Technical Reports

Causes of Increase in Medicaid Costs in California

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THE spectacular rise in Medicaid expenditures throughout the country is a familiar story, and California's program, because of its magnitude, understandably has had its share of national attention. When the costs of Medi-Cal (as Medicaid is called in California) are compared with the State's previous expenditures for public welfare medical care, the differences are indeed impressive.

During the fiscal year 1964–65, the year preceding Medi-Cal, vendor payments for Public Assistance Medical Care (PAMC) and Medical Assistance for the Aged (MAA) totaled $186,395,000; 6 years later, in fiscal year 1970–71, Medi-Cal paid the providers of service $1,019,770,000—more than five times the previous cost. In a similar span of time, national health expenditures rose from $38.9 billion to $67.2 billion, a rise of but 72.8 percent (*1*). It is clear, therefore, that in comparing public welfare health costs in these 2 years, we are looking at something more than changes over time in a homogeneous set of variables. Rather, a dissection of two very different health care systems is called for, including an examination of the effects of coverage of additional eligible groups, the expansion of benefits to groups already covered, increases in prices, and changes in the use of individual services.

If sound planning of program policy is to take place and control is to be exercised, the underlying causes of the increases arising from these changes must be disentangled and their impact understood. Fortunately a good deal of data is available regarding the Medi-Cal program and its predecessor, so that it is possible to disaggregate the costs of these two programs and identify those changes due to price increases, those due to growth of the eligible population, and those due to greater utilization of services (including benefits not previously covered).

In this paper, PAMC and MAA expenditures in fiscal 1964–65 are compared with Medi-Cal costs during the calendar year 1969. The year 1969 was chosen because program operation in that period was more stable than in the subsequent biennium and also because most of the data of the type needed for analysis had already been accumulated for that year.

Changes in the Scope of Benefits

An overview of the range of services provided under each program is needed for an understanding of the effects that differences in cover-

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age have upon the volume of services used. In table 1, the types of service provided under Medi-Cal are compared with those provided under PAMC and MAA. All services listed in this array were available to all eligible groups under Medi-Cal, although in 1969 the duration of outpatient benefits was limited for some of the medically needy.

Under PAMC-MAA, however, payments for inpatient care other than in rehabilitation centers were made only for recipients of MAA and Aid to the Blind and were limited essentially to services provided in county hospitals and nursing homes. Adults in the Aid to Families with Dependent Children (AFDC) program under PAMC received practically no benefits: payments for their care were made only for emergency dental services and services at outpatient rehabilitation centers. The program was more liberal for children receiving AFDC; they were eligible for all outpatient services except those related to eye care. On the other hand, MAA, which covered persons 65 years old and over who met the financial eligibility requirements, pro-

Table 1. Status of services provided by Medi-Cal in 1969, and under Public Assistance Medical Care and Medical Assistance for the Aged during fiscal year 1964–65

Medi-Cal Services	Public Assistance Medical Care					Medical Assistance for the Aged
	Old Age Security	Aid to the Blind	Aid to the Disabled	Aid to Families With Dependent Children		
				Children	Adults	
Hospital inpatient care:						
County hospitals	O[1]	X	O[1]	O[1]	O[1]	X
Other hospitals	O	X[2]	O	O	O	X[2]
Rehabilitation centers	X	X	X	O[3]	O[3]	X
Physicians' services:						
Inpatient	O	X	O	O	O	X
Outpatient	X	X	X	X	O	X[4]
Nursing home care	O	X	O	O	O	X
Home health care	X	X	X	O	O	X
Home health aide services	X	X	X	O	O	X
Special duty nursing	O	X	O	O	O	X
Short-Doyle (community mental health agencies)	O	O	O	O	O	O
State mental hospitals	O	O	O	O	O	O
Prescription drugs	X	X	X	X	O	X[5]
Prosthetic and orthotic appliances	X	X	X	X	O	X[5]
Eyeglasses and other eye appliances	X	X	X	O	O	X[5]
Hearing aids	X	X	X	X	O	X[5]
Assistive devices	X	X	X	X	O	X[5]
Medical transportation	O	X	O	O	O	X
Blood and blood derivatives	O	X	O	O	O	X[5]
Organized hospital outpatient services	O[1]	X	O[1]	O[1]	O[1]	X[5]
Other organized outpatient services	X	X	X	X	O	X[5]
Dental care	X	X	X	X	X[6]	X[5]
Chiropractic service	X	X	X	X	O	X[5]
Podiatry	X	X	X	X	O	X[5]
Optometry	X	X	X	O	O	X[5]
Christian Science practitioners	X	X	X	X	O	X[5]
Physical, occupational, and speech therapy	X	X	X	X	O	X[5]
Audiology	X	X	X	X	O	X[5]
Psychology	X	X	X	X	O	X[5]
Laboratory, radiological, and radioisotope services	X	X	X	X	O	X[5]

X—services covered in 1964–65; O—services not covered.

