THE ROLE OF THE PHARMACIST IN THE DISSEMINATION OF INFORMATION TO THE PHYSICIAN

by

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My deepest thanks.

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TABLE OF CONTENTS

TABLES

INTRODUCTION

Retail pharmacy has a dual profile. On the one hand, it is a professional institution which plays an important role as a member of the health team. On the other hand, it is a retailing enterprise and it merchandises products both directly related to and completely removed from the health field. The genus of retail pharmacy is broad and its members run the gamut between its extremes.

This paper concerns itself with the role of pharmacy as a member of the health team. More specifically, it centers on the use of the pharmacist in the dissemination of information to the physician. There are pharmacies which offer educational services to physicians such as monthly news letters, new product sections, and drug detailing. In each of these instances it is the pharmacist who takes the initiative and decides the availability and extent of these services.

However, the initiative may come from either party and it is often the physician who seeks out the pharmacist for professional information. It is this situation, in which the physician avails himself of the pharmacist, that this paper will attempt to explore.

The pharmacist has been recognized as a source of information to the physician. A survey conducted for the Health Information Foundation showed sixteen percent of physicians to avail themselves of this service.[1] The pharmacist has been acknowledged as a source of information by the pharmaceutical manufacturer. His therapeutic consulting role has been widely publicized by the pharmaceutical press. Typical of such comments are those found in a speech delivered at the 1958 Wisconsin Pharmaceutical Association Convention by Dr. Robert A. Hardt, president of Armour Pharmaceutical Company. Speaking on new pharmaceuticals, Dr. Hardt stated that: "Pharmacists in such cases can be important sources of information for the prescribing physician....therapy will become even more complicated and the physician will have to look to the pharmacist....for up-to-the-minute information regarding the use of such new agents."

Pharmacy has been encouraged to strengthen its function as a source of information to the physician and as a therapeutic consultant. Today, the spatula and pill tile are bowing to the razor blade and counting tray. The task as consultant has been suggested as a new professional duty, replacing his traditional responsibility of compounding.[2] Whether the pharmacist primarily considers this

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1 G. Bugbee, "A Survey of the Pharmacist as a Professional Man," presented to Pharmacy's Public Health Forum, Long Island University, March 13, 1956.

2 I. Bellafore, "Therapeutic Consultant," Journal of The American Pharmaceutical Association, practical edition, February, 1958, p.90.

a professional duty or thinks of it as a form of nonprice competition is a matter of conjecture. Nevertheless, his services are being used by the physician.[3]

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[3] G. Bugbee, loc. cit.

CHAPTER I

INFORMATION DISSEMINATION TO THE PHYSICIAN

The number of products introduced annually by pharmaceutical manufacturers is a tribute to their progressiveness in medical research. That "nothing is permanent but change" is a byword in this industry. During the year 1958, 370 new specialties were marketed nationally by pharmaceutical manufacturers. In addition, 109 new dosage forms were introduced during the same period.[1] Despite this large number, these figures represent only a portion of the new products since many others are introduced into a regional area by local manufacturers. When one considers that the efforts of pharmaceutical research yield better than a product a day, the necessity for proper information dissemination to the medical field takes on an important perspective.

The Physician's Dilemma

At a recent conference of the Secretary of Health, Education, and Welfare, numerous representatives of national medical groups indicated that there was "much confusion on the part of the physician by the welter of trade names for

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[1] Weekly Pharmacy Reports, January 26, 1959, p.1.

the same drug products" and that there was a need for "more rapid information on toxicity, contraindications, and limitations of usage."[2] This declaration exemplifies the difficulties with which the medical field is faced in an era of rapid pharmaceutical innovation. Besides the time devoted to patient care, physicians attempt to keep abreast with the stream of new products and the therapeutic advantages they offer. Few physicians will openly admit they might have been able to treat a patient more effectively had they been aware of newer pharmaceuticals.[3] Yet cases have been reported. Such is the factual report of a woman who had a severe female disorder and was to undergo a serious operation which would have altered her whole life. What her physician apparently did not know was that there had been a drug in existence several years which made the surgery absolutely unnecessary.[4]

Another instance of the physician's inability to review closely the literature sent to him was manifested in a recent predicament involving a newly introduced antibiotic. This antibiotic is absorbed in the blood stream by injection only. Yet physicians were prescribing the oral dosage form for patients whom they wished to treat systemically, and as a consequence the patients showed no improvement.[5] More thorough inspection of the manufacturer's

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2 The Voice of the Pharmacist, December 23, 1958.

3 "Medical Science is Accelerating; Can Doctors Keep Up?," The Wall Street Journal, June 30, 1958, p.1.

4 Ibid.

5 "Drug Consultant Role Grows in Importance," Drug Topics, November 24, 1958, p.13.

literature could have prevented these unfortunate situations. In these cases, the physician learned his lesson through the response or lack of response of one of his own patients.

An unfortunate gap often exists between what physicians should know about current pharmaceuticals and what they do know. As a result, patients may not receive as good medical care as possible.

The Channels for the Dissemination of Therapeutic Information

The physican continually receives pharmaceutical product information from a variety of sources. He is the target of a multiformity of promotional techniques. Yet despite the quantity of these communications, the physician's inability to keep fully abreast of the latest pharmaceuticals remains a problem.

