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Dennis P. Culhane and Trevor R. Hadley

This study examines the characteristics that discriminate between ownership types among private, freestanding psychiatric inpatient facilities in the United States. Use of data from the Inventory of Mental Health Organizations (National Institute of Mental Health 1983, 1986), revealed that not-for-profits provide more services and serve more of the underinsured, while for-profits serve the better insured, concentrate primarily on inpatient services, and serve more children, adolescents, and substance abusers. A surplus bed capacity among for-profit psychiatric hospitals is presumed to contribute to lower occupancy rates and less turnover in the for-profit sector. Not-for-profit psychiatric facilities are also found to be more involved in professional training and to be more accessible through emergency services. However, the misclassification test in the discriminant procedure reveals that a significant group of not-for-profit facilities looks more like its for-profit counterpart group than like other not-for-profits. Study findings are interpreted both in terms of debates over the tax-exempt status of not-for-profit hospitals and the potential negative service effects of proprietization.

In recent years, as large investor chains have begun to dominate the for-profit sector of hospitals, attention has focused on the changing mix of facilities by ownership type, and on the implications of that changing mix for costs, quality of care, and accessibility of services. Among

correct address yes

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general hospitals, while the voluntary "not-for-profit" sector continues to be the largest ownership type, the proprietary sector is growing fastest, and government ownership is contracting the most severely (Salmon 1985).

These trends have been even more pronounced among freestanding psychiatric hospitals, where government-owned facilities have shown a relatively greater decline over the last two decades, and where proprietary ownership became the predominant form by the 1980s (Levenson 1982). By 1983, only half of all freestanding psychiatric hospitals were owned by the government, but among the private psychiatric hospitals, the majority, 52 percent, were affiliated with investor-owned systems; 19 percent were independent for-profit hospitals; and the remaining 29 percent were not-for-profits (Committee on Implications of For-Profit Enterprise in Health Care 1986; American Hospital Association 1984). More recent evidence reveals that this trend toward proprietization has continued, with a 50 percent increase in the number of freestanding for-profit inpatient facilities reporting to the National Institute of Mental Health between 1983 and 1986 (National Institute of Mental Health 1986). The freestanding for-profit psychiatric sector showed a corresponding increase in the number of beds, from 14,393 in 1983 to 21,714 in 1986.

This trend toward "proprietization" and "corporatization" in the hospital system has recently spurred investigation and debate on the merits of for-profit versus not-for-profit medical care, particularly in the general hospital sector. For-profit general hospitals have been criticized for "skimming" the better-insured patient population and for offering a more limited range of services. Not-for-profits have been criticized for failing to provide a unique service to the community deserving of their social subsidization via tax-exemptions. However, such differences and the effects by ownership type have been the subject of relatively little empirical study among psychiatric hospitals, where this trend toward proprietization and corporatization has been greatest (Levenson 1982; Lyles and Young 1987; Schlesinger and Dorwart 1984). This article will help to fill that gap by reporting on an investigation into the attributes that best distinguish between for-profit and not-for-profit freestanding psychiatric inpatient facilities.

LITERATURE REVIEW

The literature on ownership in the general hospital sector has focused on three primary areas: (1) the political and economic significance of

the growth in investor-operated hospital chains (Salmon 1985; Watt, Renn, Hahn, et al. 1986; Hoy and Gray 1986); (2) the factors that influence investor decisions in hospital acquisition (Michel, Shaked, and Daley 1985; McCue and Furst 1986); and (3) the differences in social and economic performance among ownership types as evaluated by measures of physician responsiveness, efficiency, access to care, quality of care, service mix, payer mix, care for the uninsured, and community service (Committee on Implications of For-Profit Enterprise in Health Care 1986; Herzlinger and Krasker 1987; Arrington and Haddock 1990). While the growth and the decision making of hospital investors is of central concern to this literature, it has been this last area—social and economic performance—that has provided the basis for measuring the service effects of proprietization and has initiated a debate over the tax-exempt status of not-for-profit general hospitals.