[1] Persons receiving Old Age Security, Aid to the Disabled, and Aid to Families with Dependent Children were eligible for free inpatient and outpatient care at county hospitals. The counties were reimbursed by Medi-Cal, but not by Public Assistance Medical Care.

[2] After 30 days or $2,000 cost.

[3] Outpatient services only.

[4] Only subsequent to inpatient care.

[5] During, or subsequent to, inpatient care.

[6] Emergency care only.

SOURCES: Medi-Cal—California Administrative Code, Title 22, Division 3, Sec. 51303–51339; Public Assistance Medical Care—California Department of Social Welfare, Circular Letter No. 1571, Jan. 22, 1965, and Guide to Medical Care Vendor & Procedure Codes, R & S Reporting Guide No. 6; Medical Assistance for the Aged—California Department of Social Welfare, Bulletin No. 620, revised February 17, 1965. Sacramento.

vided relatively comprehensive inpatient care and outpatient services subsequent to inpatient care. Thus PAMC and MAA offered a veritable hodgepodge of medical services to people. While all of the recipients of the services were indigent, the medical services that were available to a recipient varied, depending on the group into which the person was pigeonholed for income maintenance.

The Medi-Cal program had the virtue of leveling out the benefits available to all persons in the public assistance categories. Under Title XIX of the Social Security Act, which spelled out the Federal requirements for Medicaid, the "basic five" services—inpatient hospital care, outpatient services, other laboratory and X-ray services, skilled nursing home care for adults, and physicians' services—had to be provided to all recipients of public assistance. Also, the benefits available to any group of recipients of public assistance could not be less in amount, duration, or scope than those available to any others under the State program (*2*).

These requirements meant that the full scope of benefits available to any group under PAMC and MAA had to be made available to all Medi-Cal beneficiaries. In other words, all the inpatient services for MAA beneficiaries, as well as the outpatient services available to some PAMC recipients, were now provided equally to all recipients of public assistance. In addition, the State's restriction on payment of the first 30 days or $2,000 worth of care in noncounty hospitals was lifted. For the first time, comprehensive health care services, with free choice of physician, hospital, or other provider of service, were made available to all recipients of public assistance and to those medically needy who were "categorically linked" to public assistance programs.

Changes in the Eligible Population

Under Medi-Cal, a new category of "medically needy" became eligible for medical assistance. (The term "medically needy" refers to nonrecipients of public assistance who lack the resources to meet the costs of their medical care.) This concept, which had been operative in the Medical Assistance for the Aged program, was extended under Medi-Cal to other groups. In order, however, for a State to receive Federal reimbursement for the costs of care of such persons, the beneficiaries had to meet the same eligibility requirements as recipients of public assistance except in the amount of income; that is, they had to be either aged, blind, or disabled or members

Table 2. Average monthly number of eligible persons, by type of aid, 1964–65 and 1969

Type of aid program	PAMC and MAA 1964–65 [1]	Medi-Cal 1969 [2]	Increase	Percentage distribution of increase
All aid programs	908,470	1,774,338	865,868	100.0
Cash grant	877,911	1,570,249	692,338	80.0
Old Age Security	270,293	312,259	41,966	4.8
Aid for Blind	12,346	13,177	831	.1
Aid for Disabled	59,905	154,741	94,836	11.0
Aid for Dependent Children	535,367	1,090,072	554,705	64.1
Adults	134,013	[3] 295,410	161,397	18.7
Children	401,354	[3] 794,662	393,308	45.4
Medically needy	30,559	204,089	173,530	20.0
Aged	[4] 30,559	57,317	26,758	3.1
Blind	0	883	883	.1
Disabled	0	15,053	15,053	1.7
Family members	0	130,836	130,836	15.1
Adults	0	[3] 46,316	46,316	5.3
Children	0	[3] 84,520	84,520	9.8

PAMC—Public Assistance Medical Care, MAA—Medical Assistance for the Aged.

[1] Public Welfare in California. Annual Statistical Report 1964–65. Department of Social Welfare Research and Statistics Series AR1–7. Sacramento, 1966.

[2] Services and Payments Report October–December, 1969. California Department of Health Care Services, Sacramento, 1970.