The channels of communication to the physician may be divided into primary and secondary sources. Primary sources include those forms of communication which seek out the physician and are a result of the manufacturer's promotional efforts. Secondary sources constitute those channels which the physician himself takes the initiative to seek out and are not directly connected with promotional techniques. The brief description which follows serves to illuminate the more popular sources.

Detailing, direct mail, journals, and convention displays are all primary sources of communication. It is simply because "the physician is a physician" that they are available to him. Opening a direct mail piece, or granting the detail man audience, is all the spark necessary to initiate the communication process.

Convention displays may be quickly dismissed as a source of information for the purpose of our present discussion, in that conventions occur sporadically. This is not to suggest that they are ineffective as promotional media. On the contrary, they are an important adjunct to the other primary forms of communication. However, they cannot in themselves conveniently keep the physican abreast, which is the problem at hand.

The detail man is a pharmaceutical sales representative who calls on the physician and acquaints him with his company's products. He not only disseminates product information, but he attempts to answer many more of the physician's questions. He is mentioned most frequently as a source of information by 44.3% of physicians.[6]

One possible shortcoming of the detailing effort is that the detail man is not always prepared to furnish complete product information. A number of physicians attest to this inadequacy.[7] Furthermore, because he does represent a particular company, the detail man may deemphasize his products'

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6 R. Ferber and H. Wales, The Effectiveness of Pharmaceutical Promotion, (Urbana, Illinois; University of Illinois, 1958), p.26.

7 "The Doctor Measures the Detailman," Medical Marketing, February, 1952, p.2.

contraindications and side-effects or tend to be biased in answering the physician's questions. Lastly, he is not a very accessible source, should the physician wish to confer with him.

Direct mail is a source of information most frequently mentioned by 11.0% of physicians.[8] Physicians often read only a portion of the mail they receive and this is probably due to its enormous volume. One physician puts it rather bluntly: "They bombard us with direct mail literature (?) to the breaking point. They devastate us! In fact, we get so much mail from some firms that we can't see the forest because of the trees."[9]

Much direct mail advertising gives incomplete information. It often contains little technical matter, serving the purpose of reminding the physician about the drug's name and action. It thus may take several advertisements to get the complete picture of the drug. The cumbersome and irregular size of many pieces often makes them unsuitable for filing purposes and the majority of it is placed in the waste basket.[10]

The medical journal is another primary source of information. Journals are mentioned by 31.4% of the physicians as the most frequent source.[11] As in direct mail, journal advertisements often furnish incomplete product information. Poor indexing makes them difficult to refer to again.

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[8] Ibid.

[9] "After Office Hours, "Obstetrics and Gynecology, October, 1958, p.492.

[10] "Modern Pharmaceutical Advertising," Indian Journal of Pharmacy, August, 1958, p.218.

[11] R. Ferber and H. Wales, loc. cit.

It is important to draw a distinction between journal advertising and journal articles. The Ferber and Wales study cited above fails to separate these into two distinct categories. Consequently their results are less meaningful.

The above brief descriptions serve to suggest one important point. Although primary sources have appreciable value as a means of making the physician initially aware of a product, their usefulness as a source to refer to in order to recheck a product's merit is limited. They carry initial impact, but are of limited value as a reference.

The physician may be made aware of a product's availability but have no occasion to employ its use. When a situation does present itself for which the drug is indicated, he may be unable to recall its complete properties. The primary sources have penetrated him and he has been led up to the stage of wanting to prescribe the drug. But he may ponder. Perhaps it is the dosage form, the strength, or even the correct spelling of the drug itself which has slipped his mind. And because of his incomplete knowledge for prescribing purposes, he may revert to an "old favorite." Or perhaps, if he is sufficiently motivated, he may seek out more information about a drug. To the author's knowledge, the frequency of such occurrences has never been reported. However, he believes such situations are not uncommon.

Colleagues, pharmaceutical reference books, and pharmacists are all secondary media. In this instance it is the physician who avails himself of these sources.

The Physicians' Desk Reference is a widely used reference book and is a valuable aid to the physician.[12] It classifies drugs alphabetically, therapeutically, and pharmacologically. Its major limitation arises from the absence of new products which have been introduced since its date of publication. Periodic supplements attempt to overcome this shortcoming. In addition, should the physician need information when he is on a patient call, the P.D.R. would have to be carried along with him to be of value.

Colleagues are an important means for information dissemination. Rapport with them may be established via telephone or during informal meetings and discussions. Assuming that the physician's colleagues are adequately informed, they can offer important assistance and therapeutic advice. In addition, they may recommend usage of a drug by relating their own experiences with it.

On the other hand, the physician may decline to use a colleague as a source if he feels he is displaying ignorance. Although this situation may be the exception rather than the rule, another shortcoming is apparent. The colleague cannot always be quickly contacted to answer the physician's questions.

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[12] National Research Co., Trends in the Use of Physicians' Desk Reference, (Philadelphia, Penna.; 1957), p.6.

The pharmacist is also used as a source of information by the physician. How adequately does he perform this function? This paper will attempt to explore this question. Disregarding the possible findings for a moment, this much can be said. The pharmacist is the most accessible of all the sources mentioned. It is simply a matter of the physician picking up the telephone and he can be sure there will be a pharmacist on duty to answer his questions. The physician may feel less embarrassed to ask the pharmacist than a fellow colleague since he is not imposing on a person with whom he is in competition. The pharmacist should also prove to be a less biased source than the detail man. The pharmacist is especially of value when the physician needs information quickly.

