Access to Substance Abuse Treatment Services Under the Oregon Health Plan

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Context The shift to Medicaid managed care has raised numerous concerns about access to publicly funded substance abuse treatment. The implementation of a capitated chemical dependency benefit within the Oregon Health Plan in 1995 provided an opportunity to study the impact of funding mechanisms on access.

Objectives To determine to what extent access to publicly funded substance abuse treatment changed following the shift to managed care in Oregon and to examine factors associated with that change.

Design Analysis of statewide treatment and Medicaid eligibility data.

Setting and Patients All Medicaid-eligible persons aged 12 to 64 years who were enrolled in the Oregon Health Plan during 1994 (88320), 1996 (170387), 1997 (160929), or 1998 (149877).

Main Outcome Measures Access rates (the number of unique individuals admitted to treatment during a calendar year divided by the average number of enrolled members) computed before (1994) and after (1997) implementation of the capitated benefit. Analyses were replicated with data for 1996 and 1998.

Results The percentage of Medicaid-eligible persons admitted to substance abuse treatment programs during a calendar year increased from 5.5% of the average number of enrolled members per month in 1994 to 7.7% in 1997, following the shift to managed care. For 1996 and 1998, the rates were 6.9% and 7.7%, respectively. Access rates varied considerably among the 7 largest prepaid health plans after adjusting for case mix. Operating characteristics of these prepaid health plans, such as the method of reimbursing treatment providers, were significant predictors of access after controlling for member characteristics.

Conclusion According to our analyses, Medicaid-eligible persons in Oregon observed an increase in access to substance abuse treatment after a shift to managed care.

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The implementation of managed care has raised numerous concerns about access to health services.[1] The American Society for Addiction Medicine has suggested that chemical dependency treatment programs have experienced a greater impact from managed care than other sectors of the health care industry. For example, an American Society for Addiction Medicine working group reported a 75% reduction in the value of addiction insurance coverage from 1988 to 1998 for mid-size to large-size companies.[2,3] The Substance Abuse and Mental Health Services Administration found that chemical dependency and mental health services declined from 9% of the national health care expenditures in 1986 to 8.1% in 1996.[4-7] A key question concerns the impact of these trends on access to publicly funded chemical dependency treatment.

Although these developments are under way in the larger health care sector, states have been converting their Medicaid programs from fee-for-service to managed care.[8] Most Medicaid recipients are now enrolled in managed care systems.[8] At least 48 states have federal waivers allowing them to replace fee-for-service Medicaid with managed care.[6,9] Chang et al[10] suggested that, at least in some states, these changes have decreased access to chemical dependency treatment services for Medicaid recipients. However, few quantitative data are available.

Although comparison between fee-for-service and managed care Medicaid is of great theoretical interest, a return to unmanaged Medicaid seems unlikely.[3] A more practical question concerns the difference in access among various types of managed care systems, such as the contrast between "integrated" health care systems (which provide both medical-surgical and behavioral health care) and "carve out" programs (in which behavioral health services are delivered by agencies distinct from the systems that provide medical-surgical care).[11] Tightly integrated systems may facilitate the referral of patients with substance abuse disorders from primary care to treatment programs, but integrated systems might direct funds intended for substance abuse treatment into medical-surgical services. Other dimensions of interest include the mechanism used to reim-

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burse treatment providers, preauthorization of treatment services, and for-profit vs not-for-profit systems. What is needed to address these issues is a setting in which several approaches to managed care are being implemented. Conveniently, Oregon has been conducting just such a natural experiment.

THE OREGON HEALTH PLAN

In the early 1990s, the Oregon legislature initiated a demonstration project to expand Medicaid coverage while controlling the rising public cost of health care through a series of bills that became known as the Oregon Health Plan.[12-17] Although national attention focused on the controversial rationing of health care through a prioritized list of covered services,[18] the initiative incorporated other important innovations, such as expanded eligibility and integration of chemical dependency services. The Health Care Financing Administration granted Oregon a 5-year Medicaid waiver that enabled the state to expand coverage to all adults and their dependents whose income fell below the federal poverty limit.[19] This section 1115 waiver took effect in February 1994, more than doubling the Medicaid-eligible population. To manage the delivery of covered medical services, Medicaid recipients were required to enroll in one of the prepaid health plans with a contract to serve the county in which they reside. By the third quarter of 1995, more than 80% of the Medicaid-eligible population had enrolled in a prepaid health plan.

