

# Ownership and Performance of Outpatient Substance Abuse Treatment Centers

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## Introduction

Substance abuse is a major health hazard in the United States, accounting for over \$2.4 billion in treatment and prevention expenditures in 1989.<sup>1</sup> The National Drug Control Strategy appropriated approximately \$925 million for treatment interventions in fiscal year 1990, representing a significant increase in public commitment to reduce drug demand.<sup>2</sup> But despite this high level of investment, little is known about the outpatient substance abuse treatment (OSAT) organizations that provide most of the treatment. Specifically, there is a lack of up-to-date information regarding the nature of care provided in OSAT units, the revenue sources and financial performance of the programs, or even their accessibility to persons in need of services. This paper examines these issues using a nationally representative sample of OSAT organizations.

A brief overview is useful for understanding the substance abuse treatment system. This paper focuses on outpatient providers who currently treat the vast majority (more than 85%) of clients in the substance abuse treatment system.<sup>3</sup> Two treatment modalities predominate: outpatient methadone maintenance and outpatient drug-free therapy. In the first, treatment begins with the use of a synthetic narcotic (methadone) being substituted for the abuse of opioid drugs, enabling the client to taper off gradually and eventually eliminate drug use. In the second, a combination of individual and group counseling, psychotherapy, and supervision is used to eliminate drug use. The provision of both modalities has grown rapidly since the 1960s owing to government and pri-

vate funding, but drug-free therapy is currently the prevalent treatment mode.

Much of the substance abuse treatment research has focused on clients and particularly on what happens to individuals who undergo treatment. Outpatient substance abuse treatment is less well understood, however, on an organizational level. Although most programs use similar treatment methods (i.e., individual, group, and family therapy) to produce OSAT care, other organizational differences between providers can be expected to result in different modes of operation and performance.<sup>4</sup> The question is, what are some of these organizational characteristics and how do they relate to observed performance in OSAT units?

One potentially important characteristic is the ownership status of the treatment unit—i.e., whether it is owned and operated on a private for-profit (FP), private not-for-profit (NFP), or public basis. The salience of ownership status derives from how that status is connected with the organization's objectives, such as profit maximization, access to care, prestige, patient outcomes, etc. At one theoretical extreme, FP firms operate to maximize the wealth of the owners. At the other extreme, public firms seek to promote social welfare. In between these two extremes, NFP firms seek to achieve both social and private objectives within a private context.<sup>5</sup>

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## ABSTRACT

**Background.** Little is known about the organization and performance of outpatient substance abuse treatment (OSAT) centers. We examine several performance measures of OSAT units, including clients treated, services provided, revenue sources, financial performance, and access to care, in relation to ownership of the center.

**Methods.** Data were drawn from a national random sample of 575 OSAT centers (85.8% response rate) participating in a telephone survey conducted in 1988. Analysis of variance by ownership was conducted on each performance measure, with differences subjected to tests of statistical significance.

**Results.** Descriptive results show that major funding sources differ by ownership. Private for-profit centers generate higher profits, charge higher prices, and achieve higher levels of financial performance than public and not-for-profit centers. Public centers provide better access to care for persons who are unable to pay.

**Conclusions.** There appear to be substantial and interrelated differences by ownership type in the financing and operation of OSAT units. (*Am J Public Health*. 1992; 82:711-718)

Economic theory predicts that FP firms will behave differently from NFP or public firms because of the presence of clearly defined owners. These owners and their managers are rewarded for operating efficiently; i.e., excess profits are distributed. Incentives for efficiency tend to be weaker in NFP and public firms because of a lack of clear ownership and the non-distribution of profits.<sup>6</sup> In practice, however, organizational performance may or may not differ, depending not only on organizational objectives but also on incentives provided by funding sources, differences in services provided, characteristics of clients treated, influences of program staff, and other market characteristics.<sup>7</sup>

Many research studies have examined the association between ownership and organizational performance in health care. Several hospital studies have suggested important and substantive differences in the behavior of NFP and FP firms. Findings include the production of costlier and higher priced care in FP hospitals,<sup>8</sup> higher prices and profits in FP hospitals,<sup>9</sup> better access in NFP hospitals,<sup>8,10</sup> and more charity care in NFP hospitals.<sup>8,11</sup> Other studies conclude that NFP hospitals are less efficient than FP hospitals, after adjustment for tax subsidies.<sup>12</sup> Finally, there are still others that report no important differences between the two ownership types.<sup>13</sup> Similarly mixed results have been reported for other types of health care organizations.

