but you see the point. How do you reconcile it?

An Ability Index score was derived for each subject on the basis of their indicated confidence in their capability to provide patient instruction. In each of the 15 informational categories two points were awarded if the pharmacist

felt "very confident," one point if he checked "somewhat confident," and no points were scored for a "not at all confident" response.

The scores range from a low of 6 up to 30 points, the potential maximum. Table 5-25 shows the grouped distribution of these Ability Index scores. Note that the scores are skewed toward the upper end of the range, resulting in a mean score of 24 on this measure.

Scores on this variable were examined by each of the background variables for significant differences using ANOVA. Two variables differed statistically among category levels on mean ability scores. Table 5-26 indicates that pharmacists who practice in pharmacies dispensing a larger number of prescriptions have significantly higher Ability Index scores ($F = 3.39$, $p < .05$). And just as with the general CRO scale scores, the mean Ability Index scores are higher for subjects with fewer years of practice ($F = 9.38$, $p < .001$). Examination of Table 5-27 shows that the group of subjects with more than 25 years of practice have a mean ability score (19.4) substantially lower than both subjects with less than 10 years of practice (25.4) and those in practice between 10 and 25 years (25.7).

The correlations between each of the background variables and this ability measure are found in the Summary (Table 5-29) at the end of the chapter.

TABLE 5-25

GROUPED DISTRIBUTION OF ABILITY INDEX SCORES

Score	Frequency	Relative Frequency (%)
0 - 9	1	2.5
10 - 14	1	2.5
15 - 19	4	10.0
20 - 24	12	30.0
25 - 29	20	50.0
30	2	5.0

Ungrouped Mean: 23.85; Standard Deviation: 4.83

TABLE 5-26

ABILITY INDEX SCORE BASED ON PRESCRIPTION VOLUME

New Prescriptions Per Day	N	Mean	Std. Dev.	Min.	Max.
0 through 20	18	21.8	5.7	6	29
21 through 39	17	25.2	3.3	17	30
40 or more	5	26.6	2.8	25	30

Analysis of Variance

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Probability
Between groups	2	140.9	70.5	3.39	$p < .05$
Within groups	37	768.2	20.8		
Total	39	909.1			

TABLE 5-27

ABILITY INDEX SCORE BASED ON YEARS OF PRACTICE

Years of Practice	N	Mean	Std. Dev.	Min.	Max.
Less than ten	14	25.4	3.1	19	30
Ten to twenty-five	15	25.7	2.4	17	30
More than twenty five	11	19.4	6.3	6	27

Analysis of Variance

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Probability
Between groups	2	305.8	152.9	9.38	$p < .001$
Within groups	37	603.3	16.3		
Total	39	909.1			

Each of the limiting and facilitating factors enumerated as potentially affecting counseling are perceived by at least some study pharmacists as having impact on their counseling views; and, ultimately on their patient communication. Almost all pharmacists admit that patients appearing in bunches pressures them to skimp on their instruction. But this is commonly accepted as a "given," to be handled as a matter of course. Likewise, the typical pharmacy environment is not considered conducive to advising, but this situation seems to be accepted and worked around.

The study pharmacists are doubtful about the economic value of instructing patients, but high CRO scorers often perceive an indirect incentive in terms of promoting return business. The vast majority of pharmacists believe they have the ability to provide patients with most types of instruction. Thus, it seems that simple lack of knowledge about medications is not a factor limiting counseling activities for most practitioners.

One factor identified as frustrating patient advising is the problem of pervasive informational uncertainty. Pharmacists usually know little of what occurs between the patient and the physician. This is often compounded by a minimal amount of information supplied on the prescription order. These circumstances place the pharmacist in a difficult situation as his opportunities for error and/or embarrassment multiply. Low CRO scorers prefer not to risk

these outcomes and they tend to shy away from counseling when faced with informational uncertainty. In contrast, many high CRO pharmacists relate techniques they utilize to minimize the counseling risks associated with uncertainty they encounter.

Summary

Qualitative Data

Pharmacists exhibit varied role orientations as evidenced by their CRO scores. Interviews with the subjects demonstrate that there are consistencies and inconsistencies in the way individuals in high and low CRO groups view factors believed to structure their role orientations. However, the data indicate there are certain self-expectation sources, clustered together for each group, which these pharmacists view uniformly and which appear to particularly influence the CROs of that group's members.

The views which have been suggested as typical of high and low CRO scorers can be synthesized to form description profiles of influential expectation sources for each group. In pointing out these influences we assume pharmacists' views fit together in interdependent patterns representing a group typology. It must be stressed that any characteristic version of a high or low CRO group's attitudes by no means precisely reflects the views of any individual pharmacist, as each has his own specific set of self-

expectations, uniquely structuring his CRO.

Some of the expectation sources discussed in this chapter appear to influence individuals' role orientations to a greater or lesser extent, but they are not identifiable as central to the basic structure of either group's CRO. Expectation sources which stand out as pivotal in determining group CROs revolve around the physician, the patient, and the individual pharmacist. Rather than demonstrating clearly distinct effects, these self-expectation influences are intertwined in a fairly complex manner.

The low CRO group is remarkably physician oriented. These pharmacists draw extensively on their perceptions of physician expectations to guide their behavior. These expectations are usually interpreted as discouraging patient counseling. Linked with this orientation is this group's understanding of their counseling role vis-à-vis the physician's role. In other words, low CRO pharmacists assert their counseling responsibility is limited because they believe it is the physician's role and because the physician is perceived as wanting to shoulder the responsibility.

Low CRO scorers, however, are not oblivious to the wants and needs of their patients. They recognize consumers are expressing rising expectations for medication instruction, but feel these expectations are both unnecessary and misdirected. These pharmacists hold the belief that

patients often know more about their drugs than they should. If, however, they do want more information, these pharmacists feel it should be obtained from their physician.

This is not to say that pharmacists less oriented toward counseling will not respond to patient questions or a perceived informational need. However, they believe that there are few occasions when patients need advice from them, and their approach to patient inquiries differs from that of the higher CRO pharmacists.

The low CRO practitioners prefer to answer patient questions in general terms only, avoiding detailed responses. These general answers are often coupled with the advice that the patient take the matter up with his doctor if he wishes to know more. Since these practitioners wish to avoid even the repetition of label instructions, their limited responses to patient requests, as likely as not, constitute the majority of their patient advising.

The low CRO scorers' counseling attitudes reflect the traditional product-oriented pharmacist role. This view may be characterized as a "Physician as Captain of the Ship" attitude.

High CRO scorers, on the other hand, exhibit what might be called a "Responsibility to Fulfill Patient Needs" outlook. This general attitude is definitely more patient-oriented than the low CRO group's, but it does not reflect a pharmacist counseling role as extensive as that being

promoted by the profession's leaders.

These practitioners appear to rely little on physician expectations to define their counseling role. Rather, they convey a role interpretation, heavily influenced by expectations derived from self-perceptions, which recognizes a shared pharmacist-physician responsibility for advising patients. This responsibility, however, is not fulfilled automatically each time a patient obtains a medication. High CRO pharmacists know most patients appreciate prescription advice, but patient counseling expectations do not appear as influential as pharmacist perceptions of individual's counseling needs in determining the counseling furnished.

Neither the high nor the low CRO groups appear to give a lot of credit to the patient in terms of their ability to understand medications. Numerous subjects express the belief that too much and/or easily misunderstood information can harm the patient. Thus, even the high CRO pharmacists usually do not actively promote their medication counseling services. Instead, they tend to wait for patient questions, unless they perceive a real patient need for counseling.

High CRO scorers, though, do perceive a higher level of patient need. Moreover, when they are approached with patient problems they are inclined to supply detailed information and more extensive answers to questions.

This willingness to deal with problems sharply

differentiates the two CRO groups. High CRO practitioners endeavor to overcome the abundant uncertainty surrounding the physician-patient-pharmacist information chain; whereas the low CRO practitioners use this uncertainty as a rationale for playing it safe and directing the patient back to the physician--in their view the proper information source, in any case.

The CRO groups' differential response to the prevailing informational uncertainty in pharmacy practice is a surface reflection of their underlying role interpretations. In comparison with the patient, physician, and individual practitioner sources specified above, other expectation sources discussed in this chapter likewise appear to have less direct influence in structuring pharmacists' basic CROs. Expectations perceived as emanating from legal and educational systems, and from other pharmacists, are examples of these less influential sources. Similarly, the pharmacy-practice-derived expectation sources of available time, reimbursement for services, and the traditional practice environment seem to play no major part in establishing fundamental counseling attitudes.

Both high and low CRO subjects recognize regulatory and educational trends encouraging patient counseling. Neither group particularly cares to see more regulation in what they perceive as an already over-regulated profession. But, while high CRO scorers appreciate the intent of

counseling mandates, low scorers tend to view them as just more bothersome and unenforceable regulations. Similarly, the high CRO group, although somewhat out of touch with educational developments and expressing some concern about their practical applications, approves of the patient-oriented educational emphasis. Low CRO scorers, generally feel that this type of education, to the extent they are familiar with it, is not very relevant to present pharmacy practice. Hence, they stress their disapproval of the trend.

Pharmacists are relatively isolated from one another, and have little chance to learn each other's expectations. There is more concern about this isolation among high CRO scorers. But, regardless, this isolation prevents role orientation development within either CRO group using other pharmacists' expectations as a reference.

The dual problems of time and money, along with the traditional pharmacy environment, are all seen as counseling deterrents. The low CRO group tends to use these constraints, particularly time, as a rationalization for not advising patients. The high scorers perceive the same kinds of difficulties as the low scorers, but accept them as problems that can be worked around with some effort. Thus, although practice-situation attitudes are somewhat varied for the CRO groups, they cannot be considered as significant contributors to the basic group CRO structure.

Quantitative Data

Table 5-28 shows the intercorrelations among the quantitative scales presented in the chapter. The high correlations of CRO scores with subject-assigned counseling responsibility (r=.52) reflects, as identified above, the importance of this responsibility perception in structuring pharmacist CROs. Similarly, beliefs regarding patient needs for counseling are also strongly associated with the CRO variable (r=.65). While this measure is based on response to a single question, it has potential utility for data exploration, based on qualitative data indicating the importance of perceived patient needs in influencing pharmacists' role orientations.

Pharmacist-perceived counseling ability also correlates highly with CRO scores (r=.52). This is somewhat surprising because practitioners generally indicated verbally that they feel confident about their ability to supply most kinds of information. However, differences that are present among pharmacists in their perceived ability do show up on the Ability Index and in its relationship to the CRO variable.

Although the intercorrelations among these variables are high, this is to be expected because responsibility, ability, and perception of patient need are all attitude components of the general CRO measure. Nonetheless, each potentially has independent explanatory power with reference to behavior. In Chapter Seven, the relationship of each of

TABLE 5-28

INTERCORRELATIONS BETWEEN ATTITUDINAL VARIABLES

	CRO	Responsibility	Ability	Patient Need
CRO Score	--			
Responsibility	.52**	--		
Ability	.52**	.59**	--	
Patient Need	.65**	.38*	.43*	--

*p < .01

**p < .001

these variables will be examined with respect to pharmacist counseling behavior.

Few of the background variables were shown to be significantly related to the attitude scales. A summary of correlations showing the relationships between each of the attitude and background variables is presented in Table 5-29.

Years in practice is negatively associated with both CRO and ability scores. Having worked previously in another practice setting relates positively with perception of patient information need, confidence in counseling ability, and the CRO scores. The latter two relationships were shown to fall just short of statistical significance when using ANOVA, but they reach the $p < .05$ level when expressed as correlations.

TABLE 5-29

CORRELATIONS BETWEEN ATTITUDE AND BACKGROUND VARIABLES

Background	Attitude			
	CRO	Responsibility	Patient Need	Ability
Years of Practice	-.369**	-.123	-.252	-.421**
Work Week	-.096	-.071	.070	-.207
Usual Staffing	-.034	.092	.089	.264
Encounter Staffing[1]	.039	.082	.248	.376**
Employment Status	.064	-.060	-.172	.081
Prescription Volume	.154	.190	.040	.383**
Previous Setting Experience	.320*	.154	.437**	.303*
NARD Member	-.043	.121	-.105	-.093
APhA Member	-.085	-.103	.221	.051

*$p < .05$

**$p < .01$

[1]This variable refers to the pharmacist to clerk ratio at the time of the subject-observer encounter. Although it has not been discussed yet, it is used in the Chapter Seven analysis.

Finally, pharmacists who work in pharmacies having higher prescription volume express more confidence in their ability to counsel patients. Later, these relationships will be discussed and further clarified when they are considered in the context of the pharmacists' actual counseling practices.

FOOTNOTES

1. Pharmacists for the Future, p. 89.

CHAPTER SIX

PHARMACIST COUNSELING BEHAVIOR

This chapter presents data regarding the counseling behavior of the pharmacist-subjects in response to prescriptions presented by unidentified observers. Measurement of pharmacist behavior for each dependent variable is based on counseling activity related to Actifed and tetracycline prescription orders, obtained on two separate occasions.

The five major behavioral variables describe the extent to which the pharmacist: a) conducts interviewing activity, b) provides verbal instruction, c) acts in an approachable manner, d) spends time interacting with the observer, and e) supplies written information for the prescription. The development and scoring of these measures is discussed in Chapter Four.

Comparisons are made of pharmacist counseling for the two drug products on each of the five behavioral measures. The distribution of total behavior scores is presented for subjects on each of these measures. These scores form the basis for examining the relationship between these outcome variables and the various independent variables previously

identified.

Additionally, intercorrelations among the counsling variables are presented and briefly discussed.

Interviewing

Interviewing is soliciting information from the patient to identify potential problems in using a medication, or to assess patient understanding of instructions or of other information pertinent to the safe and effective use of a drug product.

The study pharmacists generally engage in little of this behavior. Scores on the Interviewing Index (Appendix O) range from 0 to 3 for tetracycline and 0 to 5 for Actifed prescriptions, with mean values of .45 and .55 points respectively, scored per encounter. Table 6-1 shows that the mean Interviewing Index score does not vary significantly by drug.

Sixty percent (n=25) of the subjects engaged in no interviewing activity during either encounter. Seven pharmacists (17.5 percent) made at least one inquiry of both observers, while the other eight subjects (22.5 percent) scored points for one of the two encounters.

The distribution of subjects' total interviewing scores, the sum of points scored in the two encounters, is shown in Table 6-2. The practitioners' mean total interviewing score is 1.00, with a standard deviation of 1.74. This standard

TABLE 6-1

MEAN INTERVIEWING INDEX SCORE BY DRUG

Drug Product	N	Mean	Std.Dev.	Range	t-value
Actifed	40	0.55	1.06	0 - 5	.726 (ns)
Tetracycline	40	0.45	0.88	0 - 3	

TABLE 6-2

DISTRIBUTION OF INTERVIEWING INDEX SCORES

Score	Frequency	Relative Frequency (%)
0	25	62.5
1	4	10.0
2	7	17.5
3	--	--
4	1	2.5
5	1	2.5
6	1	2.5
7	1	2.5

Mean: 1.00; Standard Deviation: 1.74

deviation reflects the large number of subjects not undertaking this activity.

The most common information solicited by the pharmacist is whether or not the patient has any medication allergies. This is followed in frequency by inquiry as to whether the medication has been used in the past, and questions about the nature or status of the patient's current problem (Table 6-3).

Some pharmacists had, at hand, additional interview information derived from patient profiles prepared by clerks. Profiles were initiated for observers in 62 of the 80 encounters (77 percent). The pharmacist set up the record himself in almost half of the cases (n=28). As Table 6-4 indicates, a "basic" profile, containing the patient's address and such items as their telephone number or physician's name, was prepared most frequently. An "interview" profile was obtained during a total of 23 encounters. This type of profile contains, at the minimum, information regarding patients' medication allergies. Other questions regarding medical conditions and utilization of prescription and OTC drugs were occasionally asked of the observer for this type of profile.

The fact that the observers utilized out-of-town addresses may have tended to decrease the number of interview profiles prepared. Because the pharmacist or clerk would not anticipate seeing the observer in the pharmacy

TABLE 6-3

DISTRIBUTION OF INTERVIEWING ACTIVITY

BY INDEX CATEGORY

Index Category	Frequency	Relative Frequency (%)
Medication allergies	11	37.9
Past usage of product	9	31.0
Current problem	6	20.7
Other medications/ medical problems	2	6.9
Received prior instruction	1	3.5
Total	29	100.0

TABLE 6-4

DISTRIBUTION OF PROFILES PREPARED BY TYPE

Profile Type	Frequency	Relative Frequency (%)
Basic	39	48.0
Interview	23	29.0
None	18	23.0
Total	80	100.0

again, a decision may have been made, on occasion, not to request information beyond that on the basic type of profile.

Verbal Instruction

The level of verbal instruction by the pharmacist is the total points scored for furnishing informational items which are generally accepted as contributing to the safe and effective utilization of medications. The scoring for the 18 instructional content categories is explained in Chapter Four, and the complete Verbal Instruction Index is found in Appendix M.

Verbal instruction scores for individuals range from 0 to 12 for tetracycline and 0 to 13 for Actifed prescriptions. Subjects' mean instruction score for tetracycline is 4.55, while Actifed encounters averaged 2.98 on the Index. Table 6-5 shows that observers presenting tetracycline orders received significantly higher levels of verbal instruction from subjects than observers who obtained Actifed orders.

Nonetheless, it is evident that the average amount of instruction supplied for either drug is relatively low. For example, to obtain the mean Actifed score of approximately three points, the pharmacist could say: "Take one of these allergy tablets three times a day." Similarly, advice to "take one of these tetracycline capsules four times a day

TABLE 6-5

MEAN VERBAL INSTRUCTION INDEX SCORE BY DRUG

Drug Product	N	Mean	Std. Dev.	Range	t-value
Actifed	40	2.98	3.00	0-12	4.47 ($p < .0001$)
Tetracycline	40	4.55	3.61	0-13	

for your infection," will yield an instruction score of four points. On viewing the signa on the prescription orders that observers presented (Appendix G), it becomes clear that merely repeating what might be the logical label directions results in subject verbal instruction scores approximating the means.[1]

If we break down the information provided by instructional category, it can be seen that there are both similarities and differences between the study medications in terms of the instruction provided by subjects. Table 6-6 presents the percentage of encounters scoring in each of the 18 verbal instruction categories.

The differences in the mean levels of instruction provided for Actifed and tetracycline appear to be primarily due to the fact that more subjects furnished instruction for the latter drug in categories 6, 9, and 12. Half of the pharmacists indicated when tetracycline should be taken with regard to meals--generally before, on an empty stomach.