In May 1995 the state added a capitated chemical dependency benefit to improve the integration of substance abuse treatment with physical health care. This benefit covered outpatient treatment services, including regular outpatient, intensive outpatient, and methadone maintenance. This new program placed responsibility for chemical dependency treatment services for Medicaid recipients with 20 prepaid health plans, markedly altering the organization and financing of these services. Under the preexisting fee-for-service system, the traditional public sector agencies that delivered services were either freestanding, not-for-profit agencies or components of county governments. The state reimbursed treatment providers via several funding streams, including Medicaid fee-for-service and "slot rate" payment programs for low-income participants.[20] Little or no connection existed between the public sector substance abuse treatment system and the mental health treatment system or the larger medical-surgical health care sector.

Officials from Oregon's Office of Alcohol and Drug Abuse Programs and other stakeholders were concerned that the rate of participation in substance abuse treatment might be low under managed care if health plan officials believed that promoting such services was not in their best interest. Therefore, the state increased capitation payments to encourage primary care practitioners to screen their patients for substance abuse disorders.

PREPAID HEALTH PLANS

Not-for-profit managed care organizations operated 5 of the 7 largest health plans that covered Oregon Health Plan participants during the study period (TABLE 1). Most of these plans subcontracted with traditional community providers for substance abuse treatment services, but 2 integrated plans operated their own programs. However, the state required even these plans to refer at least half of their substance abuse patients to traditional community treatment providers. The prepaid health plans reimburse treatment providers using 1 of 3 approaches: (1) *modified fee-for-service,* whereby the plan pays a cer-

Table 1. Operating Characteristics of Largest Prepaid Health Plans for Substance Abuse Treatment Services During 1996-1998

Characteristic	Plan A	Plan B	Plan C	Plan D	Plan E	Plan F	Plan G
Status	Not-for-profit	Profit	Not-for-profit	Profit	Not-for-profit	Not-for-profit	Not-for-profit
Provision of substance abuse services	Carved out	Carved out	Carved out	Carved out	Carved out	Integrated	Integrated
Provider payment mechanisms	Modified fee-for-service	Modified fee-for-service	Modified fee-for-service	Subcap*†	Subcap*†	Case rate*‡	Case rate*
Risk pools§	No	5%	0%-10%‖	6%	6%‡	No	No
Required prior authorization	Yes	Yes	No¶	No	No	Yes	No
Required reauthorization	Yes	Yes	No	No	No	Yes¶	No
Enrollment#							
1994	7277	6204	31 297	0	3580	2988	8266
1996	14 180	15 025	67 136	3698	6744	11 527	10 979
1997	14 446	18 659	50 466	9668	7253	12 765	11 048
1998	14 871	16 911	41 757	9914	6997	12 601	11 135

*Methadone maintenance reimbursed by fee-for-service.
†Subcap indicates subcapitation.
‡In some counties.
§Risk pool refers to an amount withheld from monthly payments to cover higher than projected services or an incentive pool.
‖Risk pool varied by year.
¶Only for providers with a history of exceptionally high costs.
#Average of enrollment (ages 12-64 years) on first of each month.

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tain percentage of the state rate for each billable service provided to the participant; (2) *subcapitation,* whereby the plan pays a fixed fee each month based on the number of enrolled members in that service area; or (3) *case rate,* whereby the plan pays a fixed fee for each new treatment admission, regardless of the level of care provided. Typically, the plans reimburse methadone maintenance services under fee for service regardless of the method used for other outpatient services.

During the study period, the health plans increasingly relied on intermediate organizations to administer the chemical dependency benefit. Health plan representatives stated that contracting with such agencies was more efficient because the plans lacked personnel with expertise in managing substance abuse treatment. In contrast, an intermediate organization could manage treatment services for several health plans.

This study examined access to substance abuse treatment services following the implementation of a capitated chemical dependency benefit under the Oregon Health Plan and identified plan characteristics that contributed to differences in access among plans.

METHODS

We calculated access rates by dividing the number of substance abuse treatment users by the number in the population eligible for those services.

