

THE DEPARTMENT OF THE AMERICAN ASSOCIATION OF COLLEGES OF PHARMACY

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DEPARTMENT.

"Dr. Leonard Seltzer's wide experience in prescription compounding and pricing makes him a competent authority on the subject. The following paper by Dr. Seltzer presented before the Section on Pharmaceutical Economics of the American Association of Colleges of Pharmacy at the Miami meeting will be of interest to all who are following professional pharmacy. I trust that Dr. Seltzer's paper will arouse some discussion.—C. B. JORDAN, *Editor*."

EQUITY AND ACCURACY, ESSENTIAL ELEMENTS IN PRESCRIPTION PRICING.

BY LEONARD A. SELTZER.*

In the practice of professional pharmacy, so often referred to as ethical pharmacy, possibly for the reason that in professional practice the standards of ethics are most difficult to maintain, the outstanding problems are those of *quality* and *price*. Surrender in the matter of either of these, whether from indifference in the matter of computing prices or habitual unscrupulousness in the matter of material supplied, is fatal both to the maintenance of ethics and of character. The question of substitution being wholly a moral one will not be taken up at this time; the matter of pricing, being a technical one, is the one to which this discussion will be limited.

If there is one thing that is paramount in the practice of professional pharmacy, it is that the pharmacist cultivate and maintain the confidence of his clients, and in maintaining this confidence one of the most sensitive and vital points of contact is that which is involved in the pricing of prescriptions: sensitive on the one hand because of the reliance which the customer, willing or not, must place in his pharmacist and vital on the other hand, because the reputation of the latter for honesty, good faith and competency is involved. But not only is the point of contact one of the most sensitive and vital, it is also one of the most complex—complex, because factors so diverse as those of the time, service, cost and overhead in almost kaleidoscopic variation must quickly and accurately be converted into terms of dollars and cents.

The unscientific method of pricing which has been and is at present quite generally in vogue does not lend itself to the establishment of this confidence: in fact the opinion that the public is exploited is more or less generally accepted as a fact and this opinion will not be altered until the unscientific method shall have been changed for a scientific one and the conscience of the pharmacist, which may in some instances "With injustice be corrupted," be thrice armed because his price is just.

If selling prescriptions were merely merchandising, the solution would be simple: a fixed rate per cent markup would solve the problem. But no rate per cent advance based on cost of material can be found that will be applicable both for a prescription for one-half ounce digalen and one for a dozen one-tenth grain calomel powders for example. Or, from another angle, if two prescriptions be com-

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pared each specifying different materials but costing the same amount (say \$1.00 for example), and if the mode of administration of one be such as to cause it to be used up in a week, and of the other, such as to last a month, the first patient would have to refill his prescription four times to get a month's treatment. Manifestly, no equitable price could be computed, based on the cost of material alone: the fact that the first patient's medicine was used up so much faster should have a *modifying effect* on the price he has to pay. He would of course have to pay more than the second patient, but he should not pay four times as much.

And so, to accomplish the equitable pricing of prescriptions, a system is necessary which will enable all the elements involved to be reflected in the price, and the first thing to do is to find out what these elements are—to discover, if possible, whether certain factors exist which might enter into the computation and if so what they are and how many. These factors in order to function as such would have to

| <p style="text-align: center;">FORMULA FOR PRESCRIPTION PRICES</p> <p style="text-align: center;"> $C_{\text{ompounding Fee}} + S_{\text{ervice Charge}} + M_{\text{aterial (Selling Price)}} = P_{\text{rice}}$ </p> | | | | | | | | | | | | |
|---|--------|---|------|-------------------------------------|-------------|----------|--------|---------|---------|------|---|---|
| Classification | C + | S | + | M | Price per C | EXAMPLES | | | | | | |
| | | | | | | No. | \$.50 | \$ 1.00 | \$ 2.00 | | | |
| Tablets and Ready Made Pills | .50 + | No. of Doses X ½ Cent | + | Selling Price | 20 | .70 | .80 | 1.00 | | | | |
| | | | | | 50 | 1.00 | 1.25 | 1.75 | | | | |
| | | | | | 100 | 1.50 | 2.00 | 3.00 | | | | |
| Capsules, Cachets Powders Hand Made Pills Suppositories | .75 + | No. of Doses X One Cent (Suppositories) X Six Cents | + | Selling Price (minimum 2c per oz.) | No. | C | + | S | + | M | = | P |
| | | | | | 20 | .75+ | .20+ | .40 | = | 1.35 | | |
| | | | | | 50 | .75+ | .50+ | 1.00 | = | 2.25 | | |
| 100 | .75+ | 1.00+ | 1.00 | = | 2.75 | | | | | | | |
| Liquids | .75 + | No. of Doses (Drams) X One Cent | + | Selling Price (minimum 5c per unit) | Oz. | \$ | \$ | \$ | \$ | | | |
| | | | | | 2 | .75 | .16 | .10 | = | 1.00 | | |
| | | | | | 3 | .75 | .24 | .15 | = | 1.15 | | |
| | | | | | 4 | .75 | .32 | .20 | = | 1.25 | | |
| Ointments | 1.50 + | No. of Drams X One Cent (minimum 12½c per oz.) | + | Selling Price | 1 | 1.00 | .15 | | 1.00 | | | |
| | | | | | 2 | 1.50 | .25 | | 1.50 | | | |
| | | | | | 3 | 1.50 | .40 | | 1.90 | | | |
| | | | | | 4 | 1.50 | .50 | | 2.00 | | | |