TABLE 6-6

VERBAL INSTRUCTION PROVIDED BY CATEGORY

Instructional Category	Percentage of Subjects Scoring and Frequency (n)	
	Actifed	Tetracycline
1) Medication description	45 (18)	43 (17)
2) Medication name	33 (13)	35 (14)
3) Number of units to take	30 (12)	25 (10)
4) Frequency of use per day	40 (16)	35 (14)
5) Segment of day to take	8 (3)	13 (5)
6) Use with regard to meals	-- --	50 (20)
7) To take "as directed"	3 (1)	-- --
8) Regularity of use	5 (2)	8 (3)
9) Duration of therapy	-- --	40 (16)
10) Route of administration	8 (3)	-- --
11) Side effects/adverse reactions	50 (20)	18 (7)
12) Food/fluid/drug interactions	5 (2)	58 (23)
13) Method of administration	5 (2)	10 (4)
14) Storage/handling	-- --	-- --
15) Refill information	20 (8)	10 (4)
16) Quantity dispensed	3 (1)	20 (8)
17) Medication identification	3 (1)	5 (2)
18) Difficulties or questions	8 (3)	5 (2)

Sixteen subjects told the observer to continue taking the tetracycline until all the capsules were gone. And, 58 percent warned the observer about potential problems caused by taking certain foods or other drugs in conjunction with the antibiotic. This warning centered principally on concomitant utilization of dairy products or antacids.

On the other hand, the only instructions that substantially more pharmacists provided for Actifed than tetracycline was in category 11: a warning about possible side effects or adverse reactions. Half of the subjects cautioned the observer about potential drowsiness associated with Actifed.

Three of these four aforementioned categories (6, 11, 12) were the only ones that at least half of the pharmacists provided instructions for one of the two study medications. Interestingly, the prescription orders contained none of this information volunteered by the pharmacists. This indicates that some subjects often do more than just repeat label instructions, particularly in the case of tetracycline. On the whole, it appears that this "added information" accounts for the difference in the mean verbal instruction scores between tetracycline and Actifed encounters.

Pharmacists provided at least some verbal instruction during 70 percent of the 80 encounters with the observers. The distribution of the subjects' total verbal instruction scores appears in Table 6-7. The total score is derived

TABLE 6-7

GROUPED DISTRIBUTION OF VERBAL INSTRUCTION INDEX SCORES

Score	Frequency	Relative Frequency (%)
0	8	20.0
1 - 4	8	20.0
5 - 9	9	22.5
10 - 14	11	27.5
15 - 19	3	7.5
20 or more	1	2.5

Ungrouped Mean: 7.53; Standard Deviation: 6.26

from the addition of the two individual encounter scores for each pharmacist. These scores range from 0 to 25, with the subjects' mean Verbal Instruction Index score being 7.53 points.

Eight pharmacists, 20 percent of the sample, provided no instruction for either medication. Thus, these individuals account for a full two-thirds of the encounters where no instruction was furnished. Ten percent (n=4) of the practitioners averaged nine or more instruction points per encounter, demonstrating a comparatively high level of counseling by these individuals. This finding, combined with the complete lack of instruction by 20 percent of the sample, points to substantial variation in the extent to

which the study pharmacists provide verbal medication instruction.

Approachability

The extent to which the pharmacist acts in an approachable manner was assessed by the observer during each encounter. Approachability is complementary to the interviewing and verbal instruction variables in that it includes all other verbal communication the pharmacist engages in with the observer, with the exception of inquiries about the patient's name, address, or physician's name. Thus, most conversation not related to the study medication is accounted for in this measure. The approachability score reflects the presence or absence of the pharmacists' greetings, farewells, and small talk, along with subjective indicators of the subject's approachability (see Appendix P).

Although a negative approachability score is possible, actual scores ranged from 0 to 6 for both Actifed and tetracycline encounters. The mean scores for all subjects were 1.93 for Actifed and 2.25 for tetracycline orders. There is no a priori reason to believe that these scores should be significantly different, and this is confirmed by Table 6-8.

A combination of the pharmacist's two approachability scores results in a total approachability score. Table 6-9 shows the distribution of these total scores. Overall,

TABLE 6-8

MEAN APPROACHABILITY SCORE BY DRUG

Drug Product	N	Mean	Std. Dev.	Range	t-value
Actifed	40	1.93	1.75	0 - 6	.98 (ns)
Tetracycline	40	2.25	1.86	0 - 6	

TABLE 6-9

DISTRIBUTION OF APPROACHABILITY SCORES

Score	Frequency	Relative Frequency (%)
0	7	17.5
1	2	5.0
2	5	12.5
3	1	2.5
4	8	20.0
5	3	7.5
6	3	7.5
7	3	7.5
8	6	15.0
9	2	5.0

Mean: 4.18; Standard Deviation: 2.94

individuals have a mean score of 4.18, ranging from 0 to nine points. Seven subjects (17.5 percent) received a total score of zero. But even with these individuals considered, it should be noted that the pharmacist at least spoke to the observer during 73 of the 80 encounters, or 91 percent of the opportunities. This suggests that the observer usually had the personal attention of the practitioner for, at worst, a few seconds. Additionally, the subjects personally delivered the finished prescription to the observer in 73 percent of all encounters, their physical presence allowing for the possibility of patient-initiated interaction.

Interaction Time

The time variable measured in this study is the total number of seconds the pharmacist and the observer interact during the encounter. This measure includes both interviewing and verbal instruction time. It also refers to all of the pharmacist's additional conversation directed at the observer (e.g. small talk).

Comparison of mean interaction times for Actifed and tetracycline encounters shows there is no significant difference between them (Table 6-10). However, tetracycline encounters do tend to be longer by approximately five seconds.

The range of encounter times is wide, as might be expected on this measure. These ranges--0 to 95 for

TABLE 6-10

MEAN INTERACTION TIME BY DRUG

Drug Product	N	Mean	Std. Dev.	Range	t-value
Actifed	40	16.2	17.4	0 - 95	1.83 (ns)
Tetracycline	40	21.2	16.9	0 - 74	

Actifed, and 0 to 74 for tetracycline--contain both high outlying data points and zero encounter times, which tend to statistically affect the relative accuracy of the mean interaction times.

When the data are reanalyzed, after eliminating four interaction times longer than 60 seconds (which reflect extended small talk), the difference between the mean interaction times for the two study medications decreases somewhat from five to about three seconds. This finding suggests that a "time allocation" process may be operating, whereby the pharmacist devotes a certain amount of time to each patient. During this time period, he provides professional counseling, filling out with small talk or other non-professional communication.

Total interaction times for the study subjects are distributed as shown in Table 6-11. For ease in presentation, these times are grouped into intervals. It can be seen from this table that two subjects did not speak to the

TABLE 6-11

DISTRIBUTION OF TOTAL INTERACTION TIMES

Time in Seconds	Frequency	Relative Frequency (%)
0	2	5.0
1 - 10	8	20.0
11 - 20	4	10.0
21 - 30	2	5.0
31 - 40	6	15.0
41 - 50	7	17.5
51 - 60	6	15.0
61 - 70	2	5.0
Above 70	3	7.5

Mean: 37.2; Standard Deviation: 29.6

observer on either occasion. Eight other individuals totaled less than ten seconds for the two encounters. Thus, 25 percent of the pharmacists spent essentially no time interacting with the observers. At the other extreme, only five subjects averaged thirty seconds or more communicating with the observers.

The amount of time required for the entire prescription transaction, measured from the time the prescription order is handed to pharmacy personnel to the time the observer leaves the prescription encounter, ranges from a minimum of

just over 1.5 minutes to as long as 28 minutes. In the latter instance, the subject had to leave the pharmacy for a period of time, and he notified the observer of that fact before leaving. With this special case deleted, the mean transaction time is approximately four minutes over all encounters. More than 80 percent of the transactions are within a 3- to 5-minute range. In part, this reflects the study protocols calling for the initiation of prescription transactions only when the pharmacist is not obviously busy with a prescription backlog.

Written Instruction

The level of written instruction supplied for a medication is determined utilizing a 17 category index, which is basically the same as the Verbal Instruction Index. This Written Instruction Index, including the scoring for its categories, is found in Appendix N. Written instruction includes information present on the prescription label or any auxiliary labeling furnished by the pharmacist.

Table 6-12 compares the mean levels of instruction supplied for the two study medications. Tetracycline orders had significantly more instruction, an average of 7.25 points compared to the mean of 5.50 instruction points for Actifed prescriptions. The variation in individuals' scores is somewhat less than that for the Verbal Instruction Index, suggesting there is more of a group norm in supplying

TABLE 6-12

MEAN WRITTEN INSTRUCTION INDEX SCORE BY DRUG

Drug Product	N	Mean	Std. Dev.	Range	t-value
Actifed	40	5.50	1.04	4 - 9	7.07 (p<.0001)
Tetracycline	40	7.25	1.79	4 - 13	

written instructions.

If the instruction provided is analyzed by instructional category (Table 6-13), it is evident that certain types of information are routinely placed on the prescription label. These categories include the: medication description, drug name, number of units to take at one time, and the frequency of use per day.

Just as with the Verbal Instruction Index, the differences in overall scores between the two study medications appear to result from "added information" (not in signa of order) provided for tetracycline by the pharmacists.

An important contributor to this difference is the subjects' practice of regularly labeling tetracycline prescriptions with the capsule strength (80 percent), something not easily accomplished with a combination-product like Actifed (3 percent).

Practically all additional written instruction furnished to the observer was in the form of auxiliary

TABLE 6-13

WRITTEN INSTRUCTION PROVIDED BY CATEGORY

Instructional Category	Percentage of Subjects Scoring and Frequency (n)			
	Actifed		Tetracycline	
1) Medication description	100	(40)	90	(36)
2) Medication name	100	(40)	98	(39)
3) Number of units to take	100	(40)	100	(40)
4) Frequency of use per day	100	(40)	100	(40)
5) Segment of day to take	3	(1)	5	(2)
6) Use with regard to meals	--	--	48	(19)
7) To take "as directed"	--	--	--	--
8) Regularity of use	43	(17)	45	(18)
9) Duration of therapy	--	--	15	(6)
10) Route of administration	25	(10)	3	(1)
11) Side effects/adverse reactions	40	(16)	5	(2)
12) Food/fluid/drug interactions	3	(1)	48	(19)
13) Method of administration	--	--	--	--
14) Storage/handling	--	--	3	(1)
15) Refill information	20	(8)	13	(5)
16) Quantity dispensed	13	(5)	10	(4)
17) Medication identification	3	(1)	80	(32)

labels or stickers placed on the prescription container. Almost half of the subjects used auxiliary labels indicating that Actifed may cause drowsiness. Similarly, close to half of the pharmacists provided these extra labels to warn tetracycline users about potential problems with milk or dairy products, to suggest they take their medication regularly, and to instruct the observer to take the medication on an empty stomach.

One exception to the trend of using only auxiliary labels to convey added information is found. Half of the 17 pharmacists who suggested that Actifed be taken only "as needed" typed this information directly on the prescription label.

The existence of a norm tendency in written instruction is further supported by the distribution of total Written Instruction Index scores (Table 6-14). Even though subject scores range from 8 to 20, 37 of the 40 subjects have total scores within approximately three points of the 12.75 mean score.

Relationships Among Counseling Variables

As might be expected, most of the counseling variables exhibit relatively high intercorrelations. Table 6-15 shows that verbal instruction is significantly related to each of the other counseling measures. The positive associations with interviewing and approachability are attributable to

TABLE 6-14

DISTRIBUTION OF WRITTEN INSTRUCTION INDEX SCORES

Score	Frequency	Relative Frequency (%)
8	1	2.5
•		
10	6	15.0
11	6	15.0
12	9	22.5
13	4	10.0
14	6	15.0
15	3	7.5
16	3	7.5
•		
•		
19	1	2.5
20	1	2.5

Mean: 12.75; Standard Deviation: 2.48

TABLE 6-15

INTERCORRELATIONS AMONG COUNSELING VARIABLES

	Verbal	Written	Interview	Approach.
Verbal Instruction	--			
Written Instruction	.48*	--		
Interviewing	.56*	.10	--	
Approachability	.53*	.15	.28	--
Interaction Time	.86*	.25	.56*	.63*

*p < .001

the fact that these activities often occur in the same time period. In other words, the pharmacist frequently asks about prior medication usage or allergies when furnishing verbal instruction. Likewise, small talk or other non-verbal expressions of approachability emerge during the course of the interaction. Conversely, a low level of verbal instruction is connected with minimal interviewing and fewer chances for approachability to be demonstrated.

Verbal instruction and interaction time have the highest intercorrelation among the behavioral variables. This can be ascribed to the reality that much of the interaction time is devoted to verbal instruction, while other types of communication are engaged in to a lesser extent. The subjects' interviewing and approachability scores reflect this relationship, and these variables are not as highly correlated with interaction time.

The positive relationship between written and verbal instruction provided can be accounted for, based on the idea that increased written labeling leads to a higher verbal instruction score if the pharmacist repeats expanded labeling and/or if he feels he must clarify his written instructions. This interpretation is also supported by the positive correlation between written instruction and interaction time. Even though this relationship is not at the same level of statistical significance ($p<.05$ v. $p<.001$) as others shown in Table 6-15, it does add some weight to the

suggested interpretation.

The level of written instruction furnished should have little relation to interviewing and approachability, because these activities are conducted more or less independently. The low correlations between these variables and written instruction support this contention.

Summary and Discussion

For those advocating the pharmacist medication counseling role there are both positive and disappointing features evident in these findings regarding actual counseling practices.

Subjects did very little patient interviewing in order to detect or prevent medication usage problems. In only 11 instances did the pharmacist inquire about medications that the patient might be allergic to. This information became available in an additional 12 encounters when other pharmacy personnel prepared patient profiles. Still, less than 30 percent of the pharmacists had this basic information for their records.

On the positive side, patient profiles were prepared for more than three-fourths of the encounters. Hence, a mechanism for monitoring drug utilization is available for most of the study subjects, should they choose to engage in this activity.

Another positive indicator is the finding that some

verbal instruction was provided to observers in 70 percent of all encounters. This compares favorably to the research cited in Chapter Two, which indicated counseling is generally furnished for less than 50 percent of new prescriptions.

Beneath these findings, however, lies an indication that many pharmacists supply only a minimal amount of instruction. Although it has been stated, in describing the instruction indices, that low scores do not automatically mean inadequate counseling, such scores are at least indicators of deficiencies in fulfilling the counseling role.

For example, less than a majority of the subjects verbally reinforced the prescription label instructions for either drug. In only one instructional category for Actifed and three categories for tetracycline encounters do approximately half of the pharmacists provide additional information that is not contained in the signa of the prescription order.

Nonetheless, the information added by the subjects, when and if presented, is considered to be important. For instance, the subjects frequently warned about potential side effects, absorption problems, and dose spacing. These categories of added information basically account for the higher mean scores on instruction during tetracycline encounters. This finding is backed by pharmacist assertions, during the interview study stage, indicating that some

drugs--antibiotics in particular--require additional warnings or attention from the pharmacist.

This same situation applies for written instruction; but because of the apparent consistency among pharmacists in following a norm of typing label instructions as they appear on the prescription order, mean written instruction scores are higher and exhibit considerably less variation among pharmacists. The wide range of total verbal instruction scores (mean 7.5, sd 6.3), contrasted with total written instruction scores (mean 12.8, sd 2.5), supports the belief that there are not yet any generally accepted norms for verbal counseling among pharmacists that provide a basis for behavioral consistency.

The pharmacist-subjects were found to be potentially approachable. Approachability scores are not particularly indicative of this fact, but this may be a function of observer protocols (see discussion below) and the subjective nature of this measure. An alternative indicator of potential approachability--the pharmacist speaking to the observer--occurred in 91 percent of the encounters. Additionally, the pharmacist transferred the completed drug product to the observer 73 percent of the time. These indicators of attention and physical presence assume real importance when one considers the virtually unanimous agreement that emerged among the subjects during the interview phase: that if the patient shows interest by asking

questions, the pharmacist is willing to respond with a higher level of counseling.

A possible consequence of the "waiting for questions" approach is the relatively small amount of time the pharmacist spends interacting with the patient. In maintaining this approach, the data suggest, the pharmacist engages in a time-allocation process that results in his spending a certain amount of time talking with each patient, regardless of the professional content of the communication. In any case, the high correlation between verbal instruction and interaction time (r=.86) reflects the greater extent to which this activity is undertaken compared to the other counseling variables and indicates that much of the encounter is devoted to this instruction.

In interpreting the pharmacists' counseling activity it must be remembered that the behavior measures reflect subject responses to situations that are standardized so far as possible with respect to observer behavior. Observer protocols (Appendix J) called for no initiation of conversation and only brief and concise responses to questions. This may be viewed as a situation analogous to Szasz and Hollender's active-passive model of practitioner-patient relationships, where the pharmacist provides treatment (counseling) and the observer assumes the stance of "provide me with whatever counseling you wish to."[2]

From this vantage point it is reasonable to assume that

one is understating, to some degree, the extent to which verbal counseling activities are normally engaged in by pharmacists. The previously noted comments by subjects, along with emerging empirical evidence, indicates patient feed-back and inquiries are significant factors affecting the pharmacists' patient counseling.[3] Further, one would logically expect that the opportunity of the pharmacist to demonstrate approachability cues would be limited under the conditions of the study protocols.

Smith has observed that a continuous pharmacist-patient relationship is necessary for adequate counseling; and, lacking these relationships, "the pharmacist simply cannot be expected to provide adequate communication if every patient encounter is with a virtual stranger."[4] The observers had no prior interaction with the subjects. These circumstances, combined with the fact that they presented prescriptions written by an unfamiliar physician from another city, point toward inhibited counseling activity.

The above discussion must be tempered by evidence indicating that few pharmacists and patients engage in anything other than an active-passive relationship. In any case, it has been suggested that the pharmacist should take the lead in establishing a relationship with new patients built on communication. The adage that "you never get a second chance to make a good first impression" has validity for establishing satisfactory pharmacist-patient

relationships, regardless of the level of medication counseling furnished.[5]

Because observers presented prescriptions only when the pharmacist was not obviously busy, the resulting situation allowed the subject full opportunity to make a good first impression--if he wished to. Thus, it becomes arguable that the counseling measured in this investigation accurately mirrors the practitioner's day-to-day behavior.

All things considered, one must use caution in the manner in which these behavioral findings are interpreted and generalized. It is best to think of these data as baseline measures of unsolicited counseling behavior, for two specific drug products, supplied under standardized conditions.

Using these baseline measures, now the analysis turns to investigation of the variables that may explain these behaviors.

FOOTNOTES

1. "Signa" refers to the patient directions indicated by the prescribing physician on the prescription order.

2. T. Szasz and M. Hollender, "A Contribution to the Philosophy of Medicine: The Basic Models of the Doctor-Patient Relationship," Arch. Int. Med. 97 (1956):585-592.

3. Bonnie L. Svarstad, Holly L. Mason, and Arthur C. Schuna, "Factors Affecting Pharmacist-Patient Communication: A Multivariate Analysis," paper presented to the Special Session on Behavioral Pharmacy, American Association of Colleges of Pharmacy, Denver, Colorado, July 1979.

4. Mickey C. Smith, "Pharmacist/Patient Interaction and Compliance," US Pharmacist 3 (May 1978):88.

5. Ibid.

CHAPTER SEVEN

COUNSELOR ROLE ORIENTATION AND OTHER BEHAVIORAL CORRELATES

Introduction

The working hypothesis guiding this study is that pharmacists' views (attitudes) about medication counseling are related to their counseling practices. Findings from a limited number of investigations demonstrate little relationship between pharmacist attitudes and behaviors. However, none of this prior research is designed to ascertain both pharmacists' attitudes toward prescription medication counseling for patients and the correspondence of these attitudes with actual behavior. Thus, with respect to the present research problem we have criticized earlier investigations on methodological and conceptual deficiencies grounds.