[3] Estimated from distribution of children and adults in AFDC cash grant and medically needy programs during fiscal year 1968–69; reported in Department of Social Welfare Annual Statistical Report, Series AR1–N, tables 18 and 19. Sacramento, 1970.

[4] Aged beneficiaries under the MAA program.

of families in which the children were deprived of support by reason of the absence, incapacity, or unemployment of a parent. While the States were encouraged to extend benefits, without Federal reimbursement, to other medically needy people than these groups, in 1969 California had not done so.

During fiscal 1964–65, an average of 908,470 persons per month were eligible for assistance under PAMC-MAA. In 1969, those eligible for Medi-Cal averaged 1,774,338 monthly, almost double the PAMC-MAA figure. The term "eligible" is used throughout this paper to denote persons who had been determined by county welfare departments to be eligible for benefits. The availability of benefits for the medically needy was not widely publicized, and conceivably many more might have been found to be eligible had they applied for benefits.

As shown in table 2, 80 percent of the increase in the eligible population was in the number receiving cash grant public assistance; 20 percent was accounted for by the medically needy, who received medical assistance only. During the same 5-year interval, annual expenditures rose from the $186.4 million cost of PAMC-MAA to a $880.7 million cost for Medi-Cal, a nearly fourfold jump. Cash grant programs for public assistance accounted for 72.2 percent of the increment, and the medically needy program, for 27.8 percent (table 3). It should be noted that Medi-Cal expenditures for Medicare-covered services received by aged recipients consisted only of the Medicare deductibles and co-payments. If the Medicare share of these costs had been included, the difference would have been greater.

Changes in Aggregate Costs of Services

Increases in the total cost of different types of service were uneven, as can be seen in table 4. The most spectacular rate of increase was in physicians' hospital visits, which went from $149,000 to $12,486,000, an 8,280 percent increase. Concomitantly, payments for surgery rose 3,452 percent, and for noncounty hospital care, 2,491 percent. These rates of increase, of course, largely reflected the fact that coverage of inpatient care, including physicians' services to inpatients, had been unavailable to most recipients under PAMC-MAA. Also, nearly nine-tenths of the care that had been covered occurred in county hospitals, where physicians in private practice either were not used or were not remunerated for their services.

The smallest rate of increase, 127 percent, was in visits by physicians to private homes and nursing homes. Although the California Relative Value Study of 1964 (*3*), on which the claims coding was based, did not distinguish between visits to private homes and to nursing homes, most of these costs were for visits to nursing homes.

The cost of prescription drugs, which had been generally available through PAMC-MAA to all groups except the adults in the AFDC program, rose 200 percent in the 5-year interval. Dental care, which had much the same type of coverage as

Table 3. Total expenditures in thousands for each aid program, 1964–65 and 1969

Type of aid program	PAMC and MAA 1964–65 [1]	Medi-Cal 1969 [2]	Increase	Percentage distribution of increase
All aid programs	$186,395	$880,720	$694,325	100.0
Cash grant	77,335	578,626	501,291	72.2
Old Age Security	44,429	108,817	64,388	9.3
Aid for Blind	2,719	8,456	5,737	.8
Aid for Disabled	12,667	193,236	180,569	26.0
Aid for Dependent Children	17,520	268,117	250,597	36.1
Medically needy	109,060	302,094	193,034	27.8
Aged	[3] 109,060	188,458	79,398	11.4
Blind	0	3,240	3,240	.5
Disabled	0	68,992	68,992	9.9
Family members	0	41,404	41,404	6.0

PAMC—Public Assistance Medical Care, MAA—Medical Assistance for the Aged.

[1] California Office of Health Care Services: Public welfare medical care in California 1957–1966. Sacramento, September 1966.

[2] California Department of Health Care Service: Services and payments report October–December 1969. Appendix, table 2, adjusted for San Joaquin Plan payments. Sacramento.

[3] California Department of Social Welfare, Research and Statistics: Medical assistance for the aged expenditures, by fiscal year and type of care. Nov. 2, 1965. Sacramento. Unpublished.