Fig. 1.

be universal, *i. e.*, they would of necessity be present in every prescription and they would have to be comprehensive, *i. e.*, they would of necessity include every phase of service that enters into the cost. Difficult as this problem may seem, a similar one had been encountered and solved in other forms of service.

The mail and express service, the telephone service, the electric light and power service all presented an array of facts seemingly unrelated, and yet each service elaborated a schedule by uncovering certain constant essential factors which would produce an equitable rate. In the case of mail and express there were three: service (of various classes), weight of package, and distance; in the case of telephone service there were three: service, number of potential calls (*i. e.*, number of subscribers subject to call), and number of actual calls made; in the case of electric light and power there were three: service, current subject to demand, and current actually consumed. These results in the matter of determining rates were suggestive and helpful in the problem of prescription pricing. For here, too, there was the

same conglomeration of unrelated facts, and here, too, three factors were found which were always present and which fully met the requirements in all cases: they were Factor C—the compounding fee, including the clerical work of filing, labeling, checking, assembly of material and compounding; *second*, Factor S—the professional service charge, the measure of which is the number of doses supplied; *third*, Factor M—the selling price of material used. A *fourth*, Factor X, might be added to represent such extraordinary phases as charges for dispensing liquor or narcotics. In most prescriptions the value of this factor would of course be zero.

It will be noted that there is no prescription in which these three factors do not all occur, nor is there any prescription not fully covered by them; moreover they do not interfere with nor overlap each other. The algebraic formula for pricing prescriptions $C + S + M + X = \text{Price}$, is therefore mathematically accurate. It

Fig. 2.—Table showing the value in cents of one ounce (including a profit of 40%) on preparations ranging from \$1.00 to \$18.00 net per dozen in price, and from one ounce to twenty ounces in size.

| No. of ozs. in original pkg. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 14 | 16 | 20 | Unit price |
|------------------------------|-----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|------------|
| \$1.00 | 14 | 7 | 5 | 4 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | \$.08 |
| 2.00 | 28 | 14 | 10 | 7 | 6 | 5 | 4 | 4 | 3 | 3 | 3 | 3 | 2 | 2 | 2 | .17 |
| 3.00 | 42 | 21 | 14 | 12 | 9 | 7 | 6 | 6 | 5 | 4 | 4 | 4 | 3 | 3 | 2 | .25 |
| 4.00 | 56 | 28 | 20 | 14 | 12 | 10 | 8 | 7 | 6 | 6 | 5 | 5 | 4 | 4 | 3 | .34 |
| 5.00 | 70 | 35 | 25 | 20 | 14 | 13 | 10 | 9 | 8 | 7 | 7 | 6 | 5 | 5 | 3 | .42 |
| 6.00 | 84 | 42 | 28 | 21 | 17 | 14 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 6 | 5 | .50 |
| 7.00 | 98 | 49 | 35 | 25 | 20 | 19 | 14 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | .60 |
| 8.00 | 112 | 56 | 40 | 28 | 23 | 19 | 16 | 14 | 13 | 12 | 10 | 10 | 8 | 7 | 6 | .67 |
| 9.00 | 125 | 63 | 42 | 31 | 25 | 21 | 18 | 16 | 14 | 13 | 12 | 11 | 9 | 8 | 7 | .75 |
| 10.00 | 140 | 70 | 50 | 35 | 28 | 24 | 20 | 18 | 16 | 14 | 13 | 12 | 10 | 9 | 7 | .84 |
| 11.00 | 154 | 77 | 55 | 39 | 31 | 26 | 22 | 20 | 17 | 16 | 14 | 13 | 11 | 10 | 8 | .92 |
| 12.00 | 168 | 84 | 60 | 42 | 34 | 28 | 24 | 21 | 19 | 17 | 15 | 14 | 12 | 11 | 8 | 1.00 |
| 14.00 | 196 | 98 | 70 | 49 | 40 | 33 | 28 | 25 | 22 | 20 | 18 | 16 | 14 | 12 | 10 | 1.17 |
| 16.00 | 224 | 112 | 80 | 56 | 45 | 38 | 32 | 28 | 25 | 23 | 20 | 18 | 16 | 14 | 12 | 1.34 |
| 18.00 | 250 | 125 | 84 | 63 | 50 | 42 | 36 | 32 | 28 | 25 | 23 | 21 | 18 | 16 | 14 | 1.50 |