The current study is designed to overcome these problems by measuring attitudes specific to the behavior in question, while determining behavior through direct observation. After taking these steps it is reasonable to believe that unless there is some correspondence identified between

this study's attitude and behavior measures, the focus and future of further research efforts in this area should be reassessed.

The analysis in Chapters Five and Six focused, in turn, on the views pharmacists hold and their behaviors with regard to the patient medication counseling role. In this chapter the relationships between these counseling views and behaviors are explored.

An initial priority in this analysis is to determine whether the subjects' CROs are related to their counseling practices. Then, the degree to which pharmacists' scores on specified attitude component are associated with their counseling activity is ascertained.

Beginning with these relationships, consideration is then given to the extent to which pharmacist CRO and component attitudes, in conjunction with background variables, are able to explain variation in their counseling behaviors.

Counselor Role Orientation and Behavior

The results of the first step in the analysis are encouraging in terms of the general guiding research hypothesis in that the study pharmacists' CROs are shown to be significantly associated with each of their counseling behaviors. Table 7-1 presents the correlations of the CRO measure with the five major behavioral variables.

TABLE 7-1

COUNSELOR ROLE ORIENTATION AND COUNSELING BEHAVIORS

Behavior	Zero-Order Correlation with CRO
Interviewing	.294*
Approachability	.280*
Verbal Instruction	.540***
Interaction Time	.435**
Written Instruction	.367**

*p < .05

**p < .01

***p < .001

Although the correlations between CRO and the interviewing (r=.29) and approachability (r=.28) variables are statistically significant, the magnitude of these associations is relatively small.

In the case of interviewing behavior, it has been observed that pharmacists sometimes delegate medication profile preparation to other store personnel. This tends to depress the relationship by understating the actual information available to the pharmacist. In addition, the limited amount of interviewing pharmacists engaged in reduces the variation on this measure, and consequently its potential association with the CRO measure.

Approachability is based, in part, on the observers' subjective assessments of pharmacists' activities. It is possible one or more observers consistently failed to "pick up" non-verbal aspects of this measure (e.g. frown or smile). The lack of control over variations in assessment may affect the relationship by itself. But, an effect over and above this problem is the nature of the observer protocols, which were constructed so as not to encourage approachable behavior on the pharmacists' part. In research where more observer participation in the interaction is allowed this variable may be more closely associated with the role orientation measure. In any case, a significant CRO-approachability relationship is present--in spite of these potentially opposing forces.

The extent to which pharmacists provide verbal instruction is correlated highest with their general counseling attitude ($r=.54$, $p<.001$). In a sense, explanation of this activity is the most important in terms of implications for day-to-day pharmacy practice. If pharmacists are to fill the "drug information gap," it is assumed that a good share of their effort will be devoted to verbally instructing patients on their medications.

Pharmacists positively oriented toward counseling spend more time communicating with patients than do those with low CRO scores. This is demonstrated through the correlation between interaction time and CRO ($r=.44$, $p<.01$). However,

this finding is primarily a reflection of the previously discussed strong relationship between interaction time and verbal instruction (r=.86), verified through the observed association of CRO with this latter variable. It also has been observed that the interviewing and approachability variables make a somewhat lesser contribution toward determining interaction time. The relatively small correlations of these variables with CRO foretell their influence in reducing the overall interaction time-CRO association.

The amount of written instruction provided and CRO scores are positively related (r=.37, $p < .01$). This finding is important not only in terms of furnishing the patient with sufficient permanent medication information, but also from the point of view of minimizing the possible negative effects of pharmacy busy periods. In instances where even subjects oriented toward counseling feel they must limit their verbal counseling, this relationship suggests that their patients will at least receive a certain amount of extra instruction from pharmacists with a positive counseling orientation. This, of course, assumes that these rush periods (see Chapter Five) do not alter the pharmacists' normal labeling practices.

Role Orientation Component Views and Behavior

Upon initiating this investigation, a secondary objective--beyond ascertaining the relationship between pharmacists' CRO and their counseling activity level--was to identify components of the subjects' role orientation that might be particularly important influences on their behavior. With this in mind, the interview schedule incorporated multiple-item indices measuring subjects' perception of their counseling responsibility and confidence in their ability to counsel patients. Additional single-item attitudinal measures, unconnected with the CRO scale, also were included in the interview instrument.

With one exception, all of these single-item indicators of counseling views exhibited insufficient response variation to be useful in a statistical sense. As discussed in Chapter Five, the only item demonstrating response differences among pharmacists is their belief regarding the percentage of patients who need information from them (see Table 5-13).

It was suggested earlier that the ability and responsibility indices, along with this measure of patient need, supply unique information regarding their influence on counseling behaviors--even though the measures generally are correlated highly with the CRO measure and with each other. Their zero-order correlations with each of the behavior

variables are shown in Table 7-2. Table 7-3 presents the partial correlations of these component attitude variables with the behavior variables, controlling for CRO. The relationships in this latter table are displayed to establish that these attitude components carry explanatory power independent of the CRO measure.

Examination of Table 7-2 indicates that two of the three component attitudes--beliefs regarding counseling responsibility and patient information needs--are significantly related to each counseling activity. Pharmacists' confidence in their counseling ability is significantly correlated only with the verbal instruction behavior, but moderate positive correlations with the other dependent variables indicate a tendency for this variable to explain some of their variance.

It is interesting to observe that each of the attitude variables exhibit their highest correlation with the verbal instruction measure. While this will be discussed later, it is believed that this occurrence is the result of the attitude measures' basic composition.

A second notable feature of the zero-order relationships is the relatively strong associations between perceived patient need and each of the counseling activities. Although not necessarily in terms of statistical significance, these correlations are larger than the CRO-behavior correlations for four of the five counseling

TABLE 7-2

ATTITUDE COMPONENTS AND COUNSELING BEHAVIORS

Behavior/Attitude	Zero-order Correlation		
	Responsibility	Pt. Need	Ability
Interviewing	.385**	.368**	.223
Approachability	.296*	.440**	.159
Verbal Instruction	.439**	.574***	.346*
Interaction Time	.315*	.562***	.204
Written Instruction	.276*	.264*	.245

*p < .05
**p < .01
***p < .001

TABLE 7-3

ATTITUDE COMPONENTS AND COUNSELING BEHAVIORS

CONTROLLED FOR CRO

Behavior/Attitude	Partial Correlation with CRO Control		
	Responsibility	Pt. Need	Ability
Interviewing	.284*	.243	.085
Approachability	.184	.354*	.016
Verbal Instruction	.220	.347*	.089
Interaction Time	.116	.407**	-.030
Written Instruction	.108	.034	.068

*p < .05
**p < .01

variables.

After controlling for the CRO variable (Table 7-3), patient need still displays significant relationships with approachability (r=.35), verbal instruction (r=.35), and interaction time (r=.41). Similarly, under the control situation, responsibility remains significantly correlated with interviewing activity (r=.28).

The fact that these reasonably high correlations continue to exist indicates that the responsibility and patient need measures--the latter in particular--do tap attitude dimensions not entirely accounted for in the CRO scale. Practitioners' confidence in their counseling ability, on the other hand, appears to add little to the explanatory power of the general CRO measure. None of this measure's first-order correlations even approach statistical significance.

Attitudes, Background Variables, and Behavior

The last section revealed that subject attitudes are among the crucial determinants of patient advising. We now turn to examination of these attitudes, in combination with subject background variables, to further specify important factors influencing pharmacist medication counseling.

The Data Analysis Approach

The ultimate goal of any science is precise prediction. But the state of knowledge in the research area of this study places such a goal beyond consideration here. The present interest is mainly to locate "important" variables, ones that are able to explain pharmacist counseling behaviors.

In exploratory studies of this sort regression analysis is usually of secondary importance. However, if applied in a careful manner regression analysis can be a valuable descriptive tool. Used as such, this analytic strategy can point to influential determinants of behavior, suggesting avenues for expanded research.

Because several of the independent variables are highly correlated among themselves, there is considerable redundancy in the presentation of zero-order correlations. An example of this redundancy is found in comparing Tables 7-2 and 7-3. Furthermore, an analysis of only simple correlations does not reflect relationships among variables which may emerge or be substantially altered when the effects of several variables are considered simultaneously. In these instances regression analysis enables the investigator to disentangle and elaborate on these relationships.

Even though the study variables differ in their level of measurement, with most of the background variables being

dichotomous, it is still possible to use multiple regression to arrive at some idea of their cumulative influence. It is not realistic to develop an accurate causal model on the basis of data from this limited sample. It is of interest, though, to consider the combined effects of the most influential variables in "predicting" behavior. And, as noted above, these findings should serve as a guide for future investigations.

A hierarchical independent variable addition-procedure is employed to ascertain an ordered series of cumulative squared multiple correlation values (R^2 or coefficient of determination). This begins with the CRO variable and incorporates, stepwise, background variables that explain a significant amount of variance on the behavior variables.[1] In this context, the interest lies primarily in the identification of the influential variables revealed by the analysis, rather than in specific values for any regression coefficients.

The partial correlations in Table 7-3 suggest the responsibility and patient need variables carry nontrivial and unique variation, independent of the CRO measure, which is associated with pharmacist counseling behaviors. To further investigate these relationships, additional hierarchical stepped-regressionswere run, predicting interviewing beginning with responsibility, and patient need was used as the first independent variable for explaining

approachability, verbal instruction, and interaction time. Since no attitude component appears to account for variance in written instruction above that explained by CRO, only this general measure was used for regressions on written instruction.

The rationale behind initiating the regression hierarchy with the attitude variable is based on the primary research relevance of these factors. In other words, the question being asked is: What other factors might be useful in predicting counseling practices? This approach also is appropriate in terms of applications of the research findings. Efforts can be undertaken to alter negative attitudes, but knowledge as to whether employment status, for example, is related to behavior has little practical significance by itself.

This analytic approach minimizes the serious possibility of chance statistical significance arising from the inclusion of a large number of independent variables in a regression equation based on a small sample. But, on the other hand, when there are only trivial differences among the partial relationships of variables considered for inclusion in an equation--differences that may actually be reversed in the general population--a variable not entered on one step may not make a sufficiently unique contribution to be entered at a subsequent step.[2] Instances where this problem occurs, and its implications, are pointed out in the

discussion section.

The analysis for each counseling variable begins with a discussion of the zero-order and first-order attitude variable controlled correlations between the behavior variable and the several background variables. Then attention is turned to an examination of the factors, which when taken in combination with other independent variables, significantly increase the proportion of the dependent variable's variance explained.

To assist in the interpretation of findings, several references are made in the data presentation and discussion sections to the zero-order correlations among background variables or between attitude and background variables. Table 7-4 below presents a correlation matrix indicating the relationships among the background variables. The attitude-background variable relationships were summarized in Table 5-29.

The data presentation follows the convention of using the R^2 statistic that is adjusted ($\bar{R}^2$) for the number of independent variables in the equation and the number of subjects. It is a more conservative estimate of the variance explained, particularly applicable when the sample size is small as in this study.[3]

The criteria for presenting a set of regressions are as follows: 1) the $\bar{R}^2$ value for a set of independent variables must be statistically significant before its constituent

TABLE 7-4

CORRELATION MATRIX FOR BACKGROUND VARIABLES

Variable	1	2	3	4	5	6	7	8
1	--							
2	.13	--						
3	-.21	-.24	--					
4	-.37**	-.33*	.16	--				
5	.01	-.11	.34*	.15	--			
6	.01	-.24	.08	.18	.14	--		
7	.33*	.11	.16	-.43**	.17	-.24	--	
8	.17	.15	.24	-.25	-.21	.45**	-.25	--

*p < .05

**p < .01

Variable	Meaning of positive value[1]
1 Years of practice	more years of practice
2 Work week	greater number of hours worked
3 Encounter staffing	higher pharmacist:clerk ratio
4 Employment status	employee
5 Prescription volume	greater number of new prescriptions/day
6 Previous practice experience	have prior hospital or chain experience
7 NARD membership	holds membership
8 APhA membership	holds membership

[1]See Table 5-1 for coding categories used.

variables are tested for significance, 2) no further variables are placed in the equation once the previous variable included does not explain an additional statistically significant proportion of the dependent variable's variance ($\Delta \bar{R}^2$), 3) data plots of standardized residuals are inspected at each step, and 4) no independent variable interaction terms are considered in this analysis.

Criterion one results in the application of a form of the "protected t-test."[4] That is, this precaution prevents identification of spuriously significant results--type I investigation errors--which increase in probability with the number of statistical tests run.[5]

The second criterion again reflects the conservative nature of the present analysis, necessitated by the limited sample size. Even if the last variable entered has a significant regression coefficient, the fact that minimal additional behavioral variance is explained is likely a consequence of redundancy among variables already in the equation.

Examination of the residuals allows the investigator to check for deviations from the assumed linear relationship between the independent and dependent variables. This inspection also is a check on assumptions regarding errors (e.g. same variance throughout the range of the dependent variable). This procedure is utilized to maximize the probability that findings are generalizable to the population

from which the pharmacist sample was selected.[6]

Finally, no interaction terms are included in this analysis because the primary interest is in identifying important variables for future investigations, and: 1) the inclusion of such a term "costs" a degree of freedom, consequently excluding other potentially important predictors, and 2) if a variable demonstrates no main effect, but has an interaction effect with another variable, the variable, in any case, would not be included in the equation on the basis of the other criteria.

Interviewing

Among the background variables the subjects' years of practice is significantly related to their interviewing activity ($r=-.38$, $p<.01$). This association holds up when controlling for CRO, indicating a tendency for older practitioners to interview less, independent of CRO score (Table 7-5). A similar years of practice relationship with interviewing behavior remains when the responsibility variable is held constant.

None of the other background variable correlations with this behavior approach statistical significance; and furthermore, none of the variables is affected appreciably by partialling out either attitude variable. Yet, it is interesting to note the tendency for APhA membership to be negatively associated with interviewing ($r=-.20$). This is a

TABLE 7-5

RELATIONSHIP BETWEEN BACKGROUND VARIABLES AND INTERVIEWING

Variable[1]	Correlation with Interviewing		
		Controlled for	
	Zero-order	CRO	Responsibility
Yrs. Practice	-.381**	-.307*	-.365*
Work Week	.147	.184	.190
Staffing	.165	.160	.145
Employment Status	.035	.005	.057
Prescription Volume	-.021	-.070	-.104
Previous Setting Experience	-.088	-.201	-.161
NARD Member	.039	.002	.041
APhA Member	-.196	-.179	-.170

*p < .05

**p < .01

[1]See Table 7-4 for scoring of background variables.

relationship that is unexpected considering that organization's support of pharmacists' counseling activity.

The relatively weak correspondence between CRO and interviewing (r=.29) discussed earlier foretells the fact that CRO is not a particularly strong predictor of this behavior (Table 7-6). Indeed, when used together with years of practice, the latter variable displays a regression coefficient considerably larger than that of CRO (B=.18 vs -.32). This combination just barely explains a significant portion of variance on the dependent variable, and neither does so alone when considered in this order. A regression employing only years of practice to explain interviewing variation is able to account for slightly more than 12 percent of the variance. In comparison to the 13 percent explained by the two variables, it is clear that years of practice is a better predictor of pharmacist interviewing behavior.

Pharmacists' perceived counseling responsibility fares somewhat better as an interviewing determinant. The use of the responsibility variable as the initial predictor demonstrates the relatively stronger connection between this variable and interviewing in comparison with that of the CRO measure.

Alone, responsibility predicts close to 13 percent of the variance in interviewing behavior (B=.39, $p<.01$). Together with years of practice this variable describes some

TABLE 7-6

FACTORS INFLUENCING INTERVIEWING

	IV Standardized Regression Coefficients			Interviewing Regressions		
	CRO	Years Practice		R	$\bar{R}^2$	$\Delta\bar{R}^2$
a)	.294*	--		.294	.063	.063
b)	.177	-.316*		.415	.128	.065
	Responsibility	**Years Practice**	**Work Week**	R	$\bar{R}^2$	$\Delta\bar{R}^2$
a)	.385**	--	--	.385	.126	.126*
b)	.342*	-.339*	--	.511	.221	.095*
c)	.355*	-.367*	.221	.556	.252	.031

*p < .05

**p < .01

22 percent of the dependent variables' variance. In this instance, a weak correlation between years of practice and responsibility (r=-.12) results in little redundancy in explanation of the counseling variable.

Inserting the work week variable in the equation accounts for an additional, statistically insignificant, 3 percent of the variance. Although the increase in explained variance is small, it points out a tendency for pharmacists who work more hours to engage in more interviewing. As will be seen, this relationship is present to a greater extent with other counseling behaviors.

Approachability

Pharmacists who work longer hours are found to be more approachable during the encounters (Table 7-7). The correlation between work week and CRO is weak (r=-.10). Hence, controlling for CRO does little to modify this relationship with approachability (r=.37, p<.01). This implies that work week independently affects approachability. Holding the patient need variable constant indicates a comparable work week-approachability linkage (r=.35).

Subjects who have fewer clerks present are more approachable (r=.35)--with or without partialling out CRO. However, a positive correlation between this staffing variable and patient need (r=.25) and a substantially lower

TABLE 7-7

RELATIONSHIP BETWEEN BACKGROUND VARIABLES AND APPROACHABILITY

Variable[1]	Correlation with Approachability		
		Controlled for	
	Zero-order	CRO	Pt. Need
Yrs. Practice	-.246	-.160	-.162
Work Week	.330*	.374**	.350*
Staffing	.354*	.358*	.269
Employment Status	-.012	-.043	.044
Prescription Volume	.029	-.015	.021
Previous Setting Experience	.067	-.025	-.141
NARD Member	-.109	-.170	-.158
APhA Member	-.059	-.022	-.171

*$p < .05$

**$p < .01$

[1]See Table 7-4 for scoring of background variables.

staffing-approachability correlation when patient need is held constant, suggests the effect of staffing is mediated through patient need.

Years of practice also exhibits a tendency to be negatively associated with approachability (r=-.25, ns), but this relationship is attenuated (r=-.16) when controlling for either CRO or patient need.

Subjects' CRO is but moderately associated with approachability (r=.28), just as with interviewing behavior. CRO explains only about 5 percent of approachability variance when regressed on this variable (Table 7-8). Inserting both the work week (B=.47, $p<.01$) and staffing variables (B=.45, $p<.01$) in the regression accounts for a substantial 35 percent of the total variance on the dependent variable.

Staffing explains almost 19 percent of the variance by itself. When there are fewer personnel to potentially shield pharmacists from patient contact it is reasonable to infer that they are presented with a much greater opportunity to exhibit signs of approachability; so this finding is not unanticipated.