Primary and secondary media may be both complementary and supplementary. It is often a combination of these sources which leads the physician to prescribe a drug. It is quite possible that the physician may learn about a new drug through a secondary source or may be in a position to recheck a primary source to gain more information. The author has categorized the methods of communication in this way for claritive purposes.

CHAPTER II

THE PHYSICIAN-PHARMACIST RELATIONSHIP

Information Which the Physician Seeks

Physicians professionally communicate with the pharmacist under a variety of circumstances. They often telephone prescriptions for their patients, ask the pharmacist to refresh their memory concerning a prescription which they had previously written, as well as for other reasons. In the same respect, the pharmacist may call the physician, for instance, to verify a prescription which the doctor has written. In each of these instances, the pharmacist is performing an important function. The nature of this paper, however, specifically concerns itself with his role in the dissemination of product information to the physician, i.e., a channel which may help to shorten the gap between what the physician would desire to know about pharmaceutical products and what he actually does know.

A study conducted by the American Druggist showed the following percentage distribution of reasons for pharmacists receiving inquiries from physicians concerning products: Names of products, 82.2%; dosage, 71.8%; composition, 69.3%; availability, 68.2%; prices,

65.3%; form and packaging, 63.9%; who makes product, 57.4%; refill status, 18.8%; and cautions, 18.7%.[1]

It has been this author's experience that physicians do not always ask such questions outright. Rather, when calling the pharmacist they sometimes disguise their questions in the course of dictating a prescription for a patient. This subterfuge may or may not be intentional. It seems tenable that such a technique might especially be followed when a patient is in the physician's office at the time the phone call is made. In this way the physician does not display his incomplete knowledge of a drug before his patient.

Proposed Standards

Upon reviewing the problems of medical communication and the use of the pharmacist as a possible source of information, a rationalization is evident. Assuming the pharmacist can adequately perform this function, the physician should exploit his services because the physician needs this function performed. As logical as this statement sounds, it is often neglected in encouraging the pharmacist to perform this role. Too often, the pharmaceutical press suggests the pharmacist promote his advisory function in the expectation of attaining a greater prescription volume, aiding his

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1 "MD Visits to Pharmacies Rise 15% in Cities, 5% in Small Towns, Study Finds, American Druggist, April 21, 1958, p.5.

professional reputation, and raising the physician's esteem of pharmacy. Typical is a comment which suggests the following to be accomplished in being of service to the physician: "....to foster and secure a cordiality and a degree of professional intimacy that eventually and inevitably will result in the physician's increased reliance upon our services, plus a consequently increased patronage."[2]

True, it is likely the pharmacist will increase his prescription volume and will elevate the profession of pharmacy. But these ends should be considered by-products of a more vital role. That role is to perform this function because the physician needs it performed. It is this altruistic objective toward which the pharmacist should concentrate his efforts.

What, then, should be expected of the pharmacist? The pinnacle of performance would have the pharmacist commit the information to memory. But no doctor can expect the pharmacist to perform in this manner. What the physician does expect is that he can supply the information and supply it quickly.[3] One other consideration bears mention. It is conceivable that the pharmacist be held

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[2] C. A. Graham, "Do it Yourself Detailing," Southern Pharmaceutical Journal, October, 1957, p.20.

[3] "The Pharmacist's Roundtable," American Professional Pharmacist, August, 1956, p.705.

liable should the information he supplies be incorrect or inadequate.[4] This thinking should flavor our entire consideration of his function.

A distinction is in order at this time. The pharmacist has variously been described as being able to supply information to the physician and as serving the function of a therapeutic consultant. This difference in phraseology is not merely a semantical play of words. Rather, the former role is that of directly reporting information about a product. The latter terminology of "therapeutic consultant" denotes a discriminatory ability to compare the therapeutic properties of medication and offer an unbiased opinion of the efficacy of a particular product for a given situation.

It is necessary to think of the standards to which the pharmacist should be held, in a realistic light. Many pharmacists perform duties both directly related to and completely removed from the province of pharmacy as a profession. It is with this inherent thinking that the author submits the following standards as being tenable:

If the pharmacist is to be held as an information source, all pharmacists should be readily accessible to the physician. Should a physician desire to know of the availability of medication with a given therapeutic action, every pharmacist should be held to supplying this information. Here is where the pharmacist's discretionary

ability is to be exhibited. From the gamut of products available, the pharmacist should be capable of discerning which drugs display the desired action. Next, the pharmacist should have adequate pharmaceutical literature at his disposal in order that he might refer to it to supply a detailed monograph of the products he mentions to the physician. The time necessary to seek out this information should be minimal.

The author would hold that a number of pharmacists go beyond the role as a source for information. Here a therapeutic consultant ability is to be expected. Given, that many pharmacists perform a host of sundry duties which are unrelated to pharmacy, they would find it difficult to keep completely abreast for this consultant role. This standard should be expected of those pharmacists who devote a preponderance of their time to the handling and dispensing of pharmaceuticals. Moreover, it seems likely that the physician would be more prone to seek such individuals in wanting product information or advice.

The above terms such as "minimal" and "adequate" are not unequivocal. Their interpretation will be differently construed from physician to physician. Moreover, for each particular drug in question, the meaning of these terms may vary. It would be unrealistic to assign these words absolute values. The author's above "job description" is intended to suggest a model environment toward which the pharmacist's actual performance should be viewed.

