Outcomes of California's Medicaid cost-containment policies, 1981-84

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In 1982, California enacted a package of tough Medicaid cost-containment measures. This article examines its effects on program expenditures through 1984 by enrollment group and service category. Total expenditures fell by 19 percent (or $656.5 million) after inflation. Expenditures per enrollee declined for almost every group, with enrollees on cash assistance taking the greatest reductions. Ambulatory, physician, and pharmacy spending declined the most followed by long-term and hospital care. The effects of these policies are of particular importance in the early 1990s as States face even greater fiscal challenges and seek lessons from past attempts at controlling program costs.

Introduction

California has had and continues to have the largest number of Medicaid recipients of any State in the United States (Holahan and Cohen, 1986). Program expenditures in this State represent 10 percent of the national Medicaid budget (Ruther et al., 1984). In 1982, the California legislature, backed by supporters from industry and the executive branch, passed landmark health care cost-containment legislation that dramatically changed California's Medicaid Program, Medi-Cal. The legislative package changed the mix of Medi-Cal beneficiaries and the benefits offered to them.

This article examines these Medi-Cal program changes and their effects on program expenditures from 1981 to 1984. Because the focus of the legislative initiative is on reducing hospital spending and enrollment, particular attention is paid to the changes in hospital expenditures and program enrollment over time.

The data used in the analysis were supplied by the Health Care Financing Administration's (HCFA) Medicaid Tape-to-Tape Data File. The file incorporates 100 percent of California's Medi-Cal claims and eligibility data into a data base comparable with that of four other participating States: Michigan, Georgia, Tennessee, and New York. Data are currently available for the years 1980-84 for all States except New York, for which claims data are available for 1980-82. California data for the years 1981-84 were used in this analysis.[1]

Background

The Medi-Cal program was initiated in 1965 with the goal of insuring access to mainstream medical care for the poor via public insurance. The program offered a generous benefit package covering most optional Medicaid services and most optional eligibility groups.

Early in the program, however, cost containment became a major policy issue because since first year expenditures were projected to overrun the budget by $210 million (Myers and Leighton, 1980). Hospital and physician groups involved in the initial program design cautioned against altering provider cost-based payments. They argued that such a strategy would jeopardize the poor's access to mainstream medicine. Powerful physician and hospital lobbies successfully defeated attempts to alter the program's delivery systems through use of prepaid care and volume purchasing arrangements. Early cost-containment methods concentrated more on minimizing fraud, maintaining low non-hospital payment rates, and restricting enrollee utilization of high-cost services. During the period 1967-80, annual program expenditures increased from 15 to 18 percent each year (Myers and Leighton, 1980).

The financial condition of the California State government and the general slowdown in the U.S. economy in the early 1980s increased pressure to significantly reduce Medi-Cal's program growth. Proposition 13, a referendum passed in 1978, was followed by a succession of California legislative initiatives aimed at reducing the burden of costly public programs on taxpayers. The Federal Government's support for Medicaid was also cut back during the period. The Omnibus Budget Reconciliation Act of 1981 (OBRA) mandated a reduction in Federal financial participation in Medicaid as well as various other program reductions. OBRA 1981 also offered States increased flexibility to implement alternative payment and delivery systems. The requirement that hospital payment be based on "reasonable costs" was changed to a requirement that rates be "reasonable and adequate."

By 1982, California faced a projected $2 billion deficit for the fiscal year, with the Medi-Cal program estimated to represent 30 percent of the State budget. Legislative analysts identified hospital costs as a major factor explaining the growth in Medi-Cal spending. The rapid rise in hospital costs was attributed to increased cost per case rather than increased patient volume (Johns and Derzon, 1985).

The State business community feared that this growth in health spending further threatened the State budget and California's economy as a whole. Over intense opposition from the hospital and physician lobbies, this well-organized group from the corporate sector gave

[1] In order to make cross-year comparisons, adjustments were necessary in some service definitions and eligibility categories for the years used.

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strong support to a group of health care cost-containment bills. The resulting legislative package of 1982 was projected to save $372 million in State funds during fiscal year 1983 (Brown, Price, and Cousineau, 1985).

The most revolutionary aspect of the 1982 legislation was that it allowed State and private insurers to select cost-effective providers with whom they would contract to provide services to program participants. The governor was authorized to appoint a special negotiator to negotiate contracts with hospitals for inpatient care. The legislation established an independent negotiator with great discretion in carrying out the legislative mandate. Bids for all inclusive per diem rates were requested from hospitals in a contract area. Once contracting in a geographic area was complete, Medi-Cal enrollees were restricted to receiving care only at those hospitals that obtained contracts with the State, although emergency care was still available at non-contract hospitals.

The cost-containment legislation of 1982 also reduced non-hospital provider payment. Physician fees and payment for outpatient care, hearing aids, psychological services, prescription drugs, first aid equipment, laboratory, and most other fees were reduced an average of 10 percent (California Center for Health Statistics, 1983).

Prior to the passage of the law, Medi-Cal services were paid if determined medically necessary by an authorized Medi-Cal provider. Effective September 1982, the definition of "medical necessity" was significantly narrowed, allowing Medi-Cal payment only for those services necessary "to protect life or prevent significant disability through the diagnosis or treatment of disease, illness or injury" (California Department of Health Services, 1988).

Criteria lists for use by the Medi-Cal field offices in service authorization were developed to implement the new definition of "medical necessity." These lists outlined the limitations on Medi-Cal services, essentially eliminating all elective services (Koetting and Olinger, 1984).[2]

The cost-containment package also eliminated the State-funded medically indigent adult (MIA) program, which covered 275,000 low-income people 21-64 years of age who did not meet the categorical requirements for Medicaid. Effective January 1983, the financial responsibility for their care was transferred to county governments. Counties were funded at 70 percent of the States' historical cost of providing care to the indigent population.

The legislation also reduced the relatively high medically needy income levels for determining Medi-Cal eligibility to the lowest allowed by the Federal program. However, these levels only remained in effect for 9 months of 1982 and were then returned to approximate the previous levels.

Other changes made to the Federal Medicaid and Medicare programs during the period are likely to have influenced Medi-Cal program trends. For example, implementation of the Medicare prospective payment system (PPS), effective October 1983, dramatically altered hospital incentives for providing services to Medicare beneficiaries. Medicare represents such a large proportion of hospital payments that it has repercussions for all hospital services regardless of payer. Also, OBRA 1981 significantly reduced the number of families eligible for Aid to Families with Dependent Children (AFDC) cash assistance. The many changes at the State and Federal levels make it difficult to disentangle the effects of selective contracting, other California cost-containment initiatives, and Federal initiatives.

Previous research has addressed various aspects of California's landmark legislation of 1982. The California State Department of Health reported to the California legislature that a program savings of $184 million was due the first year of the selective contracting program (California Health Facilities Commission, 1985). Estimates of program savings were derived from comparing actual hospital expenditures with projections of what was expected had selective contracting not occurred. Subsequent researchers noted that, given that the previous hospital payment methodology allowed for increases in hospital rates to account for inflation, State estimated savings from contracting for subsequent years was primarily the result of the policy of no net increases in negotiated rates (Koetting and Olinger, 1984).

