

# THE IMPACT OF REALIGNMENT ON UTILIZATION AND COST OF COMMUNITY-BASED MENTAL HEALTH SERVICES IN CALIFORNIA

**Richard Scheffler, Amy Zhang, and Lonnie Snowden**

**ABSTRACT:** Decentralization of California's public mental health system under program realignment has changed the utilization and cost of community-based mental health services. This study examined a sample of 75,951 users, representing 1.5 million adults who visited California's public mental health services during a 6-year period (FY 1988–1990 and FY 1992–1994). Regression analysis was performed to examine cost and utilization reduction over time, across regions, and across psychiatric diagnoses. Overall utilization and cost of community-based mental health services dropped significantly after the implementation of realignment. They were significantly lower for (a) 24-hour services in the urban industrialized Southern Region and (b) outpatient services in the agricultural Central Region of the state. Users diagnosed with mood disorders took a greater portion, but were associated with significantly less treatment and cost than other users in the post-realignment period. When local communities bear the financial risks and rewards, they find more efficient methods of delivering community-based mental health services.

**KEY WORDS:** community; cost; county; decentralization; utilization.

As the public mental health system has moved into a managed care era, California is one of a few states that decentralized its statewide mental health system by shifting the authority and financial risk of managing men-

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tal health services from the state to the local level (Scheffler, Wallace, Hu, Bloom, & Garrett, 1998). Program realignment went into effect on July 1, 1991, when California faced a huge budget deficit and a growing demand on mental health services. Essentially, realignment removes state control to grant local governments fiscal and administrative responsibility for provision of mental health services, redistributes a new sales tax to equalize funding levels among counties, and establishes local mental health boards and a statewide monitoring system to hold local governments accountable for serving the mentally ill. The primary purpose of realignment is to balance the budget while preserving funds for public mental health services. Nevertheless, its impact on delivery of mental health services was far-reaching (Okin, 1992; Masland, 1997).

Empirical evidence indicates that realignment has successfully contained the cost of mental health services, largely due to a reduction in state hospital use—a finding that is in line with previous reports from other states (Scheffler, Hu, Bloom, Wallace, & Garrett, 1997). For example, in the early 1970s, Wisconsin's decentralization policy resulted in a substantial reduction of funds dedicated to state hospital care (Stein, 1989). In Ohio and Texas, the local mental health authorities responded positively with limited financial incentives to reduce state hospital use (Frank & Gaynor, 1994). Moreover, recent managed care plans have reduced hospitalization substantially, leading to overall cost reduction in Massachusetts and Utah (Dickey et al., 1995; Callahan, Shepard, Beinecke, Larson, & Cavanaugh, 1995; Stoner, Manning, Christianson, Gray, & Marriott, 1997; Christianson et al., 1995).

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In California however, users of the state hospital constitute only about 1% of total enrollees in the public mental health system; the majority are served at community-based services. Some heavy users were shifted from state hospital to community-based services; this resulted in overburdening community-based services and required them to assume a larger share of total mental health expenditures. Therefore, this study focused on the impact of realignment on the cost of community-based mental health services independent of state hospital expenditures. Furthermore, because the cost of mental health services depends on the number of users in the mental health system, users' utilization levels, and the price of services, local governments might reduce users' utilization levels to contain costs. Since the level of utilization is directly related to the users' welfare and mental well-being, this study also examined realignment's impact on the utilization of community-based mental health services, particularly 24-hour care and outpatient services.

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Realignment has equalized funding levels among all counties through redistribution of a dedicated sales tax. However, as Scheffler and associates (1997) and Masland (1997) have reported, the impact of realignment has not been homogeneous statewide due to socioeconomic-political differences across local mental health authorities. It is conceivable that realignment has differentially impacted geographic regions characterized by different economic zones. For example, an industrialized or urban region is likely to have greater demand on, access to, and expenditures related to mental health services, resulting in a more aggressive effort at cost containment. Therefore, our study was designed to explore in greater detail whether and how the economic features of different geographic regions correlate with changes in utilization and cost of mental health services over the realignment period.

