

THE PROFESSIONAL PHARMACY.*

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(Continued from page 693.)

CHAPTER III. PRESCRIPTION PRICE TRENDS.

AVERAGE PRICE OF PRESCRIPTIONS BY TYPE OF PRESCRIPTION IN PROFESSIONAL AND COMMERCIAL TYPE DRUG STORES—CHANGING PRICE TRENDS IN 1910, 1920 AND 1930.

Prescription prices in the professional stores in 1930 were somewhat lower than in the commercial stores, in every type of prescription except nonnarcotic specialties. The fact that the professional stores filled a larger proportion of prescriptions calling for manufacturers' specialties than the commercial type stores, as shown later in Table XXVIII, and had to keep a wider variety of specialties in stock, is the probable explanation of the higher price for specialty prescriptions.

The showing that average prescription prices were lower in the professional stores will come as a surprise to some readers. It might be thought that professional store prescription prices would be higher than those in commercial type stores for several reasons. For example, the salaries paid the pharmacists or prescription clerks are often higher in professional stores, more prescription equipment is often required and more extensive delivery service is given. But if a pharmacist in a professional store fills five times as many prescriptions each day as one in a commercial type store, the salary cost per prescription in the professional store would be less in spite of the fact that the salary paid per man was higher. Of course, the fact that the pharmacist in the commercial type store also attends to duties in other departments, so that his full salary would not be charged to prescriptions, should be considered. But it probably will be found that the salary cost per prescription is lower in the professional drug store than in the commercial type store. Information concerning operating cost and net profit in the various types of drug stores is now being compiled. When that information is available, the reason for high or low prices will probably be explained.

There is probably a much faster turnover of "staple" prescription items in the professional store, and this would result in lower cost. A possible exception to the fast turnover assumption, manufacturers' specialties, has already been pointed out above, specialties being shown in Table XI to be the only type of prescription for which the professional stores charged higher prices than the commercial type stores. It is probable that in professional stores prescriptions are priced on a more systematic basis, paying more attention to elements of cost, due to the fact that their principal volume is derived from this source.

At any rate, regardless of the reason, the two professional stores studied did charge lower prices for prescriptions than did the commercial type drug stores. This finding is further substantiated in Table XII, which will be discussed later. The prices charged for prescriptions by three other professional stores are shown in that table, and in only one case were they higher than the average for the commercial type stores. However, Stores A and B were inclined to charge lower prices than the other professional stores. Store A has been in business for many years, since long before the War, and perhaps it thus has the inherited and prejudicial tradition of low pre-war prices.

The increase in prescription prices from 1910 to 1920, and from 1920 to 1930 is very interesting. The price increase is found for all types of prescriptions, being considerable in every case. The increase from 1910 to 1920 was much greater than that from 1920 to 1930, the latter, in the case of mixed prescriptions, both narcotic and nonnarcotic, being very small. The only case where a decreased price was found was with official narcotic prescriptions, which were lower in 1930 than in 1920. Perhaps an examination of wholesale prices of narcotic chemicals over this period would explain this showing.

According to figures obtained from the Bureau of Labor Statistics, United States Department of Labor, the value or purchasing power of the dollar in 1910 was \$1.31, and in 1920 only

* See Table of Contents, page 671, July issue of the JOURNAL. This installment covers Chapters III and IV, which see.

\$0.58, if we consider the 1930 dollar to be worth exactly \$1.00. It is interesting to compare the increase in prescription prices over the 20-year period with the fluctuation in the value of the dollar during the same period. The higher purchasing power of the dollar in 1910 is an explanation of the lower average prices in that year. However, the 1930 dollar is worth close to twice as much as the 1920, but during that period, prescription prices increased, but at a much smaller rate than in the preceding 10 years.

In both commercial type and professional drug stores, official prescriptions had the lowest average price and specialties the highest, considerably higher than for official prescriptions. Mixed prescriptions were priced about half-way between official and special prescriptions.

Of the questionnaire stores, 64.7 per cent have a schedule of prescription prices and 71.8 per cent charge less for prescriptions containing only official ingredients. The proprietors in 80 per cent of the cases reported that they have been able to maintain prescription prices during the depression.

Due to the low average price of prescriptions in 1910, \$0.51 each, it would have taken 1686 prescriptions in 1910 to bring in the same dollar volume that would be brought in by 1000 prescriptions in 1930 at the average price of \$0.86 that year. However, it must be remembered that in 1910, physicians were in the habit of writing more prescriptions. Also, there were fewer drug stores per capita and the cost of operating a pharmacy was less. Therefore, it is probably safe to say that in 1910 prescription business was at least as lucrative as it is to-day.

TABLE XI.—AVERAGE PRICE OF PRESCRIPTIONS BY TYPE OF PRESCRIPTION IN PROFESSIONAL AND COMMERCIAL TYPE DRUG STORES—PRICES FOR 1910, 1920 AND 1930 IN A PROFESSIONAL DRUG STORE.

Type of Prescription.	Average Price of Prescriptions.			Prescriptions from Commercial Type Stores. ² 1930.
	1930.	Prescriptions from Professional Stores. ¹ 1920.	1910.	
Narcotics:				
Official.....	\$0.81	\$0.84	3	\$0.96
Mixed.....	0.91	0.87	3	0.98
Specialties.....	0.91	0.77	3	0.96
Total Narcotics.....	\$0.85	\$0.84	3	\$0.97
Nonnarcotics:				
Official.....	\$0.73	\$0.66	3	\$0.84
Mixed.....	0.85	0.82	3	0.93
Specialties.....	1.04	0.89	3	1.02
Total Nonnarcotics.....	\$0.86	\$0.76	3	\$0.91
All Regular Prescriptions:				
Official.....	\$0.75	\$0.69	\$0.46	\$0.86
Mixed.....	0.86	0.83	0.53	0.93
Specialties.....	1.03	0.88	0.58	1.02
Total All Prescriptions...	\$0.86	\$0.77	\$0.51	\$0.92

¹ For the year 1930, these figures are based on the study of 8700 prescriptions from two professional stores; for 1920 and 1910, 1000 prescriptions filled by Store A were analyzed.

² These price figures were obtained by the study of 23,963 prescriptions from 13 commercial type drug stores, including two chain store units.

³ These price figures are not available, for the Federal narcotic law was not operative in 1910, so narcotics and nonnarcotics were not distinguished between nor filed separately.

MONTHLY PRESCRIPTION PRICE TRENDS IN THREE ADDITIONAL PROFESSIONAL PHARMACIES.

The average prescription prices shown in this table were based on the study of a sizable sample of prescriptions for each month of the year in each store. It is interesting to compare these average prices with those shown for two other professional stores in Table XI. While the

average prescription prices in all of these three stores were higher than in the two professional stores reported in Table XI, yet two of these three stores maintained slightly lower prices than the average for commercial type stores, shown in Table XI. Store D, however, priced its prescriptions, both narcotic and nonnarcotic, considerably higher than the other four professional pharmacies, and higher than the average for the commercial type stores. It should be noted that the prescription prices in these three professional pharmacies are based on prescriptions filled during the year 1931, while the prices in Table XI are based on the year 1930, but it is not believed that this fact will make any material difference for purposes of this comparison.

There seems to be no particular trend as to any particular season of the year in which prescription prices were higher. For example, in Store D the average price of narcotic prescriptions is higher during the late fall, winter and early spring months, October through May, while in Store C the price of these prescriptions is highest in the early spring and summer months, March through August. The proprietor of Store C reports that the high average prices of nonnarcotic prescriptions in the summer months were due to a prevalence of gonococcus infections for which certain fairly high-priced proprietary preparations are frequently prescribed. He further states that asthmatic and tubercular patients suffer more in the warm months thus requiring more narcotics, which when prescribed in larger quantities have a higher average price.

The showing for Store E (a St. Louis professional pharmacy mentioned only in this connection) is very unusual, narcotic prescriptions having an average price considerably lower than nonnarcotics. Due to the extra skill and care which must be used, and risk assumed, in filling narcotic prescriptions, it is unusual to find narcotic prescriptions averaging a lower price than nonnarcotics, regardless of the cost of the materials used.

The questionnaire professional stores reported an average price of \$1 each for prescriptions, but the average prescription prices ranged among the stores from a low figure of \$0.65 to a high average of \$2.50.