In the substance abuse field, the public sector has traditionally assumed major responsibility for the operation of treatment programs. The role of the private sector has been increasing, however—especially that of FP firms. To a great extent, the growth in private sector ownership of OSAT organizations is simply a part of the general trend in health care toward increased private delivery of services.<sup>14,15</sup> It also reflects specific public policies in the 1980s to increase private sector participation in the war on drugs, such as the 1984 national strategy for drug abuse policy.<sup>16</sup> As in other health sectors, however, the relationship between increasing privatization and the effectiveness and efficiency of substance abuse treatment is not well understood. Further study is needed to assess the benefits and potential costs of private sector ownership in this field.

This paper describes OSAT clients and service characteristics, funding for OSAT programs, the programs' financial performance, and the accessibility of their services. Differences in organizational

performance that are related to ownership status are highlighted and discussed.

## *Methods and Measures*

### *Sample*

The data for this paper were collected from a national study of OSAT organizations that was supported by the National Institute on Drug Abuse. The study was conducted in the fall of 1988 by the Institute for Social Research at the University of Michigan. A random sample of 670 OSAT units was selected from a total population of 6851 such units in the United States in 1988. The sample was stratified according to treatment modality (methadone or drug free), treatment setting (mental health center, hospital-based program, freestanding facility) and ownership status (private FP, private NFP, and public). Five hundred and seventy-five units participated in the survey, yielding a response rate of 85.8%. The response rate for private units (both FP and NFP) was 88.0%; for public units, 81.7%. Each unit's administrative director and clinical supervisor were asked to complete telephone surveys. Directors provided information about their unit's financial status and services, and clinical supervisors provided information about personnel, client characteristics, and substance abuse problems. All information was collected for the unit's most recent complete fiscal year.

### *Measures*

Organizational performance was represented by four sets of multiple measures (see Appendix).

### *Analysis Method*

Analysis of variance tests were conducted on each performance measure, using ownership status as the stratification variable. Differences in performance across ownership types were then subjected to statistical significance tests.

## *Results*

### *Clients and Services*

Measures that describe and differentiate the units in terms of client and service characteristics are displayed in Table 1. More than 69% of the units are devoted exclusively to drug-free treatment, leaving 31% that provide any amount of methadone therapy. By ownership strata, 74% of NFP, 65% of FP, and 63% of public units are drug-free treatment centers.

Classification of clients in treatment according to their specific substance abuse problem is difficult largely because of prevailing patterns of multiple substance use. Nevertheless, clients can be generally categorized as to whether they are primarily alcohol or drug abusers. The primary problem for more than 40% of clients at treatment units is alcohol abuse whereas 51% are primarily drug abusers. (The remaining 9% are clients who could not be assigned to either primary category.) These patterns do not differ significantly by ownership.

Abuse of specific types of substances, singly or in multiple combinations, is common, even for those clients whose primary problem is alcohol addiction. Treatment units overall reported that, on average, 23% of their clients have problems with heroin abuse whereas 27% abuse cocaine. For-profit units tend to have the highest percentage of clients with heroin problems (34%), followed by public units (25%) and NFP units (20%). A similar pattern also holds for cocaine abuse: the percentage of cocaine abusers is highest in FP units (30%), followed by public units (27%) and NFP units (26%). Public units report the highest percentage of multiple drug abusers (55%) whereas FP units report the lowest (44%); these differences are statistically significant. These measures indicate that the major substance abuse problems presented at OSAT units may be similar in nature. The measures are too broad, however, to make conclusions regarding client case-mix severity or service intensity among different units.

Treatment units vary significantly in terms of the mix of therapy types, length of therapy sessions, and group size. On the whole, individual therapy accounts for 78% of all treatment sessions and 72% of all treatment hours provided. Public units produce the highest proportion of individual therapy sessions and hours, followed by private NFP and FP units. The average lengths of therapy sessions show inconsistent patterns that may reflect underlying differences in product mix among the units. Individual therapy sessions are longest in NFP and public units; however, group therapy sessions are longest in FP units. This may reflect the larger treatment group sizes seen at FP units. It may also indicate other characteristic differences, such as type of group therapy provided. In addition, patients in FP units attend group therapy more times per week than patients at other types of units.