The correlation between patient need and approachability (r=.44, $p<.01$) is quite substantial in comparison to the CRO-approachability zero-order relationship. Interestingly though, patient need in combination with the same variables as above (work week, staffing) explains

TABLE 7-8

FACTORS INFLUENCING APPROACHABILITY

	IV Standardized Regression Coefficients				Approachability Regressions		
	CRO	Work Week	Staffing	Previous Exp.	R	$\bar{R}^2$	$\Delta\bar{R}^2$
a)	.280*	-	-	-	.280	.054	.054
b)	.314*	.360*	-	-	.455	.164	.110*
c)	.307*	.467**	.453**	-	.633	.351	.187**
d)	.273*	.473***	.459**	-.206	.665	.378	.027
	Patient Need	**Work Week**	**Staffing**	**Previous Exp.**	**R**	$\bar{R}^2$	$\Delta\bar{R}^2$
a)	.440**	-	-	-	.440	.172	.172**
b)	.428**	.314*	-	-	.540	.254	.082*
c)	.326*	.404**	.360*	-	.636	.354	.100*
d)	.217	.431**	.379**	-.254	.676	.395	.041

*p < .05

**p < .01

***p < .001

approximately the same amount of variation in subject approachability. The initial 17 percent variance that patient need explains is attenuated by the addition of subsequent variables, its standardized regression coefficient dropping to .22 (ns) when the previous experience variable is introduced in the equation. This effect is largely attributable to considerable explanatory redundancy arising from intercorrelations among the independent variables.

In both sets of equations, the inclusion of the previous experience variable explains little additional variance. Nonetheless, the negative relationship between a history of past work experience in chain or hospital settings and approachability is an interesting one. Interpretation of this tendency and the aforementioned finding of a positive association between work week and approachability is taken up in the discussion section, as similar relationships exist with respect to other counseling variables.

Verbal Instruction

Both year of practice ($r=-.38$, $p<.01$) and work week ($r=.29$, $p<.05$) show significant correlations with verbal instruction (Table 7-9). Holding CRO constant reduces the former relationship ($r=-.23$, ns), but the latter relationship emerges at a higher significance level ($r=.41$, $p<.01$). Partialling out patient need results in essentially no

TABLE 7-9

RELATIONSHIP BETWEEN BACKGROUND VARIABLES AND VERBAL INSTRUCTION

Variable[1]	Correlation with Verbal Instruction		
		Controlled for	
	Zero-order	CRO	Pt. Need
Years Practice	-.379**	-.231	-.305*
Work Week	.293*	.412**	.333*
Staffing	.202	.214	.055
Employment Status	-.007	-.075	.074
Prescription Volume	-.072	-.186	-.104
Previous Setting Experience	-.117	-.363*	-.475*
NARD Member	-.058	-.011	-.098
APhA Member	-.201	-.185	-.399**

*p < .05

**p < .01

[1]See Table 7-4 for scoring of background variables.

change in the correspondence between these background variables and verbal instruction.

There is a striking emergence of a negative association between previous experience and verbal instruction ($r=-.36$, $p<.05$) when controlling on CRO. Equally striking is the first-order correlation between previous experience and verbal instruction ($r=-.48$, $p<.01$) produced by holding patient need constant. CRO and patient need are both positively associated with previous experience ($r=.32$, $.44$), indicative of potential for change in the correlations between previous experience and the behavior variables when controlling on these attitudes. This same circumstance leads to the appearance of a more negative correlation between APhA membership and verbal instruction ($r=-.40$) with patient need controlled for.

These findings suggest that pharmacists who have previous practice-setting experience would furnish substantially less verbal instruction if they did not tend to hold positive attitudes toward counseling. Similarly, subjects who are APhA members generally feel that patients need information from them, but were this attitude constant across the population, APhA members would supply less instruction than was shown in the field study.

Table 7-10 shows that subjects' CRO scores alone account for some 27 percent of the verbal instruction variance ($B=.54$, $p<.001$). Including work week in the

TABLE 7-10

FACTORS INFLUENCING VERBAL INSTRUCTION

	IV Standardized Regression Coefficients				Verbal Instr. Regressions		
	CRO	Work Week	Staffing	Previous Exp.	R	$\bar{R}^2$	$\Delta\bar{R}^2$
a)	.540***	-	-	-	.540	.273	.273***
b)	.573***	.349**	-	-	.642	.380	.107*
c)	.568***	.415**	.278*	-	.696	.442	.062*
d)	.646***	.361**	.282*	-.259*	.736	.490	.048
	Patient Need	Previous Exp.	Work Week		R	$\bar{R}^2$	$\Delta\bar{R}^2$
a)	.574***	-	-		.574	.312	.312***
b)	.750***	-.427**	-		.694	.453	.141**
c)	.595***	-.426**	.254*		.732	.497	.044

*p <.05

**p <.01

***p <.001

regression (B=.35, p<.01) explains another 11 percent of the variance. The staffing variable also accounts for a significant portion of the variance (6 percent), while inclusion of previous experience in the equation adds another 5 percent (ns). All together, these variables explain almost 50 percent of the variance in the verbal instruction supplied by the pharmacists.

This same combination of variables is the best predictor of approachability (Table 7-8). However, the CRO measure's better explanatory power for verbal instruction effects a significantly larger $\bar{R}^2$ value (.38 vs .49, p<.05). This occurs even in the presence of larger regression coefficients for the work week and staffing variables in the case of the approachability equations.

Recall that patient need also displays a strong relationship with verbal instruction (r=.57). When regressed on this counseling variable, patient need explains 31 percent of the variance. The staffing variable is not shown to be a significant predictor of behavior in this set of regressions. However, the previous experience variable again exhibits a negative correspondence (B=-.43, p<.01), and together with patient need (B=.75, p<.001) explains a solid 45 percent of the dependent variable variance. Work week is a third significant variable in the prediction equation (B=.25). But it accounts for only an additional, insignificant, 4 percent of the variance. These

three variables explain almost 50 percent of the variance in verbal instruction, approximately the same portion accounted for by the four-variable CRO prediction-equation.

The lack of significance for inclusion of the encounter staffing variable is of some interest. Holding patient need constant reduces the zero-order correlation between staffing and verbal instruction from .20 to .05; whereas this correlation is not abated when CRO is partialled out (Table 7-9). This is explained possibly by the initially stronger zero-order relationship between patient need and staffing (r=.28) in comparison with that of CRO and staffing (r=.04). Consequently, it appears that pharmacists practicing with fewer clerks believe more patients need information, but this same staffing arrangement is not associated with higher practitioner CRO scores. As a result, staffing has an effect on verbal instruction independent of the latter variable but not the former.

In combination with both the CRO and patient need variables the subjects' work week and previous practice-setting experience display significant regression coefficients in relation to verbal instruction. While subjects working a longer work week are shown to furnish more extensive verbal instruction, having previous practice-setting experience denotes less instruction.

It was noted earlier that an interpretation of the relationships between these variables and counseling

behaviors will be presented in the discussion section. This discussion also will analyze further the link between APhA membership and counseling activity. Even though APhA membership emerged with a strong negative correlation with verbal instruction after controlling on patient need, this variable does not appear in the regression equations as an independent behavioral influence.

Interaction Time

Table 7-11 reveals that both subjects' years of practice and work week are moderately associated with the amount of time they spend communicating with patients. After partialling out the CRO and patient need measures, the work week variable continues to display this significant correlation. In addition, when holding patient need constant, both previous experience and APhA membership variables emerge with significant negative associations with interaction time--just as with the verbal instruction variable above.

Counselor Role Orientation accounts for close to 17 percent of the variance in interaction time (Table 7-12). Adding the work week variable explains an additional 12 percent of the behavioral variation. Supplemented with previous experience (B=-.24, ns), these variables accumulate a .35 $\bar{R}^2$ value.

TABLE 7-11

RELATIONSHIP BETWEEN BACKGROUND VARIABLES AND INTERACTION TIME

Variable[1]	Correlation with Interaction Time		
		Controlled for	
	Zero-order	CRO	Pt. Need
Years Practice	-.315*	-.185	-.226
Work Week	.265*	.342*	.295*
Staffing	.198	.201	.054
Employment Status	.139	.105	.249
Prescription Volume	-.149	-.243	-.196
Previous Setting Experience	-.018	-.184	-.331*
NARD Member	-.041	-.090	-.111
APhA Member	-.178	-.248	-.363*

*p <.05

[1]See Table 7-4 for scoring of background variables.

TABLE 7-12

FACTORS INFLUENCING INTERACTION TIME

	IV Standardized Regression Coefficients				Interaction Time Regressions		
	CRO	Work Week	Previous Exp.		R	$\bar{R}^2$	$\Delta\bar{R}^2$
a)	.435**	-	-		.435	.168	.168**
b)	.324*	.294*	-		.569	.287	.119*
c)	.329*	.309*	-.241		.634	.353	.066
	Patient Need	APhA Member	Work Week	Rx Volume	R	$\bar{R}^2$	$\Delta\bar{R}^2$
a)	.561***	-	-	-	.561	.298	.298***
b)	.625***	-.307*	-	-	.637	.373	.075*
c)	.623***	-.350**	.294*	-	.700	.448	.075*
d)	.573***	-.375**	.334**	-.254*	.741	.499	.051

*p <.05

**p <.01

***p <.001

The patient need factor, alone (B=.56, $p<.001$), as well as with other variables, is a better predictor of interaction time than the CRO variable and its set of explanatory regressions. An interesting development in the set of equations based on the patient need variable is the inclusion of APhA membership as the second strongest determinant of interaction time, accounting for more than 7 percent of the variance on entry (B=-.31, $p<.05$). The negative regression coefficient for the APhA variable signifies that members of that organization in this sample spend much less time counseling patients than non-members. As noted previously, this is unexpected in the fact of APhA's continuing endorsement of patient-centered activity.

A longer work week also is associated with increased interaction time, just as it is with other previously discussed counseling behaviors. Higher prescription volume is negatively related to the length of pharmacist-patient interactions, a finding not altogether unexpected. Patient need, along with these three background variables, exhibits relatively good explanatory power, accounting for 50 percent of the interaction time variance.

Written Instruction

No background variables are significantly correlated with the extent to which pharmacists supply written

instruction. Table 7-13 shows that holding CRO constant does not change this circumstance, although a more negative association emerges between prescription volume and this behavior (r=-.20, ns).

Outside of CRO, which accounts for 11 percent of the written instruction variance, none of the background variables explains a statistically significant portion of pharmacists' written instruction (Table 7-14). Placing the prescription volume variable in the regression results in only 1 percent additional variance explained.

These findings are in accordance with the investigator's belief that practice norms are present and reasonably well adhered to with regard to the provision of written instructions. As a result, neither attitude nor any of the background variables are particularly useful predictors of this activity. Even practice in higher prescription volume pharmacies, where one might visualize a tendency to skimp some on labeling, shows no significant differences on this behavior.

TABLE 7-13

RELATIONSHIP BETWEEN BACKGROUND VARIABLES AND WRITTEN INSTRUCTION

Variable[1]	Correlation with Written Instruction	
	Zero-order	Controlled for CRO
Years Practice	-.144	-.011
Work Week	-.026	.010
Staffing	-.098	.089
Employment Status	-.018	-.061
Prescription Volume	-.123	-.195
Previous Setting Experience	.072	-.051
NARD Member	-.013	-.157
APhA Member	-.177	-.160

[1]See Table 7-4 for scoring of background variables.

TABLE 7-14

FACTORS INFLUENCING WRITTEN INSTRUCTION

	IV Standardized Regression Coefficients		Written Instruction Regressions		
	CRO	Rx Volume	R	$\bar{R}^2$	$\Delta\bar{R}^2$
a)	.367*	-	.367	.112	.112*
b)	.395**	-.184	.409	.122	.010

*p <.05

**p <.01

Discussion

The CRO variable is reasonably successful in predicting pharmacists' counseling activity. The amount of dependent variable variance explained ranges from 5 percent on approachability up to 27 percent for verbal instruction. In combination with various background variables this attitude measure accounts for as much as 49 percent of the variance on verbal instruction, but only 12 percent of the difference in written instruction given. The patient need attitude-component is, perhaps, better at predicting approachability, verbal instruction, and interaction time--despite the fact that it is a single-item measure. Alone, this variable explains from 17 to 31 percent of the variance on these counseling behaviors.

The relative success of this variable may lie in the simplicity of its construction. Perceived patient need is a specific measure aimed at predicting a specific behavior. That is, it measures the subjects' attitude regarding the necessity of providing information to patients--which is essentially verbal instruction. It is noteworthy that this variable displays its highest correlations with verbal instruction (r=.57), interaction time (r=.56), and approach-ability (r=.44). It has been demonstrated that verbal instruction is closely related to interaction time (r=.86) and longer interactions present more opportunities to exhibit approachable behavior (r=.63).

The CRO measure, on the other hand, includes items that elicit subject perceptions regarding the effects of general situational factors in addition to items that obtain their more specific opinions about the provision of patient counseling. Although it is a scale specific to counseling, the CRO measure is general with respect to each of the counseling behaviors investigated in this study. The tendency for more specific attitude measures to be better predictors of specific activities has been verified repeatedly in the attitude-behavior literature.[7] It appears quite possible that this process occurred with these measures.

This same interpretation is applicable to the responsibility and ability variables. These measures are not as specific as patient need, however, because they are "contaminated" by two informational categories which actually concern interviewing behavior (check understanding or answer questions, monitoring compliance). Nonetheless, it is interesting to note that these variables also exhibit their largest behavioral variable correlations with verbal instruction.

Responsibility also manifests the strongest attitude measure association with interviewing, larger than that of CRO ($r=.39$ vs $.29$). This may arise from the effect of this measure's interview contaminant items.

The ability variable is only moderately related to each

of the counseling activities. Controlling on CRO indicates the measure carries essentially no unique explanatory power independent of the general CRO variable.

The investigator would like to believe that this is due to the fact that pharmacists generally have the necessary ability to counsel patients, thus validating arguments made earlier that basic counseling knowledge and ability is evenly distributed among pharmacists. This interpretation is supported by the Ability Index score distribution (Table 5-25), indicating most subjects assigned "very confident" ratings for each of the informational categories.

However, it is equally plausible that the measurement instrument was constructed in such a way so as to have reduced validity. Asking respondents to express the level of confidence in their ability to supply various information for most drugs may have negated the intended purpose of the measure, resulting in scores that do not adequately differentiate among pharmacist ability levels. In other words, a variable and liberal interpretation of the term "most drugs" could have lead to the uniformly high ability scores. Were it not for the few subjects with scores located toward the lower end of the frequency distribution, this measure would display less variation than any of the other attitude variables. This circumstance further indicates the measure may not sufficiently discriminate among respondents' confidence in their ability.

Finally, pharmacists may have been hesitant to admit to a lack of ability in certain areas, as this self-assessment quite likely approximated a "test" for the subjects, despite investigator assurances that no testing was intended.

While not wishing to dwell on this matter excessively, the bulk of the evidence leads one to believe that the measure is actually closely linked to the CRO variable. Indeed, it may be a major component. It also may be equally true that the basic knowledge and ability to furnish medication counseling is uniformly distributed among practitioners--especially that necessary to supply the type of counseling measured in the present study.

The reasoning behind this assertion is based on the belief that it is the pharmacists' perceptions rather than their actual counseling knowledge or abilities that are important.

Practitioners with more years of practice were found to have significantly less confidence in their ability ($r=-.42$) than those at the beginning of their careers. These older pharmacists account for most of the variation that does exist on the measure. It is obvious that the limited variation in pharmacists' scores on this measure results in any potentially significant relationship between this measure and counseling behaviors being severely attenuated--simply because there is little variation available to be applied for making predictions.

Thus, it appears that if the measure were constructed to better differentiate among younger pharmacists' perceptions of their ability to counsel, the index may have reasonable predictive strength. In any case though, the use of an ability/knowledge test is indicated for future investigations in order to separate the influence of pharmacists' actual and perceived ability status.

Although the major goal of this part of the investigation was to establish the extent to which role orientations link to behavior, the concomitant examination of various background variables' effects has proven quite valuable. Besides demonstrating the influence attitudes have on behavior, the regressions provide some insights regarding variables that should be focused on in future investigations. Now these background variables will be discussed in terms of the findings in the previous sections.

Years of practice exhibits a relatively strong negative correlation with each of the behavioral variables. This variable is an important determinant of the attitude measures, but the high degree of multicollinearity with these measures results in attenuation of its association with the behavior variables when controlling on attitudes.

Interviewing activity is the only variable for which years of practice ultimately proves to be useful for in explaining behavior. It is shown to be important in combination with both the CRO and responsibility variables

(Table 7-6). Regardless of their level on these attitude measures, older practitioners engage in less patient interviewing than younger practitioners.

It could be argued that interviewing is the one counseling activity that older pharmacists particularly tend to avoid. This behavior requires a concerted effort on the pharmacist's part to elicit responses from patients--something not necessitated, for example, in one-way communication of verbal instructions. But, even though this explanation is logical, other evidence mitigates against it.

Using verbal instruction again as an example, it is seen that the correlation coefficients of years of practice with interviewing and verbal instruction are conveniently the same (r=-.38); yet this background variable was not shown to affect verbal instruction. This appears to derive from three sources: 1) CRO is a better predictor of verbal instruction than interviewing time, maximizing the redundancy of years of practice in the regression on verbal instruction, 2) based on zero and first-order correlations, years of practice has no "competition" for inclusion in the regression on interviewing, and related to this, 3) limited variation in interview scores--more than 60 percent are zero --leads to less reduction in correlations with continuous variables (years of practice) as opposed to dichotomous variables (the rest), which are particularly affected by this circumstance.[8] Therefore, while not denying the

importance of years of practice as an influence on counseling practices, the circumstances surrounding its relationship with interviewing unusually highlight this association.

The exploratory regressions establish that the length of the pharmacists' work week is consistently linked to higher behavior scores. This variable exhibits significant regression coefficients in predicting approachability, verbal instruction, and interaction time--in combination with both CRO and patient need measures. Even without partialling out the attitude variables work week is significantly related to these counseling activities. This variable is correlated only weakly with these attitudes. This independence is demonstrated by the generally small changes in the attitude variable regression coefficients when work week is incorporated in the equations (e.g. Table 7-8).

There are at least two related explanations as to why this work week influence is present. In a sense, there is a single interpretation with two components; one has a structural/environmental basis, while the other is more of a personality-based explanation.

During the Phase I interviews, pharmacists were asked to estimate the percentage of their patrons they "knew." The subjects' response to this question (mean 65 percent) moderately correlates (r=.37) with the length of their work week. This hints that pharmacists who work more hours:

1) make a special effort to interact with their clientele, and/or 2) they come to know them as a result of more frequent contacts resulting from working longer hours.

Although pharmacy ownership bears no statistical link to either the counseling behaviors or attitude measures, pharmacists who work more hours tend to be owners (r=.33). This finding could be interpreted to represent a sign of business commitment on the part of certain owners. In other words, even though these subjects may not be particularly oriented toward counseling patients, they recognize the importance of interacting with the patient to develop clientele loyalty. In this context they spend more time talking with patients, furnishing advice, and generally trying to make a good impression (acting approachable) than they might otherwise be inclined to do. This philosophy of "talking to them enough so they'll come back" surfaced among some of the pharmacy owners who asserted during the personal interviews that pharmacy is a "people business" by nature and it must be practiced with this in mind.

The second explanatory component involves pharmacist choice, or self-selection. It is reasonable to believe that pharmacists who work longer hours frequently do so because they enjoy their contacts with the public. To the extent that practitioners have control over their work schedule, one would expect that pharmacists who like working with the public would opt for longer work weeks, regardless of

employment status.

