Administration and Policy in Mental Health
Vol. 27, No. 4, March 2000

PRIVATE AND PUBLIC OWNERSHIP IN OUTPATIENT SUBSTANCE ABUSE TREATMENT: DO WE HAVE A TWO-TIERED SYSTEM?

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ABSTRACT: As investor-owned organizations increase their presence in the mental health care sector, questions emerge regarding the effects of ownership type on service delivery. One important question is whether ownership is related to patient access to care for persons requiring treatment for substance abuse problems. Using data from a 1995 national survey of outpatient substance abuse treatment units, the authors investigate whether there are differences in measures of patient access to care among investor-owned, not-for-profit, and public provider organizations. Results indicate investor-owned units cater to and serve a clientele that differs from that of not-for-profit and public units, suggesting the presence of a two-tiered system of substance abuse treatment.

The debate about whether ownership structure influences health care delivery has heated up with investigations into alleged improper behavior by some investor-owned firms (Eichenwald, 1997). One aspect of this debate is the extent to which health care markets are segmented by ownership. Specifically, do investor-owned, private not-for-profit, and public health care provider organizations offer different kinds of services, intentionally or unintentionally, to distinctly different kinds of patients?

The significance of this question emerges as shifting ownership trends

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This research was supported by grants 5R01-DA03272 and 5R01-DA087231 from The National Institute on Drug Abuse. Preliminary and partial results were presented at the 1997 American Public Health Association annual meeting as part of a panel session on outpatient substance abuse treatment units.

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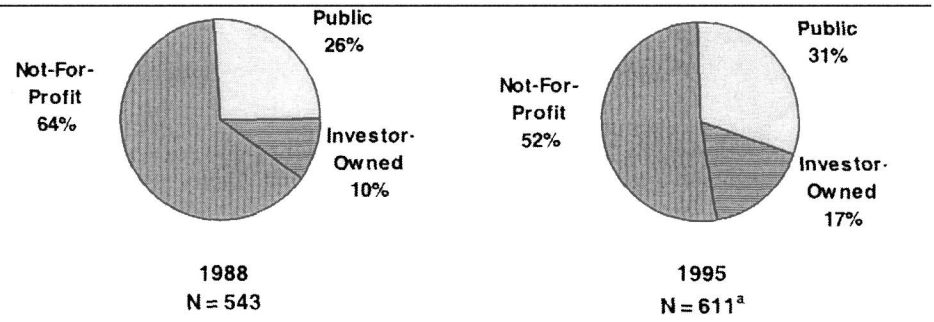
continue to restructure the health care industry. In the area of outpatient substance abuse treatment (OSAT), shifts in the ownership status of providers parallel, in part, patterns noted in other segments of the health care sector (Gerstein & Harwood, 1990). The National Drug Abuse Treatment System Survey indicates the OSAT market is characterized by a predominance of not-for-profit providers, a growing number of investor-owned providers, and a significant number of public providers (Figure 1). Between 1988 and 1995, the percentage of not-for-profit treatment units decreased from 64% to 52% nationally, while the percentage of investor-owned treatment units increased from 10% to 17%. Perhaps reflective of the fact that substance abuse is still considered to be within the public health domain (The White House, 1997), the percentage of public units increased from 26% to 31% during this same period.

When comparing organizations by ownership, key performance measures, such as cost efficiency and treatment efficacy, often become the focus of study as limited resources shift toward investor-owned organizations. Equally important is predicting changes in access that may follow a shift in the ownership of health care providers. If, for example, investor-owned units serve different clients than not-for-profit units, then shifts in ownership have important consequences for the delivery of substance abuse services. Indeed, the mere existence of such differences presents a *prima facie* case for the existence of a two-tiered system of substance abuse care. In this article we examine whether there are differences among substance abuse providers in the access they afford to care and in the types

FIGURE 1
Ownership Distributions of Outpatient Substance Abuse Treatment Units from the1988 and 1995 National Drug Abuse Treatment System Survey



[a]In 1995, 611 of the 618 surveyed units reported an ownership category

of patients to whom they provide services. The results serve as the basis for a discussion of the implications of continuing shifts in ownership away from the not-for-profit sector and toward the investor-owned and public sectors.