A HCFA-sponsored evaluation estimated savings based on a comparison of 1-week samples of hospital experience before and after the implementation of contracting. The study found that selective contracting resulted in a savings of 23 percent below projected costs without selective contracting. The average cost per admission decreased 21 percent after contracting. The study found that the reduced cost was accompanied by a 5-percent increase in admissions and a 4-percent increase in the number of hospital days. Additionally, the study found that outpatient expenditures increased 4.4 percent after the implementation of selective contracting (Mennemeyer et al., 1987). Another study found a decline in admissions but obtained results that conflicted with HCFA findings on length of stay. A slight increase in average length of stay from 1983 to 1984 was found (Johns and Derzon, 1985).

The HCFA evaluation also assessed the effects of the cost-containment policies on the access to and the quality of care provided. Patient transfers and mortality rates within 30 days of admission were examined. The study found no change in the measurement of these quality indicators before or after contracting. The same study found that access to inpatient care was unchanged after selective contracting (Mennemeyer et al., 1987). A majority of providers who had historically provided Medi-Cal inpatient care obtained contracts (Johns and Derzon, 1985; Mennemeyer et al., 1987). One study concluded that contracting was not implemented to redirect patients to

[2]Prior to September 1, 1982, medical necessity was defined as services "reasonable and necessary for the prevention, diagnosis or treatment of disease, illness or injury." Following public outcry, the definition was again liberalized in the late 1980s (California Department of Health Services, 1988).

cost-effective providers but to obtain dramatic rate reductions from current Medi-Cal providers (Koetting and Olinger, 1984). Existing evidence appears to support that claim.

Provisions of the cost-containment policies, other than selective contracting, also appear to have been effective in reducing outlays. For example, the change in the definition of medical necessity appears to have reduced the use of hospital services by Medi-Cal recipients. After adjusting for historical trends and seasonal variations, Koetting and Olinger (1984) found that hospital admissions were 7 percent lower in January 1983 (after the change in definition of medically necessary and prior to selective contracting) than in January 1982.

This article utilizes 100 percent Medi-Cal claims data to examine the combined effects of the various Medi-Cal cost-containment initiatives that were implemented in 1980s. The changes implemented in 1982 are placed in the context of overall program trends in enrollment, expenditures, and utilization from 1981 to 1984. Program spending reductions are examined to find the major service areas where savings were achieved and the differential effects on enrollment categories. The findings contribute to a growing body of Medicaid cost-containment analyses that should prove useful for further analyses of Medi-Cal policies as well as analyses of national Medicaid cost-containment policy.

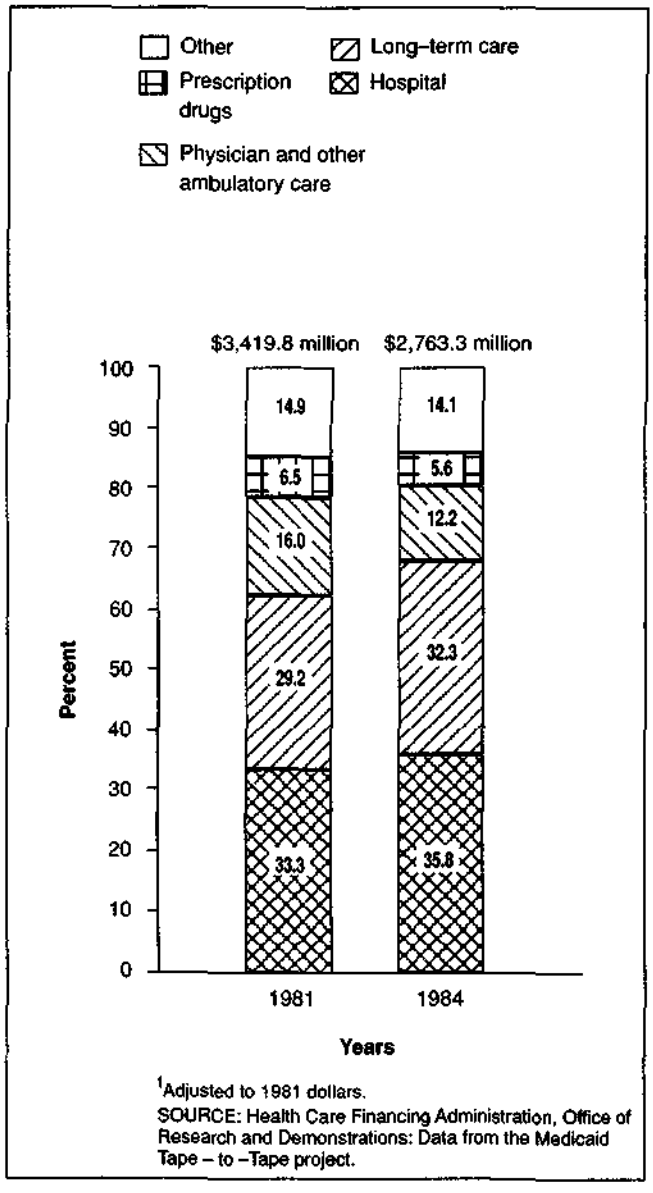
Findings

Changes in aggregate spending

Total Medi-Cal program expenditures declined by 19 percent (or $656.5 million) between 1981 and 1984 after adjusting for inflation.[3] This reduction in Medi-Cal spending was realized both through a decline in enrollment and through reductions in expenditures per enrollee for all categories of services studied.

The combined effect of program changes implemented during the period did little to alter the distribution of Medi-Cal dollars among the major services. In Figure 1, the mix of services purchased by the program is compared for 1981 and 1984. Despite program efforts to shift care from the hospital setting to other health care settings, hospital and long-term care comprised a larger proportion of Medi-Cal expenditures in 1984 than in 1981, while the proportion allocated to ambulatory care and prescription drugs declined.

Figure 1
Percent distribution of total Medicaid expenditure,[1] by service category: California 1980 and 1984



[1]Adjusted to 1981 dollars.
SOURCE: Health Care Financing Administration, Office of Research and Demonstrations: Data from the Medicaid Tape – to –Tape project.

Enrollment trends

Table 1 displays enrollment data for the eligibility groups studied.[4] Person-years of enrollment are used as the unit of analysis instead of number of enrollees because person-years of enrollment control for the varying lengths of time enrollees stay enrolled during a given year.[5] Total enrollment declined by 2.4 percent during 1981-84, a pattern of general stability similar to national enrollment in State Medicaid programs (Holahan and Cohen, 1986).

[3]Inflation adjustments used in Holahan and Cohen (1986) were used in this study. Dollars were deflated to 1981 dollars using the HCFA hospital market basket index for hospital expenditures; components of the Consumer Price Index for physician, home health, dental, and drug expenditures; and the HCFA nursing home market basket for long-term care expenditures.

[4]Medi-Cal enrollees in prepaid health plans, health maintenance organizations, and enrollees in the refugee program or State-financed MIA program are not included in the data base and therefore were excluded from the study.

[5]Person-years are calculated for each enrollee by summing months of enrollment for the calendar year and dividing by 12.