CHAPTER III

METHODOLOGY

Having presented evidence that the pharmacist is, in fact, being used as a source of information to the physician, it is the purpose of this study to determine how well he is performing this service. Perhaps his performance is inadequate. Then again, he may be fulfilling this role commendably. In this case he should gain greater recognition and the physician should be encouraged to refer to him more frequently.

It is with this background that a hypothesis is established; "The pharmacist today is capable of functioning as a source of information to the physician." As suggested in Chapter II, the physician may call upon the pharmacist for a variety of reasons. The scope of this paper is limited to the pharmacist's ability to supply product information to the physician. It should be pointed out that the hypothesis tests the pharmacist's ability to disseminate information to the physician. If the research findings demonstrate that the hypothesis is proved, this does not necessarily indicate that the pharmacist is also functioning as a therapeutic consultant. As a by-product of this study, however, it is

hoped that some qualitative reflections of the pharmacist's performance as a therapeutic consultant can be obtained.

Research Design and Data Collection Method

An experimental design was used to test the hypothesis. It may well be described as a hybrid of the observational and questioning techniques.

In order to minimize bias which might arise as a result of the pharmacist reacting unnaturally to a questioning process, an experimental situation was created. The situation attempted to elicit the pharmacist's response as he normally would perform in his natural environment.

This experiment was conducted with the aid of a physician. A test city was selected. Within that city, every retail and hospital pharmacy was called on the telephone and the pharmacist answering was asked for his help in supplying information concerning pharmaceutical products for a given condition. The pharmacist had no reason to believe that the inquiry was anything other than an actual phone call to solicit his help. Nothing suggested otherwise.

The pharmacist was asked to suggest products which might be indicated for an already diagnosed situation.

After naming the products he thought to be desirable, the pharmacist was then asked questions about two of the products he mentioned which differed chemically. A nonstructured questionnaire, designed to elicit comparable responses was used. The pharmacist was asked questions concerning the manufacturer, forms, strength, dose, composition, and cautions of these two products. In addition, miscellaneous observations were recorded as well as the time it took the pharmacist to supply the requested information.

The Pretest and its Value in Refining the Methodology

The research design was pretested in two large metropolitan areas, one in the Midwest, the other in the East. In formulating the questioning procedure, an attempt was made to reach a delicate balance between thoroughly examining the pharmacist and abbreviating the conversation sufficiently to prevent arousing any suspicion.

In the initial pretest, seven pharmacies selected at random were called. It was determined that during the initial conversation, it was possible to obtain the name of the pharmacist who answered the telephone. The pharmacist was confronted with a situation in which an adult patient was on reserpine (a hypotensive agent

occasionally used as a tranquilizer) and it was desired that the patient be switched to a tranquilizer which did not demonstrate the blood pressure lowering effect of reserpine. During each pharmacist's reply there was an attempt to establish a pattern of questioning which would elicit a natural and comparable response. Upon examining the results of this pretest, it was found that an important bias might enter into the study if tranquilizers were to be used as the drug category. Because tranquilizers are relatively new pharmaceuticals, they were thought to be unsatisfactory. A group of pharmaceuticals which comprises both older drugs as well as drugs of recent origin might minimize this bias.

Therefore, it was decided to establish a condition for which both old and new medication might be prescribed. The category of antibiotics offered such characteristics. To further delimit this group, it was decided to narrow the choice to those antibiotics whose chemical structures were not similar to tetracycline or penicillin. With this thinking, a new experimental situation was established. In this instance the patient was being administered a brand of tetracycline and did not seem to be responding properly. It was suggested that the patient had a case of resistant staphylococcus and that tetracycline was ineffective. The pharmacist was then asked

to suggest products which were available for resistant staphylococcus and the same questioning procedure of selecting two drugs which he mentioned was followed.

There are eight antibiotics which can be used for cases of resistant staphylococcus which do not respond to tetracycline or penicillin. By referring to Modern Drug Encylopedia[1], it was found that two pharmaceuticals, chloramphenicol and erythromycin were introduced before 1954. The other drugs for resistant staphylococcus, namely novobiocin, oleandomycin, carbomycin, erythromycin proprionate, ristocetin, kanamycin, and vancomycin are of more recent origin. Of these, ristocetin, kanamycin, and vancomycin are absorbed systemically only upon injection. Hence, they are largely limited to hospital dispensing. Many of the above chemicals are marketed under a variety of trade names and often are available in combination with other antibiotics.

The new experimental situation was again pretested on nine pharmacies in another area. It was found possible to inquire as to the source which the pharmacist used to supply his information. The questioning process was arranged in such a way that toward the close of the conversation, the physician wanted reassurance that the source the pharmacist used was an authoritative one. The pretesting procedure was continued until the questioning process had established a uniform nature and elicited comparable responses.

The test city contained fifty-seven pharmacies. Four of the pharmacies were associated with hospitals. Eight pharmacies devoted their efforts entirely or primarily to the filling and dispensing of prescriptions and related items. They will be designated henceforth as "prescription pharmacies." The forty-five remaining pharmacies will be called "traditional pharmacies."

The experiment was conducted on two successive days, a Tuesday and Wednesday during the month of January, 1959. In attempting to prevent any "leakage" due to pharmacists of different stores talking to one another during the days of the test period, all independent harmacies were called the first day. The second day was devoted to questioning pharmacists in a group of chain stores.

