

TABLE III.
Compound Cresol Solution.

Sample No.	0.5% Solutions.		5% Solutions.	
	Observed S. T.	Temperature.	Observed S. T.	Temperature.
19	30.33	28.0 degrees	34.60	28.5 degrees
35	31.17	28.0 degrees	35.40	29.5 degrees
36	29.75	28.0 degrees	35.12	29.5 degrees
37	30.19	28.0 degrees	34.87	29.5 degrees
38	30.50	28.0 degrees	35.33	29.5 degrees
39	29.92	28.1 degrees	35.27	29.5 degrees
41	30.72	30.0 degrees	34.92	30.7 degrees
42	30.47	30.4 degrees	34.26	30.8 degrees

The observed surface tension readings are in dynes per centimeter and are given as relative values only. They are the averages of several measurements upon each of the dilutions.

In conclusion we wish to suggest that it is our belief that a solution so well known and widely used as is Compound Cresol Solution deserves to be made with considerable exactness. This can be done, by using high-grade chemicals, and refined technique. Reasonable standards for purity of the finished product could then be worked out.

REFERENCES.

- (1) *Chem.-Ztg.*, 12, 186; through *Archiv f. Pharmacie*, 226, 217 (1888).
- (2) "Bull. Subcommittee 12, U. S. P. X.," pages 9-10.
- (3) Éwe, George, *Proc. Penna. Pharm. Assoc.*, 41, 166 (1918); through *YEAR BOOK, A. PH. A.*, 7, 206 (1918).
- (4) "Bull. Subcommittee 12, U. S. P. X.," pages 31 and 107.
- (5) The Ring Method for Surface and Interfacial Tensions, "Bull. 101, pages 15 and 18, Central Scientific Co."

THE HOSPITAL AND THE PHARMACIST.*

BY H. C. MCALLISTER.¹

With the evolution of hospital care and group hospitalization in this country, it has become necessary for the institutions to give more efficient service at a lower cost to the patient than was formerly the case. This is true from a professional as well as an economical point of view. Many institutions, especially those doing some non-profitable work, find it difficult to meet the economic demands which are being made of them at present. It is with these conditions in mind that the following observations are recorded. It is believed that they will very probably apply to a majority of the hospitals of the Southeast, and may suggest a method of remedying some of the conditions met in dispensing medication.

Many of the smaller hospitals are still operating with a "Drug Room" method of dispensing under supervision of a graduate nurse, who has had no particular training in this work. She is assisted by student nurses who refill supplies or stock preparations kept on the wards, as well as compounding the simpler prescriptions written by the Visiting Staff. The prescriptions which are too complicated to be filled by the nurses are sent to an outside pharmacy. This system obviously has a few advantages:

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- (1) Supplies can be obtained at any hour of the day or night.
- (2) The operating personnel is practically no expense to the hospital.

The disadvantages are:

(1) Prescriptions are filled by unqualified persons with a great risk to the patient's welfare and the hospital's reputation. This is necessarily true where untrained, immature persons are allowed to refill stocks of potent drugs and compound prescriptions of a similar nature.

(2) Supplies are often allowed to become exhausted due to lack of foresight on the part of student nurses, whose duty it is to keep up the want list. This impairs the service of the hospital greatly.

(3) The students are usually rotated every four to six weeks so that when a student becomes proficient enough to manage the system she is replaced by a new student.

(4) Such a method is very expensive for the quality of service obtained. The handicaps of such a routine could be enumerated in great detail.

The first suggestion is, of course, the employment of a pharmacist. The type and size of the hospital must be considered before any definite decision might be made that it can support a pharmacist. Some comparative information may be gained from the experience of an institution that has had the services of a pharmacist for one year. The capacity of this institution is 225 beds, and it has an average of from 125 to 150 patients per day. This is slightly larger than most of the hospitals operating without a pharmacist but it can be easily seen from the following outline that smaller institutions cannot only afford but profit by the services of one trained in the art of manufacturing and dispensing.

As an experiment this hospital employed a pharmacist who relieved the nurses of all of their duties connected with the dispensing of drugs. The duties consisted of refilling such stocks as were kept on the wards, filling prescriptions, ordering drugs and the preparations of intravenous solutions. Under the system then being employed the plan proved to be very time-consuming. The average number of patients at that time was about 135 per day and the attending physicians wrote special prescriptions on their morning and evening visits. Many patients were medical cases and the number of special prescriptions, averaging between thirty-five and forty per day, was disturbing. Due to these special prescriptions valuable time was consumed with the medications of a comparatively few patients.