Substance Abuse Treatment Users

For this study, we defined a treatment user as a person aged 12 to 64 years entering publicly funded substance abuse treatment who was enrolled in the Oregon Health Plan within 30 days of the admission date. The counts included only unique individuals admitted to treatment at least once in a calendar year and excluded Medicare beneficiaries who were also eligible for Medicaid.

The Client Process Monitoring System managed by Oregon's Office of Alcohol and Drug Abuse Programs identified treatment users. Each record in this database represents an episode of care with an admission date, discharge date, and the modality of service. Merging this file with the statewide Medicaid eligibility and enrollment files from Oregon's Office of Medical Assistance Programs verified each member's eligibility category and enrollment status within the first 30 days of each treatment episode. Quality control processes removed duplicate records and services other than treatment. Counting only the first admission for each calendar year identified unique individuals. Residential admissions (including detoxification) were counted in addition to outpatient and methadone admissions since alternative funding was available for persons meeting placement criteria for residential services. Approximately 75% of persons admitted to treatment in a calendar year have at least 1 outpatient or methadone admission.

A comparison of Client Process Monitoring System data with treatment provider records as part of 2 parallel projects[16,21,22] suggested that reporting to the system is generally complete and accurate but also revealed that Medicaid identifiers were missing for some recipients, resulting in an underestimate of access.

Enrolled Members

We averaged the number of Medicaid recipients aged 12 to 64 years enrolled in a prepaid health plan on the first day of each month during a calendar year. This count excluded Medicare recipients, persons eligible under programs exempt from the Oregon Health Plan, and persons living in areas lacking a prepaid plan. Because the 7 largest health plans enrolled more than three quarters of all Oregon Health Plan members, the analysis collapsed smaller health plans into a single category.

For this study, the analysis lumped Medicaid eligibility programs into 5 categories, which remained relatively stable over time and, where possible, have counterparts in other states: disabled (Supplemental Security Income recipients), welfare (Aid for Families With Dependent Children or Temporary Aid for Needy Families recipients), other poverty programs, expansion (single individuals and childless couples newly eligible under the section 1115 waiver), and all other programs.

Case-Mix Adjustment

We adjusted each plan's access rates for differences on 4 demographic variables: age group (12-17, 18-30, and 31-64 years), sex (male, female, unknown), ethnicity (white, minority, unknown), and eligibility category.

Data Analysis

We used logistic regression to examine the relative contribution of member characteristics and health plan operating characteristics in predicting access rates. We dummy coded plan characteristics using the results of structured interviews with officials from each of the 7 largest health plans.

RESULTS

Access Rate by Year

Access rates for 1994 serve as a baseline, reflecting the expanded population of Medicaid recipients but not the capitation of chemical dependency services. Access rates for 1996 through 1998 reflect the added impact of the implementation and maturation of the chemical dependency benefit.

Statewide, the access rate increased substantially between 1994 and 1997 (FIGURE 1) for Oregon Health Plan recipients aged 12 to 64 years. In 1994, when Medicaid reimbursed substance abuse treatment providers under fee-for-service, the rate was 5.5%. Following capitation, the access rate increased to 7.7% by 1997. For 1996 and 1998, the rates were 6.9% and 7.7%, respectively.

Access differed by subgroup in 1997 and exhibited differential change by subgroup between 1994 and 1997 under the Oregon Health Plan. Males in 1997 were more likely to participate in substance abuse treatment than females and experienced a greater increase in access between 1994 and 1997. Whites were slightly less likely to participate than minorities in 1997. Adolescents (aged 12 to 17 years) were