TABLE XII.—PRESCRIPTION PRICE TRENDS IN THREE PROFESSIONAL PHARMACIES.¹

Month (1931).	Average Prescription Prices by Type of Prescription.					
	Store C.		Store D.		Store E.	
	Narcotic.	Nonnarcotic.	Narcotic.	Nonnarcotic.	Narcotic.	Nonnarcotic.
Jan.....	\$0.84	\$0.88	\$1.06	\$0.98	\$0.79	\$0.86
Feb.....	0.87	0.85	1.02	0.89	0.73	0.87
March.....	1.00	0.85	1.06	1.00	0.84	0.86
April.....	1.00	0.84	1.03	0.90	0.75	1.01
May.....	0.97	0.87	1.14	1.01	0.94	0.90
June.....	1.20	0.90	0.95	0.97	0.86	0.89
July.....	1.30	0.94	0.97	1.06	0.85	0.89
Aug.....	1.05	0.95	0.91	0.91	0.84	0.93
Sept.....	0.97	0.84	0.88	0.93	0.88	1.04
Oct.....	0.86	0.92	1.03	0.95	0.88	0.95
Nov.....	0.92	0.91	0.92	0.97	0.74	0.99
Dec.....	0.93	0.89	1.00	0.98	0.81	0.87
Average.....	\$0.99	\$0.89	\$1.00	\$0.96	\$0.82	\$0.92

¹ These prescription prices are based on study of from 34 to 37 narcotic prescriptions and from 198 to 253 nonnarcotic prescriptions in each store for each month.

PRICE RANGES OF PRESCRIPTIONS BY TYPE AND NATURE OF PRESCRIPTION.

In making the following analysis, 8700 prescriptions filled by Stores A and B in 1930 were studied. It will be seen that the most popular price range for both narcotic and nonnarcotic prescriptions was from \$0.75 to \$1.00, inclusive. Slightly more than half of the narcotic prescriptions were priced within this range as compared with 43 per cent of the nonnarcotics. Only 13.5 per cent of the narcotic prescriptions were priced at more than \$1.00, as compared with 17.6 per cent of the nonnarcotics. But, on the other hand, there was a smaller proportion of narcotics priced below \$0.75, than was true for nonnarcotics.

It seems rather surprising, however, to find that 13.87 per cent of the narcotic prescriptions were priced at less than \$0.50, the same being true for only 8.49 per cent of the nonnarcotics. Considering the high cost of narcotic chemicals and drugs and the extra skill and care that must be used and risk that must be taken in filling narcotic prescriptions, it is surprising to find such a large proportion priced at less than \$0.50. In the case of 23,963 prescriptions filled by commercial type drug stores, reported on in the first report concerning the prescription department phase of the survey, only 1.31 per cent of the narcotic prescriptions were priced at less than \$0.50, while about 26 per cent of the narcotic prescriptions were priced at more than \$1.00 by the commercial type stores.

The result of the difference cited above is seen when referring to Table XI, which shows the average price of narcotic prescriptions in Stores A and B to be only \$0.85, less than the \$0.86 average price of nonnarcotic prescriptions. The average price of narcotic prescriptions in the commercial type drug stores studied was \$0.97, as compared with a \$0.91 average price for nonnarcotics.

As seen in Table XII, showing the average prescription prices for Stores C, D and E, narcotic prescriptions averaged \$0.10 higher than nonnarcotics in Store C, and \$0.04 higher in Store D. However, in Store E an unusual condition was found, narcotic prescriptions being priced at \$0.82 and nonnarcotics at \$0.92.

Table XIII also shows the price ranges for official, mixed and specialty prescriptions, under narcotic, nonnarcotic and total regular prescriptions. It is interesting to note the general uni-

TABLE XIII.—PRICE RANGES OF PRESCRIPTIONS FILLED BY STORES A AND B IN 1930 BY TYPE OF PRESCRIPTION.¹

Price Range.	Type of Prescription.						All Prescriptions. Number. Per Cent Total.	
	Official.		Mixed.		Specialty.			
	Number.	Per Cent Total.	Number.	Per Cent Total.	Number.	Per Cent Total.	Number.	Per Cent Total.
Narcotic Prescriptions:								
Over \$2.00.....	20	2.06	11	2.11	3	2.78	34	2.12
\$1.55-\$2.00.....	28	2.88	20	3.85	7	6.48	55	3.44
\$1.05-\$1.50.....	48	4.94	60	11.54	19	17.59	127	7.94
\$0.75-\$1.00.....	484	49.79	298	57.31	36	33.33	818	51.13
\$0.50-\$0.70.....	212	21.81	107	20.57	25	23.15	344	21.50
\$0.25-\$0.45.....	180 ²	18.52	24	4.62	18	16.67	222	13.87
Total.....	972	100.00	520	100.00	108	100.00	1600	100.00
Nonnarcotic Prescriptions:								
Over \$2.00.....	26	0.87	12	0.64	113	5.08	151	2.13
\$1.55-\$2.00.....	49	1.64	28	1.49	85	3.82	162	2.28
\$1.05-\$1.50.....	215	7.18	242	12.86	480	21.59	937	13.20
\$0.75-\$1.00.....	1267	42.30	968	51.43	819	36.85	3054	43.01
\$0.50-\$0.70.....	1098	36.66	553	29.38	542	24.38	2193	30.89
\$0.25-\$0.45.....	340 ²	11.35	79	4.20	184	8.28	603	8.49
Total.....	2995	100.00	1882	100.00	2223	100.00	7100	100.00
All Regular Prescriptions:								
Over \$2.00.....	46	1.16	23	0.96	116	4.98	185	2.13
\$1.55-\$2.00.....	77	1.94	48	2.00	92	3.94	217	2.49
\$1.05-\$1.50.....	263	6.63	302	12.57	499	21.41	1064	12.23
\$0.75-\$1.00.....	1751	44.14	1266	52.70	855	36.68	3872	44.51
\$0.50-\$0.70.....	1310	33.02	660	27.48	567	24.32	2537	29.16
\$0.25-\$0.45.....	520 ²	13.11	103	4.29	202	8.67	825	9.48
Total.....	3967	100.00	2402	100.00	2331	100.00	8700	100.00

¹ Refills are not included among the prescriptions studied.

² One narcotic and one nonnarcotic official prescriptions were priced under 25 cents.

formity in the price ranges, regardless of the type of prescription. For all types of prescriptions the most popular price was from \$0.75 to \$1.00, inclusive. Nearly two-thirds of the regular prescriptions priced at more than \$2.00 were manufacturers' specialties, specialties also accounting for the largest proportion of the prescriptions priced at from \$1.55 to \$2.00. On the other hand, nearly two-thirds of the prescriptions priced at less than \$0.50 were official prescriptions. The average cost of materials in each specialty prescription was \$0.45, as compared with \$0.17 for materials in official prescriptions, according to a study of the prescriptions in one store. Considering the cost of specialty ingredients, the fact that they were responsible for a large percentage of the high-priced prescriptions is to be expected. Due to the fact that specialties are responsible for a majority of the items occurring only once each in 10,000 prescriptions, as shown elsewhere in the report, perhaps they should bear an even higher mark-up to cover the cost of maintaining items of infrequent occurrence.

PRESCRIPTION PRICE RANGES COMPARED BETWEEN PROFESSIONAL AND COMMERCIAL TYPE DRUG STORES, AND FOR PRESCRIPTIONS FILLED IN 1910 AND 1920.

The majority of the commercial type drug store prescriptions studied were priced at from \$0.75 to \$1.00. These prescriptions were filled in 1930. The 8700 professional store prescriptions, also filled in 1930, were priced generally lower than those filled in commercial type drug stores, although nearly half of the professional store prescriptions were also priced at from \$0.75 to \$1.00. But nearly twice as large a proportion of the professional store prescriptions were priced at less than \$0.75 than in the case of the prescriptions from the commercial type drug stores, with a corresponding decrease in the proportion of prescriptions priced at more than \$0.75. The only exception to this general trend is found in the high-priced prescriptions, those priced at more than \$2.00, of which the proportion was twice as high in the professional store prescriptions, due to the fact that rare expensive remedies are more likely to be requested from a professional pharmacy than a commercial type drug store.

The price ranges for prescriptions filled in 1910 and 1920 show an interesting picture. In 1910, nearly half of the prescriptions were priced at less than \$0.50, and 35.5 per cent between \$0.50 and \$0.75. Only about 2 per cent of the prescriptions studied for 1910 were priced at more than \$1.00. It is interesting to compare this with the commercial store prescriptions filled in 1930, where only 2.54 per cent were priced at less than \$0.50 and over 21 per cent at more than \$1.00. This difference is of course due in large part to the difference in the purchasing power of the dollar in 1910 and 1930, as pointed out previously. Also at that time there were not as many high-priced specialties being prescribed by physicians who confined their prescriptions more to standard official chemicals and galenicals. The prescription prices in 1920 ranged considerably higher than in 1910, but were not as high as in 1930.

TABLE XIV.—PRESCRIPTION PRICE RANGES IN COMMERCIAL TYPE AND PROFESSIONAL DRUG STORES IN 1930, COMPARED WITH PRICE RANGES FOR PRESCRIPTIONS FILLED IN 1910 AND 1920 BY PROFESSIONAL STORE A.