Advantages and Limitations of the Methodology

Every effort was made to have the experimental situation approximate that of actual conditions. If we may assume the questioning process did, in fact, resemble an actual situation, then we can assume that the pharmacists responded as they would in practice.

A major limitation arises from the fact that the experiment was conducted in a test city. As such, the results are a reflection of the pharmacies' performance within that city. There is no reason to believe, however, that the city is atypical or that the results cannot be projected to pharmacy in general.

Probably the greatest limitation is that of the drug category on which the pharmacist was questioned. As was pointed out earlier, an attempt was made to minimize the bias in selecting the category. None the less, there is no "typical" class of drugs which the physician refers to the pharmacist for information.

Because the experimental situation tended to liken actual conditions, the questioning per se did not introduce a bias. In addition, there was no "nonresponse" and it can be assumed that the pharmacist did not hold back any information which he would give to the physician under actual conditions.

Finally, because it was not practicable to complete the test in one day, an attempt was made to minimize any "leakage" in the course of pharmacists of different stores talking to one another during the days of the test period. This was accomplished by calling independent pharmacies during the first day and chain stores on the second day. Should knowledge of the experiment have become known, the experimental situation would have been destroyed.

CHAPTER IV

TEST OF THE HYPOTHESIS

The experiment was conducted as planned on a Tuesday and Wednesday during the latter part of January. Fifty-seven pharmacies were called. The median conversation lasted 290 seconds, with a range between 20 and 600 seconds.[1] At no time did the pharmacists display reactions which indicated they were aware of an unnatural situation.

The pharmacist answering the phone was asked to suggest antibiotics which might be used for an adult patient with resistant staphylococcus. After the pharmacist named products he thought to be desirable, two pharmaceuticals he mentioned which differed chemically, were selected. He was questioned further concerning these products. The median time necessary to locate information about these products in question was 45 seconds, with some pharmacists having the information immediately available and one pharmacist leaving the telephone for a total of 285 seconds.

In order to compare the pharmacists' response to a standard to determine if their answers were acceptable, a

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[1] includes the time spent speaking with the pharmacist and the time necessary for him to locate the information.

"master chart" was constructed. This standard consisted of information available in the Modern Drug Encyclopedia[2] and was supplemented, where necessary, with product information distributed by the manufacturer. Thus, a complete picture of the pharmaceuticals in question was obtained.

During the conversation, it was possible for the pharmacist to mention several brands of antibiotics and yet have named only one chemically different product for resistant staphylococcus. This is because of the many brand names for the same drug and the combination of products with which the antibiotic could be included. In the cases where only one chemically different antibiotic was mentioned by the pharmacist, he could be questioned thoroughly about one particular product only. If the pharmacist could not describe any antibiotics for the condition indicated, it was impossible to go any further in the questioning process. Therefore, some pharmacists were not questioned about any product information, others questioned about one product, and still others asked information concerning two products which they mentioned. This number depended upon their initial response when asked to suggest specific medication for the condition. During the study, the respondents together answered a total of 540 questions concerning the following categories: manufacturer, forms, strength, dose composition, and cautions.

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[2] Modern Drug Encyclopedia, seventh edition, Drug Publications Incorporated, New York, New York

Three types of answers were possible for the products in question: a correct answer, an incorrect answer, and a "don't know" or incomplete answer. It is upon the results of these responses that the hypothesis, "the pharmacist today is capable of functioning as a source of information to the physician" is accepted or rejected. The total percent of correct answers concerning product information which were given by the respondents are as follows:

TABLE I

PRODUCT INFORMATION CORRECTLY REPORTED

questioned on	percent answers which were correct
manufacturer	100.0%
forms	98.9
strength	98.9
dose	94.4
composition	100.0
cautions	41.1

It therefore appears that the pharmacist is appreciably weak in being able to supply information concerning the cautions to be observed with pharmaceuticals. These cautions include both contraindications and side effects. As mentioned in Chapter III, a survey by the American Druggist showed product cautions to be the most infrequent type of information asked by physicians. Only 18.7 percent of the pharmacies surveyed by the magazine stated that physicians asked them information concerning drug cautions.

Of the pharmacists who were questioned about product information, five reported unacceptable answers compared to the standard. The following answers were considered incorrect:

Forms - one pharmacist mentioned only the pediatric syrup for one of the antibiotics when an adult capsule was marketed. However, he did supply the correct adult dosage for the pediatric form. Thus, the patient would have received the proper dose, but in a pediatric syrup.

Strength - one pharmacist mentioned only the lesser strength capsule of one of the antibiotics when a stronger adult capsule was marketed. He too, however, supplied the correct adult dosage.

Cautions - three pharmacists incorrectly stated the cautions of the antibiotics on which they were questioned. Two reported that the product had no cautions where cautions should have been observed. One pharmacist suggested the "usual" antibiotic cautions be noted, where the product had an important caution unlike those of the other antibiotics.

The median number of products mentioned in the initial conversation with the pharmacists, and which differed chemically and was correct, was two antibiotics. Of the products mentioned by all the pharmacists as being indicated for resistant staphylococcus, seven were unacceptable. Of these seven products, five such were of the tetracycline structure and therefore offered no particular advantage. Two drugs mentioned were of no value in treating the given condition. It should be mentioned that the pharmacists who suggested these seven incorrect products were not further questioned about them but were asked product information concerning two of the correct products which they mentioned. It seems conceivable that had these pharmacists been asked further questions about the incorrect products mentioned (which would likely be the case in physician-pharmacist relations) and had they therefore been encouraged to seek more information concerning the products in question, they might have discovered their error.