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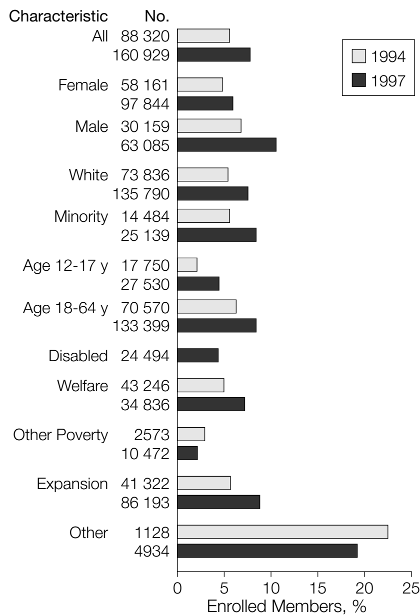
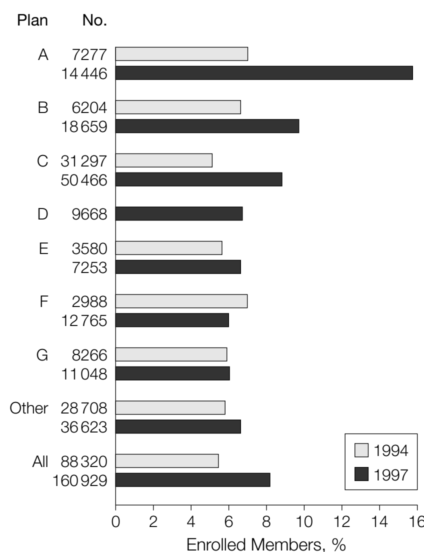
Figure 1. Access to Publicly Funded Substance Abuse Treatment



Access to publicly funded substance abuse treatment among Medicaid recipients aged 12 to 64 years enrolled in the Oregon Health Plan as a percentage of the average number of enrolled members before (88 320 in 1994) and after (160 929 in 1997) implementation of a capitated chemical dependency benefit. Disabled members were enrolled in phase 2, so there were no data for this category in 1994.

Figure 2. Access to Substance Abuse Treatment



Access to substance abuse treatment in 2 calendar years by prepaid health plan adjusted for differences in the case mix of each plan. See Table 1 for average monthly enrollments by prepaid plan.

about a third as likely to be admitted to treatment as adults older than 30 years in 1997. Disabled persons were the least likely to be admitted to treatment during 1997. This category was exempt from enrollment during 1994. Members in the welfare and expansion categories, which together compose most of the statewide enrollment, experienced much higher access rates. The eligibility category labeled "other" incorporates several programs that serve persons who are very likely to participate in substance abuse treatment, but this category only represents a small proportion (3%) of the state enrollment within this age range.

Access Rates by Health Plan

The access rates for 3 of the 7 largest prepaid health plans increased dramatically between 1994 and 1997 (FIGURE 2). Plan F and plan G, operated by integrated managed care organizations, had the lowest rates in 1997, representing a decrease or no change from 1994. Plan D was not operating in 1994. The access rates in 1997 varied widely across plans, even after adjusting for differences in case mix (TABLE 2). The plan with the greatest penetration of substance abuse treatment services admitted more than twice the percentage of its enrolled members as the plan with the least service use. In 1997 the lowest rate among the 7 plans was about 6% of enrolled members and the highest rate was nearly 16%. The rates for each plan varied somewhat in 1996 and 1998, but the ranking among plans remained fairly constant.

The health plan with the highest overall access rate in 1997 (plan A) has a reputation for more extensive outreach among potential treatment users. An interview with an official from this plan revealed that the managed care organization has no commercial plan and perceives its mission as serving low-income families. Its medical clinics routinely screen for substance abuse, and the plan maintains strong ties with social service providers in the metropolitan area it serves. Plan B, which had the second highest participation rate, has some business ties with plan A. Both plans contract with the same intermediate organization to manage the chemical dependency benefit for their Medicaid members. These 2 plans also had the highest percentage of admissions to residential substance abuse treatment, a service that is covered by state funds other than Medicaid.

Access Rates by Plan Characteristics

The results of a logistic regression analysis show that, as we expected, member characteristics—except the stability of plan enrollment (ie, whether the member was enrolled in the same plan after 12 months)—significantly predicted access (TABLE 3). Adults were more than twice as likely to access substance abuse atment as adolescents. Welfare recipients were more than twice as likely to access treatment as disabled persons. Males were more likely to access than females, whites more likely than minorities, urban or town dwellers more likely than rural residents, and expansion members more likely than disabled persons.

More importantly, 3 of 4 health plan operating characteristics were also significant predictors. Members enrolled in plans that reimbursed substance abuse treatment providers using a modified fee-for-service approach were 55% more likely to access substance abuse treatment than those in integrated plans that used case rates. Members enrolled in plans that reimbursed providers through subcapitation were 35% more likely to access treatment than those in plans that used case rates. Members enrolled in for-profit plans were somewhat more likely to access treatment than those in not-for-profit plans. Prior authorization was not a significant predictor. Similar results were observed for the 1996 and 1998 cohorts.

