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FACTORS RELATED TO HUMAN SERVICE DELIVERY TO UNDERSERVED CLIENTS

BY PRIVATE SECTOR NONPROFIT SOCIAL SERVICE ORGANIZATIONS:

AN ECOLOGICAL STUDY OF NATIONAL OUTPATIENT

SUBSTANCE ABUSE TREATMENT UNITS

DISSERTATION

Presented in Partial Fulfillment of the Requirements for

the Degree Doctor of Philosophy in the Graduate

School of the Ohio State University

By

Dixon Sookraj, B.Sc., Crim. Dip., MSSW

*****

The Ohio State University

1995

Committee members:
1) Dr. K. Kilty (Chair)
2) Dr. V. Richardson
3) Dr. S. Imbrogno

Approved by

Dissertation Advisor

College of Social Work
VITA

August 2, 1958 ........................................................... Born, Guyana, South America

August 1, 1978 ........................................................... Relocated to Canada

1982 ................................................................. B. Sc., University of Alberta, Canada

1980-1983 ....................................................... Leasing Agent/Resident Manager, Indco Mang’ t Services, Alberta

1984 ................................................................. Probation Officer, Alberta

1986-1987 ....................................................... Researcher/program evaluator, Alberta

1987 ................................................................. Criminology Diploma, Simon Fraser University, British Columbia

1988/1989 ....................................................... Research/planning trainee, Louisville, Kentucky

1989 ................................................................. MSSW, University of Louisville,

1989-1992 ....................................................... Graduate Teaching Associate, Ohio State University, Columbus, Ohio

1992-1993 ....................................................... Researcher, R/K Dawson & Associates, Columbus, Ohio
1993-Present ............................................................... Faculty, department of Social Work, Okanagan University College, British Columbia

Jan., 1994-Present .................................................... Research Consultant, Kelowna, British Columbia

Feb., 1995-Present ................................................... Prog. Evaluation Consultant Kelowna, British Columbia

FIELDS OF STUDY

Major Field: Social Work

Other Areas: Social Welfare Policy
          Research
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Recent trends in US social welfare policy, particularly since the early 1980s, emphasize less state responsibility for the care of those in need. Formal and informal support systems, including families and voluntary organizations, are under pressure to assume greater responsibilities for meeting the needs of community members. Underlying this shift in policy is the assumption that individuals, families, and private sector organizations in local communities are both able and willing to shoulder the additional responsibilities. Among organizations, private sector nonprofit human service delivery organizations (referred to as NPOs from here on) figure prominently as service delivery mechanisms. NPOs are typically tax-exempt organizations registered under Section 501(c)(3) of the Internal Revenue Code. They have been held as voluntary in nature, responsive to community needs, and relatively independent of government and market.

Contemporary realities of NPOs strongly contradict the traditional image of these organizations. In recent decades, they increasingly have been contending with conflicting
demands and expectations from multiple constituencies. For instance, the populations that they target for services have become increasingly complex. Often NPOs deliver services simultaneously, and in varying proportions, to different groups. These include: 1) public-pay clients whose service costs are subsidized by government through public insurance schemes or purchase-of-service contracts (POSCs) with NPOs; 2) private-pay clients who pay for the service either directly, or through private insurance schemes (or POSCs between their employers and NPOs); and 3) under-served clients whose service costs are subsidized by the NPOs themselves (Netting et al., 1990). The functions served by NPOs thus have become ambiguous, and the factors which influence their abilities to respond to community needs are unclear.

Reduction in government responsibility for social welfare is of particular concern to the social work profession. In the absence of adequate and appropriate private-sector community services, these changes will affect adversely the ability of the profession to fulfil its mission, especially with respect to under-served populations. For the purpose of this study, under-served populations are defined as marginalized groups to whom the profession has devoted its primary attention throughout its history (Sheafor, Horejsi & Horejsi 1994, p. 6). Visible minority groups, such as African Americans, Hispanics and Native Americans are over-represented among the profession's traditional clients (Axinn & Levin, 1992). For under-served populations, their generally low incomes, combined with inadequate private and public insurance schemes, undermine their access to human services. Addressing the needs of these clients in the absence of state support therefore requires that private sector service delivery systems, including NPOs, provide them with free or heavily subsidized services.
In spite of their traditional moral obligation, NPOs are not mandated legally to respond to the needs of under-served populations in local communities. Moreover, factors which influence their responsiveness to the needs of under-served clients remain unclear in the literature. Without this critical piece of policy-relevant information, initiatives to shift the responsibility for social needs to local communities, and NPOs in particular, will not likely succeed.

PROBLEM STATEMENT

The absence of a consensus with respect to the behaviours, norms and structures of NPOs is clearly reflected in recent theorizing and research in the social sciences. Social theorists in economics, political science and sociology have put forward several theories. These theories overlap in varying degrees. They also provide complementary, as well as competing, explanations for the behaviours, norms, and structures of organizations. Those commonly used in the study of human service organizations fall under two broad theoretical perspectives: sector failure, and socio-political. Proponents of the sector failure perspective, particularly liberal political scientists and micro-economic theorists (Hansmann, 1980; Ware, 1989; Weisbrod, 1988), assume that the primary function of NPOs is to address social needs to which both government and market have been unresponsive. These theorists view NPOs as using their 'excess revenues' to deliver subsidized services to under-served clients. Through this perspective, NPOs are also construed as operating ideally 1) independently of the government and the economic sector, and 2) relying on grants, gifts and donations, rather than sale of services, for their revenues.
Some of the proponents of the micro-economic theory of NPOs argue that 'demand' (which takes the form of sale of services, either to government or to private purchasers) invariably has an adverse effect on service delivery to under-served clients. This is because demand creates competition among NPOs for clients and markets (Weisbrod, 1988). They view competition as preventing NPOs from generating excess revenues. Other advocates of the micro-economic perspective contend that revenue raised through 'demand' can benefit under-served clients, but only when competition is low and the demand for services is stable (Netting et al., 1990).

In effect, the sector-failure perspective suggests that donations, gifts and grants will be related positively to service delivery to traditional clients. Demand (in the form of direct or indirect government or private purchases) will only facilitate service delivery to this segment of the population when competition (for clients or markets) is low to moderate, and when demand is relatively stable. While sector failure perspective assumes that NPOs are rational organizations committed to helping the under-served groups, the broader socio-political perspective assumes that organizations are motivated more by survival concerns than by efficiency and effectiveness (Seibel, 1990). This perspective implies that service delivery to under-served clients is emphasized only when it facilitates survival or success of the organization. The socio-political perspective has been advocated primarily by political scientists and sociologists. It encompasses several interrelated theories, each offering concepts which may be helpful for the understanding of the nature of the relationships between organizations and their environments, and the significance of these relationships to
organizational functions and behaviours, including the delivery of services. Institutional, resource dependence, population ecology, and niche theories are all identified with the socio-political perspective (Scott, 1992; Siebel, 1990).

Institutional theory emphasizes the role of institutional environments in providing constraints and opportunities for organizations. The proponents view organizations as striving to achieve stability, legitimacy and resources by conforming to institutional norms; beliefs, practices, and rules (DiMaggio & Powell, 1983; Meyer and Rowan, 1977). Sources of institutional influence include governments, professions, and other organized sectors, such as the mental health sector (DiMaggio & Powell, 1983; Oliver, 1991).

Institutional theory states that organizations respond to pressures of their institutional environments, in part, by conforming to established norm. They also respond to opportunities and threats posed by their institutional environments by developing strategies that buffer organizational activities from institutional pressures. In addition, they may engage in boundary-spanning strategies which are designed to alter the institutional environment so that it becomes favourable. Institutional theory thus explains organizational functions and behaviours on the bases of 1) the influences of institutional beliefs, practices, and rules, and 2) organizational responses, which range from conformity to strategies aimed at effectively altering the environment. The influences of 1) institutional environments, 2) transactions between NPOs and their institutional environments, and 3) NPOs' internal adjustments in response to these environments, on the delivery of services to under-served clients, has received little attention in the literature.
Resource dependence theory (Aldrich & Pfeffer, 1976; Pfeffer & Salanick, 1978) stresses the political economy of organizations. The theory states that organizations become dependent on other organizations or external actors who control critical resources that they need. In order to survive, or to preserve some degree of autonomy, organizations are believed to utilize various adaptive strategies. Scott (1992, p. 194-80) has summarized a number of strategies which organizations use in order to minimize dependencies on other organizations (or organizational actors). These include inter-agency coordination, bargaining, contracting with suppliers and consumers of resources, and formation of joint-ventures, mergers, associations and coalitions. Some of these strategies overlap with those put forward by institutional theorists. Resource dependence theory, in effect, adds dependencies on suppliers of resources, and strategic organizational responses to those who control critical resources, as potential factors related to service delivery to under-served clients.

Niche theory emanated from the broader ecological perspective on organizations (Perrow, 1979; Scott, 1981; Hasenfeld, 1983). This theory complements the economic perspective and resource dependence theory. Like resource dependence theory, niche theory states that organizations compete not only for clients and markets; they also compete for other resources, including information, legitimacy and staff. Sosin (1987) argues that organizations seek to minimize competition by specializing based on auspices, which are essentially constituencies (i.e., religious versus nonreligious and national versus local). These auspices, however, are believed to constrain organizations by making demands as to the types of social problems that they can address, and the clients whom they can serve. The relative
influence of the specialization by auspices upon service delivery to the poor has also received little attention in the literature.

Finally, contemporary population ecology theory of organizations stresses the role of competition among organizational populations for resources in their environment. The ability of the resource environment to sustain organizational populations, and the extent to which the political environment favours these populations, are factors which the theorists postulate will influence organizational founding (birth), success and survival.

Unlike the other theories summarized above, population ecology states that organizations are limited in their ability to adapt to their environmental changes. Consequently, the environment selects populations of organizations for survival, based on their characteristics. The literature which describes organizational ecology suggests that organizational characteristics, such as age, size, and degree of specialization are related to their survival (Carroll, 1984; Hannan and Freeman, 1989; Singh & Lumsden, 1990). To the extent that concerns relating to survival take precedence over service delivery to under-served clients, these organizational characteristics should also be related to service delivery to these clients.

In sum, the theories presented above suggest that a large number of economic, institutional, political and social forces, organizational responses to these forces, as well as organizational characteristics, may be related to service delivery by NPOs to under-served populations. However, empirical research is lagging considerably behind these theories, especially in respect of service delivery to under-served clients. Many of the studies identified
in the literature review which follows have been qualitative in nature, and they are based largely on non-probability samples. Few have relied on more than one theory and, thus, only a limited number of explanatory concepts have been examined in most of these studies. Moreover, empirical investigations of the relative importance of factors which are postulated to explain service delivery to traditional clients are conspicuously missing from the literature.

The overall purpose of the present study is to identify factors that are predictive of service delivery to under-served clients by NPOs. In addition, the unique contributions of these factors to the prediction of service delivery to these clients will be examined.

SIGNIFICANCE OF THE STUDY

The present study will contribute useful knowledge to social work as a profession, as well as to social policy makers. Social work is a profession committed to providing choice and opportunities for people in general, especially the disenfranchised. The NASW Code of Ethics prohibits discrimination against social work's traditional clients. The Code states further that social workers should act in order to ensure that the poor and disadvantaged, in particular, have access to resources, services and opportunities. Knowledge of the extent to which NPOs are addressing the needs of the under-served, as well as the factors which influence service delivery to these clients, thus is critical for the profession. In addition, knowledge obtained through this type of study will provide social work professionals with some bases for selecting and supporting appropriate NPOs for advancing the cause of the disenfranchised.
Finally, many social work students receive practical training in, and graduates are employed by, NPOs. This situation adds to the urgency of the need for knowledge that will enable social work programs and their graduates to identify conditions under which NPOs realize the mission of the social work profession. This type of knowledge will facilitate the selection of appropriate field placement agencies for BSW and MSW students. It also will aid in identifying appropriate employment settings for graduates who are committed to service delivery to the disenfranchised.

In regard to social policy, the study provides policy-relevant information which helps to clarify the nature of the relationship between the public and private sectors which respond to social needs. For instance, the influence of government 'demand' on service delivery to under-served clients is examined. The study also has implications for the feasibility of the reliance upon NPOs to address community needs under conditions of reduced state involvement; in addition, the factors that promote (as well as inhibit) service delivery to under-served clients will be identified.

LIMITATIONS OF THE STUDY

A number of limitations exist in any study. Firstly, with respect to this study, measures of the dependent concept, 'under-served clients' are limited to the actual numbers of clients who are defined as under-served and who receive services by NPOs in the preceding year. In other words, measures of other factors, such as quality of services received, are not taken into account. Secondly, theories used to guide the study result in the selection of independent concepts that pertain mainly to economic, political, and social contexts of NPOs. Except for
the intra-organizational concepts identified as relevant to these theories, organizational variables are not examined. Finally, this study rests squarely in the domain of basic research. No attempt is made explicitly to incorporate values, and it is not conducted to address the needs of specific constituencies.
Chapter II contains six sections. Section 2.1 introduces the organization-in-environment theoretical framework which is used to guide the present study. The framework forms the basis for integrating and synthesizing several theories which vary by type and level of explanation for organizational behaviors and norms with respect to service delivery to under-served clients. Among the levels of explanation derived from the organization-in-environment framework are: 1) institutional environment, 2) resource environment, and 3) organizational characteristics. Presented in sections 2.2 through 2.4 are the theories and research related to each of these levels of explanation, respectively. A brief summary and the research questions to be addressed in this study are included in Section 2.5. The final section (Section 2.6) contains definitions of the critical concepts used in this study. In addition, the theoretical bases of these concepts, and hypotheses deduced from the theories, are summarized in Table 1 and Table 2.
Section 2.1: THEORETICAL FRAMEWORK

Dominant organizational theories, which emphasize largely rational organizational forms and behaviors, are no longer viewed as adequate for explaining the behaviors of NPOs. Hasenfeld (1983, p. 655), for instance, contends that "organizational theories that have been formulated with industrial organizations as their empirical referents are not readily applicable" to human service organizations. This characteristic is so, in part, because many NPOs do not operate like formal bureaucracies. They tend to be loosely coupled, encountering multiple and often conflicting demands from numerous constituencies in their environments (Hasenfeld, 1983; Meyer & Rowan, 1977).

Several other authors have questioned the relevance of traditional theories of organizations to NPOs. Seibel (1990, p. 109) challenged the assumption that 'ideal-type' organizations are "the functional prerequisite of organizational stability and responsibility for both industrial and public bureaucracies in modern capitalism." The author notes that, unlike ideal-type organizations, NPOs are characterized by:

- loose coupling . . . , informal structures, personal inter-individual relationships, and an ideological belief system instead of role distance and empathy.

In order to adequately account for the behaviors of NPOs, traditional theories, therefore, need to be complimented with, if not replaced by, other theories.

Over the past three decades, a broader organization-in-environment conception of organizations has been receiving increasing attention in the literature. This perspective holds that all organizations are incomplete: "all depend on exchanges with other systems. All are
open to environmental influences as a condition for their survival" (Scott 1992, p. 180). A clear understanding of organizational behaviors and structures is seen as requiring an examination of the broader ecological context of organizations (DiMaggio & Anheier, 1990; Pfeffer, 1982).

Recent theorizing on organizations has been taking into account the interdependent nature of the relationship between organizations and their environments, and its consequence for the behaviors and structures of these organizations. Among the most frequently cited of these theories in the literature are: 1) micro-economic theories of the nonprofit sector (Hansmann, 1989; James, 1989; Rose-Ackerman, 1986; & Weisbrod, 1977, 1988); 2) institutional theory advocated by sociologists (Meyer & Rowan, 1977; DiMaggio and Powell, 1983); 3) resource dependence theory, which takes a political economy perspective (Aldrich and Pfeffer, 1976; Pfeffer, 1990); 4) population ecology theory (Hannan & Freeman, 1984, 1989; Carroll, 1984; Carroll and Huo (1986); and niche theory (Sosin, 1985; 1987). These theories providing more or less complimentary rather than rival explanations for the behaviors and structures of organizations (Pfeffer 1982, pp. 1-13). They focus on different aspects of the environment, though some degree of overlap is also evident among them.

Existing attempts to integrate theories of organization within a broad organization-in-environment framework suggest that they vary along at least four critical dimensions: 1) level of analysis; 2) ability of organizations to respond to threats and opportunities posed by their environments; 3) aspects of the environment, deemed as relevant; and 4) perspectives on action (D'Aunno and Price, 1985; Pfeffer 1982, pp. 1-13; Scott,
1992). With respect to level of analysis, the resource dependence theory and the micro-economic perspective use the organizational 'set' as the critical level of analysis. That is, "the interests, the resources, the dependencies of a given organization are best examined and its survival tactic probed" from the standpoint of the focal organization (Scott 1992, p. 126-27). Other theories exist, including population ecology and institutional theories focus on the influences of larger cultural, social and political contexts within which organizations in any given field.

A second dimension along which these theories vary is in terms of their assumptions regarding the ability of organizations to respond to changes in their environments. Population ecology theory assumes that organizations, once they are established, become subject to strong inertial pressures (Hannan and Freeman, 1989). Consequently, they cannot readily adapt to rapid changes in the environment. Institutional theory, however, postulates that organizations in a given field must frequently conform to deeply entrenched beliefs and norms of their institutional environments in order to survive, but the theory does also account for conditions under which organizations (and organizational actors) engage in activities designed to shape their institutional environment in their favor (Meyer and Rowan, 1977). Finally, resource dependence theory postulates that organizations adopt a variety of strategies in responding to the demands of their environments. These strategies range from outright conformity to manipulation of the environment in order to make it more favorable to the organization (Scott, 1992; Oliver, 1991).
A third dimension on which theories vary is with respect to aspects of organizational environments that they stress. Resource dependence and economic theories tend to focus on the resource environments of organizations, while institutional theory assigns more importance to the cultural and social aspects of the environment. Ecological theory also attends to the task environment, though recent attempts have been made to integrate the institutional environment within this theory (Carroll & Huo, 1986).

With respect to the final dimension, 'perspectives on action', Pfeffer (1982, p. 3) notes that organizational theories vary from portraying action as "rational or at least boundedly rational, purposive, and goal directed [to] action as extremely constrained or environmentally determined; [to] action as emergent from, and in, social processes." Theories associated with each of these perspectives on action include economic population ecology, and institutional theories respectively.

For the purpose of this study the first dimension, level of analysis (or explanation), will be used as the basis for integrating the theories into a broad organization-in-environment (ecological) framework. Level of analysis cuts across all three of the other dimensions along which the theories vary. For instance, with respect to aspects of the environment that are deemed as relevant, institutional theory stresses the normative dimension, whereas economic, resource dependence, and population ecology emphasize the resource dimension. In addition, perspectives which focus upon the ability of organizations to respond to threats and opportunities resulting from their environment vary depending, in part, on the level at which these influences are believed to emanate. For instance, institutional theory suggests that
organizations passively conform to the institutional influences, whereas resource dependence theory provides for active and strategic resistance to demands of those who control the organization's critical resources.

An organization-in-environment framework, structured according to levels of analysis, provides a comprehensive basis for examining factors related to service delivery by NPOs to underserved clients by NPOs. It allows for examining the influences of both individual factors and factors clustered on the basis of the respective levels of explanation.

In sum, consistent with the focus on levels of explanation, the theories are integrated, and related research presented, according to three levels: 1) institutional environment, 2) resource environment, and 3) organizational characteristics. These three broad categories of influences on organizational behaviors and structures are discussed separately below. Interactions of influences both between and within the three levels are also identified.

2.2. INSTITUTIONAL ENVIRONMENT

The institutional environment encompasses larger cultural, political, and social beliefs, practices and rules which shape the structures and behaviors of organizations in any given field. Carroll and Huo (1986, p. 839) defined institutional environment as, "external factors that indirectly affect an organization through social norms, resources and constraints." Organizations are viewed as subject to the potential influences of numerous factors in the institutional environments. However, institutional factors typically studied in organizational
research include market structures, governmental agencies, courts and legal/regulatory structures, professions, as well as interest groups and public opinion (Carroll and Huo, 1986; Oliver, 1991; Scott, 1992). Theories examined in this subsection suggest that a select number of institutional factors influence organizational structures, activities and behaviors. Three of the theories in particular provide concepts that pertain to the influence of the institutional environment: 1) population ecology, and 2) institutional, and resource dependence. The first two theories in particular, and the relevant literature, are presented in this section.

INSTITUTIONAL LEVEL THEORIES

2.2.1. Population Ecology

In general, population ecology emphasizes the importance of environmental selection to survival of organizational populations. The theory states that populations of organizations compete for the resources available in their environment. It assumes that organizations are relatively inert; that is, they are limited in their capacities to adapt to rapid and unpredictable changes in the environment (Hannan & Freeman, 1983; Freeman & Hannan, 1984; Hannan & Freeman, 1989). The environment, thus, selects organizations with certain characteristics for survival, leaving others to dissipate. Much of the research in population ecology of organizations has been limited to the 'match' between resource environments and organizational structures, and its consequence for organizational founding (birth), maintenance and mortality. (Carroll, 1984; Singh & Lumsden, 1990). The influence of the
resource environment will be discussed under the second level of analysis, the resource environment (See Section 2.3).

Few studies using population ecology theory have emphasized the role of the institutional environment in influencing organizations. Some proponents of the theory contend that the political environment at the time of organizational founding (i.e., birth) is a crucial determinant of organizational performance (e.g., Hannan and Freeman, 1989). Based on the assumption that organizations remain relatively inert once they are founded, these proponents argue that the state of the political environment which fosters organizational founding is related to current practices. This characteristic implies that organizations founded during times of strong political support for the under-served are expected to be more responsive to their needs than those founded at other times.

Gronbjerg (1990) tested the hypothesis that NPOs founded during the 1930s and 1960s, when there was considerable public support for the under-served, are more likely to serve these clients than their counterparts founded in the alternate years. This author found that time of founding was not a significant predictor of service delivery to under-served clients. However, this study was based on a relatively small, non-representative sample containing a diverse array of service delivery NPOs, rather than organizations within a specific field. In addition, Gronbjerg (1990) did not take organizations founded in the 1980s into account. The more recent history, beginning particularly in the early 1980s, is marked by severe cutbacks in public support for services to the under-served. Though there had been
a proliferation of programs in some areas (such as substance abuse treatment) during the 1980s, the political environment had been hostile to the under-served.

Based on population ecology theory, NPOs founded in the 1930s and 1960s should be most responsive to the needs of under-served clients, followed by those founded in other years, except for the 1980s. NPOs founded in the 1980s are expected to be least responsive to their needs.

2.2.2. Institutional Theory

Unlike population ecology, institutional theory holds that organizations adapt to strongly held institutional norms (beliefs, practices and rules) rather than remain inert. They are "driven to incorporate the practices and procedures defined by prevailing rationalized concepts of organizational work and institutionalized in society" (Meyer & Rowan 1977, p. 530). Organizations achieve stability, legitimacy, and support by conforming to their institutional environments, even when conformity undermines organizational efficiency (DiMaggio and Powell, 1983; Meyer and Rowan, 1977). The process of institutionalization results in isomorphism; that is, by adopting beliefs, practices and rules, including structures that are normative in their environments, organizations in a given field become similar to each other.

Some proponents of institutional theory, however, assert that institutional influences are fragmented, contradictory, and uncoordinated (Meyer and Rowan, 1977; Meyer, Scott and Stang, 1987). There are variations "in the degree of consensus and the intensity of
feelings surrounding beliefs" in the institutional environment (Scott 1992, p. 214). Meyer and colleagues (1987), for instance, note that considerable variations exist among state education offices with respect to level of centralization as well as degree of fragmentation of funding and decision-making capacities. This characteristic results in norms in the organizational field which become fragmented and contradictory.

Not only do institutional influences vary with respect to their levels of centralization and fragmentation, organizations themselves vary in the extent to which they incorporate elements of the institutional environment into their own structures and practices (DiMaggio, 1988; DiMaggio & Powell, 1983). They conform only to some of the inconsistent beliefs, rules and practices, especially those that are essential for securing and maintaining legitimacy (D'Anunno et al., 1991).

Institutional theorists further contend that organizations may be affected adversely by elements of their institutional environments to which they conform. First, they may face difficulties in coordinating their activities when they adopt inconsistent norms (Meyer & Rowan, 1977). Second, even when the environment is not fragmented, conforming creates problems in that the institutionalized beliefs, practices and rules may conflict with organizational efficiency and effectiveness (Meyer & Rowan, 1977). For instance, types of personnel and treatment technologies promoted by the environment may be expensive, as well as inappropriate, for meeting the needs of the organization's clients. Conforming to institutional influences thus is expected to result in different effects, depending on the extent to which these influences are: 1) centralized, coordinated and structured; 2) adopted by
organizations; and 3) compatible with organizational interests and needs. Institutional theory further states that organizations may use a number of strategies in order to adapt to the demands and opportunities which emanate from the environment. One strategy is to buffer the day-to-day activities of the organization from these pressures by establishing loosely-coupled structures (i.e., decoupling). Decoupling includes: 1) setting ambiguous goals, 2) creating separate units to meet the demands of different and conflicting constituencies, and 3) delegating many organizational activities to professionals as a means of evading inspection (Hasenfeld, 1983; Meyer & Rowan, 1977; Scott, 1992). Moreover, it entails avoiding program integration and evaluation. The latter response is made possible through the assumption held by all parties (both within the organization and in the institutional environment) that the organization is acting in good faith (Meyer & Rowan, 1977).

Establishing loosely coupled structures may not be a successful strategy for insulating organizational activities from institutional pressures. This strategy can add to the difficulties in coordinating activities of the organizations (Meyer & Rowan, 1977). In addition, not all organizations are able to develop complex structures, including appropriate levels of administrative complexity, in order to meet the intricate demands posed by fragmented environments (Gronbjerg, 1993). Kramer and Grossman (1987) found that large child welfare organizations were in a far better position than their smaller counterparts to establish specialized administrative structures to keep up with a multiplicity of demands made by different government funding sources.
Many organizations in the human service field tend to be small when compared to others, such as the local school districts, which were studied by Meyer and associates (1987). Thus, they may be less able to establish the complex administrative structures required to buffer their activities from institutional pressures. In addition, organizational actors may not consciously conform to the culture of the institutional environment. Consequently, they may not be in the position to develop adequate strategic responses to institutional pressures (Oliver, 1991). Conformity with the institutional environment, therefore, should inform, at least in part, the activities of organizations, including service delivery to the under-served clients. Moreover, this influence should remain significant, even after accounting for structural characteristics that signify attempts to buffer organizational activities from institutional pressures.

Institutional theory states that another strategy used by organizations to buffer their day-to-day activities from external pressures is active involvement in the field (Gronbjerg, 1990; Meyer & Rowan, 1977). Involvement in the field takes several forms, including participating in coalitions and federations designed to influence legislation and policies (DiMaggio & Powell, 1983). It also entails providing training and workshops (for others in the field), and participating in joint programming efforts with other organizations. These types of involvement enable organizations to influence the environment so that it may better serve their interests. However, the goal of participation is aimed at benefiting the individual organizations and their representatives by elevating their power and influence in the field,
rather than their clients (Meyer & Rowan, 1977). Involvement in the field is, therefore, not expected to be related in a positive way to service delivery to under-served clients.

In sum, institutional theory states that organizations obtain legitimacy and resources by conforming to the norms of their institutional environment. These norms vary to the extent that they are centralized, coordinated and structured. In addition, they may be inconsistent with the needs of organizations and their clients. Organizations utilize two broad categories of strategies in responding to threats and opportunities posed by their institutional environment: establishment of loosely-coupled structures, and involvement in the field. Involvement in the field will be discussed as a dimension of organizational characteristics, in Section 2.4. Elements of structure, which include loosely coupled structures, will also be covered in Section 2.4. In the remainder of this section, factors representing the institutional environment itself, as well as its influence on organizations, are discussed.

Description of the Institutional Environment

Institutional research in sociology has focused on two sets of indicators of the influence of institutional environments on organizations: as a source of resource and as a source of norms. Regardless of the indicators used, institutional influences vary along three dimensions: 1) formal structuring, 2) centralization of decision-making and funding and 3) fragmentation (or unification) in the environment. Meyer and others (1987, pp. 187-188) define 'formal structuring' as "the extent to which an organization is surrounded by formally organized interests, sovereigns, and constituency groups." These authors define
'centralization' as the highest level at which decision-making occur, and resources emanate, for the field. Finally, they define 'fragmentation' in the environment in terms of "the number and distribution of organizations and social actors [upon whom] a focal organization is dependent" (p. 198). In contrast to fragmented environments, unified environments are characterized as having resources and decision-making functions which stem from the same source, or sources that are clearly integrated. As indicated below, the first two dimensions (formalization and centralization) are usually considered simultaneously in the literature, because sources which formally structure organizational fields also tend to be the ones that centralize the decision-making and funding functions in the field.

The effects of centralization, formalization, and coordination (or fragmentation) of organizational fields, particularly with respect to service delivery to under-served clients, have received little attention in the literature. Institutional theory, however, states that institutional influences that promote centralization and formal structuring of fields have greater effects on organizations than those characterized as informal and decentralized. The latter influences consist of multiple and shifting interests, often at the local level (Meyer et al., 1987).

Among the most important sources of institutional influence identified by sociologists are the state and the professions. DiMaggio and Powell (1983) assert that the state (i.e., government) and the professions are great rationalizers of the structures and behaviors of organizations. Scott (1992, p. 139) adds that the state, professions, unions and trade associations are the most critical sources of institutional structures, in that:
The state is the prime sovereign in the modern world, the major source of legitimate order, the agent defining, managing and overseeing the legal framework of society... The professions exercise control by defining social reality... They define the nature of many social problems - from physical illness to economic distress - monopolizing diagnostic techniques as well as treatment regimes. They underwrite the legitimacy of treatment providers as well as practices.

While unions and trade associations may have some influence in the for-profit sector, they are virtually nonexistent in many human service areas, including the substance abuse treatment field. Hence, they are not particularly relevant to this study.

The role of government in centralizing and formalizing the funding and decision-making functions has been observed in several fields. Meyer and associates (1987) note that expansion of involvement of the states in the field of public education since the turn of the century has led to centralization, formalization and unification of the public school system. State expansion in the field results in increased funding, as well as:

state authority ... in all domains of education, including curriculum, accreditation, minimum standards setting, personnel selection, and focus on the needs of select groups, including the poor (p. 190).

Other authors have asserted that the expansion of government in social welfare has had similar centralization, formalization and unification effects (DiMaggio 1983; Drolen, 1990).

Existing evidence suggests that in social services much of the decision-making and funding capacities have become centralized, formalized and unified at the state level. Hudson and Dubey (1986), for instance, conducted a case study of the implementation of ADAMHA...
Block Grant in four selected states. The block grant was initiated by the federal government in 1981, in part to decentralize the decision making function by including local communities in the process. These authors found that, contrary to the intent of the policy, states tended to rationalize, systematize, and centralize the decision-making process. Much of the power to influence the field became concentrated in the hands of state elected officials and departmental officials. The literature on the role of government funding, as an indication of institutional influences on organizations, is presented below.

Effects of Government Funding

Some institutional researchers have used, as indicators of institutional influences, dependencies on the various levels of government for resources, namely funding, (e.g., Meyer et al., 1987). However, many researchers who rely on resource level theories tend to use these same sources of funding as indicators of the influence of the resource environment. A number of authors, however, have attempted to integrate resource dependence and institutional theories (See DiMaggio & Powell, 1983; Oliver, 1991). Tolbert (1985) contends that dependencies which remain intact over time become institutionalized. Hence, the historical dependence of NPOs upon government for much of their funding may be considered as an institutionalized form of dependency. For the purpose of this paper, dependencies on the different levels of government for funding are treated as indicators of the influences of both institutional and resource environments. This approach allows for a comparison of hypotheses deduced from the various theories that are applicable to both levels of explanation.
Only the institutional interpretation is presented here. Explanations based on resource
dependence and other resource-based theories will follow the institutional level explanations.

Studies based on institutional theory suggest that dependence on the various levels
of government for funding has differential effects on organizations. Meyer and associates
(1987), using national data obtained from public school districts, found that dependence on
federal and local environments for funding is related to greater administrative complexity
(among local school districts) than dependence on state environments. These authors, in
effect, used dependence on the state governments for funding as an indicator of institutional
influence that centralizes, formalizes and unifies the organizational field. They further used
dependence on the federal government as an indicator of influence that centralizes, formalizes
and fragments the field. Finally, dependence on local governments for funding was used as
an indicator of influence that is low with respect to centralization, formalization, and
unification. These authors did not examine the relationships between dependence on these
three levels of government for funding and service delivery to the under-served clients.

In another recent study of outpatient substance abuse treatment units, D'Aunno et al
(1991) tested several hypotheses, including a few pertaining to the relationship between
conforming to the mental health sector and resource support from that sector. These authors
used data based on a survey of a national random sample of 362 outpatient substance
treatment units, which was collected in 1984. They found positive relationships between
conformity to the mental health sector and the receiving of funding from that sector. The
authors also found that under conditions of conflicting institutional demands (i.e., those
emanating from both the mental health and the substance abuse sectors) treatment units tended to mix their practices by incorporating elements of both of these sectors. Their study supports the institutional argument that organizations adopt conflicting practices when the sources of institutional influence are fragmented. It also indicates that dependence on the institutional environment for funding may be used appropriately as an indicator of conformity.

In sum, the research presented above support the contention that the institutional environment influences organizations, at least in terms of their structures. Structures of organizations, as represented by their administrative complexity, have been found to be positively related to the complexity of their institutional environments. More specifically, the more complex and fragmented the institutional environment, the more complex the structure of the organization itself. The nature of the influence of institutional environments upon organizational behaviors and practices, specifically in terms of service delivery to the disenfranchised, has received little empirical attention.