THE SERVICE DELIVERY EFFECTS OF FOR-PROFITS

First, as the for-profit general hospital sector has grown, concerns have been expressed about the effects of the for-profits on service delivery. Specifically, four negative allegations have been raised regarding the behavior of for-profit providers: they do not serve those who cannot pay; their attractiveness to paying patients increases the burden of uncompensated care on other providers; they offer only profitable services despite the range of need in the community; and they are more likely to close hospitals that do not meet economic goals (Committee on Implications of For-Profit Enterprise in Health Care 1986). The Institute of Medicine's (IOM) Committee on For-Profit Enterprise in Health Care conducted a review of the literature as well as its own studies to investigate these allegations for the general hospital sector and made several conclusions.

With regard to patients unable to pay, not-for-profit hospitals have been found to perform more favorably than for-profits both in providing services and in willingness to serve the uninsured. Using data from four states, the IOM found that not-for-profits provide two to three times as much uncompensated care as do for-profits, although both types provide less of such care than public hospitals. The IOM furthermore concluded that, given that revenues from paying patients are used to cover such care, the presence of for-profit hospitals makes it more difficult for other type hospitals to provide uncompensated care.

Regarding the mix of services, not-for-profits were also found to provide a broader range of services than do for-profits, although the

committee cautioned that evidence was not sufficient to determine whether those services were necessarily less profitable or unprofitable. However, Fitzgerald and Jacobsen (1987) cited evidence that indeed the additional services most commonly provided in not-for-profits, particularly obstetrical units, premature infant units, neonatal intensive care units, and emergency care, are often the least profitable services in a hospital.

Finally, with regard to hospital closures, the committee found that investor-owned hospitals do not have a propensity to close. In fact, due to their acquisition of financially troubled institutions, the investor-owned system may have "contributed to the nation's surplus bed capacity" (p. 110).

WHO PROFITS FROM NOT-FOR-PROFITS?

The second major issue raised in the literature on hospital ownership and performance has dealt with whether not-for-profit hospitals are "earning" their social subsidization. Because of their tax-exempt status, not-for-profit hospitals are more competitive with for-profit hospitals than they might be without such a subsidy. This has led some, including municipalities, to question whether not-for-profit general hospitals provide a unique service to the community deserving of this subsidy (Bell 1990).

"Who profits from not-for-profits?" was the question asked by Herzlinger and Krasker (1987) in a study under the same title for the *Harvard Business Review*. The article initiated an intense debate over the tax-exempt status of not-for-profit general hospitals because of its finding that not-for-profits were failing to meet their social obligations, and its conclusion that not-for-profits were essentially serving the interests of the physicians who practiced within them. Using data from multi-institutional hospital systems, Herzlinger and Krasker found that not-for-profit general hospitals are not more accessible to the medically indigent; neither hospital type is "skimming the cream" of the well-insured; not-for-profits emphasize short-term returns compared with for-profits; not-for-profits operate to maximize physician benefit; not-for-profits are less efficient; both systems offer the same scope of services; and for-profits are as involved in professional education as not-for-profits.

However, with the exception of the finding on efficiency, the study's results are "inconsistent with the bulk of the literature on the topic" (Gray 1987, 38). Consequently, the study was the object of aggressive criticism for its design, methodology, and conclusions

(Fitzgerald and Jacobsen 1987; Gray 1987; Reinhardt 1987; Haddock, Arrington, and Skelton 1989). Specifically, the authors were accused of including inappropriately classified cases in the sample, of constructing variables in a way that minimized the service contributions of the not-for-profits, and of contradicting their own conclusions throughout the study.

Arrington and Haddock (1990) joined in this criticism of the Herzlinger and Krasker methodology, but offered a modified test of the research questions using a larger data set, more carefully constructed variables, and a different statistical technique (discriminant analysis). On the basis of their reexamination, Arrington and Haddock concluded that, "congruent with the Institute of Medicine and contrary to Herzlinger and Krasker" (p. 303), not-for-profits are more accessible to the uninsured; not-for-profits carry a heavier indigent load; not-for-profits are not short-term oriented and show more capital improvements than for-profits; for-profits attract new physicians at a higher rate suggesting greater physician responsiveness to them than to not-for-profits; for-profits do not offer the scope of services—particularly community-oriented services—that not-for-profits offer; and for-profit hospitals are not as involved in professional education as not-for-profits are. The authors concurred with Herzlinger and Krasker that not-for-profits are less efficient than for-profits.