This also could be considered an indicator of occupational commitment. A longer work week signals the central place of work in a person's life; whereas individuals less committed to pharmacy may tend to center their existence on outside activities, attempting to minimize their hours on the job.

The structural flip-side of this argument is that pharmacists working fewer hours are less likely to move beyond the basic prescription preparation functions because they tend to work with fewer ancillary personnel (r=-.24) and are in pharmacies of higher prescription volume (r=-.11).[9] Therefore, they may be pressed for the necessary time to engage in counseling activity. Finally, those pharmacists who are employees are likely to be influenced by any implicit policy of the employer that may discourage counseling.[10]

The relationship between previous practice-setting experience and counseling activity is both interesting and difficult to interpret. In Chapter Five it was shown that pharmacists who have worked in either hospital or chain settings tend to have higher CRO scores and perceive greater patient informational needs than pharmacists who have practiced in only the independent community setting. It also was noted that the location of subjects' major previous setting experience was, almost without exception, the same

as their first pharmacy job--it was usually their internship setting also.

Similar ANOVAs were performed on these practice experience settings with respect to each of the behavioral variables. None of the analyses exhibited significant differences by practice experience category. On this basis, it was decided to group the hospital- and chain-experienced practitioners together for the exploratory regression analyses. This step conserves a degree of freedom when considering variables in the regression equation.

Zero-order correlations between the previous experience variable and counseling activities demonstrate no consistent tendency. The interesting aspect of the previous experience-behavior variable relationships is that after controlling for the attitude measures previous experience emerges as negatively associated with behaviors, particularly in the case of verbal instruction. With this later variable the r-value drops from -.12 to -.36 with CRO controlled and to -.48 when holding patient need constant (Table 7-9). Consequently, in Table 7-10, previous experience is shown to have independent explanatory power for verbal instruction after partialling out the effects of the attitude variables. A similar influence is shown on pharmacist approachability and interaction time (Tables 7-8 and 7-12).

These negative associations of previous setting experience with counseling practices seem to emerge because

this background variable and the attitude measures mutually suppress one another. In other words, the positive correlation between CRO and previous experience (r=.32), indicating an overall tendency for pharmacists with other setting experience to have higher CRO scores, represents a portion of variance that is all irrelevant to the behavior predicted.

This is vividly demonstrated in Table 7-10 when predicting verbal instruction in both sets of equations. The initial regression coefficient for patient need of .57 jumps to .75 when previous experience is included in the equation; and previous experience enters the equation with a regression coefficient of -.43 compared to its zero-order correlation of r=-.12. While the clarity of the relationship is less certain because of additional variables already present, CRO as an initial predictor shows a regression coefficient increase from .57 to .65 and previous experience enters at B=-.26, up from r=-.12 initially. As mentioned, this same phenomenon occurs with both approachability and interaction time, but the variable does not explain a significant proportion of these behaviors.

Pharmacists who have practiced in hospital or chain settings, then, provide less verbal instruction than those who have only independent community setting experience. This finding has implications in terms of the behavioral permanence of early pharmacy socialization experiences. It is conceivable that these practitioners have carried a

counseling style from a prior practice setting to the current community setting.

This speculation is based on assumptions about hospital and chain pharmacy practice. It is suggested that patient advising differs by setting in that both traditional hospital and chain pharmacists spend less time interacting with the patient. In traditional hospital practice, the pharmacist is often isolated from patients; so, even if he has the time to counsel patients, the opportunities are limited. The chain practice environment is assumed to be less conducive to patient interaction based on the belief that the practitioner faces time pressures and often lack of management backing, both tending to minimize patient contacts. Thus, the hypothesis is that pharmacists working in these settings develop counseling habits--or non-habits, if you will--that continue in the independent community setting.

On the other hand, assertions regarding socialization must be balanced with consideration to the process of selection. That is, the individuals who have practiced in other settings may tend to be generally unhappy in pharmacy and/or of limited counseling ability, and their move to their present setting represents an attempt to find a position better suited to their needs and skills.

Acceptance of this explanation is discouraged on the basis of two circumstances. First, the positive association

of previous setting experience with perceived counseling ability (r=.30) suggests these pharmacists are confident of their counseling skills. Secondly, the finding that the subjects' prior experience ended from one to thirty years ago (mean 5 years), indicates these individuals probably are not "searching" for the right setting. Rather, it hints that the majority of these "setting-switchers" have settled into independent community practice.

Alternatively, it could be suggested that the Chapter Five finding that pharmacists with previous experience have higher CROs and patient need perceptions may represent artificially positive attitudes (in terms of the study measures) on the part of these individuals.

Hospital and chain practice is generally located in larger cities where the patient population is large enough to support these kinds of practice. These practitioners were likely to be exposed to more pharmacy-based information expanding on the pharmacist's patient-oriented role through professional meetings and interactions with pharmacists from other settings. Their current membership in APhA (r=.45) further reflects exposure to this patient-orientation exposure, as well as a general interest in pharmacy practice trends.

The CRO measure for this study was developed on the basis of responses to statements by students who had work experience in independent community pharmacies. In Chapter

Four it was observed that these item response distributions differed between students with no practice experience and those experienced in other settings. It is possible that the CRO measure and other attitude measures were responded to differently by study subjects with a wider range of practice experience. This explanation, of course, again assumes that considerable permanence in views is established from this experience--an assumption that much of the socialization literature questions.

The explanatory power of APhA membership status should not be thought of as significant, even though this variable demonstrates a consistent, albeit small, negative correlation with each behavioral variable. This variable is strongly correlated with previous experience, which in turn is negatively related to interaction time. This suggests the tendency for APhA members to interact less with patients is largely artifactual with respect to this background characteristic. APhA membership appears in Table 7-12 as a significant negatively related predictor of interaction time, by virtue of barely edging previous experience out of the regression after partialling on patient need ($r=-.36$ vs $-.33$).

As with the previous experience variable, APhA membership and patient need act as mutual suppressors, their effects on interaction time emerging under reciprocal control conditions (Table 7-11). However, this suppression

is slight because of the relatively small zero-order correlation between the two independent variables (r=.22, ns).

The staffing variable is indicated to be an important predictor of counseling behaviors. It has been pointed out that both approachability and verbal instruction are facilitated by a higher pharmacist-clerk ratio. In the case of verbal instruction, staffing only explains a significant amount of variance in conjunction with CRO, because a patient need correlation with staffing (r=.25) leads to a reduction of the staffing explanatory contribution when these variables are considered together.

Notable in its absence as a determinant of interaction time, specifically in conjunction with CRO, is this staffing variable. Although a trend in this direction is still evident, it is interesting that fewer non-pharmacist personnel is not significantly associated with longer pharmacist-patient interactions. Even though practitioners provide more verbal instruction when fewer clerks are present, they do not spend any more time doing so. This supports the hypothesis that pharmacists engage in a time allocation process. It is likely that in the limited staffing situation pharmacists have additional duties to perform; thus, they could feel pressured to ration out their time among patients.

Employment status is not present in any of the

exploratory regressions. Nor does this variable demonstrate any significant association with any of the counseling variables, showing only a slight tendency for employees to devote more time than employers interacting with patients (r=.14, ns).

Similarly, NARD membership is not indicated to be a useful behavior predictor. A priori reasoning suggests it should not be successful for explaining behavior because this organization is oriented primarily toward economic aspects of practice, its attempts to influence practitioners focusing on these kinds of issues.

Finally, prescription volume exhibits some explanatory power with regard to interaction time and written instruction, although in neither case does this variable explain a significant portion of the dependent variable's variance. These tendencies need no amplification other than to note that the behaviors with which higher prescription volume is negatively associated are exactly the ones that would be expected to be influenced by this variable.

Summary

The analysis in this chapter focused on exploration of pharmacist counseling behavior determinants. The most significant finding in terms of the study objectives is that pharmacist counseling attitudes are associated with their actual counseling behaviors.

The general CRO scale, as well as the attitude component measures, demonstrate good predictive validity in relation to counseling activities. Further, both the patient need and responsibility variables exhibit explanatory power independent of the general CRO measure. The reason behind the comparatively poorer performance of the ability measure in accounting for behavioral variance is uncertain. The solution may lie in conceptual and/or structural problems in the scale construction.

Each attitude measure accounts for its greatest amount of variance on the verbal instruction variable. This circumstance is believed to be due to the item composition of the measures. Indeed, patient need, a single-item measure, proved slightly better than the general CRO measure at predicting three of the five counseling activities. In this instance, the more behavior-specific nature of the patient need variable is believed to account for this better explanatory ability. This same explanation is advanced for the relatively strong relationship between the responsibility variable and interviewing activity. But nonetheless, the CRO measure proves to be the best predictor over the range of counseling behaviors.

A series of hierarchical regression equations were developed in order to determine: 1) the extent to which variance on the dependent variables can be accounted for, and 2) variables that potentially affect counseling

practices, over and above pharmacists' attitudinal orientations.

The regressions were least proficient in accounting for variation in the amount of written instruction furnished, with CRO being the only variable to explain a statistically significant proportion of the variance (11 percent). This general measure demonstrated little more ability to predict interviewing activity. CRO and years of practice each account for an insignificant 6 percent of the variance on this behavior. However, the responsibility variable, in combination with years of practice, predicts over 22 percent of the interviewing variance.

The relatively poor performance in predicting these behaviors is attributed to practice norms in effect for written instruction, resulting in relatively standardized behavior, and to the minimal amount of interviewing activity pharmacists engage in--another norm possibly. The lack of variation in the interviewing variable tends to reduce the explanatory power of all independent variables for these behaviors.

Findings regarding influences on the other three major counseling behaviors tend to be quite similar. Using either CRO or patient need as the initial independent variable proves equally successful in predicting approachability, verbal instruction, and interaction time. These total regressions explain almost 40 percent of the variance in

approachability, about 50 percent in verbal instruction; and for interaction time the final CRO equation accounts for 35 percent compared to 50 percent of the variance explained by the patient need final regression.

These regressions for approachability, verbal instruction, and interaction time, identify more or less the same set of background variables as significant behavioral determinants. A longer work week is positively associated with each of these counseling activities. Having previous practice-setting experience has a generally weak, but consistent, negative influence on these three behaviors. And, fewer clerks in the prescription area is positively correlated with, and appears important for, the explanation of pharmacist approachability, and to a lesser extent the level of verbal instruction furnished.

Even though these data analyses were carried out in a conservative statistical manner, a degree of caution must be used in interpreting the findings. Specifically, a small sample size, complicated by multicollinearity among variables necessarily casts suspicion on the exact strength of any relationships found--although not necessarily on their relative size. The goal in exploratory research is not to obtain conclusions as such, but to develop hypotheses to be tested in subsequent investigations. In this regard the analysis has proven successful.

FOOTNOTES

1. This follows the procedure described by Jacob Cohen and Patricia Cohen in Applied Multiple Regression/Correlation Analysis for the Behavioral Sciences (Hillsdale, N.J.: John Wiley and Sons, 1975), pp. 91-104.

2. Ibid., p. 102.

3. Norman Nie et al., Statistical Package for the Social Sciences, Second edition (St. Louis: McGraw-Hill Book Co., 1975), p. 358.

4. Cohen and Cohen, p. 157.

5. Ibid., p. 159. For example, the authors note that with five dependent variables and twelve independent variables (approximately the same number as the present study), even if none of the 60 coefficients were actually significant, the probability of finding one or more significant relationships approaches unity ($p < .05$).

6. Ibid., p. 48. In any case, it has been shown that even fairly substantial departures from these assumptions result in little error in conclusions derived if the data are treated as if the assumptions were valid.

7. H. Schuman and M. Johnson, "Attitudes and Behavior," in Annual Review of Sociology, vol. 2 (1976), pp. 161-207.

8. Cohen and Cohen, pp. 59-67.

9. Note that fewer ancillary personnel by itself is associated with more counseling. But in this circumstance it is reasonable to speculate this would not be the case.

10. None of the pharmacist employees, or employers, for that matter, admitted to the existence of any store-wide counseling policy during the interview phase. Those employees who were asked all stated that they had free rein to counsel as they wished. It would be expected, however, that certain unspoken expectations are transmitted from owner to employee, perhaps not even consciously.

CHAPTER EIGHT

SUMMARY AND CONCLUSION

This initial exploration of pharmacists' medication counseling role orientation and their behavior in that role raises as many new questions as it supplies answers to existing ones. However, this is a good indicator of a successful investigation. In the following pages the study findings are summarized, limitations of the investigation are presented, and some of the implications for research, practice, and theory development are discussed.

Summary of Findings

The purpose of this study has been adequately fulfilled. The research goal was to investigate three general questions regarding the pharmacist's patient medication counseling role (see page 13). These questions focused on pharmacist counseling attitudes, their counseling practices, and the relationships between these attitudes and behaviors.

Pharmacist Counseling Attitudes

It is clear that there is considerable variation among

pharmacists in the way they view the patient counseling role. Pharmacist attitudes, or self-expectations, were examined on two levels. On a general level it was shown that practitioner attitudes may be differentiated, in terms of positive and negative role orientations, through the application of a Counselor Role Orientation scale. This CRO scale was developed specifically for this investigation. The developmental process employed procedures designed to overcome difficulties associated with many prior attitudinal measures.

Although the CRO measure adequately differentiates between pharmacists' role orientations, it was not intended to delineate the specific attitude components most influential in shaping these role orientations. This second level of exploration was undertaken from data collected during in-depth interviews with forty pharmacists who practice in independent community pharmacies. These pharmacies are situated in rural locations, over a six county area in the state of Wisconsin. These interviews supplied both qualitative and quantitative data relating to pharmacists' views regarding their medication counseling role.

Analysis of these data indicates that pharmacists with high CRO scores are influenced by a different constellation of self-expectation sources than are pharmacists scoring lower on the CRO scale. However, the differences between groups are not absolute. There is considerable attitudinal

variation within high and low CRO groups as individuals' role orientations are uniquely structured.

Nevertheless, subjects' views cluster together, forming an attitude profile for pharmacists in each CRO group. The attitudes expressed by low CRO subjects revolve around a basic orientation which focuses on physicians as a primary expectation source. For these pharmacists, physicians' expectations are perceived as dictating a limited pharmacist counseling role. This perception is associated with a preferred style of patient interaction which features a desire to avoid most medication counseling, a dislike for providing specific answers to patient questions, and a general unwillingness to deal with patient medication problems. This approach represents a strategy of withdrawal from the sphere of activities which are associated with patient-oriented practice.

In contrast, high CRO subjects exhibit more of a patient orientation in their views. These pharmacists express the belief that they have a certain degree of personal responsibility for meeting patients' needs. But they also indicate that this attitude is not necessarily manifested through an active counseling approach. Rather, these pharmacists tend to take the initiative only in situations where they perceive that the patient requires counseling. Otherwise, most observe that their general tendency is to wait for patient expressions of need, usually

in the form of questions directed to the practitioner.

Once the patient initiates contact, these pharmacists, as opposed to the low CRO scorers, state that they actively respond to the patient's concerns. This problem-solving activity is often carried out in the face of difficulties (e.g. diagnostic uncertainty) considered by many low CRO scorers to be practically insurmountable.

The qualitative interview data serve to identify particularly influential determinants of pharmacists' CRO structure, but not the relative contributions of these components. This task is beyond the scope of the present study. However, quantitative measures of attitude components obtained during the subject interviews furnish some clues in this regard. Although some exhibited insufficient variation for statistical analysis, measures of pharmacist-assigned counseling responsibility, confidence in counseling ability, and perception of patient need for instruction all correlate highly with practitioners' CRO scores. These relationships indicate these components are some of the basic determinants of pharmacists' CROs--a finding not at all inconsistent with the qualitative data.

Pharmacist Counseling Behavior

For each subject data were collected on two encounters with trained observers. These data consist of the counseling subjects supplied for standardized Actifed and

tetracycline prescription orders presented for dispensing by the observers. Pharmacists' counseling activity was determined on each of five major behavioral dimensions.

The findings show that the subjects' counseling is quite uniform on the interviewing and written instruction dimensions. They display somewhat more variation in their approachability, efforts at verbal instruction, and time spent interacting with the observer.

The uniformity in patient interviewing arises from a general lack of activity in this area by practitioners. Over the two encounters, a full sixty percent of the subjects solicitated no information to identify potential drug utilization problems or to assess patient understanding. Less than twenty percent of the subjects made at least one interviewing inquiry of both observers.

Somewhat mitigating this low level of activity is the finding that in some cases interview information was made available through the efforts of other pharmacy personnel who prepared patient profiles. Some type of patient record was prepared for 62 of the 80 encounters. Twenty-three of these profiles included what is considered to be interview information.

In contrast to the uniformly low level of interviewing subjects engaged in, the limited variation in written instruction is due to consistently high scores on this measure. This signifies the long-established practice norm

of transferring instructions from prescription orders to prescription labels as they are written.

Overall, practitioners supplied more written instruction for tetracycline orders than for Actifed orders. This difference is attributable to additional information furnished for tetracycline prescriptions--over and above that which is on the prescription order--primarily in the form of auxiliary labels. Even this added tetracycline instruction seems to reflect an emerging normative tendency in that many subjects stated, when interviewed, that they routinely utilize auxiliary labeling for antibiotics and other "crucial" medications.

Pharmacist approachability scores indicate the average practitioner, while not overly attentive to this aspect of his behavior, emits positive signals to patients. Further, the subject's receptivity to the patient is most likely understated as a result of study protocols limiting observer-initiated conversations. The pharmacist spoke to the observer during 73 of the 80 encounters, and he personally presented the completed prescription to the observer in 58 instances. This indicates practitioners do make themselves accessible to the patient. These findings, in conjunction with the prevalent subject belief that if patients desire advice they will ask for it, suggest that lifting the restriction on observer inquiries would result in practitioners exercising the opportunity to express a

higher level of approachability.

Although pharmacists supplied some verbal instruction during 70 percent of the encounters, it is evident that the average practitioner furnishes relatively little verbal information. Much of the instruction given amounts to mere repetition of the prescription label.

Subjects supply more verbal information regarding tetracycline than Actifed. Just as in the written instruction dimension, this difference is accounted for by additional instructions furnished which do not appear on the prescription order. Again this suggests that some practitioners construct verbal presentations based on their belief that patients require supplementary information for certain medications.

Pharmacist-patient interaction time is highly correlated with the verbal instruction measure. Most of the encounter is devoted to this activity. This is not unexpected considering that little interviewing is engaged in and extensive "small-talk" is limited by field protocols calling for a passive observer.

Subjects averaged less than 20 seconds per encounter talking with observers. Interestingly, this time does not differ by medication. This suggests a time allocation process is operating, whereby the pharmacist spends a certain amount of time interacting with each patient regardless of the extent to which professional counseling is

involved. It is reasonable to speculate that this circumstance is also a function of the "wait for questions" stance taken by a significant majority of subjects. In other words, the evidence suggests that the practitioner initially makes himself available to the patient. Lacking any patient inquiry, he departs after delivering his standard presentation.