With these major findings presented, is the hypothesis accepted or rejected? As mentioned previously, a performance termed "acceptable" may be differently construed from physician to physician.

Based on the findings of this study, the author would tend to accept the hypothesis and state that the pharmacist today is capable of supplying the physician with information.

It is interesting to observe some further data revealed by the study concerning the category of pharmacies surveyed. Forty-five traditional pharmacies, eight prescription pharmacies, and four hospital pharmacies were included in the study.

In several instances, a sales clerk instead of a registered pharmacist answered the telephone and therefore the pharmacist had to be called to the phone. This idea of having a non-pharmacist answer the telephone may annoy an impatient physician and has been frowned upon.

Of those pharmacies which had a non-pharmacist answer the phone, it took a median average of twelve seconds for the pharmacist to come to the telephone, with a time range between seven and forty-two seconds. The percent of pharmacies who had a non-pharmacist answer the telephone during the survey, was as follows:

TABLE II

PHARMACIES IN WHICH NON-PHARMACIST ANSWERED PHONE

type of pharmacy	percent of stores in which non-pharmacist answered
prescription pharmacy	25%
traditional pharmacy	20
hospital pharmacy	0

Upon tabulating the number of antibiotics correctly which differed chemically and were mentioned by the pharmacists, there was a median average of two pharmaceuticals

mentioned by the prescription and traditional stores, and four and a half products mentioned by the hospital pharmacies. The response is further classified as follows:

TABLE III

CORRECT MENTIONS BY TYPE PHARMACY

type of pharmacy	number of pharmacies mentioning ---- products						
	0	1	2	3	4	5	TOTAL
prescription pharmacy	0	2	4	1	1	0	8
traditional pharmacy	4	12	25	2	2	0	45
hospital pharmacy	0	0	0	1	1	2	4

Two prescription pharmacies and five traditional pharmacies suggested unacceptable antibiotics to be used for resistant staphylococcus. All the hospital pharmacies correctly named suitable products.

The total percent correct answers given concerning product information, by type pharmacy is as follows:

TABLE IV

CORRECT PRODUCT INFORMATION BY TYPE PHARMACY

type of pharmacy	total percent correct answers (concerning manufacturer, forms, strength, dose, composition, and cautions)
prescription pharmacy	90.5%
traditional pharmacy	87.7
hospital pharmacy	95.8

In supplying product information, two of the prescription pharmacies and three of the traditional pharmacies furnished incorrect information. None of the hospital pharmacies furnished incorrect information.

The above data, in which non-pharmacists answering the telephone, correct mentions, and correct product information are classified by type of pharmacy, suggest an interesting observation. The prescription pharmacies which devote a majority of their time to the filling of prescriptions and who might be expected to demonstrate a generally superior performance as compared to the traditional pharmacies, surprisingly do not do so.

It was also possible, through alumni records and pharmacy extension files, to obtain the year of graduation of the pharmacist who answered. The respondents are distributed as follows:

TABLE V

DISTRIBUTION OF PHARMACISTS BY YEAR OF GRADUATION

year of graduation	number of pharmacists in study
1905-1910	1
1911-1920	4
1921-1930	9
1931-1940	12
1941-1950	14
1951-1958	17
	57

The number of antibiotics which differed chemically and were correctly mentioned by the pharmacists can be examined according to their year of graduation:

TABLE VI

CORRECT MENTIONS BY YEAR OF GRADUATION

year of graduation	average number of products mentioned	number of respondents
1905	2	1
1911	2	2
1918	2	1
1920	1	1
1921	5	1
1922	3	1
1924	3	1
1925	0	1
1926	1	2
1927	2	1
1929	1	1
1930	1	1
1931	1	3
1933	3.5	3
1936	2	1
1937	2	2
1938	2	1
1940	4	2
1941	2.5	2

(Continued)

year of graduation	average number of products mentioned	number of respondents
1944	7	1
1947	2	3
1948	1.5	2
1949	2.5	2
1950	2.5	4
1951	2.8	5
1952	1	1
1953	2	3
1954	3.5	2
1955	4	4
1956	2	1
1958	2	1
		57

When graphed, these data exhibit wide fluctuations. A line through these fluctuations drawn by the method of semi-averages shows an upward trend in the number of products mentioned, the more recently that the pharmacist graduated.[3] Nevertheless, the fluctuations are very pronounced.

When the information concerning a type of antibiotic to be used for resistant staphylococcus is suggested by the pharmacist answering, his discriminatory ability is exhibited. For he should only mention those antibiotics

[3] Proper weighting was given to those years in which more than one pharmacist responded.

which he believes acceptable. Thus, based on the above data, it appears that the time elapsed since formal education of the pharmacist has little bearing on his ability to report this information. The older pharmacy graduates appear to be performing about as well as the newer graduates.

The incorrect products mentioned during the initial conversation also bear no particular relationship to recency of graduation. Four products were incorrectly named by graduates before the class of 1950 and three drugs were wrongly named by graduates from 1950 to the present.