Effects of Institutional Norms

Within some fields, centralization, structuration and unification occur in sectors that cut across the different levels of government. Since the data used in this study pertain to the field of substance abuse, the sources of institutional influence within this field are discussed. D'Aunno, Sutton and Price (1991) found that outpatient treatment agencies operate in an institutional environment that is fragmented, in that it is riddled with conflicts and contradictions. The lack of consensus and coordination prevails at all levels of government
(national, state, and local) within this field. For example, several different certification agencies exist, some in the mental health sector and others in the substance abuse sector. Organizations often depend on all three levels of government for their funding. Contract management for different programs are often kept separate, requiring different administrative controls, and reporting requirements.

D'Aunno and associates (1991), however, note that much of the institutional environment of outpatient substance treatment units is centralized, formalized and unified within the two sectors (mental health and substance abuse), rather than within the levels of government. Although these two sectors conflict with each other, each is internally unified. Each maintains very distinct perspectives on the etiology of substance abuse, appropriate treatment technology, and staff qualifications, to name a few. The two sectors also have separate certification agencies.

NPOs in the substance abuse field vary to the extent that they are influenced by the centralized, formalized and unified mental health and substance abuse sectors. Institutional theory suggests that influence exerted by either one of these sectors represents institutional pressures that centralize, formalize, and unify the field. Influence exerted by both sectors indicate conformity with institutional influences that centralize, formalize, but fragment the field.

In effect, to the extent that the mental health and substance abuse sectors are sources of institutional influence on organizations in the substance abuse field, the act of conforming to these sectors should be related to service delivery to under-served clients. Moreover, the
act of conforming to the norms of one or the other should have a stronger effect than the conforming to both. In addition, observations of the nature of the relationship between conformity and service delivery to under-served clients will provide clues as to whether or not these sectors are supportive of service delivery to under-served clients.

Norms of the Substance Abuse field

While Meyer and associates relied on funding as an indicator of the institutional effects of government, other more specific measures have been used by others. In the field of outpatient substance abuse treatment, D'Aunno and colleagues (1991) used indicators which include: 1) certification by the various regulatory agencies; 2) reliance on professionals (i.e., psychiatrists, psychologists, and social workers) versus ex-addicts and alcoholics to deliver services; 3) reliance on specific treatment technology, including psychological tests, especially the DSM III; and 4) degree to which complete abstinence is stressed as a treatment goal. These indicators transcend government as a source of institutional influence. The relevant literature with respect to each is reviewed below.

1) Certification

There are conflicting arguments as to the effects on NPOs of certification by regulatory agencies. Earlier studies, which followed the expansion of government in social welfare in the 1960s, suggest that regulation did not undermine the autonomy of NPOs (Richter and Ozawa, 1983; Peyrot, 1991). But these studies had severe limitations. Some of
them sampled only agencies with multiple funding sources—not those relying heavily on government for their funding (Richter & Ozawa, 1983). Peyrot's (1991) study was a case study using data obtained from a select few extreme cases (agencies) in the 1970s. The author conceded that the sample was extremely biased. Smith (1989) asserted that increases in government funding in the 1960s and 1970s did not undermine the autonomy of organizations receiving public funding. The author contended that this had been the case, in part, because government administrators initially were less concerned with accountability. In addition, they did not have the professionalized staff and resources with which to monitor and evaluate publicly funded programs. In sum, the earlier studies had too many shortcomings and, thus, the evidence that they provide is questionable. Also, pressures on organizations to conform may have been minimal in the 1960s and 1970s.

Kramer and Grossman (1987, p. 42) contend that agencies do not lose their autonomy when they rely on public funding. These authors argue that: 1) the existence of multiple governmental and private funding sources, 2) the scarcity of service providers, many having political influence to restrict the ability of government to enforce standards, and 3) the inability of government to implement accountability procedures, together inhibit adequate supervision of organizations. Hence, they have only minimal impact on the organizations. A similar view is held by others (e.g., Leat 1990).

The assertion that government regulation has not been undermining the autonomy of human service organizations, especially since the early 1980s, has been seriously challenged in recent years. Smith (1989) contends that government now has a much greater capacity to
enforce accountability. Drolen (1990, p. 191) argues that states now set priorities, with which community mental health centers (CMHCs) must abide in order to qualify for and maintain their funding. The author adds that restrictions set by government include conditions as to type of training for treatment staff, type of treatment technology used, and client population targeted.

Drolen (1990) states that contracts made with private organizations for services, are now more restrictive. This factor reflects greater prioritization of state services due to fiscal pressures. The author adds that states now have adequate professionally trained staff and resources for program monitoring and evaluation. Drolen further contends that organizations which rely on government funding are now "more likely to adopt government norms of clients and services" (pp. 293-294). Hudson and Dubey's (1986) study supports the view that much of the power to make decisions in social service fields has been centralized at the state level, but these authors did not examine the effects of certification on service delivery.

In sum, the above review suggests that certification may be related to service delivery by NPOs to disenfranchised clients. In order to become certified and maintain certification, organizations are required to conform to standards and other demands which are imposed externally by certifying agencies. These standards are likely to be at least minimally restrictive. In addition, when organizations seek certification in order to attract funding, they may be further restricted by the stipulations set by external funding bodies under grants and purchase-of-service contracts. To the extent that beliefs, practices and rules of certifying bodies promote service delivery to under-served clients, certification (as an indicator of conformity)
should be related positively to service delivery to these clients. Likewise, to the extent that they undermine service delivery to under-served clients, the relationship should be negative.

In the substance abuse treatment field, organizations can obtain certification from one or more agencies in the mental health sector, the substance abuse sector, or both sectors. Certification by agencies in one sector or the other implies that the organization is conforming to a source of institutional influence that unifies the field. In contrast, certification in both the mental health and the substance abuse sector suggests that it is conforming to sources that fragment the field. Differences in the percentages of under-served clients served, based on whether the organization is certified, and the sector(s) in which it is certified, therefore, indicates the exertion of institutional influences on service delivery to under-served clients. An examination of the direction of these differences also helps to clarify the nature of the influence emanating from certifying bodies.

2) Professionalism

In addition to certification, professionalism has been used as indicator of conformity to the norms of the unified mental health sector institutional environment (D'Aunno et al., 1991). Meyer and Rowan (1977) contend that organizations assign activities to professionals as a means of evading monitoring and evaluation. DiMaggio & Powell (1983, p. 152) further argue that professionalism serves as an important source of isomorphism, in that its "cognitive base [is] produced by university specialists," and the existence of elaborate professional networks contribute to a rapid dispersion of new knowledge. Consistent with the
institutionalized practices of the mental health sector is the use of professionally trained psychiatrists, psychologists, and social workers to deliver treatment services (D'Aunno et al., 1991). In contrast, substance abuse sector agencies rely mainly on ex-addicts to deliver their services.

The social service literature suggests that professionalism may be affecting adversely the delivery of services to under-served clients. Dorris (1982) contends that CMHCs have, since their inception, failed to adequately address the needs of the under-served because of their heavy reliance on psychiatrists to deliver services. This author argues that these professionals have been serving their own interests, and the interest of their profession, rather than responding to the needs of the community. But, the representation of psychiatrists in the CMHCs has been dwindling. Evidence presented by Murdock (1989) indicates that community mental health organizations have been coping with funding cuts by substituting lower-paid BSWs and MAs (in areas such as psychology) for Ph.Ds, MSWs, and psychiatrists.

Recent studies suggest that these changes in the composition of professionalism may not be altering the outcome in terms of service delivery to under-served clients. Aviram and Katan (1991) conducted a study of 238 social work students prior to their entry into the field. These authors found that students had little preference for working with the needy, aged, retarded and poor. In another study, Reeser and Epstein (1987) compared survey data obtained by NASW in 1968 and in 1984. These authors found that social workers' views of the focus of the profession had shifted from a social change and poverty elimination
orientation to one that supports the social class system. Based on these findings, conformity to the unified mental health sector, as measured by reliance on trained professionals to deliver services, should be related negatively to service delivery to under-served clients.

Ingersoll (1993), in a recent review of the literature on school systems, concluded that teachers' are disempowered, even in systems which appear to give them considerable autonomy over the activities which they perform. The author attributes this situation to managerial controls in critical areas, such as planning and resource allocation. Based on the findings reported by this author, professionalism should be unrelated to service delivery to under-served clients.

With respect to the unified substance sector, conformity involves reliance on ex-addicts as treatment staff, rather than professionals. The relationship between the latter and service delivery to the under-served has received little attention in the literature. In addition, the effects of reliance on both professionals and ex-addicts as treatment staff has not been thoroughly examined. The latter suggests conformity with sources of institutional influence that fragment the field.

3-4) Treatment Approach and Abstinence

In addition to dependence on governments for resources, certification and professionalism, D'Aunno and associates (1991) have identified a number of factors which indicate conformity with the norms of the substance abuse treatment environment. Among these is the treatment approach used. The mental health sector, for instance, relies on the
psycho-social approach to treatment. This approach emphasizes the use of psychological tests (including the DSM III) in conducting client assessments and diagnoses. Mental health professionals typically are trained to administer these tests, and they constitute an important treatment technology in mental health (D'Aunno et al., 1991). Another practice of the mental health sector is reliance on methadone for treatment and detoxification. NPOs engaging in neither of these practices are more likely to be conforming to the mental health than the substance abuse sector. In addition, those relying only partially on these practices may be viewed as conforming to fragmented institutional influences.

Finally, the belief that complete abstinence should be a treatment goal is incompatible with the values of the mental health sector, but consistent with those of the substance abuse sector (D'Aunno et al., 1991). That is, strong emphasis on complete abstinence suggests conformity with the substance abuse treatment sector, whereas weak emphasis suggests conformity with the mental health sector. Moderate emphasis may be viewed as an indicator of conformity with fragmented sources of institutional influence.

To the extent that conformity to the mental health and the substance abuse sectors influence service delivery to the under-served, the practices of using DSM III and methadone, and the value placed on abstinence as a treatment goal, should be related to service delivery to this segment of the population. Again, the nature of these relationships will provide an indication as to whether or not the respective sectors are supportive of service delivery to the under-served.
Summary

Population ecology, institutional and resource dependence theories provide concepts that are useful for examining the influence of institutional environments on the services that NPOs deliver to under-served populations. Ecological theory stresses the role of political support for the under-served at the time of the founding of service delivery organization. Overall, the theory postulates that NPOs founded in times of strong political support for under-served populations will be more responsive to their needs than those founded at other times. This proposition has not been adequately examined in the literature.

A primary proposition derived from institutional theory is that conforming to the institutional environment influences service delivery by NPOs to under-served clients. The nature of the relationship depends on whether the institutional beliefs, rules and practices adopted by these organizations are conducive to service delivery to under-served clients. It also depends on whether the sources of institutional influence fragment or unify the field in which the NPO operates.

The literature suggests that in the substance abuse treatment field, the mental health and substance abuse sectors have conflicting norms. However, each of these sectors is internally unified. It further suggests that at least some of the rules, beliefs, and practices of the mental health sector, as measured by certification and professionalism, may be related negatively to service delivery to under-served clients. However, the evidence is inadequate. Furthermore, the nature of the relationships between conforming to other beliefs, practices and rules of the sector and service delivery to the under-served is unclear. Among these other
aspects of conformity are beliefs regarding abstinence as a treatment goal, and reliance on the DSM III as a treatment technology. Should these indicators be related (either positively or negatively) to service delivery to under-served clients, institutional theory will be supported.

Section 2.3: RESOURCE ENVIRONMENT

Based on the organization-in-environment framework presented in Section 2.1, the resource environment is presented as the second level of analysis in this study. The resource (or task) environment refers to "factors directly related to the work of the organization" (Carroll and Huo 1986, p. 838). It includes all aspects of the environment, "potentially relevant to goal setting and goal attainment, but is typically narrowed in use to refer to sources of inputs, markets for outputs, competitors," and regulatory groups, including certifying bodies, and staffing (Carroll and Huo, 1986; Scott, 1992 p. 134 text). The informational aspect of the task environment is also usually examined, because it reflects the degree of predictability in the task environment (Harrison, 1987; Scott, 1992). Harrison (1987, p. 103) defined predictability in the environment as "the degree to which demand and supply of critical resources have changed over the past year."

As stated in the previous section, theories pertaining to the resource and institutional environments overlap with respect to concepts that they identify as critical in influencing organizational behaviors and activities. Institutional theory presents government funding, regulatory bodies and staffing patterns as influences of the institutional environment. These
same factors are construed as representing the influences of the resource environment by resource dependence theorists. Moreover, all of the other resource level theories emphasize government funding as an influence emanating from the resource rather than the institutional environment.

For the purpose of the present study, regulatory influences (through certification) will not be re-examined as elements of the resource environment. Government funding and staffing will, however, be revisited. The reason is that a number of the propositions of theories pertaining to the resource environment stress these as critical elements of the resource environment. For instance, staff are included as elements of concepts such as 'competition for resources' and 'stability of the resource environment.'

Theories relating to the resource environment provide both rival and complementary propositions regarding the influence of the resource environment on organizations. Among the concepts that they have in common are: 1) competition for resources, 2) predictability (or stability) of the resource environment, and 3) sources of resource. Each of these concepts are discussed separately below. Propositions as to their relationships with service delivery to under-served clients, and the related literature, are also stated. But first, the theories are summarized.

**RESOURCE LEVEL THEORIES**

The three primary sets of theories, which provide explanations for the effects of the resource environment on NPOs, are: 1) organizational/population ecology theory, 2) resource
dependence theory and 3) the micro-economic perspective. Since the first theory was presented in the previous section, only the latter two are briefly summarized below.

a) Resource Dependence Theory

Resource dependence theory assumes that organizations are not internally self-sufficient. They have to interact with other organizations in the environment in order to meet their resource needs. The theory postulates that when a focal organization becomes dependent on an external organization or actor for resource, the provider of resource is able to use its power to impose its will on the recipient organization. The more dependent the focal organization is on the other for resource, the less able it is to resist the demands of the other (Oliver, 1991; Pfeffer, 1982). Dependency undermines the autonomy of the focal organization. Autonomy implies having the ability to pursue intended mission and goals (Saxon-Harrold, 1990; Ware, 1989).

Resource dependence theory identifies at least two conditions as necessary for the focal organization to become dependent on another: 1) importance of the resource needed for the functioning of the organization; and 2) access of the focal organization to alternative sources of resource (Aldrich & Pfeffer, 1976; Siadel, 1991). Dependence is, however, frequently operationally defined as the percentage of the focal organization's funding emanating from a given source (Oliver, 1991).
Unlike institutional theory, resource dependence theory stresses that organizational actors do not adapt passively to the demands and pressures of others who control critical resources. In order to maintain the stability of the flows of vital resources, or to reduce environmental uncertainties, they resort to a variety of strategies. These strategies include the negotiation of their interdependence with others in the environment in attempts to preserve some degree of autonomy (Oliver, 1991; Scott, 1992). The theory further posits that organizations are able to resist demands associated with environmental contingencies when they transact with a multiplicity of sources of resource characterized by conflicting interests (DiMaggio & Powell, 1983, p. 154; Oliver, 1991). Thus, while both institutional and resource dependence theories hold that organizations use a variety of strategies in responding to the demands of their institutional environments, these responses are more strategic for resource dependence theory.

In effect, like institutional theory, resource dependence theory suggests that organizations may be dependent on sources of resource that fragment or unify the field. The two theories overlap in their propositions as to the effect of dependence on sources that unify the organizational field. Both theories suggest that organizations are likely to conform to the expectations of sources of influence that unify the field. Positive relationships between dependence on elements of the environment that unify the field and service delivery to underserved clients will thus suggest that these elements support service delivery to these clients.

Resource and institutional theories, however, lead to slightly different predictions with respect to the effect of dependence on sources that fragment the field (i.e., those representing
divergent and conflicting interests). On the basis of resource dependence theory, dependence on these sources should not be related to service delivery to the under-served, since the organization is able to evade the demands and expectations of conflicting interests. In contrast, institutional theory states that organizations, at least partially, will conform to the conflicting demands and expectations. Hence, influences that fragment the field will likely have a moderate effect on service delivery to under-served clients, based on institutional theory. The nature of the influence, as stated above, depends on whether the source of influence supports service delivery to under-served clients.

b) Economic Perspective

Three overlapping economic theories have been combined to represent the micro-economic perspective on NPOs; market failure (Hansmann 1980, 1987), government failure (Weisbrod, 1977, 1988), and privatization (Netting et al., 1990). Political scientists who subscribe to liberal pluralism (O’Neil, 1989; Ware, 1989), as well as proponents of the economic perspective on NPOs, view NPOs as ideally operating independently of the government and the market system. The primary purpose of service delivery NPOs is assumed to be that of providing needed goods and services that both government and market fail to provide. A second assumption of the economic perspective is that NPOs, as a condition for receiving their nonprofit status, are subject to the non-distribution constraint; that is, owners and managers are prevented by law from personally benefitting from excess revenues that NPOs may generate. These assumptions imply, in effect, that the economic perspective
emphasizes service delivery to under-served populations as an important function of NPOs in society.

Consistent with the view that NPOs operate independently of government and market, the economic perspective holds that the primary source of revenue for NPOs should be donations, gifts, and grants (Weisbrod, 1988). Theories within this perspective vary with respect to the effects of ‘demand’ (i.e., sale of services to government or to private purchasers) on service delivery to the under-served. Weisbrod (1988) contends that demand inevitably put NPOs in competition with for-profit firms, and that competition reduces the ability of NPOs to generate excess revenue. Without excess revenues, NPOs are postulated to be unable to provide subsidized services to the under-served. The author adds that organizations may undermine the non-distribution constraint by using their excess revenues to pay their administrators and staff excessive salaries and benefits. In contrast, Netting and associates (1990) assert that (demand will facilitate service delivery to the under-served, but only under specific conditions, which enable the NPOs to generate excess revenues. These authors postulate that 1) competition for clients, and 2) stability of demand are factors which mitigate the relationship between demand and service delivery to the under-served. They stress that demand for the services would only benefit the under-served when competition is relatively low and demand is relatively stable. So, whether the purchaser is government or private individuals (or private organizations), the effect of demand on service delivery to the under-served should be mitigated by the same two factors. Similarities and differences between the economic, ecological, and resource dependence theories in regard to the key
concepts and their relationships to service delivery to under-served clients are discussed below.

RESOURCE LEVEL CONCEPTS

Micro-economic, resource dependence, and ecological theories offer both overlapping and competing explanations for the effects of competition, demand, and stability of demand on service delivery to under-served clients. These sets of theories conceptualize the three primary concepts that they use to describe the resource environment (i.e., competition for resource, sources of resource, and stability of the resource environment) slightly differently. While resource dependence and ecological theories use the term, 'competition,' to refer to competition for resources in general, economic theorists limit its use to competition for clients or markets. Resource dependence theory treats the 'sources of resource' simply as sources of dependency on the task environment, whereas the economic perspective makes the distinction as to whether the source entails donations, gifts and grants, or purchases (i.e., demand) by either government or private purchasers. Finally, resource dependence and ecological theorists use the term, 'stability' (or predictability) to refer to the predictability of the entire resource environment, while economists use it more narrowly to refer to the stability of demand mainly by clients (or markets). The distinctions in conceptualizations and propositions among resource level theories are elaborated below.
a) **Competition for resources**

Resource dependence, micro-economic and the ecological perspectives, all posit that competition for resources will have an adverse effect on service delivery by NPOs to under-served populations. Pfeffer (1982, p. 194), using a resource dependence perspective, asserts that competition for resources constitutes a 'zero-sum game,' whereby winners benefit at the expense of losers, whose survival may be threatened in the process. The economic perspective postulates that competition has a negative effect on the ability of NPOs to generate excess revenues, and thereby reduces the amount of resources available to cross-subsidize internally service delivery to under-served clients (Netting et al., 1990; Weisbrod, 1988). Thus, based on all three theoretical perspectives, competition for resources is expected to be related negatively to service delivery to the under-served.

As referred to earlier, the micro-economic perspective on NPOs portrays these organizations as operating ideally outside of the market system and independently of government (Hansmann, 1987; Weisbrod, 1977, 1988). From this perspective, competition with other firms is generated when NPOs sell their services, either in the market or to governments. Competition is viewed as having a negative impact on service delivery to the under-served by these organizations. That is, to the extent that competition keeps prices low, it also reduces the amount of revenue available to deliver subsidized services to those who cannot afford to pay the full cost of care (Clark 1991, p. 5).

In spite of their similarities with respect to the effect of competition, the theories conceptualize competition differently. While the micro-economic perspective limits the
definition of competition to competition of clients and markets, others such as resource
dependence, hold a much broader definition. Included in the definition are competition for
clients, funding, technology, legitimacy, staff, and volunteers (Lammers, 1990; Scott 1992).
However, very few studies have attempted to verify the extent of overall competition and its
effects on organizations in the nonprofit sector. Most of the existing studies identified below
have focused almost exclusively on competition in the procurement of government funding
through purchase-of-service-contracts (POSCs).

In a recent case study of contracting under two federal programs, Title XX of the
Social Security Act and Titles II and IV of the Comprehensive Employment Training Act,
DeHoog (1985) interviewed officials and examined various documents of two Michigan state
departments. The author found little evidence of competition in the contracting process.
Several obstacles to competition were observed. Among these are: 1) limitation in the actual
number of agencies available to bid for contracts; 2) narrowness in the solicitation process -on
the part of public funding agencies; 3) precedence of administrative and political
considerations over cost savings in decisions to contract out; and 4) absence of monitoring
mechanisms to ensure contract compliance. The author also found that contract renewal was
almost invariably guaranteed, and that existing information on compliance and performance
were often ignored in negotiations to renew contracts.

In another study, Kramer and Grossman (1987) examined data obtained from three
studies conducted in the San Francisco Bay areas, all based on non-probability samples.
These authors have reached similar conclusions as DeHoog (1985) with respect to the forces
operating to undermine competition in the POSC process. They added that "value judgements and power considerations" influence the process (p. 38). Legislators were found to reward contractors on political grounds. In addition, agency representatives and citizens advisory boards were found to influence the purchase-of-service (POSC) process in ways that restricted competition.

Kettner and Martin (1989) analyzed secondary data obtained through an earlier (1986) survey of Social Service Block Grant (SSBG) agency administrators in 43 states. These authors found that purchase-of-service (POSC) activities involved competition only 23.9 percent of the time. Competition for public social service contracts was defined as, "two or more contractors submit[ing] bids or proposals to provide a service" (p. 183). They concluded that "competition in POSC for human services may be more myth than reality" (Kettner and Martin 1989, p. 183).

In sum, the aforementioned studies have found little evidence of competition for government contracts when NPOs are among the bidders. These studies, however, have several limitations. First, except for Kettner and Martin (1989), they were not based on representative samples. Hence, the findings may not be generalizable to other NPOs. Second, the studies have focused only on competition for government contracts to deliver social services. Competition for donation, private-pay clients, as well as publicly insured clients, was not examined. Third, organizations studied were limited to those in the social service field. Hence, the findings may not be generalizable to agencies providing other services (e.g., substance abuse organizations), which have been experiencing increasing rather that
decreasing public support over the past decade). Finally, studies reported so far have not adequately addressed issues pertaining to operational definitions and measurements of competition.

Economists studying competition in the market generally use objective measures of market concentration, including the Herfindahl Index, as indicators of competition. But objective measures are not typically used in studies of competition in the non-profit sector. One exception is a recent study of Tennessee nursing homes (Tuckman and Chang, 1988). The authors examined the significance of competition in influencing nursing home costs. They found that service costs were higher in NPOs than in for-profit firms. However, competition (operationalized as market concentration) resulted in a cost convergence between NPOs and for-profit firms. The influence of competition on below-cost care, which encompasses subsidized services to under-served populations, was not examined.

Clark (1991) studied competition among Community Mental Health Centers (CMHCs) by examining national level secondary data. Using the Herfindahl Index to objectively measure competition, two seemingly contradictory findings were reported. First, "[w]hen competition is high, CMHAs provide lower amounts and lower percentages of care at rates below cost" (Clark 1991, p. 125). The author concluded that increased competition reduces the amount of excess revenues available for cross-subsidizing care. Second, below-cost outpatient care remained high. The average CMHA was found to sell 77 percent of its outpatient care at rates below cost. Clark (1991, p. 109) concluded that competition may result in a decrease in the number of clients who can pay at the full cost, and hence,
agencies become more willing to accept "less financially attractive clients." The implications for service delivery to under-served clients are unclear.

Further evidence of competition involving NPOs has been put forward by Lammers (1990). The author conducted a mail survey of 104 executive directors of human service organizations in Louisville, Kentucky in order to examine the effects of competition on labor management. In this study, competition was defined as the perceptions of executives as to the presence of competition with other agencies for scarce resources, namely clients, funds, staff, and volunteers. Approximately one-half (49%) of the directors surveyed reported that they had experienced competition with at least one other agency. Of those who reported experiencing competition, 35 percent stated that the level of competition had increased between 1985 and 1986. Competition, however, did not have any significant effect on the primary dependent variable, labour relations. Moreover, its relationship to service delivery to under-served clients was not examined.

In sum, micro-economic, resource dependence and population ecology theories predict that competition will be related negatively to service delivery to the under-served. While resource dependence and population ecology perspectives focus on the negative effects of competition for resources in general, economic perspective is limited to competition for clients or markets only. Overall, the limited number of existing studies, using both objective and subjective measures of competition, suggest that NPOs do experience varying degrees, although the levels are limited, of competition for clients and markets, funds, staff and volunteers. But the generalizability of these findings to other settings is questionable.
Moreover, few of the existing studies have focused explicitly on the nature of the influence of competition on service delivery to under-served clients.

b) Stability of Resource Environment

As with the case of competition, all of the resource-related theories postulate that instability (or the absence of predictability in the resource environment) will affect adversely organizations in the field. Stability in the resource environment should, therefore, be related positively to service delivery to the under-served. The review below indicates that few studies have examined stability of the resource environment of NPOs, and its influence on these organizations. Moreover, existing studies are largely descriptive in nature.

With respect to government as a source of resource, the degree of stability of demand appears to vary depending on the form of government demand. Demand by government takes a variety of forms, each producing different degrees of stability. For instance, public funding may reach NPOs 1) directly through purchase-of-service contracts (POSCs) with NPOs, or 2) indirectly through client subsidies (e.g., Medicaid and Medicare insurance, which in turn enable clients to purchase services from NPOs), or 3) through a combination of these sources (Salamon, 1987). Earlier studies (De Hoog, 1985; Kramer and Grossman, 1987) have found that demand by government, through POSCs, tends to be stable; the renewal rate for government contracts is extremely high. But Salamon (1987, p. 106) asserts that demand by government is more unstable when "assistance is provided to private citizens who are then free to purchase services from providers of their choice in the market." Other sources of
revenue of NPOs may also be contributing to the instability of their resource environment. Donations have been found to be a highly unstable source of resource (Gronbjerg, 1991). Government grants, demand by private purchasers may also vary in terms of their stability.

Overall, the review suggests that NPOs experience varying degrees of instability in their resource environments. The extent of stability depends in part on the constellation of resources, particularly funding; NPOs receive different amounts of funding from government and private purchasers, as well as through donations, gifts, and grants. Although the relationship between stability of the resource environment and services to the under-served has not been adequately investigated, all of the theories reviewed in this section suggest that it will be positive.

c) Sources of Resource

In addition to competition for resource and stability of the resource environment, economic, resource dependence and population ecology theories predict that the source of the resource itself will have an impact on NPOs. The three sets of theories lead to different predictions with respect to the effects of various sources of resource on service delivery to under-served clients. Differences among the theories are examined below. As with most of the studies that have examined the influence of resources environment on NPOs, sources of resource will be limited specifically to sources of funding.

As indicated above, NPOs obtain their funding from a variety of sources. Microeconomic theorists have emphasized three broad categories of funding sources: 1) gifts,
grants and donations, which constitute sources traditionally associated with NPOs; 2) government demand (i.e., government purchases, either directly through purchase-of-service contracts (POSCs) to deliver services to certain targeted client groups, or indirectly through services purchased by publicly subsidized clients (e.g., Medicare and Medicaid clients); and 3) private demand (i.e., sale of services to private purchasers, including fee-for-service clients and private firms purchasing services for their employees. Some authors have questioned whether government donations and grants should be treated as similar to private donations. Hardina (1990, p. 36), for instance, contends government donations and grants constrain NPOs; they enable government to dictate conditions for their use, including stipulations as to types of clients to be targeted for services. In effect, the economic classification of funding sources may not be adequate.

Funding sources may be more appropriately clustered by the use of a slightly different scheme: a) donations, b) government demand, and c) private demand. The first, 'donation' refers to all non-governmental contributions received by NPOs. Donors are assumed to impose few, if any, conditions as to how NPOs should use their contributions. Government demand encompasses all revenues of NPOs coming from government, including donations and grants. Technically, even government donations and grants involve some form of purchase because recipient organizations are typically expected to provide goods or services in return for receiving them. The definition of the third funding source, 'private demand,' will be the same as stated above (i.e., purchases by private individuals and organizations). Existing theory and research on these three sources of resource are summarized below.
1) **Donation**

Economic, population ecology and resource dependence theories provide different propositions as to the effects of donation on service delivery to the under-served. The economic perspective, overall, stresses that donation constitutes the critical source of resource, which facilitates service delivery to the under-served. This source of revenue is postulated to be related positively to service delivery to these clients (Ware, 1989; Weisbrod, 1977, 1988). Resource dependence suggests that the environment from which donations are obtained represents multiple and conflicting interests (DiMaggio & Powell, 1983; Oliver, 1991). Based on the latter theory, organizations should be able to resist demands made by those who control the resources in such a fragmented resource environment. Hence, on the basis of resource dependence theory, donation should not influence service delivery to under-served populations.

The different resource level theories suggest that a number of factors moderate the effects of donation on service delivery to under-served clients. On the bases of population ecology and resource dependence theories, donation will be mitigated by competition for resources and stability in the resource environment. Under conditions of high competition and instability, donations should have little or no effect on service delivery under-served clients.

Few of the studies located in the literature have examined the nature of the relationship between donation and service delivery to the under-served. Gronbjerg (1991) found that donations were less constraining to organizations than other sources of revenue,
including grants and contracts. Gronbjerg, also found that donation constituted an unstable source of revenue for organizations. The author did not examine the relationship between donation and service delivery to under-served clients. In addition, Gronbjerg (1991) did not examine whether competition and stability of resources mitigated the relationship between donation and service delivery to these clients.

In sum, based on the economic perspective, donations should be related positively to service delivery to the under-served. In addition, excessive salaries and benefits are expected to negate the effects of donation. Issues related to stability of the resource environment and competition for donations are not addressed adequately in the economic perspective. Resource dependence theory predicts that donation will not be related to service delivery, since donors represent a multiplicity of fragmented and conflicting interests. Ecological and resource dependence theories further predict that the relationship between donation and service delivery to the under-served will depend on whether the resource environment is stable, and whether competition is low; that is, unstable resource environments and competition for resources will undermine any positive relationship between donations and service delivery. Past research do not provide convincing evidence as to the nature of the relationship between donation and service delivery to the under-served. Additional research is needed for this purpose.
2) Government Demand

In addition to donation, theories pertaining to the resource environment stress government as a critical source of resource for NPOs. These theories provide varying propositions as to the effects of government demand (i.e., government purchases, either directly through POSCs with NPOs, or indirectly through services purchased by publicly insured clients, as well as gifts and grants) on service delivery to under-served populations. Differences also exist within the economic perspective with respect to the relationship between government demand and service delivery to under-served clients. Weisbrod (1988), for example, presents government demand as similar to private demand; it inevitably puts NPOs in competition with other firms for clients and markets. Competition reduces the ability of NPOs to generate the excess revenues, which are required to provide subsidized services to the disenfranchised. In addition, excessive salaries and benefits further undermine the effects of government demand.

Consistent with population ecology and resource dependence theory, Netting and associates (1990) predict that government demand will be related positively to service delivery to these clients when it enables the NPO to raise excess revenues. As indicated earlier, these authors argue that demand by government would actually benefit under-served clients when competition for clients is low, and the resource environment is relatively stable. Under these conditions, organizations are expected to generate excess revenues, which they in turn use to provide subsidized services to under-served clients.
Resource dependence theory suggests that organizations are able the resist the dictates of external organizations and social actors who control critical resources when these resources arrive from a multiplicity of fragmented and conflicting sources. Studies discussed in Section 2.2 suggest that funding and decision-making are increasingly being centralized and unified at the state level. In contrast, federal and local level demands are marked by fragmentation. On the basis of resource dependence theory, state level demand should thus have a strong effect on service delivery to under-served clients, compared to federal and local level demands. Only a handful of studies have examined the relationship between demand by government and service delivery to under-served clients. As indicated below, most of these studies are descriptive in nature.

The primary source of revenue for social service NPOs is government. Salamon (1987) cited an earlier Urban Institute (1981) study which found that social service organizations receive most (57%) of their total revenues from government. Following public sources are private giving (22%) and fees (13%). This study also showed that public funding ranges form zero to one hundred percent of total agency revenues. In another exploratory study of six private residential care agencies receiving Title XX funds in St. Louis, Richter and Ozawa (1983, p. 31) found that revenues received though POSCs with government ranged from 20 percent to 80 percent of the agencies' total budgets.

The literature further suggests that there are both advantages and disadvantages related to reliance on government funding. Gronbjerg (1991) found that public grants and contracts provided NPOs with a more stable source of revenue than donations and fees.
However, reliance on government funding affected adversely the performances of NPOs. Gronbjerg (1991) also found that contracts imposed program restrictions in terms of staff qualifications, and client eligibility. In addition, the author observed that agencies, especially smaller ones, experience severe cash-flow problems resulting from delays in reimbursement and contract approval by government.