THE CREATION OF DISTINCT CLIENT GROUPS

In their study of local hospital markets, Dranove, White, and Wu (1993) found that different types of hospitals provide services to patients with different types of health insurance coverage. Publicly-insured patients tend to receive care in hospitals with lower costs and fewer services, characteristics suggestive of lower quality (Dranove et al., 1993). This separation of a market into distinct sub-markets is referred to as market segmentation. Dranove et al. suggest the following process might generate a situation whereby providers come to serve distinct client groups. First, the sellers (providers) in a market establish policies that are consistent with their mission and objectives yet bound by the constraints they face. Then, buyers (clients and their agents, including physicians and payers) make decisions on where to seek care. The result of the interaction of provider policies and patient decisions is distinct groupings of patients with providers of particular characteristics.

We suggest that outpatient substance abuse clients are separated into distinct client groups by a version of the process described above. Specifically, we argue that there are differences among investor-owned, not-for-profit, and public OSAT units in terms of mission and objectives, and in the constraints under which these organizations operate. Hence, they will likely set different business policies. Potential patients will likely react to these policies, depending on their financial resources and their needs for care. The result could be the creation of distinct client groups based on ownership structure. To the extent this description is valid, we would expect to see systematic differences among the business policies and patient characteristics of investor-owned, not-for-profit, and public OSAT units. This paper presents four categories of measures to illuminate differential business policies and patient characteristics: access, pricing and profits, revenue sources, and client substance abuse problems.

One set of policies with clear implications for market segmentation concerns the extent to which treatment centers might facilitate or impede access to services depending on the financial resources of the client (Edmunds et al., 1997). That is, how accommodating are units to clients unable to pay in full for services? Our first hypothesis is that because of their respective missions, public and not-for-profit OSAT units are more likely

to provide services to people who have difficulty paying for care and they are more willing to subsidize the cost of such care than are investor-owned units.

Where clients enter the system depends on the price of treatment.

Substance abuse treatment providers' decisions on price structure are closely related to access (Gerstein & Harwood, 1990). Since a disproportionate number of individuals with substance abuse problems are uninsured (Edmunds et al., 1997), price may serve as a critical decision criterion when evaluating where to enter the substance abuse treatment system. The Institute of Medicine explained that since the private tier expanded dramatically with the growth of insurance coverage for substance abuse, it is reasonable to conclude that the decision of potential substance abuse treatment clients to enter treatment is quite sensitive to the price of treatment (Gerstein & Harwood, 1990). Hence, the pricing policies of provider organizations may create separate markets. Our hypothesis is that investor-owned centers will set higher prices than not-for-profit and public units, in response to pressure from investor-owners for high profit margins.

Among firms producing health care services, the single most important characteristic of the client base, from the perspective of financial viability, is its payer mix. Provider organizations monitor the payer mix of their client populations because different payers typically compensate for services provided to their members at different prices and on different terms. Furthermore, funding source differences may reflect systematic separation of clients, based on their social and economic resources (Wheeler, Fadel, & D'Aunno, 1992). Our hypothesis is that private units, while receiving considerable public revenue, are more likely to target private sources for clients and revenues since their reimbursement rates for similar services are often more generous and predictable than those of public sources.

Finally, substance abuse units might segment their markets by specializing in services for clients with particular substance abuse problems. For example, an OSAT unit could specialize in the treatment of alcoholism versus other addictions. Alternatively, units may be segmented by the complexity of addiction as represented by the extent of clients who abuse multiple substances. Because treating heroin and crack addictions is more expensive and difficult than treating addictions involving other drugs (Hubbard et al., 1989), one might expect adverse selection of persons with these problems into public treatment units. Furthermore, clients with more complicated substance abuse problems often exhaust their private

insurance, leaving the public system to serve as their primary safety net for care (Edmunds et al., 1997). Our last hypothesis is that public units are more inclined to serve clients with complex substance abuse problems.