From this more rigorous examination, and in agreement with much of the literature, it appears that not-for-profit general hospitals are fulfilling a community function not met by the for-profits. The Institute of Medicine warns, however, that the more not-for-profit health care institutions behave as commercial enterprises, the more problematic the justification for tax exemptions becomes.

THE RESEARCH QUESTION

Among freestanding psychiatric hospitals, where the trend toward proprietization has been relatively greater, the research debate regarding hospital characteristics and performance by ownership type has not been as intensive. Existing reports have focused primarily on documenting the growth of the proprietary sector and on discussing the implications of that growth for public policy (Levenson 1982; Dorwart and Schlesinger 1988). Empirical studies have been far more limited. Schlesinger and Dorwart (1984) conducted the most extensive study, finding that not-for-profits have greater staff-to-patient ratios; that at least *suggestive* evidence showed for-profits to be more likely to screen

patients on their ability to pay (although the authors found no evidence that patient selection occurred on the basis of cost of care); and that for-profits are less willing to provide services that are insufficiently reimbursed. The authors stated that many of the important questions could not be tested adequately with the data available at the time. Because the authors worked with four different data sources covering different time periods, they were also unable to use multivariate techniques to examine differences across variables simultaneously. Another, more geographically limited study, conducted by Lyles and Young (1987), compared California psychiatric hospitals, by ownership status, on length of stay and service mix. The authors found that not-for-profits provided a broader mix of services and had shorter mean lengths of stay.

Given the limitations of existing research in the area, and given that a 50 percent increase occurred in the number and bed capacity of proprietary psychiatric inpatient facilities between 1983 and 1986, the question of ownership in the psychiatric sector needs another look.

The present study was designed to replicate the Arrington and Haddock (1990) procedure, which examined a broad range of hospital characteristics on a national sample using a multivariate technique (discriminant analysis). This study, primarily exploratory in nature, was designed to answer the question: What characteristics and performance measures distinguish between for-profit and not-for-profit ownership among private, freestanding psychiatric inpatient facilities in the United States? Based on the psychiatric literature, it was hypothesized that for-profit facilities would be more responsive to privately insured patients and would provide a more limited set of services, while not-for-profit facilities would serve more publicly insured patients and would provide a wider range of services. Other constructs, including accessibility, client mix, hospital capacity, role in professional training, and investment in future resources, were not the subject of specific hypotheses because they had not been considered in previous empirical studies of the private psychiatric sector. However, based on their relevance to studies of ownership among general hospitals, such as the study replicated here (see Arrington and Haddock 1990), these constructs were also included.

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METHOD

THE DATA

The data analyzed were generated by psychiatric inpatient facilities in the United States and were collected through the Inventory of Mental Health Organizations (IMHO) conducted by the Survey and Reports Branch of the National Institute of Mental Health. The data in this study were collected in 1987 for the fiscal year ending in 1986. The data set includes patient population characteristics, institutional characteristics, caseload, staffing profile, revenues, and expenditures (National Institute for Mental Health 1986). The IMHO survey has a 97 percent completion rate (Manderscheid 1991), and therefore is the best approximation of the known universe of mental health facilities in the United States. Regarding the quality of the data set, the data are subject to range checks and consistency checks, through both clerical and computer edit routines. Respondents are pursued through callbacks until each facility has passed the error checks.

For purposes of this study, only *private* mental health organizations that reported providing inpatient services in a hospital setting were included for the analysis, with a total population of 412 cases. Thirteen cases were eventually excluded from the analysis because of missing values or improper reporting, leaving a final population of 399 cases. Two-thirds of these were "for-profit" ($N = 234$), and one-third were "not-for-profit" ($N = 165$). The data represent an approximation of the total population of private, psychiatric inpatient facilities in the United States in 1986.

THE HOSPITAL CONSTRUCTS

The hospital characteristics and performance constructs that will be used in this prediction are service mix, accessibility, client mix, payer mix, professional training, investment in future resources, hospital capacity, and length of stay. Where possible, the constructs and operational definitions have been borrowed from Arrington and Haddock (1990); others have been adapted to the available data. Efficiency and other expenditure-based measures used by Arrington and Haddock (1990) were not included in the analysis because the available data did not allow for disaggregation of inpatient expenditures from expenditures incurred for other services. Significant differences in the mix of services available by ownership type made expenditure measures noncomparable.