Rule for computing the price of any number of ounces, of any per cent, at any price per ounce so as to yield 40% on material; multiply the price in dollars per avoirdupois ounce, by the per cent, by the number of ounces, by two.

only remains for each store to assign for each factor the value warranted by the service rendered in that store in order to be assured of uniform prices by whomever computed—the *sine qua non* in any pricing scheme.

No attempt is made to effect uniformity of prices in different stores which from the very nature of the thing would be inequitable and even impossible since the value assigned to factors is based on service rendered and that service is not on the same plane in different stores. The fact of the price of a prescription being determined by the consideration of these factors might lead to the impression that it would tend to increase the average price and also the gross returns in proportion to the number of prescriptions compounded. This is not the case. If the factors are properly evaluated they will not increase nor even change the *average price*, they simply distribute the load to where it belongs, giving each individual prescription the proper charge. Under the old system the average price

of one hundred prescriptions might be and probably was correct, but that was no assurance that any one individual prescription was properly priced. By the employment of the formula every prescription is correctly priced and it follows that the average will take care of itself.

And now with respect to the application of the algebraic formula: prescriptions are first classified with reference to the amount to be charged as compounding fee. Obviously the fee, Factor C, for prescriptions for ready made pills, capsules, tablets, etc., should be the lowest. Placing it at \$.50, the fee for liquids, hand-made pills, capsules, cachets, suppositories, etc., should be a trifle higher, say \$.75, and the fee for ointments which require the most skill and attention, a still higher fee, say \$1.50.

In assigning value for the second factor (S): the service charge in the first class involving the least work of all per dose, would carry the smallest fee, say one-half cent each per dose; in the second class the fee should be correspondingly higher, say one cent per dose except in case of cachets and suppositories in which cases an account of the additional work on each individual dose, the fee should be more, say

four cents and six cents, respectively; in the third class (ointments), the dose of one dram is taken arbitrarily as a working basis and the fee of one cent per dram assigned.

For the third factor (M), the usual selling price is accepted—where no such price is established a markup of 40% is convenient because pharmaceuticals are generally listed on that basis; moreover it is reasonable and it is easily computed. There is of course a minimum below which cost cannot be considered. For obvious reasons material costing one cent or

| No. of grains | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|-------------------|---|---|----|----|----|----|----|----|----|----|
| Net price per oz. | | | | | | | | | | |
| \$1.00 | 1 | 1 | 1 | 2 | 2 | 3 | 3 | 4 | 4 | 4 |
| 2.00 | 1 | 2 | 2 | 3 | 4 | 5 | 6 | 6 | 7 | 8 |
| 2.50 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 3.00 | 1 | 2 | 3 | 5 | 6 | 7 | 9 | 10 | 10 | 12 |
| 4.00 | 2 | 3 | 5 | 6 | 8 | 10 | 11 | 12 | 14 | 16 |
| 5.00 | 2 | 4 | 6 | 8 | 10 | 12 | 14 | 16 | 18 | 20 |
| 6.00 | 3 | 5 | 7 | 10 | 12 | 14 | 16 | 18 | 21 | 24 |
| 7.00 | 3 | 6 | 9 | 11 | 14 | 16 | 19 | 21 | 24 | 28 |
| 8.00 | 4 | 6 | 10 | 12 | 16 | 18 | 21 | 24 | 28 | 32 |
| 9.00 | 4 | 7 | 10 | 14 | 18 | 21 | 24 | 28 | 32 | 36 |
| 10.00 | 4 | 8 | 12 | 16 | 20 | 24 | 28 | 32 | 36 | 40 |