Hardina (1990) examined the relationship between funding sources and client access strategies used by social welfare organizations. Using data obtained from a non-probability sample of 53 organizations serving three Chicago communities in 1985, the author found differences between organizations relying heavily on government for funding and those relying on foundations. Overall, organizations funded by government were more likely to use income-testing eligibility criteria, and less likely to sponsor activities, such as self-help advocacy and citizen participation. This study did not focus specifically on the relationship between funding and access to services for under-served clients. However, it does also suggest that dependence on government might be impacting negatively on the responsiveness of NPOs to the needs of under-served populations.

Dependence on government for funding through POSCs appears to create additional problems for NPOs. Reimbursement rates are often lower than the cost of providing the services (Clarke, 1991; Taube, Goldman, & Salkever, 1990). Clark (1991) contends that organizations frequently have to find alternative sources of revenue in order to subsidize service delivery to clients whose services are paid for government. This finding supports the economic perspective in that it suggests that government demand prevents NPOs from
generating excess revenues, which are needed to provide subsidized services to under-served clients.

In sum, the different resource level research and theories have provided contradictory information as to the effect of government demand on service delivery to under-served populations. Resource dependence theory predicts that state level government demand will have a stronger impact than federal or local government demand. The economic perspective is divided. Weisbrod (1988) contends that government demand, like private demand, will result in competition, which reduces excess revenues, and in turn reduces service delivery to under-served clients. Population ecology, resource dependence as well as the economic model proposed by Netting and others (1990) suggest that government demand will result in increased services to these clients when competition is low and the resource environment is stable. A key concept in the economic perspective is 'excess revenue'. The economic perspective predicts that excess revenue generated through government demand will be related positively to service delivery to under-served clients. Moreover, the possibility of units using their excess revenues to improve salaries and benefits is recognized within the economic perspective.

3) Private Demand

The final critical source of resource stressed by theories pertaining to the resource environment is demand by private purchasers. Private demand refers to the sale of services to private purchasers, including fee-for-service clients and private organizations. This is
perhaps the most controversial source of revenue for NPOs. The major criticism against private demand is summarized by O'Neil (1989, pp. 237-38), who argues that the more NPOs rely on sales, the more they will be forced to tailor their services to meet the needs of clients who can pay for them, and the less they will attend to clients with the greatest needs. A similar view is held by others (e.g., Weisbrod, 1988). But, as in the case of government demand, Netting et al. (1990) postulate that the relationship between private demand and service delivery to under-served clients will depend on the levels of competition and stability. Resource dependence and population ecology theories also predict that these two factors will mitigate the relationship between private demand and service delivery to these clients.

Few studies have examined the relationship between private demand and service delivery to under-served clients. The evidence found seems to support critics who argue that private demand undermines service delivery to the under-served. Gronbjerg (1990), for instance, found a negative relationship between fee charging and service delivery to this segment of the population. But clearly missing from the literature are studies examining the mediating roles of competition, excess revenues, salaries and benefits, and stability of demand.

SUMMARY

In sum, microeconomic, resource and population ecology theories together suggest that a number of factors in the resource environment may be related to service delivery to under-served populations by NPOs. These include: 1) competition for resources, 2) excess revenue, 3) fragmentation of the resource environment, 4) salary and benefit level, 5) source
of resource (i.e., donation, private demand, demand by the different levels of government), and 6) stability of the resource environment. In addition to the linear effects of these variables, the theories suggest that they interact to influence service delivery to under-served clients. The economic perspective forwarded by Weisbrod (1988) emphasizes salary as a primary moderator of the effects of resources on service delivery to under-served clients. The other resource level theories identify competition and stability of the resource environment as factors mitigating the effects of resources from the different sources.

The limited research found suggest that demand by government and by private purchasers may be undermining service delivery to under-served clients. With respect to demand by government, the evidence suggests that the price government pays NPOs is often at levels below the cost of producing services. This may be preventing them from generating excess revenue, which the economic perspective holds is needed to deliver subsidized services to under-served clients. There is also some evidence that donations may be related positively to service delivery to the under-served. However, the overall significance of factors, such as competition, stability of the resource environment, and the mitigating effects of these factors, has not been adequately examined in the literature.

2.4: ORGANIZATIONAL CHARACTERISTICS

Based on the organization-in-environment framework described in Section 2.1, organizational characteristics represent the third level of explanation for service delivery to
under-served clients. Institutional, niche, population ecology, and resource dependence theories posit that organizations utilize a number of strategies in responding to demands and opportunities posed by their institutional and resource environments. These responses may be placed into two categories: 1) active involvement in the field, 2) structural adjustments. Organizational involvement in the field, their structures and other characteristics that are related to service delivery to under-served clients are discussed below.

a) Involvement in the Field

Institutional and resource dependence theories suggest that organizations utilize a number of strategies to become actively involved in the field. These strategies are used for various reasons: 1) securing funding, legitimacy and stability of resource supplies, 2) seeking power and prestige, and 3) minimizing competition (DiMaggio & Powell, 1983, Meyer & Rowan, 1977; Saxon-Harrold, 1990; Scott, 1992). Overall, active involvement in the field is viewed as the mechanism through which organizations and their members are able to influence the environment, and buffer their day-to-day activities from institutional pressures.

Involvement in the field may take one or more forms. These include participating in coalitions and federations designed in order to influence legislation and policies affecting the entire field (DiMaggio & Powell, 1983). They also include providing training and workshops, participating in joint efforts, and engaging in cooperative relationships with other organizations in the field. The goals of such activities are postulated to benefit individual participants and their organizations, rather than under-served clients (Meyer and Rowan, 1977).
Evidence of involvement in the field exists in the literature. In a study of federal support for the arts, which began in 1965, DiMaggio (1987) found that the federal government actually encouraged interaction and coordination among agencies, as well as grass-roots constituency building. The author also found that federal support gave legitimacy to those organization receiving the support. Other organizations in the field began to emulate the practices of these organizations, which came to be viewed as successful. In addition, their leadership and staff obtained recognition and status within the field. Many became involved as consultants with other organizations, and served on government funding panels. They were able to acquire enough power to make decisions for agencies in the entire field. The author, however, did not examine whether participation in the field was related to service delivery, especially to under-served clients.

Using data collected through a non-probability sample of 53 social welfare organizations in 1985, Hardina (1990), found that thirty one of these organizations were engaged in coordinated relationships with other community-based programs, mainly through joint planning and programs. Again no attempt was made to determine what impact these efforts had on service delivery to under-served clients.

Only one study found in the literature represents an attempt to examine the relationship between participation in the field and service delivery to under-served clients. Gronbjerg (1990) tested a number of hypotheses of relationships between involvement in coalitions (and federations) and the poverty orientation of NPOs. Coalitions are broadly defined as attempts "to share in a collective effort to enact legislation favorable to member
agencies (Murdock 1989, p. 590). Gronbjerg (1990) found that strategies such as: 1) interactions among directors and staff across agencies, 2) organizational participation in lobbying efforts and affiliations, and 3) sharing of resources, including joint operation of programs, were not related to an orientation towards poverty. Gronbjerg's (1990) findings are consistent with the institutional perspective, which states that the participants may be involved in these inter-organizational activities out of self-interest, rather than the interest of the under-served. But this study consisted of only a small non-representative sample of NPOs. The findings may not be representative of NPOs in general.

In sum, both institutional and resource dependence theories postulate that organizations respond to opportunities and threats posed by their environment by becoming actively involved in the field. The purpose of involvement is viewed as self-interest rather than the interests of under-served clients. Involvement thus should not be related to service delivery to under-served clients. In addition, it is not expected to moderate the effects of the institutional environment on organizations. Empirical investigations done to determine whether or not involvement moderates these effects, and in ways that facilitate service delivery to under-served clients, are lacking in the literature.

Other organizational characteristics

Institutional, resource dependence, niche, and population ecology theories stress a number of additional elements of organizations, including their structures, as bases for predicting their behaviors. These theories vary in regard to whether they present the elements
as organizational characteristics or as strategies in response to threats and opportunities posed by external and internal environments. In some of the theories, organizational characteristics are postulated to directly influence service delivery. In others, they are construed as factors moderating the effects of the institutional and resource environments. The salient elements of organizations deduced from the theories, and their relationships to service delivery to under-served clients are discussed below.

b) **Organizational Goal**

Population ecology theory assumes that the ability of organizations to adapt to environmental changes is limited, because they experience multiple pressures toward inertia, once they are formed (Hannan and Freeman, 1984, 1989). Organizations that were founded with the explicit goal of addressing the needs of under-served clients should thus continue to be more responsive to the needs of these clients than their counterparts that do not have such goals. None of the studies cited have examined the relationship between this goal and service delivery to under-served clients.

c) **Age, size, and specialization**

Population ecology theory states that the environment selects for survival those organizations with structural features that it can sustain. Critical organizational variables studied by population ecology researchers are age, size, and specialization. Some investigators have conceptualized specialization along the dimensions of client characteristics
and number of different services (e.g., Clark and Estes, 1992; Hannan and Freeman, 1989). Population ecology theory postulates that unstable and turbulent environments will favor generalist over specialist organizations (Hannan & Freeman, 1989).

Past studies have showed consistently that organizational age and size are related positively to organizational survival. These studies also show that specialization is environment-specific; that is, stable environments favor specialists, and unstable environments favor generalists (Hannan and Freeman, 1989; Singh et al., 1986). The roles of specialization (by clients and services) in influencing service delivery to under-served clients, and in moderating the effects of stable and unstable environments on services to these clients, has not received much attention in the literature.

Like population ecology, niche theory assumes that organizational survival depends on their ability to secure critical resources from the environment, in part by specializing (Sosin, 1985). But investigators using niche theory have conceptualized specialization differently; that is, on the basis of auspices (or constituencies) rather than clients or services. Niche theory suggests that auspices, which provide resources and legitimacy, have different expectations regarding the types of social problems they address and clients served. In this regard, niche theory is consistent with institutional and resource dependence theories.

Sosin (1985, 1987) examined the effects of specialization by auspices (i.e., national versus local and religious versus secular) on the types of social problems addressed by organizations. The author found that organizations under religious auspices focused more on the needs of the under-served than their secular counterparts. This finding was supported in
other studies (e.g., Weisbrod, 1988). With respect to national versus local auspice and services to the under-served, however, the nature of the relationship was less clear.

Related to the concept of specialization by auspices is that of specialization by chain membership. Clark and Estes (1992, p. 947) define chain membership as whether or not the organization belongs to a parent organization which provides similar services. Based on the findings of a recent study of national voluntary organizations, Young (1989, p. 101) concluded that nonprofits are becoming more franchise-like; that is they are "more homogeneous, more standardized, and more centrally directed." The author added that while this strategy may give organizations a competitive advantage in securing resources, increasing centralization may be occurring at the expense of local autonomy of the individual subsidiaries, and of the unique needs of the local community. Young (1989) did not examine the actual effects of chain-membership on service delivery to under-served clients.

Within outpatient substance abuse treatment units, a number of possibilities exist with respect to specialization by chain membership. The substance abuse treatment unit may be free-standing or part of a larger NPO, a for-profit firm or a government agency. These structural arrangements allow for an examination of the relationship between specialization by ownership type (which approximates chain-membership) and service delivery to under-served clients.

Overall, regardless of whether specialization is viewed as an organizational characteristic or as a strategy, institutional, niche, population ecology, and resource dependence theories suggest that specialization is related to organizational survival and
growth. Survival in turn is expected to influence the ability of organizations to deliver services to under-served populations. NPOs tend to vary with respect to whether they specialize on the basis of chain membership, client, services, or religious versus secular auspices. In regards to chain membership, institutional, niche and resource dependence theories suggest that the 'parent' organization will influence service delivery to under-served clients when organizations are subsidiaries of larger chains. The nature of the relationship between being subsumed under a larger chain and service delivery is expected to depend, in part, on whether the parent organization is supportive of service delivery to under-served clients.

Population ecology theory postulates that specialist organizations will be favored for survival and growth, when the resource environment is stable. In contrast, generalist ones will be favored when the environment is unstable. Assuming that organizations in favorable resource environments are better positioned to respond to the needs of under-served clients, compared to counterparts which are struggling for survival, the following propositions have been deduced from population ecology theory:

- Generalism will be related positively to service delivery to under-served clients under conditions of unstable resource environments, and specialism will be related positively under conditions of stable resource environments.

No empirical examination of this proposition was found in the literature.

d) Administrative complexity

In addition to age, goal, size and specialization, the administrative complexity of organizational structures has been identified as a characteristic which is related to their activities and behaviors. Institutional theory states that the administrative complexity of
organizations in any given field reflects the degree of complexity (or fragmentation) of their institutional environment. Both institutional and resource dependence theories imply that these structural elements are established by organizations, in part, to buffer their day-to-day activities from the pressures of the institutional and resource environments.

Meyer et al. (1987), using administrative costs and the number of administrative positions as indicators of administrative complexity, found that the complexity of the institutional environment was related positively to the administrative complexity of organizations in the field. The implications for service delivery to under-served clients were not examined. Population ecology theory states that larger, more complex, organizations are better positioned to adapt to the demands and opportunities posed by their environments. Existing evidence also suggests that organizations with complex administrative structures are in a better position to handle the multiplicity of conflicting demand placed upon them (Kramer & Grossman, 1987). However, the implications for service delivery, particularly to under-served clients, remain unclear.

SECTION 2.5: SUMMARY

In the forgoing literature review, a number of the organizational theories used have provide plausible explanations for service delivery to under-served clients by NPOs. These include institutional, micro-economic, niche, population ecology, and resource dependence theories. These theories provide competing, complimentary, as well as overlapping
explanations for service delivery to under-served clients by NPOs. An organization-in-environment (ecological) theoretical framework was developed and used as the basis for organizing the explanations provided. This framework produced three levels of explanation: 1) institutional, 2) resource, and 3) organizational characteristics. Within each level of analysis the relevant theories, critical concepts and propositions derived from these theories, were identified, and relevant literature reviewed.

At the institutional level, three primary concepts were identified. The first is the 'time of founding' of the organization. Population ecology theory posits that organizations founded during times of strong political support for service delivery to under-served clients will be more responsive to their needs than those founded at other times. Organizational 'conformity with the norms' of their institutional environment is the second major concept associated with the influence of the institutional environment. Institutional theorists stress that conformity to the institutional environment takes precedence over efficiency and effectiveness considerations. The nature of the relationship between conformity and service delivery to under-served clients is expected to depend on whether the source of institutional influence itself is supportive of service delivery to these clients. The final concept at the institutional level is the degree to which elements of the institutional environment 'centralize, and formalize, and unify' the field. Institutional theorists contend that organizations exhibit only partial conformity to institutional beliefs, practices and rules when the sources of institutional influence are fragmented. Resource dependence theory, in contrast, suggests that
organizations are able to evade the demands and expectations of those who control their critical resources when the sources of influence are fragmented.

At the resource level, the theories provided a number of additional concepts. These include 'sources of resource,' which include donations, government demand, and private demand. Demand takes the form of sale of services. Additional concepts associated with the resource level are excess revenues, competition, and stability of the resource environment. Resource level theories indicate that these concepts have both linear and non-linear effects on service delivery to under-served clients. For instance, the effects of donations and demand (by government or private purchasers) are expected to be moderated by such factors such as competition for resources and stability of the resource environment.

The concept of organizational characteristics pertains to the third level of analysis. Organizational involvement in the field has been identified as a critical characteristic that is related to service delivery. Institutional and resource dependence theories postulate that organizations (or their representatives) obtain status, legitimacy and resources, and are able to minimize competition for resources, by becoming actively involved in the field. However, involvement in the field is not postulated to benefit under-served clients.

The theories offer conflicting perspectives on other organizational characteristics. Institutional, niche and resource dependence theorists emphasize some aspects of organizational characteristics as strategies in response to threats and opportunities. Population ecologists, however, view organizational characteristics as relatively inert, and as the basis for environmental selection of populations of organizations for survival. Regardless of how
these characteristics are viewed, the theories suggest that they influence survival, and hence service delivery to under-served clients.

Among the organizational characteristics identified as having potential influence on service delivery to under-served clients are age, size, goals, degree of specialization, and administrative complexity. The literature suggests that specialization may take one or more of several forms. These include specialization by types of service and ownership.

Overall, the theories presented above suggest that a myriad factors identified with the three levels of analysis may influence service delivery to under-served clients. There are possible linear effects of individual variables as well as effects of variables grouped according to different levels of analysis. In addition, the variables likely interact within and between the different levels of analysis.

The literature is marked by fragmented and sporadic attempts to examine empirically the adequacy of the rich array of theories in explaining service delivery to under-served clients. Most of the past studies were either case studies, or were descriptive studies based on non-probability samples. Moreover, only one of the studies cited above was guided by a broad ecological theoretical framework. Research thus is needed, not only to identify significant predictors, but also to determine the relative importance of the critical concepts in predicting service delivery to under-served clients. Comprehensive analyses, grounded in a broad ecological theoretical framework, will be useful to guide such undertakings.

Because of the overlaps between the theories, and the interrelationships among their concepts, comparisons of individual theories are neither simple not desirable. A preferable
course of action is to examine the significance of the concepts which were derived from these theories, and their relative importance as predictors of service delivery to under-served clients. This approach is expected to result in the elimination of non-significant concepts, and ultimately the most parsimonious models for predicting service delivery to under-served clients.

**RESEARCH QUESTIONS**

Data obtained from a national probability sample of nonprofit outpatient substance abuse treatment units will be used to answer the following questions:

1) Are simple linear models adequate for predicting service delivery to under-served clients?

2) Does specialization contribute significantly to the prediction of service delivery to under-served clients?

3) Does the ability to generate excess revenues contribute significantly to the prediction of service delivery to under-served clients?

4) Do expenditures on salary and benefit contribute significantly to the prediction of service delivery to under-served clients?

5) Does dependence on the different levels of government for funding contribute significantly to the prediction of service delivery to under-served clients?

6) Does private demand contribute significantly to the prediction of service delivery to under-served clients?

7) Do donations contribute significantly to the prediction of service delivery to under-served clients?
8) Does stability of the resource environment contribute significantly to the prediction of service delivery to under-served clients?

9) Does competition contribute significantly to the prediction of service delivery of service delivery to under-served clients?

10) Does organizational involvement in the field contribute significantly to the prediction of service delivery to under-served clients?

11) What are the most parsimonious models for predicting service delivery to under-served clients?

Overall, the broad ecological framework suggests that there are many possible predictors of service delivery to under-served clients, both by type and level of explanation. In answering the above questions, the study will identify those concepts and related variables that are significant predictors. In addition, the relative importance of these concepts will be assessed. Ultimately, the most parsimonious model for predicting service delivery to under-served clients will be derived.

**DEFINITION OF TERMS**

In this subsection, critical concepts that were be used in the study are defined, and their theory and research bases are clarified. In addition, propositions with respect to their relationships to service delivery to under-served clients are restated, where such propositions exist. Two tables which summarize the concepts, their theoretical and research bases, and related propositions, are also provided.
DEPENDENT CONCEPT

Under-served clients

The concept, 'under-served clients,' refers to social work's traditional clients. For the purpose of this study, three dimensions of the concepts will be used: 1) low income clients whose incomes fall below the poverty line; 2) visible minority clients - American Indians, African Americans and Hispanics; and 3) free-service clients (i.e., clients who pay nothing for the services that they receive).

INDEPENDENT CONCEPTS

The independent concepts are organized into sets below. Each of these sets corresponds to a level of analysis: institutional, resource, and organizational. One exception is the Dependence on Government set, which corresponds to both the institutional and resource levels.

SET 1: Institutional Level Concepts

1.a: Year of Founding

This concept refers to the year in which the outpatient substance abuse treatment NPO was established (or founded). Population ecology theory suggests that organizations founded
during times of strong political support for the under-served will be more responsive to their needs than those founded in other years. In addition, those founded in times of adverse public reaction towards the under-served will be the least responsive to their needs. The year of founding is thus used as an indicator of the state of the political environment at the time the unit was established.

1.b: Dependence on government.

This concept refers to the amounts of funding received from the various levels of government: federal, state and local. Institutional researchers in sociology have used funding obtained from government as indicators of conformity with the norms of this dimension of the institutional environment. Federal and local levels of government constitute institutional influences that fragment the organizational field, compared to the state level funding. Dependence on the state funding, which unifies the field, thus is predicted to have a stronger impact on NPOs than dependence on federal and local levels.

Based on resource dependence theory, dependence on state level government is also postulated to be related to service delivery to under-served clients. However, dependencies on federal and local levels are not expected to be related to service delivery, since these represent a multiplicity of conflicting interests which have expectations that the organizations are able to evade.

In effect, both institutional and resource dependence theories predict that state level funding will have a stronger impact than federal and local level funding on service delivery
to under-served clients. Predictions as to the nature of these relationships are not specified in advance. However, positive relationships which are discovered will suggest that the norms and expectations of government are supportive of service delivery to under-served clients by NPOs receiving government funding. Negative relationships will suggest that government norms and expectations run counter to service delivery to these clients.

1.c: Conformity with institutional norms

This concept refers to the extent to which NPOs adopt the beliefs, practices, and rules of their institutional environments. As indicated above, institutional theory predicts that conformity will be related positively to service delivery to under-served clients when institutional beliefs, practices and rules are congruent with service delivery to this segment of the population. In addition, the relationship between conformity and service delivery will be stronger when the source of institutional influence unifies rather than fragments the field.

Outpatient substance abuse treatment NPOs have been found to be influenced by the beliefs, practices and rules which characterize the two primary sectors: mental health and substance abuse. These sectors cut across the different levels of government. Moreover, each is unified internally in terms of its beliefs, practices and rules. NPOs conforming to one sector or the other thus should be more strongly influenced than those that conform to both sectors; the latter sector suggests conformity with sources that fragment the field. Based on the literature review, the following concepts will be used as indicators of conformity with the beliefs, practices, and rules and the mental health and substance abuse sectors:
1.d: Certification

This concept refers to whether the NPO is certified (or licensed) by one or more regulatory agencies in the mental health sector, the substance abuse sector, or both sectors. Certification in either sector suggests conformity with institutional influences that unify the organizational field, while certification in both suggests conformity with influences that fragment the field. On the basis of institutional and resource dependence theories, certification in either sector should be more strongly related to service delivery to under-served clients than certification in both.

1.e: Professionalism

Professionalism refers to the degree to which the NPO relies on professionals and ex-addicts to deliver treatment services. Professionalism includes training at Bachelor or Graduate degree levels. Reliance on ex-addicts is consistent with the practices of the substance abuse sector, whereas reliance on professionals suggests conformity with the mental health sector. While the effect of reliance on ex-addicts is unclear, the literature suggests that reliance on professionals will be related negatively to service delivery to under-served clients.

1.f: DSM III

This concept refers to the extent to which treatment staff rely on the use of the DSM III in conducting assessments and diagnoses. A high level of reliance on the DSM III suggests conformity with the practices of the mental health sector. To the extent that the use of DSM
III requires professionals, and professionalism is related negatively to service delivery to under-served clients, reliance on the DSM III should also be related negatively to service delivery to under-served clients.

I.g: Abstinence

This concept refers to the extent to which abstinence is stressed as a treatment goal. An emphasis on abstinence is consistent with the norms of the substance abuse sector. The nature of the relationship between conforming to the substance abuse sector and service delivery to under-served clients is unknown. Hence, no prediction is made in regard to whether abstinence will have a positive or negative relationship with service delivery to these clients.

I.h: Methadone

This concept refers to the degree to which methadone treatment is emphasized for the purposes of detoxification and treatment. Methadone treatment is consistent with the practices of the mental health sector. The nature of its relationship with service delivery to under-served clients is unclear.
SET 2: Resource Level Concepts

2.a: Number of funding sources

This concept refers to the number of different sources of funding. Resource dependence theory states that organizations are able to resist the demands and expectations of those who control their critical resources when there is a multiplicity of sources, characterized by conflicting interests. Gronbjerg (1991), however, found that donation, though less constraining than other sources of funding, is an unstable source. The author also found that government funding imposes severe restraints on NPOs. In addition, private demand was found to be related negatively to service delivery to under-served clients (Gronbjerg, 1990). These findings, taken together, suggest that the number of funding sources will be related negatively to service delivery to under-served clients.

2.b: Sources of funding

This concept refers to the sources upon which NPOs depend for their funding. The primary sources include donation, federal, state and local government demand, and private demand. Each of these sources is presented separately below.

Donation

This concept refers to funding obtained by the NPO through contributions made by private individuals and organizations, including the United Way. The micro-economic
perspective, in general, predicts that donation will be positively related to service delivery to this segment of the population. Government failure theory (Weisbrod, 1988) also suggests that excessive salaries and benefits will negate the relationship between donation and service delivery to under-served clients.

On the bases of institutional and resource dependence theories, donors represent a multiplicity of conflicting interests; they do not threaten agency autonomy. Donation thus should be unrelated or weakly related to service delivery to under-served clients. Population ecology and resource dependence theories also predict that competition as well as stability of the resource environment will mitigate the effects of donations.

In sum, donation is predicted to have either a positive, or a non-significant linear relationship with service delivery to under-served clients. In addition, it is expected to be related positively to service delivery to under-served clients when stability is high, competition is low, and expenditure on as salaries and benefits is also low.

**Government demand (Dependence on Government)**

This concept refers to funding obtained by NPOs through the sale of services to government, both directly through purchase-of-service contracts (POSCs), and indirectly through the sale of services to publicly insured clients. For the purpose of this study, government demand also includes revenues obtained through government donations and grants, because organizations are typically required to produce goods and services as a
condition for receiving them. Three levels of government demand were used in the study; federal, state and local.

Government demand is used to represent influences of both the institutional environment and the resource environment. Institutional propositions regarding its influence are presented above (see dependence on Government). Resource level theories offer both competing and overlapping propositions with respect to the nature of the relationship between government demand and service delivery to the under-served. The government failure theory (Weisbrod, 1988) predicts that government demand will be related negatively to service delivery to under-served clients. Resource dependence theory suggests that government demand at the federal and local levels represent conflicting and fragmented expectations, compared to state level demands. Only state level demands thus should be related to service delivery to under-served populations.

Micro-economic theory of privatization (Netting et al., 1990), population ecology theory and resource dependence theory converge in predicting that competition for resources, and instability of the resource environment, will mitigate any effect of government demand on service delivery to under-served clients. Moreover, government failure theory predicts that excessive salaries and benefits will compound the negative effects of government demand on service delivery to under-served clients.
Private demand

This concept refers to funding obtained through purchases made by private individuals and organizations. Predictions of resource level theories with respect to the effects of private demand on service delivery to under-served clients are the same as those applied to public demand.

2.c: Private clients

This concept refers to the number of privately insured clients. This variable is included as a second measure of private demand.

2.d: Stability

This concept refers to how stable the resource environment is. Harrison (1987, p. 103) defined stability as the "degree to which demand and supply of critical resources (of organizations) changed over the past year." Among these resources are clients, information, legitimacy, markets, staff, and volunteers.

Niche, population ecology, resource dependence, and to some degree micro-economic theorists, all predict that stability of the resource environment will be related positively to service delivery to under-served clients. But, economists tend to narrowly conceptualize the resource environment as consisting only of clients and markets. The broader conception presented will be operationalized in this study.
Resource level theories also predict that a number of factors will interact with stability to influence service delivery to under-served clients. For instance, population ecology theory predicts that specialist organizations will be better able to survive and grow than generalist ones in stable environments. Niche theory suggests that organizations seek to reduce the impact of unstable environments by specializing. Moreover, population ecology, resource dependence theories, and the micro-economic theory predict that unstable environments will have an even greater negative impact on organizations when competition is also high. Specialization and competition thus are predicted to moderate the effect of stability of the resource environment on service delivery to under-served clients.

2.e: Competition.

Competition is broadly defined as competition with other organizations for resources, including clients, information, legitimacy, markets, staff and volunteers. Based on micro-economic, niche, population ecology, and resource dependence theories, competition is predicted to be related negatively to service delivery to under-served clients. The micro-economic perspective, however, limits competition to competition for clients and markets. For the purpose of this study, the broader conceptualization of competition will be operationalized.
Competition also is predicted to interact with a number of other concepts. The economic perspective as well as population ecology theory suggest that it will moderate the effects of funding sources (donation, government demand, private demand) and stability of the resource environment. In addition, niche theory states that competition will be moderated by specialization.

2.e: Excess revenue

Excess revenue is defined as the positive difference between the cost of producing services and their selling price. That is, organizations receive excess revenue when the selling price of their goods and services exceeds the cost of producing them. Compared to for-profit firms, NPOs are heavily subsidized, in part by being tax-exempt organizations. Hence, excess revenue is generated, even when the selling price is at a level below the cost of producing the service. For the purpose of this study, excess revenues is subjectively defined as revenues that are seventy-five percent or more of the cost of producing the service. Two dimensions of excess revenue are used: excess revenue obtained through government-supported clients (Government Demand) and through private insurance clients (Private Demand).

Based on the micro-economic perspective, excess revenues generated through sale of services to government or private purchasers are predicted to be related positively to service delivery to under-served clients. However, Weisbrod (1988) argues that excess revenues will
not result in increased services to the under-served when NPOs violate the non-distribution constraint; that is, when they use their excesses to increase salaries and benefits rather than to deliver subsidized services to under-served clients. Netting and associates (1990) contend that competition and instability of the resource environment will prevent organizations from using their excess revenues to deliver subsidized services to under-served clients.

SET III: ORGANIZATIONAL CHARACTERISTICS

3.a) Involvement in the field

This concept refers to the extent to which NPOs and their members are involved in courses of action that influence their resource and institutional environments. Elements of involvement in the field include participation in coalitions and federations designed to influence policy and legislation. Other elements are participating in cooperative relationships with other organizations, such as joint programming efforts, and providing training for others in the field. Both institutional and resource dependence theories postulate that organizations and their members become actively involved in the field. Participation serves as means of buffering organizational activities from institutional influences. It is also a means through which organizations and their members gain status and influence in the field. Institutional theorists contend that participation serves the self-interests of participants. Thus, it is not expected to be related linearly to service delivery to the under-served clients. Moreover,
involvement is not expected to moderate the effects of the institutional environment on service delivery to under-served clients.

3.b) Mission/goal

This concept refers to whether or not service delivery to under-served clients is specified as a goal within the mission of the organization. The economic perspective assumes that NPOs are invariably committed to addressing the needs of under-served-clients. Population ecology theory assumes that organizations remain relatively inert once they are founded. Hence, based on the latter theory, the NPOs initial goal of service delivery to under-served clients should be related positively to the current service delivery to under-served clients. In contrast, institutional and resource dependence theorists claim that organizational goals are irrelevant, because survival concerns take precedence over efficiency and effectiveness considerations. The relationship between organizational goals and service delivery to under-served clients, therefore, requires clarification.

3.c) Size

This concept refers to the total number of clients receiving services from the NPO. Population ecology theorists contend that size is a critical organizational characteristic, in that larger organizations are better able to survive than their smaller counterparts. Size is,
however, typically treated as a control variable in studies of organizations. For the purpose of this study, organizational size will be used as a control variable.

3.d) Specialization

Specialization refers to the degree to which the NPO is responsive to the expectations of specific constituencies. Under-served clients may be construed as a constituency group, but they represent the dependent concept in this study. Two other dimensions of specialization will be used as independent variables in this study: specialization by ownership and specialization by services delivered. Each of these is discussed separately below.

Specialization by ownership

This concept refers to whether the NPO is free-standing, or is a part of a larger NPO, or is part of a larger for-profit firm. The theories vary with respect to whether they consider chain membership as an organizational characteristic per se, or as an organizational strategy in response to their institutional or resource environments. Adherents of the micro-economic perspective offer no proposition as to the significance of these arrangements. Population ecology theorists view ownership as an element of structure, which remains relatively inert. On the basis of this theory, generalist organizations are favored over specialists for survival, when the environment is turbulent and unpredictable (i.e., unstable). In contrast, specialists are favored over generalists when the environment is stable. Organizations operating in
favorable environments should be better positioned to respond to the needs of under-served clients.

Institutional, niche, and resource dependence theorists, however, present ownership as organizational strategies in response to opportunities and threats posed by their institutional and resource environments. Proponents of these theorists have put forward overlapping propositions with respect to the effect of specialization by ownership on service delivery to under-served clients. Institutional theory, for instance, suggests that the parent organization is part of the institutional environment of the NPO. A positive relationship between ownership and service delivery to under-served clients will imply that the parent organization is supportive of service delivery to these clients.

Niche theory suggests that specialization by chain-membership enables the organization to minimize competition for resources, but it is in turn expected to conform to the demands and expectations of the parent organization. Hence, a positive relationship will again suggest that the parent organization is supportive of service delivery to under-served clients. Also, competition should moderate this relationship. Similarly, resource dependence theory suggests that the parent organization constitutes a part of the resource environment of the NPO; any relationship between specialization by ownership and service delivery to under-served clients will suggest that the parent organization, by controlling the flow of critical resources to the NPO, is able to influence its operations.

Existing evidence cited above suggests that chain membership results in a loss of responsiveness to the needs of the local community. Free-standing NPOs thus should be more
responsive to the needs of under-served clients than their counterparts that are parts of larger chains. Finally, the evidence suggests that NPOs under religious auspices will be more responsive the needs of under-served clients than their counterparts under non-religious auspices (Weisbrod, 1988).

**Specialization by Service**

This concept refers to the types of services offered by the NPO. Services of out patient substance abuse treatment organizations include individual, family and group therapy, methadone treatment, and Alcoholics Anonymous and Narcotics Anonymous services, to name a few. Theories and propositions with respect to the effects of specialization by service are the same as those for specialization by ownership.