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*For the first time in California, the severely mentally ill were given top priority for mental health services under realignment.*

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For the first time in California, the severely mentally ill were specified as the target population and given top priority for mental health services under realignment. Recent empirical evidence (Snowden, Scheffler, & Zhang, 1998) indicated that the level of severity among service users was significantly enhanced over the realignment period. The percentage of users with mood disorders (a major severe mental disorder) increased by 5.4%, and the percentage of users with mild mental disorders decreased by 3.9%—yet the functional level was significantly lower among the users after realignment. Because the level of severity is a major determinant of treatment utilization and cost, our study examined whether the utilization and cost of mental health services were altered significantly as a result of the change in the user population under realignment.

In sum, in examining realignment's effects on community-based mental health services statewide, we focused on three questions about utilization and cost of mental health services: (1) Were they significantly changed over time under realignment? (2) Were they differentially changed across geographic regions after realignment? (3) Were they significantly changed by enhancement of the users' diagnosed level of severity under realignment?

## **METHOD**

### **Data Source**

The Client Data System (CDS), obtained from the State of California Department of Mental Health for a 6-year period (Fiscal Years 1988–1990

and Fiscal Years 1992–1994), was used in this study. The data were collected by each county and then reported to the Department of Mental Health, which maintains the data system. The CDS records each visit of clients who have ever accessed public mental health services in California. The database contains extensive information on user demographics, clinical diagnosis, severity of impairment, and the type, amount, and cost of services. The users who were examined had accessed California's public mental health services at the age of 18 or older, and their ethnicity was White, Black, Hispanic, or Asian. The total numbers of users were 254,845 persons in 1988; 251,060 in 1989; 244,274 in 1990; 245,208 in 1992; 249,072 in 1993; and 252,687 in 1994.

### **Sampling**

Using the CDS data as a sampling frame, we selected a representative user sample from each fiscal year by stratified random sampling through three stages: stratification, power analysis, and random sampling. Stratification was used to reduce standard error and to ensure that the variables of gender, ethnicity, and diagnosis were proportionally represented in the sample because the severely mentally ill, women, and members of non-White ethnic groups are vulnerable users who warrant special research attention. We created 32 strata by multiplying levels of gender (male, female) by levels of ethnicity (White, Black, Hispanic, and Asian) by levels of diagnosis (schizophrenia, mood disorders, substance use disorder, and others), and then classified the sample into each stratum. Using FY 1994 data, which had the largest sample size, we performed a power analysis to calculate a minimal size for a representative sample. We found that 615 subjects would be sufficient to constitute a representative sample when power equaled 90% and the difference tested between the two samples was 5%. We then randomly selected a 5% population from each of the 32 strata, since the selected representative sample would have totaled 12,820 clients—far larger than the minimal sample size. The random selection of a 5% population from each stratum was repeated for each of the fiscal years.

### **Dependent Variables**

Dependent variables included costs and utilization levels of mental health services. The log of these two dependent variables was examined for 24-hour care and outpatient services, respectively. Twenty-four-hour care was hospitalization or institutional care for psychiatric patients in a residential setting. Outpatient services included both outpatient and case management services. The clients who ever used 24-hour care during a fiscal year were considered 24-hour-care users irrespective of their use of any other type of service. The same approach was applied to identify users of outpatient services. In this study, a total of 11,412 individuals used 24-hour care and 71,766 used outpatient services over the 6-year period.

Utilization level, that is, the amount of treatment, was measured by units. For 24-hour care, each unit represented a 24-hour period. For outpatient services, each unit was a client contact with mental health professionals or facilities. The total units that a user received during a fiscal year were summed, respectively, for 24-hour care and outpatient services and were used as the indicator of treatment amount for the corresponding treatment type.

Service costs were gross treatment cost as estimated by providers, calculated as product of service price (in dollars) and the amount of treatment rendered. For 24-hour care, the cost was the number of bed days multiplied by the price of specific inpatient services. For outpatient services, the cost was the total units multiplied by the price of specific outpatient services. The total cost that a client incurred during a fiscal year was summed, respectively, for 24-hour care, outpatient services, and all types of services at the total level. The costs were deflated over time.

