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An evaluation of states' delivery of substance abuse treatment

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An Evaluation of States' Delivery
of Substance Abuse Treatment

by

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Thesis

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ABSTRACT

As the economic, political, and technological landscape of America's healthcare

management system changes, states are forced to grapple with the progressively arduous

task of administering substance abuse treatment programs. Using the Open Systems Model,

this research examines external and internal environmental factors that influence goal

displacement as it is hypothesized to occur in states' treatment delivery systems. The

findings suggest that a mix of environmental characteristics affect states' levels of goal

displacement but the factors that predict displacement in alcohol treatment are different than

for the delivery of drug treatment. The internal and external environment factors that

contribute to goal displacement do not remain static but are dynamic. Goal displacement

was found to be relatively stable in delivery of alcohol treatment but volatile for that of drug.

The findings also suggest that volatility impedes the achievement of goals, and the more

heavily bureaucratized a state, the greater its level of volatility.

TABLE OF CONTENTS

LIST OF TABLES

Chapter 1: Introduction

The purpose of this thesis research is to examine, using the Open Systems Model, the external and internal environmental factors that influence the delivery of substance abuse treatment among the fifty U.S. states and the District of Columbia. This work will also seek to discover if the effective delivery of states' substance abuse treatment is obstructed by state bureaucracy, specifically, by the phenomenon of goal displacement. The theoretical framework of the research will be laid by providing meanings to the concepts of organizational goals, efficiency, and effectiveness, as well as the complexities involved in the measurement of organizational effectiveness. An additional exploration of the inherent dysfunctions of bureaucracy will also be addressed. The changing and incongruent internal and external task environments that a bureaucracy operates within and the economic forces that shape the ways in which state governments deliver their substance abuse treatment will also be discussed.

As the continuing war against drug and alcohol abuse escalates and the costs of healthcare skyrocket, greater citizen and government concern over the financing, administration, and evaluation of substance abuse treatment programs have also intensified. A projected $18 billion was allocated to alcohol and drug treatment in 2001 (U.S. DHHS 2005). In 2002 it was estimated that 9.4 percent of the population aged twelve and older were afflicted with a substance abuse disorder (U.S. DHHS 2003), yet for years 2002 to 2004, only 1.5 percent of that population segment received treatment (U.S. DHHS 2006). In 2004 and 2005, 86.6 percent of the population aged 18 and older and having some type of insurance coverage was not in need of substance abuse treatment, whereas 74.4 percent did require treatment (U.S. DHHS 2007). For the identical years, 31.2 percent of the adult

population in need of specialty substance abuse treatment failed to receive care because they lacked health insurance (U.S. DHHS 2007).

Public sources fund a substantially greater proportion of treatment than do private sources and studies indicate a growing reliance on publicly financed treatment and reductions in inpatient costs (U.S. DHHS 2005). Compared to other health care disorders, persons suffering from substance abuse addiction and dependency are, to a greater extent, reliant upon public financing. Of the $18.3 billion spent on drug and alcohol treatment in 2001, state and local governments comprised the largest source of funding, 38 percent, followed by Medicaid at 19 percent (U.S. DHHS 2005). Among the 50 U.S. states, an average 13.1 percent of budgets are spent on substance abuse-related problems. In 1998, approximately ninety-six cents of each state substance abuse expenditure dollar was spent to deal with the extra burden addiction places upon states' criminal justice, education, Medicaid, and social services programs, while the remaining four percent was appropriated directly toward treatment and prevention (CASA 2001). Therefore, it is crucial for state governments, policy-makers, and other interested stakeholders to advance their knowledge and understanding of what factors influence and how policy decisions affect the delivery of treatment so that knowledge can be used to enhance the state-level organization and delivery of alcohol and drug prevention and treatment by narrowing the gap between research and practice.

As the economic, political, and technological landscape of America's healthcare management system changes, states are forced to grapple with the progressively arduous task of administering substance abuse treatment programs. Faced with rapidly rising health care costs, rigid budgetary constraints, and citizen criticism for increased governmental

accountability, states, in the pursuit of an economically efficient administration, are now turning to the privatization of public services and to managed behavioral health care systems. But does the delivery of social welfare programs become more efficient when its administration is removed from the hands of the state and passed into the arms of the private sector? Is additional effectiveness attained?

However, as states possess unique cultural and political characteristics, not all administration processes or outputs are alike. Considerable variation exists among states in the administration of the federal Medicaid program (Buchanan, Cappelleri, and Ohsfeldt 1991; Barrilleaux and Miller 1988; Schneider 1988; Schneider and Jacoby 1996), social welfare programs (Dawson and Robinson 1963), Social Security Disability (Keiser 1999), child support enforcement (Keiser and Meier 1996; Keiser and Soss 1998) and in the financing of substance abuse programs (CASA 2001; Culhane, Hadley, and Lutterman 1992; Dayhoff, Pope, and Huber 1994). Suffice it to say that how an individual state administers its social services programs, such as substance abuse treatment, is contingent upon a whole host of factors. Yet which factors predict the success or failure of a state to meet the treatment needs of its substance abusing populations? For an illustrative comparison, what accounts for 9.58 percent of Nebraska's citizens to report needing but not receiving treatment for alcohol abuse and West Virginia's 5.64 percent? (Wright 2002). Likewise, what impact does Delaware's $31.34 per capita spending for substance abuse prevention, treatment, and research have on the state's treatment performance as compared to Colorado's mere $0.14 (CASA 2001)? Does this difference make Delaware's delivery of treatment more effective than Colorado's? And what other types of factors can impede or

facilitate the delivery of effective treatment and how is effective or inadequate treatment

defined and measured?

It is questions such as these that will be addressed in the subsequent body of research.

External and internal environmental factors that influence the delivery of substance abuse

treatment will be examined with a special emphasis on how government bureaucracy may

stifle the effective delivery of treatment and, ultimately, diminish performance.

First, a literature review will address the theoretical examination of organizational goals,

efficiency, and effectiveness, and the phenomenon of goal displacement. This will include

conceptualizations and empirical measurements of goal displacement as defined in previous

research. Studies of state-level administration of public programs which focus on factors

that shape bureaucratic output will be reviewed, as well as research that pertains directly to

the delivery of substance abuse treatment. Specific to treatment delivery will be studies

pertaining to the implications of ownership and performance of substance abuse

organizations and the effects of the growing phenomenon of managed care. Chapter Three

will address the research design. Here, it is from the literature review that goal displacement,

as the dependent variable, and the factors that influence it, the independent variables, will be

operationalized. Precise measurements for each variable will be explained and the

hypotheses formulated. In Chapter Four the research method will be explained. The

statistical procedures for this quantitative research will be discussed in detail. Results from

the analyses will be presented and discussed in Chapter Five. The paper will conclude by

discussing ways in which the research adds to the existing body of knowledge of how a

state's internal and external environment affects its delivery of substance abuse treatment.

As LaPorte (1994: 7) so astutely stated regarding our knowledge and understanding of the conduct of public organizations, "We know less of what we need to know, even as we know more than we did."

Chapter 2: Review of Related Literature

The following literature review will supply the framework from which the research design will be constructed. Our overall concern here is with identifying organizational effectiveness. We begin with a brief overview of public bureaucracy, focusing on dysfunctions and pathologies that can emerge in such entities, and how they can inhibit organizational effectiveness. Next, building on the initial overview, a review of the scholarly literature on the concept of the organizational goal, exploring how displacement has been defined, and what constitutes organizational efficiency and effectiveness will be provided. It will also consider the use of the Open Systems Model, which academics have theorized is most appropriate for studying organizational effectiveness and goal displacement.

An Overview of Bureaucracy

In our contemporary times, the term "bureaucracy" frequently carries a negative connotation, calling to mind images of long lines at government agencies, red tape, lack of governmental oversight, and excessive government waste of tax monies. Is government both efficient and effective, or maybe just efficient and not effective? The answer may likely depend on a nation's or a state's current social, political, and economic climates. Perhaps those little irritating characteristics of bureaucracy are simply the price we pay for both efficient and effective government administration, that necessary evil.

For Max Weber, one of the foremost theoretical founders of organizational theory, bureaucracy was the compulsory means to attain the ends of the state. In the modern world, governance based on goal-oriented rationality was much more efficient than governance grounded in tradition. The functional value of bureaucracy was its capacity to optimize

efficiency (Jain 2004). Through the impartial application of Weber's characterization of bureaucratic traits, specialization, hierarchy, rules, managerial discretion, impersonality, and careerism, efficiency would be achieved, for without bureaucracy, the bustling train of government administration would be inept in its delivery of intended services or goods. However, Weber understood only too well that bureaucratic efficiency would bring with it burdensome costs to society. Those costs, the annoying, maddening, or perhaps even enraging actions and behaviors we observe in bureaucratic organizations today, could be branded as acts of maladministration. But whether the act of maladministration be inflexibility, indifference, fraud, or lack of transparency, the unintended consequences of bureaucracy often lead to the same dysfunction: the capital and labor energies allocated for the attainment of organizational objectives get deliberately or unintentionally averted to other means, thereby resulting in the displacement of original goals.

Later scholars of organizational theory, such as Robert Merton, Philip Selznick, C. Wright Mills, Talcott Parsons, and Alvin Goulder, and most notably, for the purposes of this intended research, Roberto Michels, were critical of Weber's failure to take note of several unintended consequences, or latent functions (Merton 1968) of bureaucratic structures. They saw it necessary to study the resulting dysfunctions of "officialdom" and its impact upon organizational effectiveness (Mohr 1973).

Idyllically, bureaucracy is designed to efficiently function as a means to serving society. But does it? Our recent history is rife with examples of ineffective and inefficient, overburdened, error-ridden, and poorly administered public bureaucracies: Hurricane Katrina and the resulting FEMA debacle (U.S. Government Accountability Office 2007), the mismanagement of the Walter Reed VA hospital (Priest and Hull 2007), the alleged

destruction of CIA-coerced interrogation tapes (Eggen and Warrick 2007), and, most recently, the alleged abuse of power by Housing and Urban Development Secretary Alphonso Jackson (Leonnig and Eggen 2008). Regardless of the circumstances, the result is the same: the ineffectual delivery of public services. The intended outcomes are compromised or totally averted, replaced by calculated or inadvertent wayward motives. This phenomenon has been referred to as "goal displacement."

But before examining the specific bureaucratic dysfunction from which the following research will evolve, the meaning of the term "organizational goal" will be offered, and the implications of measuring effectiveness and efficiency will be discussed, thus providing the framework from which the following research will be based upon.

Goals

An organization, public or private, for-profit or non-profit, is a cooperative social unit, formed to achieve some collectively acknowledged purpose, a specific goal. Accordingly, goals function to provide directional courses of activities by illustrating a desired set of conditions by which the social unit endeavors to achieve. Serving as touchstones to measure accomplishment, goals also serve as a basis of legitimacy that authenticates organizational behaviors (Etzioni 1964).

What exactly is an organizational goal? What internal and external conditions are conducive to the presence of goals, and what typical or atypical conditions necessitate conspicuous or merely plausible goals? Mohr (1973) addressed these types of questions in his review of previous literature on the concept of the organizational goal in order to postulate "a more concrete and comprehensive conceptualization" of the organizational goal

(1973:470). Arising from the analysis, Mohr classified goals of two types, transitive and reflexive. A transitive goal is the outward function, or output of an organization's endeavors. External in nature, it is transitive in that the output, produced by the organization impacts society. It is the claimed intent, or "ends" of the association, while a reflexive goal is one that is "internally oriented," or what the organization does for itself in order to survive (Mohr 1973).

Rather than utilizing Mohr's typology of goals, transitive and reflexive, Perrow (1961) opted to label the two types as "official" and "operative," respectively. An official goal, similar to that of Mohr's transitive, pertains to the "end" to which the organization strives to attain via its formal operating policies. Similar to the reflexive goal, the operative is the "means" employed that seek the "ends" of the organization. It is the behavior of the organization, reflective of the interests and beliefs that are commonly held by and internally associated with the members of the group, malapropos as to whether those "means" processes sustain or subvert the declared organizational aspirations.

Associated with the official goal are the "output goals," the product or service that is delivered externally upon society. Conversely, and parallel to Mohr's reflexive goal, is what Perrow (1961) branded "support goals," the goals connected with acquiring the conditions conducive to self-maintenance, or, more aptly stated, continued existence. Whereas official goals are largely shaped by the expectations of society, operative goals are a function of the agency or entity bureaucrats, induced by individual member characteristics, group think, and "the unofficial uses to which they put the organization for their own needs" (1961:857).