TABLE 1—Measures of Services Offered by Treatment Units for All Centers and by Unit Ownership

Service Measure		Total	Private For-Profit (FP)	(1)	Private Not-For-Profit (NFP)	(2)	Public	(3)	(4)
% of units that are drug free	mean	69.19%	64.86%		73.70%	***	62.50%		**
	SD	0.46	0.48		0.44		0.49		
	n	529	37		308		184		
% of clients, primary prob: alcohol	mean	40.71%	41.08%		40.16%		41.54%		
	SD	30.53	32.20		30.30		30.71		
	n	513	37		297		179		
% of clients, primary prob: drugs	mean	51.01%	54.81%		50.05%		51.81%		
	SD	34.70	37.18		34.49		34.67		
	n	515	37		298		180		
% of clients: heroin abuse	mean	22.78%	34.17%	**	20.13%		24.82%		**
	SD	34.94	42.91		32.51		36.60		
	n	508	36		293		179		
% of clients: cocaine abuse	mean	26.87%	29.51%		26.41%		27.09%		
	SD	22.11	25.29		21.36		22.71		
	n	510	37		293		180		
% of clients: multiple drug use	mean	52.61%	43.81%		52.09%		55.28%		**
	SD	32.20	33.80		31.11		33.68		
	n	502	37		288		177		
IT as % of total sessions provided	mean	77.98%	73.24%		77.45%		80.06%	*	
	SD	0.20	0.27		0.19		0.19		
	n	506	39		301		166		
IT as % of total hours provided	mean	72.41%	67.94%		71.21%	**	75.64%	*	*
	SD	0.22	0.29		0.22		0.21		
	n	509	38		305		166		
No. of minutes per IT session	mean	53.89	49.46	***	54.76		53.25	*	**
	SD	11.70	15.47		11.41		11.08		
	n	518	37		312		169		
No. of minutes per GT session	mean	97.60	105.83		98.68		94.17	*	
	SD	30.87	42.91		31.27		27.12		
	n	491	30		296		165		
No. of minutes per FT session	mean	74.47	75.69		74.80		73.59		
	SD	33.57	42.29		30.72		36.79		
	n	435	29		264		142		
No. of clients per GT session	mean	9.84	10.67		9.61		10.12		
	SD	4.52	3.70		4.72		4.27		
	n	490	30		295		165		
No. of clients per FT session	mean	2.98	2.93		3.03		2.91		
	SD	1.18	1.57		1.26		0.93		
	n	418	27		254		137		
No. of GT sessions per client per week	mean	1.59	2.03		1.68	**	1.33	**	**
	SD	1.67	2.87		1.67		1.25		
	n	521	38		311		172		

Notes. SD = standard deviation, n = number. IT = individual therapy, GT = group therapy, and FT = family therapy.

(1) Significance level for test of differences between means of private FP and private NFP units.

(2) Significance level for test of differences between means of private NFP and public units.

(3) Significance level for test of differences between means of private FP and public units.

(4) Significance level for test of differences between means of private FP, private NFP, and public units.

\*significant at .1.

\*\*significant at .05.

\*\*\*significant at .01.

### Revenue Sources

Approximately two-thirds of OSAT revenue comes from public sources (see Table 2). The bulk of this money comes directly from state government sources, with the remainder coming largely from city and county government. Only a small percentage was reported as direct revenue from the federal government. Approximately one-third of total revenue comes from private sources, principally as client out-of-pocket payments and payments from private insurance companies.

Sources of financing differ significantly by ownership category. Private FP units receive 84% of their revenue from private sources. Most of this money (47%) comes from patient out-of-pocket payments, with private insurance being the second largest source (37%). Only 11% of FP units' revenue comes from government sources. In sharp contrast, public treatment units receive 80% of their revenue from public sources and only 19% from private sources. In NFP units, the mix of revenue sources is similar to that

for the study sample as a whole, with approximately two-thirds of revenue coming from public sources and one-third coming from private sources.