### **Independent and Covariate Variables**

Independent variables included time trend, geographic regions in categories, and psychiatric diagnosis. A variety of demographic variables also were used as covariates.

A time trend was specified by a set of dummy variables indicating each of 6 fiscal years, including 3 pre-realignment years (FY 88–90) and 3 post-realignment years (FY 92–94). Fiscal Year 1988, a pre-realignment year, served as a reference variable. In this study, time trend variables were included for dual purposes: (1) to examine whether and how the cost and utilization of mental health services changed over the realignment period and (2) to control for the fixed time effects in the model.

Geographic regions in California were categorized as Coast, Central, Southern, and Northern (Clements, 1985):

- *Coast Region:* Alameda, Contra Costa, Humboldt, Marin, Mendocino, Monterey, Napa, San Benito, San Francisco, San Mateo, Santa Clara, Santa Cruz, Solano, and Sonoma (14 counties)
- *Central Region:* Amador, Calaveras, Fresno, Inyo, Kern, Kings, Madera, Mariposa, Merced, Mono, San Luis Obispo, Tulare, and Tuolumne (13 counties)
- *Southern Region:* Imperial, Los Angeles, Orange, Riverside, San Bernardino, San Diego, Santa Barbara, and Ventura (8 counties)
- *Northern Region:* The remaining 23 counties

Each region has been associated with different economic zones (Center for Continuing Study of the California Economy, 1997). The Coast Region is characterized by tourism and high-tech manufacturing. The Northern Region deals largely with wood and related products, as well as some

agriculture. The Southern Region is an urban and industrialized area. The Central Region is predominantly agricultural in economic activities. In the regression model, the Central Region was used as a reference variable due to its agricultural and rural uniqueness.

Psychiatric diagnosis referred to the principal diagnosis for which a user was admitted to a treatment. It was assessed by *DSM-III-R* diagnostic criteria (American Psychiatric Association, 1987). Two major diagnoses—schizophrenia and mood disorders—were examined in this study because they are major severe mental disorders. The psychiatric diagnosis was taken from each user's last-visit record in each of the 6 years and was coded as a dummy variable.

Demographic variables included age, gender, ethnicity, education, employment status, and level of functioning. Age was coded chronologically. Gender and employment status were coded as dummy variables. Ethnic status included African American, Hispanic, and Asian; White was used as a reference group. Education was measured by grade levels on a 21-point scale. A large number of users, 22–36% across years, had unknown education status; the missing values were replaced by the mean score of each year. Functional impairment was measured by Global Assessment of Functioning (GAF), a 100-point scale administered when the user was admitted. On the GAF scale, higher scores indicated higher functional ability. About 13–18% of users had missing values across years on this variable, which were replaced by the mean score for the year. Demographic variables were taken from the client's last-visit record in each fiscal year. These covariates were included in regression models, but their results were not presented in the tables for the sake of brevity.

### Statistical Analysis

Ordinary least-squares regression analysis was performed to study changes in the cost and utilization of mental health services over time. Service costs and utilization were examined as the dependent variables. Time trend, geographic, and diagnostic variables were used as predictors. Demographic variables were controlled as covariates in the model. The statistical analysis was conducted according to the following equations:

$$C_{i,t} = f(T_t, R_{ip}, D_{ip}, U_{ip})$$

$$A_{i,t} = f(T_t, R_{ip}, D_{ip}, U_{ip}), \text{ wherein,}$$

$C$  = Total cost incurred by the  $i$ th user in fiscal year  $t$  at 24-hour care, outpatient services, or the total level;

$A$  = Amount of treatment received by the  $i$ th user in fiscal year  $t$  at either 24-hour care or outpatient services;

$T$  = A set of indicators for each fiscal year  $t$ ;

$R$ =A geographic region resided in by the  $i$ th user in the pre- or post-realignment period  $p$ ;

$D$ =The psychiatric diagnosis carried by the  $i$ th user in the pre- or post-realignment period  $p$ ;

$U$ =A set of demographic variables carried by the  $i$ th user in the pre- or post-realignment period  $p$ .