Table 4. Total expenditures in thousands for services, by type of service

Type of service	PAMC and MAA 1964–65 [1]	Medi-Cal 1969 [2]	Increase	Percent increase	Percentage distribution of increase
All services	$186,395	$880,720	$694,325	372	100.0
Physicians' services	26,073	169,270	143,197	549	20.6
Visits	22,744	67,132	44,388	195	6.4
Office	20,197	49,208	29,011	144	4.2
Hospital	149	12,486	12,337	8,280	1.8
Home and nursing home	2,398	5,438	3,040	127	.4
Surgery	1,507	53,532	52,025	3,452	7.5
Other physicians' services	1,822	48,606	46,784	2,568	6.7
Prescription drugs	22,677	68,022	45,345	200	6.5
Dental care	12,237	41,261	29,024	237	4.2
Hospital inpatient care	44,399	273,110	228,711	515	32.9
County hospitals	39,001	133,224	94,223	242	13.5
Other hospitals	5,398	139,886	134,488	2,491	19.4
Hospital outpatient departments	3,126	34,278	31,152	996	4.5
Nursing homes	60,127	195,327	135,200	225	19.5
State mental hospitals	0	54,297	54,297	.....	7.8
All other	17,756	45,155	27,399	154	4.0

PAMC—Public Assistance Medical Care; MAA—Medical Assistance for the Aged.

[1] California Office of Health Care Services: Public Welfare Medical Care in California 1957–1966, Sacramento, September 1966; Adult Account, Public Assistance Eye Care Services, Sacramento (unpublished); California Department of Social Welfare: Medical Assistance for the Aged, Expenditures by fiscal year and type of care, Sacramento, Nov. 2, 1965; MAA outpatient services—costs, Sacramento (unpublished); Medical Assistance for the Aged, Ancillary medical services to county hospital and other hospital inpatients, Sacramento (unpublished).

[2] California Department of Health Care Services: Services and payments reports, January through December 1969, Sacramento, 1970.

drugs under PAMC-MAA (only emergency dental care was available to AFDC adults), increased 237 percent. Nursing home costs increased 225 percent. Payments for State mental hospital care, which amounted to $54,297,000 in 1969, were not covered by PAMC-MAA, and therefore there was no appropriate base for comparison.

In relative importance, inpatient hospital care (excluding State mental hospitals) accounted for nearly one-third (32.9 percent) of the total $694.3 million increase of Medi-Cal costs over PAMC-MAA. Physicians' services were second, accounting for 20.6 percent, and nursing home costs were a close third, accounting for 19.5 percent of the total increase.

Disaggregating Cost Increase Factors

From what we know about the behavior of medical prices over the past decade, it would, of course, be erroneous to conclude that the increased cost of Medi-Cal in comparison with PAMC-MAA was due solely to the expanded benefit structure and growth in the eligible population. It is the interplay of three factors—price, use of benefits, and eligible population—that needs to be explored and disentangled. The result sought is expressed in the formula:

$$C_t = C_p + C_u + C_e,$$

where C_t = total cost increase,

C_p = cost increase due to price increase,

C_u = cost increase due to increased use of benefits, and

C_e = cost increase due to increase in the eligible population.

This formula has been used by a number of researchers seeking to determine the respective contributions of various relevant factors to the increase in medical care expenditures. Five methods of handling the formula are discussed in the appendix of a staff paper by Klarman and co-workers (*4*). Method No. 1 as described in that report was used as our basic methodology. In this method increased expenditures are broken down as follows: the price increase between the two periods is determined through deflation of expenditures by use of the Consumer's Price Index (CPI); the population effect is the product of the base year's per capita expenditures multiplied by the increase in population; and the increase in utilization, including changes in both the quantity and quality of

services, is the balance. The dollar amounts of the three factors are then totaled and their percentage distribution obtained.

For most types of services for which we were seeking to disaggregate the increases in cost, the actual unit prices paid and the volume of units used were available for both PAMC-MAA and Medi-Cal. Thus, it was possible to use actual measures of the increases in prices and in utilization, rather than to approximate them through use of the CPI and by subtraction.

The prices paid and the volume of utilization were available for the following services: physicians' visits (average payment per visit and number of visits), prescription drugs (average payment per prescription and number of prescriptions), hospital inpatient care (average payment per day, total days of care), hospital outpatient service (average payment per visit and number of visits), and nursing home care (average payment per day and total days of care). For these services, adaptations were made in Method No. 1 to permit use of the concrete data, resulting in the following formulations.

1. *Cost increase due to price increase.*

The cost increase due to price increase equals the average payment per unit of service in the comparison year less the average payment per unit in the base year times the number of units of service used in the comparison year, or:

Formula 1: $C_p = (p_2 - p_1)\, n_2$,
where p_1 = price per unit in base year,
p_2 = price per unit in comparison year, and
n_2 = number of units in comparison year.

This procedure tells us how much of the total cost increase in the comparison year resulted simply from the increased cost of each unit used in that year.