METHODS

Sample

This study employed data from a 1995 national survey of outpatient substance abuse treatment units conducted by the University of Michigan's Institute for Social Research (ISR). Substance abuse treatment encompasses care for both alcohol and drug abuse. To qualify for the study, however, at least 50% of the treatment provided by these organizations must have been for drug abuse problems and most drug-related services must have been provided on an outpatient basis. This qualification ensures a certain degree of homogeneity across organizational functionality.

A systematic random sample of OSAT units was selected for participation from the 1994–95 National Frame of Substance Abuse Treatment Programs (NFSATP), a national database of inpatient and outpatient substance abuse treatment programs compiled by ISR in 1994. The NFSATP database, serving as a sampling frame, consisted of 32,927 treatment units, making it the most complete listing available of the nation's substance abuse treatment units (Heeringa, 1996). The following five sources provided the basis for the final merged and unduplicated list: 1992 National Facilities Register; 1992 National Drug and Alcoholism Treatment Unit Survey; 1994 American Hospital Association Survey; 1994 Food and Drug Administration list of licensed methadone providers; and a complete national database of businesses with a Standard Industrial Classification Code for Drug and Alcohol Treatment Services.

The sample was stratified by public, private not-for-profit, and investor-owned status, treatment modality (methadone or non-methadone) and organizational affiliation (hospital, mental health center, other). OSAT units operated by the Veteran's Administration and by jails or prisons were excluded from the study. After screening and non-response, the total number of organizations completing interviews in 1995 was 618, for a combined response rate of 88% (Heeringa, 1996).

Survey Method

The administrative director and clinical supervisor of each participating OSAT unit were asked to complete phone surveys. Directors provided information concerning the unit's ownership, environment, finances, parent organizations, and managed care arrangements. Clinical supervisors provided information about staff, clients, and services.

Several steps were followed to produce reliable and valid phone survey data, including site visits, two pre-tests of the instruments, elaborate interviewer training, extensive checks for consistency within and among instrument sections, and when necessary, re-contacts with respondents (Groves et al., 1988).

Variables

The first measurement category describes the extent to which OSAT units promote equitable access to service, as captured by the following variables: percentage of clients treated during the most recent fiscal year who had no public or private insurance and were unable to pay for treatment; percentage of clients who were paying a reduced treatment fee; percentage of clients who were turned away from treatment because they were unable to pay. These variables illustrate the willingness of the unit to assist that segment of the client population with financial barriers to care.

The second category focuses on two financial aspects of market segmentation: pricing and profitability. Through its pricing strategy, a unit may make its services either more or less appealing to a targeted population. According to a survey by Onken and Blaine (1990), 99% of all substance treatment units employ some form of counseling or therapy. Therefore, two variables, price per individual therapy and price per group therapy, represent services provided by a majority of units. (It should be noted that only units that reported a non-zero price per therapy were included. In some cases, units provided an all-encompassing price per episode of care and were unable to estimate a price per therapy hour. Duration of respective therapy sessions were statistically consistent among units.) The final variable in this category, profit margin, demonstrates the business efficiency of the unit operations. Profit margin variable was calculated using the unit's self-reported net revenues divided by total revenues for the 1995 fiscal year. Profit margin not only indicates the ability of the unit to attract clients with richer reimbursement, but also the ability of the unit to operate in a cost efficient manner.

The third category of variables specifies the percentage of total annual revenues received from either a public or a private revenue source. The first measure is the percentage of revenues received from federal, state, or local governmental payers. Government revenues include payments made by Medicare and Medicaid, contractual arrangements, block grants, and special funding. The remaining three measures account for revenues received from private sources: private insurance sources; payments directly made by the client (out-of-pocket and not including payments made by the insurance in behalf of the client); and private donations, including gifts from individuals, foundations, corporations, and charitable organizations.

