

Health Care Financing Note

Access to hospital care for California and Michigan Medicaid recipients

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This article is a comparison of the characteristics of hospitals serving the general population and Medicaid recipients in California and Michigan, using data from Medicaid uniform claims files and the American Hospital Association Annual Survey for 1984. A greater concentration of discharges in a small number of "high Medicaid volume" urban and rural hospitals in each State was observed for Medicaid recipients compared with the general population. In addition, discharge data suggest that Supplemental Security Income crossovers (individuals covered by both Medicaid and Medicare) and other recipients (mostly children not enrolled in the Aid to Families with Dependent Children program) receive inpatient care in different hospitals from the general population as well as from other Medicaid eligibility groups. Medicaid cost-containment policies and differential access to hospital care are discussed.

Introduction

One of the original objectives of the Medicaid program was to provide certain groups of poor persons with access to mainstream health care. However, Medicaid hospital payment policies and utilization controls designed to contain program costs often result in hospitals being paid less for Medicaid patients than for other patients (Myers, 1986; Ginsburg and Sloan, 1984). Thus, such cost-containment strategies may limit equal access to inpatient care for the Medicaid population because certain hospitals may discourage recipients from using their facilities.

During the early 1980s, many States switched from traditional retrospective, cost-based payment systems to prospective systems of payment with predetermined payment rates in an effort to contain rising costs (Laudicina, 1985). In this article, the findings from a study that examined the experiences of such systems as they operated during 1984 in California and Michigan are presented. In 1984, hospital payment for inpatient services in California was based on a prospective method known as "selective contracting." Under this arrangement, per diem rates were negotiated with individual hospitals in certain (largely urban) geographic regions. Medicaid recipients living in areas with contracted hospitals could not receive care in other

facilities, except for emergency or specialized treatment. Medicaid recipients who were also enrolled in Medicare (i.e., crossovers) were exempt from these restrictions. More than one-half of California's hospitals and more than three-quarters of its Medicaid inpatient care became subject to this type of contracting. Hospitals outside this system continued to be paid under the old system of costs with per-discharge limits. In 1984, Michigan also operated under a prospective payment system that combined budget review with rate-of-increase controls on inpatient costs. Payments were based on adjusted cost-to-charge ratios (Pier, 1990). In both California and Michigan, a variety of utilization controls were in effect during 1984, placing restrictions on admissions and lengths of stay for Medicaid recipients.

Overall, the purpose of these changes, and similar policies in other States, was to reduce the burden of rising inpatient costs on Medicaid. However, these policies may restrict access of Medicaid recipients to the providers serving the general population. To examine this issue, we compare the characteristics of hospitals serving the general population and Medicaid recipients by eligibility group in the two States for the year 1984.

Method

In this study, we use 1984 data for California and Michigan from two sources: a Medicaid data base, known as Tape-To-Tape, created from State Medicaid Management Information Systems, and the American Hospital Association (AHA) Annual Survey. The Tape-To-Tape data base contains annual files of all enrollment, claims, and provider data for both States beginning in 1980. Hospital characteristics include facility type, number of Medicaid hospital stays, and amount of Medicaid payment. The Tape-to-Tape data base was linked with the AHA Annual Survey to obtain additional information on the Medicaid hospital provider characteristics. Data on total discharges and hospital type for hospitals serving the general population were also taken from the AHA Annual Survey.

The universe of hospitals for sample selection was restricted to general acute-care, non-Federal hospitals. Within this sampling frame, several exclusions were required for different reasons. In California, hospitals in Santa Barbara and Monterey counties were deleted from all analyses because these counties were part of a demonstration project involving county-wide capitation for Medicaid enrollees. As a result, claims for care under the capitated system in those counties were not available in the Medicaid Tape-to-Tape data base in 1984.¹ In addition, eight California and two Michigan Tape-to-Tape hospitals were excluded from the study as they could not be linked with the 1984 AHA file. Seven of these 10 nonlinked hospitals had fewer than 20 Medicaid

