Drug Experience in Two Programs For Medical Care

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Drugs on a prescription basis, as well as home and office care by physicians, are provided low-income residents of Maryland, under two tax-supported medical care programs administered with funds allocated by annual appropriations of the State legislature.

The county medical care program, which operates in all Maryland counties, is administered jointly by the State Department of Health and the county health departments; the Baltimore City medical care program, confined to residents of Baltimore City, is administered by the Baltimore City Health Department.

Although the two programs differ basically in their manner of providing physicians' services, their drug policies are practically identical. Because the method of providing drugs is similar in both programs and their methods of payment are highly centralized, it has been possible to study some of the characteristics of this phase of medical care. Administrators of other medical care programs which supply or are contemplating the provision of drugs to their beneficiaries may find Maryland's experience helpful. Results of a careful evaluation of the ingredients noted on a sample of prescriptions studied by a team associated with the Baltimore City medical care program will be discussed in a subsequent report.

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County Medical Care Program

The county program, begun in 1945 and now in operation in all Maryland counties, provides physicians' services in the home and office, drugs—prescribed and dispensed—dental services, and hospital out-patient diagnostic services. All recipients of public assistance are automatically eligible for service. Medically indigent persons who are able to pay for their basic food, shelter, clothing, and similar needs but who are unable to pay for medical care are also eligible. Their eligibility is determined by the local health officer primarily on the basis of income, although exceptions may be made for medical or social reasons.

All professional participants in the program are paid on a fee-for-service basis, according to established fee schedules worked out with representatives of the professions involved. Patients have free choice of physician, dentist, and pharmacist, and those who provide service are free to accept or to reject patients.

Baltimore City Medical Care Program

The Baltimore City program, in operation since 1948, provides clinic services, home and office services by physicians, prescribed drugs, and emergency dental care to recipients of public assistance in the city. The method of providing physicians' services contrasts sharply

with the county program. Each beneficiary is assigned to one of the medical care clinics operated by six of the large hospitals in the city. At the clinic he receives a physical examination and selects a physician from a list of those participating in the program. Thereafter he is under the care of the chosen physician, who receives a summary of the findings of the clinic examination and to whom the services of the clinic are available for consultation.

Physicians are paid on a quarterly capitation basis—a predetermined sum paid quarterly in advance for each patient accepted.

Provision of Drugs

The two programs have similar drug policies. Prescriptions are written on a special form, which is similar for both programs. The patient has the prescription filled at any pharmacy which cooperates with the program. The pharmacist bills the program according to the following established fee schedule:

The program pays for the wholesale cost of the drug, plus the cost of container, plus a specified mark-up—$0.35 for uncompounded prescriptions and $0.50 for compounded prescriptions whose ingredient plus container cost total less than $2.50. For prescriptions with an ingredient-plus-container cost of more than $2.50, a 30-percent mark-up is allowed. The two exceptions to this schedule are: (1) the programs will in no case pay more than the current retail price for a drug, and (2) insulin is paid for at the minimum fair trade price.

In general, physicians have complete freedom in prescribing drugs. However, both programs urge the use of U. S. Pharmacopeia and National Formulary drugs. The few limitations on freedom of prescribing are slightly different for the two programs. The county program does not allow payment for *spiritus frumenti*, streptomycin, or highly experimental and expensive drugs such as cortisone, ACTH, and pregnenelone. In the city program, all drugs with the exception of *spiritus frumenti* may be prescribed, but expensive or unusual drugs require approval of a clinic or of the program director.

In addition to prescriptions, when the cost of dispensed drugs is 50 cents or more the county program allows physicians to bill them at cost. Although this procedure is fairly widely used in some of the rural areas of the State, the cost of dispensed drugs during 1951 totaled $11,746, only 6 percent of the total drug cost of the program.

Drug Data

County Medical Care Program

The more important indexes of pharmacy service provided by the county medical care program from 1946 through 1951 are shown in table 1. The total payments for all professional services are included to show the relative amounts of services provided. The striking feature of this table is the continuous increase in all the indexes of pharmacy service. Expenditures for prescribed drugs have risen out of proportion to expenditures for all services.

Table 1. Pharmacy services in the Maryland county medical care program, 1946–51

Selected data	Calendar year					
	1946	1947	1948	1949	1950	1951
Total payments—all services	$212, 557	$366, 184	$543, 343	$556, 863	[1] $718, 083	$661, 126
Payments for pharmacy services	$29, 439	$52, 969	$96, 781	$123, 197	$182, 004	$170, 021
Percent pharmacy payments of total payments	13. 8	14. 5	17. 8	22. 1	25. 4	25. 7
Number of pharmacies participating	[2] 172	278	302	328	368	357
Number pharmacy invoices	25, 668	44, 344	75, 795	92, 333	126, 291	113, 480
Average payment per invoice	$1. 15	$1. 19	$1. 26	$1. 33	$1. 44	$1. 50
Number physicians' calls	59, 209	97, 443	136, 259	147, 147	180, 840	172, 692
Average number pharmacy invoices per 100 physicians' calls	43	45	56	63	70	66

[1] This represents billings. Payments to physicians, dentists, and hospitals prorated at 70 percent for 4 months.
[2] For 9 months only, January–September 1946.