Simon (1964) discussed the question of whether the goals of an organizational member mirror those of the organization, postulating that distinguishing between the two is

9

necessary, for it avoids the assumption that the existence and performance of the organization is autonomous of its members. However, when speaking of the goals of management, it is assumed that those organizational goals are determined by the top echelon when, in fact, the observed goals do not reflect those of the top decision-makers but are products of other forces, the convergence of individual behaviors at all stratums. For this reason, Simon (1964) elected not to conceive of an organizational goal as what Etzioni defined as "a state of affairs which the organization attempts to realize" (Etzioni 1964:6) but as a set, or sets, of constraints an association encounters in its quest for its aspirations.

It is the value premises of goals that function as inputs to decisions, while motives, as causes, drive the particular selection of value premises amongst organizational members. As Simon (1964) aptly stated, "One man's goals may be another man's constraints" (1964:8). Due to the tortuously dependent connection between goals and motives, the acceptance of collective decisions is based upon satisfying an entire set of requirements that minimize the conflict of interest between personal and role-defined goals that exist psychologically within each participant. A civil servant has an organizational interest in administering a public service yet has a personal stake in preserving his/her tenure and/or status of power and prestige. Simon (1964), utilizing Pareto optimality, suggested that an organization's courses of action are a function of its constraints whereby the inequalities amongst them are minimized for any desired outcome.

Thompson and McEwen (1958) viewed organizational goals as dynamic, a state of affairs that are constantly transformed as the internal necessities of the firm and its environmental influences change. Goal setting is a repetitive process of "redefinition" and "reinterpretation" of organizational goals. However, the more unstable the environment, the

more difficult it is to redefine and reinterpret the firm's objectives. An environmental factor

that influences the goal setting process is competition. Competition occurs in an

organization's quest for economic resources, public acceptability, clientele, and in the public

arena, among agency bureaucrats, legislators, and government leaders, in their pursuit for

budgets and conflicting ideologies. A complex interrelated web of relationships necessitates

negotiation, or bargaining among the parties, thus resulting in one of many of what Simon

(1964) termed "constraints."

Therefore, the identification of explicit goals is, often times, in the eyes of the beholder.

Is the goal of a correctional facility rehabilitation or is it custody? Is the primary goal of a

teaching hospital to heal its sick or to teach neophyte physicians? And how are conflicts

such as competing goals reconciled? Is the primary concern of a public administrator

his/her agency's efficiency or its effectiveness? The answers are largely dependent upon

which subset of stakeholders is asking the question. One's man's effectiveness may be

another man's efficiency. As such, organizational effectiveness, as with the recognition of

goals, is determined by which subset of stakeholders does the asking.

Efficiency and Effectiveness

Efficiency may be considered as "doing things right" whereas effectiveness is "doing the

right thing," The effectiveness of an organization may be measured by how well it achieves

its goals, as lofty a proposition as that may seem. Efficiency, on the other hand, is

determined by the optimal allocation of resources required to generate a given level of

output (Etzioni 1964). The most desirable condition results in both a high degree of

effectiveness and efficiency, yet often times the two conditions are exclusive of one another.

Efficiency may restrict the range of organizational activities while the variety and scope of operations targeted toward effectiveness tend to be large (Etzioni 1964). Therefore, as the capitalistic West has borne witness, efficiency tends to be achieved at the expense of effectiveness, cost savings at the price of quality.

The more restricted and tangible the output or goal, the easier it is to measure and evaluate efficiency. Similarly, the more abstract an organization's goals, the more difficult it is to assess change and thus the less likely outcome evaluations are to be conducted (Shipman 1969). The perceptions of management also play a role in perceived organizational effectiveness. Contrary to their hypothesis, Lan and Rainey (1992) found public managers' perception of their goals as clearer than those of private managers but also more difficult to measure. Predictably, a statistically significant positive correlation was found between perceived goal clarity and perceived organizational effectiveness. The clearer the goals, the greater management's perceived effectiveness.

The evaluation of abstract goals, such as the amelioration of complex social problems, crime, racism, drug addiction, and poverty, proves especially problematic (Bohte and Meier 2000). The interconnectedness of a societal system is highly intricate, making the determination of any causal relationship virtually impossible. Because societal functioning is exceedingly dynamic and the assessment of effectiveness is often a continuous process, the evaluation of an abstract social problems is imprecise. The selection and assignment of proper indicators of organizational achievement is critical, for emphasis on some, and the disregard of others may result in substantial misrepresentation of organizational goals thereby thwarting the efficiency and effectiveness that the social unit strives to achieve (Etzioni 1964). It is not uncommon for organizations to have multiple goals with varying

degrees of concreteness (Warner and Havens 1968). Likewise, procedures and standards for assessing specific programs can differ significantly from agency to agency (Bohte and Meier 2000).

The most common indicator of public agency effectiveness is the evaluation of its outputs (Barnekov and Raffel 1990), a practice that is hypothesized to induce a bureaucrat to maximize outputs (Bohte and Meier 2000). Examples are the documenting of the number of clients served in a social services program or arrest rates in police work. Evaluating outputs may be indicative of efficiency, yet it does not necessarily reflect effectiveness. For example, the number of substance abuse patients treated does not necessarily reflect recovery rates, nor do arrest rates reflect conviction rates. Measuring performance based on outputs rather than outcome encourages bureaucrats to overemphasize the number generating input processes of a public organization in order to appease higher-ups (Bohte and Meier 2000). Waegel (1981) found this to be true of detectives. The primary concerns of investigative police work were promptly turning out reports and making arrest quotas. Also, the implementation of performance criteria may impel bureaucrats to fixate on efforts that would enhance output numbers rather than focus on the true mission of the agency (Blau and Meyer 1971; Downs (1967) quoted in Bohte and Meier 2000).

Inputs are concrete and easily measurable, yet, they too, are rarely indicative of the desired social outcome. Administrative expenditures are often used as a measurement of output. Keiser and Meier (1996) and Keiser and Soss (1998), in their studies on agency enforcement of child support, utilized expenditures as a measurement of input and found positive correlations between monies expended and number of dollars collected, as well as number of processed claims. However, Machado (2001), in research on substance abuse

programs' effectiveness, found no link between expenditures and outcome, as measured by abstinence rates, thus discrediting the belief that increased spending on public programs will somehow make them more effective. Financial resources may better equip the public agency to carry out its functions, as in the case of child support, but in other instances, as with substance abuse, program effectiveness is contingent on an infinite number of influencers, not necessarily dollars inputted.

Therefore, efficiency does not necessarily imply effectiveness nor effectiveness indicate efficiency. Efficiency is getting the job done at the best cost possible. Effectiveness is getting the job done properly. Weber apparently did not make the distinction between the two; bureaucracy served as a means to optimize efficiency (Jain 2004). Efficiency may be foremost in the mind of the public administrator, but for the taxpayer, it is most likely to be effectiveness. However, due to the complexity of social issues that public agencies are forced to address and because of the many social, political, and economic constraints, or what Bohte and Meier (2000) termed "bottom lines," that they have to contend with, the effectiveness of public programs is especially difficult to assess, making for the construction of straightforward quantitative performance measurements "almost impossible" (Bohte and Meier 2000).

In addition, public administrative processes are shaped by the internal characteristics of the bureaucracy and the external characteristics of its environment (Keiser and Soss 1998). Given the multifarious nature of evaluating bureaucratic efficiency and effectiveness, the evaluation of organizational goals solely in and of themselves without regard for the interaction and interdependence between the organization and its environment would be meaningless. Organizational theorist Talcott Parsons (1956) believed organizations to be

best studied using an open systems model. Thompson and McEwen's (1958) concept of an organizational goal lends itself to employing the open systems model because goals are products of the interactions that takes place "both within the organization and between the organization and its environment" (1958: 28-29). Yuchtman and Seashore (1967) also supported the open systems model in the study of organizational effectiveness.

Therefore, the study of organizational effectiveness necessitates more than just a unilateral examination of an organization's goals, but an assessment of a firm's external as well as internal environment. In addition, one must examine not only the organization's "official" goals, but the means in which they are achieved, or the "operative goals." Explicit goals lack the specificity necessary to explain the "throughputs" (Keiser 1999), or processes by which organizations attain both official and operative goals. For this reason, the Open Systems Model will be used as a framework from which the following research will be constructed.

The following section will briefly discuss the origin of the term "goal displacement." It will also include a discussion of how operative goals displace the official goals of an organization and the subsequent consequences.

Goal Displacement

An organization, once created, begins to gather its own requirements, whereby these needs, or means, acquiring command over the ends, replace the goals. In the processes of formulating and allocating resources towards goal achievement, group members develop vested interests whereby they begin to conserve, defend, and expand the organization

regardless of its original mission (Merton 1957; Perrow 1961; Blau and Scott 1962; Selznick 1966; Etzioni 1964; Warner and Havens 1968).

The term "goal displacement" was first penned by Roberto Michels in his research on the pre-WWI behavior of the German Social Democratic Party. Formed to advance the Socialist revolution, the Socialist parties and labor unions, as voluntary associations, sought to create democratic administration in authoritarian nations. The creation of party and union organizations necessitated leadership; however, the leaders soon acquired vested interests in safeguarding their leadership roles because lack of doing so would have returned them to their lowly status of the rank and file, a revisit to their former physically laborious jobs, and to loss of income, status, power, and prestige (Etzioni 1964). Michels observed that through the development of defense strategies, the control of information, communication, and the management of overly zealous conformists and unruly dissenters, the leaders were able to maintain their positions of power, yet, in the process, the democratic goals of the organizations had been supplanted by the development of a structurally dictatorial administration, an oligarchy. Fearful of government intervention, management grew less and less inclined to operationalize revolutionary activities that may have jeopardized the organization's survival and instead concentrated its activities on the development of an efficiently run bureaucracy (Michels 1962, Etzioni 1964).

Michels (1962) noted that as an organization grows in size and scope, a monopolization of power initiates at the top of the hierarchy, widening the gap between management and the rank and file wherein goal displacement occurs. Leaders' access to privileged knowledge, control of communication, and proficiency in politicking provide an insidious dominance over other plebian members who they fear may seek to gain control.

Another type of goal displacement, as described by Merton (1957), occurs within the body of public and private organizations but takes place in a more innocuous and unintentional manner. A bureaucrat, as a highly disciplined and practical rational actor and in strict adherence to rules, in his or her overemphasis of rule observance, displaces the aims of the organization with that of the means. Conformance to prescribed procedures develops, resulting in role rigidity, maladaptive behaviors and often times ritualism wherein the goals of the bureaucracy are obscured or discarded (Merton 1957, Etzioni 1964). This type of routinization was documented by Waegel (1981) among detectives in investigative police work.

Similar to the means-ends inversion of goal displacement is goal diversion whereby stated goals are rejected and superseded by alternative objectives (Warner and Havens 1968, Alexander 1976). An organization's obsession on internal strife or specific problems may force it to turn inward upon itself in its search for solutions, resulting in the formation of intermediary goals that are irrelevant to its official goals (Etzioni 1964). It is this type of goal displacement that is most frequently observed in the study of goal displacement.

Goal displacement is a consequence of transformations that take place between the original goals and internal factors such as organizational structure, group members, or faulty goal-setting processes. Displacement can occur as a result of many causes, the power of interest groups, internal or external to the organization, the ambiguity of stated goals, modifications in management philosophy, or a forced change in members' belief systems (Perrow 1961; Warner and Haven 1968). External factors such as associations with other individuals or groups or environmental circumstances may also contribute to goal displacement (Alexander 1976). These internal and external factors that place additional

demands upon an organization are collectively identified as the construct of "task environment." The terminology will be used to categorize the independent variables that will be hypothesized to predispose a state bureaucracy to goal displacement. Structural demand conditions, internal to the bureaucracy, are defined as internal task environment, while the environmental demand conditions are identified as external task environment.

As an organizational phenomenon, goal displacement may be best described as a "syndrome". From a definitional point of view, goal displacement is not a precise term but an obscure condition that may be used as a theoretical construct to explain the failure of an organization to meet its stated goals. In the research on organizational effectiveness and efficiency, the application of goal displacement to illustrate organizational dysfunction is highly variable and liberally defined. Displacement may be intentional or accidental, but its occurrence is most often documented in public organizations, or bureaucracies. A public bureaucracy is a goal-oriented organization and, as research has illustrated, prone to goal displacement because of its overemphasis on efficiency, coupled with a lack of public accountability. Additionally, "The daily decision making of those who work in complex organizations is shaped more by power structures, ingrained routines, and established resource configurations than by current scientific findings" (Rosenheck 2001:1608).

Following Weber's ideal, each piece of paper a bureaucrat shuffles, each "t" that is crossed, and each "i" that is dotted is related to the attainment of a public organization's stated goals. Idyllically, every procedure and rule has a specific meaning and purpose with the ultimate goal of serving the public trust. But why are some bureaucracies better at attaining their goals than others? The difference can be attributed to levels of endogenous

and exogenous factors that shape bureaucratic processes, which then influence the degree of goal displacement that a particular public organization experiences.