Table 1

Medi-Cal enrollment in thousands, by eligibility group and maintenance-assistance status: 1981-84

Eligibility group and maintenance-assistance status	1981	1982	1983	1984	Percent change 1981-84
Total Medi-Cal	2,632	2,648	2,568	2,568	−2.4
Total AFDC	1,657	1,689	1,669	1,660	0.15
Total AFDC children[1]	1,119	1,129	1,110	1,111	−0.7
AFDC children, cash	970	965	957	963	−0.7
AFDC children, no cash	150	164	152	148	−0.8
Total AFDC adult[2]	538	560	560	549	2.0
AFDC adult, cash	446	454	452	445	−0.7
AFDC adult, no cash	92	106	107	104	12.0
Other children, no cash	130	124	108	116	−10.8
Total aged	412	407	376	368	−10.9
Aged, cash	301	289	264	258	−14.4
Aged, no cash	111	118	112	110	−1.1
Total blind or disabled	432	428	415	424	−1.7
Disabled, cash	386	384	373	381	−1.3
Disabled, no cash	45	45	42	43	−4.7

[1]AFDC is Aid to Families with Dependent Children; AFDC children are 21 years of age or under.
[2]AFDC adults are over 21 years of age.

NOTE: Statistics used in the table were calculated using person-years of enrollment.

SOURCE: Health Care Financing Administration: Medicaid Tape-to-Tape project.

Comparison of the size of the Medi-Cal population and the percent of persons in California living below the Federal poverty level during the period revealed a widening coverage gap in late 1982, decreasing in 1984 (Figure 2). We would anticipate that periods of economic hardship such as the economic recession of 1982-83 would stimulate demand for publicly funded medical assistance, but enrollment declined by 2 percent during this period and the proportion of persons in poverty in the State increased from 11 percent in 1979 to 13.6 percent in 1985 (Ross and Danzinger, 1987). Holahan and Cohen (1986) point out a similar national trend. The national population in poverty increased from 13 percent to 14.4 percent during the period, while the number of Medicaid recipients remained essentially constant (Social Security Administration, 1986).

Overall stability in program enrollment conceals substantial drops in some eligibility categories and increases in others. Most of the largest eligibility groups, those who were eligible for Medi-Cal because they received public cash assistance under AFDC or the Supplemental Security Income (SSI) program, dropped thousands of enrollees from the traditional Medi-Cal program during the period because of Federal and State policies as well as changing demographics.

OBRA 1981 mandated eligibility changes that reduced the number of working families eligible for AFDC cash assistance and eliminated coverage of those persons 19-20 years of age from the AFDC program. If OBRA 1981 had an effect in California, it is more evident in the AFDC "children, cash" category than in the AFDC "adult, cash" category. Enrollment of children in families receiving AFDC cash payments decreased by 7,000 during the period. Another factor contributing to a decrease in AFDC children on Medi-Cal was likely associated with decreases in all child enrollment groups. The average number of children per AFDC family declined from 3.1 in 1967 to 2.0 in 1981, and reports indicate that the trend continued for the remainder of the 1980s (Social Security Administration, 1985).[6]

The elimination of the State-funded MIA program in 1983 resulted in shifts in the Medi-Cal program. In fact, it most likely contributed to the only increase in enrollment among the groups studied, the 12-percent increase in AFDC "adult, no-cash" group.[7] When the State turned over responsibility for 275,000 former State program enrollees to the counties with 70 percent of the program's funding, counties attempted to enroll people in Medi-Cal. Beginning in 1983, some pregnant women previously in the MIA program qualified under the AFDC "adult, no cash" category.

Elimination of the program is also believed to have affected enrollment in the "other children" group.[8] During the study period, this group decreased by almost 11 percent, or 14,000 children. County and State health officials have reported that at the time the MIA program was transferred to county responsibility, there was confusion over the coverage of children under Medi-Cal. Some children disenrolled when their parents were no longer eligible under MIA provisions even though they were still eligible (San Francisco Department of Public Health, 1987; California Department of Health Services, 1988).

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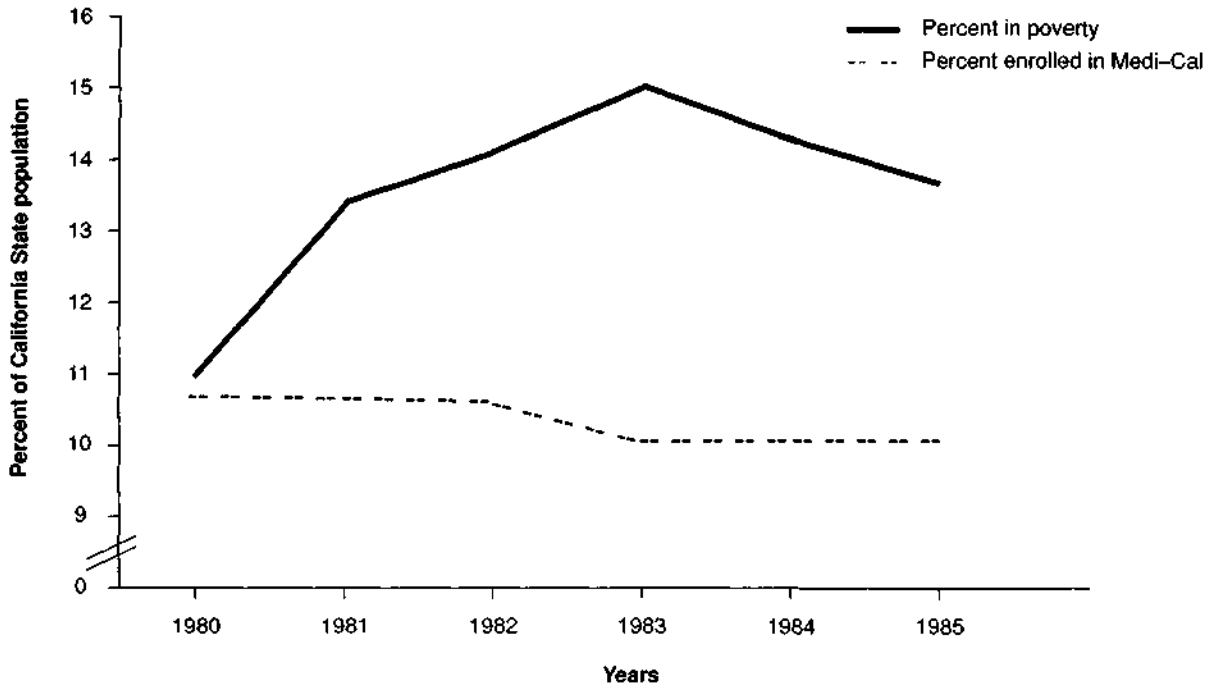
[6]California State reports show an increase of 100,000 AFDC cash recipients in prepaid health plans during the study period. Some of these families may have switched from traditional fee-for-service Medi-Cal to prepaid plans, potentially tempering the effect of OBRA 1981 and demographic changes.

[7]No-cash enrollees are similar to those eligible for cash assistance in terms of age, disability status, family structure, or living situation, but are ineligible for cash assistance because of income. In these groups are people whose income would drop below the level required for cash assistance after their medical expenses are deducted.