Based on the models, changes in cost and utilization over the realignment period were assessed by the time trend variable  $T$ . Impacts of regional, diagnostic, and demographic variables in the pre- and post-realignment period were captured by introducing the variable  $p$ , a dummy variable (1=post-realignment period, 0=pre-realignment period). Interaction terms between  $p$  and each of the regional, diagnostic, or demographic variables represented the post-realignment effect of the variable. Inclusion of interaction terms in the models are used as a test for pre- and post-realignment effects of these variables on the cost and utilization of mental health services. STATA software was used to perform robust regression analysis so as to correct for heteroscedasticity.

## RESULTS

### Descriptive Statistics

The sample contained 12,919 users in FY 88; 12,735 in FY 89; 12,387 in FY 90; 12,447 in FY 92; 12,643 in FY 93; and 12,820 in FY 94.

Table 1 presents descriptive statistics of the independent variables. Users' average age was 40 across years. The percentage of male users increased from 49.4% before realignment to 51.5% after realignment. As the proportion of White users decreased from 62.7% to 59.2%, the proportions of non-White users, particularly Asians, increased over the realignment period. Users' educational or functional level seemed to decline slightly, and their unemployment rate increased from 32.2% before realignment to 35.2% after realignment. More important, the diagnostic rate of schizophrenia decreased from 18.8% before realignment to 17.5% after realignment, and the diagnostic rate of mood disorders increased from 27.4% to 32.8%. Finally, users' enrollment in Southern, Coast, Northern, and Central regions remained stable between pre- and post-realignment.

### Analysis of Utilization

Table 2 summarizes the regression results for treatment amount. At 24-hour care, users received significantly less treatment in 1992 ( $p \leq .01$ ) and 1994 ( $p \leq .05$ ) than in 1988. Compared with the Central Region, users in the Northern and Coast regions received significantly more treatment at

**TABLE 1**  
**Descriptive Statistics of Independent and Covariate Variables**

<i>Variable</i>	<i>Pre-Realignment (FY 1988-1990)</i>		<i>Post-Realignment (FY 1992-1994)</i>	
	<i>n</i>	<i>Mean or Percentage</i>	<i>n</i>	<i>Mean or Percentage</i>
<i>Demographics</i>				
Age	38,041	39.7	37,910	39.8
Gender	38,041		37,910	
Male	18,790	49.4%	19,512	51.5%
Female	19,251	50.6%	18,398	48.5%
Ethnicity	38,041		37,910	
White	23,861	62.7%	22,444	59.2%
Black	6,197	16.3%	6,304	16.6%
Hispanic	6,274	16.5%	6,584	17.4%
Asian	1,709	4.5%	2,578	6.8%
Education	38,041	11.0	37,910	10.1
Employment	38,041		37,910	
Employed	25,810	67.8%	24,578	64.8%
Unemployed	12,231	32.2%	13,332	35.2%
Level of functioning	38,041	44.3	37,910	43.4
<i>Diagnosis</i>				
Schizophrenia	38,041		37,910	
Schizophrenia	7,167	18.8%	6,636	17.5%
Others	30,874	81.2%	31,274	82.5%
Mood Disorders	38,041		37,910	
Mood disorders	10,437	27.4%	12,451	32.8%
Others	27,604	72.6%	25,459	67.2%
<i>Region</i>				
All regions	38,041		37,910	
Northern	5,589	14.7%	5,715	15.1%
Southern	18,127	47.6%	17,573	46.4%
Coast	10,754	28.3%	10,925	28.8%
Central	3,571	9.4%	3,697	9.7%

all times ( $p \leq .01$  or  $p \leq .05$ ), but users in the Southern Region no longer received significantly more treatment in the post-realignment period. Users with schizophrenia received significantly more treatment before and after realignment than those with a different diagnosis ( $p \leq .01$ ); however,