2. *Cost increase due to increased use of benefits.*

Cost increase due to changes in the volume of services used equals the average number of units of service per eligible person in the comparison year less the average number of units per eligible person in the base year times the number of eligible persons in the comparison year, multiplied by the average cost per unit of service in the base year, or:

Formula 2: $C_u = (u_2 - u_1)\, e_2\, p_1$,
where u_1 = number of units per eligible person used in base year,
u_2 = number of units per eligible person used in comparison year,
e_2 = eligible population in comparison year, and
p_1 = price per unit in base year.

Here the procedure holds the unit cost of the service constant and obtains the amount of increase that is due solely to the increase in the volume of units used per eligible person.

3. *Cost increase due to increased eligible population.*

Cost increase due to increase in eligible population equals the number of eligible persons in the comparison year less the number of eligible persons in the base year times the average cost per eligible person in the base year, or:

Formula 3: $C_e = (e_2 - e_1)\, a_1$,
where e_1 = eligible population in base year,
e_2 = eligible population in comparison year, and
a_1 = average cost per eligible person in base year.

In this procedure, the per capita cost (which includes both unit price and utilization factors) is

Table 5. Data on hospital inpatient care

Basic data	PAMC-MAA 1964–65	Medi-Cal 1969	Increase
Total payments (C_t)	$44,399,000	$273,110,000	$228,711,000
Number of eligible persons (e)	908,470	1,774,338	865,868
Total days of care (n)	2,347,613	5,526,002	3,178,389
Average payment per day (p)	$18.91	$49.42	$30.51
Average payment per eligible person (a)	$48.87	$153.92	$105.05
Average days per eligible person (u)	2.6	3.1	.5

PAMC—Public Assistance Medical Care; MAA—Medical Assistance for the Aged; Medi-Cal—Medicaid in California.

NOTE: The algebraic symbols and their use are explained in the section "Disaggregating Cost Increase Factors."

held constant and the increased cost due solely to growth in the eligible population is computed.

As an example of the use of formulas 1, 2, and 3, disaggregation of the hospital inpatient cost increase of $228,711,000 is shown below. The data needed for solving the formulas appear in table 5.

$$C_t = C_p + C_u + C_e$$

			Percent
$C_p = (p_2 - p_1)n_2$			
$= \$30.51 \times 5{,}526{,}002$	=	$168,598,321	74.0
$C_u = (u_2 - u_1)e_2 p_1$			
$= (0.5)(1{,}774{,}338)(\$18.91)$	=	$ 16,776,366	7.4
$C_e = (e_2 - e_1)a_1$			
$= 865{,}868 \times \$48.87$	=	$ 42,314,969	18.6
Total (C_t)	=	$227,689,656	100.0

The sum of the three components ($227,689,656) is about a half percent less than the actual hospital cost increase of $228,711,000 because of the independent rounding of computations. Applying the percentage distribution of the components to the actual increase, we arrive at the following:

Increase factors	*Dollars*	*Percent*
Prices (C_p)	$169,246,140	74.0
Utilization (C_u)	16,924,614	7.4
Population (C_e)	42,540,246	18.6
Total	$228,711,000	100.0

It will be noted that this method does not distinguish between the increased cost due to utilization by previously ineligible groups from the increased cost due to higher utilization by groups already covered. To so distinguish would be highly desirable, but external data are required that are not now available. If they were, the rates of use and the costs for persons in the comparison year who had not been eligible in the base year could be separated from those of persons eligible in both years.

Formulas 1, 2, and 3, as described above, were used for the disaggregation of cost increases in those services for which a definable unit of service and price per unit were available. In addition to hospital inpatient care, these services were physicians' visits, prescription drugs, hospital outpatient service, and nursing home care.

For the categories of dental care, surgery, and "other" physicians' services (other than visits and surgery), use of a basic unit of service was not feasible and therefore formulas 1 and 2 could not be applied. Instead, cost increases due to increases in price and utilization were determined according to unmodified applications of Klarman's Method No. 1 (*1*):

Price increase effect. The price increase effect was computed by (*a*) deflating the average cost per eligible person in the comparison year by the ratio of the price index for the service in the base year to the index in the comparison year, thus converting the comparison year average to base year dollars, (*b*) subtracting the deflated average from the actual per capita cost, thus obtaining the per capita difference due to price increase, and (*c*) multiplying the difference by the number of eligible persons in the comparison year. The result is expressed in formula 1a:

$$\textit{Formula 1a:}\quad C_p = \left(a_2 - \frac{a_2 i_1}{i_2} \right) e_2 ,$$

where a_2 = average cost per eligible person in comparison year,
i_1 = price index in base year,
i_2 = price index in comparison year, and
e_2 = eligible population in comparison year.