Price Range.	13 Commercial Type Stores.		2 Professional Pharmacies.		Store A (1920).		Store A (1910).	
	Number.	Per Cent of Total.	Number.	Per Cent of Total.	Number.	Per Cent of Total.	Number.	Per Cent of Total.
Over \$2.00.....	248	1.04	185	2.13	21	2.10	5	0.50
\$1.55-\$2.00.....	659	2.75	217	2.49	18	1.80	2	0.20
\$1.05-\$1.50.....	4,256	17.76	1064	12.23	100	10.00	14	1.40
\$0.75-\$1.00.....	13,677	57.08	3872	44.51	351	35.10	139	13.90
\$0.50-\$0.75.....	4,513	18.83	2537	29.16	323	32.30	355	35.50
\$0.25-\$0.45.....	610 ¹	2.54	825 ²	9.48	187 ³	18.70	485 ⁴	48.50
Total.....	23,963	100.00	8700	100.00	1000	100.00	1000	100.00

¹ Includes 19 prescriptions priced at less than \$0.25.

² Includes 2 prescriptions priced at less than \$0.25.

³ Includes 8 prescriptions priced at less than \$0.25.

⁴ Includes 16 prescriptions priced at less than \$0.25.

INCONSISTENCY IN PRESCRIPTION PRICING—PRESCRIPTIONS PRICED BELOW COST.

Throughout the entire study of prescriptions filled in commercial type and professional drug stores, many inconsistencies in prescription pricing were found. In some stores such inconsistencies were less prevalent than in others, but no store was immune. In certain stores the prescriptions were priced in such a haphazard fashion, that the pricing policy might be said to be one of guesswork. Such a policy is undoubtedly a costly and dangerous one to use. For example, in Store 11-B, a prescription containing cocaine alkaloid and liquid petroleum was priced at \$0.85, although the materials alone cost \$1.45. This did not take into account the cost of the pharmacist's compounding time, or any other cost factors. Such underpriced prescriptions were not a rare occurrence in the stores studied.

Inconsistent pricing also is likely to detract from the good-will which a store has built up. If a customer is charged different prices for the same prescription, or finds that another customer is obtaining the same or a similar prescription for a lower price, it is quite likely to create bad feeling toward the store. Of course, the price charged is usually noted on the prescription, for the pharmacist's guidance in case the prescription is refilled. But if the original price was a matter of guesswork, and did not even cover the cost of materials, every time the prescription was refilled at that price, an additional loss would be incurred.

A few minutes taken after filling the prescription and spent in determining the cost of the ingredients used in compounding it, the cost of the time of the pharmacist who filled it, and the other heavy expenses of the prescription department which must be shared by this prescription, would be time well spent. Thus, the pharmacist would charge a price which would cover all cost elements and allow a reasonable net profit, and which, being determined on a business like basis, would enable the pharmacist to know that his pricing policy was sound, avoiding the possibility of hidden losses and pricing inconsistencies.

One practice which the pharmacist might profitably adopt would be to write the price per ounce on the label of each of his manufacturers' specialty prescription ingredients which are called for most frequently, say the 50 most important specialties. This would take but little time, would save the pharmacist the trouble of looking up the cost of the ingredient at the time he fills a prescription, and would help to eliminate guesswork. The same practice could be followed with the chemicals and galenicals which have the greatest demand. This suggestion is not new, but there are many druggists who have not adopted this practice, who could advantageously do so.

The list below contains examples of inconsistent prescription pricing taken at random from the prescriptions filled by commercial type Store 11-B. They are quite startling when placed side by side on paper, yet occurred frequently in the prescriptions studied in the various drug stores. Of course, in some cases there might be some logical reason for the price discrepancies shown, but as a usual occurrence it would seem strange to charge less for 30 luminal tablets than for 12 of the same tablets. In certain cases the same quantity of a given prescription received different prices, and in other cases the same price was charged, seemingly regardless of the quantity.

One interesting example of careless pricing among many was as follows: The pharmacist was accustomed to receive a four-ingredient prescription calling for 40 capsules, each capsule containing $\frac{1}{2}$ grain of luminal. The materials in this prescription cost \$0.67, and \$1.85 was charged for the prescription. Later the pharmacist received an identical prescription, except the quantity of luminal was 2 grains per capsule. Without bothering to figure out the cost of materials, the pharmacist charged the same price (\$1.85) that he had charged for the other prescriptions. However, the increased amount of luminal ran the cost of materials in the prescription up to \$1.92, and the pharmacist had thus unknowingly charged less than the cost for the prescription.

It seems that the pharmacist experiences a feeling of reluctance bordering on moral cowardice at charging a sufficiently high price when the materials in a prescription require the prescription to be priced at more than one dollar. For example, it was noted in one store that the pharmacist charged only \$1.35 each for a number of prescriptions calling for capsules of glandular products such as corpus luteum which had cost him \$1.20. In another case, the pharmacist charged \$1.85 for 30 capsules of a certain specialty, which cost him \$1.50. At least, some pharmacists seem to take it for granted that a price of one dollar, more or less, will cover the cost and allow a satisfactory profit, but this is by no means true in many cases.

TABLE XV.—EXAMPLES OF INCONSISTENT PRESCRIPTION PRICING.

(From Commercial Type Store 11.)

Description of Prescription.	Quantity.	Selling Price.	
Luminal Tablets.....	No. 30	\$1.10	1.
Identical Prescription.....	No. 12	1.20	
Calcidine Tablets, gr. 1/3.....	No. 50	0.90	
Identical Prescription.....	No. 20	0.75	2.
Identical Prescription.....	No. 20	0.50	
Identical Prescription.....	No. 15	0.75	3.
Capsules Acetyl. Sal. gr. 4, Cod. Sulph. gr. 1/3, each capsule...	No. 15	0.90	
Identical Prescription.....	No. 15	1.20	4.
Capsules Quinine Mur. gr. 3, Luminal gr. 1/2, Thyroid Ext. gr. 1, Cascarine gr. 1/2, each capsule.....	No. 40	1.45	
Identical Prescription.....	No. 40	1.75	5.
Identical Prescription.....	No. 40	2.00	
Argyrol Solution 10%.....	1/2 oz.	0.35	6.
Identical Prescription.....	1/2 oz.	0.75	
Identical Prescription.....	1/2 oz.	0.90	7.
Identical Prescription.....	1 oz.	0.35	
S. S. Potassium Iodide.....	2 oz.	1.25	8.
Identical Prescription.....	2 oz.	1.45	
Identical Prescription.....	2 oz.	1.60	9.
50 Per Cent Solution Potassium Iodide.....	1/2 oz.	0.90	
Identical Prescription.....	1/2 oz.	0.75	10.
An Iron Tonic (Manufacturer's Specialty).....	2 oz.	1.75	
Identical Prescription.....	4 oz.	1.00	11.
Identical Prescription.....	6 oz.	1.35	
Identical Prescription.....	6 oz.	1.35	12.
Identical Prescription.....	8 oz.	1.35	
A Reconstructive Tonic (specialty).....	2 oz.	0.75	9.
Identical Prescription.....	3 oz.	0.75	
Identical Prescription.....	4 oz.	0.75	10.
Identical Prescription.....	4 oz.	1.00	
Elixir Terp. Hyd. and Codeine.....	3 oz.	1.20	11.
Identical Prescription.....	4 oz.	1.00	
Identical Prescription.....	4 oz.	1.25	12.
Ephedrine Inhalant.....	1/2 oz.	0.90	
Identical Prescription.....	1 oz.	1.00	11.
Identical Prescription.....	1 oz.	1.25	
Fluidextract Ergot.....	1 oz.	0.60	12.
Identical Prescription.....	1 oz.	1.00	
Identical Prescription.....	2 oz.	1.25	

AVERAGE COST OF MATERIALS AND SELLING PRICE OF PRESCRIPTIONS FILLED IN THREE COMMERCIAL TYPE DRUG STORES, BY FORM AND TYPE OF PRESCRIPTION.

The facts presented in Tables XVI, XVII and XVIII are a sample of the information being compiled on the cost and net profit phases of the retail prescription business. It should be kept in mind that the average cost figures shown refer only to the cost of the materials used and do not include cost of containers nor any operating expense, such as the cost of the pharmacist's time, share of rent, and so forth. The prescriptions considered in these tables were filled in commercial type drug stores 4-C, 6-B and 11-B, 3 of the 13 stores studied for the first publication on the prescription department phase of the survey. Store 11-B, with an average charge of \$1.03 for all prescriptions, and Store 4-C, with an average prescription price of \$1.02, were two of the highest stores in this respect, the average prescription price for all 13 of the commercial type

drug stores being only \$0.92. This should be kept in mind in studying these tables, but this fact does not detract from the value of the interesting observations brought out by a perusal of the tables. Store 6-B, however, had an average prescription price of only \$0.86.