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¹All health maintenance organization (HMO) enrollees were deleted from this study because we had no inpatient claims for these individuals in our data base. There were approximately 313,000 HMO enrollees in California in 1984, compared with 85,000 enrollees in Michigan. In both States, most HMO enrollees were eligible under Aid to Families with Dependent Children (AFDC) provisions.

discharges during 1984, and most were rural hospitals. Because these hospitals account for less than 2 percent of the hospitals in the two study States, it is unlikely that their exclusion results in any bias. Finally, one additional California hospital was dropped because the counts of total and Medicaid discharges were illogical (i.e., more Medicaid discharges were recorded in the Tape-to-Tape file than total discharges recorded in the 1984 AHA file). The remaining 495 California hospitals and 197 Michigan hospitals comprised the study sample.

For selected analyses, Medicaid recipients were divided into one of five eligibility groups: Aid to Families with Dependent Children (AFDC) adults, AFDC children, Supplemental Security Income (SSI) noncrossovers, SSI crossovers, and other. The first and second subgroups are composed largely of poor mothers and their children who receive cash assistance through the AFDC program. The third and fourth groups are composed of the poor aged, blind and/or disabled, most of whom receive cash grants through the SSI program. Many of these individuals are also eligible for Medicare and are known as crossovers. For crossovers, Medicaid pays only for hospital services not covered by Medicare and the Medicare coinsurance and deductibles. The fifth subgroup is composed of all other Medicaid recipients and is mostly children who are not eligible for AFDC benefits or SSI coverage for the disabled. All five groups contained small proportions of medically needy recipients and individuals who were categorically needy but not receiving cash assistance.

Assignment to an enrollment group was based on the eligibility category in which the individual was enrolled the longest during 1984. Some recipients could not be assigned to an eligibility category because the Medicaid Tape-to-Tape data base was missing information on enrollment group for them; that is, they did not have an enrollment record in the file. These "ineligible recipients" represent 1.0 and 1.7 percent of the enrollees in Michigan and California, respectively. Because of data limitations for this group, demographic characteristics of ineligible recipients could not be ascertained. Discharges for ineligible recipients are excluded from analyses by enrollment group. They are included in other analyses.

Results

California had more than 3.1 million hospital discharges in 1984. Of these discharges, about 573,000 or 18 percent were covered by Medicaid. Michigan had about one-third as many hospital discharges (1.3 million) as California. Approximately 174,000 or nearly

13 percent of these discharges were paid for in whole or in part by the Medicaid program.

Do some hospitals serve a disproportionate share of Medicaid recipients? Although the Health Care Financing Administration has not published an explicit definition for disproportionate share for the Medicaid program, Federal law requires States to take into account volume of care to the poor when establishing hospital payment rates (Wright and Arulpragasam, 1988). States have developed a variety of methodologies to meet this requirement. For example, some methodologies rely on the proportion of total revenues from Medicaid to identify "disproportionate share" hospitals. Other States define disproportionate share according to Medicaid utilization rates, while another approach is to use the percent of expenditures devoted to charity care.

Our measure of disproportionate share is based on utilization rather than expenditures and employs a standard deviation concept (Wilson and Waxman, 1984). The standard deviation is a useful measurement, because it allows a cutoff percent to vary according to State-specific hospital usage patterns. The proportion of discharges covered by Medicaid was computed for each hospital separately. Hospitals were then assigned to one of four groups: California urban hospitals, California rural hospitals, Michigan urban hospitals, and Michigan rural hospitals. (Urban or rural status was based on a variable in the AHA file showing hospital location in a standard metropolitan statistical area [SMSA] or non-SMSA.) Those hospitals with a proportion of Medicaid discharges greater than one standard deviation above the mean proportion for their group were designated as "high Medicaid volume." The remainder in each group were classified as "other." When the distribution of proportions is normal, it is expected that approximately 16 percent of hospitals will fall at or above one standard deviation from the mean. Using the criterion values derived from our data, the proportion of hospitals classified as high Medicaid volume varied from 13.8 percent for California rural hospitals to 20.1 percent for California urban hospitals (Table 1).