An irregular fluctuation also exists when the percent of correct answers to the questions concerning product information is graphed. Grouped by ten year intervals, the results are as follows:

TABLE VII

CORRECT PRODUCT INFORMATION BY YEAR OF GRADUATION

year of graduation	total percent correct answers (concerning manufacturer, forms, strength, dose, composition, and cautions)
1905-1910	91.7%
1911-1920	77.8
1921-1930	87.5
1931-1940	91.7
1941-1950	88.4
1951-1958	90.2

The pharmacist's response to the questions concerning product information does not necessarily have a bearing on his recency of graduation from pharmacy college. It may more be a reflection of other variables such as the type of pharmacy in which he is employed and the reference facilities the pharmacy has available.

The Physicians' Desk Reference[4] and the Modern Drug Encyclopedia are references sometimes used by physicians and pharmacists. They not only are sources for product information, but contain indexes which classify the products therapeutically. A well kept filing system would also offer this advantage. Ten and a half percent of the pharmacists in the study used the Physicians' Desk Reference to supply the information, 8.8 percent used the Modern Drug Encyclopedia, and 1.8 percent used file cards. Some pharmacists, included in these percentages, employed a combination of these sources. The following chart shows the total number of products mentioned by those pharmacists who used these references:

TABLE VIII

PRODUCTS MENTIONED BY PHARMACISTS WHO USED SPECIAL REFERENCES

Total number products mentioned	percent of pharmacists who used Modern Drug Encyclopedia, Physicians' Desk Reference, and/or file cards
1	0.0%
2	54.5
3	18.2
4	9.1
5	9.1
6	9.1
	100.0

[4] Physicians' Desk Reference, thirteenth edition, Medical Economics, Inc., Oradell, New Jersey.

When we consider that there are eight products available for resistant staphylococcus (five of which are orally used for systemic medication), it appears that the pharmacists who have and do use these references are not using the cross indexes properly, or these references are not up to date. Moreover, the author was aware that many of the pharmacies called had file systems or reference books but the pharmacists in these stores did not use them.

Many pharmacists answering the telephone appeared to do nothing more than go to the shelf and name the products they had in stock which they believed to be useful for the given condition. Thus, their suggestions were limited to the products they had on hand. When asked for additional product information, they would do nothing more than read the label of the package. They would often go no further.

During the survey, it appeared that the pharmacists questioned had an excellent off-the-cuff knowledge of the physical properties of the pharmaceuticals they mentioned. During the conversation, they did not appear to allow individual company favoritism to bias their remarks. Many pharmacists had difficulty communicating in professional terms. Moreover, several exhibited extreme difficulty in pronouncing the chemical names and reporting the technical terms which were included in the product information at hand.

Only two pharmacists, both of hospital pharmacies, displayed an ability as a therapeutic consultant, in the author's estimation. In each of these instances, although they mentioned several antibiotics which would prove of value for resistant staphylococcus, they recommended the particular products giving the best results in that hospital. They singled them out as being more desirable than the other products which they mentioned.

One of the hospital pharmacists went a step further and displayed what appeared to be an exceptional ability as a therapeutic consultant. In addition to suggesting an antibiotic of choice, he virtually reported verbatim the results of an annual antibiotic symposium which had been conducted three months previously.

None of the pharmacists in the prescription or traditional pharmacies appeared to display a consulting ability. A few of the pharmacists did, however, indicate that a particular product seemed especially desirable. In each instance, they based their recommendation on the fact that "Dr._____writes for_____", or "we're getting the most prescriptions for_____." Therefore, the retail pharmacists in this study appeared to base their approbation on the volume of prescriptions written for a particular product. This source appears questionable unless the pharmacist actually knows the conditions under which the medication was prescribed.

However, the retail pharmacist's responding in this manner raises an important question. If the pharmacist is to perform as a therapeutic consultant, where is he to obtain his information? The physician may evaluate pharmaceuticals by administering them to his patients and observing the response. The retail pharmacist is offered no such opportunity. In his case, it is possible to evaluate pharmaceuticals by speaking with physicians or by reviewing clinical reports. And it has been this author's experience that the volume of clinical reports received by the average pharmacist both in pharmaceutical journals and through drug literature is wanting in too many instances.

If pharmacists are to perform as therapeutic consultants, it is necessary that they obtain more detailed information about pharmaceutical products. Perhaps the pharmacist needs an unbiased source to digest and evaluate this information for him. Nevertheless, the retail pharmacist performing as a therapeutic consultant raises a serious question in light of the popular sources which presently are available to him, and this appears to have been overlooked by many in pharmacy.

CHAPTER V

SUMMARY

A distinction was made previously between the pharmacist functioning as a source of information to the physician and as a therapeutic consultant. The former role is that of directly reporting information about a product. The latter terminology denotes a discriminatory ability to compare the therapeutic properties of medication and offer an unbiased opinion of the efficacy of a particular product for a given situation.

If the sample area used in this study is considered typical, then the physician calling the pharmacist in reference to routine information concerning pharmaceutical products can expect the pharmacist to supply this information. Pharmacists today do not appear to be functioning as therapeutic consultants, however.

It appears likely that physicians would be more inclined to seek out those pharmacies which they believe to be especially competent and which have performed proficiently in the past. If this is true, then in actual practice a relatively small number of pharmacists might be expected to answer a majority of the physicians'

questions. In this study, every pharmacy in the test area was examined. If pharmacists are to be proclaimed as a source of information to the physician, then all pharmacies should be held to this function.