It is interesting to note that the cost of materials in the average narcotic prescription was less than in the average nonnarcotic prescription in each store. One reason for this is that narcotics are generally prescribed in smaller quantities than are nonnarcotic prescriptions, due to the potency of narcotics and the care with which they must be used. Although most narcotics are very expensive per ounce, such a small fraction of an ounce is prescribed that the cost of the narcotic ingredient is usually small. Also, the cost of the nonnarcotic ingredients in the narcotic prescription is often less than in the nonnarcotic prescription, because of the fact that a smaller number of doses is prescribed.

However, it should be noted that there were no specialties among the narcotic prescriptions, which is an important factor in the low average cost of materials in narcotic prescriptions. For example, in Store 11-B, the average cost of materials in nonnarcotic prescriptions was bolstered considerably by the 274 specialty prescriptions, which had an average material cost of \$0.45. With specialties excluded, the average cost of materials in nonnarcotic prescriptions in Store 11-B would have been only \$0.20, or \$0.03 less than for narcotic prescriptions.

In costing these prescriptions, it was noted that the price was generally at quite a premium when purchasing in small quantities. For example, pilocarpine hydrochloride cost \$0.46 for 15 grains if purchased in that quantity, but if purchased in $\frac{1}{8}$ -ounce quantities, 57 grains could be purchased for \$0.52. Or, to use an example of an ingredient of more frequent use, acid acetyl salicylic cost \$0.15 an ounce if purchased in that quantity, but only \$0.08 an ounce if purchased in $\frac{1}{4}$ -pound lots. Thus, in most cases, an important saving could be made by purchasing in larger quantities. It is wise to purchase no more than necessary of any ingredient of rare occurrence when the extra amount would merely lie idle on the shelves, but with any ingredient which has fairly frequent use, in most cases it would be wise to purchase as large an amount as can be used in a reasonable time to take advantage of the large saving.

The proprietor of Store 11-B was inclined to purchase in very small quantities, smaller than necessary in many cases, thus paying much more for his prescription ingredients than necessary. Thus it was a surprise to find that the average cost of materials in Store 11-B's prescriptions was the same as in Store 6-B, only \$0.26, as compared with \$0.34 in Store 4-C. However, the prescriptions studied for Store 4-C included 740 specialties with their high average material cost of \$0.47, while only 274 specialties are included in the prescriptions filled by Store 11-B. This fact will account for a large part of the difference between the two stores as to cost of materials. (Note also that only 276 specialties were included in the block of prescriptions from Store 6-B.) However, the average cost of materials per prescription was higher in Store 4-C than Store 11-B for every individual type of prescription except mixed prescriptions. Investigation showed, however, that larger average quantities were prescribed in Store 4-C's prescriptions than in the prescriptions filled by Store 11-B. For example, Store 4-C's official nonnarcotic capsule prescriptions called for an average of 20 capsules each, as compared with an average of 17 in Store 11-B. Store 4-C's official narcotic capsule prescriptions called for an average of 26 capsules, as compared with an average of 16 capsules in the same type of prescription in Store 11-B. Store 4-C's official narcotic divided powder prescriptions called for an average of 22 powders as compared with an average of 14 in Store 11-B. Another factor causing the cost of materials to be higher in Store 4-C's prescriptions is that in many more instances than in the case of Store 11-B, the physicians writing Store 4-C's prescriptions prescribed an ingredient under a brand name, rather than under a less expensive U. S. P. or N. F. equivalent.

Some difficulty was encountered in determining cost of materials in the prescriptions studied, due to the fact that it was not possible to tell from the prescription, in some cases, the exact ingredient which had been used. For example, if a prescription called for "acid acetylsalicylic," was this drug dispensed under its chemical name, costing in pound lots approximately \$0.07 an ounce, or was a manufacturer's branded product costing \$0.81 an ounce used? Similar difficulty was experienced in costing prescriptions calling for luminal, trional, sulphonal and others, the prices of which had a wide range. In the case of luminal, for example, one brand cost \$3.45 a half-ounce, and another brand \$2.40 a half-ounce.

In one case, the same price was charged for a similar prescription of 30 capsules, whether

acid acetylsalicylic was prescribed under the chemical name or under a brand name. Yet the prescription cost the pharmacist \$0.29 more when he used the branded product. This naturally suggests the question of whether the prescriptions containing the branded product were under-priced, or the prescriptions containing the U. S. P. product over-priced. It would seem that this is a subject to be weighed very carefully by practicing pharmacists and students of pharmacy. Daily we read of "get together" meetings held by physicians and pharmacists at which the pharmacists endeavor to interest the physicians in U. S. P. and N. F. products with their marked price advantage over similar products with coined names. Whether or not pharmacists are successful in their undertaking will depend a great deal on whether or not they can convince physicians that a reasonable share of the savings effected are and will be passed on to the patient.

Another situation which developed in the course of costing prescriptions was a case where a pharmacist, due to the price he was charging for the prescription, was obviously using Phenobarbital, U. S. P., although a trade-named equivalent had been prescribed. On inquiry, the pharmacist stated that the physician had authorized him to make this substitution in order to reduce the cost to the patient. The pharmacist thus was able to charge approximately \$1.00 less than would have been necessary if he had used the trade-named product. Nevertheless, this is a dangerous practice and may make the pharmacist liable to the manufacturer and lay him open

TABLE XVI.—AVERAGE COST OF MATERIALS AND SELLING PRICE OF 1948 PRESCRIPTIONS FILLED BY COMMERCIAL TYPE DRUG STORE NO. 4-C, BY FORM AND TYPE OF PRESCRIPTION.

Prescription Form.	Type of Prescription.								
	No. of Prescriptions.	Official. Average Cost of Materials.	Average Selling Price.	No. of Prescriptions.	Mixed. Average Cost of Materials.	Average Selling Price.	No. of Prescriptions.	Specialties. ¹ Average Cost of Materials.	Average Selling Price.
Liquid.....	397	\$0.21	\$0.87	368	\$0.30	\$0.95	361	\$0.45	\$1.02
Capsules.....	236	0.20	1.16	45	0.31	1.08	52	0.28	1.16
Tablets.....	44	0.24	0.83	..	..	..	232	0.43	1.04
Charts.....	47	0.08	0.83	9	0.27	0.98	4	0.05	1.13
Ointment.....	17	0.08	0.71	19	0.11	0.77	23	0.52	0.85
Bulk Powder.....	8	0.11	0.76	4	0.28	0.98	4	0.55	0.96
Effervescent Salt.....	2	0.33	0.70	..	..	..	57	0.60	1.20
Pills.....	4	0.16	0.80	..	..	..	4	0.40	1.04
Suppositories.....	1	0.20	1.25	..	..	..	2	0.50	0.82
Biological.....	5	2.19	3.20	..	..	..	..	..	..
All Others ²	1	1.20	0.90	..	..	..	2	0.84	0.90
Total Prescriptions.....	762	\$0.21	\$0.96	445	\$0.29	\$0.96	741	\$0.47	\$1.05

Prescription Form.	Type of Prescription.								
	Total Narcotics.			Total Nonnarcotics.			Total: All Prescriptions.		
	No. of Prescriptions.	Average Cost of Materials.	Average Selling Price.	No. of Prescriptions.	Average Cost of Materials.	Average Selling Price.	No. of Prescriptions.	Average Cost of Materials.	Average Selling Price.
Liquid.....	89	\$0.32	\$0.99	1037	\$0.32	\$0.94	1126	\$0.32	\$0.95
Capsules.....	142	0.28	1.31	191	0.28	1.05	333	0.28	1.16
Tablets.....	14	0.33	0.88	262	0.40	1.02	276	0.40	1.01
Charts.....	4	0.12	1.16	56	0.14	0.85	60	0.14	0.87
Ointment.....	1	0.18	0.75	58	0.26	0.78	59	0.26	0.78
Bulk Powder.....	..	..	..	16	0.26	0.86	16	0.26	0.86
Effervescent Salt.....	..	..	..	59	0.60	1.20	59	0.60	1.20
Pills.....	..	..	..	8	0.28	0.92	8	0.28	0.92
Suppositories.....	..	..	..	3	0.56	1.23	3	0.56	1.23
Biological.....	..	..	..	5	2.19	3.20	5	2.19	3.20
All Others ².....	..	..	..	3	0.96	0.90	3	0.96	0.90
Total Prescriptions.....	250	\$0.30	\$1.17	1698	\$0.33	\$0.97	1948	\$0.34	\$1.02

¹ There were no narcotic prescriptions among the manufacturers' specialties studied.

² All others include (1) medicated soap and (2) ampul prescriptions.

TABLE XVII.—AVERAGE COST OF MATERIALS AND SELLING PRICE OF 1198 PRESCRIPTIONS FILLED BY COMMERCIAL TYPE DRUG STORE 6-B, BY FORM AND TYPE OF PRESCRIPTION.