3.e) **Administrative Complexity**

This concept refers to the degree to which the organization's structure is loosely coupled. Institutional theory states that organizations develop loosely coupled structures as a means of buffering their day-to-day activities from institutional influences. Fragmented institutional influences result in organizations expending more of their resources on complex reporting and other administrative tasks in order to adapt to the competing demands. Thus a critical dimension of structure is administrative complexity. Following Meyer and colleagues (1987), administrative complexity will be defined operationally as the number of people in administrative and supervisory positions in the organization.
The nature of the relationship between administrative complexity and service delivery to under-served clients remains unclear. Evidence presented by Kramer and Grossman (1987) and Gronbjerg (1991) suggests that larger organizations establish complex administrative structures which enable them to keep up with the multiple and conflicting demands in their environments. Small organizations, in contrast, expend a considerable amount of their resources on managing funding contracts, including meeting the reporting requirements of funders (Gronbjerg, 1993). At least among smaller organizations, administrative complexity thus should be related negatively to service delivery to under-served clients.

3.f) Salaries and benefits

This concept refers to the proportion of NPOs costs that is devoted to salaries and benefits of administrators and staff. Weisbrod (1988) contends that organizations undermine the non-distribution constraint by paying their executives and staff excessive salaries and benefits. In essence, excess revenues may be used to elevate salaries and benefits, rather than subsidize services to under-served clients. From a micro-economic perspective, salaries and benefits thus should be related negatively to service delivery to under-served clients. Moreover, expenditure on salaries and benefits should moderate the effects of revenues obtained from the different sources, excess revenues in particular, on service delivery to under-served clients.
SUMMARY OF CONCEPTS, THEORIES AND HYPOTHESES

Table I provides a summary of the critical concepts that were identified in the literature review, and are examined in this study. In Column I of the Table, each of these concepts is presented according to the level of analysis that it represents. Dependence on the various levels of government is represented twice: at the institutional, and at the resource levels. This dual representation results because both institutional and resource level theories have provided propositions with respect to the effects of government. Theories underlying the concepts are listed in Column II, and hypotheses as to the nature of their relationships with service delivery to under-served clients are stated in Column III. Question marks are used where neither the theory nor the research has provided any basis for hypothesizing about the exact nature of the relationship. Thus, Table I summarizes only linear relationships between the independent concepts and the dependent concepts which were used as indicators of services to under-served clients.

While Table 1 provides a brief summary of the key independent variables, their theoretical bases, and hypothesized relationships to the dependent concept, it does not include interaction terms. The literature review suggests that several of the key independent variables interact both within and between the three levels of analysis. Table II summarizes the hypothesized interactions that will be tested in the present study.
Table 1: Hypothesized linear relationships between the independent variables and service delivery to under-served clients, by theory and level of analysis.

<table>
<thead>
<tr>
<th>INDEPENDENT VARIABLE</th>
<th>THEORY</th>
<th>HYPOTHESIS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Institutional level</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1) Year founded</td>
<td>Population Ecology</td>
<td>+</td>
</tr>
<tr>
<td></td>
<td>1930s or 1960s (Propoor)</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>1980s (Antipoor)</td>
<td>-</td>
</tr>
<tr>
<td>2) Dependence on fed (Depfed)</td>
<td>Institutional &amp; Res Dep</td>
<td>+ or - (weak to zero)</td>
</tr>
<tr>
<td>3) Dependence on state (Depstate)</td>
<td>Same</td>
<td>+ or - (strong)</td>
</tr>
<tr>
<td>4) Dependence on local (Deplocal)</td>
<td>Same</td>
<td>+ or - (weak to zero)</td>
</tr>
<tr>
<td>5) Certification</td>
<td>Same</td>
<td>+ or - (strong)</td>
</tr>
<tr>
<td>MH &amp; SA sector (Bothcert)</td>
<td>Same</td>
<td>?</td>
</tr>
<tr>
<td>SA sector (Sacert)</td>
<td>Same</td>
<td>?</td>
</tr>
<tr>
<td>6) Professionalism</td>
<td>Same</td>
<td>?</td>
</tr>
<tr>
<td>Exaddict</td>
<td>Same</td>
<td>?</td>
</tr>
<tr>
<td>Bachelor (Bach)</td>
<td>Same</td>
<td>?</td>
</tr>
<tr>
<td>Graduate (Grad)</td>
<td>Same</td>
<td>?</td>
</tr>
<tr>
<td>7) DSM III</td>
<td>Same</td>
<td>?</td>
</tr>
<tr>
<td>8) Methadone (Methadon)</td>
<td>Same</td>
<td>?</td>
</tr>
<tr>
<td>9) Abstinence (Absgoal)</td>
<td>Same</td>
<td>?</td>
</tr>
<tr>
<td><strong>Resource Level</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10) No. of Funding Sources (Fsources)</td>
<td>Res Dep and research</td>
<td>0 (Res Dep) or - (research)</td>
</tr>
<tr>
<td>11) Donation (Donate)</td>
<td>Economic, Inst. &amp; Res Dep</td>
<td>+ (Econ) or 0 (Res Dep)</td>
</tr>
<tr>
<td>12) Gov't demand</td>
<td>Economic, Inst. &amp; Res Dep</td>
<td>- (Econ), + or - for state (Res dep)</td>
</tr>
<tr>
<td>(Depfed, Depstate, Deplocal)</td>
<td>Economic, Res Dep, Research</td>
<td>- (Econ &amp; research)</td>
</tr>
<tr>
<td>13) Private demand (Privdmd)</td>
<td>Economic, Res Dep, Research</td>
<td>+</td>
</tr>
<tr>
<td>14) Private clients (Privcli)</td>
<td>Economic</td>
<td>+</td>
</tr>
<tr>
<td>15) Excess Rev. Gov't (Govxrev)</td>
<td>Economic</td>
<td>+</td>
</tr>
<tr>
<td>16) Excess Rev. Private (Privxrev)</td>
<td>Econ/ Niche/Pop Ecol/ Res Dep</td>
<td>-</td>
</tr>
<tr>
<td>17) Stability (Stable)</td>
<td>Econ/ Niche/Pop Ecol/ Res Dep</td>
<td>-</td>
</tr>
<tr>
<td>18) Competition (Compete)</td>
<td>None</td>
<td>-</td>
</tr>
<tr>
<td><strong>Organizational Level</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>19) Involvement in Field (Involve)</td>
<td>Inst &amp; Res Dep</td>
<td>None</td>
</tr>
<tr>
<td>20) GoalPoor</td>
<td>Pop Ecol</td>
<td>+</td>
</tr>
<tr>
<td>21) Size (Nclients)</td>
<td></td>
<td>Control</td>
</tr>
<tr>
<td>22) Specialization services (Specserv)</td>
<td>Niche, Pop Ecol &amp; Res Dep</td>
<td>?</td>
</tr>
<tr>
<td>ownership (Specown)</td>
<td>Niche, Pop Ecol &amp; Res Dep</td>
<td>?</td>
</tr>
<tr>
<td>23) No. admin. personnel (Admin)</td>
<td>Institutional</td>
<td>?</td>
</tr>
<tr>
<td>24) Salaries/benefits (Salary)</td>
<td>Economic</td>
<td>-</td>
</tr>
</tbody>
</table>
Table 2:

Hypothesized interactions among the independent variables in predicting service delivery to under-served clients, by theory.

<table>
<thead>
<tr>
<th>Interaction Terms</th>
<th>Theory</th>
<th>Hypothesis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specialization X Stability</td>
<td>Niche &amp; Pop Ecol</td>
<td>Specialists will have + effect when Stability is high and Competition is low.</td>
</tr>
<tr>
<td>Specialization X Competition</td>
<td>Niche &amp; Pop Ecol</td>
<td></td>
</tr>
<tr>
<td>Excess Revenue X Competition</td>
<td>Econ (Privatization)</td>
<td>Excess Rev. will have + effect when Competition &amp; Salary are low, and Stability is high.</td>
</tr>
<tr>
<td>Excess Revenue X Salary</td>
<td>Econ (Govt Failure)</td>
<td></td>
</tr>
<tr>
<td>Excess revenue X Stability</td>
<td>Econ</td>
<td></td>
</tr>
<tr>
<td>Salary X Donation</td>
<td>Econ (Govt Failure)</td>
<td>Revenue from these sources and Excess Revenue will have + effect when Salary is low.</td>
</tr>
<tr>
<td>Salary X Private Demand</td>
<td>Econ (Govt Failure)</td>
<td></td>
</tr>
<tr>
<td>Salary X Government Demand</td>
<td>Econ (Govt Failure)</td>
<td></td>
</tr>
<tr>
<td>Salary X Excess Revenue (Pricey)</td>
<td>Econ (Govt Failure)</td>
<td></td>
</tr>
<tr>
<td>Salary X Excess Revenue (Govxrev)</td>
<td>Econ (Govt Failure)</td>
<td></td>
</tr>
<tr>
<td>Dependence on Govt X Compete</td>
<td>Econ, Resource Dep &amp; Pop Ecol</td>
<td>Dep. on Govt will have + effect when Competition and Salary are low. It will also have + effect when Stability and Excess Rev. are high. Involvement will not moderate the effect of Dep. on Govt.</td>
</tr>
<tr>
<td>Dependence on Govt X Salary</td>
<td>Econ</td>
<td></td>
</tr>
<tr>
<td>Dependence on Govt X Stability</td>
<td>Econ, Resource Dep &amp; Pop Ecol</td>
<td></td>
</tr>
<tr>
<td>Dependence on Govt X Involvement</td>
<td>Institutional &amp; Resource Dep.</td>
<td></td>
</tr>
<tr>
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<tr>
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</tr>
<tr>
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</tr>
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</tr>
<tr>
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<td>Stability X Government Demand</td>
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<td></td>
</tr>
<tr>
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<td>Econ, Res Dep &amp; Pop Ecol</td>
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<tr>
<td>Stability X Specialization</td>
<td>Niche &amp; Pop Ecol</td>
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</tr>
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<td>Econ, Res Dep &amp; Pop Ecol</td>
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<td>Competition X Specialization</td>
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<td>Institutional &amp; Resource Dep.</td>
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CHAPTER III

METHODOLOGY

POPULATION AND SAMPLE

Sampling Design

The data used for this study were obtained through a national telephone survey of outpatient substance abuse treatment units. The National Drug Abuse Treatment Survey was conducted by the Survey Research Centre of the Institute for Social Research, University of Michigan, in 1988 and 1990. It was funded by the National Institute of Drug Abuse (NIDA). A sampling frame consisting of 8,500 outpatient substance abuse treatment units was used, and a stratified random sample of 575 cases was obtained from this frame.

The sample was stratified along three dimensions: 1) ownership type (public versus private); 2) treatment modality (methadone versus drug-free treatment); and 3) organizational affiliation (CMHC versus hospital versus other). The 575 units in the data sample represent an 86.5% response rate. Moreover, 342 of these units were identified as NPOs.
Description of Sample

Units in the sample varied considerably with respect to several of the concepts of interest in this study. Among the salient concepts are: 1) ownership, 2) age, 3) size, 4) conformity with the substance abuse and mental health sectors, 5) source of resource and amount of resource from each of these sources, and 6) service delivery to under-served clients as a treatment goal.

Of the 342 nonprofit treatment units in the sample, 263 (76.9%) were owned by other organizations. Only four of those owned by other organizations belonged to profit-making enterprises. Consequently, the differential influences of nonprofit and for-profit ownerships were not examined. The variable *Specialization by Ownership* (Specown) thus represents whether the unit is owned by another organization or is free standing. Almost a quarter (23.1%) of these units was established in the 1980s, and a fifth (20.8%) either in the 1930s or the 1960s.

In regard of size, the units delivered services to between one hundred eighty (180) and five thousand two hundred fifty-seven (5,257) clients in the preceding fiscal year. In addition, the number of persons in administrative positions ranged from zero to 24 among the units. More than a third (37.7) of the units had no full-time administrator.

Virtually all of the units surveyed (96.2%) were certified by certification agencies at the state or federal level. Most of these units (87.7%) were certified by at least one certification agency identified with the substance abuse sector. About one half (52.3%) was certified by at least one agency identified with mental health. Approximately one-third (36%) were certified by at least one agency in both the mental health and substance abuse sectors.
Although only a half of the units were certified in the mental health sector, the majority (85.4%) reported obtaining DSM III diagnoses for their clients. Less than one-third (30.4) relied on the use of methadone for the purposes of treatment and detoxification.

The units varied with respect to the amount of resource at their disposal, and the sources of these resources. Reported revenues received over the previous fiscal year ranged from $3,000 to $8,181,400, averaging $400,832.86 per unit. In addition, these units obtained their revenues from an average of 4.75 sources, and some relied on as many as seventeen different funding sources.

Government was a major source of funding for the units. Only a few (7.9%) reported receiving no funding from any level of government within the previous fiscal year. Overall, the average unit received $303,3849 in government funding. The federal government directly provided the least amount of government funding. A quarter (25.70%) of units relied on federal funding, and the average received from this level of government was $13,230.92. In contrast, the majority of units (77.3%) relied on state level funding, with the average receiving $221,247.98 from this source. Finally, more than one half of the units (56.4%) benefited from local government funding, which averaged $70,033.57 per unit.

Additional revenues were obtained primarily through private donation and private demand (i.e., sale of services to private purchasers). Donation constituted the smallest single source of revenue for the units. The average unit received $7,870.51 from this source. Almost all of the units (97.5%) received revenues through private demand (i.e., private insurance and fee-for-service clients combined). The average obtained $120,028.41 of its revenue through this source. More than one half (52%) of the units received payments
through private insurance schemes, but the average percentage of clients covered through private insurance schemes was much smaller ($M_{\text{priv}} = 21.21$, $SD = 26.5$). Finally, service delivery to under-served clients was not typically identified as an explicit goal of the units. Only 19 (5.6%) of these units had targeted under-served clients for service in their mission statements.

**Rationale for sample selection**

This particular data set was selected for a number of reasons. First, it is representative of outpatient substance abuse treatment NPOs in the entire U.S. Consequently, inferences can be made about the entire population of outpatient substance abuse NPOs in the country. Second, a national sample allows for the testing of hypotheses that cannot otherwise be tested using individual state or local level data. For instance, hypotheses which were deduced from institutional theory cannot be adequately tested without data which represent variations among local and state level governments in areas such as funding. Third, the National Institute of Drug Abuse has both the financial resources to fund such a large scale study, as well as the influence to ensure that organizations respond to the survey. As indicated above, the response rate was 85.6 percent. It is not feasible for individual researchers to collect pertinent data for this magnitude.

An additional advantage of using this data set is that the present study does not constitute secondary analysis. Grinnell (1993, p. 290) contends that, "In secondary analysis, the data must be at hand before the design of the study in which they will be analyzed can be
formulated." This study was driven much more by theory than by existing data. However, operational definitions of the variables which were used were taken from the data set. Only one of the variables identified in the literature review is missing from the data set; that is, whether or not the NPO falls under religious or secular auspices.

Grinnell (1993, p. 120) also contends that, "Secondary analysis cannot be used for the same purpose as the data were when they were first collected." The purpose of the present study falls within the overall purpose of the initial survey. For instance, the third aim of the initial survey, as stated in the grant proposal submitted to NIDA, was to:

elaborate and test a conceptual framework that links: 1) aspects of the environment of treatment units such as funding, licensing, and referral agencies, (2) patterns of adaptation in treatment units such as changes in staffing or treatment policy, and (3) client-organization relations, including diagnosis, treatment, and conditions of discharge.

Consequently, the analysis was not treated as secondary analysis.

OPERATIONAL DEFINITIONS

As stated above, operational definitions of the dependent and independent variables were adapted from the National Drug Abuse Treatment Survey. In some cases recoding was done, and, in others, existing variables had to be combined to produce more appropriate measures. The variables used in this study and their definitions are presented below. The independent variables have been ordered according to the three levels of analysis: institutional, resource, and organizational.
DEPENDENT VARIABLES

Under-served clients

1) Low income clients (POOR)
   Number of clients whose household incomes were less than $12,000 in the
   preceding fiscal year.

2) Minority clients (MINORITY)
   Number of clients identified as minorities (American Indian or Alaskan Native,
   Asian or Pacific Islander, Hispanic, and African American -not of Hispanic origin)
   in the past fiscal year.

3) Free Service (FREESERV)
   Number of clients who were unable to pay anything for the services that they
   received in the previous year.

INDEPENDENT VARIABLES

Institutional Level

1) Year of founding
   Two dummy coded variables were created to represent whether the NPO was
   founded in the 1930s/60s (PROPOOR), or 1980s (ANTIPOOR). Units founded in
   the years of interest were assigned a value of one, and those founded in other years
   were assigned a value of zero.

2) Dependence on Fed (DEPFED)
   Total revenue received directly from the Federal government in the previous fiscal
   year.

3) Dependence on State (DEPSTATE)
   Total revenue received directly from state level governments in the previous fiscal
   year.

4) Dependence on local government (DEPLOCAL)
   Total revenue received directly from local governments in the previous fiscal year.
5) Certification

Two dummy coded variables were created. The first, SACERT, represented whether the NPOs was certified in the substance abuse sector, and the second, BOTHCERT, represented whether the unit was certified in both sectors.

6) Professionalism

Three measures of professionalism were used.

a) Exaddict (EXADDICT)
   Number of treatment staff who were either ex-addicts or recovering addicts.

b) Bachelor (BACH)
   Number of treatment staff with a bachelor degree as their highest degree, excluding registered nurses.

c) Graduate (GRAD)
   Number of treatment staff with a master or doctorate degree as their highest degrees.

7) DSM

Number of clients for whom the unit obtained DSM III diagnoses in the previous fiscal year.

8) Methadone (METHA)

Number of methadone detoxification and maintenance clients in the previous fiscal year.

9) Abstinence (ABSTIN)

The extent to which the treatment unit had adopted complete abstinence as a treatment goal. Measured on a five-point Likert scale with values of 1 = 'No extent' and 5 = 'A very great extent'.

Resource Level

10) Number of Funding Sources (FSOURCES)

Number of sources that the NPO relies on for its funding. These include different federal, state and local government, as well as private sources.

11) Donation (DONATE)

Amount of revenue received through charitable contributions from the private individuals, foundations and corporations in the past fiscal year.
12) Government Demand (GOVDMD)
(Same as DEPFED, DEPSTATE, AND DEPLOCAL above)

13) Private Demand

Two measures of private demand were taken.

a) Revenue obtained through private demand (PRIVDMD)
Total revenue received through sale of services to private purchasers in the past fiscal year. This includes fee-for-service and private insurance clients.

b) Private insurance clients (PRIVCLI)
Percentage of clients whose service costs were covered through private insurance schemes.

14) Excess Revenue from Gov't (GOVXREV)
Number of government-supported clients (in the past fiscal year) for whom the government covered least 75 percent of the cost of the services that they received.

15) Excess Revenue from Private payments (PRIVXREV)
Number of privately insured clients (in the past fiscal) for whom private insurance schemes paid at least 75 percent of the cost of the services that they received.

16) Stability of the resource environment (STABLE)
Total score on a Likert scale containing nine items - each measured on a five-point scale. Scores ranged from nine to 45, with low scores representing high stability. Items in the stability scale included: 1) availability of funding; 2) kinds of services in demand; 3) staff qualifications required; 4) expectations of accrediting agencies; 5) types of services that other agencies provide; 6) types of services provided by the unit; 7) service fees; 8) quality of services provided; and 9) expectations of funding sources. Administrators rated the extent to which they agreed that they knew what forms these will take in the forthcoming year.

17) Competition (COMPETE)
Total score on a Likert scale containing seven items, each measured on a five-point scale. The scores ranged from seven to 35, with low scores representing low levels of competition. Items in the competition scale included: 1) client referrals; 2) government funding; 3) political support; 4) community support; 5) private insurance reimbursement; 6) accreditation or licensing, and 7) personnel.
Administrators were asked to rate the extent to which their units competed with other substance abuse units for each of the seven items listed.

**Organizational Characteristics**

18) Involvement in the Field (INVOLVE)

Total score on a Likert scale containing 11 items, each measured on a five-point scale. The scores ranged from 11 to 55, with low scores representing low levels of competition.

Items in the Involvement scale included: 1) developing policies and procedures for the substance abuse field; 2) relying on journals, newsletters, and professional publications to keep up with the field; 3) attending conferences or meetings or professional associations; 4) participating in special training sessions, seminars and workshops; 5) maintaining memberships in professional and provider associations; 6) participating on advisory boards, commissions or panels; 7) participating in research or demonstration projects; 8) using consultants; 9) marketing research sponsored by their units or purchased from outside sources; 10) participating in informal conversations with members of other substance abuse treatment agencies; and 11) participating in public relations outreach, or consultation and educational activities.

Administrators were asked the extent to which they individually (or their units) were involved in these activities.

19) Goal of service delivery to under-served clients (GOALPOOR)

A dummy variable represents whether or not service delivery to low-income, poor, destitute or homeless clients is contained in the unit's mission statement. A value of one represents the goal of services to these clients.

20) Specialization

Two measures of specialization were used.

a) Services (SPECSEVR)

Number of different types of substance abuse treatment services delivered. These include individual, family and group therapies, methadone treatment, and other services.

b) Ownership (SPECOWN)

Dummy variables were created to represent whether the NPO is a part of a larger organization, or is freestanding. The latter was assigned a value of zero.
21) Salaries & Benefits (SALARY)
   Total amount of expenditure devoted to salaries and wages, including fringe
   benefits, in the preceding fiscal year.

22) Administration (ADMIN)
   Total number of employees in administrative/supervisory positions in the past fiscal
   year.

RELIABILITY MEASURES

Scales used to measure three of the independent variables - Stability, Competition, and
Involvement - were tested for their internal consistency. Cronbach alpha reliability
coefficients of .753, .709, and .696 were obtained for these scales, respectively. These
coefficients suggest that the scales were reasonably reliable.

The internal consistency of the three dependent variables used to measure under­served clients was also assessed. A reliability coefficient of .70 was obtained. This
coefficient also suggests that the three variables together constitute a reliable measure
of service delivery to under-served clients. However, the variable Minority was only
moderately correlated with Low income and Free service (combined). The correlation
coefficient obtained was \( r = .387 \). In addition, the reliability coefficient would have
increased to alpha = .76 had this variable been removed. These latter findings suggest
that service to free service and low income clients may occur relatively independently
of service delivery to minority clients.
DESIGN

The study was largely relational in nature. The investigator sought to identify factors which are related to service delivery to under-served clients. Under-served clients - as measured by the numbers of low-income (Poor), minority, and free-service clients - served as the dependent variables.

Data Analysis

A series of hierarchical OLS regression analyses were conducted to answer the research questions. Concepts tested for their significance in predicting service delivery to under-served clients were represented by sets of independent variables. Each set contained both linear and interaction terms. The significance of these sets was then determined by obtaining their Squared Semi-partial Multiple Correlation (SSMC) coefficients. Sets found to be significant, but at the same time contained non-significant interaction terms, were further analyzed. The non-significant interaction terms were removed from the models when their SSMC coefficients were not significant.

Procedure

Ideally, the 'step down' procedure (Aiken & West, 1991) should have been used to analyze the data. This procedure begins with all variables in the model, and the process of backward elimination is then used to eliminate terms which are not significant. The order of elimination is guided largely by theory. A complete 'step down' approach was not used in the
present study. This is so because the large number of linear and interaction terms, both between and within levels of analysis, produced an unwieldy initial model which was expected to have low statistical power.

An exploratory approach, which represents a modification of the 'step down' procedure, was used in the present study. In the first phase of data analysis, the significance of the full linear model in predicting service delivery to under-served clients was assessed. This model contained all 28 of the linear independent variables used as indicators of the three levels of analysis: institutional, resource, and organizational. In the second phase, the full linear model was used as a base upon which the unique contributions of each concept identified in the research questions is examined. That is, the contribution of each concept (represented by a set of terms from the linear model as well as interaction terms) was assessed, holding all other linear terms constant.

The final phase corresponds to the last research question. In this phase, the most parsimonious model for predicting service delivery to under-served clients was developed. This was done by first adding the interaction terms (of concepts identified as significant in the second phase) to the linear model. The 'step down' procedure was then used to reduce the number of terms in the model.

**Missing Values**

The mean 'substitution' procedure in SPSS was used to deal with missing values in the independent variables. Through this procedure, the means of the individual variables were
used to substitute for the missing values in these variables. The percentages of missing values remained below 5 percent in all but three of the independent variables: private demand, excess revenue clients who were supported by government, and excess revenue clients who were supported by private insurance. In these instances, independent t-tests were first conducted to determine whether scores on the dependent variables differed (at the .05 significance level), depending on whether or not there were missing values in the independent variables. None of the results was significant. The mean substitution procedure thus was used with all of the independent variables.

In contrast to the independent variables, no substitution was done for the missing values in the dependent variables. As a result, the number of cases used in the data sample was affected by missing values in these dependent variables. The sample size varied from three-hundred-eighteen (for minority clients) to three-hundred-ten (for free-service clients).

**Statistical power**

One limitation of the final models is that terms were added to the initial model based on an exploratory approach. That is, insignificant terms were excluded from further analysis (rather than retained as control variables) when the unique contributions of additional terms are examined. This limitation is also a strength, because too many terms in the models tend to undermine the power of statistical tests.

Aiken and West (1991) contend that non-significant terms should be kept in the analysis primarily when they are strongly supported by theory. While most of the terms
examined were derived from theory, they do not have strong theoretical support. The theories which were used provide complimentary, overlapping, as well as competing explanations for service delivery to under-served clients. Also, they have little empirical support. An exploratory approach, which involves the elimination of non-significant terms before other terms are added to the models, is in this way justified.

Data analysis strategies discussed in this study provide additional bases for maximizing statistical power. The variables were organized into sets, and these sets were tested for their significance. Only when an entire set was found to be significant were further tests conducted to determine which of the individual terms (within the set) were significant. This approach reduces significantly the number of hypotheses tested and, hence, increases the power of the tests (Cohen and Cohen, 1983).

In addition to the utilization of an exploratory strategy and the reduction of the number of tests, experimenter-wise errors were minimized through the use of the Bonferoni procedure. With this procedure, more conservative F values were used to determine the significance of the individual variables and sets. The procedure took into account the number of tests which were conducted, and it maintained the probability of Type I error at the desired rate (i.e., alpha = .05). In the present study, approximately 36 individual tests were conducted, 12 for each of the three dependent variables (POOR, MINORITY, and FREESERV). Consequently, the criterion used for establishing statistical significance of the individual variables (as well as sets of variables) was stringent (alpha = .002).
Regression Assumptions

A number of strategies were used to determine whether the assumptions of OLS regression analysis were violated, and to minimize violations which were present. Specific assumptions and the ways in which they were handled are discussed as follows.

1) Multicollinearity

Perfect multicollinearity became a problem when the variable, Government Demand, was introduced into the regression model. This variable is an exact linear combination of three other variables: Depfed, Depstate, and Deplocal. It was initially adopted because economic theorists do not differentiate between the different levels of government in terms of their effects on NPOs. Government Demand had to be eliminated, and the constituent variables retained, in order to alleviate the problem of perfect multicollinearity.

Even in the absence of perfect multicollinearity, high intercorrelations among the independent variables render it difficult to derive precise estimates of the unique effects of individual independent terms. The procedure recommended by Aiken & West (1991) thus was used to reduce the interrelationships among variables. That is, all continuous independent variables were centred (i.e., expressed as deviations from their means). The interaction terms which were computed represented the cross-products of these centred variables. This procedure reduced the correlations between interaction terms and their constituent variables. Aiken and West (1991) contend that, following the process of centering, the only relationships which remain between the linear terms and the interaction terms (derived from them) are due to departures from normality.
2) **Specification Error**

Berry (1992, p. 30) contends that specification error occurs when the wrong independent variables are included, and the right ones excluded, from the model. It also occurs when the model inaccurately reflects the functional relationship among the variables. Specification errors result in a violation of the assumption that the independent variables are uncorrelated with the error term. Consistent with the recommendations of this author, the probability of specification error was reduced by relying on a theoretical frame of reference to select the independent variables and specify the models. Moreover, a visual inspection of the studentized residual plots suggests that the residuals do not depart substantively from normality. This finding further suggests that mis-specification was not a problem.

3) **Homogeneity of variance**

A visual inspection of the standardized residual scatterplots also suggests that the assumption of equal variances was not seriously violated. That is, no obvious patterns exist in the scatterplots.

4) **Normality**

Another assumption of OLS regression is that the error terms are normally distributed. Norusis (1990) notes that the distribution of observed residuals may depart from normality for several reasons. These include: 1) sampling; 2) true departures from normality, 3) mis-specification of the model, 4) lack of homogeneity of variance, and 5) relatively small numbers of residuals in the analysis.
A visual inspection of the studentized residual plots suggests that the distributions of observed residuals deviated slightly from normality. They were not skewed, but somewhat leptokurtic. The reasons for this departure are unclear. Following Norusis (1990), several of the standard approaches for improving further the fit of the model were tested. Among these were antilog, log, and square root transformations of selected independent and dependent variables. None of these transformations improved the shape of the distributions of error terms, nor did they improve further the fit of the models. Consequently, the models tested contained observed residuals with slight departures from normality. The validity of the results is not expected to be affected adversely by small deviations from normality. Sampling errors alone can account for these departures.
CHAPTER IV

RESULTS

This chapter contains three sections. In Section I, descriptive statistics of all dependent and independent variables are presented. Section II contains findings with respect to the significance of independent concepts (identified in the research questions) in the prediction of service delivery to under-served clients. This second section begins with a full linear model which was developed for predicting the three dependent variables. This model served as the basis of subsequent analyses. Independent concepts were significant only when they improved the fit of the model over and above all other linear terms. In effect, terms in the linear model, except for those under investigation, were statistically controlled. The only departure to this approach is evident in the final analysis, in which the most parsimonious model for predicting service delivery to under-served clients was sought. A brief summary of the findings is presented in Section III.
SECTION I: DESCRIPTIVE STATISTICS

Summary statistics for each of the dependent and independent variables are presented in Table 1 below. As the table shows, the average unit served 642 clients in the preceding year \( (M_{\text{Nclients}} = 642.05, \text{SD} = 801.98) \). Many were low income clients \( (M_{\text{Poor}} = 301.35, \text{SD} = 405.05) \), minority clients \( (M_{\text{Minority}} = 203.45, \text{SD} = 372.80) \), and clients who received free services \( (M_{\text{FreeServ}} = 162.30, \text{SD} = 366.69) \). These categories were, however, not mutually exclusive. In addition, the large standard deviations suggest that these units varied considerably in terms of the percentages of their clients who represented under-served populations. In addition to under-served clients, one-fifth \( (M_{\text{PrivCI}} = 21.21, \text{SD} = 26.50) \) of the average unit's clients received services that were paid through private insurance schemes.

State funding was, by far, the largest source of revenue \( (M_{\text{Depstate}} = 221,247.98, \text{SD} = 530,014.6) \). It was followed by private demand \( (M_{\text{PrivDemd}} = 120,028.41, \text{SD} = 234,795.05) \), local government funding \( (M_{\text{DepLocal}} = 77,033.57, \text{SD} = 162,004.68) \), federal funding \( (M_{\text{DepFed}} = 13,130.92, \text{SD} = 48192.00) \), and donation \( (M_{\text{Donate}} = 7,870.51, \text{SD} = 19,348.65) \). The average unit received excess revenues from more government supported clients \( (M_{\text{GovRev}} = 82.56, \text{SD} = 226.65) \) than privately insured clients \( (M_{\text{PrivRev}} = 72.43, \text{SD} = 221.71) \).

Approximately four different types of services were provided by the average unit \( (M = 3.98, \text{SD} = 1.60) \). Services were provided by more personnel with graduate degrees \( (M = 4.28) \).
than those with bachelor degrees (M = 2.63, SD = 3.45) or ex-addicts (M = 2.62, SD = 3.30) 3.45). Diagnoses included the use of the DSM III for most of the clients (M_DSM = 421.82, SD = 671.49). However, complete abstinence as a treatment goal was also stressed in the average unit (M_Absgoal = 4.38, SD = .87).