Probable Factors

The results of this study indicate a wide range of responses by the pharmacists. Some performed exceedingly well while others were barely acceptable. A number of factors probably contribute to this wide variation in response. No attempt is made to offer a complete explanation. However, several more prominent factors appear tenable.

If all pharmacies are to be held to be sources of therapeutic information to the physician, then perhaps there are too many pharmacies in existence today. The number of prescriptions may not warrant them all taking this responsibility upon themselves. Stores which dispense few prescriptions may believe it unnecessary to organize reference files and keep abreast of the pharmaceutical literature.

This is not necessarily to suggest that there are too many pharmacies *per se*, but an excessive number may exist if all pharmacies are to function as sources of information and therapeutic consultants. It may be argued

that this is not the primary function of pharmacy and if pharmacy is to help safeguard public health, then a large number of pharmacies must exist that they be conveniently accessible to the public. Perhaps pharmacy should be called upon to redefine its goals and objectives in terms of the extent to which it desires to be of service to the physician.

To perform proficiently as a source of information and therapeutic consultant requires an appreciable amount of time and effort on the part of the pharmacist. Realizing the difficult nature of this task, does the pharmacist receive sufficient financial reward for performing this service? It is debatable whether the supposed increase in prescription business which the pharmacist may hope to acquire is an adequate return for his efforts. And the physician is forbidden by ethics to direct a patient to a particular pharmacy.[1] This consideration may well influence the decision of the pharmacist to avoid taking these responsibilities upon himself. Should the information he willingly provides be in error, it is possible that he be held liable.

Another explanation for the wide variation in response is that the physician today may not be calling upon the average pharmacist with sufficient frequency to encourage his performing these functions. Perhaps the

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[1] I. Bellafore, "Therapeutic Consultant," Journal of the American Pharmaceutical Association, Practical Edition, February, 1958, p.90.

physician has found the pharmacist to perform rather poorly in the past. Then again, the physician may believe himself to display ignorance when calling upon the pharmacist or he may not wish to seek someone of "lower stature."

The physician's omnipotence may be another reason for his disinclination to seek the pharmacist. Some physicians consider themselves supreme healers and they do not wish to share their success with anyone.[2]

The physician's reluctance frequently to avail himself of the average pharmacist represents a chicken-and-egg dilemma. Should the physician be encouraged to call upon the pharmacist with greater frequency and thus motivate the pharmacist to perform in these capacities? Or should the pharmacist be encouraged to seek greater proficiency and thereby encourage the physician to call upon him?

Poor communications may be another explanation for many pharmacists' shortcomings. An American Druggist study shows that pharmacists generally believe the manufacturer does not give them enough information.[3] Of course this is a matter of degree and it is conceivable that the pharmacist wishes to be "spoon fed" and even then

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2 "Basic Motives for M.D. Dispensing," American Druggist, April 23, 1956, p.11.

3 "MD Visits to Pharmacies Rise 15% in Cities, 5% in Small Towns, Study Finds," American Druggist, April 21, 1958, p.6.

he may discard the information given to him. Yet it is most disconcerting to see medication supplied to the pharmacist with the legend "literature available to physicians upon request."

The quality of communications may present another problem. The literature which the pharmacist receives may minimize the product's undesirable qualities.[4] Many of the references currently used by pharmacists and said to be of value are nothing more than superficial in nature. Although the pharmacist may have purchased these references with the intention of using them as an aid in helping the physician, these sources often leave much to be desired in thoroughness.

Educational Implementation

What factors appear to be emboldening the pharmacist to be of service to the physician and strengthening his present preparedness? Some important directive institutions seem to be gaining recognition.

If graduate pharmacists are to serve proficiently as therapeutic consultants, then the courses in pharmacy schools may have to be revamped.[6] A five year pharmacy program to be adopted in 1960 may prove to strengthen the pharmacists's knowledge of the biological and medical sciences.

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[4] Solomon Garb, "The Reaction of Medical Students to Drug Advertising," The New England Journal of Medicine, July 17, 1958, p.121.

[5] I. Bellafore, loc. cit., p.91.

[6] Ibid.

Postgraduate education of the practicing pharmacist is also an effective media in assisting him to better assume his functions. Recently, pharmacy extension services have been playing an important role in postgraduate education of the pharmacist. The pharmaceutical press and professional organizations also are valuable sources for information and instruction.

Yet despite the wealth of literature which can be placed at the pharmacist's disposal, its persistence will be of no value unless the pharmacist avails himself of the information, reviews it continuously, and maintains it for handy reference. It is the pharmacist himself who will determine how well or how poorly he will be prepared to function as a source of information and therapeutic consultant.

State Board regulation has been suggested as a possible answer. One state is considering making it mandatory for a registered pharmacist to attend a refresher course at least once in four years in order to be eligible for re-registration.[7] But in the author's estimation, legislation is an artificial means to an end. If pharmacy truly is a profession, then the desire to be of service should be an inherent responsibility coveted by each and every pharmacist. No other approach can be as positive.

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[7] The Voice of the Pharmacist, July 29, 1958.

The term "professional" is not to be commanded by a body for its own satisfaction. Legislation does not make a group a profession. It is a bestowed, not a self-appointed recognition. Semantics gets us nowhere.

If pharmacy be deemed a profession, then it is more than a promulgation. It is an honor, a trust.

It is a way of life.

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