Relationships Between Attitudes and Behavior

The results of this investigation demonstrate that pharmacists' attitudes toward prescription medication counseling are related to their actual behavior. Specifically, CRO scores are significantly related to each of the five counseling dimensions. The three quantitative CRO attitude components--perceived counseling responsibility, belief regarding patient needs, and confidence in ability--demonstrate their strongest associations with verbal instruction behavior. The responsibility and patient need variables also show significant zero-order correlations with each of the other four counseling activities.

After CRO is controlled for, patient need is still significantly related to approachability, verbal instruction, and interaction time. Under the same control condition, the first-order responsibility correlation with interviewing behavior is significant. No component variables' partial correlation with written instruction was found to approach

statistical significance. The significant relationships indicated above demonstrate that these variables each tap specific attitude dimensions which have explanatory power independent of the general CRO measure.

Exploratory regression analysis was employed to determine the extent to which pharmacists' attitudes, alone, and in conjunction with background variables, are able to explain variation in their counseling behaviors. A goal in this analysis was the identification of influential behavioral determinants variables which should be focused on in future investigations.

By itself the CRO measure accounts for between 5 and 27 percent of the behavioral variance on the five counseling dimensions. It is the best predictor over the range of pharmacist counseling activities. Combined with various background variables, it successfully explains as much as 49 percent of the difference in verbal instruction supplied, down to as little as 12 percent of the variance in written instruction furnished.

The patient need variable is a slightly better predictor of approachability, verbal instruction, and interaction time than the CRO measures. Similarly, the responsibility measure explains more variance on interviewing than the general measure. This suggests these relationships should be further analyzed in expanded research.

Having been in practice for a greater number of years

is negatively related to each of the counseling activities. Because this background characteristic also demonstrates similar negative correlations with the attitude measures, its relationships with the behavioral measures are attenuated when the attitudes are held constant. As a result, this variable makes a significant contribution only when combined with the responsibility variable as a predictor of interviewing behavior.

After taking the attitude variables into account, no other background characteristic proves useful for explaining additional variance in either interviewing activity or written instruction provided. It has been suggested the relatively poor performance in predicting these behaviors is attributable to the limited variation present on both these variables.

Regressions for approachability, verbal instruction, and interaction time all point to a similar set of background characteristics as significant behavioral predictors. Past work experience in either a hospital or chain pharmacy setting is negatively associated with each of these behaviors. Similarly, pharmacists who work a longer work week engage in more counseling activity in each of these three dimensions. Finally, the presence of fewer clerks in the prescription counter area is shown to be positively related to pharmacist approachability and the amount of verbal instruction supplied. The relationships involving

each of these background variables should be formally confirmed and elaborated on in future studies.

Study Limitations

Any study has limitations which must be considered when collecting and analyzing data, drawing conclusions, or making generalizations from findings. Several potential problems already have been discussed in the context of offering solutions to minimize their effects. These and other general limitations relevant to the present investigation are summarized below.

One group of limitations derives from the relatively small number of pharmacists studied. This was anticipated, even mandated by the investigator's desire to gather extensive qualitative interview data. This dictated a manageable sample in terms of both time and monetary investments.

A resultant difficulty is the "fragility" of relationships identified. It takes relatively few errors in subject responses, data coding, or investigator interpretation to significantly alter the research findings. The obvious strategy to minimize this problem lies in the care the researcher takes in carrying out each study phase. It is hoped that the attention given to this problem was adequate to prevent such errors.

Also following from the sample size limitation is a

restriction on the number of quantitative variables that can be simultaneously explored as well as the extent to which the influence of variables extraneous to the study focus can be controlled for.

Natural controls on variables, through sample selection and observer protocols, were employed to minimize the effects of extraneous variables. These controls involve some trade-off in terms of the generalizability of findings. However, the protocols and sampling controls were used to isolate the more common practice situations, and they appear to have been effective in doing so. Nevertheless, caution must be used in generalizing any findings to pharmacist populations or encounter conditions beyond those specified in the investigation.

A second general limitation involves the instrumentation and data collection procedures. The CRO scale was designed only to differentiate between positive and negative role orientations. Given the exploratory nature of the research and the limited knowledge about the linkage between pharmacist attitudes and behaviors this approach is justified. Yet, a role orientation instrument comprised of items selected on the basis of pharmacy practitioner (rather than student) responses and constructed on the basis of different statistical criteria would greatly facilitate analysis of the component attitudes. The analysis of separate indicators for these component views suggests they

vary in their importance for structuring the subjects' CROs. But a lack of standardization renders them either difficult to compare (e.g. the relative influence of perceived responsibility versus patient need) or not interpretable due to a lack of response variation (e.g. the physician expectation measure).

These difficulties were attenuated through analysis of the extensive qualitative data collected. Excellent rapport established with the subjects led to their forthright and often detailed observations regarding the several attitude components of interest. However, this brings into question the extent to which assumptions regarding the effects of the data collection process are tenable.

While it cannot be concluded with absolute certainty, it is assumed that the interviewing process had no significant influence on pharmacists' subsequent behavior. Attitudes tend to be resistant to change. In this case there is no reason to suspect that a single encounter with the investigator altered the pharmacists' views. Further, the time-lapse between collection of the attitude and behavior measures was designed to be long enough to avoid a possible "Hawthorne expectancy effect," yet short enough to allay concern regarding changes of a historical nature.

In short, the extent to which the limitations of this study significantly affect the research findings and conclusions are believed to be minimal. Nonetheless, the

problems identified above indicate gaps that should be tightened up in future investigations in this area.

Some Issues for Theory and Research

This investigation demonstrates both the variability among pharmacists' counseling attitudes and the importance of these attitudes as a behavioral influence. In addition, a baseline measure of pharmacist counseling activities for two medications has been determined. Now research should be undertaken to advance our knowledge beyond this initial point. A number of unresolved issues related to pharmacist counseling remain to be addressed. Several are suggested from the findings in this study. Six of these general issues future investigations should focus on are summarized below.

First, there is a need to accurately determine the relative behavioral influence of the several attitude components comprising pharmacists' role orientations. By indicating the potentially strong determinants of counseling activity, this study provides a basis from which to develop refined attitude measures.

However, to construct such measures, the elements structuring pharmacists' CROs require conceptual refinement. For exploratory purposes our general role framework has been adequate, but further specification is necessary to progress beyond these initial findings. We must be able to

differentiate between attitudes arising from the various expectation sources. To do this, the relationships among role orientation components should be analyzed from a framework developed in greater detail.

A second group of issues that should be focused on in future studies are the processes of development, maintenance, and change in counselor role orientations. There has been little research concerning the effects of prior socialization upon adjustment to expanded occupational roles or the socialization processes that occur as new role activities are assumed. The obstacles in conducting the longitudinal research necessary to explore these kinds of questions are widely known, but the effort required to overcome them appears well worth while.

We have suggested the socialization process within the pharmacy educational system is ineffective at developing uniform role orientations among graduates. Nonetheless, one might ask whether the views new practitioners begin with are altered over time. On the basis of some subjects' comments, it could be hypothesized that unpleasant experiences with patient counseling (e.g. "getting burned") have resulted in the emergence of negative self-expectations for the counseling role. Conversely, rewarding patient encounters may encourage development of more positive counseling attitudes.

However, other data from this study indicate the sample

pharmacists feel patients are not that important as a current expectation source. It has been observed that socialization processes are most intense and effective immediately following the transition from education to work; but it is also widely assumed that socialization continuously occurs throughout the work history.[1] The somewhat unexpected relationships between previous practice experience--generally subjects' first job--and both role orientation and behavior suggest that the study pharmacists' basic attitudes may be crystallized during this initial work experience. Were this possibility empirically verified it could explain the seemingly contradictory findings noted above.

It also could be speculated that growing patient demands for medication counseling will alter pharmacists' role orientations. Perhaps pharmacists have not as yet been subject to expectations sufficiently intense to challenge long-held attitudes. In any case, it is clear the relative influence of various reference groups, as well as other self-expectation sources should be examined for changes over time.

Third, to further the elaboration process regarding the determinants of pharmacist counseling behavior, additional variables must be assessed in terms of their contribution to, or modification of, the relationships identified in this study. It must be assumed other factors impinge on these

relationships.

If one controls or otherwise neutralizes additional factors that are believed to influence behavior, one cannot be content with the conclusion that variance in the dependent variable is the result of the independent variable. While important, this kind of finding risks structuring and generalizing "reality" from a single context. A full range of possible pharmacist, patient, and system influences should be incorporated in a comprehensive multivariate analysis if the theoretical and practical significance of these initial findings is to be ascertained.

As an example, this study employed protocols calling for minimal observer participation in the encounter. Even though it was suggested that a passive observer might be representative of a patient majority, it cannot be concluded that the patient's influence on pharmacist behavior is any less significant than the influence of the pharmacist's counseling orientation. This hypothesis is still very much an empirical question. Indeed, practitioner comments indicating the importance of patient inquiries in facilitating interaction suggests the counseling process should be further investigated.

To conduct expanded multivariate analysis on the determinants of counseling behavior, the role perspective employed in the present study may need to be broadened. As presented, the framework focuses on pharmacist role

orientation--a relatively stable construct--as the primary independent variable. While not ignoring this framework's structured aspects, it is necessary that expanded analysis of pharmacist-patient encounters includes process-related variables. This implies a broader conceptual scope, incorporating the interplay of patient and pharmacist expectations in explanations of behavior.

The demonstrated utility of the methodology employed in this study points to a fourth priority researchers should address themselves to. The reliability and simplicity of the method, along with its apparent versatility, suggests this technique for determining actual behavior overcomes many methodological problems of previous studies.

The baseline measure obtained from this study is important for monitoring changes in pharmacist counseling practices over time. Now, there is a need to expand this kind of research to examine behavior with respect to other medications, practice settings, and type of counseling (e.g. over-the-counter medications). Findings from both this study and the pharmacy literature suggest that behavior may differ on each of these variables.

A fifth group of issues involves the application of these preliminary findings to pharmacy education and practice. In other words, we might ask what can be done to instill or develop attitudes that lead to a greater involvement in patient counseling by pharmacists? Although

the process is sometimes difficult, research indicates that new attitudes can be systematically developed, resulting in subsequent behavioral changes.[2] Such projects might be implemented in the classroom or in actual practice settings.

An emphasis on attitudinal learning should be accompanied by continuous evaluations of educational interventions. Evaluations of "natural experiments" conducted in the field are particularly necessary research undertakings. In addition to evaluating the effects of specific learning techniques such as role playing, classroom education might also concentrate on exposing students to expectations for counseling held by others in their role-set. For example, it is reasonable to speculate that integration of medical and pharmacy education will sensitize both professions to the benefits accruable through better patient counseling and the complementary nature of the two professions' counseling roles.

Although emphasis on attitudinal learning may bring about positive results by itself, pharmacy school recruitment efforts might be directed toward encouraging applicants who hold attitudes indicating a basic orientation congruent with the patient-oriented role being promoted. This effort may benefit both students and pharmacy schools, as it has been found that entrants into professional schools who have correct images of the occupational role they are preparing for are more successful than other students in the ensuing

socialization process.[3] The use of refined attitude measures in this type of program suggests multiple research applications centered on the student selection and retention processes.

Finally, a sixth set of issues relate to an underlying assumption of this study. We have assumed that pharmacist counseling enables the patient to utilize medications with greater safety and efficacy. This outcome question remains to be fully investigated.

Counseling quality was not an issue in this investigation. Our earlier discussion implies that once standards are established or expectations become shared, analysis of behavior necessarily includes a qualitative component. However, we have observed that counseling alone, even quality counseling, may not be sufficient to ensure proper drug utilization. Based on other research we could speculate that some level of pharmacist approachability is also necessary to facilitate positive patient outcomes. Or, possibly in-depth counseling on a particular dimension, or a combination of dimensions, is crucial to effect desired patient behavior (e.g. written instruction supplemented by verbal instruction). These are questions which must be addressed, as the value of any activity is ultimately proven through the accomplishment of its intended outcomes.

Conclusion

This investigation is an early benchmark that serves to advance our understanding of pharmacist medication counseling. It is believed the demonstrated relationships between pharmacists' role orientation and behaviors demand that researchers integrate practitioners' counseling attitudes in any conceptual framework explaining pharmacist-patient interaction. It also is believed that the utility of the study's behavioral measures has been proven.

The results of this study show there is much work remaining to be accomplished in this fertile research area. This is by no means an easy task, but a foundation has been laid to build upon. It is anticipated that extension of our knowledge will further emphasize the necessity of understanding pharmacist-patient interactions. And, most importantly, it is sincerely hoped these and future findings will be translated into pharmacy practice applications designed to benefit the patient.

FOOTNOTES

1. J. Mortimer and R. Simmons, "Adult Socialization," Annual Review Sociology 4 (1978):441.

2. For an overview of the attitude change literature, see Samuel Himmelfarb and Alice Eagly, eds., Readings in Attitude Change (New York: John Wiley and Sons, 1974).

3. C. R. Wright, "Changes in the Occupational Commitment of Graduate Sociology Students: A Research Note," Sociol. Inq. 37 (1967):55-62.

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APPENDICES

APPENDIX A

PRELIMINARY ATTITUDE INSTRUMENT

PHARMACY STUDENT QUESTIONNAIRE

Please take the time to fill this out (accurately). Use pencil only. Hand in the questionnaire and answer sheet to your instructor when completed.

I. Fill in the circles corresponding to your Social Security number in the spaces provided. Your name will not be matched with your number.

II. Answer the following in the "special codes" section of the answer sheet.

A. Internship experience setting (3 or more months completed):

0 - none
1 - independent community
2 - clinic or prescription
3 - chain
4 - hospital or institutional
5 - two or more of the above

B. Externship setting (one semester completed):

0 - none
1 - independent community
2 - clinic or prescription
3 - chain
4 - hospital or institutional

III. Read each of the following statements and assign a letter from A through E depending upon your degree of agreement with the statement. Honest responses are extremely important. The letters are to be assigned on the answer sheet as follows:

A : strongly agree
B : agree
C : uncertain
D : disagree
E : strongly disagree

Code Letters:

A	B	C	D	E
Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree

1. Most patients take their drugs according to instructions.
2. The physician is better qualified than the pharmacist to advise patients about their medications.
3. From a legal standpoint, talking to patients about their medications is risky.
4. The pharmacist should not discuss drug interactions with the patient.
5. It takes too much time to counsel patients on the medications they receive.
6. There is enough privacy in a pharmacy to discuss a patient's medications with him/her.
7. Physicians expect the pharmacist to advise their patients about the medications they prescribe.
8. It is rewarding for the pharmacist to discuss a patient's medications with him/her.
9. Telling patients how to use their prescription drugs is a waste of time.
10. Prescription drugs are generally safe enough so that patients should not need advice about their usage from the pharmacist.
11. Pharmacists do not know enough about drug therapy to enable them to discuss a patient's medications with him/her.
12. A patient-oriented communications course should be included in the pharmacy school curriculum.

A	B	C	D	E
Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree

A Strongly Agree	B Agree	C Uncertain	D Disagree	E Strongly Disagree

13. Most patients receive the information they need about their medications.

14. Pharmacists should advise patients on the proper use of prescription drugs.

15. A pharmacist should rely on the physician to tell the patient everything he should know about his medications.

16. Discussing medications with patients is of minor importance in the practice of pharmacy.

17. A medication's contraindications should be provided to the patient by the pharmacist when requested.

18. Physicians should have all the legal responsibility for counseling patients about their drugs.

19. Given the layout of most pharmacies, it is impractical to discuss a patient's drugs with him/her.

20. The patient should not expect to be told by the pharmacist about his/her prescription medications.

21. Most physicians expect pharmacists to reinforce the label instructions of prescription medications.

22. Pharmacists usually have plenty of time to talk to patients about their medications.

23. Pharmacists have an economic incentive to counsel patients on the proper usage of prescriptions they receive.

24. It is frustrating for the pharmacist to discuss a patient's medications with him/her.

25. A pharmacist who gives advice to patients about prescription drugs hurts his/her relationship with the physician.

A Strongly Agree	B Agree	C Uncertain	D Disagree	E Strongly Disagree

A Strongly Agree	B Agree	C Uncertain	D Disagree	E Strongly Disagree

26. There should be more interaction between the pharmacist and the patient.

27. Pharmacists should have the knowledge to enable them to discuss potential drug interactions relevant to a patient's medications with him/her.

28. Patients need to know only what their doctor tells them about their prescription drugs.

29. Answering patients' questions about their prescription medications should not be the pharmacist's responsibility.

30. Physicians should leave all patient discussion of prescribed medications to the pharmacist.

31. The discussion of prescription drugs with patients is financially unrewarding for the pharmacist.

32. There should be more time available in which to instruct patients about their drugs.

33. Most patients are not concerned about receiving advice from the pharmacist, but rather quick and inexpensive service.

34. Pharmacists are too busy to advise patients on the proper use of prescription drugs.

35. Advising patients about their medications is boring for the pharmacist.

36. Pharmacists should have the ability to communicate effectively with patients about their medications.

37. The pharmacist should not discuss a patient's medications with him/her because it will only scare him/her.

A Strongly Agree	B Agree	C Uncertain	D Disagree	E Strongly Disagree

A Strongly Agree	B Agree	C Uncertain	D Disagree	E Strongly Disagree

38. The pharmacist should primarily fill prescriptions for patients, not instruct patients as to their use.

39. When a patient wishes to know more about his/her prescription drugs, he/she should ask his/her pharmacist.

40. There are too many distractions in a pharmacy to advise a patient properly about his/her drugs.

41. Since most pharmacists are not paid for advising patients, they should not be expected to devote much time to this type of activity.

42. Pharmacists should spend more of their time discussing drugs with their patients.

43. A large amount of counseling about prescription drugs hurts the pharmacist-patient relationship.

44. The pharmacist provides a valuable service for his patients by answering their questions about medications.

45. Pharmacists know most of their patients well enough to enable them to counsel the patients on their prescriptions.

46. It is not essential that the pharmacist have the ability to advise patients about potential side effects that their drugs may cause.

47. Patients do not take advice they receive from the pharmacist about the medications they are taking.

48. A properly prepared prescription label contains all the information about a drug that the patient should receive from the pharmacist.

49. There should be legal restrictions on what the pharmacist is allowed to tell patients about their medications.

A Strongly Agree	B Agree	C Uncertain	D Disagree	E Strongly Disagree

A Strongly Agree	B Agree	C Uncertain	D Disagree	E Strongly Disagree

50. The pharmacist should warn the patient about any medication side effects that may endanger the patient's health.

51. The pharmacist should be legally responsible for making sure the patient understands how to properly use his medications.

52. Pharmacists should not allow clerks to take their place in advising patients about their medications.

53. If the action of a drug may be affected by certain food(s) or beverages, the pharmacist should inform the patient about it.

54. It is unethical to discuss with a patient the therapeutic purpose of his/her prescription.

55. Many physicians do not want the pharmacist to discuss therapeutic rationale, drug interactions, or side effects with patients.

56. Clerks should be trained by pharmacists to advise patients on the proper use of certain commonly prescribed drugs.

57. The pharmacist should warn the patient about medication side effects which may cause minor inconveniences or discomfort for them.

58. A patient should have the right to receive complete instructions for the proper use of his/her medications.

59. Most pharmacies have a relaxing atmosphere that encourages patients to ask the pharmacist for advice about their medications.