Increased cost due to increased utilization. The increased cost due to increased utilization was determined to be the remainder of the difference in per capita cost between the 2 years, after subtracting the amount due to price increase, multiplied by the number of eligible persons in the comparison year.

Table 6. Data on dental care

Basic data	PAMC-MAA 1964–65	Medi-Cal 1969	Increase
Total payments (C_t)	$12,237,000	$41,261,000	$29,024,000
Number of eligible persons (e)	908,470	1,774,338	865,868
Average payment per eligible person (a)	$13.47	$23.25	$9.78
Consumer Price Index for dentists' fees (i)	114.0	144.9	.....

PAMC—Public Assistance Medical Care; MAA—Medical Assistance for the Aged; Medi-Cal—Medicaid in California.

NOTE: The algebraic symbols and their use are explained in the section "Disaggregating Cost Increase Factors."

Formula 2a: $C_u = \left[(a_2 - a_1) - \left(a_2 - \frac{a_2 i_1}{i_2}\right)\right] e_2$,

where a_1 = average cost per eligible person in base year,

a_2 = average cost per eligible person in comparison year,

i_1 = price index in base year,

i_2 = price index in comparison year, and

e_2 = eligible population in comparison year.

Following is an example of the application of formulas 1a, 2a, and 3 to data on dental care (shown in table 6).

$$C_t = C_p + C_u + C_e$$

$$C_p = \left(a_2 - \frac{a_2 i_1}{i_2}\right) e_2$$

$$= \left(\$23.25 - \frac{(\$23.25)(114)}{144.9}\right)(1{,}774{,}338)$$

= $8,800,716 or 30.3 percent.

$$C_u = \left[(a_2 - a_1) - \left(a_2 - \frac{a_2 i_1}{i_2}\right)\right] e_2$$

$$= \left[\$9.78 - \left(\$23.25 - \frac{(\$23.25)(114)}{144.9}\right)\right] \times (1{,}774{,}338)$$

= $8,552,309, or 29.5 percent.

$$C_e = (e_2 - e_1)\, a_1$$

$$= (865{,}868)(\$13.47)$$

= $11,663,242, or 40.2 percent.

C_t = $29,016,267, or 100.0 percent.

The sum of the three components is close to the actual increase of $29,024,000 in dental costs. Application of their percentage distribution to the actual increase results in the following:

Factors in increases	*Dollars*	*Percent*
Prices (C_p)	$ 8,794,272	30.3
Utilization (C_u)	8,562,080	29.5
Population (C_e)	11,667,648	40.2
Total	$29,024,000	100.0

For each type of service, the total cost increase was disaggregated into price, utilization, and population components, using the appropriate formulas and the data shown in table 7. The price indices for the three types of service for which unit prices could not be established were as follows:

	Price index	
Type of service	*1964–65*	*1969*
Surgery	100.0	132.6
Other physicians' services	100.0	132.6
Dental care	114.0	144.9

The price indices for surgery and for other physicians' services are based on the average payment per physician visit under Public Assistance Medical Care and Medical Assistance for the Aged in 1964–65 and under Medi-Cal in 1969 (1964–65 = 100.0). The indices for dental care are based on the Consumer Price Index for dental fees of the U.S. Bureau of Labor Statistics.

Disaggregation of the $640,028,000 net increase in Medi-Cal costs over PAMC-MAA costs for all services combined and for each type of service is shown in table 8. For this table, physicians' visits,

Table 7. Data for selected services, 1964–65 and 1969

Type of service	Payments (in thousands)		Units of service [1]		Average payment per unit		Average payment per eligible person [2]		Average units per eligible person	
	1964–65	1969	1964–65	1969	1964–65	1969	1964–65	1969	1964–65	1969
Hospital inpatient care	$44,399	$273,110	2,347,613	5,526,002	$18.91	$49.42	$48.87	$153.92	2.6	3.1
Physicians' services:										
Visits	22,744	67,132	4,848,400	10,797,945	4.69	6.22	25.04	37.83	5.3	6.1
Surgery	1,507	53,532	(3)	(3)	(3)	(3)	1.66	30.17	(3)	(3)
Other services	1,822	48,606	(3)	(3)	(3)	(3)	2.01	27.39	(3)	(3)
Nursing homes	60,127	195,327	7,679,288	17,348,237	7.83	11.26	66.18	110.08	8.5	9.8
Prescription drugs	22,677	68,022	5,899,556	16,106,003	3.84	4.22	24.96	38.34	6.5	9.1
Hospital outpatient departments	3,126	34,278	321,852	1,805,523	9.71	18.99	3.44	19.32	.4	1.0
Dental care	12,237	41,261	(3)	(3)	(3)	(3)	13.47	23.25	(3)	(3)

[1] Units = hospital days of care, physicians' visits, nursing home days of care, drug prescriptions, and hospital outpatient department visits.