As nearly any non-attainment of organizational goals may be construed as an act of goal displacement, the phenomenon has been conceptualized in the research literature in a variety of ways. The following section will demonstrate how goal displacement has been defined in the literature and how internal and external demand conditions, or "task environment" (Keiser 1999; Keiser and Soss 1998), influence its development. For the specific purposes of this thesis work, no previous research was found regarding the presence of goal displacement within the realm of substance abuse treatment delivery. However, a wide variety of previously conducted research that is functional in providing the framework for this thesis work will follow the discussion of goal displacement as a construct.

Conceptualizations and Empirical Measures of Goal Displacement in the Literature

This section will illustrate how goal displacement has been characterized in the research literature. Internally, the phenomenon has most often been attributed to structural sources related to members' belief systems, lack of adequate resources, and multiple conflicting agendas. Externally, it is influenced by environmental conditions.

Within public service environments, several studies have operationalized goal displacement as the resulting condition of subjects not having received intended care, training, or treatment. Scheff (1962) documented a conflict between custody versus treatment goals in a mental hospital. The official goal of the hospital was the symbolic transformation of client status from one of inmate to that of patient, but because this reform had been initiated from the top down, it was met by resistance from the staff. The operative

goal among staff became that of retaining former procedures whereby the necessary

symbolic division between staff and patient was maintained. The official goal of the

hospital did not conform to the belief system of the staff and was therefore disregarded and

supplanted for procedures that did support prevailing staff convictions. Scheff (1962)

concluded that when goals are unclear, displacement is inversely related to level of contact

between management and subordinates and that the need for distinct status relationships is

conducive to goal displacement. Marcos (1988) cited several historical incidences of the

deliberate displacement of goals within psychiatric bureaucracies for the purpose of

sociopolitical power and control wherein the operative goal of custody supplanted the

official goal of treatment.

Maintaining control over unruly and often disobedient youth overrode the intended goal

of preparing adolescents to become productive, socially mobile members of society in

Aviram's (1990) study of Israeli boarding schools. The Israeli government sought to

advance disadvantaged Jewish youth both socially and academically by removing them from

their homes and placing them in boarding schools amongst administration and staff that

were entirely committed to achieving the goals of the state. The boarding school operated

with multiple goals, functioning not only as a school but also as a residential, occupational

training, and counseling facility, each with its own stratum of personnel, academic

instructors, housefather and mothers, vocational and agricultural teachers, and social

workers. Aviram (1990) observed high levels of stress among staff members as they were

overwhelmed by their numerous duties and few gratifying accomplishments. Staff's

fixation on the disparaging lower class characteristics of their students translated into low

expectations for their academic achievement, whereby the development of mutual mistrust

between student and staff soon followed. Because of unmanageable student behavior, staff was forced to place greater emphasis on control and discipline processes, and hence system maintenance, rather than on the formally stated goals of improving student social mobility and equalization. Therefore, the organization was overburdened by an overwhelming internal task environment, the strain of multiple goals, and the prevailing depreciative attitudes of the staff.

Goal displacement has also been documented as having occurred when public service endeavors ultimately fall victim to commercial entrepreneurship. Scott (1967) studied the displacement effects on the belief systems of staff in the Pre-Depression sheltered workshops for the blind. Never intended to function as a commercial for-profit business enterprise, the original goal of workshops was to afford the blinded a social welfare service and to provide purposeful and gainful employment and assimilation into the sighted population. The workshops realized "moderate success" up until the mid to late 1920s when attempts to rectify the nefarious economic effects of the Depression with a more concentrated focus on preserving business operations resulted in further erosion of organizational goals. Operations further assumed the functions of a full-fledged business whereby the belief system of the staff towards the needs and wants of the blind were soon altered. As the effects of the Depression deepened, former attitudes of the meritorious idea of full integration of the blind into the community fell away, with many believing not all blinded individuals were suitable for communal assimilation (Scott 1967). In this documentation of goal displacement, external demands of the economy gave rise to changes in the organization's belief system.

Another example of where a business orientation overrode an organization's original goals was the qualitative study of a community revitalization project in Racine, Wisconsin (Alexander 1976). Harboring conflicting priorities from the onset, a coalition of community and business leaders, concerned with the devastating effects their community's social and physical deterioration, formed to oversee the development of a revitalization project that, incidentally, was financially backed by a large multinational corporation that had a vested interested in the area. Due to the organization's rapid growth and the advancement of vested interests among the more business-oriented senior staff, a division of labor and specialization quickly developed. Emphasis on the economic viability of the association ultimately supplanted the original revitalization objectives. This study is explicitly suggestive of Thompson and McEwen's (1958) implication of goal setting as a function of competition for resources. Alexander (1976) stated that the availability of resources for organizational use became the determinant factor of the decision-making processes.

Bohte and Meier (2000) defined goal displacement as Texas school districts' proclivity to misrepresent student pass rates on standardized exams. Because underperforming districts become the target of public and school board scrutiny, it was hypothesized that less advantaged districts would grant more student exemptions in order to bolster their performances. A higher degree of racial heterogeneity and lack of resources were found to be significantly associated with higher levels of goal displacement, as measured by exemption rates.

As the previous research illustrates, goal displacement can result when the management of goal-oriented processes are exploited whereby the manipulation of intended operations takes precedence over the controlling of results. However, as goals related to the

amelioration of complex social problems are themselves especially difficult to evaluate quantitatively, the measurement of goal displacement is extremely obscure. As the literature on goal displacement demonstrates, the identification and definition of goal displacement is very subjective, and because of this, more easily studied qualitatively than quantitatively.

Goal displacement is defined in a variety of ways and can be attributed to a convergence of internal and external factors. Internally, structural factors of a top-down imposed change in operating procedures or ideologies, flawed foresight in the planning and implementation of a program, excessive demands placed upon staff, multiple goals, and scarcity of resources can lead to displacement. Externally, economic factors such as competition for resources can force an organization to overlook its official goals and turn to operative goals that facilitate operational viability. It may be concluded that goal displacement takes place under a variety of conditions and within a multitude of environments. From this it may be asked, could a bureaucratic organization such as the state experience goal displacement within one or more of its agencies, and if so, what specific elements may give rise to displacement? But before the question is delved into further, internal and external factors that have been found to shape bureaucratic output and perhaps even to influence goal displacement must be reviewed. It will be followed by research that examines factors that directly impact the delivery of substance abuse treatment. It is the collection of these following studies that will provide the framework from which the research design will be constructed.

Influencers of Bureaucratic Output

Findings Derived from Public Policy Administration Research

A wide range of variables has been used to assess the impact internal and external environmental demands have upon bureaucratic output. In particular, this section considers those that infer the external demand for public services and the corresponding internal demands that are placed upon a bureaucracy in providing them. Because demand for and supply of public services shape bureaucratic output, variables that measure level of services (supply) and need (demand) for public program services were utilized in research that examined variations in states' administration of public policy and publicly funded programs. However, because demand for services can be driven by supply, supply can be a function of demand. A greater supply of public services may exist because need is greater in a particular service area, but supplying that need, in turn, puts greater demands upon the providing agency. Therefore, demand has not only been characterized by external factors that impact public demand for services but also as an endogenous measure that affects the level of burden placed upon the bureaucracy.

Demographic characteristics have frequently been modeled as influencers of demand of public services. Socioeconomic indicators such as household wealth and health-related statistics have the capacity to capture a state's environmental condition so as to infer level of demand for a particular public service. Schneider and Jacoby (1996) discovered a positive relationship between per capita income and a state's inclination to adopt optional Medicaid services.   A positive correlation between per capita income and Medicaid spending levels was found by Buchanan, Cappelleri, and Ohsfeldt (1991). Barrilleaux and Miller (1988) discovered supply of Medicaid services to be affected by per capita income. Dawson and

Robinson (1963) found that per capita income influenced states' adoption of public policies, and the work of Keiser (1999) revealed median household income to affect the granting of social security disability entitlements. Similar to per capita income, poverty and infant mortality rates have also been utilized as variables to indicate a state's overall health and wellbeing, as well as state "conscience" indicators (Schneider 1988; Schneider and Jacoby 1996). These demographic characteristics can be considered external environmental variables.

Keiser (1999) and Keiser and Soss (1998) also employed the term "task environment" to describe an external level of demand placed upon a bureaucracy, or need for services. However, task environment is a construct also commonly found in public administration research to infer internally generated levels of demands placed upon agency workers.

Numbers of persons receiving services are frequently used as barometers to assess internal task environment. Buchanan, Cappelleri, and Ohsfeldt (1991) incorporated program recipients as an index component to measure states' economic environments. A state's level of child support enforcement was found to be a function of client need as measured by number of clients receiving support (Keiser and Meier 1996). In another study, rather than directly utilizing number of social welfare recipients, Keiser (1999) used the rate of change in its caseloads for selected years. In their research on states' Medicaid policy decisions, Barrilleaux and Miller (1988) modeled supply of services to be a function of demand, where supply, in part, was comprised of Medicaid recipients. A significant and positive correlation between recipient population and Medicaid program expenditures was also found by Schneider (1988).

Agency expenditures are often employed as a measurement of bureaucratic resources (supply), and hence internal stress. It is presumed that the greater the expenditures, the more economically advantaged an agency is believed to be, and the better it is in providing services. Whereas Schneider (1998), Schneider and Jacoby (1996), and Buchanan, Cappelleri, and Ohsfeldt (1991) used agency expenditures as a measurement of output, Keiser and Soss (1998), in their examination of discretionary patterns in the granting of child support program exemptions, and Meier and Keiser's (1996) research on variations in states' enforcement of child support, used spending as an indicator of a state's level of bureaucratic resources (supply). In both studies, agency expenditures were found to be a function of bureaucratic effort and, hence agency output. Bohte and Meier (2000) operationalized school district resources as student-teacher ratios and the per pupil instruction funding. Modeling supply as a function of demand, Barrilleaux and Miller (1988) discovered that less wealthy states with poor health services spent higher proportions of personal income on Medicaid, and that states most in need were least able to provide public care.

Closely tied to agency expenditures is a state government's economic capacity to provide services. A state with inadequate financial resources would find it difficult to fund its social services programs. Keiser (1999), defining this environmental characteristic as "task environment," used the ratio of total state revenue less total state spending to indicate the level of demand placed upon a bureaucracy.

Although not defined as such, Schneider's (1988) and Schneider and Jacoby's (1996) use of level of government (state versus local) responsible for the administration of the Medicaid program may be considered an internal task environment variable. In both studies, the use

of the variable was selected because it was postulated that a more centralized bureaucracy is a more efficient bureaucracy. Medicaid is a federal program, yet the states are granted substantial flexibility in its implementation. It is "a difficult program to administer because it requires balancing federal directives with state specific concerns" (1988:758). Some states have chosen to administer it at the local level rather than at the state level. Local implementation adds an additional layer of bureaucracy that further snarls program implementation and delivery and augments program expenses (Schneider1988; Schneider and Jacoby 1996). For this reason, factors that increase a bureaucracy's size can be considered to be a structural task demand element.

The more arduous the internal and external task environment, the more difficult it is for workers to carry out the stated goals of an organization. Task environment was documented as having contributed to goal displacement in Aviram's (2000) Israeli boarding school research and Bohte and Meier's (2000) study on Texas school districts' inclination to misrepresent standardized exam scores. As Aviram's (2000) study was qualitative, the researcher subjectively observed the task environment to be overwhelming for the boarding school employees. In contrast, Bohte and Meier's (2000) task environment was quantitatively defined. An overwhelming task demand was defined as the racial homogeneity of a district's population, operationalized as percentages of African American, Latino, and low income students.

As the brief review of public administration literature illustrates, demographic and socioeconomic characteristics of a population have been found to impact bureaucratic output and thus be utilized to characterize an organization's external task environment. Additional considerations of bureaucratic traits to characterize internal task environment offer more

illustrative power in explaining bureaucratic output. And although the reviewed literature established a link between expenditures as bureaucratic resources and quantitatively-defined agency output (efficiency), whether or not the agency is meeting the needs of its clientele (effectiveness) remains uncertain. Aside from external demographic characteristics that infer task environment in public policy research, the addition of structural task demand components provides a more thorough open systems framework in which to analyze the administration of public programs. The following sections will investigate influencing factors specific to the delivery of substance abuse treatment: facility ownership and performance characteristics and the effects of managed care.

Ownership and Performance of Substance Abuse Treatment Facilities

As the subtitle implies, this collection of studies examined the impact of treatment facility ownership on organizational performance. From this section, thesis research variables specific to facility ownership and the subsequent differences in availability of treatment and funding were constructed: ownership status, numbers clients treated, public funding, type of treatment offered, and the availability of treatment at no charge.