The final set of variables depicts the array of substance abuse problems present in this client population. These variables identify the percentage of the unit's clients served during the 1995 fiscal year who abused: alcohol, heroin, cocaine, crack, and multiple drugs. These measures provide insight when assessing whether segmentation occurs by either substance of abuse or by the complexity of the addiction.

Analysis Method

Analysis of variance tests were conducted on those performance measures having approximately normal distributions, with ownership as the stratification variable. If there were significant differences among the means of all three ownership categories, Bonferroni analysis was then used to complete the multiple comparisons between the respective ownership categories. The price, profit margin and revenue source variables were analyzed using this technique.

Those performance measures with non-normal distributions were analyzed using a non-parametric approach. For the comparison among the three ownership strata, a Kruskal-Wallis mean rank comparison was employed. If there were significant differences among the ownership strata, a Mann-Whitney test was then used to compare the respective ownership categories. The variables measuring access and client substance abuse problems were analyzed using this non-parametric technique.

RESULTS

Access Measures

Table 1 presents the descriptive statistics and comparative analyses by ownership classification for the variables within the four measurement categories. Overall, approximately one-quarter of all substance abuse clients were unable to pay for their treatment, and over 40% were under some type of reduced fee system. For-profit units provided services to a significantly lower percent of clients who were unable to pay (5%) than either not-for-profit units (24%) or public units (31%). Furthermore, significantly fewer clients in investor-owned units were likely to have their fees reduced (22%), compared to not-for-profit and public units (both approximately 47%).

With respect to the availability of services, the directors of each unit reported that very few clients overall (1%) were actually turned away once they entered the system to seek care. Virtually no client was turned away in the public sector and only 1% of clients at not-for-profit units were turned away. On average, investor-owned units turned away slightly more clients (4%). Patients in need of substance abuse treatment often have lim-

TABLE 1
Descriptive Statistics and Comparative Analyses by Ownership for Outpatient Substance Abuse Units

			Ownership Category						
		Total	*Investor-Owned*	*a*	*Not-For-Profit*	*b*	*Public*	*c*	*d*
Access Measures									
% of clients unable to pay	mean	22.99%	4.82%	***	23.80%	**	30.99%	***	***
	SD	29.58	9.27		29.66		32.32		
	n	544	89		282		173		
% of clients paying a reduced fee	mean	43.48%	22.39%	***	47.61%		47.58%	***	***
	SD	39.54	28.19		39.59		41.13		
	n	544	89		282		173		
% of clients turned away	mean	1.23%	4.37%	***	1.00%	***	0.08%	***	***
	SD	4.84	8.73		4.23		0.70		
	n	544	86		284		174		
Pricing and Profits									
Price per individual therapy session only for non-zero prices	mean	$50.56	$54.87		$49.81		$49.59	*	*
		31.49	25.32		28.24		38.51		
	n	479	78		247		154		
Price per group therapy session only for non-zero prices	mean	$35.29	$43.69	*	$34.31		$32.49	*	***
		29.2	29.3		30.0		27.2		
	n	456	75		238		143		
Profit margin	mean	6.65%	15.23%	*	7.31%	*	1.44%	*	***
	SD	0.24	0.24		0.25		0.21		
	n	528	82		276		170		
Revenue Sources									
Government Revenues		64.66%	14.32%	*	67.15%	*	85.33%	*	***
	SD	0.37	0.26		0.33		0.19		
	n	471	75		244		152		