The first step to eliminate this variety of prescribing was to compile a formulary. A list was prepared from the most useful prescriptions employed by the Visiting Staff including some preparations from the U. S. Pharmacopœia, the National Formulary and the Recipe Book. Special efforts were made to include those preparations which were counterparts of certain popular proprietary preparations. The list was presented to the staff for their consideration, correction and revision. Promotion of these formulary preparations was done when the members of the staff called at the Pharmacy for information about other preparations. In order to accomplish this purpose, tact must be exercised in order not to antagonize the physicians in attempting to substitute official preparations for proprietary remedies; one or two suggestions should be made at a time. In this manner a splendid spirit of coöperation can be established between the physician and the pharmacist. Some preparations worked out by the pharmacist for the particular needs of the hospital proved to be of special interest to the staff. This interest was further stimulated at staff meetings which are held once a month. Papers are read at these meetings

concerning the new preparations to be added to the formulary. Usually two or three preparations of the same nature are presented at each meeting and the merits and demerits of each are discussed. This serves to acquaint the physician with the particular item under discussion. Only basic drugs or preparations were submitted at these meetings. After the formulary had been in use for six months the number of special prescriptions was reduced to ten or fifteen a day. This allowed several hours of extra time which could be devoted to manufacturing, replacing supplies, studying, etc. It also saved much medication since special prescriptions when returned from the wards are discarded.

Shortly after the formulary was introduced the hospital adopted a flat-rate charge. Included in the flat-rate a definite sum was charged for the room and ordinary drugs, dressings, X-rays, laboratory work, etc. The term ordinary drugs was construed to mean drugs contained in the formulary. This proved to be most successful, since the physicians, interested in keeping the cost of hospitalization as low as possible for the patient, would use stock preparations when the basic ingredients of which were analogous to those of proprietary preparations. The medication to the charity patients was limited to stock preparations as far as it was possible. On several occasions it was found that the formulary was too limited in its scope and additions were made.

After using the list for some months it was found to contain some preparations for which there were no calls. These had found their way into the list because of their popularity elsewhere. This would indicate that it is necessary to compile an individual list for the particular needs of the institution.

Records were kept including (1) the number of times the "special preparations" were called for; *i. e.*, those preparations not included in the U. S. P. or N. F. but those that had been used in the hospital or in other institutions; (2) the name of the doctor prescribing these preparations. If the frequency of prescribing a certain preparation was below a definite figure in a justified period of time the attention of the physician ordering it was called to a similar preparation, which was contained in the formulary. In this way it was possible to eliminate the rarely used preparations, and further standardize the prescribing. There are certain types of medication for which the indications for use are seldom. Consideration must be given to this type of medication lest it be deleted without warrant, due to its infrequency of use and to overlook this fact will defeat the purpose of much hard work.

Some idea as to the amount saved in stabilizing the prescribing and by careful buying may be gained from the following:

	1933.	1934.
Cost per patient day for drugs	\$0.1421	\$0.1138
Cost per patient day for misc.	0.0304	0.0151
	<hr/>	<hr/>
Total cost per patient day for Pharmacy	\$0.1725	\$0.1289

If the cost of the pharmacy for 1934 is figured on the basis of the cost per day for 1933, a saving of 26.43% on operation is noted. A comparison of the inventory of the two years adds to the total potential savings, since that of 1934 was about 50% over the inventory of the preceding year. The cost per patient day considering this increase in inventory is reduced to \$0.1186 which indicates a total potential saving to the institution of 31.18%.

The question of salaries arises in figuring the total cost of operating the pharmacy. Under the old system one-half of the graduate nurse's salary was included in the cost of maintaining the pharmacy and the remainder was charged to nursing service. Under the new system, the entire salary of the pharmacist, as well as that of the employee who did cleaning, etc., was charged to the Pharmacy. The salary paid was based on the average paid in the community, and included full maintenance in the institution. The hours spent in work were shorter than those of other pharmacists in the neighborhood.

It is believed that these conditions will apply in varying degrees to every institution averaging over fifty patients per day, and that such institutions can well afford the employment of a pharmacist for the following reasons:

- (1) Nurses are relieved to do nursing duties.
- (2) Closer coöperation between the institution and the doctor can be secured.
- (3) Dispensing is standardized and the welfare of the patient as well as the reputation of the hospital is protected.
- (4) A pharmacist can operate the pharmacy at a lower cost (including salaries) than can a person untrained in the art of dispensing.

THE VISIBLE PRESCRIPTION DEPARTMENT.*

BY GEORGE W. FIERO.¹

Probably the most modern development in retail pharmacy is the so-called "open front" or visible prescription department. Not that the idea is particularly new (Horton & Converse, Los Angeles, have had a completely visible prescription department since 1920), but it is now becoming quite popular. It is no doubt a step in the right direction, since it emphasizes the professional nature of the pharmacist; however, one should be sure of his step before making such a radical change.

Numerous articles have appeared in the drug journals praising the visible prescription department. Some pharmacists have placed their prescription department in the window so that it is visible from the street (1), others have a completely visible prescription department within the store (2) and others have a prescription department wherein the actual compounding of prescriptions is not completely visible (3).

Silsby (4) points out that the physicians he interviewed were unanimous in their disapproval of a prescription department in which the patient could see the actual compounding. It is important that the pharmacist should have a good professional relationship with the physician; therefore, his opinion of this type of prescription department should be quite important. In order to determine this opinion, a questionnaire was mailed to one hundred physicians. The names of these physicians were not merely taken from a directory, but were obtained from several active prescription pharmacists (both open and concealed prescription departments) in various parts of Buffalo. The list included the physicians who wrote the most prescriptions. The result of the survey is as follows:

* Section on Commercial Interests, A. PH. A., Portland meeting, 1935.

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