Fig. 3.—Table showing the value of material (including a profit of 40%) in quantities ranging from one to ten grains for material, costing from \$1.00 to \$10.00 per ounce.

any trifling amount could not be sold on a 40% markup. The selling price in such a case must be placed at a minimum at which it can be dealt in. We have found it expedient to price liquids at the minimum rate of five cents per ounce; and for material in capsules, powders, etc., at the minimum rate of two cents each up to the point where the cost exceeds 60% of this amount. Under this arrangement when fifty or more are prescribed so that the selling price of the material charge amounts to \$1.00, the amount is not increased indefinitely: thus, 100 five-grain soda and magnesia powders would carry only a \$1.00 material charge and not two cents each for the hundred.

Now while prices computed by this formula are just and equitable there are times when the exercise of judgment is necessary. We have the authority of Holy Writ that while certain things may be lawful they may not be expedient, for instance, a standard proprietary, pint size, costing \$1.00 would be under strict adherence to schedule call for \$3.65, it would not be good judgment to charge that price. In fact when a standard preparation is prescribed in original package and the service consists in no more than affixing the label prescribed by the physician, a fee of \$.25 above the regular selling price is more likely to be mutually satisfactory. But

considerations of expediency are not the only occasions for suspending the application of the schedule. All laws are limited in their application, even the law of indestructibility of matter, the immutability of the atom and the conservation of energy are no longer considered universal in their application. An attempt to apply the schedule for one pill or powder, or one dose of liquid would of course not be using common sense. In case of ointments, \$1.00 for one ounce, \$1.50 for two ounces and the schedule in larger amounts is more likely to meet approval than a strict adherence to the schedule for all amounts. Further adjustments such as eliminating Factor S and increasing the minimum value of M to 0.25 per ounce for medicine administered in less than thirty-drop doses except S. S. Potassium Iodide for which special rate must be made; also eliminating the factor S in gargles, lotions and injections, increasing the minimum for M to ten cents in the latter instance.

There are included three tables. Figure 1 illustrates the application of the schedule to the different classes of prescriptions. Figure 2 is a table showing the selling price of one ounce of preparations ranging from eight cents and \$1.50 per package in price and from one ounce to twenty ounces in size. Figure 3 shows the selling price of substances in amounts ranging from one to ten grains and in price of from \$1.00 to \$10.00 per ounce.

Finally then, the accuracy and equity of prices rests on the *one responsible for the store* and its reputation will stand or fall as the public approves or not. Such a schedule as the one described puts the means in his hands of controlling the prices made whether he is present or not. Should he find his prices either too high or too low, instructions to change the value placed on one or more factors or better still, instructions to increase or decrease the result by whatever per cent he deems necessary, will accomplish the result. It gives control to the man in control: it enables him to aim at what he wants to hit and hit what he is aiming at.

PORTRAIT OF DEAN E. V. HOWELL PRESENTED TO U. N. C. SCHOOL OF PHARMACY.

A portrait of the late Dean Edward Vernon Howell, head of the School of Pharmacy at the University of North Carolina from its beginning in 1897 until his death on February 14, 1931, was presented to the School with appropriate exercises on the afternoon of February 15th. The portrait is the gift of J. Edward Murray, vice-president and treasurer of the Emerson Drug Co., and a nephew of the late Captain Isaac E. Emerson. Mr. Murray was graduated from the University's School of Pharmacy with the class of 1913 and has shown keen interest in its progress. Dean Howell and Mr. Murray were close friends. The portrait was painted by William Wirtz, Baltimore artist, who knew Dean Howell personally. It is an excellent likeness. The exercises were held in the library

of the Howell Hall of Pharmacy, so named by the trustees for the late Dean, and were attended by a large group of relatives, colleagues and students. G. C. Hartis, of Matthews, president of the Senior Class in the Pharmacy School, presided. F. O. Bowman, general counsel for the North Carolina Pharmaceutical Association, presented the portrait in behalf of the donor who was unable to be present. It was accepted for the School by Dean J. G. Bear, Mr. Howell's successor, and in behalf of the General University by President Frank P. Graham. Then Dean W. W. Pierson of the Graduate School delivered a memorial tribute in behalf of the Edward Vernon Howell Memorial Committee appointed by President Graham.