Table 3: Descriptive Statistics for the Dependent and Independent Variables

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<td>.42</td>
<td>.42</td>
<td>0-1</td>
<td>342</td>
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<td>Depled</td>
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<td>0.00</td>
<td>48,192.00</td>
<td>0-453,060</td>
<td>331</td>
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<td>Depstate</td>
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<td>530,014.60</td>
<td>0-8,063,997</td>
<td>331</td>
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<td>0-1,400,000</td>
<td>332</td>
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<tr>
<td>Saceert</td>
<td>.88</td>
<td>.33</td>
<td>.48</td>
<td>0-1</td>
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<tr>
<td>Bothcert</td>
<td>.36</td>
<td>.48</td>
<td>.48</td>
<td>0-1</td>
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<td>Exaddict</td>
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<td>2.00</td>
<td>3.30</td>
<td>0-25</td>
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<tr>
<td>Bachelor</td>
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<td>3.45</td>
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<td>4.69</td>
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<td>0.00</td>
<td>254.34</td>
<td>0-2,600</td>
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</tr>
<tr>
<td>DSM</td>
<td>421.82</td>
<td>210.00</td>
<td>671.49</td>
<td>0-5,000</td>
<td>318</td>
</tr>
<tr>
<td>Absgoal</td>
<td>4.38</td>
<td>5.00</td>
<td>0.87</td>
<td>1-5</td>
<td>329</td>
</tr>
<tr>
<td>Fsources</td>
<td>4.75</td>
<td>4.00</td>
<td>2.79</td>
<td>0-17</td>
<td>342</td>
</tr>
<tr>
<td>Donate</td>
<td>7,870.51</td>
<td>0.00</td>
<td>19,348.65</td>
<td>0-160,434</td>
<td>323</td>
</tr>
<tr>
<td>Privmd</td>
<td>120,028.41</td>
<td>48,500.00</td>
<td>234,795.05</td>
<td>0-2,926,800</td>
<td>317</td>
</tr>
<tr>
<td>Privel</td>
<td>21.21</td>
<td>19.00</td>
<td>26.50</td>
<td>0-100</td>
<td>320</td>
</tr>
<tr>
<td>Govrev</td>
<td>82.56</td>
<td>0.00</td>
<td>226.65</td>
<td>0-2,000</td>
<td>308</td>
</tr>
<tr>
<td>Privexrev</td>
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<td>3.00</td>
<td>221.71</td>
<td>0-2,103</td>
<td>305</td>
</tr>
<tr>
<td>Stable</td>
<td>32.14</td>
<td>32.00</td>
<td>4.50</td>
<td>14-40</td>
<td>332</td>
</tr>
<tr>
<td>Compete</td>
<td>14.36</td>
<td>15.00</td>
<td>4.66</td>
<td>6-29</td>
<td>330</td>
</tr>
<tr>
<td>Involve</td>
<td>33.39</td>
<td>33.00</td>
<td>5.38</td>
<td>6-51</td>
<td>335</td>
</tr>
<tr>
<td>Goalpoor</td>
<td>0.06</td>
<td>0.23</td>
<td>0.23</td>
<td>0-1</td>
<td>342</td>
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<tr>
<td>Specserv</td>
<td>3.98</td>
<td>4.00</td>
<td>1.60</td>
<td>0-10</td>
<td>342</td>
</tr>
<tr>
<td>Specown</td>
<td>0.77</td>
<td>0.42</td>
<td>0.42</td>
<td>0-1</td>
<td>342</td>
</tr>
<tr>
<td>Salary</td>
<td>292,544.45</td>
<td>184,000.00</td>
<td>436,678.83</td>
<td>4,600-5,306,481</td>
<td>313</td>
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<td>Admin</td>
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<td>1.00</td>
<td>3.86</td>
<td>0-24</td>
<td>319</td>
</tr>
<tr>
<td>Ncents</td>
<td>642.05</td>
<td>375.00</td>
<td>801.98</td>
<td>20-5.257</td>
<td>331</td>
</tr>
</tbody>
</table>
Directors of the units perceived their resource environments as highly unstable ($M_{Stable} = 32.14$, $SD = 4.50$), but moderately competitive ($M_{Compete} = 14.36$, $SD = 5.66$). In addition, they perceived their involvements in the field to be moderate ($M_{Invol} = 33.39$, $SD = 5.38$).

SECTION 2: RESULTS BY RESEARCH QUESTION

In this section, results of the OLS regression analyses are presented. The dependent variables used as indicators of under-served clients were: 1) number of low income clients (Poor), 2) Number of minority clients (Minority), and 3) Number of clients who received free services (Freeserv). The findings are presented in the order of the research questions. Each question is restated, followed by a listing of the relevant independent variables, and then the findings. Tables summarizing the findings are also presented.

Question # 1

Is the simple linear model significant in the prediction of service delivery to under-served clients?

In order to answer this question, all twenty-eight linear independent variables were entered simultaneously into the regression equation. This procedure was repeated three times,
once for each of the dependent variables. The obtained standardized regression coefficients (Betas) are represented in Table 4.

As Table 4 shows, the linear model accounted for two-thirds of the variance in service delivery to the low income (R^2 = .667, Adjusted R^2 = .635). This value is highly significant (F_{28, 228} = 20.67, p < .001). This model further accounted for 43 percent of the variance in service delivery to minority clients (R^2 = .435, Adjusted R^2 = .380), which also is highly significant (F_{28, 289} = 7.934, p < .001). Finally, it explained almost one-half of the variance in free service delivery (R^2 = .481, Adjusted R^2 = .429), and was again highly significant (F_{28, 281} = 9.306, p < .001). The data thus suggest that the linear model is significant in predicting all three dependent variables.

Few of the individual terms within the full linear model were significant as predictors of three dependent variables. However, it is premature to interpret the regression coefficients of the individual terms within this model. This is so because the coefficients are expected to change when significant higher order terms are entered into the model. Consequently, the linear terms will not be interpreted in this and all subsequent analyses, except for the final one, which includes all significant interaction terms.
Table 4: Squared Multiple Correlation and Standardized Regression Coefficients for the Full Linear Model

<table>
<thead>
<tr>
<th>Independent Variables</th>
<th>Poor</th>
<th>Minority</th>
<th>Freeserv</th>
</tr>
</thead>
<tbody>
<tr>
<td>Propoor</td>
<td>0.022</td>
<td>-0.087</td>
<td>0.030</td>
</tr>
<tr>
<td>Depfed</td>
<td>0.077</td>
<td>0.103</td>
<td>0.006</td>
</tr>
<tr>
<td>Goalpoor</td>
<td>0.031</td>
<td>0.010</td>
<td>0.021</td>
</tr>
<tr>
<td>Govxrev</td>
<td>-0.041</td>
<td>-0.074</td>
<td>-0.051</td>
</tr>
<tr>
<td>Privdmd</td>
<td>-0.056</td>
<td>0.062</td>
<td>-0.117</td>
</tr>
<tr>
<td>Absgoal</td>
<td>0.033</td>
<td>0.092</td>
<td>0.053</td>
</tr>
<tr>
<td>Stable</td>
<td>-0.015</td>
<td>0.004</td>
<td>-0.022</td>
</tr>
<tr>
<td>Bothcert</td>
<td>-0.056</td>
<td>-0.012</td>
<td>0.092</td>
</tr>
<tr>
<td>Specown</td>
<td>0.044</td>
<td>0.026</td>
<td>0.018</td>
</tr>
<tr>
<td>Deplocal</td>
<td>0.072</td>
<td>0.277*</td>
<td>0.197*</td>
</tr>
<tr>
<td>Compete</td>
<td>-0.013</td>
<td>-0.011</td>
<td>-0.041</td>
</tr>
<tr>
<td>Bach</td>
<td>0.0141</td>
<td>-0.020</td>
<td>-0.043</td>
</tr>
<tr>
<td>Involve</td>
<td>0.001</td>
<td>-0.049</td>
<td>0.119</td>
</tr>
<tr>
<td>Fsources</td>
<td>0.032</td>
<td>-0.122</td>
<td>-0.015</td>
</tr>
<tr>
<td>Antipoor</td>
<td>-0.033</td>
<td>0.042</td>
<td>0.015</td>
</tr>
<tr>
<td>Specserv</td>
<td>0.088</td>
<td>-0.053</td>
<td>0.071</td>
</tr>
<tr>
<td>Sacert</td>
<td>0.033</td>
<td>-0.031</td>
<td>-0.033</td>
</tr>
<tr>
<td>Donation</td>
<td>-0.034</td>
<td>-0.023</td>
<td>0.007</td>
</tr>
<tr>
<td>Privxrev</td>
<td>-0.270*</td>
<td>0.111</td>
<td>-0.055</td>
</tr>
<tr>
<td>DSM</td>
<td>0.048</td>
<td>-0.009</td>
<td>0.007</td>
</tr>
<tr>
<td>Admin</td>
<td>-0.095</td>
<td>0.079</td>
<td>-0.159*</td>
</tr>
<tr>
<td>Methadon</td>
<td>-0.078</td>
<td>0.315*</td>
<td>-0.086</td>
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<tr>
<td>Grad</td>
<td>-0.089</td>
<td>0.097</td>
<td>0.015</td>
</tr>
<tr>
<td>Exaddict</td>
<td>-0.057</td>
<td>0.144</td>
<td>-0.153</td>
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<tr>
<td>Priveli</td>
<td>-0.057</td>
<td>-0.067</td>
<td>-0.081</td>
</tr>
<tr>
<td>Depstate</td>
<td>0.053</td>
<td>0.311*</td>
<td>0.199</td>
</tr>
<tr>
<td>Nclients</td>
<td>0.828*</td>
<td>0.261</td>
<td>0.689*</td>
</tr>
<tr>
<td>Salary</td>
<td>0.019</td>
<td>-0.316*</td>
<td>0.186</td>
</tr>
</tbody>
</table>

R^2                       | 0.667*      | 0.435*       | 0.481        |
Adjusted R^2               | 0.635       | 0.380        | 0.429        |

p < .001
**Question #2**

Does Specialization contribute significantly to the prediction of service delivery to under-served clients?

This question was answered by first entering all linear independent variables, except for the two specialization terms (Specown and Specserv), into the equation. All terms in the specialization set were subsequently added, and the squared semi-partial correlation coefficients ($R^2$ increments) were obtained for each of the dependent variables. Significant $R^2$ increments would suggest that the concept Specialization makes a unique contribution to the prediction of service delivery to under-served clients.

The following terms were included in the Specialization set:

1) Specown - Specialization by ownership;
2) Specserv - Specialization by services;
3) Spownstb - Interaction of Specown and Stability;
4) Spserstb - Interaction of Specserv and Stability;
5) Spowncom - Interaction of Specown and Competition; and
6) Spsercom - Interaction of Specserv and Competition.

After controlling for the remaining 26 independent linear terms in the model, the Specialization set was not significant in predicting any of the three dependent variables. That is, the squared semi-partial correlation coefficients ($R^2$ increments) were not significant. Hence, the data suggest that 1) whether or not the units were owned by another organization (Specown), or 2) the number of different types of services that they provided (Specserv), do not aid in predicting the number of under-served clients to whom they provided services.
Moreover, competition for resources and stability of the environment do not moderate the effects of specialization on service delivery to these clients.

**Question #3**

*Does the ability to generate excess revenues contribute significantly to the prediction of service delivery to under-served clients?*

Terms included in the *Excess Revenue* set are as follows:

1) **Govxrev** - Publicly insured clients who enabled the unit to generate excess revenues;
2) **Privxrev** - Privately insured clients who enabled the unit to generate excess revenue;
3) **Govxsta** - Interaction of Govxrev and Stability;
4) **Priexsta** - Interaction of Privxrev and Stability;
5) **Govxcom** - Interaction of Govxrev and Competition;
6) **Privxcom** - Interaction of Privxrev and Competition;
7) **Govxsal** - Interaction of Govxrev and Salary; and
8) **Privxsal** - Interaction of Privxrev and Salary.

A summary of the results is presented in Table 5. The top portion of the Table 5 contains standardized regression coefficients (Betas) and squared multiple correlation coefficients ($R^2$s) obtained for the model containing all linear terms, excluding the two excess revenue variables (Govxrev and Privxrev). Without these two terms, the linear model accounted for 63.2% of the variance in low income clients served, 42.6% of the variance in minority clients served, and 47.7% of the variance free service clients served. Thus, the linear model, without the excess revenue terms, remained significant in predicting all three dependent variables; low income clients ($F_{26,290} = 19.16$, $p < .001$), minority clients ($F_{26,291} = 8.32$, $p < .001$), and free service clients ($F_{26,283} = 9.95$, $p < .001$).
Contained in the bottom portion of Table 5 are the betas and semi-partial squared multiple correlation coefficients ($R^2$ increments) derived after adding the Excess Revenue set. The set resulted in a 3.8% increase in the amount of the variance explained in free service delivery, but this increase was not significant. It increased the explained variance in low income clients served by 4.9%, which is significant at the .001 alpha level. However, the only significant term within the set was one of the linear terms, Privxrev. The obtained model was subsequently compared with the full linear model (See question #1). This larger model did not add significantly to the prediction of service delivery to low income clients. Hence, the full linear model remains adequate for predicting service delivery to low income clients; that is, interaction terms in the Excess Revenue set did not improve the prediction of service delivery to these clients. With the addition of the excess revenue set, the amount of variance explained in services to minorities increased by 8.8% (to 51.4%). This increase is significant at the .001 level. The only significant term within the excess revenue set was, Privxsal. This interaction term suggests that the effect of privately insured clients (through whom the units generate excess revenues) upon service delivery to minority clients is dependent upon the level of expenditure on salaries and benefits. The exact nature of this interaction will be examined later in relation to the final research question.
Table 5: Squared Multiple Correlation and Standardized Regression Coefficients for Linear Model and Added Excess Revenue Variables

<table>
<thead>
<tr>
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<th>Dependent Variables (Betas)</th>
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<th>Fresserv</th>
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<tr>
<td></td>
<td>(excluding Excess Rev.)</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Salary</td>
<td>-0.004</td>
<td>-0.320*</td>
<td>-0.185</td>
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</tr>
<tr>
<td>Goalpoor</td>
<td>0.041</td>
<td>0.011</td>
<td>-0.011</td>
<td></td>
</tr>
<tr>
<td>Compete</td>
<td>-0.016</td>
<td>-0.021</td>
<td>-0.045</td>
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<tr>
<td>Depfed</td>
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<td>0.106</td>
<td>0.005</td>
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<tr>
<td>Speconsen</td>
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<tr>
<td>Bothert</td>
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<tr>
<td>Absgoal</td>
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<td>0.050</td>
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</tr>
<tr>
<td>Stable</td>
<td>-0.023</td>
<td>0.005</td>
<td>0.044</td>
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</tr>
<tr>
<td>Antipoor</td>
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<td>-0.017</td>
<td>0.017</td>
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</tr>
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<td>Admin</td>
<td>-0.087</td>
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<td>-0.161*</td>
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<tr>
<td>Privcli</td>
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<td>-0.014</td>
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<tr>
<td>Exaddict</td>
<td>-0.028</td>
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<td>-0.143</td>
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<td>-0.101</td>
<td>0.100</td>
<td>-0.013</td>
<td></td>
</tr>
<tr>
<td>Methadon</td>
<td>-0.065</td>
<td>0.304*</td>
<td>-0.088</td>
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</tr>
<tr>
<td>Privmd</td>
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<td>0.082</td>
<td>-0.129</td>
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<tr>
<td>Bach</td>
<td>0.127</td>
<td>-0.007</td>
<td>0.041</td>
<td></td>
</tr>
<tr>
<td>Nclients</td>
<td>0.582*</td>
<td>0.313*</td>
<td>0.643*</td>
<td></td>
</tr>
<tr>
<td>Depstate</td>
<td>0.088</td>
<td>0.303*</td>
<td>0.208</td>
<td></td>
</tr>
</tbody>
</table>

| R²                    | 0.632*                      | 0.426*     | 0.477*   |
| Adjusted R²           | 0.600                       |            |          |

Excess Revenue

<table>
<thead>
<tr>
<th>excess revenue variable</th>
<th>Low income</th>
<th>minority</th>
<th>Fresserv</th>
</tr>
</thead>
<tbody>
<tr>
<td>Govxrev</td>
<td>-0.006</td>
<td>0.000</td>
<td>0.045</td>
</tr>
<tr>
<td>Privxrev</td>
<td>-0.320*</td>
<td>-0.012</td>
<td>-0.030</td>
</tr>
<tr>
<td>Govxsta</td>
<td>0.021</td>
<td>-0.143</td>
<td>0.000</td>
</tr>
<tr>
<td>Prieesta</td>
<td>-0.049</td>
<td>-0.052</td>
<td>0.020</td>
</tr>
<tr>
<td>Govxcom</td>
<td>-0.066</td>
<td>0.058</td>
<td>-0.230</td>
</tr>
<tr>
<td>Privxcom</td>
<td>-0.013</td>
<td>0.081</td>
<td>0.003</td>
</tr>
<tr>
<td>Govxsal</td>
<td>0.065</td>
<td>0.101*</td>
<td>-0.057</td>
</tr>
<tr>
<td>Privxsal</td>
<td>0.110</td>
<td>0.419*</td>
<td>-0.028.</td>
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</tbody>
</table>

R² increment

<table>
<thead>
<tr>
<th>Low income</th>
<th>minority</th>
<th>Fresserv</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.049*</td>
<td>0.088*</td>
<td>0.038</td>
</tr>
</tbody>
</table>

* p < 0.005
In summary, the concept, *Excess Revenue*, contributed significantly to the prediction of service delivery to low income and minority clients, but not to free service clients. In regards to low income clients, the only *Excess Revenue* term found to be significant was, Privxrev. The negative beta suggests that an increase in privately insured clients (who enable the units to generate excess revenues) is associated with a decrease in the numbers of low income clients served. In addition, competition, salary, and stability of the resource environment did not moderate the effects of excess revenue clients (both government and private insurance supported) on service delivery to low income clients. Finally, only one of the Excess Revenue terms was significant in predicting service delivery to minority clients, Privxsal. This suggests that the effect of excess revenue clients (who were supported by private insurance schemes) on service delivery to minority clients depends on the level of expenditure on salaries and benefits.

**Question #4**

Do salary and benefit levels contribute significantly to the prediction of service delivery to under-served clients?

Terms included in the *Salary* set are as follows:

1) Salary - Expenditure on salaries and benefits;
2) Donsal - Interaction of Donation and Salary;
3) Privdsal - Interaction of Private Demand (Privdmd) and Salary;
4) Dfedsal - Interaction of Federal funding (Depfed) and Salary;
5) Dstatsal - Interaction of State funding (Depstate) and Salary;
6) Dlocsal - Interaction of Local funding (Deplocal) and Salary;
7) Privxsal - Interaction of Privxrev and Salary; and
A summary of the results is presented in Table 6. The top portion of this table shows that the linear model, exclusive of the linear salary term, remains significant in predicting all three dependent variables. It accounts for 66.8% of the variance in service delivery to low income clients, 41.8% of the variance in service delivery to minority clients, and 47.5% of the variance in free service clients.

As shown in the bottom portion of Table 6, the salary set did not contribute significantly to predicting service delivery to low income and free service clients. This set, however, was significant in predicting service delivery to minority clients ($P < .001$). It increased the variance accounted for in services to minority clients by 10.8%. Three of the eight salary terms were significant in predicting services to minority clients: Dlocsal, Privxsal, and Govxsal. These all are interaction terms. They suggest that expenditure on salaries and benefits moderate the effects of local government funding (Deplocal), excess revenue clients supported by private insurance schemes (Privxrev), and excess revenue clients supported by government (Govxrev). Privxrev was previously examined as part of the Excess Revenue set, and was again found to be significant in predicting service delivery to minority clients. Interpretations of these interactions will be suspended until the final question has been addressed, in part, because their significance may be altered by the inclusion of other terms in the model.
Table 6: Squared Multiple Correlation and Standardized Regression Coefficients for the Linear Model and Added Salary Variables

<table>
<thead>
<tr>
<th>Independent Variables</th>
<th>Dependent Variables (Betas)</th>
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<th>Minority</th>
<th>Freeserv</th>
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<td>0.008</td>
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Salary Terms

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<td>R^2 increment</td>
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*p < .001
Question #5

Does reliance on the federal government for funding contribute significantly to the prediction of service delivery to under-served clients?

Terms included in the Dependence on the Federal government set include the following:

1) Depfed - Federal funding;
2) Dfedsta - Interaction of Depfed and Stability;
3) Dfedcom - Interaction of Depfed and Competition;
4) Dfedsal - Interaction of depfed and Salary;
5) Dfedinv - Interaction of Depfed and Involvement in the field; and

The federal government set was not significant in predicting any of the three dependent variables when all linear terms, except for Depfed, were controlled. The data thus suggests that dependence on the federal government funding does not improve the ability to predict service delivery to under-served clients. These data also suggest that competition, excess revenue clients supported by government (Govxrev), involvement in the field, and expenditures on salaries and benefits, do not moderate the effects of federal funding on service delivery to under-served clients.

Question #6

Does reliance on state level governments for funding contribute significantly to the prediction of service delivery to under-served clients?
Terms included in the dependence on State government set are as follows:

1) Depstate - State level funding;
2) Dstatsta - Interaction of Depstate and Stability;
3) Dstatcom - Interaction of Depstate and Competition;
4) Dstatals - Interaction of Depstate and Salary;
5) Dstatinv - Interaction of Depstate and Involvement in the field;
6) Dstatgex - Interaction of Depstate and Govxrev.

Table 7 summarizes the results. The top portion of the table shows that the linear model remained significant in predicting all three dependent variables, after Depstate was excluded. The bottom portion indicates that the addition of the State Government set did not improve significantly the prediction of service delivery to low income and free service clients. However, the addition of this set did result in a significant improvement in the prediction of services to minority clients (p < .001).

An additional 4.5% of the variance in service delivery to minority clients was explained when the State Government set was included in the model. However, the only significant term within this set was the linear term, Depstate, which was related positively to service delivery to minority clients. A comparison of the full linear model (See question #1) with the model obtained suggests that the interaction terms do not contribute significantly to the prediction of service delivery to minority clients. The factors, which include: 1) competition, 2) government supported clients who enable the units to generate excess revenues (Govxrev), 3) involvement in the field, 4) expenditure on salaries and benefits, and 5) stability of the resource environment, thus did not moderate significantly the effects of state level governments funding on service delivery to minority clients.
Question #7

Does reliance on local governments for funding contribute significantly to the prediction of service delivery to under-served clients?

Terms included in the Dependence on Local Governments set are as follows:

1) Deploc - Local government funding;
2) Dlocsta - Interaction of Deploc and Stability;
3) Dloccom - Interaction of Deploc and Competition;
4) Dlocsal - Interaction of Deploc and Salary;
5) Dlocinv - Interaction of Deploc and Involvement; and
6) Dlocgex - Interaction of Deploc and Govxrev.

A summary of the results is presented in Table 8. The table shows that the Local Government set contributed significantly to the prediction of service delivery to minority and free service clients. The $R^2$'s increased by 4.5% and 10.7% respectively, both of which are significant at the $p < .001$ alpha level. However, it was not significant in predicting service delivery to low income clients.

In regard to minority clients, the only significant term within the Local Government set was, Deploc, the linear term. Deploc was related positively to service delivery to minority clients. Again, a comparison of the obtained model with the full linear model showed that the interaction terms were not significant. Thus 1) stability, 2) competition, 3) involvement in the field, 4) excess revenue clients who were supported by government (Govxrev), and 5) expenditure on salaries and benefits, did not moderate the effects of local government funding on service delivery to minority clients.
Table 7: Squared Multiple Correlation and Standardized Regression Coefficients for Linear Model and Added State Government Variables

<table>
<thead>
<tr>
<th>Independent Variables (excluding state terms)</th>
<th>Dependent Variables (Betas)</th>
<th>Low Income</th>
<th>Minority</th>
<th>Freeserv</th>
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<td>Propoor</td>
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<td>0.023</td>
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<td>0.076</td>
<td>0.098</td>
<td>0.005</td>
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<td>0.032</td>
<td>0.019</td>
<td>0.027</td>
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<td>-0.018</td>
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<td>Behtcrt</td>
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<td>-0.004</td>
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<td></td>
<td>0.013</td>
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<td>0.165*</td>
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<td>Compete</td>
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<td>-0.033</td>
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<td>Bach</td>
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</table>

|                          | R²                           | 0.667*      | 0.413*   | 0.473*   |
|                          | Adjusted R²                  | 0.636       | 0.359    | 0.422    |

**State Terms**

|                          | R² increment                 | 0.018       | 0.045*   | 0.027    |

*p < .001
Three of the interaction terms were significant in predicting service delivery to free service clients: Dloccom, Dlocinv, and Dlocsal. This finding suggests that competition, involvement in the field and expenditure on salaries and benefits were significant in moderating the effect of local government funding on service delivery to free service clients. The specific nature of these interactions will be probed in response to the final research question.

Finally, terms within the Local Government set did not contribute significantly to the prediction of service delivery to low income clients. In effect, local government funding did not have a significant linear effect on services to these clients. In addition, competition, stability, involvement in the field, excess revenues clients who were supported by government, and expenditures on salaries and benefits, did not moderate the effects of local governments funding on service delivery to low income clients.
Table 8: Squared Multiple Correlation and Standardized Regression Coefficients for Linear Model and Added Local Government Variables

<table>
<thead>
<tr>
<th>Independent Variables (excluding state terms)</th>
<th>Dependent Variables (Betas)</th>
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<th>Minority</th>
<th>Freeserv</th>
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| R²                                            | 0.664*                      |
| Adjusted R²                                    | 0.633                       |

State Terms

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R² increment

* p < .001
**Question #8**

Does private demand contribute significantly to the prediction of service delivery to under-served clients?

Terms included in the **Private Demand** set are as follows:

1) Privdmd - Revenue generated through private insurance and fee-for-service clients;
2) Privcli - Number of private insurance clients;
3) Privdsta - Interaction of Privdmd and Stability;
4) Privdcom - Interaction of Privdmd and competition;
5) Privdsal - Interaction of Privdmd and Salary;
6) Privdinv - Interaction of Privdmd and Involvement in the field;
7) Privdpx - Interaction of Privdmd and Excess Revenue clients who were privately insured;
8) Priclsta - Interaction of Privcli and Stability;
4) Priclcom - Interaction of Privcli and competition;
5) Priclsal - Interaction of Privcli and Salary;
6) Priclinv - Interaction of Privcli and Involvement in the field;
7) Priclpex - Interaction of Privcli and Excess Revenue clients who were privately insured;

The Private Demand set was not significant for any of the three dependent variables. Thus, neither revenues received through private-pay clients, in general (Privdmd), nor the actual number of private insurance clients who received service (Privcli), contributed significantly to the prediction of service delivery to low income, minority, and free service clients. Moreover, competition, involvement in the field, expenditure on salaries and benefits, and stability of the environment, were not significant as moderators of the effects of Privdmd or Privcli upon service delivery to these clients.
**Question #9**

Does reliance upon donation contribute significantly to the prediction of service delivery to under-served clients?

Included in the **Donation** set were the following terms:

1) Donate - Amount of revenue received through donations;
2) Donsta - Interaction of Donate and Stability;
3) Doncom - Interaction of Donate and competition;
4) Donsal - Interaction of Donate and Salary; and
5) Doninv - Interaction of Donation and Involvement in the Field.

The donation set was not significant in predicting service delivery to low income, minority or free service clients. Also, the non-significant interaction terms suggest that the effect of donation did not depend in competition, involvement in the field, expenditure on salaries and benefits, or stability of the resource environment.

**Question #10**

Do unit directors' perceptions of the stability of the resource environment contribute to the prediction of service delivery to under-served clients?

The following terms were included in the **Stability** set:

1) Stable - Perceived stability of the resource environments;
2) Donsta - Interaction of Donation and Stable;
3) Privdsta - Interaction of Privdmd and Stable;
The stability set was not significant in predicting service delivery to under-served clients. That is, directors' perceptions of the level of stability of the environment did not contribute significantly to the prediction of service delivery to low income, minority and free service clients. Moreover, perceived stability of the environment was not significant in moderating the effects of the various sources of revenue, competition, or specialization on service delivery to under-served clients.

Question #11

Does perceived competition for resources contribute significantly to the prediction of service delivery to under-served clients?

Terms included in the competition set were as follows:

1) Compete - Perceived competition for resources;
2) Doncom - Interaction of Donation and Compete;
3) Privdcom - Interaction of Privdmd and Compete;
4) Dfedcom - Interaction of Depfed and Compete;
5) Dstatcom - Interaction of Depstate and Compete;
6) Dloccom - Interaction of Deploc and Compete;
7) Compsta - Interaction of Compete and Stable;
8) Spowncom - Interaction of Specialization by ownership and Compete; and
9) Spsercom - Interaction of Specialization by services and Compete.
The competition set was not significant. That is, the unit directors' perceptions as the degree of competition with other organizations for resources did not contribute significantly to the prediction of service delivery to low income, minority or free service clients. The non-significant interactions suggest further that perceived competition did not moderate the effects of funding from the various sources on service delivery to these clients. Finally, specialization by ownership and service were not significantly moderated by competition.

**Question #12**

Does organizational involvement in the field contribute significantly to the prediction of service delivery to under-served clients?

The following terms were used in the Involvement set:

1) **Involve** - Extent of involvement in the organizational field;
2) **Scertinv** - Interaction of Certification in the Substance abuse sector (Sacert) and Involve;
3) **Bcertinv** - Interaction of Certification in both mental health and substance abuse sectors (Bothcert) and Involve;
4) **Addicinv** - Interaction of treatment staffs who are ex-addicts (Exaddict) and Involve;
5) **Bachinv** - Interaction of treatment staff with Bachelor degrees and Involve;
6) **Gradinv** - Interaction of treatment staff with graduate degrees and Involve;
7) **Dsminv** - Interaction of clients with DSM III diagnoses and Involve;
8) **Absinv** - Interaction of Abstinence as a treatment goal (Absgoal) and Involve;
9) **Methainv** - Interaction of methadone clients and Involve;
10) **Dfedinv** - Interaction of Depfed and Involve;
11) **Dstatinv** - Interaction of Depstate and Involve; and
12) **Dlocinv** - Interaction of Deplocal and Involve.
Table 9: Squared Multiple Correlation and Standardized Regression Coefficients for the Linear Model and Added Involvement in the Field Variables.

<table>
<thead>
<tr>
<th>Independent variables (excluding Involve)</th>
<th>Dependent Variables (Betas)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Poor</td>
<td>Minority</td>
</tr>
<tr>
<td>Propoor</td>
<td>0.022</td>
<td>-0.085</td>
</tr>
<tr>
<td>Depfed</td>
<td>0.077</td>
<td>0.101</td>
</tr>
<tr>
<td>Goalpoor</td>
<td>0.031</td>
<td>0.007</td>
</tr>
<tr>
<td>Govxrev</td>
<td>-0.041</td>
<td>-0.068</td>
</tr>
<tr>
<td>Privmd</td>
<td>-0.056</td>
<td>0.070</td>
</tr>
<tr>
<td>Abgoal</td>
<td>0.033</td>
<td>0.090</td>
</tr>
<tr>
<td>Stable</td>
<td>-0.015</td>
<td>-0.005</td>
</tr>
<tr>
<td>Bothcert</td>
<td>-0.056</td>
<td>-0.018</td>
</tr>
<tr>
<td>Specown</td>
<td>0.044</td>
<td>0.026</td>
</tr>
<tr>
<td>Deplocal</td>
<td>0.072</td>
<td>0.274*</td>
</tr>
<tr>
<td>Compete</td>
<td>-0.013</td>
<td>-0.019</td>
</tr>
<tr>
<td>Bach</td>
<td>0.141</td>
<td>-0.021</td>
</tr>
<tr>
<td>Home</td>
<td>-0.023</td>
<td>-0.121</td>
</tr>
<tr>
<td>Antipoor</td>
<td>-0.033</td>
<td>0.046</td>
</tr>
<tr>
<td>Specserv</td>
<td>0.088</td>
<td>-0.058</td>
</tr>
<tr>
<td>Sacert</td>
<td>0.033</td>
<td>-0.026</td>
</tr>
<tr>
<td>Donate</td>
<td>-0.033</td>
<td>-0.031</td>
</tr>
<tr>
<td>Privxrev</td>
<td>-0.270</td>
<td>0.114</td>
</tr>
<tr>
<td>DSM</td>
<td>0.048</td>
<td>-0.007</td>
</tr>
<tr>
<td>Admin</td>
<td>-0.095</td>
<td>0.083</td>
</tr>
<tr>
<td>Methadon</td>
<td>-0.078</td>
<td>0.309*</td>
</tr>
<tr>
<td>Grad</td>
<td>-0.090</td>
<td>0.100</td>
</tr>
<tr>
<td>Exaddict</td>
<td>-0.057</td>
<td>0.142</td>
</tr>
<tr>
<td>Prvlei</td>
<td>-0.057</td>
<td>-0.069</td>
</tr>
<tr>
<td>Depstate</td>
<td>0.053</td>
<td>0.318*</td>
</tr>
<tr>
<td>Nclients</td>
<td>0.828*</td>
<td>0.256</td>
</tr>
<tr>
<td>Salary</td>
<td>-0.019</td>
<td>-0.326*</td>
</tr>
</tbody>
</table>

| R²  | 0.668* | 0.433* | 0.469* |
| Adjusted R² | 0.637 | 0.380 | 0.419 |

<table>
<thead>
<tr>
<th>Involvement Terms</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Involve</td>
<td>-0.056</td>
</tr>
<tr>
<td>Scertinv</td>
<td>0.030</td>
</tr>
<tr>
<td>Bcertinv</td>
<td>0.040</td>
</tr>
<tr>
<td>Addicinv</td>
<td>0.028</td>
</tr>
<tr>
<td>Bchinv</td>
<td>-0.029</td>
</tr>
<tr>
<td>Gradinv</td>
<td>-0.099</td>
</tr>
<tr>
<td>DSMinv</td>
<td>0.065</td>
</tr>
<tr>
<td>Absinv</td>
<td>0.020</td>
</tr>
<tr>
<td>Methinv</td>
<td>0.010</td>
</tr>
<tr>
<td>Definv</td>
<td>0.022</td>
</tr>
<tr>
<td>Datinv</td>
<td>0.090</td>
</tr>
<tr>
<td>Dlocinv</td>
<td>-0.016</td>
</tr>
</tbody>
</table>

| R² increment | 0.009 | 0.029 | 0.130* |

p < .001
The results are summarized in Table 9. As the table shows, the involvement set did not contribute significantly to the prediction of service delivery to low income and minority clients. The set was, however, significant in predicting service delivery to free service clients. It increased the explained variance in service delivery to these clients by 13%, which is significant at the p < .001 level.

Two of the terms in the involvement set were significant in predicting service delivery to free service clients: Dsminv and Dlocinv. Both of these are interaction terms. This result suggests that the variable ‘organizational involvement in the field’ moderates the effects of the DSM III (which was used as an indicator of conformity with the mental health sector), and local governments funding (which was used as an indicator of conformity with government). The influences of other aspects of the institutional environment on service delivery to free service clients were not moderated significantly by involvement in the field.

**Question #13**

What is the most parsimonious model for predicting service delivery to under-served clients?