Information on the number and percent of all discharges and Medicaid discharges for high Medicaid volume versus other hospitals is shown in Table 2. Within urban areas, high Medicaid volume hospitals in California accounted for 44 percent of Medicaid discharges, but only 19 percent of all discharges in the State. Smaller differences were observed in Michigan's urban areas—here, 24 percent of Medicaid discharges and only 10 percent of all discharges in the State were from

Table 1
Data on hospitals that are high Medicaid volume, by location for California and Michigan:
Calendar year 1984

Hospital data	California		Michigan	
	Urban	Rural	Urban	Rural
Total number of hospitals	393.0	58.0	117.0	78.0
Cutoff value ¹ (percent) used to designate high Medicaid volume	32.9	38.4	23.6	19.4
Percent of hospitals designated high Medicaid volume	20.1	13.8	14.5	15.4

¹Proportion of Medicaid discharges at one standard deviation above the mean proportion for each group.

SOURCE: Health Care Financing Administration, Office of Research and Demonstrations: Data from the Medicaid Tape-to-Tape project and the American Hospital Association Annual Survey 1984.

Table 2

Number and percent distribution of total and Medicaid discharges, by Medicaid volume for California and Michigan: Calendar year 1984

Hospital data	California				Michigan			
	Urban		Rural		Urban		Rural	
	All	Medicaid	All	Medicaid	All	Medicaid	All	Medicaid
Total discharges (in thousands)	2,991	542	121	33	1,127	148	221	30
Hospitals by Medicaid volume	Percent distribution							
High	19.0	43.9	14.8	25.0	9.9	23.7	10.6	17.2
Other	81.0	56.1	85.2	75.0	90.1	76.3	89.4	82.8
Ratio of percent of Medicaid discharges to total discharges among high volume hospitals ¹	2.3		1.7		2.4		1.6	

¹For example, $43.9/19.0 = 2.3$ for California urban hospitals.

NOTES: For urban and rural hospitals separately in each State, the proportion of discharges covered by Medicaid was computed for each hospital. Those hospitals with a proportion greater than one standard deviation above the mean proportion for their group (e.g., urban hospitals in California, rural hospitals in Michigan, etc.) were designated high volume; the remainder were classified as other. Calculations include ineligible recipients.

SOURCE: Health Care Financing Administration, Office of Research and Demonstrations: Data from the Medicaid Tape-to-Tape project, and the American Hospital Association Annual Survey 1984.

high Medicaid volume hospitals. However, the relative concentration of Medicaid discharges in high Medicaid volume urban hospitals in each State was the same. That is, in disproportionate-share hospitals in both California and Michigan urban areas, the proportion of Medicaid discharges compared with all discharges was nearly 2.5 times as high.

Among high Medicaid volume rural hospitals, the proportion of Medicaid discharges was smaller than that of their urban counterparts (17 percent in Michigan and 25 percent in California). These same hospitals accounted for only 11 and 15 percent of total discharges in Michigan and California, respectively. As with urban hospitals, however, the relative concentration of Medicaid discharges in disproportionate share hospitals within rural areas of each State was the same. In rural high Medicaid volume hospitals in both States, the proportion of Medicaid discharges was about 1.6 to 1.7 times higher than the proportion of all discharges.

A series of analyses were performed examining patterns of discharges by hospital characteristics for the total population and specific Medicaid enrollment groups. Tables 3 and 4 show these results for California and Michigan, respectively.

Three eligibility groups—AFDC adults, AFDC children, and SSI noncrossovers—received inpatient care in the same kinds of hospitals. In contrast, the SSI crossovers and other groups have distinct patterns of discharges that differ from all other Medicaid eligibility groups. Several major differences from the general population are also revealed in these analyses.