[8]Other children are children not associated with public assistance programs but who were provided Medi-Cal services under special Federal and State provisions for children. This group primarily consists of children in intact, two-parent families as well as some children in foster care.

Figure 2
Comparison of California poverty rate to the Medi–Cal enrollment rate: 1980–85



SOURCE: Percent in poverty from (Ross and Danzinger, 1986); percent enrolled in Medi–Cal from the Health Care Financing Administration, Office of Research and Demonstrations: Data from the Medicaid Tape–to–Tape project.

Aged enrollees decreased almost 11 percent during the study period. This parallels the 12-percent decrease of aged recipients in the national Medicaid program from 1981 through 1984. The decrease in aged recipients nationally has been attributed to an overall decrease in the aged population in poverty (Burwell and Rymer, 1987; Holahan and Cohen, 1986). In California, the proportion of the aged living in poverty declined from 8 percent in 1979 to 7 percent in 1984 (Social Security Administration, 1986).

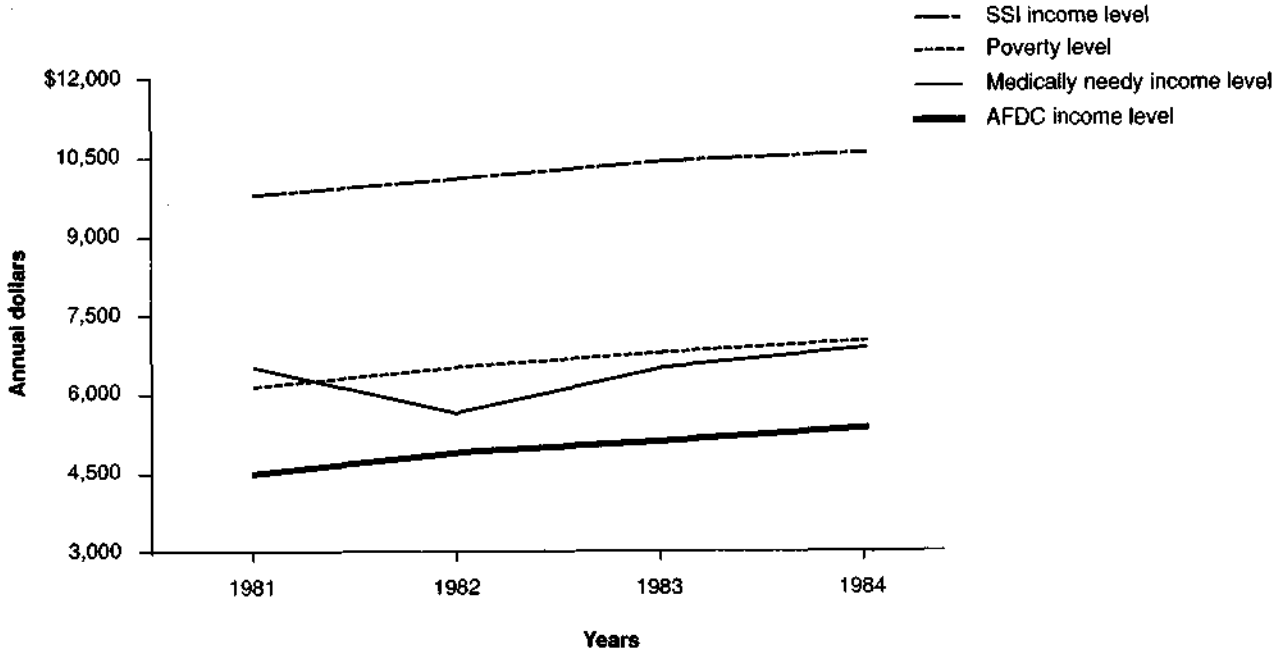
Most of the decline in aged enrollment was in the "cash assistance" group. However, program changes in eligibility contributed to a decline in no-cash enrollment for the medically needy among the aged and disabled. Financial qualifications for aged, blind, and disabled eligibility groups in Medi-Cal were tightened during the period 1981-84. The monetary value of assets allowed to be owned by aged Medi-Cal enrollees was reduced, and special income deductions that had been allowed for aged persons in California were eliminated in late 1982. As a result of these changes, the number of no-cash aged enrollees decreased by 7 percent from 1982 through 1984, and the number of no-cash disabled enrollees decreased by 5 percent.

Nationally, the decline in income levels used for eligibility determination has been important in explaining decreased enrollment in Medicaid (Rymer and Burwell, 1987). We compared the income levels used in California with the Federal poverty level during the study period (Figure 3). Income eligibility standards for Medi-Cal remained generous in comparison with other States for the entire study period, although AFDC income levels contrast sharply with SSI income standards, which are considerably higher. The medically needy income standards remained close to the Federal poverty level throughout the period, except for a 9-month drop during 1981-82. The rates of increase for AFDC and SSI income levels tracked the rate of increase in the Federal poverty level during the study period. Therefore, reductions in Medi-Cal enrollment during this period are not explained by reduced income levels used in eligibility determinations.

In summary, the reductions in Medi-Cal enrollment from 1981 to 1984 are the result of Federal and State program changes as well as demographic changes within the Medi-Cal population. Federally mandated reductions in AFDC coverage under OBRA 1981 had some effect on child enrollees; the State's transfer of MIA program responsibility and the resulting confusion affected adult and child enrollment; and the State's tightening of medically needy income and resource requirements reduced the number of aged and disabled enrollees. Demographic factors important to Medi-Cal enrollment changes during the period were the decrease

Figure 3

Comparison of Federal poverty levels with Medi–Cal income eligibility standards for a 2–person family: California 1981-84



NOTES: SSI is Supplemental Security Income. AFDC is Aid to Families with Dependent Children.

SOURCES: SSI income level from the Social Security Administration: Characteristics of State Assistance Programs for SSI Recipients, 1985; poverty level from the U.S. Bureau of the Census, *Statistical Abstract of the United States, 1986*; medically needy income level from the Medi–Cal Eligibility Office; AFDC income level from the Family Support Administration, Office of Family Assistance: Characteristics of State AFDC Plans, 1986.

in the number of California's elderly living in poverty and the reductions in AFDC family size. For the most part, the State did not use its authority to set income eligibility levels to reduce program enrollment throughout the period. Additionally, State records show that the portion of Medi-Cal enrollees enrolled in prepaid health plans doubled. According to California State data, 9 percent of all Medi-Cal enrollees were in prepaid plans in 1984 compared with 4 percent in 1981 (California Center for Health Statistics, 1983).

Total per enrollee expenditures

Major declines in inflation-adjusted spending per Medi-Cal enrollee occurred from 1981 through 1984, and these declines were apparent in nearly every enrollment group (Table 2). AFDC children and adult cash groups had the largest declines in spending per enrollee, with declines of 30.6 percent and 26.2 percent, respectively. Increases in spending occurred only for the no-cash AFDC adult (6.6 percent) and disabled (14.6 percent) groups.[9] The latter increase may be partially accounted for by the introduction of new technology and more intensive treatments for this group, which tends to include persons with greater medical needs. Additionally, when the MIA program was eliminated, pregnant women were reclassified into the Medi-Cal program categories, and disabled men were no longer covered unless they were in long-term care facilities. These enrollees probably were persons with large medical expenses.