Private Insurance Revenues	mean	12.30%	30.03%	*	13.03%	*	2.34%	*	***
	SD	0.24	0.33		0.24		0.06		
	n	463	75		238		150		
Out-of-Pocket Revenues	mean	17.69%	53.72%	*	13.04%	*	7.17%	*	***
	SD	0.27	0.40		0.18		0.11		
	n	462	75		238		150		
Private Donation Revenues	mean	2.04%	0.28%	*	3.45%	*	0.67%		***
	SD	0.08	0.01		0.11		0.03		
	n	469	75		242		152		
Client Substance Abuse Problems									
% of clients: alcohol abuse	mean	68.96%	72.56%		70.65%	***	64.28%	***	***
	SD	26.07	28.36		25.23		25.67		
	n	586	96		306		184		
% of clients: heroin abuse	mean	16.20%	20.05%		16.49%	*	13.71%	*	*
	SD	28.16	36.15		28.43		22.22		
	n	588	96		308		184		
% of clients: cocaine abuse	mean	20.65%	22.83%		21.17%		18.65%		
	SD	19.60	22.58		19.82		17.37		
	n	589	96		309		184		
% of clients: crack abuse	mean	23.36%	16.96%	*	23.24%		26.93%	**	**
	SD	25.81	21.28		25.13		28.49		
	n	575	92		307		176		
% of clients: multiple drug abuse	mean	68.33%	55.12%	***	69.33%		73.79%	***	***
	SD	29.65	35.94		28.26		26.05		
	n	578	96		305		177		

Note. Data from the 1995 National Drug Abuse Treatment System Survey.
[a]Test between means for investor-owned and not-for-profit units. [b]Test between means for not-for-profit and public units. [c]Test between means for investor-owned and public units. [d]Test among means for investor-owned, not-for-profit and public units.
*$p < .05$. **$p < .01$. ***$p < .001$.

ited financial means (Edmunds et al., 1997). These results indicate that investor-owned units may develop business strategies, however, that are less likely to accommodate clients with severe financial constraints.

Pricing and Profits

Adjusted for geographical price level variation, investor-owned units charged a higher price per session, by about 10%, than both not-for-profit and public firms, a pattern repeated in other health care sectors (Clement, Smith, & Wheeler, 1994; Gerstein & Harwood, 1990). The price differences between the investor-owned units and public units were found to be significant for individual therapy and group therapy sessions. In part, these higher prices may have factored into the profitability reported among investor-owned units. While the overall self-reported profit margin averaged 7%, investor-owned firms enjoyed significantly better results, with profits averaging 15%, compared to not-for-profit units (7%) and public units (1%).

Revenue Sources

When reviewed across all OSAT units, approximately 65% of revenues originated from a government source; state appropriations provided a majority of those government revenues. Overall, private sector revenues contributed only 32% toward total unit funding; out-of-pocket and private insurance sources served as the principal contributors from the private sector. Contributions by parent organizations comprised the remaining 3% of unit revenues.

There were notable significant differences in the revenue streams among the ownership categories. At one extreme, investor-owned units received a majority of their funds from the private sector: 80% of total revenues were paid either out-of-pocket or by a private insurance source. Federal, state, and local public funding were responsible for another 14% of investor-owned unit funding. As expected, public units displayed a reverse pattern, as revenues received from a government source made up approximately 85% of their revenues, with only 10% of funds originating from a private source. As anticipated, not-for-profit units fell somewhere between these extremes with their revenue source distributions more reflective of the overall averages.

Client Substance Abuse Problems

Although a majority of clients at these treatment units had problems with alcohol (69%), there were differences between the private and public units. Both investor-owned and not-for-profit units had statistically higher percentages of alcohol-abusing clients when compared to public units. Supervisors interviewed at public units noted that on average, 64% of their

clients abused alcohol. At the private units, supervisors reported a somewhat greater portion of clients had alcohol abuse addictions: 73% at investor-owned units and 71% at not-for-profit units.

Throughout the 1995 fiscal year, 20% of clients at investor-owned and 16% of clients at not-for-profit units were treated for heroin abuse. These averages were significantly higher than the reported 13% of the clients treated for heroin abuse at public units. On average, 20% of all clients abused cocaine, with no significant differences among the unit ownership types. The percent of clients who abuse crack cocaine was significantly lower at investor-owned units than at both not-for-profit and public units. Multiple substance addiction was significantly higher at both public units (74%) and not-for-profit units (69%) than at investor-owned units (55%).