In order to answer this question, each of the three dependent variables was considered individually. The results are presented by dependent variables below:
A) *Model Predicting Service Delivery to Low Income (Poor) Clients*

In regard to the first dependent variable, low income clients, none of the sets containing interaction terms was significant in the preceding analyses. The interaction terms were thus removed, and the full linear model was further reduced using the 'step down' procedure (Aiken & West, 1991). This was done first by clustering all linear independent variables into sets corresponding to the three primary levels of analysis: institutional, resource and organization. A fourth set contained the variable, Nclient (number of clients served in the previous year), which was treated as a control variable. The step down procedure followed the order of the levels of analysis; that is, institutional terms were the first to be considered for elimination, followed by resource environment terms, and then organizational terms.

The 'step down' procedure was accompanied by the stepwise method, which was used within each set that was partialled out. This combined approach allowed for eliminating non-significant sets, as well as non-significant terms within significant sets. Model reduction, however, was terminated when the first significant partialled set was encountered in the model reduction process. In other words, non-significant terms at lower levels of analysis were not removed when terms at higher levels were significant. The structure of the final model thus remained consistent with that of the ecological framework presented in Chapter II. Variables used in each set are presented in Table 10.

Since none of the interaction terms were previously found to be significant, the thirteen institutional environment variables were first partialled out from the full linear model.
Their removal resulted in a reduction of the Squared Multiple Correlation ($R^2$) from .668 to .637, which is not significant decrease. In effect, the data suggest that institutional variables did not contribute significantly to the prediction of service delivery to low income clients, holding constant, the other linear resource, organizational, and control variables.

Resource environment terms were partialled out in the second phase. The unique contribution of this set (over the control and organizational sets) in predicting service delivery was significant ($R^2_{\text{Change}} = .110, p < .001$). When the stepwise procedure was used within this set, the only significant term that remained was, Privxrev. This variable alone accounted for most of the unique variance accounted for by the resource environment set ($R^2_{\text{Change}} = .100, p < .001$).

The final model for predicting service delivery to low income clients is presented in Table 11. Following the removal of all institutional and resource environment terms (except for Privxrev) the model still accounted for two-thirds (62.1%) of the variance in service delivery to low income clients. Of the terms remaining in the model, none at the organizational level was significant. Other than the control variable, the only significant independent variable was Privxrev. This negative relationship suggests that units with greater numbers of privately insured clients who enable them to generate excess revenues serve less low income clients.
Table 10: Classification of linear terms by level of analysis.

<table>
<thead>
<tr>
<th>Variable Set</th>
<th>Variables</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control Variables</td>
<td>1) Nclients</td>
</tr>
<tr>
<td>Organizational Variables</td>
<td>2) Admin</td>
</tr>
<tr>
<td></td>
<td>3) Goalpoor</td>
</tr>
<tr>
<td></td>
<td>4) Salary</td>
</tr>
<tr>
<td></td>
<td>5) Specown</td>
</tr>
<tr>
<td></td>
<td>6) Specserv</td>
</tr>
<tr>
<td></td>
<td>7) Involve</td>
</tr>
<tr>
<td>Resource environment</td>
<td>8) Donate</td>
</tr>
<tr>
<td>Variables</td>
<td>9) Govxrev</td>
</tr>
<tr>
<td></td>
<td>10) Privxrev</td>
</tr>
<tr>
<td></td>
<td>11) Privdmd</td>
</tr>
<tr>
<td></td>
<td>12) Privcli</td>
</tr>
<tr>
<td></td>
<td>13) Fsources</td>
</tr>
<tr>
<td></td>
<td>14) Compete</td>
</tr>
<tr>
<td></td>
<td>15) Stable</td>
</tr>
<tr>
<td>Institutional Environment</td>
<td>16) Propoor</td>
</tr>
<tr>
<td>Variables</td>
<td>17) Antipoor</td>
</tr>
<tr>
<td></td>
<td>18) Depfed</td>
</tr>
<tr>
<td></td>
<td>19) Depstate</td>
</tr>
<tr>
<td></td>
<td>20) Deploc</td>
</tr>
<tr>
<td></td>
<td>22) Bothcert</td>
</tr>
<tr>
<td></td>
<td>23) Sacert</td>
</tr>
<tr>
<td></td>
<td>23) Exaddict</td>
</tr>
<tr>
<td></td>
<td>24) Bach</td>
</tr>
<tr>
<td></td>
<td>25) Grad</td>
</tr>
<tr>
<td></td>
<td>26) Absgoal</td>
</tr>
<tr>
<td></td>
<td>27) DSM</td>
</tr>
<tr>
<td></td>
<td>28) Methadon</td>
</tr>
</tbody>
</table>
b) Model Predicting Service Delivery to Minority Clients

In the previous analyses, four of the 11 concepts examined were found to contribute significantly to the prediction of service delivery to minority clients. These concepts were represented by sets of variables: *Excess Revenue, Salary, Dependence on State Governments*

**Table 11: Reduced Model for Predicting Service Delivery to Low Income Clients.**

<table>
<thead>
<tr>
<th>Independent Variables</th>
<th>Dependent Variable Poor (Beta)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control</td>
<td></td>
</tr>
<tr>
<td>Nclients</td>
<td>0.878*</td>
</tr>
<tr>
<td>Organizational</td>
<td></td>
</tr>
<tr>
<td>Admin</td>
<td>-0.024</td>
</tr>
<tr>
<td>Goalpoor</td>
<td>0.016</td>
</tr>
<tr>
<td>Salary</td>
<td>-0.056</td>
</tr>
<tr>
<td>Specown</td>
<td>0.035</td>
</tr>
<tr>
<td>Specserv</td>
<td>0.083</td>
</tr>
<tr>
<td>Involve</td>
<td>0.008</td>
</tr>
<tr>
<td>Resource Environment</td>
<td></td>
</tr>
<tr>
<td>Privxrev</td>
<td>-0.341*</td>
</tr>
<tr>
<td>R²</td>
<td>0.621*</td>
</tr>
<tr>
<td>Adjusted R²</td>
<td>0.612</td>
</tr>
</tbody>
</table>

p < .001
and Dependence on Local governments. The results of the additional analyses indicated that interaction terms contained in the State and Local Government sets did not contribute significantly to predicting service delivery to minority clients. These interaction terms have thus been excluded from further analyses. However, interaction terms within the Excess Revenues and Salary sets remained significant.

The Excess Revenue and Salary sets had one interaction term in common (i.e., Privxsal). The 'step down' procedure was used at this point to determine whether interaction terms contained in the Excess Revenue set (excluding Privxsal) contributed significantly to prediction, controlling for all linear terms of the full model as well as the interaction terms belonging to the Salary set. The interaction terms in this set did not contribute significantly to the prediction of service delivery to minority clients, and were consequently removed from the model.

The model remaining for predicting services to minority clients is the same as in Table 4. It contained all linear terms, in addition to the seven interaction terms contained in the Salary set. In order to further reduce this model, the stepwise procedure was used with the seven interaction terms. The final model is presented in Table 12.
Table 12: Reduced Model for Predicting Service Delivery to Minority Clients.

<table>
<thead>
<tr>
<th>Independent Variable Sets</th>
<th>Dependent Variable</th>
<th>Minority (Betas)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control Set</td>
<td></td>
<td></td>
</tr>
<tr>
<td>N clients</td>
<td>0.391*</td>
<td></td>
</tr>
<tr>
<td>Organizational Set</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Admin</td>
<td>0.064</td>
<td></td>
</tr>
<tr>
<td>Goalpoor</td>
<td>0.036</td>
<td></td>
</tr>
<tr>
<td>Salary</td>
<td>-0.304</td>
<td></td>
</tr>
<tr>
<td>Specown</td>
<td>0.027</td>
<td></td>
</tr>
<tr>
<td>Specserv</td>
<td>-0.048</td>
<td></td>
</tr>
<tr>
<td>Involve</td>
<td>-0.030</td>
<td></td>
</tr>
<tr>
<td>Resource Environment Set</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Donate</td>
<td>-0.010</td>
<td></td>
</tr>
<tr>
<td>Govxrev</td>
<td>0.031</td>
<td></td>
</tr>
<tr>
<td>Privxrev</td>
<td>0.026</td>
<td></td>
</tr>
<tr>
<td>Privdmd</td>
<td>-0.126</td>
<td></td>
</tr>
<tr>
<td>Privcli</td>
<td>-0.001</td>
<td></td>
</tr>
<tr>
<td>Fsources</td>
<td>-0.119</td>
<td></td>
</tr>
<tr>
<td>Compete</td>
<td>0.034</td>
<td></td>
</tr>
<tr>
<td>Stable</td>
<td>0.019</td>
<td></td>
</tr>
<tr>
<td>Institutional Environment Set</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Propoor</td>
<td>-0.080</td>
<td></td>
</tr>
<tr>
<td>Antipoor</td>
<td>0.046</td>
<td></td>
</tr>
<tr>
<td>Bothcert</td>
<td>0.018</td>
<td></td>
</tr>
<tr>
<td>Sacert</td>
<td>-0.067</td>
<td></td>
</tr>
<tr>
<td>Depfed</td>
<td>0.112</td>
<td></td>
</tr>
<tr>
<td>Depstate</td>
<td>0.320*</td>
<td></td>
</tr>
<tr>
<td>Deplocal</td>
<td>0.413*</td>
<td></td>
</tr>
<tr>
<td>Exaddict</td>
<td>0.093</td>
<td></td>
</tr>
<tr>
<td>Bach</td>
<td>-0.023</td>
<td></td>
</tr>
<tr>
<td>Grad</td>
<td>0.085</td>
<td></td>
</tr>
<tr>
<td>Absgoal</td>
<td>0.076</td>
<td></td>
</tr>
<tr>
<td>DSM</td>
<td>-0.110</td>
<td></td>
</tr>
<tr>
<td>Methadon</td>
<td>0.335*</td>
<td></td>
</tr>
<tr>
<td>Interaction set</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Privxsal</td>
<td>0.311*</td>
<td></td>
</tr>
<tr>
<td>Govxsal</td>
<td>0.199*</td>
<td></td>
</tr>
<tr>
<td>Dlocsal</td>
<td>-0.250*</td>
<td></td>
</tr>
<tr>
<td>R2</td>
<td>0.514*</td>
<td></td>
</tr>
<tr>
<td>Adjusted R2</td>
<td>0.461*</td>
<td></td>
</tr>
</tbody>
</table>

p < .001
Table 12 shows that none of the organizational and resource environment variables were significant in predicting service delivery to minority clients, when the other terms were held constant. Three of the thirteen institutional level variables, Depstate, Deplocal and Methadone, were significant, and all were related positively to the dependent variable. In addition, three of the seven interaction terms, Privxsal, Govxsal and Dlocsal, remained significant in the reduced model. These interactions suggest that expenditure on salaries and benefits moderated the effects of excess revenue clients supported through both private insurance (Privxrev) and government (Govxrev). This expenditure also moderates the effects of local government funding (Deplocal). The SPSS program was used to probe the nature of the interactions.

Table 13 summarizes the effects Govxrev, Privxrev and Deplocal on services to minority clients at 3 expenditure levels (M and ± SD). Govxrev was related positively to service delivery to minority clients for units with expenditures on salaries and benefits at one standard deviation above or below mean level. Govxrev was, however, unrelated to services to these clients for units with expenditure levels at the mean. This finding suggests that increases to the number of government supported clients who enable the units to generate excess revenues results in increases in minority clients served, only among units with either high or low expenditures on salaries and benefits. For units with average expenditures in these areas, the number of excess revenue clients supported by government is unrelated to service delivery to minority clients.

A similar relationship was evident between private insurance clients who enabled the units to generate excess (Privxrev) and service delivery to minority clients. That is, units with
more privately insured clients (who enabled them to generate excess revenues) delivered more services to minority clients, but this relationship was limited to those with either high or low expenditures on salaries and benefits. The number of excess revenue clients supported through this source was unrelated to service delivery to minority clients among units at the mean expenditure (on salaries and benefits) level.

Table 13 shows that the interaction between local government funding and expenditure on salaries and benefits is different from the two previous interactions. Local government funding had a negative effect on service delivery to minority clients among units with expenditures on salaries and benefits at one SD above (or below) the mean. But, among units at the mean expenditure level, local government funding was unrelated to service delivery to minority clients. The effect of local government funding on service delivery to minority clients thus depended on the level of expenditure on salaries and benefits.

Table 13: Standardized Regression Coefficients for the Linear Relationships Between Govxrev, Privxrev, and Deploc and the Dependent Variable, Minority, at Different Salary Levels.

<table>
<thead>
<tr>
<th>Independent Variables</th>
<th>Salary Levels</th>
<th>Dependent Variable Minority(Betas)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Govxrev</td>
<td>One SD above Mean</td>
<td>0.326*</td>
</tr>
<tr>
<td></td>
<td>Mean</td>
<td>-0.031</td>
</tr>
<tr>
<td></td>
<td>One SD below Mean</td>
<td>0.321*</td>
</tr>
<tr>
<td>Privxrev</td>
<td>One SD above Mean</td>
<td>0.483*</td>
</tr>
<tr>
<td></td>
<td>Mean</td>
<td>0.026</td>
</tr>
<tr>
<td></td>
<td>One SD below Mean</td>
<td>0.596*</td>
</tr>
<tr>
<td>Deplocal</td>
<td>One SD above Mean</td>
<td>-0.217*</td>
</tr>
<tr>
<td></td>
<td>Mean</td>
<td>0.093</td>
</tr>
<tr>
<td></td>
<td>One SD below Mean</td>
<td>-0.426*</td>
</tr>
</tbody>
</table>

p < .001
In the previous analyses, two sets of variables were found to contribute significantly to predicting service delivery to free service clients: Dependence on Local Governments (Deplocal) and Involvement in the field. In order to derive a reduced model, a model containing all linear terms, and all interaction terms contained in these two sets, was first developed. The 'step-down' procedure was then used to reduce this model.

In the first step, all of the interaction terms contained in the dependence on local government set were partialled out. The reduction in $R^2$ was not significant. These interaction terms were thus eliminated from the model. Remaining was a reduced model which contained all 28 linear terms and 11 interaction terms belonging to the involvement set. In order to reduce further the model, the 'stepwise' method was used with these interaction terms. Only three of the 11 interaction terms within the Involvement set remained significant in the reduced model: Govxsal, Privxsal, and Dlocsal. The results are presented in Table 14.

As shown in Table 14, three of the linear terms were significant in the final model: Depstate, Involve and Salary. Reliance on state level funding and involvement in the field were related positively to the delivery of free services. This suggests that units with greater amounts of state funding served more clients at no cost. Likewise, those which were highly involved in the field served more clients at no cost. In contrast, expenditure on salaries and benefits was related negatively to the delivery of free services; that is, units with higher expenditures on salaries and benefits provided less free service than those with lower expenditures in these areas.
Table 14: Reduced Model for Predicting Service Delivery to Free Service Clients.

<table>
<thead>
<tr>
<th>Independent Variable Sets</th>
<th>Dependent Variable</th>
<th>Freeserv (Beta)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Control Set</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nclients</td>
<td></td>
<td>0.617*</td>
</tr>
<tr>
<td><strong>Organizational Set</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Admin</td>
<td></td>
<td>-0.157</td>
</tr>
<tr>
<td>Goalpoor</td>
<td></td>
<td>0.021</td>
</tr>
<tr>
<td>Salary</td>
<td></td>
<td>-0.311*</td>
</tr>
<tr>
<td>Specown</td>
<td></td>
<td>0.013</td>
</tr>
<tr>
<td>Specserv</td>
<td></td>
<td>0.062</td>
</tr>
<tr>
<td>Involve</td>
<td></td>
<td>0.153*</td>
</tr>
<tr>
<td><strong>Resource Environment Set</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Donate</td>
<td></td>
<td>-0.030</td>
</tr>
<tr>
<td>Govxrev</td>
<td></td>
<td>0.052</td>
</tr>
<tr>
<td>Privxrev</td>
<td></td>
<td>-0.047</td>
</tr>
<tr>
<td>Privdmd</td>
<td></td>
<td>-0.118</td>
</tr>
<tr>
<td>Privcli</td>
<td></td>
<td>-0.067</td>
</tr>
<tr>
<td>Fsources</td>
<td></td>
<td>0.006</td>
</tr>
<tr>
<td>Compete</td>
<td></td>
<td>-0.037</td>
</tr>
<tr>
<td>Stable</td>
<td></td>
<td>0.018</td>
</tr>
<tr>
<td><strong>Institutional Environment Set</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Propoor</td>
<td></td>
<td>-0.032</td>
</tr>
<tr>
<td>Antipoor</td>
<td></td>
<td>-0.015</td>
</tr>
<tr>
<td>Bothcert</td>
<td></td>
<td>0.088</td>
</tr>
<tr>
<td>Sacert</td>
<td></td>
<td>-0.026</td>
</tr>
<tr>
<td>Depfed</td>
<td></td>
<td>0.000</td>
</tr>
<tr>
<td>Depfed</td>
<td></td>
<td>0.265*</td>
</tr>
<tr>
<td>Depstate</td>
<td></td>
<td>0.094</td>
</tr>
<tr>
<td>Deplocal</td>
<td></td>
<td>-0.109</td>
</tr>
<tr>
<td>Exaddict</td>
<td></td>
<td>0.004</td>
</tr>
<tr>
<td>Bach</td>
<td></td>
<td>0.078</td>
</tr>
<tr>
<td>Grad</td>
<td></td>
<td>0.080</td>
</tr>
<tr>
<td>Absgoal</td>
<td></td>
<td>-0.092</td>
</tr>
<tr>
<td>DSM</td>
<td></td>
<td>-0.005</td>
</tr>
<tr>
<td>Methadon</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Interaction set</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dsminv</td>
<td></td>
<td>0.290*</td>
</tr>
<tr>
<td>Dlocinv</td>
<td></td>
<td>0.243*</td>
</tr>
<tr>
<td><strong>R²</strong></td>
<td></td>
<td>0.587*</td>
</tr>
<tr>
<td>Adjusted <strong>R²</strong></td>
<td></td>
<td>0.543*</td>
</tr>
</tbody>
</table>

p < .001
Table 15 summarizes the results of tests of the interaction terms contained in the model obtained for predicting service delivery to free service clients. The results suggest that reliance on DSM III (for diagnosis and treatment) is related positively to the delivery of free services, but only among units characterized by either high or low levels of involvement in the field. Reliance on the DSM is not related to free service delivery among units at mean level of involvement in the field. The relationships found between local government funding and the delivery of free services were similar to those pertaining to the DSM III, at the three involvement levels used.

Table 15: Standardized Regression Coefficients for the Linear Relationships Between DSM III and Deplocal and the Dependent variable, Freeserv, at different Levels of Involvement in the Field.

<table>
<thead>
<tr>
<th>Independent Variables</th>
<th>Involvement Levels</th>
<th>Dependent Variable Freeserv (Betas)</th>
</tr>
</thead>
<tbody>
<tr>
<td>DSM</td>
<td>One SD above Mean</td>
<td>0.352*</td>
</tr>
<tr>
<td></td>
<td>Mean</td>
<td>-0.092</td>
</tr>
<tr>
<td></td>
<td>One SD below Mean</td>
<td>0.050*</td>
</tr>
<tr>
<td>Deplocal</td>
<td>One SD above Mean</td>
<td>0.279*</td>
</tr>
<tr>
<td></td>
<td>Mean</td>
<td>0.094</td>
</tr>
<tr>
<td></td>
<td>One SD below Mean</td>
<td>0.406*</td>
</tr>
</tbody>
</table>

*p < .001
SECTION 3

SUMMARY

In this chapter the results of OLS regression analyses were presented. Initial analyses were conducted to determine whether several of the concepts which were identified in the theories (which were reviewed in Chapter II) contributed significantly to the prediction of service delivery to under-served clients. Three measures of under-served clients were used: numbers of low income, minority, and free service clients. Independent concepts examined include: 1) specialization, 2) excess revenues, 3) dependence on federal government, 4) dependence on state governments, 5) dependence on local governments, 6) reliance on private demand (sale of services to private purchasers), 7) reliance on donation, 8) stability of the institutional and resource environments, and 9) competition. Each of these concepts was represented by a set of variables, including both linear and interactional terms, which were deduced from the theories.

Sets of terms representing the concepts were examined for their significance as contributors to the prediction of service delivery to under-served clients. Their unique contributions were assessed by obtaining the squared semi-partial multiple correlation coefficient ($R^2$) for each set. In each case, all linear terms, except for those contained in the set under investigation, were held constant.
In the final analyses, all linear terms, as well as interaction terms contained in the sets which were found to be significant, were used to determine the most parsimonious prediction models. 'Step down' procedures were used to reduce the number of terms remaining in the models. As summarized below, the resulting models were different for each of the three dependent variables.

**Low income**

None of the sets of terms which represented individual concepts were found to contribute significantly to the prediction of service delivery to low income clients. The full linear model thus was used as the basis for model reduction. Following the 'step down' procedure, all thirteen linear institutional terms were first partialled from the model. Since the reduction in $R^2$ was not significant, these terms were removed from the model. In the second step, the set containing all eight resource environment variables was partialled out. This set was found to be significant. Following the stepwise procedure, only one of the eight variables at this level (Privxrev) remained significant, and was retained in the model. The final model contained 9 terms: the control variable (size), six organizational level variables and the single resource level variable Privxrev. These terms accounted for a substantial percentage (62.1%) of the variance in service delivery to low income clients. However, other than the control variable, the only significant independent variable was Privxrev. The negative sign suggests that, after controlling for unit size and other organizational characteristics, units with more privately insured clients (through whom they generated excess revenues) served fewer low income clients.
The final model obtained for the prediction of service delivery to minority clients contained all twenty-eight linear terms and three interaction terms. Other than the control variable, 3 of the linear terms were significant: Depstate, Deplocal, and Methadone. They were all positive. These findings suggest that units with more state government or local government funding served more minority clients than their counterparts which received less funding from these sources. Also, units which relied more on Methadone for the purposes of treatment and detoxification served more minority clients.

While the State government and Local government sets contributed significantly to the prediction of service delivery to minority clients, the interaction terms contained in these sets were not significant. In effect, stability of the environment, competition, expenditures on salaries and benefits, involvement in the field, and excess revenue clients (supported by government) did not moderate the effects state and local government funding on service delivery to minority clients. These interactions thus were removed from the model.

Although the Excess Revenue set contributed significantly to the prediction of service delivery to minority clients, only one of the constituent terms in this set was significant: Privxsal. This finding suggests that expenditures on salaries and benefits moderate the effects of excess revenue clients supported through private insurance (but not government funding) on services to minority clients. Moreover, competition for resources and stability of the environment were not significant in moderating the effects of excess revenue clients, regardless of whether they were supported by government or private insurance schemes.
Consequently, all of the interaction terms within the excess revenue set, except for Privxsal, were removed from the model.

Within the salary set, three of the interaction terms contributed significantly to the prediction of service delivery to minority clients: Dlocsal, Privxsal, and Govxsal. These interactions suggest that excess revenue clients (supported both through government and private insurance) have a positive effect on service delivery to minority clients, but only among units with either high or low expenditures on salaries and benefits. For units with average expenditures on salaries and benefits levels, excess revenue clients did not have a significant effect on service delivery to minority clients. Unlike the excess revenue clients, local government funding was found to be related negatively to service delivery to minority clients among units with either high or low expenditures on salaries and benefits. For those with average expenditures in these areas, local government funding was unrelated to service delivery to minority clients.

**Free service**

The final model for the prediction of service delivery to free service clients contained thirty terms: 28 linear and 2 interaction terms. Among the linear terms the only significant ones were expenditure on salaries and benefits, involvement in the field, and state level government funding. Expenditure on salaries and benefits was related negatively to the delivery of free services. But, involvement and state level funding had positive effects.
Two of the eleven interaction terms in the involvement set were significant: $D_{sminv}$ and $D_{locinv}$. These terms suggest that both reliance on the DSM for diagnoses and assessments, and on local government funding, were related positively to the delivery of free services among units with either high or low level involvement in the field. These two variables were not related to free service delivery among units at the mean level of involvement in the field. Moreover, involvement in the field did not moderate significantly the effects of any of the remaining 9 institutional variables on Free service delivery.

**General Summary**

Two broad categories of results were obtained in this study. One of these categories consists of findings which pertain to concepts that were examined for their unique contributions as predictors of service delivery to under-served clients. Each of these concepts was represented by a number of terms, some of which were interactions. Their unique contributions were determined by controlling for the effects of other linear institutional, resource, and organizational level variables. The second category of findings represents parsimonious models which were obtained for predicting service delivery to low income, minority and free service clients. The overall findings are summarized below, first by concepts, and then by terms.
**Individual concepts**

Of the eleven concepts which were examined for their unique contributions as predictors of service delivery to under-served clients 6 were not significant. These include: 1) specialization (both by ownership and by services), 2) dependence on the federal government for funding, 3) dependence on the sale of services to private purchasers (i.e., fee-for-service and private insurance clients) 4) reliance on donation, 5) competition for resources, and 6) predictability (or stability) of the resource environment. Neither the linear terms nor the interaction terms representing these concepts contributed significantly to the prediction of service delivery to low income, minority, and free service clients.

The remaining five concepts examined did contribute significantly to the prediction of service delivery to under-served clients, but their effects were not uniform across all three groups. The first concept, excess revenue, contributed to the prediction of service delivery to **low income** and **minority**, but not free service, client. With respect to low income clients, units which served more private insurance clients who enabled them to generate excess revenues delivered fewer services. Units which served more government supported clients who enabled the units to generate excess revenues did not deliver more (or less) services to low income clients.

The effect of excess revenues on service delivery to minority clients depended on the units' expenditures on salaries and benefits. Only among the less typical units (that is, those with either high or low expenditures on salaries and benefits) was the ability to generate excess revenue related positively to service delivery to minority clients. For units with
moderate expenditures on salaries and benefits, the ability to generate excess revenues was unrelated to service delivery to these clients. These effects on minority clients remained regardless of whether the source of excess revenue was private insurance companies or government.

The second concept which made a significant contribution to the prediction of service delivery to under-served clients was expenditure on salaries and benefits. This concept contributed to the prediction of service delivery to minority, but not low income and free service, clients. Three of the interaction terms that represented this concept were significant in predicting service delivery to minority clients. However, two of these significant terms overlapped with those that were contained in the excess revenue set. The findings were the same; that is, only among units with either high or low expenditures on salaries and benefits did the ability to generate excess revenues benefit minority clients. The other significant term within this concept was the interaction between local government funding and expenditures on salaries and benefits. Among units with both high and low expenditures on salaries and benefits, those which received more local government funding delivered fewer services to minority clients. Among those with moderate expenditures, local government funding was unrelated to service delivery to minority clients.

The third concept which contributed significantly to the prediction of service delivery to under-served clients was reliance on state level governments. In the parsimonious model obtained, units which received more state level funding delivered more services to minority, but not low income or free service, clients. State level influence was not moderated by factors
such as competition, predictability of the resource environment, or the ability to generate excess revenues through government-supported clients.

Reliance on local governments for funding was the fourth concept which contributed significantly to prediction. In the parsimonious model obtained, this concept was significant in predicting service delivery to minority and free service, but not low income, clients. As with state level funding, units which relied more on local government funding delivered more services to minority clients. In addition, local government funding had a positive effect on the delivery of free services, but only among units with either high or low levels of involvement in the field. Among the more typical units (i.e., those with moderate levels of involvement in the field), local government funding was unrelated to the delivery of free services.

The final significant concept was, organizational involvement in the field. This concept contributed to the prediction of service delivery to free service, but not low income or minority, clients. Two of the terms which represented this concept were significant. The first is the interaction between local government funding and involvement in the field. This term was also significant as part of the local government set, and the findings were the same; that is, local government funding benefited free service clients only among units with either high or low levels of involvement in the field. The other significant term was the interaction between reliance on the DSM 111 (for the purposes of assessment and diagnose) and involvement in the field. Again, only among units with either high or low levels of involvement did reliance on the DSM 111 translate into increases in the delivery of free services.
In summary, five of the eleven concepts which were examined contributed significantly to the prediction of service delivery to under-served clients. Moreover, those that were significant did not remain so across all three measures of service delivery to under-served clients. Only one of the eleven concepts, excess revenue, contributed significantly to the prediction of service delivery to low income clients. The ability to generate excess revenue by serving private insurance clients had a negative effect on service delivery to these clients.

Two of the eleven concepts contributed significantly to the prediction of service delivery to free service clients: reliance on local governments and involvement in the field. However, these two concepts overlapped, and the term found to be significant was the same for both. Overall, units which received more local government funding delivered more free services, but this positive relationship was limited to units with either high or low levels of involvement in the field.

Finally, four of the concepts which were examined contributed significantly to the prediction of service delivery to minority clients. These concepts are: excess revenue, expenditure on salaries and benefits, reliance on state level governments, and reliance on local governments. The first two concepts also overlapped, and the significant term was the same for both. Overall, the ability to generate excess revenue was related positively to service delivery to minority clients, but this effect held only among units with high or low levels of expenditures on salaries and benefits; excess revenues did not benefit minority clients among units with moderate levels of expenditures on salaries and benefits. The significant linear terms within the two remaining concepts suggest that both state and local governments have positive effects on service delivery to these clients.
Parsimonious models

In this chapter, concepts which contributed significantly to the prediction of service delivery to under-served clients were included in tests which were aimed at identifying the most parsimonious models for predicting service delivery to low income, minority and free service clients. The individual terms contained in these resulting models are summarized by way of comparisons across the three dependent variables below.

Some comparisons of the models on the basis of their individual terms suggest that they overlap considerably. Firstly, the control variable, size, had a strong positive linear effect across all three of the dependent variables; that is, units with more clients, in general, delivered more services to low income, minority and low income clients. Secondly, 4 of the 6 of the organizational level variables did not have significant linear effects in all three dependent variables; these are, 1) administrative size, 2) organizational goals of service delivery to under-served clients, 3) specialization by ownership, and 4) specialization by services. The only two exceptions at the organizational level were 1) expenditure on salaries and benefits and 2) involvement in the field. These terms were significant in predicting service delivery to free service, but not low income or minority, clients. Overall, units with higher expenditures on salaries and benefits delivered less, and those with higher levels of involvement in the field delivered more, free services.

Thirdly, 7 of the eight resource level variables examined did not have significant linear relationships with any of the three dependent variables. These non-significant variables include 1) donation, 2) excess revenue clients supported by government, 3) revenue generated
through the sale of services to private purchasers, 4) number of private insurance clients, 5) number of funding sources, 6) competition, and 7) stability of the environment. The only exceptions were excess revenue clients who were supported by private insurance schemes. Units with more of these clients served less low income, but not minority or free service, clients.

Fourthly, none of the 13 institutional level variables were significant as predictors of service delivery to low income clients. The institutional level terms thus were eliminated from the final model obtained for predicting service delivery to these clients. Ten of these institutional level terms were also not significant as predictors service delivery to minority and free service clients. These terms represent 1) year of founding, 2) certification, 3) federal government funding, 4) professionalism, 5) conformity with the substance abuse sector (as measured by an emphasis on abstinence as a treatment goal), and 5) conformity with the mental health sector (as measured by reliance on the DSM III).

Two of the 3 remaining linear institutional terms, however, were significant as predictors of service delivery to minority clients (i.e., local government funding, and reliance on methadone for treatment and detoxification). Both of these terms were related positively to service delivery to minority clients. The final linear institutional term, state level finding, was related positively to service delivery to service delivery both to minority and free service clients.

Finally, a few of the interaction terms remained significant in the models obtained for predicting service delivery to minority and free service clients. With regard to minority clients,
expenditures on salaries and benefits moderated the effects of excess revenue clients who were supported both by government and by private insurance schemes. These expenditures also moderated the effects of local government funding on service delivery to minority clients. As for free service clients, involvement in the field moderated the effects of conformity with the mental health sector (as measured by reliance on the DSM III) as well as local government funding.
CHAPTER V

CONCLUSION AND DISCUSSION

The results provided a mixed support for the concepts, and the underlying theories, used to predict service delivery to under-served clients by NPOs. In Section 1 of this chapter, each of the concepts is restated along with its theory base. The findings are then summarized, followed by conclusions and discussions. Section 2 contains conclusions and discussions which pertain to the parsimonious models obtained for predicting service delivery to low income minority and free service clients. A general summary of the findings and conclusions, followed by discussions of the implications of the study, is presented in Section 3.

SECTION 1 : DISCUSSION OF CONCEPTS

In addressing research questions #2 through #11, several key concepts were examined for the uniqueness of their contributions to the prediction of service delivery to under-served
1) Specialization

Terms

Six terms were used to represent the concept *Specialization*. The two linear terms used as indicators of specialization were: 1) whether the unit is free standing or is owned by another organization; and 2) the number of services delivered by the unit. The remaining four terms represent two-way interactions between these linear terms and two additional terms: Competition for Resources, and Stability of the Resource environment.

Underlying theory

One hypothesis deduced from population ecology theory was that organizations which specialize by services will provide more services to under-served clients than their generalist counterparts under conditions of stable and competitive resource environments. In contrast, generalist organizations will be more responsive to these needs in noncompetitive and
unstable environments. Two additional hypotheses were deduced from niche theory. The first is that free standing units will provide greater services to under-served clients than those owned by other organizations. The second is that units owned by other organizations will provide more services to under-served clients than their free standing counterparts under conditions of high competition and instability in the resource environment. No clear hypotheses were derived from institutional and resource dependence theories. These latter theories suggest that units owned by other organizations may provide either more or less services to these clients, compared to their free standing counterparts, depending on the nature of the influence of the parent organization.