Prescription Form.	Type of Prescription.								
	Official.			Mixed.			Specialties. ¹		
	No. of Pre-scrip-tions.	Average Cost of Materials.	Average Selling Price.	No. of Pre-scrip-tions.	Average Cost of Materials.	Average Selling Price.	No. of Pre-scrip-tions.	Average Cost of Materials.	Average Selling Price.
Liquid.....	366	\$0.19	\$0.77	167	\$0.31	\$0.94	169	\$0.42	\$1.01
Capsules.....	146	0.17	0.95	70	0.27	0.99	16	0.44	1.17
Tablets.....	78	0.24	0.71	2	0.12	0.62	69	0.42	0.94
Charts.....	14	0.04	0.74	3	0.12	1.20	3	0.20	0.77
Ointment.....	47	0.08	0.53	12	0.21	0.87	4	0.31	0.73
Bulk Powder.....	16	0.12	0.69	..	..	..	8	0.57	1.03
Effervescent Salt.....	..	..	..	..	..	..	4	0.60	1.23
Pill.....	..	..	..	..	..	..	..	..	..
Suppositories.....	1	0.20	1.00	..	..	..	2	0.84	1.25
Ampuls.....	..	..	..	..	..	..	1	1.06	0.90
Total Prescriptions.....	668	\$0.18	\$0.78	254	\$0.29	\$0.95	276	\$0.43	\$1.00

Prescription Form.	Total Narcotics.			Total Nonnarcotics.			Total: All Prescriptions.		
	No. of Pre-scrip-tions.	Average Cost of Materials.	Average Selling Price.	No. of Pre-scrip-tions.	Average Cost of Materials.	Average Selling Price.	No. of Pre-scrip-tions.	Average Cost of Materials.	Average Selling Price.
Liquid.....	77	\$0.34	\$1.00	625	\$0.26	\$0.85	702	\$0.27	\$0.87
Capsules.....	76	0.22	0.91	156	0.22	1.00	232	0.22	0.97
Tablets.....	13	0.46	0.83	136	0.31	0.81	149	0.32	0.82
Charts.....	4	0.10	0.98	16	0.07	0.77	20	0.07	0.81
Ointment.....	1	0.47	1.00	62	0.12	0.60	63	0.13	0.61
Bulk Powder.....	..	..	..	24	0.27	0.81	24	0.27	0.81
Effervescent Salt.....	..	..	..	4	0.60	1.23	4	0.60	1.23
Pills.....	..	..	..	..	..	..	..	..	..
Suppositories.....	1	0.20	1.00	2	0.84	1.25	3	0.62	1.17
Ampuls.....	0	0.00	0.00	1	1.06	0.90	1	1.06	0.90
Total Prescriptions.....	172	\$0.25	\$0.95	1026	\$0.26	\$0.85	1198	\$0.26	\$0.86

¹ There were no narcotic prescriptions among the manufacturers' specialties studied.

to the criticism of physicians. If the physician wishes the pharmacist to dispense the official product, he should prescribe it as such.

The reader can himself draw some interesting comparisons between official prescriptions and mixed and specialties, between narcotics and nonnarcotics, and between different prescription forms, so it will not be necessary to point them out in this text. Elsewhere in this report, in Table XXXIV, is presented a summary of Store 6-B's prescription department inventory. It is interesting to compare this inventory summary with Table XVII which shows Store 6-B's average prescription cost and selling prices by form and type of prescription.

CHAPTER IV. PRESCRIPTION BUSINESS ACCORDING TO THE PHYSICIANS WRITING THE PRESCRIPTIONS.

A knowledge of his prescription business, according to the physician writing the prescriptions, is of great importance to the pharmacist who wishes to build his prescription business and to operate it in an efficient manner. An exhaustive study of the prescriptions herein analyzed was made from the point of view of the physicians writing the prescriptions. The date of graduation from medical school, the type of practice and the types of prescriptions prescribed were determined for each physician. Prescriptions filed in 1910, 1920 and 1930 were studied, and the business contributed by particular doctors thus traced over a period of two decades. It is believed that this is the first time that an investigation of this type covering all of these factors has been made. There has been a great deal of conjecture concerning preferences of physicians for official

TABLE XVIII.—AVERAGE COST OF MATERIALS AND SELLING PRICE OF 1394 PRESCRIPTIONS FILLED BY COMMERCIAL TYPE DRUG STORE 11-B, BY FORM AND TYPE OF PRESCRIPTION.

Prescription Form.	Type of Prescription.								
	Official.			Mixed.			Specialties. ¹		
	Number of Prescriptions.	Average Cost of Materials.	Average Selling Price.	Number of Prescriptions.	Average Cost of Materials.	Average Selling Price.	Number of Prescriptions.	Average Cost of Materials.	Average Selling Price.
Liquid.....	485	\$0.20	\$0.95	297	\$0.31	\$1.09	143	\$0.47	\$1.17
Capsules.....	135	0.11	0.94	61	0.25	1.31	16	0.47	1.36
Tablets.....	37	0.14	0.96	..	..	..	79	0.43	1.06
Charts.....	37	0.05	0.80	12	0.08	1.03	6	0.23	1.23
Ointment.....	27	0.11	0.91	16	0.19	0.98	7	0.36	0.98
Bulk Powder.....	7	0.20	1.03	..	..	..	5	0.31	0.84
Effervescent Salt.....	..	..	..	..	..	..	12	0.63	1.18
Pills.....	3	0.20	1.22	..	..	..	6	0.21	0.76
Suppositories.....	3	0.81	1.38	..	..	..	..	..	..
Total Prescriptions.....	734	\$0.17	\$0.95	386	\$0.29	\$1.12	274	\$0.45	\$1.16

Prescription Form.	Type of Prescription.								
	Total Narcotics.			Total Nonnarcotics.			Total: All Prescriptions.		
	Number of Prescriptions.	Average Cost of Materials.	Average Selling Price.	Number of Prescriptions.	Average Cost of Materials.	Average Selling Price.	Number of Prescriptions.	Average Cost of Materials.	Average Selling Price.
Liquid.....	92	\$0.33	\$1.12	833	\$0.27	\$1.02	925	\$0.27	\$1.03
Capsules.....	79	0.14	1.07	133	0.20	1.08	212	0.18	1.08
Tablets.....	15	0.15	1.22	101	0.36	1.00	116	0.33	1.03
Charts.....	8	0.05	0.91	47	0.08	0.89	55	0.08	0.89
Ointment.....	3	0.38	1.13	47	0.16	0.93	50	0.17	0.94
Bulk Powder.....	..	..	..	12	0.27	0.95	12	0.27	0.95
Effervescent Salt.....	..	..	..	12	0.63	1.18	12	0.63	1.18
Pills.....	..	..	..	9	0.20	0.91	9	0.20	0.91
Suppositories.....	..	..	..	3	0.81	1.38	3	0.81	1.38
Total Prescriptions.....	197	\$0.23	\$1.10	1197	\$0.26	\$1.02	1394	\$0.26	\$1.03

¹ There were no narcotic prescriptions among the manufacturers' specialties studied.

U. S. P. and N. F. preparations as compared with manufacturers' specialties, and as to whether more recent graduates in medicine show a trend toward more frequent use of the latter. This and other questions concerning physicians' habits in prescription writing are answered in this chapter.

A study of prescriptions will usually show that a small number of physicians account for a large part of the prescription business. The pharmacist should be able to "detail" these few leading physicians without great difficulty, and thus cover the source of much of his prescription business. Study of the type of practice of each of his leading physicians and the types of prescriptions most often written by them should be of value to the pharmacist in planning his inventory. (See remarks made in Chapter VI concerning the importance of close contact with the store's leading physicians in promoting simplification of inventory.)

Table XIX shows the importance of a few physicians out of the many who wrote prescriptions filled by professional Stores A and B. In Store A, 463 physicians wrote the 5474 prescriptions studied. However, the first 10 physicians (ranked according to the number of prescriptions contributed) wrote 35.3 per cent of the prescriptions studied, an average of 193.1 prescriptions per physician. The source of more than half of this store's prescription business could be covered by "detailing" its 25 leading physicians.

The same situation was found in the case of Store B. The first 10 physicians in this store wrote 42.7 per cent of the prescriptions studied, although they accounted for an average of only 149.3 prescriptions each, due to the fact that a smaller number of prescriptions was studied in this store. This pharmacist could cover 65.8 per cent of his prescription business by contacting the leading 25 physicians.

This same information was obtained for eight commercial type drug stores and published in the first prescription department report from this survey. In the case of a chain store unit, the 10 leading physicians accounted for only 21.02 per cent of its prescription business. But in the other seven commercial type stores, all independent retailers, the 10 leading physicians of each store contributed from 43.75 per cent to 89.25 per cent of the total prescription business.

TABLE XIX.—PRESCRIPTION BUSINESS BY PHYSICIANS, GROUPED ACCORDING TO RANK IN NUMBER OF PRESCRIPTIONS WRITTEN.