Operationalization of the constructs was as follows:

1. *Service mix.* An additive index of non-inpatient services provided at the facility (coded by presence/absence), include outpatient care, residential treatment, residential supportive care, partial care, and emergency services (maximum value = 5);
2. *Accessibility.* Annual number of emergency visits as a proportion of each facility's bed capacity;
   (Emergency visits served as a proxy measure for accessibility in the Arrington and Haddock study (1990). Emergency services were also found, in Lyles and Young (1987), to be a significant portal of entry to private, inpatient psychiatric care for the underinsured.)
3. *Client mix.* Proportions of patients with primary diagnoses of mental illness, mental retardation, and substance abuse (total = 1.00); proportions of clients by age group (child/adolescent, adult, senior) (total = 1.00);
4. *Payer mix.* Proportion of *reported revenues from* (not billings to) Medicare, Medicaid, state (exclusive of Medicaid), client fees/insurance, and other (other government contract funds, foundation support, and all other sources not classified) (total = 1.00);
5. *Professional training.* Affiliation with a university or college (coded by presence or absence);
6. Investment in future resources. Capital expenditures per bed;
7. *Hospital capacity.* Three separate measures used, including number of beds, occupancy rate (average daily census/bed capacity), and turnover rate (total patients/bed capacity);
8. *Length of stay.* The mean length of stay at the facility for the reporting year (total patient days/total patients).

ANALYSIS

Discriminant analysis is an exploratory technique used to distinguish between two or more mutually exclusive groups on the basis of a collection of independent variables on which the groups are expected to differ (Klecka 1980). The technique was used in this case to develop a linear combination of the listed variables in such a way that the prediction equation minimized the probability of misclassification between

for-profit and not-for-profit facilities. The procedure produces findings essentially comparable to those of multiple regression (Klecka 1980). However, we chose discriminant analysis both because the assumptions of this technique are more appropriate for examining differences among mutually exclusive groups measured at the nominal level, and because it provides a replication of the Arrington and Haddock (1990) study of general hospitals.

Since the data available for this study represent an approximation of the total population of private psychiatric inpatient facilities in the United States, classification of cases derived from the discriminant function on the entire population would produce an inflated estimate of the model's effectiveness. Therefore, it was necessary to sample from within the population for the analysis and to conduct the misclassification test on the unselected cases, in order to get a more accurate estimation of the model's effectiveness.

This was accomplished by assigning a random number to the population of private inpatient facilities (N = 399), and by randomly selecting half of the population as a sample (N = 199). The discriminant procedure was then conducted on the selected cases, and the misclassification test performed on the unselected cases (N = 200). A stepwise procedure (Table 1) was used to select variables for inclusion in the model.

RESULTS

The discriminant procedure entered seven variables into the predictor equation in the following order: mix of services, proportion of revenues from client fees/insurance, occupancy rate, number of beds, proportion of revenues from Medicare, proportion of substance abuse clients, and proportion of child/adolescent clients. The linear combination of these seven variables and their discriminant function coefficients predicted to ownership status with an overall 83.5 percent rate of accuracy on the unselected cases (see Table 2), and with an 86.6 percent rate of accuracy on the selected cases. However, the classification test in Table 2 reveals that the discriminant function is better at predicting ownership status among the for-profit facilities than among the not-for-profits. The misclassification of 25 percent of the not-for-profit facilities suggests that a significant group among the not-for-profits shares more of the discriminating characteristics of for-profit hospitals than of other not-for-profits. Correspondingly, the fact of fewer mis-

Table 1: Results from Discriminant Procedure Using the Stepwise Method for Variable Inclusion

Variable	F	*Wilks' Lambda*
Service mix	49.006	0.5536
Payer mix		
Client fees/Insurance	21.631	0.4913
Medicare	2.856	0.4485
Client mix		
Child/Adolescent	1.699	0.4459
Substance Abuse	2.336	0.4473
Hospital capacity		
Beds	3.281	0.4495
Occupancy	7.903	0.4600
Equivalent F = 34.9904 (df = 7,191) $p < .0001$		

Table 2: Classification Results for Cases Not Selected for Use in the Discriminant Procedure

		Predicted Group Membership	
Ownership Type	N	*For-Profit*	*Not-For-Profit*
For-Profit	119	107 (89.9%)	12 (10.1%)
Not-For-Profit	81	21 (25.9%)	60 (74.1%)
Total	200	128	72
Cases correctly classified = 83.5%			

classifications among the for-profits suggests that, as a group, they are more alike on the discriminating variables than are the not-for-profits.