The way treatment is funded relates to two important issues. First, financing source differences may reflect systematic differences in the types of clients seen by the treatment units, in terms of clients' social and economic resources. Second, each funding source may provide revenue in several ways. The basis upon which units receive revenue—e.g., fee for ser-

TABLE 2—Percent of Revenue by Source for All Centers and by Unit Ownership

Revenue Source		Total	Private For-Profit (FP)	(1)	Private Not-For-Profit (NFP)	(2)	Public	(3)	(4)
Government	mean	66.13%	10.76%	**	65.11%	**	80.12%	**	**
	SD	0.34	0.21		0.33		0.22		
	n	501	35		305		161		
Federal	mean	4.10%	1.59%		4.03%		4.77%		
	SD	0.14	0.06		0.14		0.16		
	n	503	35		306		162		
State	mean	44.07%	5.36%	**	42.12%	**	55.91%	**	**
	SD	0.36	0.16		0.37		0.32		
	n	506	35		306		165		
Local	mean	18.03%	3.81%	*	19.03%		19.18%	*	*
	SD	0.27	0.12		0.29		0.26		
	n	506	35		306		165		
Private	mean	31.57%	84.38%	**	32.30%	**	18.98%	**	**
	SD	0.31	0.25		0.30		0.21		
	n	474	32		291		151		
Insurance	mean	12.74%	37.32%	**	14.24%	**	4.74%	**	**
	SD	0.24	0.35		0.26		0.11		
	n	494	33		303		158		
Out-of-pocket	mean	17.81%	47.30%	**	16.49%		13.88%	**	**
	SD	0.22	0.36		0.19		0.17		
	n	489	34		300		155		
Donations	mean	1.72%	1.38%		2.40%	**	0.55%		**
	SD	0.05	0.07		0.06		0.02		
	n	496	34		299		163		

Notes. SD = standard deviation, n = number.

(1) Significance level for test of differences between means of private FP and private NFP units.

(2) Significance level for test of differences between means of private NFP and public units.

(3) Significance level for test of differences between means of private FP and public units.

(4) Significance level for test of differences between means of private FP, private NFP, and public units.

\*significant at .01.

\*\*significant at .001.

vice, capitation, lump-sum grant, etc.—may provide diverse incentives for the organization of treatment.

### Financial Performance

Table 4 presents the financial performance of OSAT operations. For the whole sample, total expenses per therapy hour and per therapy session are \$62 and \$81, respectively. Expenses for salary and wages are \$47 per therapy hour and \$58 per therapy session. On average, salary and wages comprise approximately three-quarters of total OSAT expenses—a high percentage being devoted to service provision as opposed to overhead and other expenses.

These financial measures differ significantly by ownership type. Public units have higher costs per therapy hour than either FP or NFP units. For-profit units have lower costs per session than both NFP and public units. In the absence of client outcome data, inferences regarding “efficiency” differences among units cannot be made, nor can inferences regarding cost per client, as services and clients may vary across units.

Average OSAT revenue per therapy hour and per therapy session for the whole sample are \$66 and \$80, respectively. Analysis by ownership types indicates that FP units receive lower amounts of revenue per unit of output than public and NFP units. On the other hand, FPs typically charge much higher prices for individual, group, and family therapy sessions than either NFP or public units. Because therapy sessions often differ in length, a standardized measure was created to compare prices based on a 60-minute therapy hour. The results (not shown) confirm the finding that FP units charge significantly higher prices than NFP and public programs.

It is not uncommon in health care organizations for prices charged to differ from revenues received. A firm's charges are usually higher than the revenues it receives per unit of service because of discounts granted to third-party payers, uncompensated care, etc. There is, however, an apparent contradiction in the fact that the prices charged by the FP units are relatively higher while the revenues per service received are lower, whereas the relation is reversed for public units,

which charge lower prices but receive higher revenues per service. A principal explanation has to do with the way in which units receive revenue. For example, FP units receive most of their revenue from client fees, whereas the public units receive substantial revenue in the form of block grant subsidies. This suggests that pricing behavior may be related to incentives embedded in the way a unit receives its revenue. That is, revenues that are not received from clients or based on organizational performance, such as block grants, allow organizations to charge lower prices to clients.