DISCUSSION

Our study indicates that investor-owned, not-for-profit, and public outpatient substance abuse treatment organizations provide services to significantly different populations of patients. One market segment consists of privately insured patients and patients able to pay for care out-of-pocket. This segment mainly receives care at investor-owned provider organizations. Another market segment is almost completely supported by government financing, and receives care at public OSAT units. Not-for-profit units provide care to a clientele with some private funding and a majority of public funding.

There is evidence that this creation of differentiated client groups arises from the policies established by the provider organizations. Investor-owned units turn away only 4% of potential clients because of inability to pay, and their patient populations consist of only 5% of clients unable to pay. These providers appear to have established policies that discourage low income people from seeking care. These policies likely include prices set for services (investor-owned units charge higher rates), willingness to offer care at reduced prices (investor-owned are less likely to do so), location of treatment units, and other dimensions of accessibility.

The differences in access at investor-owned units in 1995 parallel those found in a 1988 study (Wheeler et al., 1992). The fact that accessibility differences persist while the market share for the investor-owned sector is increasing (Gerstein & Harwood, 1990) suggests that if current shifts to investor-owned status continue, the pressure on public OSAT units to provide full access will increase.

While the existence of a two- or three-tiered system of outpatient substance abuse care is clearly demonstrated by our results, the implications are less clear. In particular, we provide no information on the relative

quality of care provided across ownership types. This is an important question for future research.

One clear result of the demonstrated market segmentation is the high level of profitability earned by investor-owned units, both absolutely and in comparison to not-for-profit units. An average profit margin of 15% is very high; by contrast, in 1995, both hospitals and health maintenance organizations, on average, earned 4% operating margins (HCIA, Inc. & Deloitte & Touche, 1997; Silver & Cerner, Ltd., 1996). With such high rates of return, the considerable growth in investor-ownership of substance abuse treatment units is easy to understand. What is less clear is why the not-for-profit sector is declining. By the standards of other types of health care providers, a 7% margin for not-for-profit OSAT units is quite strong.

Some providers appear to have established policies that discourage low income people from seeking care.

A 1988 study of outpatient units found profit margins considerably lower than those reported in 1995 (Wheeler et al., 1992). The 1988 study reported investor-owned units earned margins of about 8%, and not-for-profit units earned margins of about 2%. The higher profits in 1995 may reflect a shift in the provision of care from inpatient settings to outpatient settings and a consequent increase in resources devoted to outpatient substance abuse treatment. More resources permit higher revenues, and more patients raise the possibility of economies in service provision. The growth of the investor-owned sector is consistent with these changes.

On balance, our results suggest that investor-owned units differ more from not-for-profit units than do not-for-profit units from public units. Hence, the shrinking of the not-for-profit OSAT sector is more likely to result in problems of accessibility for low-income persons. Indeed, this decline is likely to put increasing pressure on the public sector.

Currently, the public sector enjoys a stable level of support. The federal government remains steadfast in its commitment of resources to curtail drug abuse and its consequences. According to the White House (1997), a primary goal for fiscal year 1998 is to reduce health costs and social consequences of illegal drug use. Specifically, this goal is designed to result in the commitment of additional funding to support and promote effective, efficient, and accessible drug treatment. This ambitious goal is coupled with a stated drive to develop a system that is responsive to emerging trends in drug abuse. Also, further efforts are planned to develop and implement effective rehabilitation programs for abusers at all stages within

the criminal justice system, as part of a push to reduce drug-related crime and violence.

These initiatives aimed at restructuring treatment programs and aggressively attracting more individuals into treatment are likely to place stress on all OSAT providers. However, public units, which are the most financially fragile, will be severely challenged to meet their missions. Furthermore, despite the federal government's broad mission, the continued decentralization of programs to the state level will make treatment for some clients in the public system less predictable, focused and reliable (Edmunds et al., 1997). As the investor-owned market share expands, the vulnerability of the public units will be exacerbated by the segmentation of the market for outpatient substance abuse treatment.

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