The standardized and unstandardized discriminant function coefficients (comparable to the coefficients produced in a regression procedure) are presented in Table 3. The absolute values of the standardized coefficients are sometimes interpreted as representative of the relative importance of the variables in the prediction model, with their weighting toward for-profit or not-for-profit status indicated by their negative and positive signs, respectively. However, it is the *combination* of variables whose predictability comprises the model, and it is that combination that has been tested here. Therefore, interpretation of effects based only on the coefficients can be misleading and should be further qualified. Moreover, because the discriminant procedure includes variables only when they contribute uniquely to the model, other vari-

Table 3: Standardized and Unstandardized Canonical Discriminant Function Coefficients

Variables	*Standardized*	*Unstandardized*
Service mix	0.69208	0.5665
Payor mix		
Client fees/Insurance	-0.50701	-2.1722
Medicare	-0.17286	-2.1319
Client mix		
Child/Adolescent	-0.13441	-0.5114
Substance Abuse	-0.14964	-0.9668
Hospital Capacity		
Beds	-0.20148	-0.003167
Occupancy	0.27090	1.3752

ables with shared variation may not enter the equation even though the ownership types may differ significantly on those variables. Hence, it is also necessary to look at the function-variable correlations to assess the strength of the relationship between individual variables and the discriminant procedure (see Table 4). Also, by examining the variable means and univariate F ratios in Table 5, the direction and strength of differences on each of the variables by ownership type can be more directly assessed.

Considering these tables together, it appears that the service mix and payer mix show the strongest relationship to the discriminant procedure. As was hypothesized, for-profit facilities focus on fewer services (primarily inpatient), and on the most profitable payer source: client fees/insurance. On the other hand, the not-for-profits provide a broader mix of services and depend more on state as a payer source. The higher proportion of revenues from Medicare reported by for-profits suggests that at least this public payer source may be viewed more attractively than other public payer sources, specifically state contractual agreements and Medicaid, which are significantly more represented among the revenue sources of not-for-profits.

Regarding client mix, for-profits show significantly greater responsiveness to children and adolescents than do the not-for-profits, leading to moderate correlations between age variables and the discriminant function. Similarly, a higher proportion of substance abuse cases among the for-profit facilities and the inclusion of this variable in the discriminant procedure suggest that this diagnostic group is significantly more preferred among the for-profits than among the not-for-profits, although the correlation with the discriminant function is weak. Regarding hospital capacity, for-profits had significantly more

Table 4: Pooled Within-Groups Correlations between Discriminating Variables and the Canonical Discriminant Function

	r
Service mix	
Additive index of services*	0.841
Accessibility	
Annual number of emergency visits by bed capacity	0.269
Client mix	
Diagnoses	
Mental illness	.013
Mental retardation	0.171
Substance abuse*	-0.114
Child/Adolescent*	-0.265
Age	
Adults	0.371
Seniors	-0.026
Payer mix	
Medicare*	-0.254
Medicaid	0.071
State	0.593
Client fees/Insurance*	-0.617
Other	0.269
Professional training	
University affiliation	0.127
Investment	
Capital expenditure/beds	0.069
Hospital capacity	
Number of beds*	-0.212
Occupancy rate*	0.188
Turnover rate	0.311
Average length of stay	-0.011

*Entered discriminant function equation.

beds but a lower occupancy rate; both of these variables were included in the discriminant procedure and showed moderate correlations with the discriminant function.