[2] Average monthly number of eligible persons was 908,470 in 1964–65 and 1,774,338 in 1969.

[3] Data did not permit determination of comparable units.

Table 8. Amounts (in thousands of dollars) and percentage distribution of factors in increase in expenditure for services

Services	Total increase	Increased prices		Increased utilization		Increase in eligible population	
		Dollars	Percent	Dollars	Percent	Dollars	Percent
All services [1]	$640,028	$316,146	49.4	$155,714	24.3	$168,168	26.3
Hospital inpatient care	228,711	169,246	74.0	16,925	7.4	42,540	18.6
Physicians' services [2]	143,197	41,474	29.0	77,051	53.8	24,672	17.2
Nursing homes	135,200	59,623	44.1	18,117	13.4	57,460	42.5
Prescription drugs	45,345	6,122	13.5	17,685	39.0	21,538	47.5
Hospital outpatient departments	31,152	17,352	55.7	10,716	34.4	3,084	9.9
Dental care	29,024	8,794	30.3	8,562	29.5	11,668	40.2
All other services [1]	27,399	13,535	49.4	6,658	24.3	7,206	26.3

[1] Excludes payments to State mental hospitals.

[2] Includes physicians' visits, surgery, and other physicians' services.

surgery, and other physicians' services are treated separately and then combined into a single category of physicians' services. Their individual components appear in table 9.

The percentage distribution of the factors in the cost increase varied widely among the different types of service. Price increase contributed most to the rise in hospital inpatient costs (74 percent) and in hospital outpatient costs (55.7 percent); it was least influential on the rise in drug costs (13.5 percent). Increased utilization had the greatest impact on physicians' services (53.8 percent) and the smallest effect on hospital inpatient care (7.4 percent). Growth of the eligible population as a factor was most discernible in drug costs (47.5 percent) and least visible in hospital outpatient department service (9.9 percent).

For all services combined, price increase was found to be the most potent factor: it accounted for almost half (49.4 percent) of the total $640 million increment in Medi-Cal costs. The increased cost of hospital care over the past decade has been a cause of major concern in relation to the whole arena of personal health care costs, and hence it is hardly surprising to see it loom large in the increased cost of Medi-Cal services. Actually, the percentage of the increase in the cost of Medi-Cal hospital inpatient care due to price increase (74.0) is slightly less than the percentage rise from 1964 to 1969 in the CPI for hospital room rates (77.7).

The increases in the cost of other major services assignable to rises in prices also are not far different from their corresponding CPI increases. The combined effect of price increase (49.4 percent), however, was greater than the all-medical-care CPI increase of 29.8 percent, an effect due to the heavier weighting of hospital and nursing home costs in the Medi-Cal program with its concentration of aged and disabled recipients. Thus, price increase in the Medi-Cal program can be seen to be largely a function of the overall health care cost structure. Some would say that the public programs, because of their size, have so unbalanced the supply-demand ratio as to be responsible for an overall price rise. The point is, nonetheless, that this public program, which operated as part of community free-choice, fee-for-service medicine, sustained price increases that were not much different from those experienced by the general pub-

Table 9. Amounts (in thousands of dollars) and percentage distribution of increase in expenditure for physicians' visits, surgery, and other services

Factors in increase	All physicians' services		Visits	Surgery	Other
	Amount	Percent			
Total increase	$143,197	100.0	$44,388	$52,025	$46,784
Increased prices	41,474	29.0	16,335	13,162	11,977
Increased utilization	77,051	53.8	6,569	37,406	33,076
Increase in eligible population	24,672	17.2	21,484	1,457	1,731

lic and that these price increases accounted for half the program's total increment.

Greater utilization of services accounted for $155.7 million, or 24.3 percent, of the total increase. As previously noted, this factor includes not only changes in the use of services by persons previously eligible for them, but also the increased costs due to extension of benefits to people not previously covered, such as the provision of physicians' services for the adults in the AFDC program and of inpatient care for all persons under age 65. In terms of the usual concept of utilization increases, therefore, this factor is a highly inflated one. Attempts to curb costs through restrictions on the use of services, short of a return to a complete embargo upon payment for whole categories of services to large groups of eligibles, could not, alone, be expected to return savings commensurate with the rates ascribed in this paper to increased utilization.