Physicians Considered. ¹	Store A.			Physicians Considered. ¹	Store B.		
	Number of Prescriptions. Total.	Average per Physician.	Per Cent of Total Prescriptions.		Number of Prescriptions. Total.	Average per Physician.	Per Cent of Total Prescriptions.
1-10	1931	193.1	35.3	1-10	1493	149.3	42.7
11-25	1157	77.1	21.1	11-25	809	53.9	23.1
26-50	965	38.6	17.6	26-50	605	24.2	17.3
51-100	641	12.8	11.7	51-100	373	7.5	10.6
101-273	590	3.4	10.8	101-150	111	2.2	3.2
274-463	190	1.0	3.5	151-259	109	1.0	3.1
Total	5474	11.8	100.0	Total	3500	13.5	100.0

¹ Physicians are ranked according to the number of prescriptions each wrote among those studied, the physician writing the greatest number being ranked No. 1, etc.

EXTENT TO WHICH PHYSICIANS ARE "DETAILED" BY THE PHARMACIST.

In Stores A and B, no regular "detailing" is undertaken. However, information of interest to physicians in a particular type of practice is passed on to these physicians whenever it comes to the attention of the pharmacists in these stores. Store C "details" physicians to a considerable extent concerning the store in general and not on any particular types of products. Store D also does considerable "detailing" on U. S. P. and N. F. preparations, manufacturers' specialties and products of its own manufacture, with particular emphasis on its own products.

Twenty-two of the questionnaire professional stores detail physicians concerning U. S. P. and N. F. preparations and specialties, while 13 do not. Twenty-nine, or 85.3 per cent of these stores, make personal calls on physicians. Fourteen, or 41.2 per cent, speak before medical groups.

ANALYSIS OF THE PRESCRIPTION BUSINESS OF THE LEADING PHYSICIANS.

Table XX gives more detailed information concerning the 10 leading physicians of both Stores A and B. It is interesting to group the physicians according to the length of the time they have practiced, to see if the doctors who have graduated in more recent years are inclined to prescribe different types of ingredients than the doctors who have been in practice for a long period of time. If there is any decided difference, or "new school" of physicians, the dividing line can undoubtedly be set at the time of the World War. Thus, all doctors who have graduated since 1917 will be considered as "post-war" physicians, and those who graduated prior to 1917 will be referred to as "pre-war" physicians. Differences between the prescriptions of "post-war" and "pre-war" physicians will be pointed out in this chapter whenever such differences are worth noting.

Of Store B's 10 leading physicians, 5 were "post-war" and 5 "pre-war." Of the 5 "post-war" doctors, 3 prescribed more official prescriptions than specialty prescriptions. In analyzing prescriptions it was found that mixed prescriptions contained more official ingredients than specialty ingredients. This fact should be kept in mind in studying the distribution of prescriptions written by these 10 leading physicians. All of the 5 "pre-war" doctors wrote more official prescriptions than specialty prescriptions. In Store A, all but 1 of the 10 leading doctors wrote more official prescriptions than specialties, and this doctor wrote more mixed prescriptions than either official or specialty.

It is interesting to note that all but one of Store B's 10 leading physicians either practiced internal medicine or were dermatologists.

TABLE XX.—BUSINESS FROM FIRST 10 PHYSICIANS IN 1930.

<i>Store A.</i>							
Type of Practice.	Year of Graduation.	Number of Prescriptions.	Per Cent of Total Prescription Business.	Per Cent of Total Prescriptions Written.			Private Formula.
				Official.	Mixed.	Specialties.	
Internal Medicine.....	1896	425	7.76	69.9	12.0	17.2	0.9
Dermatology.....	1921	371	6.78	35.5	39.4	3.0	22.1
Internal Medicine.....	1911	238	4.35	9.7	39.9	8.4	42.0
Internal Medicine.....	1923	195	3.56	44.6	39.5	15.9	..
Internal Medicine.....	1897	176	3.22	49.4	19.3	29.6	1.7
Genito-Urinary.....	1909	118	2.16	30.5	39.8	29.7	..
Ophthalmology.....	1904	117	2.14	88.0	9.4	2.6	..
General Practice.....	1896	102	1.86	30.4	35.3	34.3	..
Ophthalmology.....	1912	96	1.75	60.4	29.2	10.4	..
Ophthalmology.....	1908	93	1.70	83.9	14.0	2.1	..
Total.....		1931	35.28	48.2	27.9	14.1	9.8
Total, Not Including Private Formula Prescription.....							
		1742	33.69	53.5	30.9	15.6	

<i>Store B.</i>							
Type of Practice.	Year of Graduation.	Number of Prescriptions.	Per Cent of Total Prescription Business.	Per Cent of Total Prescriptions Written.			
				Official.	Mixed.	Specialties.	
Internal Medicine.....	1918	398	11.37	33.2	23.6	43.2	
Internal Medicine.....	1896	193	5.52	74.6	14.0	11.4	
Dermatology.....	1909	162	4.63	56.1	23.5	20.4	
Internal Medicine.....	1919	149	4.26	33.6	25.5	40.9	
Internal Medicine.....	1925	123	3.51	46.3	11.4	42.3	
Dermatology.....	1900	114	3.26	34.2	56.2	9.6	
Internal Medicine.....	1894	97	2.77	55.7	16.5	27.8	
Ear, Nose and Throat...	1922	91	2.60	39.5	40.7	19.8	
Dermatology.....	1906	83	2.37	48.2	32.5	19.3	
Dermatology.....	1928	83	2.37	25.3	55.4	19.3	
Total.....		1493	42.66	44.5	26.9	28.6	

Professional Store A has been in existence for a considerable period of time, and it was therefore considered of interest to examine some prescriptions filled in previous decades in order to see what, if any, changes have taken place in the passing years. Accordingly, 1000 prescriptions filled in 1910 and 1000 filled in 1920 were examined, and the results of this study, in so far as they regard the physicians writing them, are presented in two tables below.

In Table XXI it will be seen that the 10 leading physicians in 1910 accounted for 54 per cent of the 1000 prescriptions studied, a considerably higher proportion than that accounted for by the first 10 physicians in 1920 and 1930. Detailed information is given in this table for the first 15 doctors. Of these 15 doctors, 10 were recent graduates in 1910, at that time having practiced no more than 15 years. As of interest in showing the extent to which the same doctors remain important to a store's prescription business, the rank of these 15 doctors in 1920 and 1930 is shown, whenever they were still contributing prescriptions in those years. For example, the leading doctor in 1910 ranked third in 1920, and in 1930 after 60 years of practice was still a valuable contributor, ranking forty-first and writing 33 of the prescriptions filled by professional Store A in that year. Again, the doctor who ranked 13th in 1910 and who was at that time a recent graduate, ranked first in both 1920 and 1930, contributing 425 prescriptions in the latter year. On the other hand, another recent graduate in 1910 who ranked second in that year and fourth in 1920, became relatively unimportant to the store's prescription business in 1930 when he contributed only two prescriptions.

TABLE XXI.—STORE A—LEADING PHYSICIANS IN 1910 ON BASIS OF 1000 PRESCRIPTIONS ANALYZED.

Type of Practice.	Date of Graduation.	Number of Prescriptions.	Per Cent of Total Prescriptions.	Rank in 1920.	Rank in 1930.
General Practice.....	1870	166	16.6	3	41
Dermatology.....	1900	59	5.9	4	203
Ear, Nose and Throat.....	1900	45	4.5	5	...
Ear, Nose and Throat.....	1903	44	4.4	28	57
Ophthalmology.....	1877	42	4.2	35	...
Internal Medicine.....	1884	39	3.9	..	...
Ophthalmology.....	1883	39	3.9	10	...
Ophthalmology.....	1898	37	3.7	17	...
Surgeon.....	1898	37	3.7	..	...
Ophthalmology.....	1899	32	3.2	19	13
Sub-total for 10 Leading Doctors..		540	54.0		
Neurology.....	1898	27	2.7	74	69
Ophthalmology.....	1904	25	2.5	25	7
Internal Medicine.....	1896	23	2.3	1	1
Ophthalmology.....	1897	23	2.3	14	29
Internal Medicine.....	1894	20	2.0	9	...
Sub-total for 15 Leading Doctors...		658	65.8		
Other 114 Doctors.....		342	34.2		
Total.....		1000	100.0		

TABLE XXII.—STORE A—LEADING PHYSICIANS IN 1920 ON BASIS OF 1000 PRESCRIPTIONS ANALYZED.