Profit margin, indicating the business efficiency of unit operations, is the final measure of financial performance (see Table 3). For the sample as a whole, treatment units earn an average profit margin of 2%. However, profit margins differ widely across ownership types. For-profit organizations earn a return of 8% of revenues whereas public units break even. Not-for-profit organizations earn profits of 2% of revenues. Comparison of FP performance with that of other units shows significant differences, whereas compari-

TABLE 3—Measures of Treatment Unit Financial Performance for all Centers and by Unit Ownership

Efficiency Measure		Total	Private	(1)	Private	(2)	Public	(3)	(4)
			For-Profit (FP)		Not-For-Profit (NFP)				
Total expense per therapy hour	mean	\$ 61.80	\$58.28		\$ 57.12	***	\$ 71.08		**
	SD	52.42	67.75		47.47		56.84		
	n	451	28		274		149		
Total expense per therapy session	mean	\$ 80.69	\$66.44		\$ 80.31		\$ 84.20		
	SD	73.74	74.12		76.30		68.93		
	n	464	31		278		155		
Salary and wages expense per therapy hour	mean	\$ 46.74	\$35.90		\$ 44.25	*	\$ 53.43		*
	SD	51.02	35.18		48.95		56.56		
	n	453	29		275		149		
Salary and wages expense per therapy session	mean	\$ 58.30	\$40.91		\$ 57.06		\$ 64.10		*
	SD	61.64	39.71		55.96		73.41		
	n	463	32		276		155		
Total revenue per therapy hour	mean	\$ 65.56	\$57.63		\$ 62.46	*	\$ 73.12		
	SD	62.78	52.62		61.49		66.71		
	n	473	32		289		152		
Total revenue per therapy session	mean	\$ 79.86	\$64.87		\$ 79.75		\$ 83.40		
	SD	71.21	59.00		72.12		71.97		
	n	481	35		289		157		
Price per IT session	mean	\$ 33.68	\$51.41	****	\$ 34.84	***	\$ 27.03	****	****
	SD	24.92	27.69		23.82		24.05		
	n	424	32		261		131		
Price per GT session	mean	\$ 21.50	\$42.00	****	\$ 23.18	****	\$ 14.02	****	****
	SD	21.10	30.80		20.90		14.79		
	n	412	27		254		131		
Price per FT session	mean	\$ 35.11	\$54.63	***	\$ 36.20	**	\$ 28.86	****	****
	SD	30.70	33.69		26.61		35.47		
	n	361	24		223		114		
Profit margin	mean	1.77%	7.78%	*	2.31%		-0.21%	**	**
	SD	0.16	0.25		0.16		0.13		
	n	454	27		270		157		

Notes. SD = standard deviation, n = number. IT = individual therapy, GT = group therapy, and FT = family therapy.

(1) Significance level for test of differences between means of private FP and private NFP units.

(2) Significance level for test of differences between means of private NFP and public units.

(3) Significance level for test of differences between means of private FP and public units.

(4) Significance level for test of differences between means of private FP, private NFP, and public units.

\*significant at .1.

\*\*significant at .05.

\*\*\*significant at .01.

\*\*\*\*significant at .001.

sons of profitability between NFP units and public units do not.

### Accessibility

Table 4 summarizes the extent to which OSAT units promote access to and equity of service provision. In the full sample, an average of 26% of clients were unable to pay for the care they received; the measure ranges from 8% for the FP units to 32% for the public units. The percentage of clients seen who pay a reduced fee is 47% for all units. Again, FP units treat a much smaller percentage of patients under reduced fee arrangements. Taken together, the percentage of clients who either pay nothing or pay a reduced fee for care received is 82% for public units, 74% for NFP units, and 23% for FP units.

Only 2% of all patients are turned away because they are unable to pay for

services. Public units turn away virtually no clients whereas FP units turn away 7% of potential clients.

The length of waiting lists for care, in terms of the numbers of clients in the queue and days of waiting time, is an important measure of whether the existing system is meeting patient needs. The average waiting list for all units is 16 clients and 10 days to begin treatment. Mean waiting lists are somewhat longer for public units and somewhat shorter for FP units although the differences are not significant. An additional analysis (not shown), which relates the number of potential clients on the waiting list to the size or capacity of the unit, does not indicate ownership differences.

### Discussion

The OSAT system consists of diverse provider organizations. This paper has cat-

egorized treatment units by ownership and found that significant differences characterize the units in terms of clients treated, services offered, funding sources, financial performance, and accessibility.