It is interesting to note that on average, the largest dollar decrease per enrollee took place during the period 1981-82, prior to the 1982 policy changes. The AFDC no-cash enrollees and the SSI enrollees experienced large reductions in per enrollee Medi-Cal spending during this time period.

Spending was substantially higher for SSI groups than for AFDC groups, and the gap increased during the study period. In 1984, costs per enrollee for the SSI groups—the aged, and disabled—were three to four times that for persons who qualified through the AFDC program. Also, the ratio of spending for SSI groups to spending for AFDC groups increased significantly during the study period. In 1981, for example, California spent 3.5 times more per disabled enrollee than per AFDC enrollee. In 1984, the State spent 4.2 times more per disabled enrollee. This finding supports previous assertions that the increasing cost of

[9]Aged and disabled persons with Medicare coverage were excluded from analyses of services for which Medicare paid the majority of expenses (i.e., inpatient hospital, ambulatory and physician services) because the amounts for these expenses were unavailable in our data base.

Table 2

Total Medi-Cal expenditures per enrollee, by eligibility group and maintenance-assistance status: 1981-84

Eligibility group and maintenance-assistance status	1981	1982	1983	1984	Percent change 1981-84
Total Medi-Cal	$1,299	$1,185	$1,120	$1,076	-17.2
Total AFDC	791	668	583	574	-27.5
AFDC children, cash	460	434	328	319	-30.6
AFDC children, no cash	641	587	565	536	-16.4
AFDC adult, cash	1,160	1,051	859	856	-26.2
AFDC adult, no cash	1,437	1,275	1,397	1,532	6.6
Other children, no cash	979	930	1,032	969	-1.0
Total aged	2,200	1,930	1,823	1,812	-17.6
Aged, cash	1,037	906	824	800	-22.9
Aged, no cash	5,361	4,431	4,171	4,189	-21.9
Total disabled	2,765	2,591	2,668	2,431	-12.1
Disabled, cash	2,456	2,274	2,228	2,005	-18.4
Disabled, no cash	5,401	5,325	6,541	6,189	14.6

NOTES: AFDC is Aid to Families with Dependent Children. Statistics used in the table were calculated using person-years of enrollment. Table only includes non-Medicare beneficiaries. All expenditures have been adjusted to 1981 dollars.

SOURCE: Health Care Financing Administration: Medicaid Tape-to-Tape project.

Table 3

Inpatient expenditures per Medi-Cal enrollee, by eligibility group and maintenance-assistance status: 1981-84

Eligibility group and maintenance-assistance status	1981	1982	1983	1984	Percent change 1981-84
Total Medi-Cal	$415	$455	$445	$413	-0.5
Total AFDC	326	316	309	287	-12.0
Total AFDC children	207	206	177	163	-21.3
AFDC children, cash	186	183	148	137	-26.6
AFDC children, no cash	342	341	355	330	-3.6
Total AFDC adult	576	537	530	512	-11.2
AFDC adult, cash	527	483	445	407	-22.7
AFDC adult, no cash	813	766	909	971	19.4
Other children, no cash	605	610	671	658	8.8
Total disabled	1,236	1,363	1,349	1,187	-3.9
Disabled, cash	1,123	1,178	1,095	931	-17.1
Disabled, no cash	2,559	2,768	4,023	3,918	53.1

NOTES: AFDC is Aid to Families with Dependent Children. Statistics used in the table were calculated using person-years of enrollment. All expenditures are adjusted to 1981 dollars. This table does not include the aged category nor any enrollees dually eligible for Medicare and Medicaid because Medicare covers most inpatient expenses for enrollees.

SOURCE: Health Care Financing Administration: Medicaid Tape-to-Tape project.

serving the SSI groups has been responsible for driving up Medicaid program expenditures (Burwell and Rymer, 1987).

The following sections examine per enrollee spending reductions by major Medi-Cal service category. Changes in spending are analyzed as to whether they are most likely the result of changes in the price or volume of services provided.

Hospital expenditures

Medi-Cal spending per enrollee for inpatient hospital care[10] decreased by only 0.5 percent during the study period (Table 3). However, this summary figure masks underlying changes in spending per enrollee in the various enrollment categories. Across enrollment groups, different trends were observed between cash and no-cash groups. The AFDC and disabled cash groups experienced the largest decreases in inpatient spending per enrollee during the period. AFDC adult, no cash and disabled, no cash groups had substantial increases in inpatient spending per enrollee.

The large reductions experienced by AFDC children, cash groups occurred from 1982 through 1983. It was during this time that the scope of Medi-Cal services was restricted through new authorization requirements. Spending per enrollee for AFDC adult, cash groups was reduced significantly each year during the study period. Per enrollee spending for the children, no-cash groups was decreased from 1983 through 1984 during the implementation of selective contracting. For AFDC adult, no cash groups, spending decreased during 1981 and 1982 only. Subsequently, the addition of higher cost adults transferring from the MIA program had the effect of increasing this group's costs. Per enrollee spending for the most costly enrollees, the disabled, cash groups, was reduced only during the period selective contracting was implemented, from 1983 to 1984.

[10]Inpatient hospital care excludes inpatient psychiatric care.

Table 4

Components of Medi-Cal expenditures per enrollee for inpatient hospital care, by eligibility group: 1981 and 1984

Eligibility group	Inpatient expenditures per enrollee	User rate	Discharges per user	Days of care per discharge	Expenditures per hospital day
Total Medi-Cal					
1981	$415	.104	1.81	5.3	$417
1984	413	.097	1.85	4.4	530
	(-0.5)	(-6.7)	(2.2)	(-17.0)	(27.1)
Total AFDC					
1981	326	.100	1.72	4.7	406
1984	287	.089	1.71	3.7	509
	(-12.2)	(-11.0)	(-0.6)	(-21.3)	(25.4)
AFDC children:					
1981	207	.066	1.69	4.6	405
1984	163	.042	1.61	4.4	544
	(-21.3)	(-36.4)	(-4.7)	(-4.3)	(34.3)
AFDC adult:					
1981	576	.171	1.74	4.7	407
1984	512	.173	1.76	3.4	491
	(-11.2)	(1.2)	(1.1)	(-27.7)	(20.6)
Other children, no cash					
1981	605	.104	2.72	5.1	416
1984	658	.106	2.75	3.4	670
	(8.8)	(2.0)	(1.1)	(-33.3)	(61.1)
Total blind or disabled					
1981	1,236	.167	1.92	8.7	443
1984	1,187	.160	2.07	6.7	532
	(-3.9)	(-4.2)	(7.8)	(-23.0)	(20.1)

NOTES: AFDC is aid to Families with Dependent Children. Statistics used in the table were calculated using person-years of enrollment. All expenditures are adjusted to 1981 dollars. This table does not include the aged category nor any enrollees dually eligible for Medicare and Medicaid because Medicare covers most inpatient expenses for enrollees. Numbers in parentheses are percent change.

SOURCE: Health Care Financing Administration: Medicaid Tape-to-Tape project.