**TABLE 2**  
**Temporal, Regional, and Diagnostic Effects on Treatment Amount**

Variable	<i>Inpatient Use</i>		<i>Outpatient Use</i>	
	<i>Coefficient</i>	<i>SE</i>	<i>Coefficient</i>	<i>SE</i>
<i>Time Trend (FY 1988 as reference)</i>				
Fiscal Year 1989	-.0422	.0458	.1061**	.0157
Fiscal Year 1990	.0522	.0475	.1264**	.0158
Fiscal Year 1992	-.7715**	.2637	-.3064**	.0857
Fiscal Year 1993	-.4784	.2625	-.3645**	.0858
Fiscal Year 1994	-.6363*	.2632	-.1877*	.0862
<i>Region (Central as reference)</i>				
Northern (pre)	.3410**	.0752	-.1491**	.0265
Northern (post)	.2890**	.1115	.1469**	.0382
Southern (pre)	.9397**	.0686	-.0834**	.0237
Southern (post)	.1841	.1006	.2400**	.0336
Coast (pre)	1.1141**	.0750	-.1534**	.0249
Coast (post)	.2161*	.1102	.1814**	.0357
<i>Diagnosis</i>				
Schizophrenia (pre)	.7799**	.0472	.5858**	.0182
Schizophrenia (post)	.2315**	.0722	.3631**	.0265
Mood disorders (pre)	.3247**	.0470	.4148**	.0153
Mood disorders (post)	-.3468**	.0674	.0301	.0217
<i>F</i>	56.90**		226.86**	
<i>dF</i>	33, 11378		33, 71732	
<i>R</i> <sup>2</sup>	13.75		9.20	

*Note.* Demographic covariates were controlled in the models. Their results are not presented due to irrelevance.

\* $p \leq .05$ ; \*\* $p \leq .01$ .

users with mood disorders received significantly less treatment in the post- than in the pre-realignment period ( $p \leq .01$ ).

At outpatient services, users received significantly more treatment during pre-realignment years ( $p \leq .01$ ) and significantly less treatment during post-realignment years ( $p \leq .01$  or  $p \leq .05$ ) than during 1988. Compared with the Central Region, the amount of treatment received by users was significantly higher in all other regions in the post- than in the pre-realignment period ( $p \leq .01$ ). Users with schizophrenia used significantly more treatment

at all times than those with a different diagnosis ( $p \leq .01$ ), but users with mood disorders no longer received significantly more treatment in the post-realignment period compared with the pre-realignment period.

### Analysis of Cost

Table 3 summarizes the regression results for treatment cost. For 24-hour care, treatment cost was significantly higher in 1990 than in 1988 ( $p \leq .05$ ), but was not significantly different between 1988 and other years. Compared with the Central Region, treatment cost was significantly higher in the Northern Region ( $p \leq .01$ ), but no longer significantly higher in the Southern and Coast regions after realignment. Users with schizophrenia

**TABLE 3**  
**Temporal, Regional, and Diagnostic Effects on Treatment Cost**

Variable	Inpatient Cost		Outpatient Cost		Total Cost	
	Coeff.	SE	Coeff.	SE	Coeff.	SE
<i>Time Trend (Fiscal Year</i>						
<i>1988 as reference)</i>						
Fiscal Year 1989	-.0390	.0402	.3303**	.0191	.1991**	.0211
Fiscal Year 1990	.1031*	.0416	.3706**	.0199	.2397**	.0221
Fiscal Year 1992	-.2676	.2311	-.0359	.0979	-.0486	.1268
Fiscal Year 1993	-.0672	.2306	.1307	.0979	.1759	.1268
Fiscal Year 1994	-.1620	.2311	-3.9111**	.0986	-2.8962**	.1293
<i>Region (Central Region</i>						
<i>as reference)</i>						
Northern (pre)	-.0827	.0654	-.1401**	.0281	-.1151**	.0307
Northern (post)	.3467**	.0958	.0974*	.0419	.2470**	.0510
Southern (pre)	.7078**	.0607	.0108	.0254	-.0125	.0270
Southern (post)	.1416	.0874	.2188**	.0369	.4459**	.0441
Coast (pre)	.6538**	.0651	.1714**	.0266	.1877**	.0290
Coast (post)	.2413	.0940	-.0134	.0397	.2153**	.0480
<i>Diagnosis</i>						
Schizophrenia (pre)	.5903**	.0416	.2896**	.0243	.5692**	.0275
Schizophrenia (post)	.1120	.0619	.5267**	.0324	.3625**	.0433
Mood (pre)	.2175**	.0409	.3928**	.0171	.4285**	.0193
Mood (post)	-.2493**	.0585	.0883**	.0240	-.0308	.0304
<i>F</i>	58.21**		1899.33**		577.75**	
<i>dF</i>	33, 11378		33, 71732		33, 75917	
<i>R</i> <sup>2</sup>	13.61		50.12		27.66	