60. Physicians do not expect the pharmacist to discuss a patient's medications with the patient.

A Strongly Agree	B Agree	C Uncertain	D Disagree	E Strongly Disagree

A Strongly Agree	B Agree	C Uncertain	D Disagree	E Strongly Disagree

61. It is enjoyable for the pharmacist to talk to patients about the proper usage of their drugs.

62. Pharmacists should disregard the Wisconsin law requiring patient consultation on all medications.

63. Pharmacists have an economic incentive to advise patients on their medications.

64. Most patients would like to receive more information from the pharmacist about their prescription drugs.

A Strongly Agree	B Agree	C Uncertain	D Disagree	E Strongly Disagree

APPENDIX B

FINAL COUNSELOR ROLE ORIENTATION SCALE

Code Letters:

A Strongly Agree	B Agree	C Uncertain	D Disagree	E Strongly Disagree

____ 1. Most patients take their drugs according to instructions.

____ 2. The physician is better qualified than the pharmacist to advise patients about their medications.

____ 3. It takes too much time to counsel patients on the medications they receive.

____ 4. There is enough privacy in a pharmacy to discuss a patient's medications with him/her.

____ 5. A patient-oriented communications course should be included in the pharmacy school curriculum.

____ 6. A medication's contraindications should be provided to the patient by the pharmacist when requested.

____ 7. Most physicians expect pharmacists to reinforce the label instructions of prescription medications.

____ 8. Pharmacists have an economic incentive to counsel patients on the proper usage of prescriptions they receive.

____ 9. Physicians should leave all patient discussion of prescribed medications to the pharmacist.

____ 10. Most patients are not concerned about receiving advice from the pharmacist, but rather quick and inexpensive service.

A Strongly Agree	B Agree	C Uncertain	D Disagree	E Strongly Disagree

A Strongly Agree	B Agree	C Uncertain	D Disagree	E Strongly Disagree

____ 11. Pharmacists know most of their patients well enough to enable them to counsel the patients on their prescriptions.

____ 12. It is not essential that the pharmacist have the ability to advise patients about potential side effects that their drugs may cause.

____ 13. A properly prepared prescription label contains all the information about a drug that the patient should receive from the pharmacist.

____ 14. There should be legal restrictions on what the pharmacist is allowed to tell patients about their medications.

____ 15. The pharmacist should warn the patient about any medication side effects that may endanger the patient's health.

____ 16. The pharmacist should be legally responsible for making sure the patient understands how to properly use his medications.

____ 17. It is unethical to discuss with a patient the therapeutic purpose of his/her prescriptions.

____ 18. Many physicians do not want the pharmacist to discuss therapeutic rationale, drug interactions, or side effects with patients.

____ 19. Clerks should be trained by pharmacists to advise patients on the proper use of certain commonly prescribed drugs.

____ 20. Most pharmacies have a relaxing atmosphere that encourages patients to ask the pharmacist for advice about their medications.

A Strongly Agree	B Agree	C Uncertain	D Disagree	E Strongly Disagree

APPENDIX C

PHASE I INTERVIEW INSTRUMENT

Code # _____

Date _____

PHARMACIST SURVEY (1978)

Subject Name _____

Pharmacy Address _____

_____

Phone # _____

Completed _____

Pharmacist description _____

_____

_____

BACKGROUND INFORMATION

Employment Status: Owner/manager ____ Employee ____

Number of other employees in pharmacy: RPh's ____ Clerks/ technicians ____

Usual staffing (when you are working): RPh's ____ Clerks/ technicians ____

Length of time employed at this pharmacy: _____

Hours worked during an average week (at pharmacy): _____

Typical work week (describe, including days off): _____

Pharmacy school graduate from: UW ____ Other (name) _____

Year degree granted: _____

Age: _____

Other types of pharmacy practice experience: No ___ Yes ___

_____ (describe)

Continuous practice since obtaining degree: Yes ____
No (explain) _____

Pharmacy organizations: APhA ____ NARD ____ WPhA ____
ASCP ____ County Association ____ ASHP ____
Other (list) _____

Continuing education courses in last two years (list) _____

_____

Any continuing education courses dealing with patient medication counseling? (list): _____

INTERVIEW POINTS TO COVER

Intro--talk about wanting to find out about general philosophy about talking to the public about prescription medications. Note that there probably are as many views on this subject as there are pharmacists. Also that no one has really asked practicing pharmacists about their feelings on the subject.

Ask if aware of Wisconsin pharmacy practice regulation regarding patient consultation:

Yes ____ No ____

Briefly explain regulation that states that a pharmacist is to provide "appropriate consultation" to patients about their medications. Note that language seems to leave it up to the pharmacist to determine what appropriate consultation means for his own practice.

Ask what subject feels appropriate consultation consists of for his/her practice.

Get example of what, if anything, pharmacist would tell a patient who has a new prescription for a) tetracycline
b) Tylenol #3

Determine if counseling varies by drug (importance, knowledge about, if new vs. renewal).

Ask if there are times when one does not know whether he should say anything or not about a medication (get examples).

Ask if subject is ever concerned about saying too much (or too little) to the patient (scare or bore?).

Legal liability (general feelings, concern with?). Is it greater if you discuss the medication or if you keep quiet?

Economic incentive to counsel patients? Does it hurt economically to counsel patients? (explain)

Ask about trend in pharmacy school curriculum in placing emphasis on the pharmacist advising patients about their drugs. Feelings about trend--have they gone overboard or is the emphasis needed? (explain)

Responsibility Scale

******Sheet I*******Who has the primary responsibility, in your opinion, to provide the following types of information about prescription drugs. Describe sheet.

(Given to subject)

Ability Scale

******Sheet II******Indicate how confident you are in your ability to give the following types of information to patients, regardless if you do or do not currently provide this information.

(Given to subject)

Determine if subject feels rushed very often in his/her prescription work. About how many hours during an average day do you feel like you are quite rushed?

_____hours/hours worked_____

Patient profile system: Yes_____ No _____

Information contained on profile (allergies/other conditions?):

_____

How obtained? (interview as it comes up in practice, etc.):

_____

Determine if Wisconsin Formulary law has changed the amount of time the subject spends talking to his customers/ patients. (explain)

Determine if amount of counseling done has changed over last 5 years - ten years? (explain)

Perceptions (General)

About what percentage of your patients?

_____ Do you know personally?

_____ Respect their physician's knowledge about drugs?

_____ Respect your knowledge about drugs?

_____ Follow the advice you give them about their medications?

_____ Do not want to receive information about their medications from you? (new Rx's)

_____ Need to receive information from you? (new Rx's)

_____ Do not know the general purpose of the drugs they are taking?

_____ Do not take their drugs according to instructions?

Expectations

It's pretty well agreed on that different groups expect different things. I would like to get your impression about how much advising about prescription drugs various groups think you should give.

-------- a) less than I do now --------
b) about as much as I do now
c) more than I do now

_____ Prescribing physicians

_____ Other pharmacists in area

_____ Your patients/customers

_____ State Pharmacy Board

_____ Drug manufacturers

_____ Your Co-workers

_____ "Pharmacy professors"

_____ "Consumer groups"

_____ If you could make any changes in your work activities you wanted to, how much time would you spend advising about Rx drugs?

How much and what kinds of information about medications do physicians usually give their patients? Does it vary alot by physician or do they usually give the same information? Are there times you say certain things or not say certain things because you feel you know/not know about drug counseling?

About how many times during an average work week do you talk with physicians on the phone about things other than receiving prescriptions or for refill authorizations?_____ How many times in person?_____

About how many times during an average work week do you talk with other pharmacists on the phone (other than for transfer of copy)?_____ in person?_____

Outside of this pharmacy are there any pharmacists you consider your close friends? _____ With whom do you do most of your socializing, pharmacists or non-pharmacists?

_____

The topic of patient package inserts is being talked about alot--at least by government officials and pharmacy association groups. However, no one has really asked practicing pharmacists to express their feelings on the subject.

-How do you feel about the general idea of the pharmacist giving the patient additional written information about the drugs he gets? (probe to get views)

_____ Should there be patient information sheets for all medications? (why or why not)

_____ Do you think patients want this kind of information?

_____ Do you think patients need this kind of information?

_____ If PPI's were required for a substantial number of drugs, how would it affect your activities in relation to the patient? (more or less time with him)

_____ Do you give out the estrogen insert with prescriptions? (just new or refills too?)

_____ Do you say anything to patients about it? (what)

_____ Have patients asked you about anything contained in the insert? (examples)

Counselor Role Orientation Scale

******Sheet III****** (Given to subject)

Now I would like to fill out one more set of questions for me. We have talked about some of these things and some we have not discussed. Don't worry about what you have said previously as I'm not testing you. I just want your personal feelings about these statements.

Sheet 1

By making a check (✓) in the appropriate box please indicate:

Whose primary responsibility do you feel it is to provide the following kinds of information about prescription medications?

	R.Ph.	M.D.	Shared	Neither
name of drug				
general purpose of drug				
# of times to take the drug during the day				
amount to take at one time				
when to take (with regard to meals or time of day)				
whether to take regularly or just when needed				
discuss common side effects				
discuss possible drug interactions				
how to administer drug (non-oral)				
explain how drug works				
explain which foods or beverages should/should not be taken with the drug				
explain storage and handling of drug				
ask if understand how to use and answer any questions				
duration of therapy				
eheck whether medications received earlier are being taken according to instructions				

Sheet II

By making a check (✓) in the appropriate box please indicate:

How confident you feel about your ability to provide patients with the following types of information, if it were your responsibility?

	FOR MOST DRUGS I FEEL:		
	not at all confident	somewhat confident	very confident
name of drug			
general purpose of drug			
# of times to take the drug during the day			
amount to take at one time			
when to take (with regard to meals or time of day)			
whether to take regularly or just when needed			
discuss common side effects			
discuss possible drug interactions			
how to administer drug (non-oral)			
explain how drug works			
explain which foods or beverages should/should not be taken with the drug			
explain storage and handling of drug			
ask if understand how to use and answer any questions			
duration of therapy			
check whether medications received earlier are being taken according to instructions			

APPENDIX D

INTRODUCTORY LETTER FOR INVESTIGATOR

University of Wisconsin Madison

CENTER FOR HEALTH SCIENCES
School of Pharmacy
425 North Charter Street
Madison, Wisconsin 53706
Telephone: 608/262-1416

Dear

There has been a good deal of discussion recently about new trends which could change the relationship between the pharmacist and the public. Examples of these trends are the growth of brand substitution, an emphasis on patient counseling, and an increasing interest in providing patient package inserts with prescription drugs.

Mr. Holly Mason, a registered pharmacist and one of our graduate students, is doing a research project to obtain practicing pharmacist's opinions and attitudes toward some of these trends that potentially affect the way pharmacists conduct their practice.

Holly will call in a few days to request your cooperation in a short personal interview. Your help in this project will be greatly appreciated.

Sincerely,

Bonnie L Svarstad

Bonnie L. Svarstad, Ph.D.
Assistant Professor of
Social Studies of Pharmacy

BLS:ld

APPENDIX E

STUDY PARTICIPATION CONSENT FORM

CONSENT FORM

Pharmacist - Patient Relations Study

I have been informed that the general purpose of this study is to gain a better understanding of pharmacist-patient relations. The study is being conducted as part of the investigator's doctoral research under the supervision of his major professor (listed below). It is my understanding that the investigator will collect data by interviewing me and through visits to my place of practice.

I understand that the data will become part of an anonymous data file and that research reports will not contain information which could identify me, my place of work, my fellow workers, my patients, or other persons with whom I have contact.

The investigator has offered to answer my questions concerning this study and the measures which will be taken to protect my right and welfare as well as those of my patients. I understand that I am free to withdraw my consent and to stop participating in the study at any time.

Authorization: I, _____, have read the above and decide to participate in the research project described above. My signature also indicates that I have received a copy of this consent form.

_____ _____

signature date

If there are any questions concerning this study, please contact the investigator or his supervising professor listed below:

Holly L. Mason, R.Ph., M.Sc. (principal investigator)
Graduate Student in Social Studies of Pharmacy
School of Pharmacy, University of Wisconsin
425 N. Charter Street
Madison, Wisconsin 53706 Tel. (608) 263-3959
(608) 256-7231

Bonnie L. Svarstad, Ph.D.
Assistant Professor of Social Studies of Pharmacy
School of Pharmacy
University of Wisconsin
425 N. Charter Street
Madison, Wisconsin 53706 Tel. (608) 262-7443

APPENDIX F

SAMPLE INTERVIEW TRANSCRIPT

Pharmacist 08 (4-5-78) at home, visited with at store

(general philosophy)
I'm obviously in favor of counseling. That's the reason I went into community pharmacy. *worked in hospital, did not get to interact with patients, but did start some new teaching// it made me realize what a need there is for communication with outpatients to prevent further hospitalization ***// *inadequate histories of meds in hospital// That's one of the reasons we moved here. I feel I have more to offer to a greater number of people here. ***//

(appropriate consultation)
Well, first of all I was glad to see that statute or regulation down on paper. Whether it has made any in-road in chainstores or not I don't know, You know the way they just pound them out without a word to the patient.***// When I was interning, I thought there was a need for much more communication. I don't think my preceptor and his partner did such a good job. ***// But now, looking back on it, I'm not quite so sure. Sometimes you know a person so well, you assume things are going OK. And there is a tendency to ignore or talk about other things, and consultation becomes a thing of saying 'here, you have 2 refills.' However, I think that it would be good to at least ask them how they are doing on the medication. I do try to do it. But it is hard when they have been getting the same thing for 5 years. At any rate, they don't resent it, and usually say they are doing just fine. It never hurts to say something to them. Every once in a while you detect a side effect or an extreme case of noncompliance. If it's a medication that is important, I will continue the discussion and try to iron things out. I try to play it by ear on each patient *refills on BC discussed, not much except where refills run out//(X) It also depends a lot on the Dr. About half the scripts that come through _____pharmacy are from two young doctors. The rest are from a D.O., who phones most of his scripts in. ***// Well, I know for example, on every Rx from the _____ clinic, these two doctors always indicate allergies, refills, and they even give a general diagnosis. This indicates to me that there is a pretty good doctor-patient relationship there as far as patient information. This makes my job easier. On the other hand, patients who come from the other doctor -- you are really handicapped with them. He gives little information on his prescriptions, and the patients know nothing. I ask myself, "where do I start?" He is an older Dr. and often attracts older patients. I ask them which medication they need and they say "the blue ones, the other pharmacist always can find them for me." It gets to be a tough situation. ***// Now with the new doctors, the patients come

with some information so it's easier to talk with them. The new doctors try to explain things. I say "did the Dr. explain what these were for?" he says "yes, he told me they were for back pain, and that I should not drink with them. How much can I drink with them?" So I find that the younger MDs are more adept at pt. communication. Whereas, the older doctors-I don't know. I find it, of course there are always exceptions, but the younger doctors write scripts that are easier to work with. If nothing else because they have done half the work for you.(X)

(too much or scare pt)
Oh, sure. I think I learned a lot about that during internship. You think you are doing someone a favor, but a lot of times you can confuse them if you don't approach it right. To give an example, there was one lady who had been on Hydrodiuril for a year and I mentioned that she should stop in to her Dr's and get her blood pressure checked - as she noted she had not seen him for a year. I even threw in the fact that it was National Blood Pressure Week, and it is a good idea for everyone to keep track of their blood pressure when you are on these type of medications. Well, she got this scared look on her face. She said "blood pressure? What do you mean, I'm supposed to be taking these for swelling!" You know this is a real problem, now I have something that I have to talk my way out of. It also decreases your credibility. She will probably never listen to another thing I ever say. So, I know they try to tell you never to assume anything, but it's hard. You have to let them tell you. Other times, they come in the store and say "what is this for?"

You know there are different extremes you can go to. On one hand you can hand them the package insert and let them go nuts. But you want to at least tell them something - so they have some idea of when they should get back to their doctor. I usually tell them that if they notice anything abnormal they should get in touch with me or their doctor. You know - lightheaded, dizzy, skin reaction - I tell them these kind of things may happen and have nothing to do with the drug, but you never know. ***// When I first started, I think I got more people confused than I helped. But part of it is experience - a big part I think.

(liability)
**yes, father is MD, we discuss it a lot, our views differ, but I am aware of the problems involved. Also friend is lawyer and they have talked. Dr. Hammel's class also had an effect on me// The farther you go out on a limb, the more branch there is to be cut out from under you. (X) I am more concerned about not saying things though. Many court cases

have indicated that if you act as a "reasonable pharmacist" in counseling you are doing your duty. However, you can get hit for negligence if you don't say anything and problems occur.

(economic incentive)
I think that if it is done briefly - short and concise, understandable - people will respect it and come to you for advice. There used to be a time when there was more mystique about what the pharmacist does. Now people know that most medications are premanufactured. So, if you provide them with something more than "that will be 8 dollars," they will begin to see the value in it, and come back to you in the future. They will think about you for their next prescription. That may be wishful thinking, but I hope it is so.

(business)
*4 of 8//

(profile)
Yes, that's another thing. It's very inconsistent. Most of the patients have been there for some time, so there is not a whole lot of new history taking. But I do at least a short history on the new ones. *gives example of penicillin allergy he caught, noted that if patient had not remembered, the Rx would have gone out to her without question, because nothing was on profile or MDs chart about it//

We don't do a good job in that area. For ____, its different. He has been here so long he knows every one's medications and allergies. But for me, being new, its practically impossible. ***// *a lot of our profile system is for tax purposes only// We are too lax. There is a feeling that they /other RPhs/ are not much concerned with this type of thing. Being a small town, the patients don't seem to be much concerned either. ***//

(local physician-relationship)
if I see them at all, its only by chance.

(talking about respect for RPh knowledge)
It's a hard question. To tell you the truth, I don't think most people in town realize we have any education - that we go to school for pharmacy or anything. It is a small town and a lot of our patients are from rural areas. They really seem surprised and grateful when I can give them concise answers to questions that really concern them. But, on a personal basis, I would say 90% respect what I say to them. ***//

(formulary)
*only use when have to, people don't ask or know about it, Title 19// **//**(long discussion on substitution)//

(patient inserts)
I think its a good idea. Here again, there are a certain % who will read it, and only a certain % who will understand it. But I think they do some good. What I do . . . since we got them in I have been telling them that this is a new requirement that the FDA has out. That we have to dispense this. Then I point out the bold warning box about smoking and the increased risk of side effects. ***//

(questions about PPI)
Not many, one girl was kind of interested in it. She hadn't got any information about it from her Dr when he prescribed the pill for her. ***// Most people have heard about it through the papers or TV, so they know what I am talking about when I bring it out. But, I have only had a couple of questions about the inserts. One person wanted to know how much the risk is increased, so I showed her the graphs and explained them to her. But outside of this, no one is that concerned about asking questions. I often tell them to call me or their Dr on any questions they might have. I kind of think they are more likely to talk to him, because we have not said much in the past about BC pills. ***//

(Premarin)
Yes, they have been out longer. So I have had a chance to get more feedback on the inserts. I think this was really a good idea. I question the use of Premarin anyway, so it reinforces my own feelings. **// There are a lot of physicians who just use it as a matter of course. They don't realize what risks they are putting the patient up for (do you answer their Q's?) Yes, I usually do. For this medication, most people would rather ask me than the Dr. Because its free, I'm more accessible, and they can get a quick answer. They say they are afraid to ask their Dr stupid questions - they aren't afraid to ask me one - I'm a stupid guy anyway!