It is often believed that an organization based upon a competitive market model of operation, e.g. a profit motive with a strictly financial bottom line, is somewhat immune to the goal displacement that is frequently argued to occur within government bureaucracy. Whether or not this premise holds true for public substance abuse treatment facilities remains unanswered, but here it will be assumed as such. Regardless, the following summary of prior research illustrates that significant differences do exist between public, non-profit, and for-profit treatment facilities, typically in regard to service and clientele characteristics, access, funding, and financial performance. The greater part of the data

utilized for this type of research were collected from the U.S. Department of Health and Human Services, typically from National Drug Abuse Treatment System Survey (NDATSS), the National Treatment Improvement Evaluation Study (NTIES), or the National Drug and Alcohol Treatment Unit Survey (NDATUS). Other sources of data were derived from the combined research efforts of non-profit organizations and universities. Several of the studies examined solely outpatient facilities (Wheeler, Fadel, and D'Aunno 1992; Wheeler and Nahra 2000; Friedmann, Alexander; and D'Aunno 1998), while others looked at both inpatient and outpatient (Rodgers and Barnett 2000; Heinrich and Fournier 2004; Heinrich and Fournier 2005; Roman, Ducharme, and Knudson 2006).

The most substantial finding from this genre of literature is the presence of market segmentation. For-profits appear to cater to less disadvantaged clientele who are more able to pay out-of-pocket or who have private insurance (Wheeler, Fadel, and D'Aunno 1992; Wheeler and Nahra 2000; Friedmann, Alexander; and D'Aunno 1998; Rodgers and Barnett 2000; Roman, Ducharme, and Knudson 2006), a practice typically referred to as "creaming." For-profits treat a greater proportion of cocaine and heroin abusers and fewer multiple-drug abusers than do public and non-profits, thus implying that those facilities may market to more specialty drug type users that are privately insured and are financially equipped to pay for out-of-pocket expenses (Wheeler, Fadel, and D'Aunno 1992; Wheeler and Nahra 2000; Rodgers and Barnett 2000). Wheeler and Nahra (2000) found that thirty-one percent of public facilities' clientele were unable to pay, whereas five percent in for-profits were unable to do so. The literature review of Rodgers and Barnett (2000) indicated that a greater proportion of for-profits also served the employed (Gerstein and Harwood 1990: Burke and Rafferty 1990), suburbanites (Yahr 1988), and those who were more likely

to have successfully completed the treatment process (Gerstein and Harwood 1990). Roman, Ducharme, and Knudsen (2006) discovered that clients of publicly funded facilities were more likely to be on parole or probation and to have been referred from social services agencies or the legal system.

For-profits were more likely to employ specialty staff to treat cocaine abusers and more PhD staff. Public facilities were found to be the least specialized. For-profits programs were smaller (Rodgers and Barnett; Roman, Ducharme, and Knudsen 2006) and offered less individualized care than non-profits and public units (Wheeler, Fadel, and D'Aunno 1992) but exhibited significantly more admissions (Roman, Ducharme, and Knudsen 2006). Dayhoff, Pope, and Huber (1994) reported that publicly funded facilities treated substantially more clients and offered more outpatient treatment than privately funded units, and that utilization rates for publicly funded exceeded those of privately funded.

Substantial differences in access to treatment were found between public and for-profit facilities. Although public facilities had a longer wait list for admission, in effect no clients were turned away, whereas for-profits rejected seven percent of potential clients. For-profits were also less likely to allow reduced payment arrangements (Wheeler, Fadel, and D'Aunno 1992; Wheeler and Nahra 2000). Perhaps reflective of for-profits' propensity for specialization, Friedmann, Alexander, and D'Aunno (1998) found that public outpatient facilities demonstrated a propensity for better access to ancillary services than for-profits.

The increased capacity of for-profit clients to pay and the inability of public clients are evidenced by the differences in funding sources between publics and for-profits. Public facilities are primarily financed by public (government) revenue sources, and, conversely, private funding comprises the majority of funding for for-profits with approximately half of

30

that derived from private insurance (Wheeler, Fadel, and D'Aunno 1992; Wheeler and Nahra 2000). Rodgers and Barnett (2000) found that public facilities were more than twice as likely to receive Medicaid funding as for-profits, but for-profits that received Medicaid collected substantially more Medicaid funding than publics wherein it was suggested that certain for-profit facilities may market specifically to Medicaid recipients.

As an investor-owned business based upon a competitive market model of operation, for-profit facilities exact a level of financial performance not usually consigned to public agencies. The research of Wheeler, Fadel, and D'Aunno (1992) and Wheeler and Nahra (2000) reinforced this private firm initiative of profit maximization. Both studies demonstrated that for-profits charged substantially higher prices and realized higher profit margins than public units. Public facilities tended to break even and had higher costs per therapy hour. Non-profits fell between the two extremes for both costs per therapy hour and profit margins. The research of Clark, Dorwart, and Epstein (1994) also revealed that public units provided a significantly greater percentage of treatment at rates below cost and collected fewer client fees. Among private units, the additional profit-maximizing practices of providing financial incentives to employees, increased efforts to collect fees and employing the use of collection agencies, emphasized billable services, reduced administrative costs, charged fees for missed appointments, and required pre-payment were revealed (Clark, Dowart, and Epstein 1994).

As evidenced by the research, observable differences do exist between for-profit and public facilities. For-profits tend to treat and cater to a more affluent, privately-insured type of clientele with specific addiction problems who are able to pay out-of-pocket costs if necessary, whereas public units tend to treat less advantaged populations. Where public

units demonstrated an "open door" policy on admissions, for-profits are more likely to restrict service access, perhaps due to the presence of market forces (that public agencies generally do not experience) and the emphasis on financial performance. Operating as a business enterprise, for-profit facilities receive a greater proportion of their funding from private sources, exhibit less concern for facilitating access to services, and glean higher profits through inflated prices. However, financial performance is not necessarily indicative of service quality or effectiveness. Heinrich and Fournier (2004; 2005), in search of establishing a relationship between facility ownership and outcome, found that non-profits were more effective than public and for-profit units in reducing the number of drugs patients used after having had completed treatment (Heinrich and Fournier 2004). In both studies, for-profits and non-profits were positively associated with patients continuing or beginning full-time employment. Independent of facility ownership, treatment durations of thirteen or more weeks were positively associated with abstinence and reduced drug usage (Heinrich and Fournier 2005), a finding that has tremendous implications when viewed within the context of the expanding market of managed care that will be addressed in the next section.

Managed Care

The effectiveness of substance abuse and mental health managed care, having evolved as states contract with outside agencies to administer their Medicare and Medicaid programs, has become an important issue in the study of treatment evaluation. Constructed from the following works of research on managed care, the variables utilized in the thesis research are HMO penetration rates, proportion of a state's population without health

insurance, the distribution of facilities with managed care contracts, and the type of parity law a state has enacted.

As a form of privatization, managed care is a coordinated health care delivery system in which a health maintenance provider acts as a liaison between patient and physician. Having emerged as a contender on the health care scene in the 1980s, proponents have touted it as efficient and cost-effective. Skeptics have questioned the resulting quality of health care it produces. Health Maintenance Providers (HMOs), Preferred Provider Organizations (PPOs), and Exclusive Provider Organizations (EPOs) are the most familiar types of Managed Care Organizations (MCOs). According to the website of a managed care resource company, www.mcol.com, managed care is characterized by the management of medical care provided, a contractual affiliation and organization of care providers, and adherence to managed care rules. Group members are restricted to seeking care through the prescribed network of care providers. From 1985 to 1999, the national total of persons enrolled in an HMO rose from 19.1 million to a peak of 83.3 million. The rate fell to 77.7 million in 2006 but has since exhibited a steady increase. PPO enrollment has increased nearly three-fold from 38.1 million in 1990 to 109 million in 2006 (MCOL).

Accompanying the increase in managed care enrollment is the discerning transformation of HMOs from that of not-for-profit to that of for-profit. Due to non-profit health care organizations adopting for-profit status, the purchase of non-profit associations by for-profit companies, and overall industry growth, the total share of all HMO participation in for-profit health plans has expanded to over 75 percent in many regions of the U.S. (Shen and Melnick 2004).

Chi and Jasper (1998) reported there would be acceleration in the privatization of health and mental health services. As of 2002, only a handful of states (Alaska, Arkansas, Delaware, Florida, New Jersey, North Dakota, and Pennsylvania) have privatized their substance abuse treatment services (Chi, Arnold, and Perkins 2003). Managed care has shown to be an effective approach for controlling rapidly rising health care costs within the realm of physical health but due to the chronic nature of addiction and the recurrent treatment patterns of addicts, the effects of managed care on the delivery of mental health and substance abuse care are not totally clear (Madonna 2000).   However, several studies have illustrated that substance abuse managed is not only an effective cost containment tool but also resulted in greater patient access and utilization.

McCarty, Dilonardo, and Argeriou (2003) summarized findings of the managed substance abuse care initiatives of four states - Arizona, Iowa, Maryland, and Nebraska- revealing it as an effective mode of treatment delivery and administration management which organizations can utilize to their benefit. Rises in Medicaid mental health and substance abuse expenditures in Nebraska and Iowa were curbed, and although the use of inpatient services decreased, the utilization of outpatient and residential services grew. The variations in the manner in which states administer their Medicaid programs and in states' urbanization patterns made it difficult to make inferences between the four states or to generalize findings to other states. Similar findings were reported by McCarty and Argerious (2003) in their research specific to Iowa managed care.

Ettner, Argeriou, McCarty, Dilonardo, and Liu (2003) cited the findings of Galanter et al. (2000), and Stein and et al. (1999) where reductions in the utilization of inpatient services and increases in residential and outpatient services were reported, as well as those of Deck

and et al. (2000) and Sturm (2000), which indicated that managed care does not impede and may even boost access and utilization of treatment. No reductions in utilization and decreased expenditures were revealed in a Massachusetts managed mental health and substance abuse care study among Medicaid patients. A managed mental health and substance abuse care study for Massachusetts' Medicaid patients revealed decreased expenditures and no reduction in utilization in the first year after its introduction (Callahan and et al., 1995).

Ettner, Argeriou, McCarty, Dilonardo, and Liu (2003) investigated the effects of Iowa's introduction of managed care on uninsureds' use of substance abuse services and reported that after the introduction of managed substance abuse care, uninsured patients exhibited increased illness severity. It was unknown if this had been due in part to uninsureds' reduced access to care where only the most ill were able to enter treatment or to the change in eligibility requirements for those that received publicly funded non-Medicaid services. In contrast, improved effectiveness as measured by increased abstinence and reductions in substance use were associated with the contracting out of treatment in Maine (Commons, McGuire, and Riordan 1997).

Rosenburg (1996) investigated the relationship between HMO penetration and expenditures and utilization of mental health and substance abuse services in general hospitals and discovered higher rates of outpatient utilization in high HMO penetration areas and lower utilization in lower HMO penetration areas. Expenditures for inpatient and outpatient mental health services in low HMO areas increased more rapidly than in high HMO areas.

The abovementioned research indicates that the managed care of substance abuse services are an effective cost containment strategy that appear to stimulate greater utilization. Cost effectiveness was undoubtedly enhanced by reductions in the costly use of inpatient services. Although reductions in inpatient treatment and increases in the use rates of residential and outpatient services were consistently reported, no definite conclusions can be made as to how these changes impact rates of dependence and abuse or gaps between the need and receipt of treatment. Contrary to the positive findings on substance abuse managed care research, studies of program-level treatment outcomes revealed a positive relationship between treatment duration and improved clinical outcomes (Heinrich and Fournier 2004; 2005). None of the studies addressed the relationship between the reduction in inpatient treatment and treatment duration, but it may be surmised that for cost cutting purposes, with managed care comes reduced treatment episodes.

Summarizing, two distinct trends are emerging in field of substance abuse treatment. First is increasing market segmentation. The rich who can afford the out-of-pocket treatment expenses and carry private insurance are more likely to be treated at specialized for-profit facilities, while public treatment centers are left to serve those who cannot pay for care and who are without insurance. Second, the spread of managed care has altered patient care. Outpatient treatment is replacing inpatient and has likely shortened the duration of treatment even though longer treatment episodes produce more effective patient outcomes. Managed care provides greater access and utilization, but inpatient treatment that is assumed to be essential to recovery is being supplanted by increased, but perhaps less effective, outpatient services.

These two trends not only reflect the far-reaching effects of managed care but may also shed light on the phenomenon of goal displacement as it is hypothesized to occur in public bureaucracies. Following this underlying theory, the variation between private and public facilities can be explained by the different levels of goal displacement each facility type experiences. Private facilities operate under a competitive market model in an environment where market forces breed organizational fitness. Ultimately, less effective and efficient private firms do not survive and are replaced by more robust firms that best optimize their resources, a characteristic not generally attributed to public bureaucracies. A competitive edge is not a priority for a state-run treatment facility as it is for a for-profit operator because public units are not forced to hone their competitive abilities. Absent of a profit motive, the "transitive goal" of a public treatment unit is to serve the public, but with it comes the "reflexive goal" (Mohr 1973) of preserving itself; and for the most part, evaluating the "net output" of either a public or private facility is complex at best. The glaring fact that public facilities are bearing an increasingly greater burden for treating those unable to pay for private treatment may increase the likelihood for goal displacement to occur within the public sector.