To better understand the 1981-84 changes in per enrollee spending by enrollment group, we examined the following components of hospital spending (Table 4):

$$\text{Annual hospital spending per enrollee} = \frac{\text{Hospital users}}{\text{Total enrollees}} \times \frac{\text{Discharges}}{\text{Hospital users}} \times \frac{\text{Days of care}}{\text{Discharges}} \times \frac{\text{Expenditures}}{\text{Days of care}}$$

The reduction in the rate of hospital users (6.7 percent) and the days per discharge (17.0 percent) was responsible for the average hospital savings per Medi-Cal enrollee. During the study period, per diem expenditures increased substantially, by 27.1 percent after adjusting for inflation. By comparison, Medi-Cal achieved greater reductions in length of stay and experienced much lower increases in expenditures per day than did California as a whole. Total admissions per 1,000 population in California decreased 10 percent, and the average length of stay decreased 5 percent during the same period. Expenses per patient day increased by 42 percent (California Health Facilities Commission, 1985).

AFDC enrollment groups incurred the largest reductions in the use of inpatient hospital services during the period. For example, AFDC children's rate of inpatient use declined by 36.4 percent, and adult days of care per discharge declined by 27.7 percent. On the other hand, both children's groups experienced substantial increases in expenditures per day from 1981 through 1984. Expenditures per day increased by 34.3 percent for AFDC children and by 61.1 percent for other children, no cash, exceeding the increases experienced by AFDC adults and the disabled.

It appears that utilization controls, such as prior authorization and utilization review programs, may have had a greater impact on overall costs during the period than reduced per diem rates because of selective contracting. However, selective contracting may have contributed to reduced utilization rates if payment rates did not cover the cost of providing services. Low rates would give hospitals incentives to reduce their Medi-Cal case loads.

In order to focus more specifically on changes in hospital spending associated with selective contracting, we examined changes in the components of inpatient hospital spending per enrollee during the period 1983-84. Inpatient hospital spending per enrollee decreased for all but one of the seven major enrollment groups from 1983 through 1984 (Table 5).

As was observed for the entire 1981-84 time period, the 1983-84 period showed a general reduction in

Table 5

Components of Medi-Cal expenditures per enrollee for inpatient hospital care, by eligibility group: 1983 and 1984

Eligibility group	Inpatient expenditures per enrollee	User rate	Discharges per user	Days of care per discharge	Expenditures per hospital day
Total Medi-Cal					
1983	$445	0.098	1.86	4.8	$514
1984	413	0.097	1.85	4.4	530
	(-7.2)	(-1.0)	(-0.5)	(-8.3)	(3.1)
Total AFDC					
1983	309	0.100	1.54	4.1	418
1984	287	0.096	1.49	3.9	482
	(-7.1)	(-4.0)	(-3.2)	(-4.9)	(15.3)
AFDC children, cash:					
1983	148	0.044	1.48	4.5	515
1984	137	0.040	1.47	4.5	515
	(-7.4)	(-9.1)	(-0.6)	(0.0)	(0.0)
AFDC children, no cash:					
1983	355	0.056	2.39	4.5	560
1984	330	0.051	2.31	4.4	641
	(-7.0)	(-8.9)	(-3.3)	(-2.2)	(14.5)
AFDC adult, cash:					
1983	445	0.159	1.56	3.9	459
1984	407	0.164	1.50	3.6	463
	(-8.5)	(3.1)	(-3.8)	(-7.7)	(0.8)
AFDC adult, no cash:					
1983	909	0.193	2.60	3.7	487
1984	971	0.215	2.62	3.1	551
	(6.8)	(11.4)	(0.7)	(-16.2)	(13.1)
Other children, no cash					
1983	671	0.101	2.78	4.1	576
1984	658	0.106	2.75	3.4	670
	(-1.9)	(5.0)	(-1.1)	(-17.1)	(16.3)
Total blind or disabled					
1983	1,349	0.164	2.05	7.44	539
1984	1,187	0.160	2.07	6.70	532
	(-12.0)	(-2.4)	(1.0)	(-9.9)	(-1.3)
Blind or disabled, cash					
1983	1,095	0.161	1.91	6.9	512
1984	931	0.154	1.93	6.5	482
	(-15.0)	(-4.3)	(1.0)	(-5.8)	(-5.9)
Blind or disabled, no cash					
1983	4,023	0.197	3.23	10.0	633
1984	3,918	0.222	3.08	8.0	724
	(-2.6)	(12.7)	(-4.6)	(-20.0)	(14.4)

NOTES: AFDC is Aid to Families with Dependent Children. Statistics used in the table were calculated using person-years of enrollment. All expenditures are adjusted to 1981 dollars. This table does not include the aged category nor any enrollees dually eligible for Medicare and Medicaid because Medicare covers most inpatient expenses for enrollees. Numbers in parentheses are percent change.

SOURCE: Health Care Financing Administration: Medicaid Tape-to-Tape project.

utilization of hospital services, and the average expenditure per hospital day increased by 3 percent, after adjusting for inflation. The increase in expenditure per hospital day was substantially lower than the average annual increase during the study period. The AFDC cash enrollment groups experienced essentially no increase in expenditure per hospital day, whereas among all the non-cash groups, expenditure per hospital day increased substantially.

Substantial decreases in days of care were experienced by the AFDC "adult, no cash;" the "disabled, no cash;" and the "other children, no cash" groups. This trend contrasts with the trend in days per discharge for all California admissions during the same time period. The rate of change for all California admission days per discharge was constant each year from 1981 through 1984 (California Health Facilities Commission, 1985). This trend of reduced length of stay most likely contributed to greater increases in cost per day for these groups. The length-of-stay findings are counter to what would be expected given that the incentives of the per diem contract rates as payment for each hospital day encourage longer stays. Therefore, the large decreases in length of stay experienced after

Table 6

Components of Medi-Cal expenditures per enrollee for ambulatory care, by eligibility category and maintenance-assistance group: 1981 and 1984

Eligibility group and maintenance-assistance status	Ambulatory care expenditures per enrollee	User rate	Visits per user	Expenditure per visit
Total Medi-Cal				
1981	$148	0.75	8.00	$24
1984	119	0.75	7.90	20
	(-19.6)	(0.0)	(-1.3)	(-16.7)
Total AFDC				
1981	136	0.77	7.30	24
1984	104	0.77	6.90	19
	(-23.5)	(0.0)	(-5.5)	(-21.0)
AFDC children:				
1981	110.00	0.75	6.32	23
1984	83.30	0.75	6.07	18
	(-24.5)	(0.0)	(-4.0)	(-21.7)
AFDC adult:				
1981	191	0.82	9.25	25
1984	141	0.81	8.37	21
	(-26.2)	(-1.2)	(-9.5)	(-16.0)
Other children, no cash				
1981	131	0.65	7.81	26
1984	117	0.67	7.78	23
	(-10.7)	(3.1)	(-0.4)	(-11.5)
Total blind or disabled				
1981	292	0.72	15.59	26
1984	244	0.76	14.84	22
	(-16.4)	(5.5)	(-4.8)	(-15.4)

NOTES: AFDC is Aid to Families with Dependent Children. All expenditures are expressed in 1981 dollars. Services included in this table are physician (hospital and non-hospital), outpatient hospital, freestanding clinic or health center, rural health clinic, and service visits. Table includes only non-Medicare enrollees, because Medicare covers most physician and ambulatory care for those enrolled in both Medi-Cal and Medicare. Numbers in parentheses are percent change.