One of the most critical results is the significant difference in major funding sources by ownership type. This finding is especially important because of the relationship between funding sources and several organizational outcomes—that is, types of clients treated, service mix provided, financial performance, and extent of access to services. For example, even though OSAT programs may not differ significantly in terms of treatment modality or major types of substance problems treated (Table 1), differences in their major revenue sources (Table 2) suggest that the clientele may, in fact, differ between the units. Programs receiving most of their revenue from private insurance or out-of-

TABLE 4—Measures of Access Provided by Treatment Units for All Centers and by Unit Ownership

Access Measure		Total	Private For-Profit (FP)	(1)	Private Not-For-Profit (NFP)	(2)	Public	(3)	(4)
% of clients unable to pay	mean	26.13	8.03	***	25.07	**	32.21	***	***
	SD	28.52	16.94		28.04		29.60		
	n	501	38		298		165		
% of clients paying a reduced fee	mean	46.65	14.54	***	49.24		49.52	***	***
	SD	37.02	20.08		37.27		36.22		
	n	504	39		300		165		
% of clients turned away	mean	1.92	7.44	***	2.10	*	0.43	***	***
	SD	8.96	12.64		10.35		2.85		
	n	509	36		303		170		
No. of clients on waiting list	mean	15.93	7.67		14.37		20.18		
	SD	48.16	23.52		33.45		68.32		
	n	520	36		303		181		
No. of days on waiting list	mean	9.82	7.11		9.28		11.25		
	SD	18.19	22.49		16.12		20.37		
	n	519	36		301		182		

Notes. SD = standard deviation, n = number  
 (1) Significance level for test of differences between means of private FP and private NFP units.  
 (2) Significance level for test of differences between means of private NFP and public units.  
 (3) Significance level for test of differences between means of private FP and public units.  
 (4) Significance level for test of differences between means of private FP, private NFP, and public units.  
 \*significant at .05.  
 \*\*significant at .01.  
 \*\*\*significant at .001.

pocket payments are likely to be treating a more affluent clientele. Differences in clients' economic and social resources have been associated with differences in drug problem severity.<sup>17</sup> However, detailed information on client severity and outcomes are not available from the current study. Further analysis that controls for patient characteristics needs to be done.

Associated with differences in funding sources are alternative payment methods—i.e., how units receive revenue. Certain funding sources, such as some third-party payers, often impose constraints on the types or amount of services delivered or on the types of personnel used to produce services. In addition, the basis upon which revenue is received—e.g., fee for service, capitation, or lump-sum grant—varies by funding source. Incentives embedded in various payment arrangements have implications for service organization and allocation. For example, it has been found that per visit reimbursement encourages more sessions per course of treatment on average than a lump-sum reimbursement arrangement in OSAT centers.<sup>18</sup>

Additional findings from the study further indicate that ownership is an important determinant of OSAT organizational outcomes. It was reported that FP units are operated at a higher level of profit than are NFP and public units (Table 3). There are several possible explanations

for this higher profitability, the most obvious being that FP units operate under a different set of objectives than do public and NFP units. It is also possible that FP units provide services more efficiently; however, this cannot be determined without controlling for client outcomes and product mix. Finally, as mentioned above, the fact that FP units rely heavily on private revenue sources may also be a major influence on their behavior and outcomes.

Because public and NFP units accept a higher percentage of nonpaying and reduced-fee clients (Table 4), they appear to do more to facilitate access to care for persons whose means of payment are limited. Such behaviors are consistent with organizational and economic theories that state that these types of firms exist to provide public or social goods that the private FP sector may underprovide.

There appears to be substantial differences in the financing and operation of OSAT units related to ownership type. Generally speaking, these differences are more striking than those reported in the literature for other health care providers. What is not clear is why these differences exist. In that respect, this paper probably raises more questions than it answers. One obvious set of questions concerns whether the observed differences in revenue sources, finances, accessibility, and service types are directly attributable to ownership or are more closely tied to

other characteristics that happen to be associated with ownership. For example, are differences in financial performance due to the fact that FP organizations may have objectives that differ from those of public units or are they due to differences in the constraints faced by the two ownership types relating to primary revenue sources, clients served, or a combination of the above?