*Note.* Demographic covariates were controlled in the models. Their results are not presented due to irrelevance.

\* $p \leq .05$ ; \*\* $p \leq .01$ .

no longer cost significantly more than those with another diagnosis, while users with mood disorders cost significantly less in the post- than in the pre-realignment period ( $p \leq .01$ ).

At outpatient services, treatment cost was significantly higher in 1989 and 1990, but dramatically dropped in 1994 from 1988's level ( $p \leq .01$ ). Compared with the Central Region, treatment cost was significantly higher in the Northern and Southern regions ( $p \leq .05$  and  $p \leq .01$ , respectively) in the post- than in the pre-realignment period, but was no longer significantly higher in the Coast Region in the post-realignment period. Users with schizophrenia or mood disorders incurred significantly higher treatment costs than users with a different diagnosis before and after realignment ( $p \leq .01$ ).

For all types of services, the total cost of treatment was significantly higher in 1989 and 1990, but significantly lower in 1994 than in 1988 ( $p \leq .01$ ). Compared with the Central Region, the total cost was significantly higher in the Coast Region at all times ( $p \leq .01$ ) and significantly higher in the Northern and Southern regions in the post- than in the pre-realignment period ( $p \leq .01$ ). Users with schizophrenia incurred significantly higher costs at all times than those with a different diagnosis ( $p \leq .01$ ), but users with mood disorders no longer incurred significantly higher costs in the post-realignment period.

## DISCUSSION

Results of this study shed light on temporal, regional, and diagnostic effects on the cost and utilization of community-based mental health services under realignment. More important, they demonstrate that program realignment has effectively contained a rapid expansion of mental health expenditure and reduced the unconstrained use of mental health services.

### Reduction of Mental Health Utilization

Overall, individuals' utilization levels significantly declined over the realignment period. At 24-hour care, the amount of treatment received by users was steady in pre-realignment years, but fell significantly in 1992 by 77% and in 1994 by 64% from the pre-realignment level in 1988. At outpatient services, the amount of treatment continued increasing in 1989 and 1990, but dramatically turned downward starting in 1992. Clearly, users began to receive significantly less treatment after realignment. These findings suggest that the local mental health authorities have made efforts under realignment to reduce users' utilization levels in order to contain the cost.

Changes in utilization level differed significantly across geographic regions. For 24-hour care, users in the Coast and Northern regions continued to receive significantly more treatment after realignment, but users in the Southern Region no longer received significantly more treatment after realignment, compared with those in the Central Region. Probably, the Southern Region, a vast urban area, made great efforts to reduce the amount of inpatient treatment after realignment. On the other hand, at outpatient services, users in the Coast, Northern, and Southern regions received significantly more treatment than those in the Central Region in the post-realignment period. In view of a general trend of utilization reduction over time, this finding implies that the amount of outpatient treatment received by users in the Central Region was reduced significantly after realignment. The Central Region, an agricultural and rural area, might have made more aggressive efforts than other regions to contain the use of outpatient services.