SOURCE: Health Care Financing Administration: Medicaid Tape-to-Tape project.

the implementation of selective contracting indicate the strength of utilization controls or, alternatively, low per diem rates.

The decrease in the user rate during the study period actually slowed from 1983 to 1984, similar to the trend for all California admissions. In fact, admissions for the more costly groups were increasing while their length of stay dropped dramatically. Although AFDC child admissions decreased approximately 10 percent, admissions for AFDC "adult, no cash" and "blind or disabled, no cash" admissions increased by approximately 12 percent.

In summary, the slowed rate of increase in hospital expenditures per day and the continued declines in length of stay and admissions by the major enrollment categories together account for the reductions in hospital expenditures per enrollee.

The major reductions experienced in hospital utilization during the period 1981-84 suggest that negotiated per diem rates may have been below the cost of providing care, that utilization controls continued to restrict services, or that a combination of the two factors were contributing to the substantial reduction in services provided. With utilization controls firmly established, the Medi-Cal program appears to have taken advantage of hospitals' need for volume in order to achieve program savings. This reduction in use of hospital services by Medi-Cal enrollees suggests that more appropriate admission and length-of-stay decisions may be being made or that access to such services may have changed for certain groups of enrollees.

Ambulatory care expenditures

Components of spending per enrollee for physician and other ambulatory care services[11] can be expressed as follows:

$$\text{Annual ambulatory care spending per enrollee} = \frac{\text{Ambulatory care users}}{\text{Total enrollees}} \times \frac{\text{Visits}}{\text{Users}} \times \frac{\text{Expenditures}}{\text{Visits}}$$

Table 6 displays changes in ambulatory and physician spending per enrollee from 1981 through 1984, along with the components of spending per enrollee. Spending per enrollee declined by 20 percent during the period, with the AFDC groups experiencing the greatest declines. Although decreased expenditures per enrollee were a result, to a large extent, of decreased

[11] Available data on ambulatory services group physician visits (both inpatient and outpatient) along with other outpatient hospital visits, rural health clinic visits, and other clinic visits.

Table 7

Components of institutional long-term care expenditures per enrollee for total Medi-Cal enrollees and selected eligibility groups: 1981 and 1984

Eligibility group	Long-term care expenditures per enrollee	User rate	Days per user	Expenditure per day
Total Medi-Cal				
1981	$380	0.040	266	$35
1984	347	0.041	261	33
	(-8.7)	(2.5)	(-1.9)	(-5.7)
Total aged				
1981	1,428	0.18	272	28
1984	1,310	0.19	282	25
	(-8.3)	(5.5)	(3.7)	(-10.7)
Total blind or disabled				
1981	930	0.07	256	52
1984	953	0.07	246	52
	(2.5)	(0.0)	(-3.9)	(0.0)

NOTES: All expenditures are expressed in 1981 dollars. Numbers in parentheses are percent change.

SOURCE: Health Care Financing Administration: Medicaid Tape-to-Tape project.

expenditures per visit, the rate of visits per ambulatory care user also declined.

In particular, decreased visits per user were marked among AFDC adults. They experienced 10 percent fewer visits per user, which was compounded by a 16-percent reduction in expenditures per visit to produce a 26-percent reduction in spending per enrollee.

The reduction in Medi-Cal spending for physician and ambulatory care per enrollee from 1981 through 1984 was the largest of all service categories analyzed. This is surprising given the incentives of much of California's cost-containment legislation, which placed an emphasis on shifting inpatient care to outpatient settings. Apparently these incentives were counterbalanced by direct and indirect constraints on the use and cost of ambulatory care services. Services were affected directly by prior authorization requirements for many outpatient services and expenditures, by a decrease in payments. Indirectly, decreases in outpatient payment rates could have led to reduced provider participation and therefore to reduced visits per user. It is possible that the regulations promulgated to restrict Medi-Cal services to those necessary for preventing death or severe disability may have also affected utilization.

Long-term care expenditures

Our analysis of long-term care expenditures[12] focused on the enrollment groups that had the highest use and expenditures of Medi-Cal long-term care services: the aged and disabled. Long-term care recipients in the aged and disabled enrollment groups represented 99 percent of all recipients of long-term care services in California in 1984.

Although the previous analysis of hospital and ambulatory care excluded dual Medicare and Medicaid enrollees, we have included them here because Medicare covers only limited SNF care. The following equation for long-term care expenditures was used:

$$\text{Annual long-term care spending per enrollee} = \frac{\text{Long-term care users}}{\text{Total enrollees}} \times \frac{\text{Days of care}}{\text{Users}} \times \frac{\text{Expenditures}}{\text{Days of care}}$$

In Table 7, we display components of Medi-Cal long-term care spending for the total Medi-Cal population and for the aged and disabled enrollment groups for the years 1981 and 1984. Total long-term care expenditures per enrollee decreased by 9 percent between 1981 and 1984, after adjusting for inflation. This reduction in spending per enrollee for long-term care services was significantly less than observed reductions per enrollee for ambulatory care (20 percent) but greater than the overall reduction in hospital spending, which declined by only 0.5 percent in the same period.

Reductions in hospital services covered by Medi-Cal and Medicare did not appear to result in increased Medi-Cal long-term care spending. Although use of long-term care among aged enrollees increased (6-percent increase in the rate of users and a 4-percent increase in days per user), the increase was offset by declines in inflation-adjusted dollars per long-term care day. It is quite possible that the growth in use of services would have been greater had it not been constrained during the period by slow growth in nursing home facility capacity.[13]

During the 1980s, California began in earnest to develop alternatives to institutional long-term care by

[12]Analyses of long-term care include the following levels of care: intermediate care facility for the mentally retarded (ICF/MR), other intermediate care facility (ICF) and skilled nursing facility (SNF).

[13]California State licensed SNF and ICF beds increased by only 2 percent from 1982 to 1984 (California Department of Health Services, 1986).

Table 8

Components of Medi-Cal expenditures per enrollee for prescription drugs, by eligibility group and maintenance-assistance group: 1981 and 1984

Eligibility group and maintenance-assistance status	Prescription drug expenditures per enrollee	User rate	Prescriptions per user	Expenditure per prescription
Total Medi-Cal				
1981	$85	0.69	13	$9.50
1984	61	0.66	11	8.60
	(-28.2)	(-4.3)	(-15.4)	(-9.5)
Total AFDC				
1981	36	0.64	7	7.70
1984	24	0.62	6	7.00
	(-33.3)	(-3.1)	(-14.3)	(-19.5)
Total aged				
1981	163	0.81	21	9.40
1984	117	0.78	18	8.13
	(-28.8)	(-3.7)	(-14.3)	(-13.5)
Total blind or disabled				
1981	214	0.80	24	11.30
1984	166	0.78	21	10.40
	(-22.4)	(-2.5)	(-12.5)	(-8.0)
Other children, no cash				
1981	23	0.48	6	7.20
1984	17	0.48	5	6.80
	(-26.1)	(0.0)	(-16.6)	(-5.6)

NOTE: AFDC is Aid to Families with Dependent Children. All expenditures are expressed in 1981 dollars. Numbers in parentheses are percent change.
SOURCE: Health Care Financing Administration: Medicaid Tape-to-Tape project.

increasing services available through home and community-based waiver programs. Although development was rapid in a few areas of the State, the number of participants in these programs was relatively small and could not fully account for the slow growth in Medi-Cal utilization of institutional long-term care during the study period.