Type of Practice.	Date of Graduation.	Number of Prescriptions.	Per Cent of Total Prescriptions.
Internal Medicine.....	1896	85	8.5
General Practice.....	1870	46	4.6
Neurology.....	1886	46	4.6
Dermatology.....	1900	43	4.3
Ear, Nose and Throat.....	1900	38	3.8
Ophthalmology.....	1901	30	3.0
Internal Surgery.....	1900	30	3.0
General Practice.....	1873	25	2.5
Internal Medicine.....	1894	22	2.2
Ophthalmology.....	1883	20	2.0
Sub-total for 10 Leading Doctors...		385	38.5
Ear, Nose and Throat.....	1901	19	1.9
Genito-urinary.....	1909	19	1.9
General Practice.....	1888	18	1.8
Ophthalmology.....	1897	17	1.7
General Practice.....	1894	16	1.6
General Practice.....	1890	16	1.6
Ophthalmology.....	1898	14	1.4
Ophthalmology.....	1910	14	1.4
Ophthalmology.....	1899	12	1.2
Ear, Nose and Throat.....	1898	12	1.2
Sub-total for 20 Leading Doctors...		542	54.2
Other 158 Doctors.....		458	45.8
Total.....		1000	100.0

It is interesting to note the change in the types of practice of the leading physicians from 1910 to 1930, as this change undoubtedly caused different ingredients and types of prescriptions to be in greatest demand in the different years. Thus the pharmacist should keep himself informed as to his leading physicians, their types of practice and the types of prescriptions and ingredients most frequently prescribed by them in order that his basic prescription department stock can be molded to conform with this changing demand.

Table XXII gives detailed information for the 20 leading doctors in 1920. It will be seen that the 10 leading doctors in 1910 accounted for about the same proportion of the total prescriptions studied as did the 20 leading physicians in 1920. In 1910, 129 physicians wrote the 1000 prescriptions studied, while 178 doctors wrote the 1000 prescriptions studied for 1920. In all three years, 1910, 1920 and 1930, a small number of physicians accounted for a large proportion of the total prescription business. All of the first 10 doctors in 1920 had then been in practice for a considerable period, and this was also true of 8 of the second 10 doctors in 1920.

PREFERENCE OF PHYSICIANS FOR OFFICIAL OR SPECIALTY REMEDIES.

Table XXIII shows the division of the physicians writing the prescriptions studied according to the preponderance of official or mixed and specialty prescriptions among the prescriptions each wrote. The primary purpose in making this tabulation is to verify, if true, the accuracy of the statement so frequently made to the effect that physicians who have graduated since the World War write largely prescriptions calling for specialties, not being taught therapeutics, materia medica and pharmacology to the same extent that physicians graduating before the War were, and thus are more susceptible to the "detail" men representing manufacturers of proprietary specialties. It is well known that these manufacturers have increased in number and their promotional effort multiplied several times. They not only "detail" physicians by sending representatives to call, but they advertise a great deal in medical journals, and mail physicians a considerable amount of literature and samples. In view of these facts, it would not have been surprising to have found the above-mentioned statement verified.

However, the facts in the following table show that both "post-war" and "pre-war" physicians had a preference for official remedies, although "post-war" physicians had a tendency to mix official ingredients with specialties more than the "pre-war" physicians did. This latter tendency may be due to the possibility that "pre-war" physicians are more familiar with official elixirs and syrups used as vehicles and suspension agents, whereas doctors who have graduated in more recent years may be more likely to write for a proprietary form of the same preparation, the proprietary name usually being shorter and easier to pronounce and spell. Considering the funds spent and promotional effort put behind proprietary specialties as compared with official preparations, the fact that both groups of physicians showed a preference for the official form is quite flattering to the official type.

There seems to be little indication that "pre-war" doctors prescribe official remedies to a greater extent than "post-war" doctors. In Store A, a higher percentage of "pre-war" doctors than "post-war" doctors leaned toward official prescriptions, but this was reversed in Store B. In Store A, 53.5 per cent of the "pre-war" doctors prescribed more official remedies than mixed and specialties combined, but this was true for only 44.4 per cent of the "post-war" doctors. In Store B, however, 52.4 per cent of the "post-war" physicians favored official preparations, while the same was true for only 51 per cent of the "pre-war" doctors. In quite a few cases the number of official prescriptions of a physician exactly equalled the combined number of mixed and specialty remedies prescribed, so these doctors were listed under the heading "tie."

In the following table mixed and specialty prescriptions have been considered together and compared with official prescriptions, so that the demand for purely official prescriptions can be seen. It should be remarked, however, that more than half of the ingredients contained in the mixed prescriptions were official ingredients, so the demand for official ingredients is even greater than this table would indicate. This will be seen later in this report where the total number of occurrences of official ingredients and specialty ingredients is shown. For example, if mixed prescriptions are eliminated from consideration in Store B, it is found that of the 55 leading "post-war" doctors, 35 prescribed more official prescriptions than specialties, 15 prescribed more specialties than official and 5 prescribed an equal number of each. Of the 87 leading "pre-war"

doctors in Store B, 55 prescribed more official prescriptions than specialties, 15 more specialties than official and 17 an equal number of each kind.

TABLE XXIII.—TYPES OF PRESCRIPTIONS WRITTEN BY "POST-WAR" AND "PRE-WAR" PHYSICIANS.

Physicians Considered.	Store A. ¹					
	Type Most Often Prescribed.					
	Official. Number of Doctors.	Per Cent of Total.	Mixed and Specialties. Number of Doctors.	Per Cent of Total.	Tie. Number of Doctors.	Per Cent of Total.
"Post-war" Doctors (124).....	55	44.4	55	44.4	14	11.2
"Pre-war" Doctors (260).....	139	53.5	103	39.6	18	6.9
Unknown (79).....	36	45.6	35	44.3	8	10.1
Total (463).....	230	49.7	193	41.7	40	8.6

Store B. ¹						
Physicians Considered.	Official. Number of Doctors.	Per Cent of Total.	Mixed and Specialties. Number of Doctors.	Per Cent of Total.	Tie. Number of Doctors.	Per Cent of Total.
"Post-war" Doctors (84).....	44	52.4	34	40.5	6	7.1
"Pre-war" Doctors (145).....	74	51.0	57	39.3	14	9.7
Unknown (30).....	13	43.3	15	50.0	2	6.7
Total (259).....	131	50.6	106	40.9	22	8.5

¹ Private formula prescriptions not included in this table.

A more detailed picture of the preference of "pre-war" and "post-war" physicians for official remedies as opposed to mixed and specialties is presented in Table XXIV. The doctors are shown in groups according to their rank in the number of prescriptions written by each. The extent of the preference for official prescriptions, or for mixed and specialty prescriptions, is also

TABLE XXIV.—PREFERENCE OF LEADING PHYSICIANS FOR OFFICIAL OR MIXED AND SPECIALTY PRESCRIPTIONS.

Type of Prescriptions Written.	Store A.											
	Doctors Considered. ¹											
	First 25. Post-war.	Pre-war.	Post-war.	26-50. Pre-war.	Un- known.	Post-war.	51-100. Pre-war.	Un- known.	Post-war.	Pre-war.	Un- known.	Total.
100% Official.....	0	0	0	0	0	0	0	0	0	0	0	0
75% Official.....	0	3	1	1	0	1	8	0	2	12	0	14
About Even.....	5	15	1	13	1	8	19	3	14	47	4	65
75% Mixed and Specialties.....	0	2	3	5	0	3	5	1	6	12	1	19
100% Mixed and Specialties.....	0	0	0	0	0	0	2	0	0	2	0	2
Total.....	5	20	5	19	1	12	34	4	22	73	5	100

Type of Prescriptions Written.	Store B.											
	Doctors Considered. ¹											
	First 25. Post-war.	Pre-war.	Post-war.	26-50. Pre-war.	Un- known.	Post-war.	51-100. Pre-war.	Un- known.	Post-war.	Pre-war.	Un- known.	Total.
100% Official.....	0	0	1	0	0	4	0	1	5	0	1	6
75% Official.....	2	4	1	7	3	3	4	0	6	15	0	21
About Even.....	8	9	5	9	10	17	0	23	35	0	58	
75% Mixed and Specialties.....	1	1	2	0	2	5	2	5	6	2	13	
100% Mixed and Specialties.....	0	0	0	0	0	2	0	0	2	0	2	
Total.....	11	14	9	16	19	28	3	39	58	3	100	

¹ The doctors considered are the first 100 in order of importance.

shown. Only the 100 leading doctors in each store are considered, for only these doctors wrote enough prescriptions among those studied to show a possible trend.

From this table it would seem that there is no marked tendency for "pre-war" physicians to prescribe a greater proportion of official remedies than do "post-war" physicians. For example, in the case of Store B, 15 of the "pre-war" doctors prescribed official remedies at least 75 per cent of the time, while 8 other "pre-war" doctors prescribed mixed or specialties 75 to 100 per cent of the time. On the other hand, 11 "post-war" physicians prescribed official remedies 75 to 100 per cent of the time, while 5 other "post-war" doctors prescribed mixed or specialty remedies in 75 per cent of their prescriptions studied.

In Store A, 14 physicians leaned heavily toward official prescriptions, while 21 other physicians wrote mixed or specialty prescriptions most of the time. However, in Store B, 27 physicians wrote official prescriptions at least 75 per cent of the time, and only 15 physicians showed a similar decided preference for mixed and specialties combined. Of the 27 physicians who preferred official prescriptions, 6 wrote official prescriptions in every instance, and 5 of these 6 doctors were "post-war" physicians.