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*Program realignment has contained a rapid expansion of mental health costs and reduced the unconstrained use of mental health services.*

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The impact of psychiatric diagnosis on utilization level also was significant over the realignment period. Users with schizophrenia continued to get significantly more treatment than users with a different diagnosis in the post-realignment period. However, users with mood disorders received significantly less inpatient treatment and no longer received more outpatient treatment than other users after realignment, which indicated that these users actually received less treatment in the post- than in the pre-realignment period. These findings suggest that although the severity level of users increased in the post-realignment period, as shown by the increased rate of mood disorders, this did not have a significant impact on the level of utilization.

#### **Reduction of Mental Health Cost**

Implementation of realignment has significantly contained the cost of mental health services, primarily at outpatient services and at the total level. The outpatient and total costs increased in 1989 and 1990, but dropped drastically in 1994 from the pre-realignment level in 1988. Comparing 1988 and 1994, we find that for every \$100 spent, there was a \$3.90 decrease in outpatient cost and a \$2.90 decrease in total cost. We should note that the observed cost reduction in 1994 may be partially due to effects of the rehabilitation option, which was implemented in California in 1994 and which further lowered the cost of public mental health services.

However, the current findings unambiguously indicate that the cost of mental health services stopped increasing and tended to decline after realignment.

Realignment's impacts on cost were different across geographic regions. Compared with the Central Region, inpatient cost was no longer significantly higher in the Southern and Coast regions, although it rose dramatically in the Northern Region after realignment. Perhaps the Southern and Coast regions, as major industrialized areas, have made aggressive efforts after realignment to reduce inpatient cost to the Central Region's level. On the other hand, compared with the Central Region, outpatient cost was significantly higher in the Northern and Southern regions, but no longer higher in the Coast Region after realignment. Since utilization reduction might be steeper in the Central Region in the post-realignment period, the finding suggests that the Central Region has made great efforts after realignment to significantly reduce its outpatient and total costs. In short, while the Southern and Coast regions have saved money by reducing inpatient cost, the Central Region has saved the most due to its reduced outpatient expenditure.

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*The impact of realignment on costs was different across geographic regions.*

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Psychiatric diagnosis had a significant impact on the cost of mental health services, particularly for 24-hour care. After realignment, users with schizophrenia no longer incurred significantly higher inpatient costs, and users with mood disorders actually incurred significantly less inpatient costs than other users. Obviously, inpatient cost was reduced under realignment for users with schizophrenia and mood disorders. Meanwhile, outpatient costs for users with schizophrenia and mood disorders remained the same after realignment. This suggests that although the number of users diagnosed with mood disorders increased significantly in the post-realignment period, this change did not result in higher treatment costs, in part because inpatient treatment of mood disorders was significantly less costly after realignment.

## **CONCLUSION**

As realignment was found to have significantly reduced the expenditures of California's public mental health services by cutting state hospital use, this study provides additional evidence to support the claim that realignment also has significantly curtailed expenditures of community-

based mental health services, most of which were outpatient services. Empirical findings of this study demonstrate that decentralization of the mental health system worked effectively by means of its own mechanism. Importantly, the shift of fiscal and administrative responsibility for provision of mental health services has given the local mental health authorities the incentive to seek more efficient methods for delivering care since they have assumed the financial risks. We should note that for the first 3 years of realignment, the sales tax fell, which resulted in less money to support outpatient mental health services throughout California. The tightened budget could further motivate the local mental health authorities to act aggressively in order to contain mental health expenditures.

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***Realignment reduced costs by cutting state hospital use, and it also cut costs of community-based mental health services.***

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Evidence also indicates that utilization and cost of *inpatient* services were cut more aggressively in the industrialized and urban Southern Region, while utilization and cost of *outpatient* services were reduced more steeply in the agricultural and rural Central Region. These findings may have resulted from the urban area having more access to and greater reliance on hospital beds, whereas the rural area is largely served by widely distributed outpatient clinics.

Realignment also increased services to the severely mentally ill and enhanced the users' diagnosed levels of severity, as indicated by the increased rate of mood disorders. Findings of this study suggest that this achievement did not incur a higher level of service utilization and cost. Instead, it contributed to cost reduction because treating mood disorders was less expensive after realignment due to the reduced cost of 24-hour care services.

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