The foregoing literature review, albeit protracted but nevertheless essential, demonstrated how external environmental and internal structural factors can influence bureaucratic output, which then can lead to goal displacement. The excessive demands of a state's task environment, taking the form of servicing a largely disproportionate disadvantaged population, inadequate state financial resources, and structural burdens can be attributed to a state's level of goal displacement. Therefore, these same conditions can also affect a state's delivery of substance abuse treatment, but in order to assess goal displacement, aggregate

state-level treatment facility characteristics must be taken into consideration, as well as the

affects of managed care on treatment delivery.

Chapter 3: Research Design
Research Hypotheses and Measures - Operational Variables

In the preceding section, goal displacement as a conceptual variable and factors that influence bureaucratic output and those that impact the delivery of substance abuse treatment were discussed. It is this previous discussion that provides the blueprint from which thesis research will be designed. In following sections, goal displacement as the dependent variable and the independent variables that will be hypothesized to be the probable causes of the phenomenon are operationalized and quantified. Additional intervening variables associated with facility characteristics and managed care that are hypothesized to affect the delivery of substance abuse treatment as also identified and quantified.

The Dependent Variables

For the purposes of this research, numerical indices, assigned as "PerfALC" and "PerfDRG" to designate states' substance abuse treatment delivery performances, will be used to reflect the level of goal displacement a state experiences as measured by several independent variables. These performance indices are based upon yearly data published the U.S. Department of Health and Human Services Substance Abuse and Mental Health Services Administration (SAMHSA) "State Estimates of Substance Use from the National Surveys on Drug Use and Health." The data include state-level statistics on substance use and treatment.

Percentage of persons aged twelve years and older reporting past year illicit drug dependence and abuse and percentage of persons aged twelve years and older reporting needing but not receiving treatment for illicit drug use in the past year were used to calculate

state's drug treatment delivery performance. A performance measure for each state's delivery of drug treatment was calculated beginning with the first year for which the needing but not receiving drug treatment data was available, 2001, and for years 2002, 2003, 2004, 2005, and 2006. These variables were designated as "PerfDRG" for each of the given years.

A similar performance measure was also calculated for states' delivery of alcohol treatment using each state's percentages of persons aged twelve years and older reporting past year alcohol dependence and abuse and percentages of persons aged twelve years and older reporting needing but not receiving treatment for alcohol use in the past year. A performance measure for each state's delivery of alcohol treatment was calculated for the years 2002, 2003, 2004, 2005, and 2006. A performance measure for 2001 was not calculated because the needing but not receiving alcohol treatment data were not available until 2002. These performance variables were designated as "PerfALC" for each of the given years. As previously discussed, the value of these variables, which indicate level of performance, should reflect a state's level of goal displacement.

State percentages of persons needing but not receiving treatment (also referred to as treatment gap) for alcohol and illicit drugs were originally planned as indicators of goal displacement, but further examination revealed that when viewed in relationship to each states' corresponding dependence rates, treatment gap was not indicative of performance. For illicit drugs, a state's drug treatment gap was highly correlated to its rate of drug dependence as shown in Table 1.

Table 1 - *Pearson Correlation of drug treatment*

gaps and drug dependence rates

	Pearson Correlation
GAPDrg 2003 to DEPDrg 2003	.879
GAPDrg 2004 to DEPDrg 2004	.895
GAPDrg 2005 to DEPDrg 2005	.916

*all significant at .01 level

As demonstrated by the bivariate correlations between the two variables, high rates of

dependence typically begot high treatment gaps. It was deduced that states with high rates

of dependence would tend to have overburdened delivery systems and thus exhibit difficulty

in meeting the needs of their addicted populations. However, this premise did not always

hold true. For example, in 2002 Connecticut ranked fourth as having the smallest alcohol

treatment gap but ranked seventh worst on alcohol dependence. From this it may be inferred

that the state was relatively effective in meeting the needs of its alcohol addicted

populations. Therefore, a separate measurement for both drug and alcohol that would reflect

a state's treatment gap in relation to its dependence rates was calculated. These performance

measures for each state, for each year were calculated with the following formula:

p = (estimated[1] treatment gap – treatment gap mean) – (observed dependence rate – dependence rate

mean)

One additional step was taken to incorporate each state's yearly performance

measurement into four separate variables. Suggestive of Seashore and Yuchtman's (1967)

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[1] All calculated performance measures take into account published estimates from SAMHSA's "State
Estimates of Substance Use from the National Surveys on Drug Use and Health."

"net output" variable that is a better indicator if measured longitudinally over a long period of time, the mean for the 2001-2006 drug performances was calculated, designated as the variable "OvAllDRG," and used to indicate a state's overall capacity in meeting the needs of its drug addicted population. Following Thompson and McEwen's (1958) position that volatility impedes the goal redefining and reinterpretation processes that are critical to goal attainment, the standard deviation of "OVAllDRG," designated as the variable "ConsistDRG," was used to indicate the consistency of a state's drug treatment delivery performance. Likewise similar computations were performed to assess a state's overall performance ("OvAllALC") and consistency ("ConsistALC") of its delivery of alcohol treatment.[2] As complete data to compute the yearly performance measurements were not available until 2002, the variables for alcohol treatment were calculated using five years of data (2002-2006) rather than the six that were used for drug treatment.

In summary, a state's level of goal displacement is determined by its overall capacity and consistency in meeting the needs of its drug and alcohol abusing population as demonstrated by the variables "OvAllDRG," "ConsistDRG," "OvAllALC," and "ConsistALC." A state that exhibits a high overall performance measurement with a low variability measurement will be better in meeting the needs of its addicted populations through providing stable and effective treatment. It is inferred that such a state experiences minimal goal displacement. Similarly, the lower and more volatile a state's overall performance measurement, the more handicapped it is in delivering treatment. It is inferred that such a state experiences elevated levels of goal displacement. The reader must keep in mind that states may be consistent in bad performance as well as exhibiting good performance but with a high level

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[2] See Appendix B for a listing of variables and their corresponding formulas that were used in the transformation of new variables from existing sources. Throughout Chapter 3, footnotes will be provided to indicate the transformed variables.

of volatility. Additionally, states may fare well in treating drug abuse and dependence but fail in the area of alcohol or vice versa.

The specific factors that are chosen as independent variables that will be hypothesized to influence a state's level of goal displacement in its delivery of substance abuse treatment are discussed in the following section.

The Independent Variables

The hypotheses that are to be presented in the subsequent sections are based upon two assumptions: 1) public bureaucracies are more prone to goal displacement than private organizations; therefore, public substance abuse treatment facilities are less effective in meeting the needs of addicted populations and 2) because of the threat of competition and stakeholder accountability, for-profit facilities are more efficient and provide more effective care.

The Effects of Task Environment on Goal Displacement

Referring to Keiser's (1999) use of the concept "task environment," the degree to which demands are placed upon a bureaucracy may directly influence a state's level of goal displacement. In this section, the internal task environment variables of treatment gaps, state finances, block grant funding, and bureaucratic size are identified, and the hypotheses regarding their relationships to a state's level of goal displacement are formed. In the following section, the external task environment variables comprising state environment are discussed in a similar manner.

The state's internal task environment.

In the case of substance abuse delivery, the proportion of a state's population that is in need of, but not in receipt of alcohol and drug treatment can be defined as a demand that is placed upon a state. It is reflective of a state's deficiency in reaching those who are in need of treatment, and it is those states with higher treatment gaps that face greater pressures to meet the needs of their addicted populations. This critical and costly social problem of addiction may cause some states to respond impetuously, acting more in the name of "politics" rather than making policy decisions based upon scientific research, without having the full knowledge or understanding of how a state's environmental characteristics impact the delivery of treatment. Based on this reasoning, it is hypothesized that a state with a higher percentage of population in need of but not in receipt of both alcohol (GAPAlc) and drug (GAPDrg) treatment will exhibit higher levels of goal displacement.

A state with inadequate financial resources would find it difficult to fund substance abuse treatment and prevention programs. For this reason, and following Keiser's (1999) use of a state's ratio of total state revenue to total state spending, a similar variable will also be used as an indicator of level of demand placed upon a bureaucracy. Budget restraints in the form of scarce financial resources can greatly impede an organization's courses of action and as Simon (1964) theorized, courses of action are a function of an organization's constraints whereby the inequalities amongst them are minimized for any desired outcome. The goal of providing effective substance abuse treatment could be supplanted by other state crises or conditions that necessitate other courses of action. In addition, a wealthier state is likely to be better equipped to bear the financial and attitudinal pressures for transferring critical treatment research to practice rather than to rely on "the usual way of doing things"

44

for fear of uncertainty (Simpson 2002; Rosenheck 2001). A recent Robert Wood Johnson

study on ways states can improve prevention and treatment also reported the necessity of

financial resources (Rosenbloom and et al. 2006). The more financially endowed a state, the

better able it should be to circumvent the ill effects of goal displacement. Therefore, it is

hypothesized that the higher a state's ratio of revenues to expenditures (REV/EXP)[3], the

lower its level of goal displacement.

The more money an organization allocates to solving a specific problem, the less of a

problem it should become. As the federal government provides grant monies to all states to

fund their substance abuse programs, a state's level of federal funding will act as an

expenditures variable. Per capita state Block Grant funding for prevention (BGPrv) and per

capita Block Grant funding for treatment (BGTrtmt) will be used as proxies for earmarked

funding resources. Based on the rationale that federal funding helps states prevent and treat

substance abuse, it is hypothesized that positive relationships exist between both Block

Grant funding variables and performance. Therefore, lower levels of goal displacement

should be found among states that have higher levels of Block Grant funding.

Schneider (1988) and Schneider and Jacoby (1996) discovered that factors that increase a

bureaucracy's size can burden administrative processes, which then could lead to goal

displacement. By the same token, excess government personnel should increase costs and

create additional burdens for all administration processes. That a bureaucracy's size can be

considered as a hindrance to effective administration, per capita state government

administration (GOVAdm)[4], per capita full-time equivalent state government employment

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[3] Transformed variable
[4] Transformed variable

(FTEEmpl)[5], and per capita state government payroll (GOVPyr)[6] will be utilized to assess a state government's level of bureaucratization. Based on the theory of goal displacement, the lower a state's level of bureaucratization, as measured by the aforementioned variables, the better its performance score, and hence, the less likely it experiences goal displacement.

In summary, larger alcohol and drug treatment gaps and greater levels of government administration, employment, and payroll should associated with greater levels of goal displacement. Lower levels of goal displacement should be found among states that have a higher ratio of revenues to expenditures and that also have higher levels of Block Grant funding. Next, additional environmental factors variables that are believed to affect goal displacement will be operationalized and their empirical measures identified.

The state's external task environment.

As evidenced by the research on public policy administration, socioeconomic variables can be used as proxies to infer a state's environmental condition, or external task environment. Such factors have been found to shape bureaucratic output. The external task environment variables of median household income, infant mortality rate, percentage of population without insurance and receiving public aid, and percentage of population of American Indian/Alaska Native heritage are identified and their relationships to goal displacement are discussed.

Personal wealth and infant mortality were found to impact public policy (Schneider 1988; Schneider and Jacoby 1996; Buchanan, Capperlleri, and Ohsfeldt 1991; Barrilleaux and Miller 1988; Dawson and Robinson 1963; Keiser 1999). As an indicator of state wealth,

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[5] Transformed variable
[6] Transformed variable

median household income (MHHInc) will be used rather than per capita income because the statistic takes into account the extreme high and low income values that per capita income does not. (For a complete listing of variables and their sources, see Appendix C). Infant mortality rate (IMR), percentage of population without insurance coverage (W/OIns), and percentage of population that receives public aid (PubAid) will be used as indicators to gage a state's level of well-being. The healthier and wealthier a state's population, the better and more consistent its treatment performance. Health and wealth typically imply success, and thus a desired standard of living, a condition that each state should try to provide for its citizens through wise policy decision-making.

In addition, wealthier populations are in positions that enable them to pay for better health care, in this specific instance, to be treated in for-profit substance abuse facilities where goal displacement is presumed to be minimal. The presence of these aforementioned desirable environmental conditions should also reflect the ability of a state to exercise positive control over goal displacement as it is hypothesized to occur in public bureaucracies. Therefore, a negative relationship should be found between household income and goal displacement, and positive associations should exist between greater infant mortality rates, persons without insurance, and those receiving public aid to goal displacement.