Growth in the eligible population, which nearly doubled in size (from 908,470 to 1,774,338 persons) in the period under study, was responsible for $168.2 million, or 26.3 percent, of the Medi-Cal cost increase. It affected the various services unevenly, however, because the per capita costs and utilization of the services differed.

Population growth in a public medical care program, in which eligibility results from a determination of financial need, cannot of course be controlled in the same way that enrollment in a private insurance program can be closed and reopened as a management prerogative.

Discussion

The fivefold increase in the costs of California's public welfare medical care program over a 6-year period has created feelings approaching consternation among medical care cost-watchers, particularly taxpayer cost-watchers. As a result, accusations ranging from charges that providers of service were price gouging to suggestions of irresponsible overenjoyment of health benefits by welfare recipients have rung through legislative and executive halls.

Actually, the increase in prices, growth in the eligible population, and increased use of services due to expanded benefits and per capita changes in utilization have all contributed to the spectacular rise in expenditures. When each of these components—price, population, and utilization—is examined separately for the different services offered by the Medi-Cal program, the effect of each factor and its relative importance in the whole can be appraised.

When the overall cost increase is disaggregated by the methods described in this report, the price increase is found to have had the most profound effect of the three increase factors: approximately half of the net increase of $640 million was due to this factor alone. Not surprisingly, hospital costs greatly influenced the result, but every major type of service experienced some rise in its price levels. Service by service, the rates of increase tended to resemble those of the Consumer Price Index. Their combined effect, however, was to raise the total percentage increase beyond that of the overall CPI. This effect was due to the heavier weighting of hospital and nursing home costs in the Medi-Cal program than in the Bureau of Labor Statistics medical care index, since there were greater proportions of the aged and disabled among welfare recipients than in the general population.

Growth in the eligible population and greater use of services were almost equal in causing the remaining increased cost. Had per capita expenditures remained the same in 1969 as in 1964–65, the increased number of eligible persons in itself would have raised costs by $168,168,000, or 26.3 percent of the total. Increased use of services, including services previously not covered, accounted for the remaining $155,714,000, or 24.3 percent.

The portion of the increase that was due to extension of benefits to previously uncovered groups could be expected to be a one-time effect. Further research over time is needed to determine the utilization trends among cohorts of uniformly covered Medi-Cal beneficiaries. In view of the magnitude of the expansion in benefits, however, it is safe to say that the share of the cost due to the actual increased use of services, as distinguished from an increase in the benefits paid for, is considerably less than the total amount ascribed in this paper to increased utilization.

From this perspective, the astonishing rise in costs of the Medi-Cal program is not astonishing after all: the price increase reflected overall price increases in the services applicable to needs of the aged, the disabled, and the economically depressed families that constitute the welfare population; the extension of benefits to previously uncovered groups and increases in welfare caseloads inexorably fulfilled the mathematics of incremental growth.

Medicaid has taken its place as a very large segment of the national medical care arena. Because it is tax supported, it is a very visible segment. Within its loosely controlled marketplace environment, there unquestionably have been opportunities for waste, fraud, and ineffective use of resources. The fact that these same hazards exist in varying degree throughout the delivery of health care services is sometimes forgotten or ignored. In our efforts to contain the costs of this large and visible public program, care must be taken that this portion of our population is not singled out for restrictions that may become destructive and even punitive in effect.

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Expenditures for services under the Medi-Cal (Medicaid) program in California during fiscal 1970–71 totaled more than $1 billion; the cost of the State's public welfare medical assistance programs in 1964–65, including Medical Assistance for the Aged, was less than one-fifth of that amount.

Increases in the price of medical services, expansion of the covered population (including growth in the public assistance caseload and the addition of newly eligible groups of the medically needy), and changes in the utilization of services all were factors that contributed to the upward surge in cost. To disentangle these factors, formulas were developed for determining the cost increase due to each. These formulas were applied separately to each major type of service, and the results were then combined to disaggregate the overall increase.

Price increases were found to account for nearly half (49.4 percent) of the total cost increase. Growth in the eligible population accounted for 26.3 percent. Greater utilization of services (including use of benefits not previously covered) was responsible for 24.3 percent.

Distribution of the cost increase factors among the major types of service showed that their effects varied widely. The basic data from which the results were drawn are shown.