In California, the AFDC adults and children and SSI noncrossovers experienced more discharges from Government hospitals than the general population (31.8 to 34.7 percent versus 20.2 percent) and fewer discharges from nonprofit facilities (50.0 to 54.9 percent versus 62.6 percent). A larger proportion of their hospitalizations occurred in teaching institutions compared with the general population (42.6 to 55.2 percent versus 34.0 percent). In contrast to the findings in California, in Michigan, the pattern of discharges observed for AFDC adults, AFDC children, and SSI noncrossovers was remarkably similar to the general population, with the

exception of the use of high Medicaid volume hospitals, especially in urban areas.

SSI crossovers in both States received inpatient care in different types of hospitals than the general population as a whole and other Medicaid eligibility groups. For example, about one-fifth of discharges for these aged, blind, and/or disabled Medicaid recipients who also qualified for Medicare were from facilities with fewer than 100 beds, proprietary institutions (California only), and rural hospitals (Michigan only), compared with smaller proportions of the general population and the remaining eligibility groups. In both States, fewer SSI crossovers were discharged from teaching facilities (23.1 and 36.2 percent) than the general population (34.0 and 44.5 percent) or all remaining Medicaid enrollment groups (ranging from 40.8 to 66.4 percent). Discharges for California SSI crossovers were less concentrated in high Medicaid volume urban hospitals than was true for other Medicaid recipients; however, SSI crossovers were more likely to be discharged from high Medicaid volume hospitals than the general population.

In California, other recipients, mostly children who did not qualify for AFDC benefits or SSI coverage for the disabled, had patterns of hospitalizations that differed from the general population to a greater extent than the other eligibility groups. One-third of the discharges for other recipients were from large (400-plus bed) hospitals versus 13 percent among the general population and about 16 percent for Medicaid as a whole. More than one-half of the hospitalizations for these recipients were in Government institutions, compared with one-fifth of the discharges for the general population and about one-third for AFDC adults and children and SSI noncrossovers. Similarly, teaching hospitals accounted for more than two-thirds of the discharges for other recipients in comparison with one-third of the hospitalizations among the general population. More than three times the proportion of other recipients received inpatient care in urban high Medicaid volume hospitals than the general population (65.4 versus 19.0 percent, respectively). Of all enrollment groups, other California recipients had the greatest concentration of discharges in such facilities. In contrast to California, the pattern of discharges for other

Table 3
Number and percent distribution of total and Medicaid discharges, by hospital characteristics and Medicaid enrollment group for California: Calendar year 1984

Hospital characteristic	General population	Medicaid population	Medicaid enrollment group				
			AFDC adult	AFDC child	SSI noncrossover	SSI crossover	Other
Number of discharges (in thousands)	3,113	573	188	75	114	160	37
Bed size			Percent distribution				
1-99	15.8	18.5	19.2	18.8	14.0	21.9	13.7
100-199	30.0	28.8	28.4	29.2	26.3	32.6	21.6
200-399	40.1	36.9	37.1	33.8	40.4	37.2	29.3
400-plus	13.3	15.6	15.2	18.2	18.9	8.1	35.3
Unknown	0.9	0.2	0.1	0.1	0.3	0.3	0.1
Ownership							
Proprietary	17.2	15.9	15.3	11.9	13.7	21.6	9.0
Nonprofit	62.6	53.6	50.0	54.9	54.5	60.5	36.0
Government	20.2	30.6	34.7	33.2	31.8	18.0	55.0
Teaching status							
Teaching	34.0	41.1	42.6	55.2	46.7	23.1	66.4
Nonteaching	66.1	58.9	57.4	44.8	53.3	76.9	33.6
Location by volume							
Urban	96.1	94.3	93.0	94.4	96.4	94.0	94.9
High Medicaid volume	19.0	43.9	50.2	57.7	42.4	26.4	65.4
Other	81.0	56.1	49.8	42.3	57.6	73.6	34.6
Rural	3.9	5.7	7.0	5.6	3.5	5.9	5.1
High Medicaid volume	14.8	25.0	26.3	29.0	23.8	22.2	25.8
Other	85.2	75.0	73.7	71.0	76.2	77.8	74.2

NOTES: Percentages may not add to 100 because of rounding. For all calculations, ineligible recipients are excluded. AFDC is Aid to Families with Dependent Children. SSI is Supplemental Security Income.