As one additional indicator of external task environment, states' percentages American Indian Alaska Native populations (AIAN) will be considered. Bohte and Meier (2000) employed a school district's racial composition as a measurement of task environment, stating that more homogeneous populations were less difficult to educate. By the same token, a more homogenous substance abusing population should be easier to treat than one

more ethnically diverse. Therefore, as ethnic homogeneity should be conducive to low goal displacement, a positive relationship should exist between percentage of native populations to goal displacement. Due to the historically chronic nature of alcohol abuse among the American Indian Alaska Natives (U.S. Department of Health and Human Services Indian Health Service (No Date); Pueschel 2006) this population was chosen as a variable.

Treatment Facility Characteristics

This section discusses the mitigating factors that influence the supply and delivery of substance abuse treatment and, invariably, treatment effectiveness, but are not necessarily viewed as direct but rather indirect links to a state's level of goal displacement. In particular, these variables represent aggregate state facility characteristics of ownership status, type of treatment, admissions, public funding, and the availability of free treatment.

The first variable in this category is the state-level distribution of public (PUB), private non-profit (PNP), and private for-profit (PFP) treatment facilities. As public facilities are more prone to goal displacement, states that have proportionately greater distributions of public facilities should experience poorer performances and hence increased goal displacement. Likewise, states with greater distributions of private facilities should experience better performance. As research on treatment facility ownership has found that the performance of non-profits falls somewhere between that of publics and for-profits, no hypothesis will be provided.

The type of treatment offered is also hypothesized to impact delivery performance. Researchers typically examine either outpatient or inpatient care, but not the relationship between the two. Studies indicated that the presence of managed care favors the use of

outpatient over inpatient treatment because of cost savings, yet better patient outcomes are achieved by greater lengths of treatment. Assuming that inpatient treatment is more effective due to its intensity and longer treatment periods, minimal goal displacement will be exhibited by those states that offer proportionately greater amounts of inpatient services over outpatient care. The variable used here is a state's ratio of the median number of inpatient to outpatient clients (IP/OP)[7]. Because public units are less likely to offer inpatient treatment (Roman, Ducharme, and Knudsen 2006), the higher a state's inpatient to outpatient ratio, the less likely the state will experience goal displacement as measured by overall performance.

The next variable considered is clients (CLIENTS) in treatment per 100,000. As public facilities are primarily financed with public monies and private facilities with private monies (Wheeler, Fadel, and D'Aunno 1992; Wheeler and Nahra 2000), and publicly funded units treat substantially more clients than private units (Dayhoff, Pope, and Huber 1994), it is hypothesized that a state with higher numbers of clients per 100,000 will exhibit more goal displacement than a state that treats fewer clientele. Public facilities may treat greater numbers of the addicted, but because public facilities are more prone to goal displacement, state rates of substance abuse dependence remain relatively unaffected in states that treat more clients.

Similar to the public funding findings referred to above, a variable for percentage of facilities that receive public funding for treatment programs will be used (RecPubFd). Again, because public facilities treat proportionately greater numbers of clients than for-profits, and because public facilities are more prone to goal displacement, it is hypothesized that the higher a state's percentage of facilities financed with public funding, the more likely the state is to experience goal displacement.

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[7] Transformed variable

In addition, states with a greater proportion of facilities that offer treatment at no charge (NoChrg) for clients who cannot pay will experience greater levels of goal displacement because a significant proportion of public clients are generally unable to pay (Wheeler and Nahra 2000) and therefore, it may be inferred, are more likely to seek care at public units. It is assumed that states that have proportionately greater numbers of facilities that treat free of charge are also states that have more disadvantaged populations.

Managed Care

In this section, a discussion of the effect of managed care on state performance and the selection of variables related to managed care are discussed. The variables chosen for this section are also believed to mitigate a state's treatment performance but are not viewed as distinct links to goal displacement. Drawing inferences from the reviewed research that suggests managed care enhances access to treatment, it is postulated that managed care does reduce states' gaps between need and receipt of treatment, but performance remains relatively unaffected, and hence level of goal displacement, because although the treatment gap is reduced, rates of dependence persist. The specific variables discussed here are state parity laws, HMO penetration rates, and proportions of facilities with managed care agreements/contracts.

The Mental Health Parity Act of 1996 mandated that if a health care plan provided mental health care coverage, it must do so at the same level of its physical care offerings (Martin 2002). However, it is not obligatory for states to include substance abuse treatment services. The level of parity integration is determined individually by each state. As of 2002, eight states had full parity laws for mental health and substance abuse, nineteen had

minimum mandated benefits but four allowed coverage only for alcohol abuse, and

seventeen had mandated benefits but seven states allowed only for alcoholism (Martin

2002)[8]. For this reason, Dummy variables were constructed to indicate if a state has full

parity (PARITY), minimum mandated benefits (MMBenf), or mandated offering (ManOff)

laws. As full parity assures the greatest level of mental health and substance abuse

treatment coverage, states with full parity should be better able to treat their addicted

populations, states with mandated offering the least, and those with minimum mandated

falling somewhere in between. But increased access to treatment, as the following

paragraphs will illustrate, does not necessarily imply a long-term reduction in rates of

dependence or abuse. Because of the complexities involved in state laws, it is difficult to

form concrete hypotheses pertaining to a goal displacement and a state's type of parity law.

The relationship between the state HMO penetration rates and treatment access is a

frequent topic in substance abuse treatment. Research has demonstrated that managed care

results in the reduction of inpatient utilization (McCarty, Dilonardo, and Argeriou, 2003;

McCarty and Argeriou, 2003; Galanter et al., 2000; Stein and et al., 1999), and thus

shortened intensive treatment duration, yet better clinical outcomes were achieved with

extended treatment (Heinrich and Fournier, 2004;2005). However, the benefit of managed

care is that increases in residential[9] and outpatient services were reported. Therefore, states

with higher penetrations of managed care, as indicated by the percentage of a state's

population enrolled in HMOs (HMO), may exhibit a lower gap between need and receipt of

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[8] A full parity state is designated as having equal coverage between mental health services and physical care services, minimum mandated as having mandated coverage for mental health services but at levels below full parity benefits, and mandated offering as further reduced benefits. Definitions are defined by the Health Policy Tracking Service at the National Conference of State Legislators. For additional information see http://www.ncsl.org/programs/health/forum/pmsap.pdf

[9] The difference between "inpatient" and "residential" treatment is not specified.

treatment than those states with lower penetration rates, but rates of dependence should remain unaffected. Because of this, states with higher HMO penetration rates should exhibit no appreciable success in treating their addicted populations as measured by overall performance. In terms of goal displacement, increased HMO rates should result in greater levels of goal displacement.

The final variable considered in this section is percentage of facilities with managed care contracts (MCContr). Similar to the HMO penetration rate, the increased presence of managed care does not necessarily imply effectiveness. Access to treatment may be improved, but long-term reduction in substance use is unaffected because of cost containment priorities. Therefore, a state's percentage of facilities with managed care agreements should not exhibit any appreciable effect on a state's level of goal displacement as measured by overall performance.

Chapter 4 – Methods

In the preceding chapter, the factors hypothesized to impact states' levels of goal displacement with respect to the substance abuse treatment were conceptualized and then operationalized. The following section will describe the statistical techniques that are used to explain why goal displacement varies among the states. The unit of analysis is the state. The sample includes the fifty U.S. states plus the District of Columbia for a total of fifty-one observations. This thesis research uses cross-sectional data collected primarily from government sources, the U.S. Department of Health and Human Services and the U.S. Census Bureau. For a complete list of variables and their sources, see Appendix A. Two sets of independent variables are utilized (see Appendices C and D for the detailed data sets). The first set (T_1) is used for the analyses described in the subsequent paragraphs. The second set of data (T_2), encompassing a later time period, is used in the final step of the analyses and the procedure is described at the end of the Methods section. As the dependent variables are constructed from data that cover the time period from which both the T_1 and T_2 data are collected, this final procedure will complement and elucidate the findings.

Descriptive statistics are performed to discern minimum, maximum, mean, and standard deviation of the dependent and independent variables, thus demonstrating how each variable varies separately from one another. This univariate analysis is accompanied by brief descriptions of each state's environmental condition, state wealth, substance abuse resources, and government administration. States' level of goal displacement will be inferred by their typically good, poor, or average treatment delivery performances and their range of consistencies.

After examining each variable separately, bivariate correlations are calculated to observe the relationships between variables two at a time and to inspect for multicollinearity, thus providing information/insight on the extent to which the independent variables covary with the dependent variables in the hypotheses and how strongly associated they are to one another. Following the bivariate correlations, trends in the relationship between the independent and dependent variables will be examined using Paired Sample T-Tests and One-Way ANOVA. These two techniques examine trends in the relationships between the independent and dependent variables and discern if the treatment delivery environment of a state or region is stable or experiences fluctuation over time. The multivariate techniques of factor analysis and regression will then be used to further unravel the relationship between a state's level of goal displacement and the delivery of its substance abuse treatment.

The state as the unit of analysis is advantageous for it is a naturally occurring, independent unit. Similar to the administration of Medicaid, the federal government provides states with funding yet the states are given the autonomy to administer treatment and prevention programs as they see fit. Another advantage of using the state as a unit of analysis is that comparable data for all states are available. On a regular basis, U.S Government agencies, such as the U.S. Department of Health and Human Services and the Census Bureau, methodologically research and make readily available data pertaining to the U.S. states. In an ideal world, the purported superiority (valid and reliable) of government data should endow public bureaucrats with the essential framework from which federal and state public policy decisions are made. As such, the results of the research should be representative of not just the sample but to the population as a whole, therefore providing for generalizability.

One of the limitations of using the state as the unit of analysis is that the sample size is small, merely fifty-one. A small sample may erroneously diminish the statistical significance of the model (Allison 1999). That this research relies primarily on government data is another caveat. The principal purpose of this research is to identify and substantiate the presence of goal displacement that is theorized to take place within government bureaucracies. That such a bureaucracy is responsible for the collection, investigation, and publication of the data directly challenges the validity of the research.

Another limitation is that it may not be appropriate to use state-wide employment or financial data to infer a single state agency's internal task environment. As state government is composed of many different agencies, with different budgets and under different leadership, it may be erroneous to make the generalization from whole to part.

The following describes in detail how each statistical analysis is performed.

Paired Sample T-Tests

To distinguish if states' yearly dependence rates, gaps, and performance means for any two consecutive years differ significantly from one another, paired sample t-tests will be conducted for the alcohol and drug categories. T-tests for paired years 2001 and 2002, 2002 and 2003, 2003 and 2004, 2004 and 2005, and 2005 and 2006 will be conducted for states' yearly drug dependence rates, drug gaps, and drug performance to examine if significant variations exist among the paired years. Likewise, paired sample t-tests for states' yearly alcohol dependence rates, alcohol gap rates, and alcohol performance for paired years 2002 and 2003, 2003 and 2004, 2004 and 2005, and 2005 and 2006 will be conducted to similar purposes.

One-Way ANOVA

To examine regional trends in performance and volatility, One-Way Analyses of Variances will be performed. The states were categorized into the following eight regions: 1) New England (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, and Vermont) 2) Mideast (Delaware, District of Columbia, Maryland, New Jersey, New York, and Pennsylvania) 3) Great Lakes (Illinois, Indiana, Michigan, Ohio, and Wisconsin) 4) Plains (Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, and South Dakota) 5) Southeast (Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee, Virginia, and West Virginia) 6) Southwest (Arizona, New Mexico, Oklahoma, and Texas) 7) Rocky Mountains (Colorado, Idaho, Montana, Utah, and Wyoming) 8) Far West (Alaska, California, Hawaii, Nevada, Oregon, and Washington). Least Significant Difference is used as a post hoc test to assess the extent of regional differences.

Linear Regression

In the next step, multiple regression is used to characterize the influence of variables upon one another whereby more accurate inferences about the relationship between goal displacement and the independent variables can be made. Using the Enter Method, a preliminary regression is performed regressing the dependent variables on the independent variables in order to identify variables significant at the 0.01, 0.05, and 0.10 levels. A final model is constructed using the resulting statistically significant independent variables. From this model, explanatory statistics are drawn from the resulting Betas, for assessing the relative strengths of relationships between variables, the multiple R, for measuring the

strengths of relationships between the independent variables, and the overall F test. Descriptive statistics are obtained from the R Squared and illustrate the proportion of variance that is explained by the independent variables in the sample.

The reliability of the regression model is further tested with an additional step. A comparable set of data encompassing a later time period (T_2) is collected from identical sources for additional multiple regression analyses, and a regression model is constructed.[10] Comparisons between the two sets of results are examined and the conclusions will be drawn about the similarities or differences in the models' significance and in the explanatory power of the variables. The thesis will conclude with a discussion summarizing the findings, their implications, and the limitations of the study.