Another important set of questions relates to the meaning of other differences found. For instance, does the fact that FP units provide a lower percentage of individual therapy have any relationship to the overall quality of care delivered? Likewise, do the pricing differentials for services between units by ownership type reflect underlying differences in the types of therapy delivered, or do they simply reflect efficiency differences? Future research will be necessary to answer these and similar important questions. □

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## APPENDIX—Measures of Organizational Performance

## Clients and Services

- Treatment modality: percent of drug-free units<sup>a</sup>
- Primary substance abuse problem<sup>b</sup>
  - Percent of clients whose primary problem is alcohol abuse
  - Percent of clients whose primary problem is drug abuse
- Abuse of other drugs<sup>c</sup>
  - Percent of clients abusing heroin
  - Percent of clients abusing cocaine
  - Percent of clients abusing multiple drugs
- Service mix
  - Individual therapy as percent of total therapy sessions
  - Individual therapy as percent of total therapy hours
- Service characteristics
  - Minutes per individual therapy session
  - Minutes per group therapy session
  - Minutes per family therapy session
  - Clients per group therapy session
  - Number of group therapy sessions per client per week
  - Number of clients per family therapy session

## Revenue Sources

- Government
  - Federal
  - State
  - Local
- Private
  - Insurance<sup>d</sup>
  - Out-of-pocket payments
  - Donations

## Notes.

1. All revenue sources are expressed as a percentage of total revenue.
2. Federal grants programs administered by state governments were counted as state government revenue.

## Financial Performance

- Total expenses per therapy hour
- Total expenses per therapy session
- Salary and wages expenses per therapy hour
- Salary and wages expenses per therapy session
- Total revenue per therapy hour
- Total revenue per therapy session
- Price per individual therapy session
- Price per group therapy session
- Price per family therapy session
- Profit margin<sup>e</sup>

## Notes.

1. Expenses, revenues, salary, and wages are specific to OSAT care.
2. Therapy hours are total number of hours of individual, group, and family therapy.
3. Therapy sessions are total number of sessions of individual, group, and family therapy.

## Accessibility

- Percent of clients unable to pay for care received
- Percent of clients paying reduced fee for care received
- Percent of clients turned away because of inability to pay
- Number of potential clients on waiting list for treatment
- Number of days on waiting list for treatment.

<sup>a</sup>Programs providing any amount of methadone therapy were classified as methadone units.

<sup>b</sup>Refers to the *primary* substance abuse problem treated. The sum of alcohol and drug abuse is 100%.

<sup>c</sup>Refers to abuse of drugs independent of the primary substance abuse problem. May be a primary or secondary problem. The sum of the percent of clients abusing heroin minus the percent of clients abusing multiple drugs is *not* equal to the percent of clients whose primary problem is drug abuse.

<sup>d</sup>Includes commercial insurance and Blue Cross/Blue Shield plans. Medicare payments are categorized as federal revenue, and Medicaid payments are categorized as state revenue.

<sup>e</sup>Defined as net income divided by total revenue.

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## *Israeli/Palestinian International Conference on Water*

The first Israeli/Palestinian International Academic Conference on Water will be held October 20 to 23, 1992, in Jerusalem/Bethlehem at the Tantur Conference Center. The Conference program will include lectures, roundtables, and discussion groups on the water resources conflicts between Israelis, Palestinians, and others in the area and on possible solutions.

Specific topics to be discussed: history of the water conflicts of the region; present status of water resources in the region; role of international water law; technical options for increased water resources; regional projects for importing water and/or desalination; nonconventional water sources/water recycling, cloud seeding, fossil water, brackish water; efficient water use and conservation; environmental quality management of shared water resources; joint commissions for monitoring, control, and management of shared international water

resources and projects; technical assistance; international financing; and other topics.

The conference language is English, and the conference is open to scientists, engineers, and policymakers from all countries.

Low-cost hotel facilities are available at the Tantur Conference Center, which is conveniently located on the main road between Jerusalem and Bethlehem.

For further information write to either one of the Conference Cochairs and sponsoring organizations: Cochair Dr. Jad Isaac, Applied Research Institute, PO Box 860 Bethlehem, Via Israel (Fax: 972-2-741889); Cochair Professor Hillel Shulval, Truman Institute for the Advancement of Peace, The Hebrew University of Jerusalem, Jerusalem, Israel (Fax: 972-2-322545/666804).