Findings/conclusions

The data suggest that the concept, *Specialization*, does not contribute significantly to the prediction of service delivery to under-served clients (holding constant the remaining 26 linear institutional environment, resource environment, organizational, and control variables). That is, specialization on the bases of 1) whether or not the units were owned by other organizations, or 2) number of services that they provided, did not aid in predicting service delivery to low income, minority, or free service clients. Moreover, specialization neither by ownership nor by services moderated the effects of competition and stability in the resource environments. The concept, *Specialization*, thus did not contribute uniquely to the prediction of service delivery to under-served clients. Hence, the findings do not lend support to population ecology and niche theories.
Discussion

The overall findings with respect to specialization do not, however, necessarily imply that niche and population ecology theories are not valid. These theories provide predictions which are specifically related to the influence of the environment on organizational growth and survival. It remains likely that NPOs with different levels of specialization survive and grow differently, depending on the levels of competition and stability in their environments. However, the ability to survive and grow in any given environment may not translate into services to under-served clients.

From the standpoint of institutional and resource dependence theories, it is also likely that parent organizations (which are mainly NPOs themselves) do not pressure, or influence in other ways, the extent to which the units provide services to under-served clients. Alternatively, parent organizations may be inconsistent in the directions of their influences on their subsidiaries. The latter would result in the positive influences of some parent organizations cancelling out the negative effects of others.

2) Excess Revenue

Terms

Eight terms were used to represent the concept, Excess Revenue. The two linear terms used were: 1) number of excess revenue clients who were supported by government, and 2) number of excess revenue clients who were supported by private insurance schemes. Excess
revenue clients' was operationally defined as those for whom at least 75% of the service costs were covered. The remaining six terms were two-way interactions between these two linear terms and 1) Stability of the Resource Environment, 2) Competition for Resources, and 3) Salary/Benefit levels, respectively.

Underlying theory

A number of hypotheses regarding the effects of excess revenue were deduced primarily from the economic perspective. The ability to generate excess revenue was predicted to be related positively to service delivery to under-served clients. Further, this positive relationship was predicted to hold regardless of whether the source of excess revenue was government or private insurance. In addition, 1) competition for resources, 2) stability in the resource environment, and 3) expenditures on salaries and benefits (for administrators and staff), were predicted to mitigate the effects of excess revenues on service delivery to under-served clients.

Expenditures on salaries and benefits are related to the concept, 'non-distribution constraint.' Proponents of the economic perspective assume that NPOs typically use their excess revenues to deliver free or subsidized services to under-served clients, rather than redistribute these excesses in the form of salaries and benefits. High salary and benefit levels were thus predicted to undermine the effect of excess revenue on service delivery to under-served clients.
Findings/conclusions

The data provided little support for the economic position on excess revenues. While the *Excess Revenue* set contributed significantly to predicting service delivery to low income and minority clients, its contribution to predicting services to *Free service* clients was not significant. Furthermore, even though the entire set was significant in predicting service delivery to low income and minority clients, the findings with regard to individual terms within it did not support the predictions of the economic perspective.

With respect to low income clients, the only *Excess Revenue* term found to be significant (controlling for the 26 remaining linear terms in the model) was 'excess revenue clients' who were supported by private insurance schemes. Contrary to the economic prediction, this linear term had a negative, rather than a positive, relationship to service delivery to these clients; that is, units with more privately insured clients who enable them to generate excess revenues served less, rather than more, low income clients. Also, contrary to the economic predictions, in general, stability of the resource environment, 2) competition, and 3) expenditures on salaries and benefits did not moderate the effects of excess revenue clients on service delivery to low income clients.

As for minority clients, the only significant *Excess Revenue* terms found were the two-way interactions between expenditure on salaries and benefits and excess revenue clients (supported by both private insurance and government). It should be noted that the interaction between expenditure on salaries and benefits and excess revenue clients (supported by
government) was not significant in the initial analysis, but it was in the final model. The nature of these interactions was similar, but they did not entirely support the economic perspective.

First, clients who enabled units to generate excess revenues had a positive effect on service delivery to minority clients among units with low expenditures on salaries and benefits. This finding is consistent with the economic prediction; that is, the units were likely using their excess revenues to deliver subsidized services to minority clients, holding expenditures on salaries and benefits low. Second, among units with a moderate level of expenditure on salaries and benefits, the ability to generate excess revenue was unrelated to service delivery to these clients. This finding is also consistent with the economic perspective; expenditures on salaries and benefits could have attenuated the effect of excess revenue on service delivery to minority clients.

Third, among units with high expenditures on salaries and benefits, the economic perspective on service delivery to minority clients was not supported. The relationships found between the number of excess revenue clients served and service delivery to minority clients were positive, rather than negative. That is, units with more government and private insurance clients (who enable them to generate excess revenues) also delivered more services to minority clients, in spite of their high expenditures on salaries and benefits.

Discussion

Overall, the findings with respect to the contribution of the concept, Excess Revenue, in predicting service delivery to under-served clients, has provided little support for the
economic perspective. First, units with more clients who enabled them to generate excess revenues did not serve more under-served clients. In fact, those with more excess revenue clients who were supported by private insurance schemes actually served less low income clients. The prediction (based on micro-economic theories) that NPOs deliver services to under-served clients when they are able to generate excess revenues, is not supported by the data.

Second, the economic position that NPOs undermine the non-distribution constraint by paying excessive salaries and benefits of their administrators and staff, has received mixed support. Among units with low expenditures on salaries and benefits, those which generated more excess revenues served more minority clients, but not low income or free service clients. Had low expenditures on salaries and benefits been representative of attempts to conform with the non-distribution constraint, all three groups would have benefited from the excess revenues generated.

Among units with high expenditures on salaries and benefits, those which generated more excess revenues served more minority, but not low income and free service clients. Had high expenditures represented attempts to undermine the non-distribution constraint, none of these groups would have benefited from the excess revenues. The economic position that holds that NPOs undermine the non-distribution constraint by paying their administrators and staff high salaries and benefits thus is not fully supported by the data.

Only among those units with a moderate level of expenditure on salaries and benefits was there clear evidence of violations of the non-distribution constraint. For units in this
category, those which generated more excess revenues (both through government-supported and private insurance clients) did not deliver more services to low income, minority or free service clients.

One possible explanation for this finding is that high salary and benefit packages represent more than mere self interest. Some of the units with high expenditures on salaries and benefits may have had highly trained staffs who are costly, compared to quasi-professionals and volunteers. These units may also have had internal climates which 1) encourage the delivery of services to under-served populations by their employees, and 2) validate the employees, in part, by rewarding them adequately for their performances and qualifications. Given that visible minorities are most salient among their under-served client groups, they may be emphasizing service delivery to clients in this category. In effect, the units may be using their excess revenues to benefit both their employees and minority clients, but not low income and free service clients.

This alternative explanation can also account, in part, for the positive relationship found between the generation of excess revenues and the delivery of services to minority clients among units with low expenditures on salaries and benefits. These units may also have had internal climates which promote service delivery to minority clients, but they likely relied on quasi-professional staff and volunteers who are committed to the same ends. In this case, low expenditures on salaries and benefits may be reflective of the lower training and education of staff, rather than attempts to abide with the non-distribution constraint.
Further research is needed to assess the nature of the relationship between the intra-organizational characteristics of NPOs and the services which they deliver to under-served clients. Excess revenues obtained both through government and private insurance had relatively similar effects. In addition, these effects were not moderated by other aspects of the environment (i.e., competition for resources and stability of the resource environment). It thus is likely that some intra-organizational characteristics, which were not examined in this study, accounted for how these units use their excess revenues.

3) Salary

Terms

The concept, Salary, was represented by a set of eight terms in the analysis. Expenditure on salaries and benefits was the only linear term in the set. Five of the seven remaining terms were two-way interactions between expenditures on salaries and benefits and revenues obtained from the different sources: 1) donation, 2) federal government, 3) state governments, 4) local governments, and 5) private demand (i.e., sale of services to private individuals and insurance companies). The final two terms were interactions between expenditures on salaries and benefits and excess revenue clients supported through 1) government, and 2) private insurance schemes. These latter terms were also included in the Excess Revenue set that was previously discussed.
**Underlying theory**

Based on the economic perspective expenditure on salaries and benefits was predicted to be related negatively to service delivery to under-served clients. In addition, it was predicted to mitigate the effects of revenues obtained from the various sources on service delivery to these clients. As stated above, proponents of the economic perspective contend that NPOs undermine the non-distribution constraint by elevating the salary and benefit levels of their administrators and staff. In essence, revenues generated, especially excess revenues, were predicted to benefit under-served clients only when these revenues were not used to maximize the personal gains of administrators and staff, as measured by expenditures on salaries and benefits.

**Findings/conclusions**

The data provided mixed support for the economic perspective. The set of salary terms did not contribute significantly to the prediction service delivery to low income and free service clients, controlling for the 27 remaining linear terms in the model. Service delivery to minority clients was the exception. Three of the eight terms were significant in predicting service delivery to these clients. These are the interactions between expenditures on salaries and benefits and 1) local government funding, 2) excess revenue clients supported by government, and 3) excess revenue clients supported through private insurance schemes. The latter two interactions were also significant when they were contained in the excess revenue set, which was discussed previously.
Again, the findings do not provide much support for the economic perspective on NPOs. First, expenditure on salaries and benefits was unrelated, rather than related negatively, to service delivery to low income, minority and free service clients, controlling for the other variables in the model. Second, expenditures on salaries and benefits did not moderate the effects of funding obtained through 1) donation, 2) federal government, 3) state governments and 4) private demand on service delivery to these clients. Third, expenditures on salaries and benefits did not moderate the effects of 5) funding obtained through local governments, and 6) excess revenue clients (supported by both government and private insurance), on services to low income and free service clients. However, these expenditures did moderate the effects of local government funding, and excess revenue clients (supported by both government and private insurance) on service delivery to minority clients.

As shown previously with respect to minority clients, the nature of the interaction found between ‘excess revenue’ and ‘expenditure on salaries and benefits’ was not very consistent with the economic perspective. Likewise, the interaction found between local government funding and this type of expenditure did not provide strong support for the economic perspective. Among units with high expenditures on salaries and benefits, local government funding was related negatively to service delivery to minority clients; that is, those with high levels of local government funding served less minority clients. This finding is consistent with the economic perspective in that local government funding could have been used to elevate salaries and benefits at the expense of service delivery to minority clients. That local government funding was not related to service delivery to minority clients among units
with a moderate level of expenditure (on salaries and benefits) is also consistent with the economic perspective. Again, it is plausible that these units use their local government funding to maintain salaries and benefits at a desired level rather than deliver services to minority clients. The negative, rather than positive, relationship found between local government funding and service delivery to minority clients among units with low expenditures on salaries and benefits is, however, not consistent with the economic perspective. Based on the economic perspective, units with low expenditures should have delivered more, rather than less, services to minority clients, when they received more local government funding.

Overall, the economic position that NPOs undermine the non-distribution constraint by paying their administrators and staff high salaries and benefits has received only limited support. Contrary to the economic predictions, units with higher expenditures on salaries and benefits in general, did not have less low income, minority and free service clients. Moreover, the effects of funding obtained through various sources (donation, different levels of government, and private demand) on service delivery to these clients did not depend on how much money the units expended on salaries and benefits. Likewise, the effect of excess revenue generated through government and private insurance clients on services to underserved clients did not depend on expenditures on salaries and benefits. As stated above, the only exceptions were with respect to minority clients; expenditures on salaries and benefits moderated the effects of local government funding and excess revenue clients on service delivery to minority, but not low income or free service, clients.
Discussion

These findings suggest that there may be differences among units with high, moderate, and low expenditures on salaries and benefits with regard to their emphasis on service delivery to under-served clients, minorities in particular. As stated earlier, those with high expenditures on salaries and benefits may not be necessarily undermining the non-distribution constraint; rather, they may have more highly trained workers, and reward their administrators and staff accordingly (in terms of salaries and benefits). These units may be also responsive to the needs of under-served clients. Given that minorities are the more salient of under-served clients, they may be targeting these clients for subsidized services, using their excess revenues. Those with low expenditures on salaries and benefits may also be committed to service delivery to specifically minority clients, but they keep these expenditures low by using quasi-professional and volunteer staff. This strategy enables them to use their excess revenues to deliver services to minority clients. The more typical units (i.e., those with moderate expenditures on salaries and benefits) are those which seem to violate the non-distribution constraint.

The explanation provided here can also account for the negative relationships found between local government funding and service delivery to minority clients, among units with either low or high expenditures on salaries and benefits. Local governments may be more likely than the other sources of funding to pay for services purchased at rates which are far below the cost of these services. In this situation, the units may not only be prevented from generating excess revenues, but they also may be pressured into using resources that would
otherwise be expended on minority clients, to internally cross-subsidize service delivery to local government-supported clients (Clarke, 1991). In effect, service delivery to local government-supported clients may be undermining service delivery to minority clients among units either high or low expenditures on salaries and benefits.

In sum, the evidence does provide support for the notion that NPOs undermine the non-distribution constraint by using their excess revenues to benefit their administrators and staff. However, this phenomenon appears to be more pervasive than the economic perspective implies. The exceptional units (i.e., those with high expenditures on salaries and benefits) were not the ones which violated the non-distribution constraint. Rather, the violators were the more typical units; that is, those with moderate levels of expenditures on salaries and benefits. Moreover, the impact of violations of the non-distribution constraint appears to be limited to minority clients; expenditures on salaries and benefits did not moderate the effects of excess revenue on service delivery to low income clients, in general, or free-service clients.

4) Dependence on Government

Terms

Government demand was represented by three concepts; federal, state, and local government funding. Each of these concepts contained six terms, the linear term, and two-way interactions between this linear term and 1) Stability of the resource environment, 2)
Competition for resources, 3) Expenditure on salaries and benefits, 4) Involvement in the field, and 5) Excess revenue clients supported by government.

Underlying theory

A number of predictions were derived from institutional and resource dependence theories. First, state level funding was predicted to be related either positively or negatively to service delivery to under-served clients. Second, both federal and local government funding were predicted to be unrelated to services to these clients. Third, organizational involvement in the field was not predicted to moderate the effects of government funding on service delivery to under-served clients.

Additional hypotheses were deduced from the other resource level theories. Based on the economic perspective, particularly government failure theory, government demand (as measured by government funding) was predicted to be related negatively to service delivery to low income, minority and free service clients. In addition, high expenditures on salaries and benefits were predicted to exacerbate the negative effect of government funding has on service delivery to these clients. Based on the other resource level theories, competitive and unstable resource environments were predicted to mitigate the effects of government funding on service delivery to under-served clients. Finally, based on past research (Clarke, 1991), and the economic theory of privatization (Netting et al., 1990), government funding was predicted to benefit under-served clients only when it enabled NPOs to generate excess revenues.
4.1) Federal Government Funding

Findings/discussions

The findings in regard to Federal Government funding provided support for institutional and resource dependence theories, but not the other resource level theories, especially the economic theories. In general, terms in the federal government set did not contribute significantly to the prediction of service delivery to under-served clients, controlling for the 27 remaining linear terms. Specifically, the amount of federal government funding received by the units was unrelated to service delivery to low income, minority and free service clients. This finding is consistent with institutional and resource dependence theories. Both of these theories suggest that the federal government represents conflicting and fragmented influences on organizations in the field. Under these conditions, organizations are expected to be able to evade the expectations emanating from this source of influence. In addition to the absence of a linear effect, the extent to which the units were involved in the field did not moderate the effect of federal level funding on service delivery to under-served clients. This finding is also consistent with institutional theory. Proponents of the theory contend that organizations and their representatives become involved in the field out of self-interest, rather than the interests of their clients.

The effect of federal funding also was not dependent on the other factors considered. These include levels 1) competition for resources, 2) expenditure on salaries and benefits, and 3) stability of the resource environment. Hence, the economic and population ecology
theories were not supported by the data. Finally, the effect of federal funding was also not
dependent on the number of excess revenue clients who were supported by government.
Following the economic perspective, federal funding should have a strong positive effect on
service delivery to under-served clients when government supported clients enabled the units
to generate excess revenues.

In summary, the extent to which the units conformed to the norms and
standards of the on federal government (as measured by the level of federal funding) did not
contribute to predicting service delivery to under-served clients. In addition, the influence of
the federal government was not moderated by any of the five factors examined: 1) the extent
to which the units (or their representatives) were involved in the field; 2) the extent to which
government support enabled the units to generate excess revenues; 3) the level of competition
for resources; 4) the degree of stability of the resource environment; and 5) the level of
expenditure on salaries and benefits. Federal government funding, in effect, did not aid in
predicting service delivery to under-served clients. These findings are consistent with
institutional and resource dependence theories, but not the other resource level theories.

Discussion

It should be noted that the absence of significance with respect to federal funding may
be reflecting limitations of the data rather than providing support for institutional and resource
dependence theories. The range of federal funding was limited; most of the units received
either no funding or limited funding from the federal government. Hence, federal influence
may be weak, not because it is fragmented, but because of ceiling effects in the data. NPOs in other fields, which rely more heavily on the federal government for funding, may be more strongly affected by this level of government.

4.2) State Government Funding

Findings/conclusions

The findings with regard to State level funding provided partial support for institutional and resource dependence theories, and no support of other resource level theories, particularly economic theories. After controlling for the remaining 27 linear terms in the model, the set of terms which represented state level influence did not aid in predicting service delivery to low income and free service clients, but it did aid in predicting service delivery to minority clients. Moreover, only one of the terms in the state level set was significant in predicting service delivery to minority clients: state level demand. Units which received more state level funding delivered more services to minority clients.

These findings provide partial support for institutional and resource dependence theories. The theories present state level influences as formalized and unified, increasing the chances that organizations will conform to the norms and expectations which state governments promulgate. That the units which relied more on state level government for funding delivered more services to minority clients, but not the general low income
population and free service clients, suggests that this level of government influences NPOs in ways that promote service delivery specifically to minority clients.

As predicted by institutional and resource dependence theories, state level influence was not moderated by organizational involvement in the field. This finding provides additional support for the notion that organizations (or their representatives) become involved in the field out of self-interest, rather than the interests of under-served clients. It is consistent with that of others (e.g., Gronbjerg 1990, 1991).

The remaining findings, with regard to state level funding, have provided no support for the other resource level theories, especially the economic theories. First, government demand (as measured by state level funding) did not undermine service delivery to under-served clients. On the contrary, state level funding appears to have a positive effect on services delivered to minority clients. Second, the effect of state level funding did not depend on: 1) the extent to which the units competed with others for resources, 2) the level of stability of the resource environment, 3) the level of expenditure on salaries and benefits, 4) the extent to which government funding enabled the units to generate excess revenues. Hence, the resource level theories were not supported by the data.

Discussion

Overall, the findings suggest that state level governments influence nonprofit organizations, which rely on them for funding, in ways that are supportive of service delivery to minority clients specifically. The benefits do not appear to extend to the general low
income population or clients requiring free services. The effect of state level governments on service delivery to minority clients appears to be strong. Firstly, it remained after controlling for those of the remaining 27 linear institutional, resource and organizational level variables. Secondly, it did not depend on the extent to which government support enabled the units to generate excess revenues. Thirdly, it was not dependent on conditions in the resource environment, such as competition for resources and predictability. Finally, the effect of state level governments was not dependent on organizational characteristics, including the extent to which they were involved in the field, and their expenditures on salaries and benefits.

4.3) Local Government Funding

Findings/conclusions

The findings provided partial support for institutional and resource dependence theories. However, no support was provided for the other resource level theories, in general, and the economic theories in particular. Local governments were found to influence service delivery to the minority and free service clients, but not the general low income population, after controlling for the influence of the remaining 27 linear terms in the model. That is, none of the terms within the Local Government set was significant in predicting service delivery to low income clients. With regard to minorities, the only term that was significant was the linear term, 'Local Government Demand.' Units which received more local government funding delivered more services to minority clients. In addition, the only term that was
significant in predicting service delivery to free service clients was the interaction between 'Local Government Demand' and organizational involvement in the field. Among units with high or low levels of involvement in the field, those which received more local government funding delivered more free services; among those with moderate levels of involvement, local government funding was not related to the delivery of free services.

As stated above, the findings provided only partial support for institutional and resource dependence theories. That local government funding was not related linearly to service delivery to low income and free service clients, is consistent with these theories, but the positive relationship found between this source of funding and service delivery to minority clients is not. Proponents of these theories describe local government influences as fragmented and not highly formalized. Consequently, this source of influence was predicted to be unrelated to service delivery to under-served clients. Overall, local governments appear to influence units (which rely on them for funding) in ways that benefit the minorities, but not free service or low income clients, in general.

The findings with regard to the role of organizational involvement in the field have also provided mixed support for institutional and resource dependence theories. As predicted, the effects of local government funding (on service delivery to low income and minority clients) did not depend on the extent to which the units were involved in the field. This finding supports the position that organizations become involved in the field out of self-interest. However, the effects of local governments on service delivery to free service clients depended on the extent to which the units were involved in the field. Among the units with
high levels of involvement in the field, those which received more local government funding delivered more free services. A similar relationship was found among units with low levels of involvement in the field. But, among those with moderate levels of involvement, those which received more local government funding did not deliver more free services. Had self-interest been the only motive for becoming involved in the field, the effect of local government funding on the delivery of free services would not have depended on the level at which these units were involved in the field. Thus, the institutional and resource dependence position on involvement in the field has received limited support, and only with respect to low income and minority clients.

The absence of support for the other resource level theories is evident in the remaining findings. The effect of local government funding was not dependent on other resource level influences: 1) competition for resources 2) stability of the resource environment, and 3) excess revenue clients supported by government. It also did not depend on the level of expenditure salaries and benefits. Predictions as to the effects of local government funding, based on the resource level theories, thus were not supported.

Overall, the findings suggest that local government funding benefits under-served clients under limited circumstances. First, units receiving more local government funding appear to provide more services to minority clients; low income clients in general, and those requiring free services, do not appear to benefit from greater funding provided through this source. Second, only in exceptional cases do free service clients appear to also benefit from
higher levels of local government funding. These exceptional cases represent units with high levels, and those with low levels, of involvement in the field.

Discussion

These findings imply that local governments, like their state level counterparts, influence NPOs which rely on them for funding in ways which benefit service delivery to minority clients. However, they do not appear to use their influence to promote service delivery to the general low income population, and the delivery of free services. Moreover, the units, by becoming involved in the field, are able to moderate the influences of local governments; local governments likely represent influences which fragment the field, and which are not highly formalized. Organizations thus are able to evade their demands. However, to moderate these influences in ways that specifically benefit under-served clients, (by becoming involved in the field) is not consistent with institutional and resource dependence theories. An alternative interpretation of this interaction is required.

Following the institutional and resource dependence interpretations, the units may have been in the position to evade the expectations of local governments. However, units with different levels of involvement in the field likely had different motives with respect to service delivery to free service clients. The typical unit (or its representative), which is characterized by a moderate level of involvement in the field, may become involved out of self-interest. This explanation can account for the finding of no relationship between local government funding and service delivery to free service clients among these units.
In contrast to the typical units, the exceptional units (i.e., those with high and low levels of involvement) may be sharing a similar interest in addressing the needs of the general community. Such an interest would likely translate into the delivery of free services, rather than services targeted specifically at low income or minority clients. Given the flexibility associated with local government funding, these units may be using their local government funding to emphasize the delivery of free services.

5) Private demand

Terms

Twelve terms were used to represent the concept, *Private Demand*. These include two linear terms, 1) Private Demand (i.e., revenue generated through the sale of services to fee-for-service and private insurance clients), and 2) Private clients (i.e., number of private insurance clients). The remaining terms involved two-way interactions between these linear terms and 1) competition of resources, 2) stability of the resource environment, 3) excess revenue clients supported by private insurance schemes, 4) expenditure on salaries and benefits, and 5) involvement in the field.

Underlying theory

The different theories provided both complementary and conflicting predictions as to the effects of *the concept Private Demand* on service delivery to under-served clients. Based
on the government failure theory, private demand -as measured by 1) revenue obtained through the sale of services to private insurance and fee-for-service clients) and 2) number of private insurance clients -was predicted to be related negatively to service delivery to under-served clients. But, based on institutional and resource dependence theories, it was predicted to be unrelated to services to these clients. In addition, the prediction that the effect of private demand will not be moderated by organizational involvement in the field was derived from these latter theories.

A number of predictions regarding the interaction effects were deduced from the resource level theories. Government failure theory predicts that high expenditure on salaries and benefits will exacerbate this negative of private demand. Theories within the economic perspective, in general, predict that private demand will have a positive effect when it enables the units to generate excess revenue. Finally, resource level theories, overall, predict that the competition for resource and stability of the resource environment will moderate the effects of private demand.

Findings/discussions

The findings with regard to terms in the Private Demand set provided support for institutional and resource dependence theories, but not the other resource level theories. The set of terms did not contribute significantly to predicting service delivery to under-served clients, holding the remaining 26 linear terms constant. Neither units with more revenues generated through selling their services (to private insurance and free-for-service clients), nor
those with more private insurance clients, served less low income, minority or free service clients. Moreover, the effects of private demand and private insurance clients did not depend on the extent of organizational involvement in the field.

Both sets of findings presented above are consistent with institutional and resource dependence theories. That is, to the extent that private purchasers represent sources of influence that fragment the field, the units were expected to evade the pressures which they exerted. Furthermore, to the extent that involvement in the field represents self-interests, involvement was not expected to moderate the effects of private demand or private insurance clients on service delivery to low income, minority or free service clients.

The additional findings with respect to the terms in the private demand set provided no support for other resource level theories. Contrary to the prediction of government failure theory, revenues generated through the sale of services to private purchasers did not have negative effects on service delivery to low income, minority or free service clients. Moreover, the other resource environment level factors did not moderate the effects of this source of revenue on service delivery to these clients. These factors include: 1) competition for resources, 2) stability of the resource environment, 3) expenditure on salaries and benefits, and 4) excess revenue -generated through private insurance clients. Hence, the effect of private demand did not depend on these other influences emanating from the resource environment. In summary, reliance on the market system for revenues did not contribute uniquely to the prediction of service delivery to under-served clients. Both the revenues obtained by selling services to fee-for-service and insurance clients and the actual number of
private insurance clients served were unrelated to service delivery to under-served clients. Moreover, the effect of reliance on the market system did not depend on whether the units generate excess revenues through this source. It also did not depend on the levels of 1) competition for resources, 2) stability in the resource environment, 3) expenditures on salaries and benefits, and 4) involvement in the field.

Discussion

Overall, the findings with regard to *Private Demand*, poses a serious challenge to the central tenets of the resource level theories, especially the economic theories. Based on the economic theories, NPOs are justified in selling their services in the market system when it enables them to generate excess revenues. These NPOs are assumed to use their excess revenues to deliver subsidized services to under-served clients. The evidence obtained suggests that units which relied more on the sale of services to private purchasers did not deliver more services to low income, minority or free service clients. Moreover, the sale of services to private purchasers had no effect on services to under-served clients, even when it enabled to units to generate excess revenues. In effect, the data do not support the economic position that NPOs sell their services to private individuals and insurance companies in order to generate excess revenues, which in turn are used to deliver subsidized services to under-served clients.

While the sale of services to private purchasers did not benefit under-served clients, it did not appear to undermine service delivery to these clients either. That is, units which
relied more on the sale of services to private purchasers did not deliver fewer services to under-served clients, regardless of the extent to which this activity enabled them to generate excess revenues. In addition, expenditures on salaries and benefits did not undermine the effects of private demand and private insurance clients on service delivery to under-served clients. Hence, the sale of services to private purchasers appears to serve purposes other than addressing the needs of under-served clients.

6) Donation

Terms

A set consisting of five terms was used to represent the concept, Donation. These terms include the linear term, donation (i.e., the amount of revenue obtained through privation donations), and four additional terms representing interactions between donation and 1) competition for resources, 2) stability of the resource environment, 3) expenditures on Salaries and benefits, and 4) Involvement in the field.

Underlying theory

Revenue obtained through donation was predicted to be related positively to service delivery to under-served clients, based on the economic perspective. In contrast, it was predicted to be unrelated to service delivery to these clients, using institutional and resource dependence theories. Proponents of these latter theories contend that donation represents
institutional influences which are informal, and which fragment the field. As indicated previously, these latter theories also predict that organizational involvement in the field will not moderate the effect of donation on service delivery to under-served clients. The resource level theories, in general, predict that competitive and unstable environments will attenuate the effects of donation. In addition, government failure theory (which lies within the economic perspective) predicts that excessive salaries and benefits will mitigate the positive effects of donation.

Findings/discussions

The results obtained for the Donation set provided support for institutional and resource dependence theories, but not for the other resource level theories, particularly the economic theories. This set did not contribute significantly to the prediction of service delivery to low income, minority or free service clients, holding the remaining 27 linear terms in the model constant. More specifically, units which received more funding through donation did not deliver more services to low income, minority or free service clients receiving services. In addition, the effects of donation on service delivery to these clients did not depend on the extent to which the units were involved in the field. Both of these findings are consistent with institutional and resource dependence theories.

In addition, the findings in regard of Donation do not support other resource level theories. Firstly, as stated above, the economic prediction that units which relied more on private donation will serve more low income, minority, or free service clients, was not
supported. Secondly, the effect of donation did not depend on the level of expenditure on salaries and benefits, contrary to the prediction of government failure theory. Finally, the effect of donation did not depend on the levels of competition and stability of the resource environment, contrary to the predictions of the resource level theories, in general.

**Discussion**

As with federal level funding, it is likely that the findings pertaining to donation could have resulted from the data rather than the underlying theories. Donation constituted the smallest source of revenue for the units studied. Thus, the absence of significant relationships between donation and services delivered to under-served clients could have resulted from ceiling effects in the data. NPOs in other fields, which are more dependent on donation, may be more strongly affected by this source revenue. The findings, however, do challenge the traditional view of NPOs. Very few of these units will likely survive by relying on donation as their primary source of revenue.

7) **Stability**

**Terms**

Nine terms were used to represent the concept, *Stability* of the resource environment. The linear term was stability, which was defined as administrators' perceptions of the degree
of predictability of the resource environment of their units. Other terms represented interactions between stability and 1) Donation, 2) Private Demand, 3) Federal government demand, 4) State government demand, 5) Local Government demand, 6) Competition, 7) Specialization by ownership and 8) Specialization by services.

**Underlying theory**

Based on all of the resource level theories stability of the resource environment was predicted to relate positively to service delivery to under-served clients; that is, units in more stable resource environments were expected to serve more low income, minority and free service clients. These theories also predicted that the effects of funding from the various sources will depend on the level of stability of the resource environment; that is, increased funding will result in increases in services to under-served clients when the resource environment is stable. Stability was also predicted to moderate the effect of competition; that is, units facing less competitive and more stable resource environments were predicted to benefit under-served clients most. The remaining two interaction terms were deduced from niche and population ecology theories. Niche theory predicts that units will seek to minimize the effects of unstable resource environments by becoming parts of larger organizations. Unstable environments thus were predicted to have a less negative effect when the unit belonged to a larger organization than when is was free standing. Finally, population ecology theory predicted that generalist organizations (i.e., those providing greater varieties of
services) will be better positioned to provide services to under-served clients than their specialist counterparts, when the resource environment is unstable.

Findings/conclusions

The results suggest that the concept, Stability, does not contribute significantly to predicting service delivery to under-served clients, holding the remaining 27 terms in the model constant. Contrary to the resource level theories, the level of stability of the environment was unrelated, rather than related positively, to service delivery to low income, minority, and free service clients. The effects of funding obtained through donation, private demand, and the different levels of governments, did not depend on the level of stability of the resource environment. Moreover, the effects of perceived competition and specialization (both by ownership and services) did not depend on the level of stability of the resource environment.

Overall, the data suggest that the concept, Stability of the resource environment, which is stressed by virtually all resource level theories studied (i.e., economic, niche, population ecology, resource dependence), does not make a unique contribution to the prediction of service delivery to under-served clients. Units which experienced more stable resource environments did not deliver more services to these clients. Also, the level of stability of the resource environment did not moderate the effects of funding obtained from the different sources on service delivery to these clients. Finally, the effect of specialization
(both by ownership and by services) did not depend on the level of stability of the resource environment.

Discussion

There are at least four plausible interpretations for his finding. First, it is likely that the extent to which the resource environment is predictable is not taken into account in organizational decision making related to service delivery to under-served clients. Second, a high level of instability was reported by the average unit, and variations among the units were relatively low. This low level of variability could have accounted for the absence of significant effects of stability. Third, the measure was based on the subjective perceptions of administrators of the units; it may not be valid. The final explanation is that stability has effects on organizational survival and growth, as predicted by these theories, but these effects do not, in turn, affect service delivery to under-served clients. Consequently, the finding that the level of stability of the resource environment is not related to service delivery to under-served clients may not reflect limitations in the underlying theories, per se.

8) Competition

Terms

Nine terms were used to represent the concept, *Competition*. The only linear term was competition, (i.e., administrators' perceptions of the extent to which their units competed with
other for resources, including clients, funding, referral and staff). Other terms in the set were two-way interactions between competition and funding - obtained through the various sources (Donation, Private Demand, Federal State and Local Government Demand), Specialization (by services and ownership), and Stability of the resource environment. The last term was previously used in the Stability set and found to be non-significant.

**Underlying theory**

All of the resource level theories predicted that competition will be related negatively to service delivery to under-served clients. Competition was also predicted to moderate the effects of funding (obtained from the different sources), specialization, as well as stability of the resource environment, on service delivery to these clients.