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[10] The targeted year for the T_1 time period data is 2002 and 2005 for T_2. However, exceptions to this were made as data for certain variables for those two specific years were not available. An attempt was made to maintain a three-year time period between the T_1 and T2 data.

Chapter 5 – Findings

Descriptive Statistics

Independent Variables

Descriptive statistics were calculated for the T_1 twenty-one interval level independent variables. In comparing the mean to the median, the SPSS output indicates that many of the variables demonstrate approximately normal distributions with a partiality for slight positive skewness, thus indicating a small preponderance of outlying values above the variable mean. Skewness statistics above 2.00 are found for block grant expenditures for treatment (3.20), AIAN population (3.06), government administration (2.71), and ratio of inpatient to outpatient clients (2.02). No skewness statistics below -2.00 are discerned. The District of Columbia is observed as a frequent outlier in many of the following descriptive statistics.

Grouping the variables into categories of internal and external task environment, supply and delivery treatment characteristics, and managed care, the following several paragraphs will summarize the descriptive findings. The results illustrate the extensive variability that occurs in the independent variables among the U.S. states and District of Columbia.

Internal task environment.

As stated in the introduction of the thesis, the statistics regarding the national treatment gaps for alcohol and drugs are startling. The variation among the states is no less surprising. In 2002, the percentage of persons in need of but not in receipt of alcohol treatment range from 5.64% in West Virginia to a staggering 9.58% in Nebraska. The mean is 7.52% with standard deviation 1.09%. For states with large treatment gaps, Nebraska is followed by Washington D.C. (9.55%), South Dakota (9.49%), North Dakota (9.48%), Colorado (9.03%) and New Mexico (9.00%), and Arizona (8.79%), the majority of which have high

percentages of American Indian/Alaska Native populations. Low alcohol treatment gap states include Maine (5.87%), Maryland (6.01%), Connecticut (6.12%), New Jersey (6.14%), Alabama (6.17%), and Kentucky (6.18%).

As the acceptability of alcohol use and its potential for abuse are culturally pervasive, the range for persons in need of but not in receipt of treatment for illicit drug in 2002 is substantially smaller than for gaps in alcohol treatment. Drug treatment gap rates vary from a low of 2.17% in Wisconsin to high of 3.54% in New Mexico. The mean is 2.71% and the standard deviation 0.32%. Other high drug treatment gap states for 2002 include Arizona (3.41%), Washington and Washington, D.C., (both at 3.3%), Rhode Island (3.32%), Alaska (3.12%), and Oregon (3.09%). However, the reader must be reminded that at that time, the methamphetamine epidemic was gaining full force in the Upper Northwest (Suo 2004); therefore, the statistics for Oregon and Washington should come as no surprise. Following Wisconsin, states that exhibit the smallest drug treatment gaps are Hawaii (2.23%), Iowa and Kansas (both at 2.32%), Minnesota and New Jersey (both at 2.33%), and Pennsylvania (2.35%).

Per capita block grant expenditures for prevention vary from $0.84 in Arkansas to $1.74 in the District of Columbia, with a mean of $1.11 and a standard deviation of $0.19. For treatment activities, per capita block grant funding fluctuates from $2.75 in North Carolina to $8.77 in West Virginia, with a mean of $3.82 and a standard deviation of $3.82. As demonstrated by these block grant statistics, states allocate significantly more funding to treatment than to prevention activities.

State wealth, as measured by the ratio of total state revenues to total state expenditures, is shown to have extreme outliers on both sides of the distribution. The District of Columbia,

operating with a per capita deficit, exhibits a ratio of zero, while at the other end of the

spectrum, the ratio for the resource-rich state of Wyoming is calculated to be 2.25. The

mean for the distribution of fifty-one observations is 1.16 with a standard deviation of 0.242.

Two other states, Iowa (.9901) and South Carolina (.9833) demonstrate operational deficits.

Other low ratios are exhibited by Arizona (1.00), Indiana (1.0082), and Vermont (1.0225).

The most financially resourceful are Wisconsin (1.4067) and Oregon (1.3319). Although

the extreme ratios of both Wyoming and D.C. balance out the distribution, to exclude these

two cases from the analysis would provide a more realistic range of states' financial

conditions.

Another internal task environment variable, per capita state government administration,

ranges from a low of $195 in both North Carolina and Texas to a high of $804 in Alaska.

The mean is calculated as $304 with a standard deviation of $103. Other thrifty

administrated states are Tennessee ($202), Alabama ($204), and Arkansas ($206). In

contrast, following Alaska in heavy administration costs per capita are the District of

Columbia ($559), Delaware ($480), and Oregon ($404).

As the District of Columbia has no state employees, the nation's capital ranks last for

both per capita full-time equivalent government employees per 1,000 and per capita

government payroll per 1,000. Other than D.C., California, Florida, and Nevada share the

next lowest full-time equivalent government employees at 11 per capita, followed by

Arizona, Illinois, Ohio, and Texas, with 12 per capita. Following D.C, high levels per capita

government employment is exhibited by Hawaii (46), Alaska (39), Delaware (31), North

Dakota (26), and New Mexico (25). The mean for the 51 states is 17.82 and the standard

deviation 6.91.

For least government payroll dollars per capita, following the District of Columbia's value of zero is Arizona ($37,394), Florida ($34,966), and Nevada ($39,928). Burgeoning payroll dollars per capita are exhibited by Alaska, with a high of $149,610, followed by Hawaii at $140,832 and Delaware at $105,480. All other state values are observed to be under $80,000. The mean for this variable is $58,937 with a standard deviation of $23,055.

As the District of Columbia surfaces on several occasions as a positive or negative outlier for the internal task variables, the federal unit is excluded from analysis and descriptive statistics recalculated. Comparing the skewness statistics with and without the District of Columbia reveals that when excluded, the skewness of the distributions for block grant treatment, government administration FTE employment, and payroll are amplified. From this it may be concluded that the District, relative to the other fifty states, it not the sole outlier.

External task environment.

Household wealth, as measured by median household income is found to be the lowest in West Virginia at $30,982 and highest in New Jersey at $58,759. The mean is $42,800 and standard deviation $6,873. Another Mid-Atlantic state, New Hampshire, exhibits the lowest infant mortality rate while the District of Columbia demonstrates the highest, at 10.89 with a mean of 7.12 and a standard deviation of 1.55. Another close neighbor to New Jersey and New Hampshire, Rhode Island, demonstrates the highest proportion of their population having health insurance coverage (93.1%) while New Mexico being the least insured (22.6%). The mean is calculated to be 13.37 with a standard deviation of 3.75. The descriptive statistics for the variable public aid recipients, as another gauge of state well-being, show Wyoming residents as receiving the least aid in 2002 (1.4% of their population)

and the District of Columbia the greatest, at 11.4%. The mean is 3.99 with a standard

deviation of 1.79.

Ethnically, AIAN as a percentage of a state's population is found to be the lowest in

Pennsylvania (.010%) and the highest in Alaska at 15.6%. The mean is calculated to be

1.66% with a standard deviation of 2.96%. A kurtosis statistic of 10.22 indicates that of

states that do have AIAN populations, the proportions are extremely large.

It is noted that several of the Northeasterly states enjoy favorable environmental

conditions, high household wealth, low infant mortality, and high rates of insurance

coverage, and although perhaps premature to generalize, it may indicate that the many of the

states on the Eastern seaboard experience a comfortable standard of living.

Treatment facility characteristics.

The distributions of private non-profits range from a low of 21% in North Dakota to a

high of almost 87% in Iowa. Iowa also exhibits the lowest percentage of private for-profits

with just over four percent, and Colorado the highest at 51%. While West Virginia and

Rhode Island have extremely few or perhaps even no public treatment centers, Virginia has

just over 47%. Of all U.S. facilities surveyed by the SAMHSA Office of Applied Studies in

2002, almost 60% are private non-profits, 23% private for-profits, and nearly twelve percent

public.

On the low end for percentage of facilities that receive public funding for substance

abuse treatment programs is North Dakota, at just over 40% and on the other end, Montana,

at over 84%. The mean is nearly 69% with a standard deviation of 9.44. Minnesota has the

smallest proportion of facilities that treat at no charge (0.248) whereas West Virginia has the

largest, at 0.788. This suggests that West Virginia's propensity for free treatment is due in

part to the state's having a significant number of low income households as median household income is found to be the lowest in the nation.

Following Montana in largest percentage of facilities that receive public funding are Alaska (83.9), Vermont (82.5), South Dakota (82.0), Arkansas (81.4), and West Virginia (81.2). The states of Colorado (49.9), Illinois (53.3), Kansas (56.0), Kentucky (56.5), and Maine (57.6) are among those whose treatment facilities receive the least amount of public funding.

For number of clients treated in 2002, Washington D.C. treats the greatest number of people per 100,000 (1149) and Arkansas the fewest at 176. The mean is 467 with a standard deviation of 209. Other states that treat large numbers of clients include New York (897), Colorado (869), Maryland (825), and Oregon (804). Texas (211), Minnesota (233), Michigan (240), and Georgia (278) were among the states that treat the fewest per 100,000.

South Carolina demonstrates the lowest ratio of inpatient to outpatient clients (0.241) and Hawaii the greatest (2.14), thus inferring that Hawaii is nearly nine times more likely to utilize inpatient than outpatient treatment than South Carolina. The mean is calculated as 0.533 with a standard deviation of 0.40. North Dakota (1.933), Tennessee (1.59), Minnesota (1.524), and Michigan (1.30) are among the states that demonstrate relatively high ratios of inpatient to outpatient care while Rhode Island (0.296), North Carolina (0.30), Virginia (0.328), and Maryland (0.338) relay more on outpatient.

Managed care.

According to the Henry J. Kaiser Foundation, a private non-profit research organization (www.statehealthfacts.org), managed care is not prevalent in Alaska. This is confirmed by

the descriptive statistics for the two managed care variables. Of the 51 U.S. territories, Alaska demonstrates the smallest percentage of its population enrolled in HMO's. As of July 2007, only fifty-six residents were members of the state's sole HMO plan. (www.statehealthfacts.org). Similarly, Alaska ranks lowest for percentage of facilities with managed care contracts (13.8%). On the opposite end of the spectrum, California demonstrates the highest percentage of its population enrolled in HMOs at 53.5%. The mean for the variable is 23.17% and a standard deviation of 13.7%. Other states with HMO penetration rates above thirty-eight percent include Maryland, Connecticut, Massachusetts, Rhode Island, Colorado, and Oregon. Among the states with HMO rates below eight percent are the Dakotas, Wyoming, Mississippi, Alabama, Idaho, Iowa, and Montana.

Oddly, for percentage of facilities with managed care agreements, Iowa ranks the highest, with ninety-percent. This is an unusual observation because Iowa is the state with the lowest HMO penetration rate. The fact that the data for HMO rates is for the year 2000 and the data for managed care contracts is for 2002 may account for some of the difference as the Iowa's HMO rolls many have soared between 2000 and 2002. For the most part, many of the states with high HMO penetration rates also have a greater proportion of facilities that operate under managed care contracts. Other states with facilities that have a large proportion of managed care contracts include Connecticut, Indiana, Oregon, Pennsylvania, Rhode Island, and Vermont. Connecticut, Vermont, and Rhode Island all exhibit fairly high rates of HMO penetration. States with the smallest proportion of facilities with managed care contracts include Mississippi (also a low HMO rate state), Louisiana, Georgia, Washington D.C., Oklahoma, and, surprisingly, California. California appears to be another anomaly. Although it is exhibits the highest HMO penetration rate of all the states, it is one

that ranks near the bottom for smallest proportion of facilities operating under managed care contracts. Overall, the mean for this variable is calculated as 50.8 with a standard deviation of 16.40.

The Dependent Variables

Similar to the independent variables, the means of the dependent variables also exhibit significant variation among the states. The descriptive statistics for overall performance of alcohol and drug treatment delivery will be discussed first, followed by a discussion of the volatility, or consistency of states' alcohol and drug treatment delivery. For a complete listing of states' individual performance and volatility scores and how they are ranked, see Appendix E.

Overall alcohol treatment performance and measures of goal displacement.

The scores for states' overall alcohol performances, based upon five years of data, range from a low of -0.3733 to a high of 0.2647, with a mean of -0.000002. The poorest performance is exhibited by South Dakota. Topping out the bottom ten poorest performers are Montana (-0.3513), Alaska (-0.2493), Rhode Island (-0.1913), Washington (-0.1613), Colorado (-0.1421), Massachusetts (-0.1353), Nebraska (-0.1233), Wisconsin and Minnesota (both at -0.1213), and New Mexico and Indiana (both at -0.0973). It is inferred that these states experience the greatest levels of goal displacement with respect to meeting the treatment needs of their citizens who abuse or are dependent upon alcohol.