PRESCRIPTION BUSINESS BY TYPE OF PRACTICE OF THE PHYSICIANS WRITING THE PRESCRIPTIONS.

The table below shows the prescription business of two professional pharmacies according to the type of practice of the contributing physicians. In both stores, those physicians who practiced internal medicine predominated, but particularly so in Store B, where doctors practicing internal medicine represented 44.4 per cent of the total number of contributing doctors and wrote 50.2 per cent of the prescriptions studied.

It is interesting to note the major types of practice of the doctors contributing prescriptions to these two stores. Twelve major types of practice are shown. However, the primary reason for including this table is to show the effect of the different types of practice on the demand for official prescriptions, as compared with mixed and specialties. Slightly more than half of the total

TABLE XXV.—PRESCRIPTION BUSINESS BY TYPE OF PRACTICE OF THE PHYSICIANS WRITING THE PRESCRIPTIONS OF TWO PROFESSIONAL PHARMACIES.¹

Type of Practice.	Physicians.		All Prescriptions.		Prescriptions Written. ³					
	Num-ber.	Per Cent of Total.	Num-ber.	Per Cent of Total.	Official.		Mixed.		Specialties.	
					Num-ber.	Per Cent.	Num-ber.	Per Cent.	Num-ber.	Per Cent.
Internal Medicine.....	153	32.8	3072	36.87	1627	53.0	658	21.4	787	25.6
Ophthalmology.....	42	9.0	997	11.96	633	63.5	255	25.6	109	10.9
Dermatology.....	13	2.8	889	10.67	401	45.1	385	43.3	103	11.6
General Practice.....	70	15.0	879	10.55	364	41.4	233	26.5	282	32.1
Ear, Nose and Throat...	42	9.0	727	8.72	449	61.8	142	19.5	136	18.7
Surgery.....	32	6.9	552	6.62	282	51.1	88	15.9	182	33.0
Gynecology.....	30	6.4	333	4.00	144	43.3	64	19.2	125	37.5
Pediatrics.....	26	5.6	246	2.95	157	63.8	58	23.6	31	12.6
Genito-urinary.....	12	2.6	196	2.35	55	28.1	60	30.6	81	41.3
Neurology.....	11	2.4	157	1.88	80	50.9	48	30.6	29	18.5
Cardiology.....	5	1.1	134	1.61	61	45.5	29	21.7	44	32.8
Diagnostics.....	2	0.4	77	0.93	37	48.0	27	35.1	13	16.9
All Others ²	28	6.0	74	0.89	35	47.3	21	28.4	18	24.3
Total.....	466	100.0	8333	100.00	4325	51.9	2068	24.8	1940	23.3

¹ For Store A, all physicians writing 3 or more prescriptions each are included in this table, plus 13 physicians writing only 2 prescriptions each, but for whom it was possible to ascertain the type of practice. For Store B, all of the 259 physicians writing the prescriptions studied are included in this table.

² Includes 14 doctors whose type of practice is unknown but who together wrote 37 of the prescriptions studied, one surgeon and pathologist writing 13 of the prescriptions, a roentgenologist and a proctologist each writing five prescriptions, a pathologist, an orthopedic surgeon, a neurologist-psychologist and an obstetrician each writing 2 prescriptions, two dentists, an endocrinologist, an orthopedic surgeon, a pathologist and a proctologist each writing one prescription.

³ Private formula prescriptions not considered in this table.

number of prescriptions were official, with the remaining number about equally divided among mixed and specialties. Thus there were more than twice as many official prescriptions as specialties, and for every individual type of practice, except genito-urinary, there were more official than specialty prescriptions. This same situation was true for both stores when considered individually.

LEGIBILITY OF PRESCRIPTIONS.

As pointed out in the report concerning 13 usual commercial type drug stores, prescriptions can be much more efficiently filled if they are written in a good legible hand. Delay, which the customer generally blames on the pharmacist, at times occurs while the pharmacist attempts to get in touch with the prescribing physician to get a translation of a poor specimen of handwriting. Mistakes may easily occur through poor penmanship where two ingredients are fairly alike in name.

In the 13 commercial drug stores, only 3.1 per cent of the prescriptions studied were rated "poor" as to legibility, and the highest proportion of prescriptions with poor legibility for an individual store was 6.3 per cent. It was thought that the above showing for commercial stores was very unfortunate, but the proportion of prescriptions with poor legibility in these professional stores is even higher than the most unfortunate showing for a commercial store.

It would seem from the showing in professional Store A that physicians are less particular about their handwriting to-day than they were two decades ago, although the situation is not quite as bad in that store as it was in 1920. There are a number of ways in which this situation can be remedied. Druggists' associations can contact with physicians through their medical associations, pointing out the advantages which will come to all parties if the physicians will use a little more care in writing prescriptions. The druggist can also "detail" his leading physicians, that small group of doctors who account for a majority of his prescription business, and tactfully put the matter before them, thus obtaining immediate remedial results, in case any of these leading doctors are offenders as to poor penmanship. One manufacturer of specialties with a house organ mailed to physicians has already placed a notice in his publication cautioning physicians to write prescriptions carefully.

TABLE XXVI.—LEGIBILITY OF PRESCRIPTIONS.

Store and Date.	Degree of Legibility of Prescriptions.					
	Good.		Fair.		Poor.	
	Number of Pre- scriptions.	Per Cent of Total.	Number of Pre- scriptions.	Per Cent of Total.	Number of Pre- scriptions.	Per Cent of Total.
Store A (1910).....	245	24.5	722	72.2	33	3.3
Store A (1920).....	149	14.9	767	76.7	84	8.4
Store A (1930).....	1364	24.8	3763	68.4	373	6.8
Store B (1930).....	790	22.6	2420	69.1	290	8.3

THE PROBLEM OF PHYSICIANS' ERRORS IN PRESCRIPTION WRITING.

Quite occasionally while studying the prescriptions filled by the various test stores a prescription was found which quite obviously could not be filled as written. For example, the following is a copy of an actual prescription of this type: Potassium iodide, 2 drams; water, 3 ounces; "Kasagra," 2 ounces; and lithiated sorghum compound, quantity sufficient to make 4 ounces. Obviously, either a larger total quantity was intended or a smaller quantity of one of the other ingredients. In this case, probably the physician intended to prescribe only 3 drams of water. In some cases, however, it was very difficult to determine just what was intended. The pharmacist had undoubtedly called up the physician to determine what he intended to prescribe, and then had filled the prescription correctly, but had failed to note the correction on the prescription. Thus, the pharmacist had no record of the way in which the prescription was filled, for his own protection and convenience in case of a refill. In case the prescription was brought in to be refilled, the pharmacist would either have to call up the physician again, or rely on his memory for the correction, which is not an absolutely safe procedure. Yet a considerable number of such prescriptions were found without any correction noted on the prescription.

Some prescriptions were found which, as a physical possibility, could have been filled as written, but which contained an improper dose of a certain ingredient. For example, one actual prescription called for the following: Acetyl salicylic acid, 4.; codeine sulphate, 3.—capsules No.

15. The physician writing this prescription evidently meant to prescribe "codeine sulphate, .3," as one-sixth of the amount he actually prescribed per capsule would be a large dose. In this and other such cases, the correction was not noted on the prescription. Of course, being a narcotic, there was no question of refills, but for the pharmacist's own protection, particularly in the case of a narcotic prescription, he should have noted the correction on the prescription.

Incidentally, the prescription just given as an example, which could have been filled as written, but which if filled as written might have caused serious harm to the patient if no correction had been made, is an example of the skill, knowledge and experience which the pharmacist must use in filling prescriptions. His work does not consist merely of counting out pills, or pouring liquids from one bottle to another. In addition to the many difficult prescriptions which must be compounded, the pharmacist must have a thorough knowledge of the therapeutic use, effect and dosage of the many hundreds of prescription ingredients which he carries in stock, and must be ever alert to notice errors in prescriptions. No matter how careful physicians are, there are bound to be a certain number of errors in prescription writing, and the trained pharmacist is an additional safeguard in seeing that the patient gets what the physician intended.

(To be continued next month)

DIGITALIS IN PHARMACY.

On page 594 of the July JOURNAL a display of Digitalis graphically portrays fields of fox-glove, the processing building with the furnace, drying room, and cupboards, cleaning machinery and mill for grinding the dried cleaned leaf to a powder. The exhibit further includes display bottles showing the drug in different stages including the tincture and other products.



Digitalis was selected as a suitable drug for a demonstration of the way in which a common plant is turned to pharmaceutical and medical uses. F. A. Upsher Smith of Minneapolis cooperated with the committee in designing and preparing the digitalis display, which is a very interesting part of the exhibit and a credit to pharmacy.