**Findings/conclusions**

The findings suggest that the concept, Competition, does not contribute significantly to the prediction of service delivery to under-served clients, holding the remaining 27 linear terms constant. Contrary to the resource level theories, competition was not related linearly to service delivery to these clients; that is, units in more competitive resource environments did not serve less low income, minority, or free service clients. Moreover, competition did not moderate the effects of 1) donation, 2) demand by the different levels of government and private purchasers, 3) specialization and 4) stability of the resource environment, on service delivery to under-served clients.
Discussion

In summary, the concept, *Competition*, did not aid in predicting service delivery to under-served clients. Again, it is likely that the subjective measure used was biased. However, past studies, using both objective and subjective measures, have also found that NPOs, as a whole, do not experience high levels of competition for resources. These studies also show that competition does not affect other related outcomes, such as labor relations (Lammers, 1990). Hence, competition for resources, may not be a useful concept for explaining service delivery to low income, minority, and free service clients among NPOs in the outpatient substance abuse field.

9) Involvement in the Field.

Terms

The concept, *Involvement in the field*, was represented by 12 terms. The only linear term in the model was 'involvement', which was defined as the extent to which the unit (or its representatives) participated in coalitions, federations, and other cooperative relationships with organizations in the field. The remaining terms were two-way interactions between this linear term and variables derived from institutional theory. Two dummy coded variables represented whether or not the unit was certified by federal or state level agencies in the substance abuse sector, or by agencies in both the mental health and the substance abuse sectors. Three indicators of professionalism were used: numbers of treatment staffs who 1)
were ex-addicts, 2) had Bachelor degrees as their highest degrees, and 3) had graduate
degrees as their highest degrees). Three indicators of dependence of government were used
(federal, state, and local government funding). Additional institutional level variables used in
the interactions were the numbers of clients receiving 1) DSM III diagnoses, and 2)
methadone treatment. These two terms were used as indicators of conformity with the mental
health sector. The final interaction term contained 'Abstinence as a treatment goal', which was
used as an indicator of conformity with the substance abuse sector.

**Underlying theory**

Two primary predictions were deduced from institutional and resource dependence
theories. The first is that involvement in the field will not be related to service delivery to
under-served clients. The second is that involvement in the field will not moderate the effects
of the institutional environment on service delivery to these clients. Consequently, none of the
terms in the *Involvement* set were predicted to contribute significantly to the prediction of
service delivery to under-served clients. Again, these predictions were based on the
contention that organizations (or their representatives) become involved in the field out of
self-interest rather than the interest of under-served clients.

**Findings/conclusions**

The data provided limited support for institutional and resource dependence theories.
The set of terms representing *Involvement in the field* did not contribute significantly to the
prediction of service delivery to low income and minority clients, holding the remaining 27 linear terms in the model constant. This set did, however, contribute to predicting service delivery to free service clients. Had the two theories received greater support, the involvement set would not have contributed to the prediction of any of the three dependent variables.

With regard to service delivery to free service clients, two of the terms in the Involvement set were significant. Involvement moderated the effects of 1) reliance on the DSM III for assessments and diagnoses and 2) dependence on local governments for funding. The latter interaction term was previously used in the local government set and also found to be significant. Among units with moderate levels of involvement in the field, neither reliance on the DSM III nor the local governments was related to service delivery to free service clients. However, among units with either high and low levels of involvement, those which relied more on local government funding, and on the DSM III, delivered more free services. These findings suggest that, contrary to the predictions of institutional and resource dependence theories, the units moderated some the effects of the institutional environment by being involved in the field.

Discussion

Overall, the findings support the contention that organizations (or their representatives) become involved in the field out of self-interest rather than the interests of under-served clients. The extent to which they were involved in the field was not related to
the numbers of low income, minority, and free service clients to whom they provided services. In addition, their involvement did not moderate the effects of most of the institutional influences (i.e., government, professionalism, and the two treatment sectors) on service delivery to these clients. The only two exceptions found relate to local government and DSM III. Among units with both high and low levels of involvement in the field, those which relied more on local government funding and DSM III diagnoses served more free service clients.

The findings with respect to local government were discussed previously. As stated earlier, proponents of institutional and resource dependence theories contend that local governments represent institutional influences which are informal in nature, and which fragment the field. Under these conditions, the units are able to moderate the influences of local governments. However, the finding that some of the units (by being involved in the field) moderated the influences of this level of government in ways that benefited free service clients, is not consistent with these theories. It suggests that self-interest may not be the only motive for becoming involved in the field.

The different levels of involvement in the field among the units may be representative of different motives. Units which were moderately involved in the field could have been doing so out of self-interest; local government funding was unrelated to service delivery to underserved clients among these units. The exceptional units (i.e., those with either high or low levels of involvement) may be more committed to addressing the needs of the larger community; they appear to use their local government funding to deliver free services, rather than services targeted specifically at low income and minority clients.
Like local governments, the findings suggest that the units (by being involved in the field) are able to moderate the influence of the mental health sector, as measured by reliance on the DSM 111. The influences of the local governments and the mental health sector were moderated in a similar way. First, units which were moderately involved in the field appeared to have buffered their effects. Among these units, those which relied more on the DSM 111 for assessments and diagnoses, and those which relied more on local government funding, did not deliver more free services. Second, among units with either high or low levels of involvement in the field, those which relied more in the DSM 111, or on local government funding, delivered more free services.

These findings imply that the mental health sector may not be as unified, and as strong in ensuring conformity, as some authors (e.g., A'Dunno et al., 1990) claim. The units appear to be able to moderate this source of influence in ways which may (or may not) benefit free service clients, depending on the extent to which they are involved in the field.
SECTION 11: DISCUSSION OF PREDICTIVE MODELS

In this section, conclusions and discussions pertaining to the final models obtained for the prediction of service delivery to under-served clients are presented. Four subsections are included. The first three contain conclusions with respect to the models derived for predicting service delivery to low-income, minority and free-service clients, respectively. A general summary, followed by a discussion, are contained in the final subsection.

The entire final models for predicting service delivery to low-income, minority and free-service clients were obtained largely through a process of backward elimination. In the first step of the analysis, sets of interaction terms representing concepts which were previously found to be significant were included in the model, and their significance reassessed. When these sets of interaction terms contributed significantly to predicting service delivery, holding the 28 linear terms in the models constant, they were retained. Further probing was then done to eliminate to non-significant terms within these sets. No attempt was made to further reduce the sets. The final models for predicting service delivery to minority and free-service clients were derived through this process.
When the interaction terms did not contribute significantly to the prediction of service delivery, additional steps were taken in the model reduction process. The second step involved determining whether the set of thirteen linear institutional level terms contributed significantly to predicting service delivery to under-served clients, holding constant the remaining fifteen resource level, organizational level, and control variables.

In the case of low-income clients, the institutional level variables did not contribute significantly to prediction. These variables were eliminated. In the third phase of the model reduction process, the unique contribution of the set of eight resource level variables was examined for its significance. Since this set was significant, further probing was conducted to eliminate the non-significant resource level variables from the model. The final model for predicting service delivery to free-service clients thus was derived by following these three phases of model reduction. Conclusions with regard to the models obtained are presented individually below.

A: Model For Predicting Service delivery to low income clients

The final model for predicting service delivery to low income clients is presented in Table 11. As indicated in this model, none of the interaction terms contributed significantly to the prediction of service delivery to these clients. In addition, none of the thirteen institutional level variables made a significant contribution to prediction. Finally, of the eight linear resource environment variables, only one, excess revenue clients supported by
private insurance schemes, remained significant. This variable was operationally defined as the number clients for whom private insurance companies paid at least 75% of the cost of the services that they received. The model thus contained the control variable (i.e., number of clients, which was used as an indicator of unit size), the six organizational level variables, and the single resource environment level variable, which was significant. It accounted for almost two-thirds (61.2%) of the variance in service delivery to low-income clients. This model raises questions as to the utility of the theories used in this study in explaining service delivery to low-income clients. The discussion that follows is organized by level of analysis: institutional, resource, and organizational.

Institutional level influences

None of the terms representing influences of the institutional environment contributed significantly to predicting service delivery to low income clients. This finding suggests that institutional level concepts derived from institutional, population ecology and resource dependence theories may not be useful for the purpose of explanation. First, the state of the political environment at the time that the units were founded was not related to service delivery to these clients. That is, units founded during in the 1930s and 1960s, when there was strong political support for services to under-served populations, did not serve more low income clients than those founded in other years, especially the 1980s. This finding is not consistent with population ecology theory.
Second, the data provided no evidence that conforming with the norms and standards of the institutional environment contributes to the understanding of service delivery to low income clients. Units which conformed more with the influences of government, as defined by the amounts of funding received from the different levels of government, did not deliver more (or less) services to these clients. Based on institutional and resource dependence theories, state level governments, which unify the field, should have had a strong effect, compared to federal and local level governments, which fragment the field. Likewise, conforming to the influences of professionalism, (as measured by the numbers of treatment staff who were ex-addicts, who completed bachelor degrees, and who completed master degrees) was also not related to service delivery to these clients. This latter finding supports the contention that organizations limit the autonomy of professionals who work within them (Ingersoll, 1993).

And third, conforming to the influences of the two treatment sectors (mental health and substance abuse) did not contribute to the prediction of service delivery to low income clients. Among the indicators of conformity with these sectors was certification by federal and state level agencies. Certification in both sectors was used as an indicator of conforming with influences that fragment the field, while certification in one sector represented conformity with those which unify the field. Contrary to the predictions of institutional and resource dependence theories, whether the units were certified in one or both sectors did not make any difference in the numbers of low income clients whom they served. The two other indicators of conformity with the mental health sector were also not
significant; neither reliance on 1) DSM 111 in conducting assessments and diagnoses, nor 2) methadone detoxification or treatment contributed significantly. Also, the final indicator of conformity with the substance abuse sector (i.e., the extent to which abstinence was stressed as a treatment goal by the unit) was not significant.

In summary, the extent to which the units conformed with the norms and standards of the institutional environment did not aid in predicting service delivery to low income clients. Institutional influences remained non-significant, regardless of whether the source of influence was government, professionalism, or the different sectors (i.e., mental health and substance abuse). Overall, these findings are not consistent with the predictions of institutional and resource dependence theories. In addition, units founded during times of strong political support for service delivery to under-served clients did not serve more low income clients than their counterparts which were established at different times. This finding contradicts population ecology theory, but is consistent with previous findings (Gronbjerg, 1990).

**Resource level influences**

With institutional level variables removed from the model for predicting service delivery to low income clients, the contributions of resource level variables (excluding government) were examined, holding the remaining seven organizational level and control variables constant. As stated above, only one of the resource level variables, excess
revenue clients supported by private insurance schemes, was significant. This variable had a negative relationship with service delivery to low income clients; that is, units serving more private insurance clients who enabled them to generate excess revenues delivered fewer services to low income clients.

Overall, the findings associated with resource environment have provided little support for any of the resource level theories. None of these findings is consistent with the economic perspective, specifically. First, units which received more revenues in the form of donation did not serve more low income clients. Second, those which served more clients who enabled them to generate excess revenues did not serve more of these clients; rather, excess revenue clients who were supported by government had no effect, while those who were supported by private insurance schemes had a negative effect. The general economic position on donation and excess revenue, therefore, was not supported, when the organizational level variables were taken into account.

Third, private demand did not contribute to the prediction of service delivery to low income clients. Neither revenues generated through sales of services to private (insurance companies and fee-for-service) clients nor the actual numbers of private insurance clients served was related to services to low income clients. The prediction that the selling of services in the market will undermine service delivery to low income clients, based on government failure theory thus was not supported.

The other findings are also mainly inconsistent with the predictions of the resource level theories in general. Neither the level of competition (with other organizations) for
resources nor the level of predictability of the resource environment contributed predicting services to low income clients. Based on economic, niche, population ecology, and resource dependence theories, competitive and unstable resource environments were predicted to undermine service delivery to these clients. The finding with respect to competition, however, is consistent with those of previous investigators.

One of the predictions, which was based on resource dependence theory, was supported by the findings. The number of sources which the units relied on for their funding was also not related to services to low income clients, holding the remaining seven organizational level and control variables constant. This finding supports resource dependence theory in that units which relied on more sources could have been in a better position to evade the demands of those who controlled their resources. However, it is not entirely consistent with past findings. Kramer and Grossman (1987) found that units with multiple funding sources were burdened by the administrative requirements of managing multiple contracts. Had the latter been supported, those with more funding sources would have actually served less low income clients.

In effect, the findings with respect to the influence of the resource environment on service delivery to low income clients have provided very little support for the underlying theories. Contrary to the predictions of the economic perspective, revenues generated through donation and private demand did not aid in predicting service delivery to these clients. Moreover, while the ability to generate excess revenue through government supported clients had not effect, the ability to do so through private insurance clients had a
negative effect. In addition, the predictions of resource level theories, in general, were not supported; that is, competition for resources, and predictability of the resource environment did not adversely affect service delivery to these clients. The only exception was the number of funding sources. As predicted by resource dependence theory, the number of funding sources was unrelated to service delivery to low income clients.

Organizational level influence

Although all six organizational level theories were retained in the final model, none was significant. Two of these terms were derived from institutional theory. The first is *Administrative Complexity*, which was operationally defined as the number of administrative and support staff positions in the unit. And the second was the extent to which the unit (or its representative) was involved in the field. While no prediction was made as to the effect of the first, the second was predicted to be unrelated to service delivery to low income clients. Thus, as predicted by institutional and resource dependence theories, the extent to which the units (or their representatives) were involved in the field did not contribute to predicting service delivery to these clients. This finding supports the contention that the units (or their representatives) become involved in the field out of self-interest, rather than the interests of under-served clients.

The only prediction deduced from the economic perspective was not supported; that is, expenditures on salaries and benefits did not contribute to predicting service
delivery to low income clients. Based on the economic perspective, units were predicted to undermine the non-distribution constraint by elevating salaries and benefits of their administrators and staff, rather than deliver services to under-served clients. Had the economic perspective been supported, expenditures on salaries and benefits would have been related negatively to service delivery to these clients.

Another prediction, which was deduced from most of the theories, except the economic theories, was supported. That is, whether or not the units had service delivery to under-served clients as an explicit goal in their mission statements was not significant. These theories predict that survival concerns take precedence over others, such as intended missions.

Finally, specialization (both by services and by ownership) was also not significant. That is, there was no difference in the numbers of low income clients served, based on whether or not the unit was free standing or was owned by another organization. Likewise, the number of different types of services provided was unrelated to services to these clients. However, there were no specific predictions as to the linear effects of specialization. Based on population ecology and niche theories, specialization was predicted to buffer the effects of unstable and competitive resource environments.

Summary

In summary, the most parsimonious model obtained for predicting service delivery to low income clients contained eight terms. Of these terms, only two were significant: the
control variable (size) and the number of clients supported by private insurance schemes, who enabled the units to generate excess revenues. As expected, larger units served more of these clients. But, contrary to the prediction based on the economic perspective, units with more excess revenue clients who were supported by private insurance schemes served less low income clients.

Overall, the model obtained defied most of the predictions deduced from economic, institutional, niche, population ecology and resource dependence theories. First, the extent to which the units conformed to their institutional environments did not aid in predicting services to low income clients. Whether institutional influences emanated from 1) government, 2) professionalism, 3) political environment when the units were founded, or 4) treatment sectors (mental health and substance abuse), they did not make unique contributions to the prediction of service delivery to these clients.

Second, virtually none of the resource environment level influences contributed to predicting services to these clients. These include: 1) competition for resources, 2) stability of the resource environment, 3) revenue generated through the sale of services to private-pay clients, 4) number of private insurance clients served, 5) donation, 6) number of funding sources, and 7) government-supported clients who enabled the units to generate excess revenues. As stated above, the only exception entailed private insurance clients who enabled the units to generate excess revenues. Units which provided more services to these clients served less low income clients. This latter finding is the opposite of what was expected, based on the economic perspective. Third, none of the
B: Model for Predicting Service Delivery to Minority Clients

The final model which was obtained for predicting service delivery to minority clients contained 31 terms. These include 28 linear terms and three interactions which involve expenditures on salaries and benefits. Expenditures on salaries and benefits moderated the effects of excess revenue clients (supported both by government and by private insurance schemes), and local government funding. This model accounted for almost a half (adjusted $R^2 = .461$) of the variance in service delivery to minority clients. The terms contained in this model are discussed by levels of analysis below.

Institutional level influences

Three of the thirteen linear institutional terms were significant: 1) dependence on state level government, 2) dependence on local level government, and 3) reliance on methadone for treatment and detoxification purposes. All of these institutional influences were related positively to service delivery to minority clients; that is, units which relied...
more on state and local governments for their funding, and on methadone (for treatment and detoxification), provided more services to minority clients. The overall findings have provided only partial support for institutional and resource dependence theories.

First, with respect to government, only the effect of the state level funding was expected to be significant. The units were predicted to evade pressures toward conformity, which federal and local governments exerted. The finding that reliance on local governments for funding also had a positive relationship with service delivery to minority clients is, therefore, not consistent with these theories. Second, none of the three measures of conformity with professionalism (i.e., reliance on treatment staff who were ex-addicts, bachelor degree graduates and master degree graduates) was significant. The contention that professionals, as a source of institutional pressure, affect organizational activities, is thus not supported.

Third, the indicators of conformity with one or both of the two alternative substance abuse treatment sectors were not significant in the model. There were no significant differences in service delivery to minority clients, depending on whether or not the unit was certified by agencies in the mental health, the substance abuse, or both of these sectors. Moreover, neither the extent to which abstinence was stressed as a treatment goal, nor the extent to which DSM 111 diagnoses were stressed, was significant. The only exception was reliance on methadone for the purposes of treatment and detoxification, which had a positive effect. Reliance on methadone was used as an indicator of conformity with the mental health sector.
The final indicator of institutional influence was also not significant. That is, units which were founded during the years of strong political support for service delivery to under-served clients did not deliver more services to these clients, compared to their counterparts which were founded in other years. This finding is not consistent with population ecology theory.

Overall, the findings suggest that conformity with the institutional environment has positive effects on service delivery to minority clients, holding the other terms in the model constant. However, the primary sources of institutional influence appear to be state and local level governments. Whether the units conformed to the norms and practices of the mental health sector, substance abuse sector, or both sectors, did not aid in predicting service delivery to these clients. The only exception was reliance on methadone treatment and detoxification, which was used as an indication of conformity with the mental health sector. However, it is likely methadone treatment benefits minority clients, simply because it is relatively inexpensive; it may not be an adequate indicator of conformity with the mental health sector.

Resource level influences

None of the eight linear terms, which were used as indicators of influences of the resource environment, was significant in the model. Contrary to the predictions of the economic perspective, units which relied more on donation, and those which served more clients who enabled them the generated excess revenues (both government and private
insurance supported) did not serve more minority clients. Likewise, units which relied more on revenues generated through the sale of services to private insurance and fee-for-service clients, or had more private insurance clients, did not deliver fewer services to service minority clients.

In addition, contrary to the predictions of the resource level theories in general, units which encountered high competition for resources, or experienced more unpredictable resource environments, did not deliver fewer services to these clients. Finally, the number of sources that these units relied on for their funding was not related to service delivery to minority clients. The latter finding is consistent with resource dependence theory.

In effect, the data suggest that elements of the resource environment do not have significant linear effects on service delivery to minority, after the institutional and organizational level variables are taken into account. The ability to generate revenues through donation or sale of services in the market was not significant. Even when the units delivered more services to clients who enabled them to generate excess revenues, these excess revenues were not related to service delivery to minority clients. Moreover, other influences of the resource environment, including competition for resources and predictability of the resource environment, were not significant as predictors of service delivery to these clients.
Organizational level influences

Similar to the resource environment influences, none of the organizational level influences measured was significant in predicting service delivery to minority clients. Consistent with the prediction of institutional theory, the extent to which the units (or their representatives) were involved in the field was not significant. And consistent with institutional, resource dependence, and population ecology theories, units with service delivery to under-served clients as an explicit goal did not serve more minority clients than their counterparts without such a goal. The two measures of specialization were also not significant; that is, whether the unit was free standing or a part of a larger unit, and the number of different types of services that it provided, were both unrelated to service delivery to minority clients.

The only exception was expenditure on salaries and benefits. While this variable did not have a significant linear relationship with service delivery to minority clients, it did moderate the effects of excess revenue clients and local government funding on service delivery to minority clients. However, as discussed earlier, the nature of its influence was not entirely consistent with the predictions of the economic perspective. To review briefly, units with moderate level of expenditure on salaries and benefits appear to be undermining the non-distribution constraint. Among these units, those which served more clients who enabled them to generate excess revenues did not deliver more services to minority clients. It is likely that these units used their excess revenues to maintain salaries and benefits at a certain level. In contrast, among the exceptional units (i.e., those with either high or low
levels of expenditures on salaries and benefits), those which served more excess revenue clients, delivered more services to minority clients. This finding suggests that the more typical unit (in terms of the level of their expenditures on salaries and benefits), rather than the exceptional ones, are more likely to violate the non-distribution constraint.

With respect to local government, expenditure on salaries and benefits also did not moderate its influence in ways which are consistent with the prediction of the economic perspective. Among the typical units (i.e., those with moderate levels of expenditures on salaries and benefits) those which received more local government funding did not deliver more (or less) service delivery to minority clients. However, among the exceptional units (i.e., units with high or low expenditures on salaries and benefits), those which relied more on local government funding actually served fewer minority clients. Had the economic perspective received stronger support, the relationship would have been negative only among units with high expenditures on salaries and benefits -not among those with low expenditures in this area.

Summary

The model which was obtained for predicting service delivery to minority clients contained thirty-one terms. Seven of these terms were significant. The first is the control variable, size. Larger units (i.e., those which has more clients), delivered more services to minority clients. None of the six linear organizational level terms had significant relationships with service delivery to minority clients. That is, 1) the number of people in
administrative positions, 2) whether or not the unit had service delivery to these clients as an explicit goal, 3) whether the unit was free standing or was owned by another organization, 4) the number of different types of services offered, and 5) expenditures on salaries and benefits, were not related linearly to service delivery to minority clients, when the other terms were taken into account. Expenditure on salaries and benefits, however, had interactive effects. It moderated the effects of both private insurance and government supported clients who enabled the units to generate excess revenues. In addition, it moderated the effects of local government funding.

Like the linear organizational level terms, none of the linear resource environment level terms were significant in the model. Revenues obtained from two sources examined (donation and private demand) were not significant. The actual number of private insurance clients who received services was not significant. Also, the ability to generate excess revenues was not significant. Finally, the other indicators of the influences of the resource environment (competition for resources, predictability of the resource environment, and number of funding sources) were not significant.

Of all institutional level terms, only 'state and local government funding', and 'methadone usage in treatment and detoxification', had significant influences. Overall, conformity with the norms, standards and practices of the mental health and substance abuse sectors, was not related to service delivery to minority clients.
C: Model for Predicting Service Delivery to Free-service Clients

The final model obtained for predicting service delivery to free-service clients contained thirty terms. These include the twenty-eight linear terms of the original model, and two interaction terms. Involvement in the field moderated the effects of reliance on 1) DSM 111, as well as 2) local government funding. This model accounted for more than a half of the variance in service delivery to free service clients (Adjusted $R^2 = .543$). The terms which are contained in this model are discussed by level of analysis below.

Institutional level influences

The findings, overall, have provided partial support for institutional and resource dependence theories, but not the population ecology theory. First, with respect to government, only state level influence had a significant relationship with service delivery to free service clients; that is, units which relied more on state level funding delivered more free services. The influences of other levels of government were not significant. These findings are consistent with institutional and resource dependence theories. Second, none of the three measures of professionalism were significant. The prediction that professionalism, as a source of institutional influence, affects organizational activities, thus was not supported. Third, the indicators of conformity with the substance abuse sector, the mental health sector, and both sectors, were not significant. These latter findings suggest that conformity with the norms
and practices of the two treatment sectors do not aid in predicting service delivery to free service clients.

The final indicator of institutional influence was also not significant; that is, units which were founded during the years of strong political support for service delivery to underserved clients did not deliver more services to these clients, compared to their counterparts which were founded in other years. This finding is not consistent with population ecology theory.

In summary, only one of the thirteen linear institutional level variables was significant in the model. The findings provide partial support for institutional and resource dependence theories, but not to population ecology theory.

Resource level influences

None of the eight linear terms, which were used as indicators of the influences of the resource environment, were significant in the model. The lack of significance of the influences of donation, excess revenue, private demand and private insurance clients, is not consistent with the economic perspective. Moreover, absence of significance of competition and predictability of the resource environment is not consistent with the resource level theories in general. However, the non-significant effect of the number of funding sources or service delivery to these clients is consistent with the prediction of resource dependence theory.
Organizational level influences

The findings with respect to organizational level influences have provided support for economic theories, but not institutional, resource dependence theories. Consistent with the economic perspective, units with higher expenditures on salaries and benefits served significantly less free service clients. This finding suggests that units with high expenditures on salaries and benefits may be undermining the non-distribution constraint, but only with respect to service delivery to free service clients. Involvement in the field had a significant positive relationship with service delivery to free-service clients. That is, units (or their representatives) which were more actively involved in the field served significantly more of these clients. This latter finding is not consistent with the prediction based on institutional and resource dependence theories. It suggests that involvement in the field is not motivated entirely by self-interests. Involvement in the field also moderated the effects of two institutional level variables (reliance on the DSM 111 and on local governments) on service delivery to free-service clients. Units with moderate levels of involvement in the field appeared to have effectively buffered the effects of these sources of influence on service delivery to free-service clients. That is, among these units, those which relied more on the DSM 111 and on local government funding did not deliver more free services. However, among units with both high and low levels of involvement in the field, those which relied more on both local government funding and DSM 111 delivered more services to these clients. As stated earlier, the findings suggest that units with moderate levels of involvement in the field may be more self-serving than those which are very either active or inactive in the field.
The remaining organizational level terms were not significant. That is, specialization (both by ownership and services), did not contribute significantly to prediction of service delivery to free-service clients. In addition, the goal of service delivery to under-served clients, and the numbers of administrative and support positions in the units, were not significant.

SECTION 3: IMPLICATIONS

In this section, a general discussion of the findings is presented. The discussion emphasizes implications for theory and practice. It includes suggestions for additional research.

Implications for theory

The overall results suggest that contemporary theories of organizations may not be adequate for explaining the behaviors of NPOs, specifically with respect to service delivery to under-served clients. The findings have provided no support for niche and organizational/population ecology theories. The key concepts of these theories -competition and predictability of the resource environment -did not contribute to the prediction of service delivery to under-served clients. Also, the effect of competition was not moderated by the
level of specialization. Finally, contrary to the proposition of population ecology theory, the state of the political environment at the time of organizational founding did not aid in prediction. While these concepts may be useful for explaining organizational growth and survival, they do not appear to be helpful for explaining service delivery to under-served clients.

The economic perspective on NPOs has received virtually no support. Its key propositions regarding the roles donation and excess revenues, in addressing the needs of under-served clients, were not supported by the data. Of particular importance to this perspective is the finding that NPOs which served more private-pay clients (who enable them to generate excess revenues) serve less low income clients. This finding is inconsistent with the economic perspective. The data also provided little evidence that NPOs undermine the non-distribution constraint by paying their administrators and staff excessive amounts of salaries and benefits. In contrast, it suggests that violators of this constraint are the more typical organizations; that is, those with moderate levels of expenditure on salaries and benefits. The other critical economic concept, competition, was also not related to service delivery to under-served clients.

Institutional and resource dependence theories received partial support. As predicted, federal government funding was unrelated to service delivery to low income, minority, and free service clients. State level funding was related to service delivery to minority, but not low income and free service, clients. Moreover, local government funding was related to service delivery to minority and free service clients, but not to low income clients in general. These theories predict that state governments will have strong effects, compared to local
governments. It is not clear whether the inconsistencies found in the data reflect a limitation in these theories, or a bias in state and local governments, with respect to service delivery to minority clients.

The data also suggest that the involvement of organizations (or their representatives) in the field is not motivate entirely out of self-interest. The conditions under which they do become involved in order to obtain resources for under-served clients remain unclear. Further research is needed to clarify the nature of the relationship between involvement and service delivery to under-served clients. It is likely that units which are involved in the local environment are more responsive to the local needs. It is also likely that certain forms of involvement are more beneficial to under-served clients than others.

Other concepts, which were deduced from institutional and resource dependence theories, did not contribute significantly to prediction. These include professionalism. The finding with respect to professionalism is likely the result of professionals within NPOs having little discretionary power with respect to service delivery to under-served clients.

Additional research is needed to integrate, synthesize, and empirically validate the vast array of organizational theories which exist in the literature. The shift from theorizing, which emphasized intra-organizational characteristics, to the present emphasis on the environment might have been premature, at best. The present findings with respect to factors, such as, involvement in the field, professionalism, and expenditure on salaries and benefits, suggest that future research should take both organizational and environmental factors into account.
Implications for practice

Overall, the data suggest that under-served clients constitute a significant proportion of the clients of outpatient substance treatment units. The percentages of free service, minority, and low income clients served by the average unit (in the preceding year) were 24.9%, 31.6% and 46.9% respectively. The categories likely overlapped considerably. However, the figures are not congruent with the economic assumption that the primary function of NPOs is the address the needs of under-served clients.

The units are most heavily dependent state level governments for their funding. Revenues obtained from this source are followed by those generated through the sale of services to private purchasers, including private insurance clients. Private donation constitutes only a small proportion of their revenues. These findings contradict the economic (and traditional) views of NPOs, but they are consistent with the findings of others (Salamon, 1993).

Minority and free service clients appear to benefit most from state and local government funding of NPOs. However, the delivery of free services should not be equated with service delivery to under-served clients. It is likely that some of NPOs deliver free services to the general population, including the disenfranchised. Regardless who benefit from these free services, the data suggest that service delivery to free service and visible minority clients will likely be affected adversely by cutbacks in government funding.

Perhaps the most striking finding of this study is that government funding is unrelated to service delivery to the general low income population. The absence of influence was
evident across all three levels of government. This finding supports Seibel's (1990) contention that governments fund NPOs in order to give the public the illusion that something is being done to address social problems. Precisely what these units do with their funding remains unclear. Moreover, the extent to which government officials monitor and evaluate the activities of agencies which they fund is still being debated in the literature (Kramer, 1994; Smith, 1989). The issue of accountability still needs to be addressed.

Overall, the selling of services to private purchasers, including insurance companies, does not appear to be related to service delivery to under-served clients. Neither the number of private insurance clients served, nor the actual amount of funding received though the sales to private purchasers (including insurance companies), as related to service delivery to these clients. However, the ability to generate excess revenue through these types of sales does seem to have some effects. It undermined service delivery to low income clients in general. Moreover, it benefited minority clients, but only under limited circumstances; that is, among units with either high or low expenditures on salaries and benefits. These findings suggest that the motives underlying the sale of services vary among NPOs. Few appear to be using their excess revenues to deliver subsidized or free services to under-served clients. Research is needed to clarify the conditions under which a market orientation supports (or hinders) service delivery to under-served clients. The different levels of expenditure on salaries and benefits among units may be reflecting different degrees of self-interest or commitment to service delivery to minority clients.

The findings also suggest that institutional influences, such as government, certification, professionalism, and the mental health and substance abuse treatment sectors,
do not impact on service delivery to low income clients. Moreover, critical elements of the resource environment, such as competition and predictability of the resource environment, do not impact on service delivery to these clients. In addition, organizational characteristics - expenditures on salaries and benefits, involvement in the field, specialization, and explicit goals of service delivery to under-served clients - are of limited utility as predictors of service delivery to these clients. It is likely that additional intra-organizational characteristics, such as their cultures and climates, which were not examined in this study, may be accounting for some of the variations in the services that they deliver to low-income clients.

Only a few of the factors examined were significant as predictors of service delivery to minority clients. The units which relied more on state and local governments for their funding also delivered more services to these clients. In addition, these clients received more services in units which relied more on methadone for the purposes of treatment in detoxification. Methadone treatment was used as indicator of conformity with the mental health sector. However, the positive effect of this treatment technology can be interpreted differently. Units which rely more on methadone may be serving more minority clients, not because this practice is consistent with the norms of the mental health sector, but because methadone is a relatively inexpensive treatment technology.

Finally, only a small number of the factors examined were significant as predictors of service delivery to free service clients. These factors include: involvement in the field, and expenditures on salaries and benefits. Expenditures on salaries and benefits undermined, while involvement in the field enhanced, service delivery to free service clients. None of the resource environment variables was significant. Moreover, only two of the institutional
factors were significant (local government funding and reliance on the DSM III). Both of these depended on the extent to which the units (or their representatives) were involved in the field. In effect, it appears that the internal characteristics of the units also influence the delivery of free services. Both involvement in the field and expenditure on salary and benefits appear to represent organizational characteristics which either promote (or inhibit) service delivery to free service clients. Units with moderate levels of involvement in the field appear to be doing so out self-interest. That is, those with high or low levels of involvement in the field appear to use their local government funding and DSM III treatment technology to benefit free service clients.

FUTURE RESEARCH

The findings of this study are generalizable to nonprofit outpatient substance abuse treatment units across the United States. They may not be applicable to other human service NPOs. This target population may be unique for a number of reasons. For instance, the low levels of revenues received through donation, and federal and local governments may not be typical of all human service NPOs. Replications of this study across different settings thus are desirable.

The study also has other limitations. It did not emphasize intra-organizational characteristics and their influences on service delivery to under-served clients. Organizational culture and dynamics appear be related to service delivery to under-served clients. These influences may have been reflected, in part, in two of the measures used: expenditures on salaries and benefits, and organizational involvement in the field. Future research on service
delivery to under-served clients should integrate intra-organizational characteristics more thoroughly.

Finally, not all of the three measures of under-served clients which were used are necessarily valid. The delivery of free services, in particular, is questionable. It is likely that units which emphasize free service delivery are responding the community-wide needs, rather than the specific needs of low income, minority and other under-served populations. Research thus is needed on order to verify the validity and reliability of free service delivery as a measure of service delivery to under-served clients.
LIST OF REFERENCES