SOURCE: Health Care Financing Administration, Office of Research and Demonstrations: Data from the Medicaid Tape-to-Tape data base, and the American Hospital Association Annual Survey 1984.

Table 4
Number and percent distribution of total and Medicaid discharges, by hospital characteristics and Medicaid enrollment group for Michigan: Calendar year 1984

Hospital characteristics	General population	Medicaid population	Medicaid enrollment group				
			AFDC adult	AFDC child	SSI noncrossover	SSI crossover	Other
Number of discharges (in thousands)	1,348	174	68	33	30	25	17
Bed size			Percent distribution				
1-99	14.4	15.7	15.5	14.5	12.7	20.5	16.7
100-199	15.4	16.9	17.4	14.8	17.5	18.1	16.4
200-399	39.6	43.1	43.6	46.6	42.6	38.3	42.3
400-plus	30.6	24.3	23.5	24.1	27.2	23.1	24.5
Ownership							
Nonprofit	84.7	84.5	84.8	83.0	86.0	84.0	83.8
Government	15.3	15.5	15.2	17.0	14.0	16.0	16.2
Teaching status							
Teaching	44.5	42.0	40.8	45.0	44.7	36.2	44.9
Nonteaching	55.5	58.0	59.2	55.0	55.3	63.8	55.1
Location by volume							
Urban	83.6	82.7	83.4	82.5	86.4	78.5	80.2
High Medicaid volume	9.9	23.8	22.1	26.4	25.0	23.9	22.8
Other	90.1	76.2	77.9	73.6	75.0	76.1	77.2
Rural	16.4	17.3	16.6	17.5	13.6	21.5	19.8
High Medicaid volume	10.6	17.4	18.3	16.2	16.5	17.4	17.3
Other	89.4	82.6	81.7	83.8	83.5	82.6	82.7

NOTES: Percentages may not add to 100 because of rounding. For all calculations, ineligible recipients are excluded. No discharges were reported for proprietary hospitals in Michigan in 1984. AFDC is Aid to Families with Dependent Children. SSI is Supplemental Security Income.

SOURCE: Health Care Financing Administration, Office of Research and Demonstrations: Data from the Medicaid Tape-to-Tape data base, and the American Hospital Association Annual Survey 1984.

recipients in Michigan was quite similar to the total population, with the exception of use of high Medicaid volume hospitals in urban and rural areas.

Discussion

Four major findings were observed in this study:

- In urban areas during 1984, a small number of hospitals were providing inpatient care for a disproportionate share of Medicaid recipients within the two study States, especially in California. This same pattern was observed for rural hospitals, but to a much smaller degree.
- The characteristics of hospitals serving Medicaid recipients as a whole compared with the total population differed in California but not Michigan. In California, Medicaid discharges were more likely to be from Government-owned and teaching hospitals than were discharges among the general population.
- Within each State, the types of hospitals used by AFDC adults, AFDC children, and nonelderly, blind, or disabled SSI noncrossovers were similar. These groups were also similar in hospital use to the general population in Michigan, but not in California.
- SSI crossovers (both States) and other recipients, mostly non-AFDC children (California only), were hospitalized in different types of facilities than the total population and the remaining Medicaid eligibility groups.

Several plausible explanations for these findings are discussed further and should be examined more fully in future research.

There are two important factors, apart from Medicaid cost-containment policies and their potential effect on access, that could account for the disproportionate concentration of Medicaid discharges in certain types of hospitals: geographic location and medical need. Medicaid recipients tend to live in areas with high concentrations of poor people. Because of lack of transportation, they may have difficulty traveling great distances to receive health care. Thus, even if Medicaid payment rates were comparable to private insurance, the geographic distribution of Medicaid enrollees would probably still result in a substantial concentration of the Medicaid population in some hospitals.