(ppi expanded)
Yeah, I think its a good idea, simply from the point of view of forcing the pharmacists who just won't communicate - at least people will get some information. Some pharmacists don't like the PPIs because they are afraid they are having some of their job taken away. But, not me, I look at them as just another tool. I can go out and explain what the piece of paper is, if nothing else. (will you talk more if have ppi's) I think it is a good starting point. It's a

good visual aid. Everyone gets their certain speech patterns about certain drugs. For me, it is something to point to, other than the bottle. ***// It's another reference, I can't pull out a Goodman and Gilman or a PDR for them, but this acts as an authoratative reference source **physicians are feeling threatened by these inserts also// ***//

APPENDIX G

STANDARDIZED PRESCRIPTION ORDER CONTENT

Standardized Prescription Orders

Three cooperating physicians, authorized to practice in the state of Wisconsin, wrote standardized prescription orders for observers to present to the pharmacist-subjects in study Phase II.

The prescriptions were written on standard out-patient prescription blanks from University Hospitals in Madison, Wisconsin.

The prescription orders contained the following information:

1) Actifed #21
   Sig: one tid - allergy
   No refill

2) tetracycline 250mg #28
   Sig: one qid - infection
   No refill

APPENDIX H

OBSERVER TRAINING INFORMATION

Observer Training

Observer training was conducted in three phases during July 1978. The first phase consisted of three sessions, each approximately four hours in length. These sessions were designed to fully familiarize the observers with the study protocols and to allow them to practice their observational and data recording skills in a supervised environment.

The first session began with an orientation to the study and the presentation and discussion of the field procedures to be followed. The presentation also included detailed instructions related to the completion of the Encounter Report Sheet (Appendix K). The field protocols are discussed in Chapter Four and detailed in Appendix J.

After answering questions and clarifying data recording procedures, the investigator provided a sequence of medication counseling presentations while playing the role of a pharmacist. The observers practiced reproducing presentations word-for-word using a pencil and paper. Accuracy of the reconstructions was checked with tape recordings made of the investigator's presentations. As this level of observation presented few problems, the next stage of training was undertaken. This stage incorporated the use of a concealed stopwatch to time interactions and the completion of the Encounter Report Sheet for each simulated encounter.

During the remainder of the first session and the next two training periods, the observers followed exact field

procedures in role-play situations. The sessions were conducted in a pharmacy school dispensing laboratory, allowing for "pharmacist" preparation of actual prescription orders.

This training involved the presentation of a prescription order to the pharmacist who prepared the prescription and delivered it to the observer along with various levels of counseling regarding the medication. The observer then left the simulated pharmacy and completed the Encounter Report Sheet. Completion of the sheet includes a verbatim tape recording of the encounter.

The two observers not directly involved in the encounter played the role of patients waiting in the pharmacy. They also completed data sheets after each role-play situation. Again, the accuracy of the verbal communication and the timing of the encounter, as reported by the observers, was checked against a tape recording.

By the end of the third training session, the observers were able to reproduce consistently the verbal counseling presentations with close to 100 percent accuracy. Interaction times were determined within 5 seconds of their actual duration, in most cases, by the end of these sessions. This timing included "split counseling" presentations, where the role-player interacted with the observer during both the preparation of the prescription and when presenting the completed product to the observer. And, while not perfect,

agreement with regard to the more subjective aspects of the encounter, such as the pharmacist's tone of voice (see the approachability measure, Appendix P), also was judged satisfactory.

The second training phase consisted of a five hour session, supervised by the investigator, which was conducted in a cooperating community pharmacy. Observers took turns presenting prescription orders for dispensing--the same ones to be used in the actual field study--and collected data following the field protocols.

Three participating pharmacists prepared the prescription orders and provided the observers with medication counseling according to usual practice procedures. So as not to disrupt pharmacy operations, training activity took place at a counter not normally used for prescription transactions. This also facilitated recording of the encounters on tape for purposes of reliability assessment. The three observers completed prescription transactions with each of the three pharmacists in this training phase.

No reliability statistics were calculated, as each observer was able to accurately report all verbal instruction provided by the pharmacists. This assessment is based on comparisons of the observer reports and taped encounter transcripts scored on the Verbal Instruction Index (Appendix M) used in the study. Further, all nine interactions in this training phase were timed by observers within five

seconds of their actual duration as indicated by the tape recordings.

In the final training phase, each observer, on three occasions, presented a prescription for dispensing at a non-study pharmacy site, again following all study protocols. The observer presenting the prescription was accompanied by a second observer in each instance. After completion of the encounter, both observers independently recorded their data. This served the purpose of providing additional field experience for the second observer, as well as a cross-check on the accuracy of the observations.

Comparisons of seven pairs of Encounter Report Sheet data showed no differences in verbal counseling reports when scored on the Verbal Instruction Index. In two instances the second observer was unable to hear all the counseling furnished by the pharmacist, making these comparisons impossible. No checks on the interaction times were attempted in this phase because only one observer carried a stopwatch. However, no major differences appeared between other items on the Encounter Report Sheets completed by each observer pair. Pharmacist interviewing activity was reported with 100 percent accuracy, and six of the seven pairs of approachability scores were exactly the same, while the other differed by one point between observers.

No difficulties were encountered by any of the observers during this field-test phase. Based on this fact

and the observers' demonstrated ability in making accurate observations according to study protocols, it was decided to proceed with the actual Phase II field research.

APPENDIX I

PHARMACIST DESCRIPTION SHEET

Pharmacist Description Sheet

Subject # _____ Pharmacy _____

Name _____ City _____

Age _____ Hair color _____

Height _____ Mustache - yes no

Weight _____ Beard - yes no

Build _____ Glasses - yes no

Other information _____

_____

_____

APPENDIX J

PHASE II FIELD PROTOCOLS

Information for Observers

General

Following a training period you will act as an "observer-patient" who will present standardized prescriptions to preselected pharmacist-subjects. You will note and record the pharmacist's verbal communication with you, as well as several other situational factors.

The investigator will transport you to the practice location of each subject according to a predetermined schedule. He will provide all funds for prescription purchases.

When visiting the pharmacies you should wear casual clothing so as not to call undue attention to yourself. You should wear a wristwatch which registers in seconds, as you will time your encounters.

Before the Visit

You will identify the pharmacist-subject with the aid of a Pharmacist Description Sheet provided for each subject. Review this sheet and leave it with the investigator before entering the pharmacy.

Complete Section I of your Encounter Report Sheet from the investigator. Also, make sure your stopwatch and wristwatch are in proper working order.

You should review your assigned "cover story" with the investigator and make any modifications deemed necessary for

particular visits. In general, the cover story is as follows:

> You are from Madison (use your home address) and you are vacationing/camping in the area (resort/campground names will be supplied). You obtained your prescription at the outpatient clinic of the hospital indicated on the prescription. You were at the clinic the day before this pharmacy visit, but you did not have a chance to get the prescription filled before you left Madison.
>
> You have no medication allergies that you know of, nor any chronic medical problems. You have been prescribed the medication for "sinus problems" and this is your first experience with this condition. You have never used this medication before and your physician gave you no instructions regarding its use.

Visiting the Pharmacy

Once in the pharmacy, attempt to match your subject description with that of the pharmacist on duty. You also might look for a name tag or plaque identifying the pharmacist present. If you are not sure the pharmacist in the store is the right one, do not present the prescription. In this situation, leave the store as inconspicuously as possible or make a small purchase (e.g. gum) if necessary. The investigator will then make a phone check for the subject's presence in this case.

In situations where two pharmacists are present and you are able to identify the study subject, try to hand the prescription directly to the subject if possible. In any case, if the "wrong" pharmacist fills the prescription, you will still make a complete record of the visit, but report

this fact immediately to the investigator.

If two or more people are standing in the pharmacy prescription area, do not approach the counter, but instead "browse" in the front of the store for a couple of minutes. Approach the counter when less than two people are in the area. If it appears that you have entered the store during a very busy period, leave and return at a later time.

You should strive to make your approach and presentation in each pharmacy as identical as possible. Note the time when you present your prescription and continue to stay near the prescription counter. This allows the pharmacy personnel to talk with you if necessary. Be polite and act interested in what is said to you by the pharmacy personnel. Do not volunteer any information or initiate any "small talk" with the pharmacy personnel. Briefly and clearly answer all questions posed by pharmacy personnel from your cover story. If any subject questions the legitimacy of your prescription or of you as a patient, politely suggest that he/she call your physician to verify the facts. Say nothing else should this situation arise, as negative exchanges could jeopardize the entire study.

While waiting for your prescription note the situational factors (number of clerks, customers, etc.). Then, using your concealed stopwatch time any conversation you have with the pharmacist while paying close attention to everything that is said. In situations where the pharmacist talks to

you while filling the prescription you should time that portion of the interaction on your wristwatch. Use your stopwatch for timing the pharmacist's face to face communication. At the end of any conversation with the pharmacist or when the prescription price is stated by the pharmacist/clerk, note the final time on your wristwatch.

After the Visit

Immediately fill out (in order) Sections II-V of your Encounter Report Sheet after returning to the investigator's car. Section III will be a near-verbatim record of any conversation you had with the pharmacy personnel. It is important that you accurately recall as much detail as possible. Report only what is actually said. Do not try to interpret or clarify the meaning of statements made. Any conversation or other details remembered subsequent to taping should be added on your Report Sheet as indicated in Section V.

The format for the tape recording is as follows: 1) Say the word "begin," followed by the patient name you are using, the medication prescribed, and the subject's identification number. 2) Dictate a verbatim recording of your conversation with the pharmacist and other personnel. Make sure you identify who makes which statements. If you are not sure of the exact wording used, note this on the tape and paraphrase the conversation as well as you can. 3) Add

any comments and describe any feelings you felt, or other incidents you observed while in the pharmacy. 4) Complete your tape record by saying "end" and giving the pharmacist an identification number.

Finally, make sure the Report Sheet is filled out completely. Then give the sheet to the investigator along with the completed prescription, its receipt, and change from the purchase.

APPENDIX K

ENCOUNTER REPORT SHEET

Encounter Report Sheet

I. Subject # _____ Observer _____

Name _____ Date _____

Pharmacy _____ Time of day _____

City _____ Medication - Tetra Actifed

II. Prescription # _____ received

Did the correct subject fill your prescription? - yes uncertain no

Did the pharmacist talk to you? - yes no

Time of interaction with pharmacist (seconds) _____

Time of transaction (from presentation of Rx to end of conversation _____

III. (MAKE TAPE RECORDING)

IV. How many pharmacists were on duty (total)? _____

How many clerks were on duty in Rx department? _____

How many clerks were on duty in store (total)? _____

How many patients/customers at Rx counter? _____

How many patients/customers in store (total)? _____

Did the pharmacist initially appear busy? - yes uncertain no

Greeting by pharmacist? - none short long NA

Did the pharmacist or clerk (circle) indicate a medication profile was prepared for you? - yes no NA

Did the pharmacist bring your medication to you? - yes no

Pharmacist's tone of voice - rude/hostile neutral polite/friendly NA

Pharmacist's manner - hurried neutral relaxed NA

Pharmacist's rate of speaking - slow neutral fast NA

Did pharmacist frown during transfer? - yes no uncertain NA

Did pharmacist smile during transfer? - yes no uncertain NA

Farewell to patient by pharmacist? - none short long NA

V. Additional comments:

APPENDIX L

SAMPLE ENCOUNTER TRANSCRIPT

Sample Encounter Transcript

(Begin; Lynn Olson; tetracycline prescription; pharmacist number seven)

(I handed the prescription to the subject who was standing in front of the prescription counter. He said:) "OK Lynn, this will be a few minutes. What is your address please?" (I have him the address. The subject then moved back to the prescription area, and came back to the counter after a couple of minutes. Reading off the label, he starts:) "OK Lynn, take one of these capsules four times a day for your infection. You don't want to take milk or antacids with them because it forms a calcium complex that is insoluble." (I say "OK." Then he looks at the receipt and says:) "Let's see, that's $3.45." (I pay him, he says:) "Thank you, have a good day." (I say thank you and leave)

(Note: there was a person, maybe a pharmacy student who might have helped fill the prescription. I couldn't tell from where I was. There was no one else in the store. Maybe he was a clerk or something? I'm going to put him down in section four as a clerk in the prescription department. I'm pretty sure he wasn't a pharmacit.)

(end of recording, pharmacist number seven)

APPENDIX M

VERBAL INSTRUCTION INDEX

Pharmacist Verbal Instruction Index (score range 0-25*)

Instructional Category	Scoring
1) Medication description	
a) drug/disease/symptom class (antibiotic; infection; allergy)	1
b) interrelationship between drug and disease/ symptom (antibiotic for infection)	2
2) Medication name	
a) brand or generic (Sumycin; tetracycline)	1
b) brand and generic (Actifed brand of triprolidine and pseudoephederine)	2
3) Number of units to take at one time	
a) explicit (one tablet; one capsule)	1
4) Number of times medication should be taken per day	
a) explicit (four times)	1
5) Segment of day medication should be taken	
a) general segment (AM; PM; bedtime)	1
b) general hour (every four hours)	1
c) specific hour (8AM, 4PM, and 8PM)	2
d) segment and hour (every six hours while awake)	2

*See categories 11 and 12 for exceptions.

Instructional Category	Scoring
6) When medication should be taken with regard to meals	
a) general meal spacing (before; with)	1
b) specific hourly meal spacing (one hour before or two hours after)	2
7) Instructions to take "as directed"	
a) explicitly stated	1
8) Regularity of use	
a) suggests irregular use (take three times a day as needed)	1
b) suggests regular use (take four each day; take one every four hours)	1
c) emphasizes regular use (it is important that you take this even if you feel better)	1
d) regular and irregular use advised (take three times each day and as needed)	1
9) Duration of therapy	
a) stated (until gone; for 5 days)	1
10) Route of administration	
a) stated (orally; for the ear)	1

Instructional Category	Scoring
11) Side effects/adverse reactions	
a) stated (nausea, vomiting, and diarrhea)	1*
b) stated and mechanism described (drowsiness because of CNS depression)	2
12) Food/fluid/drug interactions	
a) possibility stated or lack of problem noted (no antacids; ok to take aspirin)	1*
b) stated and mechanism described (forms a complex with calcium in milk)	2
13) Method of administration	
a) explains/instructs (take with a glass of water; tablets scored for dose adjustment)	1
14) Storage/handling	
a) explained (keep away from heat; discard after two weeks)	1
15) Refill information	
a) stated (one refill; cannot be refilled)	1

*It is possible to score multiples of the indicated points if unrelated side effects, adverse reactions, or interactions are presented. However, logical groupings in these areas are considered together. For example, instructions to avoid milk, cheese, and ice cream are only scored one point in category 12a. But a warning about photosensitivity reactions, along with a mention of a possibility of diarrhea, could score two points in category 11a.

Instructional Category	Scoring
16) Quantity dispensed	
a) stated (30 tablets; 7 day supply)	1
17) Medication identification	
a) concentration stated or physical description (250mg; white tablet)	1
b) both concentration and physical description (250mg green capsule)	2
18) Difficulties or questions	
a) suggests followup or contact with pharmacist, physician, or both	1

APPENDIX N

WRITTEN INSTRUCTION INDEX

Pharmacist Written Instruction Index (score range 0-24*)

Instructional Category	Scoring
1) Medication description	
a) drug/disease/symptom class (antibiotic; infection; allergy)	1
b) interrelationship between drug and disease/ symptom (antibiotic for infection)	2
2) Medication name	
a) brand or generic (Sumycin; tetracycline)	1
b) brand and generic (Actifed brand of triprolidine and pseudoephederine)	2
3) Number of units to take at one time	
a) explicit (one tablet; one capsule)	1
4) Number of times medication should be taken per day	
a) explicit (four times)	1
5) Segment of day medication should be taken	
a) general segment (AM; PM; bedtime)	1
b) general hour (every four hours)	1
c) specific hour (8AM, 4PM, and 8 PM)	2
d) segment and hour (every six hours while awake)	2

*See categories 11 and 12 for exceptions.

Instructional Category	Scoring
6) When medication should be taken with regard to meals	
a) general meal spacing (before; with)	1
b) specific hourly meal spacing (one hour before or two hours after)	2
7) Instructions to take "as directed"	
a) explicitly stated	1
8) Regularity of use	
a) suggests irregular use (take three times a day as needed)	1
b) suggests regular use (take four each day; take one every four hours)	1
c) emphasizes regular use (it is important that you take this even if you feel better)	1
d) regular and irregular use advised (take three times each day and as needed)	1
9) Duration of therapy	
a) stated (until gone; for 5 days)	1
10) Route of administration	
a) stated (orally; for the ear)	1

Instructional Category	Scoring
11) Side effects/adverse reactions	
a) stated (nausea, vomiting, and diarrhea)	1*
b) stated and mechanism described (drowsiness because of CNS depression)	2
12) Food/fluid/drug interactions	
a) possibility stated or lack of problem noted (no antacids; ok to take aspirin)	1*
b) stated and mechanism described (forms a complex with calcium in milk)	2
13) Method of administration	
a) explains/instructs (take with a glass of water; tablets scored for dose adjustment)	1
14) Storage/handling	
a) explained (keep away from heat; discard after two weeks)	1
15) Refill information	
a) stated (one refill; cannot be refilled)	1

*It is possible to score multiples of the indicated points if unrelated side effects, adverse reactions, or interactions are presented. However, logical groupsings in these areas are considered together. For example, instructions to avoid milk, cheese, and ice cream are only scored one point in category 12a. But a warning about photosensitivity reactions, along with a mention of a possibility of diarrhea, could score two points in category 11a.

Instructional Category	Scoring
16) Quantity dispensed	
a) stated (30 tablets; 7 day supply)	1
17) Medication identification	
a) concentration stated or physical description (250mg; white tablet)	1
b) both concentration and physical description (250mg green capsule)	2

APPENDIX O

INTERVIEWING INDEX

Pharmacist Interviewing Index

Category	Score
1) Medication allergies	2
2) Other medications	1
3) Medical conditions	1
4) Current problem (nature/status)	1
5) Past use of drug product	1
6) Received usage instructions	1
7) Solicits general questions	1
8) Problems in regimen	1
9) Understanding of specific advice	2
10) Description/summary of instructions	2

APPENDIX P

APPROACHABILITY SCORE

Pharmacist Approachability Score (range -4 to +7)

	Score
1) Greeting by pharmacist	
a) none	0
b) yes	1
2) Pharmacist tone of voice	
a) rude or hostile	-1
b) neutral	0
c) polite or friendly	1
3) Pharmacist manner	
a) hurried	-1
b) neutral	0
c) relaxed	1
4) Pharmacist rate of speaking	
a) fast	-1
b) neutral	0
c) slow	1
5) Pharmacist facial expression	
a) frowns	-1
b) neutral	0
c) smiles	1
6) Pharmacist engages in small talk	
a) no	0
b) yes	1
7) Farewell by pharmacist	
a) no	0
b) yes	1