In 1946, pharmacy costs were only 13.8 percent of the cost of all services. By 1951, they constituted about 25 percent of the costs of all services. The slight increase in percentage of pharmacy payments from 1950 to 1951 should be noted. This is the first time in the history of the program that there was not a marked rise in this index.

The increase in the average cost per prescription, from $1.15 in 1946 to $1.50 in 1951, is one factor contributing to this picture. Only one minor change in the pharmacist's mark-up fee has been made during this period, and the increase in average cost of prescriptions reflects both general wholesale price rises and the widening use of more expensive drugs.

There is, however, another trend which adds to the rapidly mounting drug costs. Physicians are now writing more prescriptions per call than they did 4 years ago. In 1946, 43 prescriptions were written per 100 physicians' calls. By 1950, 70 prescriptions were being written for each 100 physicians' calls. By 1951, however, this index had dropped to 66 prescriptions per 100 physicians' calls. This is the first time that a decrease has been observed in any index of pharmacy service. Together with the leveling off of the percentage of total payments for pharmacy service, this may presage a stabilization of pharmacy expenditures. A moderate program (see summary) of information for cooperating physicians concerned with the economics of drug distribution may serve to keep drug utilization at the lowest level consistent with good medical practice.

Uncompounded prescriptions make up the bulk of the drugs supplied. During 1951, 88 percent of all prescriptions were of this type. Refills constituted approximately 13 percent of all prescriptions, a figure well below the estimated 29 percent for prescriptions filled by all pharmacies in the State in 1950. Of the $170,221 spent for services rendered by pharmacies in 1951, 66.7 percent represented the cost of the ingredients; 4.3 percent, container costs; and the remaining 29.0 percent, mark-up fees to pharmacists in return for professional services rendered.

In 1951 for persons receiving public assistance, the per capita cost of providing prescribed drugs was $6.12, an average of 4.3 prescriptions per person. Unfortunately, it is not possible to determine this index on an age specific basis at this time.

Nearly 93 percent of all licensed pharmacies in the counties filled prescriptions for the program during 1951. Pharmacists in Baltimore City, the District of Columbia, and States adjacent to Maryland also participated. Table 2 shows the distribution of pharmacies by location and number of prescriptions filled. As might be expected, the majority of the participating pharmacies are located in the counties of Maryland. However, a substantial number of out-of-county pharmacies also rendered service under the program.

There is a marked difference in the extent of participation of various pharmacies. Over a fifth of all participating pharmacies filled less than 10 prescriptions each in the year. At the other extreme, 34 pharmacies filled more than 1,000 prescriptions each during 1951, with 2 filling more than 4,000 prescriptions.

Consideration of the drug-dispensing characteristics of the program shows a pattern which indicates that a small or moderate volume of service is provided by most of the participating pharmacies, and a large volume of service is given by a relatively small number.

Baltimore City Medical Care Program

Since the Baltimore City medical care program has been in operation only since 1948, and

Table 2. Distribution of participating pharmacies by location of pharmacy and number of prescriptions filled, Maryland county medical care program, 1951

Number of prescriptions	All pharmacies	Location of pharmacy			
		All counties	Baltimore City	District of Columbia	Other States
Total	357	236	86	28	7
Under 10	88	19	50	18	1
10–99	104	67	28	7	2
100–499	102	89	7	3	3
500–999	29	27	1	-------	1
1,000–1,999	24	24	-------	-------	-------
2,000–2,999	6	6	-------	-------	-------
3,000–3,999	2	2	-------	-------	-------
4,000–4,999	2	2	-------	-------	-------

Table 3. Pharmacy services in the Baltimore City medical care program, 1949–51

Item	Fiscal year		
	1949	1950	1951
Total payments—all services	$156, 632. 00	$483, 803. 00	$603, 587. 15
Payments for pharmacy services	$42, 038. 00	$113, 991. 00	$155, 759. 77
Percent of pharmacy payments to total payments	26. 8	23. 6	25. 8
Number of pharmacies participating	254	337	343
Number of pharmacy invoices	23, 860	78, 529	103, 686
Average payment per invoice	$1. 76	$1. 45	$1. 50

did not get fully under way until 1950, the historical picture is by no means as complete as that for the county medical care program. However, the comparable available data for the past three fiscal years are shown in table 3. No data are available on the number of prescriptions per physician's call, as the capitation feature of the city program has not furnished complete statistics on the volume of physicians' services rendered in the home or office.