Also, the differing medical needs of the Medicaid population influence the types of providers from whom they seek care. For example, pregnant women will receive care in hospitals that perform deliveries. Children may be served in special hospitals for children. In summary, both geographic location and medical need may account in part for the differential use of certain types of hospitals by Medicaid recipients compared with the general population.

Cost-containment policies may also result in the disproportionate concentration of Medicaid discharges in certain types of hospitals. Medicaid payments to hospitals are typically less generous than other payers. Restrictive payment policies may discourage the admission of Medicaid enrollees to hospitals other than public and certain nonprofit hospitals. Because we examined data from only 1 year, 1984, we are unable to discern whether the observed patterns existed before the changes in

payment policy implemented in California and Michigan during the early 1980s. Research on the impact of California's selective contracting in Los Angeles County indicates that the hospitals receiving contracts had already been the major providers of care for the Medicaid population. The contracts would presumably make the concentration of Medicaid discharges in these hospitals even greater (Brown, Price, and Cousineau, 1985).

Crossover status may confer a special advantage in terms of hospital access. Virtually 100 percent of an inpatient stay for aged, blind, and/or disabled individuals with dual enrollment in Medicaid and Medicare is paid for by the combined coverage afforded by these two programs. For these recipients, Medicare covers the majority of inpatient services. Most of the remaining costs paid by Medicaid consist of Medicare deductibles and coinsurance. Thus, cost-containment policies that apply only to Medicaid are unlikely to affect hospital access for the crossover population. Finally, dual coverage via Medicare and Medicaid may be more comprehensive than private insurance benefits.

Taken together, these financial considerations are more likely to overcome any barriers to access for crossovers. This may in part account for the greater proportion of discharges for SSI crossovers in proprietary hospitals in California compared with the remaining eligibility groups as well as the total population. A recent Federal audit found that a substantial number of SSI crossovers were served in proprietary hospitals specializing in substance abuse treatment, mainly alcoholism, suggesting that in California, medical need and facility specialty also play a role in place of service for these recipients (Keith, 1990).

Because physicians control who gets admitted to a hospital, the characteristics of hospitals used by Medicaid recipients are also likely to be affected by their access to physicians. In many States, there is great concern about the lack of physician participation in the Medicaid program, due in large part to the low payment rates and bureaucratic obstacles (e.g., late payments and paperwork) (Mitchell, 1983; Perloff, Kletke, and Neckerman, 1986; Sloan, Mitchell, and Cromwell, 1978) as well as fears of malpractice suits from caring for high-risk patients (Taub, 1987). When access to private physicians is restricted, Medicaid recipients must rely on emergency rooms and hospital outpatient departments (generally in public hospitals) for their ambulatory care. These hospitals are also more likely to serve as their providers of inpatient care when needed. Thus, physician payment policies and other factors affecting physician participation in Medicaid may also play an indirect role in the patterns of access to inpatient services for Medicaid recipients.

The results from this study show that Medicaid recipients receive their care in types of hospitals different from the general population. Stringent prospective cost-containment policies like those implemented in California (and to a lesser extent in Michigan) may be one cause of these differences. Other researchers have also found that Medicaid recipients use different hospitals from the general population and that this pattern of use can result from cost-control measures. It has been noted that Medicaid cost-containment policies may increase the disparity between Medicaid and non-Medicaid revenues to hospitals, which in turn may restrict the access of

Medicaid recipients to certain types of hospitals, especially voluntary and for-profit institutions (Holahan, Lewis, and Silverberg, 1988).

The concentration of Medicaid discharges in hospitals different from those that serve the general population does not necessarily indicate that Medicaid recipients receive care of lesser quality. However, these findings do suggest the need for research to determine if the quality of hospital care delivered to Medicaid recipients is comparable to that delivered to non-Medicaid populations.

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