Finally, although it does not contribute uniquely to the discriminant function, the significantly greater number of emergency admissions (standardized by bed capacity) among the not-for-profits, and the moderate correlation of this number with the discriminant function, should be noted. In addition, turnover is also significantly greater among the not-for-profits, as is the receipt of a higher proportion of

Table 5: Mean Values and Standard Deviations of the Construct Variables by Ownership Type and Univariate *F*-Ratios (df = 1,397) (*N* = 399), Selected and Unselected Cases

Construct Variables	*For-Profit Mean (Std. Dev.)*	*Not-For-Profit Mean (Std. Dev.)*	F	P
Service mix				
Additive index of services*	0.66 (0.95)	3.06 (1.51)	364.92	.0001
Accessibility				
Annual number of emergency visits	1.02 (5.88)	73.08 (185.84)	33.66	.0001
Client Mix				
Diagnoses				
Mental illness	0.87 (0.16)	0.91 (0.21)	12.86	.0005
Mental retardation	0.00 (0.02)	0.01 (0.04)	8.06	.0048
Substance abuse*	0.13 (0.14)	0.08 (0.15)	9.27	.0025
Age				
Child/Adolescent*	0.41 (0.25)	0.23 (0.26)	44.13	.0001
Adults	0.51 (0.23)	0.68 (0.26)	41.95	.0001
Seniors	0.07 (0.08)	0.09 (0.12)	2.27	.1325
Payer mix				
Medicare*	0.08 (0.08)	0.05 (0.06)	25.44	.0001
Medicaid	0.05 (0.09)	0.08 (0.11)	4.91	.0273
State	0.05 (0.1)	0.29 (0.28)	136.01	.0001
Client fees/Insurance*	0.66 (0.2)	0.36 (0.29)	141.73	.0001
Other	0.15 (0.15)	0.22 (0.2)	17.39	.0001
Professional training				
University affiliation	0.22 (0.42)	0.43 (0.5)	19.61	.0001
Investment				
Capital expenditure/Beds	7140.66 (11942.5)	6995.15 (9354.03)	0.02	.8972

Continued

Table 5: Continued

Construct Variables	For-Profit Mean (Std. Dev.)	Not-For-Profit Mean (Std. Dev.)	F	p
Hospital capacity				
Number of beds*	92.25 (52.81)	60.43 (69.75)	26.07	.0001
Occupancy rate*	0.69 (0.2)	0.76 (0.21)	9.03	.0028
Turnover rate	9.11 (6.4)	15.42 (13.64)	36.75	.0001
Average length of stay	52.93 (71.43)	44.03 (61.39)	1.64	.2013

*Entered discriminant function equation.

revenues from "other" sources (i.e., other government contract funds, foundation support, and all other sources not elsewhere classified), both of which had moderately strong correlations with the discriminant function but which were probably excluded due to shared variation with other predictors. Not-for-profits are also significantly more involved in professional education, although the correlation of this variable with the discriminant function is weak.

DISCUSSION

As found among general hospitals, private, freestanding psychiatric inpatient facilities show significant differences by type of ownership. Most notably, those constructs that have been used in the past to connote "service to the community" (Arrington and Haddock 1990; Committee on Implications for For-Profit Enterprise in Health Care 1986) appear to be more uniquely characteristic of the not-for-profits: provision of a broader mix of patient services, including services with poor reimbursement, and a greater willingness to accept less attractive payer sources, such as Medicaid and state contracts.

In contrast, for-profit psychiatric facilities are found to focus almost exclusively on inpatient services and to rely primarily on client fees and private insurance for their revenues, both factors that are associated with the maximization of reimbursement for psychiatric providers. Measures of "client mix" also suggest the greater responsiveness of the for-profits to better-insured client groups, that is, to children and adolescents, and to diagnostic categories where insurance

benefits have been expanding, that is, to substance abuse. For example, medical assistance coverage for children and adolescents is more comprehensive than coverage for adults due to the over-21 and under-65 exclusion for IMDs (Institutions for Mental Diseases). Similarly, an expansion in substance abuse treatment coverage by private insurers in the 1980s often under state mandate (American Psychiatric Association 1986), created a greater market potential for psychiatric inpatient services. The finding that for-profits have significantly greater bed capacity is also not surprising, given that for-profit psychiatric inpatient beds increased by more than 50 percent nationwide between 1983 and 1986. That for-profits also had lower occupancy rates suggests that this growth may have led to a surplus bed capacity in the proprietary psychiatric sector.