During the early formative period of a medical care program, experience tends to be biased by the fact that persons with chronic or severe illnesses are usually the first to obtain care. The experience of the city program in 1948–49 and early in 1949–50 reflects this bias. The average cost per prescription in 1948–49 was higher than in the other 2 years, which in all probability is due to a high proportion of such expensive drugs as insulin provided in the first year of operation. The later experience of 1949–50 is considered to be fairly representative.

As can be seen from a comparison of tables 1 and 3, both programs spent approximately one-fourth of all funds for the provision of prescribed drugs during the years for which the most recent data are available. The average cost per prescription was exactly the same for this period.

Insofar as the type of prescription is concerned, the experience of the two programs was comparable. Of all prescriptions supplied by the city program in 1950–51, 81 percent were uncompounded, compared to 88 percent under the county program. The experience of both programs was similar in that the average cost of compounded was less than that of uncompounded prescriptions despite a higher mark-up fee, due to lower costs of ingredients in compounded prescriptions.

Table 4 shows the utilization of drugs, by age groups, in the Baltimore City program based on a sample of the assigned population on July 1, 1949. Similar data are not available for the county program. On the average, 3.1 prescriptions were written per person per year. The importance of the age distribution of the population is emphasized by the differences in the age specific rates. The number of prescriptions per person for people in the older age groups considerably exceeds that for younger persons. As a general rule, populations consisting of public assistance recipients are weighted with people in the older age groups, a fact which adversely influences the over-all cost of providing drugs to such populations.

The distribution of pharmacies cooperating with the Baltimore City program, by location

Table 4. Utilization of drugs, by age groups,[1] Baltimore City medical care program—fiscal year 1950

Age	Number persons	Number prescriptions	Total cost	Annual per capita utilization	
				Number	Cost
Total	1, 554	4, 800	$7, 084. 06	3. 1	$4. 56
0–4	90	89	100. 80	1. 0	1. 12
5–19	513	359	511. 42	. 7	1. 00
20–39	180	460	667. 25	2. 5	3. 71
40–59	198	1, 205	1, 788. 83	6. 1	9. 03
60 and over	573	2, 687	4, 015. 76	4. 7	7. 01

[1] Based upon a systematic stratified sample of persons assigned on July 1, 1949, and followed during the ensuing fiscal year.

and number of prescriptions filled, is seen in table 5. Only 5 of the 342 participating pharmacies are located outside of Baltimore City. As is true in the county program, there is wide deviation as to the extent of participation. In general, most pharmacies rendered a moderate volume of service with relatively few filling a large number of prescriptions.

Table 5. Distribution of participating pharmacies by numbers of prescriptions filled, and location of pharmacy, Baltimore City medical care program—fiscal year 1950

Number of prescriptions	All pharmacies	Location of pharmacy	
		Baltimore City	All counties
Total	342	337	5
Under 10	47	45	2
10–99	145	142	3
100–499	101	101	--
500–999	21	21	--
1,000–1,999	13	13	--
2,000–2,999	4	4	--
3,000–3,999	5	5	--
4,000–4,999	--	--	--
5,000–5,999	--	--	--
6,000–6,999	--	--	--
7,000–7,999	1	1	--

Summary

Some of the experiences of the Maryland county medical care program and the Baltimore City medical care program in providing prescribed drugs to beneficiaries are analyzed. Although physicians are paid on a fee-for-service basis by the county medical care program and on a capitation basis by the city program, the drug policies of the two programs are similar. With few exceptions, physicians have complete freedom in prescribing drugs.

Neither of the programs has been willing to restrict this freedom. However, in an effort to counteract the rising cost of drugs to some extent, administrators of both programs have written to all participating physicians urging economy in the prescription of drugs. The county medical care program campaign was carried out primarily in the summer of 1950 and may account to some extent for the leveling off of drug expenditures in 1951. The Baltimore City program campaign was not instituted until the summer of 1951, and therefore its results are not reflected in the statistical material presented here.

The county program has been in operation since 1945. A historical review of drug costs from 1946 through 1951 shows a marked increase both in the numbers of prescriptions supplied and the total dollars spent for prescribed drugs. The percentage of total expenditures devoted to prescribed drugs has been increasing steadily. Contributing to this fact is a rise in the average cost per prescription over the years and an increase in the number of prescriptions written per physician's call. There are some indications that drug costs have reached a peak.

During the past year, both programs spent for prescribed drugs approximately 25 percent of their funds for all services. Between 80 and 90 percent of these expenditures were for uncompounded prescriptions. The average cost per prescription was $1.50 in 1951 for the county program and in the fiscal year 1950–51 for the city program.

The experience of the city program emphasizes the importance of the age distribution of the population served in determining overall drug costs. The number of prescriptions per person per year shows a marked variation with age. Persons in the older age groups receive a considerably larger volume of pharmacy service than do those in the younger age groups.

The participating pharmacists under both programs present a similar pattern in the extent of participation. Most participating pharmacies provided a small or moderate volume of service under the program, with relatively few pharmacies filling more than 3,000 prescriptions in a year.