COMMENT

Contrary to expectations, access to substance abuse treatment substantially increased for Medicaid recipients when Oregon integrated a capitated chemical dependency benefit with the pri-

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Table 2. Member Characteristics for Leading Prepaid Health Plans by Percentage of Enrolled Members Aged 12 to 64 Years on July 1, 1997

Member Characteristics	Plan A (n = 14 383)	Plan B (n = 18 730)	Plan C (n = 50 109)	Plan D (n = 10 375)	Plan E (n = 7786)	Plan F (n = 12 785)	Plan G (n = 11 102)	Other Plans (n = 35 922)	State Total (N = 161 192)
Age group, y									
12-17	15.7	17.7	17.7	18.7	17.4	13.6	20.0	17.7	17.4
18-30	27.1	27.2	33.6	30.7	32.4	34.0	33.6	31.9	31.7
31-64	57.1	55.1	48.7	50.6	50.1	52.5	46.5	50.5	50.9
Sex									
Female	55.3	58.1	62.0	60.1	60.2	61.7	62.6	61.1	60.6
Male	44.7	41.9	38.0	39.9	39.8	38.3	37.4	38.9	39.4
Ethnicity									
White	67.0	83.0	83.8	86.7	90.6	84.6	75.1	92.1	84.1
Minority	32.7	16.7	15.9	13.1	9.2	15.2	24.6	7.7	15.7
Eligibility									
Disabled	13.9	17.2	12.6	10.2	7.9	13.4	7.9	12.3	12.4
Welfare	18.9	16.2	22.8	15.7	27.1	14.9	27.1	22.3	20.6
Family poverty	6.6	8.9	8.6	9.6	7.4	8.6	7.4	7.9	8.3
Expansion	58.0	56.0	54.4	63.6	56.3	61.0	56.3	56.2	57.1
Other	2.7	1.8	1.5	0.9	1.3	2.2	1.3	1.3	1.6

mary care benefit under the Oregon Health Plan. In 1994, before prepaid health plans were responsible for substance abuse treatment, 5.5% of those enrolled for the primary care benefit accessed treatment services, consistent with access observed in previous years. After integration, approximately 40% more enrollees accessed treatment each year. Analyses controlling for member characteristics suggest that the high access rates observed were not simply due to the expansion of the population eligible for Medicaid and do appear to be associated with implementation of an innovative, carefully designed managed care system.

Although these data show that access to substance abuse treatment improved for Oregon Medicaid recipients following the implementation of managed care, one might hypothesize that access to such services in Oregon might have been low compared with that in other states. National treatment data from the Treatment Episode Data Set[23] and eligibility data from the Health Care Financing Administration[24] appear to show that access to treatment services had been somewhat greater in Oregon. Thus, managed care did not simply elevate utilization from a low preexisting baseline. Rather, the access rate increased above levels that already were considerable, at least when compared with national data.

Table 3. Odds of Accessing Treatment During 1997 Among Enrolled Members on January 1, 1997

Predictor	Wald Statistic	Odds Ratio (95% Confidence Interval)
Member characteristic		
Adult (vs adolescent)	286.67*	2.33 (2.11-2.57)
Male (vs female)	370.17*	1.72 (1.63-1.82)
White (vs minority)	21.07*	1.18 (1.10-1.27)
Enrolled in same plan after 12 months	1.59	1.05 (0.98-1.12)
Population density		
Urban (vs rural)	82.42*	1.55 (1.41-1.71)
Town (vs rural)	22.23*	1.27 (1.15-1.40)
Eligibility category		
Welfare (vs disabled)	330.85*	2.39 (2.18-2.63)
Expansion (vs disabled)	133.44*	1.66 (1.52-1.81)
Plan characteristic		
For profit (vs not for profit)	15.75*	1.18 (1.09-1.28)
Provider payment mechanism		
Modified fee for service (vs case rate)	85.30*	1.51 (1.39-1.65)
Subcapitation (vs case rate)	19.20*	1.35 (1.18-1.55)
Preauthorization required (vs not required)	0.01	1.00 (0.94-1.07)

*$P<.001$.