Decreases in real spending for long-term care is also related to the higher share of cost paid by non-cash long-term care users (California Department of Health Services, 1988). Because of the relatively high income of non-cash nursing home residents, the Medi-Cal amount paid decreased more dramatically in real dollars during the study period. The Medi-Cal amount paid for non-cash enrollees decreased 11 percent in real dollars from 1981 to 1984; whereas for cash enrollees, the Medi-Cal amount paid decreased only 4 percent in real dollars.

Therefore, the almost 9-percent decrease in real long-term care expenditures during the time period can be attributed to a number of factors. A restrained supply of nursing home beds, a decrease in the number of aged enrollees, reduced Medi-Cal amounts paid per non-cash enrollee, and an increasing emphasis on home and community-based care are likely to have significantly contributed to limiting program spending.

Prescription drug expenditures

Prescription drug spending per enrollee is specified by the following relationship:

$$\text{Annual prescription drug spending per enrollee} = \frac{\text{Users}}{\text{Enrollee}} \times \frac{\text{Number of prescriptions}}{\text{Users}} \times \frac{\text{Expenditures}}{\text{Prescriptions}}$$

In Table 8, we display the components of Medi-Cal drug expenditures and their changes for 1981 and 1984. Medi-Cal expenditures for prescription drugs decreased by 28 percent between 1981 and 1984. Four percent fewer users per enrollee received drugs under Medi-Cal in 1984 than in 1981. More significantly, 15 percent fewer prescriptions were filled per person. This was most likely a result of a more restrictive formulary and of copayments introduced for prescription drug services. Expenditures per prescription decreased by 9 percent.

As observed previously for hospital and ambulatory care, the greatest decrease in per enrollee spending for prescription drugs occurred in the AFDC groups. However, unlike changes in other benefits, major decreases in drug spending were experienced in every enrollment category. Expenditures per person decreased an average of 33 percent for AFDC enrollees. The large decreases in prescriptions per user for the aged or disabled groups, must represent major changes in treatment as these groups are such high users of the benefit. As with hospital and ambulatory care, the reduction in utilization was the important factor in explaining the decreased spending.

Other service expenditures

The "other" services category includes all services that were not included in the preceding analyses. These include inpatient psychiatric care, dental, and home health services. Medi-Cal spent 25 percent less in 1984 than in 1981 for these services, after adjusting for inflation. In 1984, expenditures for dental services represented 21 percent of the total service expenditures in the "other" service category, the largest subcategory of services. Total expenditures for dental services were reduced by 25 percent during the period. Payment rates for dental services were reduced at the same time that physician fees were reduced in 1982.

Conclusions

The 19-percent decline in Medi-Cal expenditures between 1981 and 1984 was achieved through a combination of policies enacted during the period affecting enrollment and per enrollee spending in all the major services. Major reductions in spending for ambulatory care, prescription drugs, long-term care, and inpatient hospital care were realized.

Placing the effects of selective contracting in perspective of the major reductions in Medi-Cal program spending during the early 1980s reveals that strategy as one piece in the transformation of the program that took place. The program scaled down significantly in terms of the population it enrolled and the benefits it offered to the enrolled population. When the State dropped coverage of medically indigent adults, it made the program similar to Medicaid programs in other States, covering only low-income families, the elderly, and the disabled.

Tighter controls on service authorization and payment rates for non-hospital services seem to have provided the largest program savings of the period. These policies effectively reduced the scope of benefits provided under the program. The significant increase in enrollment of AFDC families in prepaid health plans may have also contributed to reduced non-hospital service costs if higher cost enrollees were enrolled in these plans.

Given the large reductions in the non-hospital services provided under the traditional Medi-Cal program, families enrolled in prepaid health plans may have gained greater access to non-hospital services. However, data is unavailable from the prepaid plans to substantiate this.

Larger savings in non-hospital services during the period illustrate the relative difficulty in reducing the costs of hospital services. Perhaps greater savings in hospital services could be achieved if such reductions in non-hospital services were not occurring. Providers faced with the prospect of seeking further authorization requests and receiving low outpatient payment for complex cases may have an incentive to admit enrollees to the hospital rather than to intensively treat them in the outpatient setting. Policies that diminish support for outpatient services and physician participation could endanger the long-term viability of the program and delivery system if the hospital becomes increasingly viewed as the only treatment setting supported by the program.

Not only did we find that hospital costs were more difficult to reduce than non-hospital costs but we also found that hospital services to higher cost enrollees are more difficult to reduce. The largest reductions in hospital utilization achieved during the study period were in the lowest cost enrollment groups, the AFDC, cash groups. This implies that it is more difficult to reduce care for enrollees with more complex medical problems in the current system. Once these enrollees are brought into the hospital setting with all the available technology, it may be more difficult not to attempt to diagnose and treat the many complexities of the case.

Hospital savings for the most costly enrollees did not occur until after the implementation of selective contracting. Hospital costs continued to climb dramatically during the period throughout the State, but the Medi-Cal program was able to reduce the rate of growth dramatically from 1983 through 1984 with selective contracting. The State was able to take advantage of its position as a high-volume purchaser with many facilities in a time of shrinking payments from other payers.

Although the State attempted to make an allowance for more costly cases by negotiating per diem rates, inherent in the non-severity-adjusted rate is the incentive to discharge more costly patients earlier than less costly patients. In fact, the most costly enrollees incurred the largest reductions in length of stay under selective contracting. This may indicate a potential quality-of-care problem unless adequate followup services were made available.

Potential for further cost reductions in hospital services given the State's major accomplishments with utilization controls and price negotiations may lie in encouraging targeted service programs. For example, high-cost enrollees may incur lower costs if their health were monitored closely and appropriate interventions provided in lowest cost settings. This can only be achieved, however, if providers have adequate savings from inpatient services and adequate support for outpatient services to develop comprehensive systems of care.

The data presented in this article cannot be used to judge the appropriateness or the quality of care provided to different groups of Medi-Cal enrollees. Previous evaluations of the 1982 policy changes have found that program savings achieved from 1982 through 1983 did not result in reduced access to care or quality of hospital care. However, the dramatic reductions in outpatient and pharmacy services as well as dental services found in this study raise questions as to the longer term impact of program changes on the quality of care provided under the program. Furthermore, as hospital providers became more aware of the incentives of the per diem rates, their responses may have altered the quality of care provided, particularly to higher cost enrollees.

These changes made to the Medi-Cal program in response to a State budget crisis and constrained

Federal programs in the early 1980s are being revisited in light of the fiscal crises of the early 1990s. Strategies such as these will be used again within the State and in other States. Therefore, it is important to better understand how providers behave in response to the program changes and how these responses affect enrollees in the short and longer term.

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