Although not included by the discriminant procedure, the relevance of other distinguishing factors has been suggested by this study. First, the construct "accessibility," defined as the proportion of annual emergency visits to bed capacity, suggests that to the degree to which emergency services provide access to private inpatient beds for the underinsured, the not-for-profits perform more favorably than do the for-profits (see also Lyles and Young 1987). However, lacking national data that would verify the link between emergency services and access to inpatient beds for the underinsured, some caution in interpretation is warranted. Second, the greater degree of affiliation between not-for-profits and universities or colleges should also be noted, as this has been associated with "service to the community" by other investigators, who have recognized the importance of such affiliations to research and training (Arrington and Haddock 1990; Herzlinger and Krasker 1987). Finally, the lower rate of turnover in for-profit facilities should be noted. However, given that the measure of average length of stay did not prove to be significantly different by ownership status, this lower rate of turnover cannot be presumed to show that for-profit facilities are treating people in the hospital for longer periods than their not-for-profit counterparts. The lower rate of turnover is more likely a reflection of the higher vacancy rates and surplus bed capacity in the proprietary sector.

Finally, several limitations of this study should also be considered. First, the data here did not allow for a more in-depth look than elsewhere at the therapeutics offered at the various facilities, except through the categories of services described earlier. Therefore, the service mix classification is necessarily broad and not clinically detailed. In addition, some facilities may be affiliated with institutions that provide other psychiatric services, and those other services would

not be reflected in the data. Second, the standard deviations reported in Table 5 confirm that great variability exists within both ownership categories. Hence, while significant discriminating characteristics may exist between the ownership types, the heterogeneity should be observed and, in particular, the greater relative difficulty in distinguishing not-for-profit facilities. Indeed, the higher rate of misclassification among not-for-profit facilities may point to a group of facilities for which the criticisms regarding tax exemptions indeed apply. To assess this further, future studies could analyze crossovers in the distributions of ownership types among selected variables. Third, because of limitations in the data, this study could examine only reported revenues for analysis of the payer mix, and not actual billing categories. Therefore, while this study found a greater willingness among the not-for-profits to accept the least attractive public payers (the state and Medicaid), this study does not speak directly to the issue of providing "charity" or uncompensated care. More research is needed to identify the proportion of care that goes uncompensated. Fourth, this study did not include psychiatric units in general hospitals because the units are not reflected in the data set. Nor did this study include public psychiatric hospitals. Future studies therefore might examine general hospital psychiatric inpatient units more closely by ownership type, as well as the attributes of public psychiatric hospitals. Finally, because this study used a national sample, effects of competing forms of ownership in smaller market areas were not examined, although the findings are suggestive of the potential benefits of such research.

In conclusion, this study essentially found that psychiatric inpatient facilities operated for profit differ from their not-for-profit counterparts by behaving in a manner that would be expected—by maximizing their potential for reimbursement. Concurrent with the Institute of Medicine's conclusions on general hospitals, not-for-profit psychiatric inpatient facilities also appear to provide a unique service to the community. However, as the for-profits secure a greater share of the profitable inpatient demand, one negative effect on the not-for-profits could be an increasing demand for less profitable services by less profitable clients and increasing difficulty in providing uncompensated care. In the face of such shifts, as Salmon (1985) and the U.S. General Accounting Office (1990) have warned, the trend toward proprietization may create a tendency to imitate among some not-for-profit providers whereby greater attention is given to profit-maximizing than to community-serving objectives. Such a trend could undermine the community service capacities of the not-for-

profits, limit needed patient services, and raise further troubling questions about the social subsidization of not-for-profit facilities.

Future research and planning should monitor the effect of proprietization on the not-for-profit psychiatric sector. In anticipation of pressures toward further cost containment, not-for-profit psychiatric providers and their local communities should also define carefully the services that are to be expected if tax exemptions are to continue, thus creating better criteria by which to evaluate changes and to plan for the impact of for-profit medicine on not-for-profit service delivery (U.S. General Accounting Office 1990; Bell 1990). Broader policy considerations regarding the growth of for-profit hospitals and the effects of investor ownership should take account of the findings from this study when considering for-profit effects on psychiatric services.

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