One might also hypothesize that other concurrent events might explain these results. For example, the economy of Oregon was strong during this period, so perhaps individuals with less need for treatment tended to find employment and lose eligibility, thus changing the risk profile of the remaining enrollees. However, the empirical evidence does not support this argument. On the other hand, Oregon did initiate welfare reforms[25] as early as 1992, before the integrated benefit. Under a federal waiver, substance abuse treatment could be treated as a work activity. Although this initiative may account for some of the change observed with welfare recipients, it does not account for the change observed with other eligibility groups.

Thus, unlike the experiences of managed care members in other states, Oregon Medicaid recipients experienced an increase rather than a decrease in access to substance abuse treatment ser-

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vices when capitation replaced fee-for-service financing. A rather dramatic rise in admissions to publicly funded substance abuse treatment occurred. Even though health plans were at financial risk for providing substance abuse treatment (as well as medical-surgical care), no evidence indicated that the plans limited their Medicaid recipients' access to substance abuse treatment. This estimate is still conservative, because the definition of access excludes persons continuing in treatment from a prior year. In addition, missing Medicaid identifiers for some recipients who entered treatment resulted in an undercount of treatment users.

A substantial gap still exists, however, between access and the level of need for substance abuse treatment. Feyerherm and Skokan[26] conducted a household survey in 1994 to estimate need for treatment in the expanded Medicaid population. They estimated that 16.5% of the respondents likely to be found eligible for Medicaid under the expanded requirements met diagnostic criteria for substance abuse or dependence.[27] The findings of this study suggest that less than half of those with a substance abuse disorder enrolled in the Oregon Health Plan access publicly funded substance abuse treatment during a single year.

Although the statewide access rate is relatively high, substantial differences exist among prepaid health plans and types of Medicaid recipients. The exact mechanisms responsible for these high access rates or the differences among plans are not entirely clear. The high level of integration of primary care and substance abuse services expected under the Oregon Health Plan has not been achieved overall, although some evidence suggests that such integration may have been partially responsible for the high participation rates achieved by at least 1 plan.

Contrary to expectations, the most tightly integrated health care system had the lowest access rate. Indeed, access to substance abuse treatment by this health plan's Medicaid recipients actually decreased slightly when capitation replaced the preexisting fee-for-service financing system. The plan was, however, required to direct at least half of its treatment referrals to traditional community treatment facilities. Conversely, other health plans experienced dramatic increases in the substance abuse treatment access rates of their Medicaid recipients following implementation of the capitated managed care system. Especially striking was the performance of a public sector health plan formed solely to deal with the Medicaid managed care system instituted under the Oregon Health Plan. This health plan apparently retained, and perhaps strengthened, the preexisting linkages among public sector primary care and substance abuse treatment providers. The plan also encouraged its clinicians to engage in outreach to Medicaid recipients with substance abuse disorders. The 3 plans with the highest access rates all reimbursed providers using a modified fee-for-service system. Even after adjusting for the influence of member characteristics, this provider payment method was still a significant predictor of access to treatment.

The data from the rural health plans are also interesting. The intermediate agency that managed substance abuse treatment services for these plans emphasized outreach to Medicaid recipients with substance abuse disorders. The close physical proximity of treatment services to social service programs in rural areas may have been an important factor in the access rates of these plans.

The results of this study should be interpreted in light of certain limitations. Other factors not represented in the data sets available for this study could have influenced treatment access,[28,29] although no plausible alternative explanations surfaced in discussions with state officials, plan representatives, or treatment providers. The study relied on reporting from substance abuse treatment providers to the state database. This reporting could have been inaccurate, although several validation strategies suggested that the state data were reasonably accurate and that reporting was reasonably consistent across health plans. This study focused only on access to services (ie, admissions to treatment) and did not examine treatment outcomes, other measures of service utilization (eg, intensity or length of stay), or satisfaction.

In summary, Oregon Medicaid recipients experienced increased access to substance abuse treatment services following replacement of a fee-for-service financing system with capitated financing. Substantial differences among health plans suggest that appropriate organizational and financial arrangements can facilitate Medicaid recipients' access to substance abuse programs. We are conducting further research to study the outcomes of treatment in this pluralistic system.

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The diagnosis of disease is often easy, often difficult, and often impossible.
—Peter Mere Latham (1789-1875)

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