Texas tops the list as having the best alcohol delivery performance, and thus minimal goal displacement, with a score of 0.2647. Descending nine positions from the top in order of best performance are Hawaii (0.1967), California (0.1627), Idaho and Tennessee

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(0.1507), Arizona, Florida, and Alabama (0.1247), Mississippi (0.1227), Pennsylvania and Illinois (0.1147), Georgia (0.1007), Kentucky (0.0827), and Utah, Oregon, and Arkansas (0.0767). Therefore, it is these states that are more adept at the meeting the treatment needs of their citizens that abuse or are dependent upon alcohol. It is hypothesized that goal displacement is least prevalent in these exceptionally well performing states.

Average performing states with scores around the mean included Ohio, Michigan, Missouri, and New Hampshire. The shape of the distribution of alcohol performance scores is relatively normal with a skewness statistic of -0.788 and kurtosis of 0.912.

Overall drug treatment performance and measures of goal displacement.

For the delivery of drug treatment, the scores for states' overall drug performances are based upon six years of data, 2001-2006. States scores' range from a low of -0.4759 to a high of 0.2008 with a mean of -0.000086. As an extreme outlier, the District of Columbia ranks the worst, followed by Rhode Island (-0.1472), Alabama (-0.1142), Delaware (-0.1109), Massachusetts (-0.1059), New York (-0.0825), New Jersey and Virginia (-0.0509), Wisconsin (-0.0475), Kansas (-.0459), and Montana (-0.0442). It is also inferred that goal displacement is more prevalent in these states. It is noted that many of these poorest performing states are located in the northeasterly region which tends to have above average standards of living.

The best overall performer in the delivery of drug treatment is Alaska. The following best scoring states are Maine (0.1225), Iowa (0.1108), Hawaii (0.1058), California (0.0975), Arizona (0.0875), Missouri (0.0841), Oklahoma and Oregon (0.0808), Washington (0.0725), and Idaho (0.0541). Average performances are exhibited by Wyoming, Pennsylvania,

Indiana, and New Hampshire. The distribution for drug delivery performance exhibits

considerable negative skewness (-2.363), most likely due to the District of Columbia's

extreme negative value. The difference between D.C. (-0.4759) and the next lowest score of

Rhode Island (-0.1742) is substantial. The Kurtosis statistic of 11.28 indicates a very high

frequency of values around the mean.

For best performances for both alcohol and drug, Hawaii ranks second in alcohol and

fourth in effective drug treatment. California ranks second in alcohol and fifth in drug

treatment. Arizona, too, ranks high in both treatment areas, as does Idaho. Utah and

Kentucky also demonstrate substantially above average performance in both alcohol and

drug. From these findings it may be inferred that Hawaii, California, Arizona, and Idaho

experience the least goal displacement of any other states in the union.

Such similarities between alcohol and drug performances among the poorest performers

also exist. The most apparent state performing badly in both areas is Rhode Island (yet it is

the most health-insured of all states), ranking fourth worst in alcohol and second worst in

drug treatment. A neighbor to Rhode Island, Delaware, displays the next worst performance

in both treatment areas (seventh in alcohol and fifth in drug). Montana, Wisconsin,

Massachusetts, and Maryland also score low in both treatment areas. Ironically, Maryland is

the state that is home to the U.S. Department of Health and Human Service's SAMHSA.

From these results, it is generalized that these six states experience the most elevated levels

of goal displacement.

There are many instances in which a state performs well in one area but poorly in the

other. Surprisingly, the District of Columbia, with its frequent outlying values, performs

above average in the delivery of alcohol treatment but worst in drug treatment. Likewise,

Alabama ranks fifth best in alcohol but third worst in drug. Illinois, too, excels at meeting

the needs of its alcohol dependent populations but struggles with the drug-addicted.   New

York and New Jersey rank slightly above average in alcohol performance but are poor

performers in delivery of drug treatment. Opposite of good alcohol delivery and poor drug

treatment is Alaska, ranking third worst in alcohol but best in drug treatment. North Dakota

and Maine are also exceptional in meeting the needs of their alcohol dependent populations

but fail in the arena of drug treatment.

These findings suggest that the internal and external forces that influence goal

displacement as defined by treatment delivery performance are extremely dynamic and that

the approaches states take to address drug and alcohol problems are vastly different.

Consistency of performance.

The volatility of states' treatment performances as measured by the standard deviations

of their performance means is used to makes inferences about a state's ability to minimize

goal displacement. As goal setting is a repetitive process of "redefinition" and

"reinterpretation" of organizational goals (Thompson and McEwen 1958), volatile

performance can predispose a bureaucracy to goal displacement by hindering the goal

reevaluation processes that are necessary to achieve organizational objectives.

Alcohol – volatility of goal displacement.

For alcohol performance, volatility scores range from high of 0.3655 in South Dakota to

low of 0.0450 in Wisconsin. This indicates that Wisconsin is most consistent of all states in

the delivery of alcohol treatment. However, Wisconsin, renown for its beer producing

heritage, ranks ninth worst in performance, thereby signifying the state's consistently

elevated levels of goal displacement in the delivery of treatment.   South Dakota, conversely,

is the least stable but also exhibits the highest level of goal displacement with respect to

alcohol treatment. Following South Dakota in volatility are Alaska (0.3084), Massachusetts

(0.3067), Kentucky (0.2771), New Mexico (0.26223), Rhode Island (.2550), Utah (0.2462),

and Maine (0.2383). For the most consistent performances, Wisconsin is followed by

California (0.0465), Tennessee (0.0485), Florida (0.0487), Michigan (0.00584), Ohio

(0.0601), New York (0.0646), Ohio (0.0972), Delaware (0.0673), and Mississippi (0.0724).

States whose volatility measures fell near the mean of 0.1545 include Kansas, South

Carolina, Wyoming, Iowa, and West Virginia. Levels of goal displacement in these states

are neither unstable nor stable.

In comparing overall alcohol performance and volatility, Alaska, Rhode Island,

Massachusetts and Maryland reveal both poor performance and high levels of volatility,

whereas Montana, Delaware, and Wisconsin demonstrate relatively consistent poor

performances, California, Idaho, Tennessee, Florida, and Mississippi demonstrate good

stable performances. Top performers Texas and Hawaii show relatively inconsistent levels

of goal displacement.

Drug – volatility of goal displacement.

In terms of volatility of drug treatment delivery, the District of Columbia fares worst

(0.2282), followed by Alaska (0.1843), Rhode Island (0.1798), Alabama (0.1573), Louisiana

(0.1559), West Virginia (0.1439), Connecticut (0.1414), Virginia (0.1369), Kansas (0.1358),

and Hawaii (0.1318). The most stable performances are demonstrated by Illinois and

Maryland (0.036), followed by Texas (0.0309), Missouri (.0358), Georgia (0.0437),

Vermont (0.0509), North Carolina (.0529) Pennsylvania (0.0541), Arkansas (0.0563), and

Idaho (0.0570). States whose volatility measures fell near the mean of 0.0908 included

Minnesota, New Jersey, Kentucky, and South Dakota.

When comparing states' drug performances to their corresponding levels of volatility to

make generalizations about goal displacement, it is apparent that Washington D.C.,

Alabama, Massachusetts, Virginia, Delaware, and Rhode Island experience the most

elevated levels of goal displacement. These six states demonstrate both poor and

inconsistent performances. It is inferred that California, Maine, Iowa, Idaho, and North

Dakota experience the least displacement as these states score relatively high in performance

and above average in consistency. Alaska, although being the best at meeting the needs of

their drug dependent population, ranks the second worst in volatility. Hawaii and Arizona

are very similar. Although these two states rank in the top ten of best performances, they

score near the bottom for worst volatility. Conversely, Maryland and Illinois exhibit highly

consistent but below average performances.

Overall, in evaluating states' delivery performances of alcohol and drug treatment, the

rankings suggest that Hawaii, California, Arizona, and Idaho, by far, experience the least

goal displacement of all the states. As it is difficult to accurately assess overall levels of

goal displacement with respect to volatility measures, by comparing the states among the

four different types of rankings, it can be proposed that Idaho and California experience

minimal goal displacement with the least amount of volatility. The corresponding drug and

alcohol volatility measures for Iowa are both above average, thereby signifying that its

propensity for goal displacement is fairly stable. That Hawaii exhibits relatively extreme

volatility in both drug and alcohol treatment yet still demonstrates exceptional performance

70

in both areas indicates it has mastered techniques to overcome goal displacement. Arizona is also very proficient in overcoming goal displacement as it scores exceptionally well in both types of performance but experiences high volatility in drug and average in alcohol. Therefore all of these aforementioned states experience minimal goal displacement.

In contrast, Rhode Island appears to be the state that experiences the highest level of goal displacement, scoring poorly for both alcohol and drug with extreme levels of volatility. Delaware, Montana, Massachusetts, Wisconsin, and Maryland are also shown to experience elevated levels of goal displacement. These states perform poorly for alcohol and drug treatment with varying levels of volatility. However, for the purposes of inferring goal displacement, the scores for drug treatment performance should be given more weight than alcohol performance because alcohol use is so widely marketed and socially endorsed. Such practices have undoubtedly contributed to our laissez-faire attitude towards its use. The stigma attached to its alcohol abuse does not measure up to that of illicit drugs. America, for the most part and relative to drug abuse, has been anesthetized to the ills and dangers of alcohol dependence and abuse. Conversely, the spread of drug use has generally always been reason for alarm, a call to action to wage war on drug use through stricter enforcement measures.

Bivariate Correlations

In calculating bivariate correlations, multicollinearity ($R = 0.937$) is found between per capita full-time equivalent government employees per 1000 and per capita government payroll per 1000. Therefore, the two are not used together in further multivariate analyses. Two sets of additional variables illustrate bivariate correlations of above $R = 0.700$, percent

distribution of public facilities and of private non-profit facilities (R = -0.701), and percent

distribution of private for-profit and percentage of facilities that receive public funding for

substance abuse treatment programs (-0.727). However, these correlations are not

surprising. Studies have shown that for-profit facilities are financed primarily with private

monies (Wheeler, Fadel, and D'Aunno 1992; Wheeler and Nahra 2000), therefore a

statistically negative correlation between for-profit facilities and percentage of facilities that

receive public funds is expected. Nor is the negative correlation between public and non-

profit facilities a revelation. In inspecting states' distributions of facilities, it appears that

states that have few public facilities have proportionally more non-profit facilities.

Conversely, states that demonstrate a large distribution of public facilities generally have

smaller distributions of non-profits. This suggests the possibility that non-profits enter and

operate in markets where need is great and supply is sparse, or perhaps it is public facilities

that fill the supply gap where there is an absence of non-profits. However, it is most likely

that the first premise holds true.

Numerous statistically significant bivariate correlations at the 0.01 and 0.05 level are

observed. Several of the internal task environment variables are significantly correlated to

one another: both types of block grant funding to government administration, government

administration to FTE government employees and payroll, and the state revenues and

expenditures ratio to government payroll and FTE employees. From this it may be inferred

that associations exist between a bureaucracy's size and spending for self-maintenance.

Among the external task environment variables, positive relationships are shown to exist

between household income and government payroll and administration. Could this imply

that with an increase in household income comes the increased tax revenues that are vital for

growing state bureaucracies? Also noted are the positive correlations between facility

characteristics and the external task variables of populations without insurance and those

receiving public aid, and between AIAN populations and facilities that provide care at no

cost. Positive correlations are revealed between population without insurance and

distribution of public facilities and population receiving public aid to distribution of non-

profits. This suggests that states may offer increased availability of treatment to those

populations that are most in need. Increased treatment access to disadvantaged populations

is also inferred by a positive correlation between percentage of a population receiving public

aid and numbers of clients treated.

Additionally, a positive correlation (.536) between HMO penetration rates and clients in

treatment lends preliminary credence to prior research findings that access to treatment is

increased where managed care is prevalent.

Paired Sample T-Tests

Comparison of T_1 and T_2 Independent Variables

Next, separate paired t-tests analyses were conducted. The first is performed using the T_1

variables with the corresponding T_2 variables to discern if differences exist between the

variables' means for the two time periods. A second t-test analysis was conducted to

distinguish if states' yearly dependence rates, gaps, and performance means for any two

consecutive years differ significantly form one another. The results follow.

From T_1 to T_2, significant differences between the means at the 0.01 level are found in

the following variables: median household income, population without insurance, AIAN

population, distribution of private for-profits, HMO rates, facilities with managed care

73

contracts, block grant expenditures for prevention, government administration, government full-time employees, and government payroll. Of these, all demonstrated mean increases from T_1 to T_2 except HMO penetration rates, facilities with managed care contracts, and full-time government employees. Ironically, there is a statistically significant reduction in full-time government employees but statistically significant increases in government payroll and in government administration. This supports the theory of economic displacement premise of Henry (2001) as to why government continues to grow.

Significant differences between the means at the 0.05 level are observed in population receiving public aid, facilities receiving public funding, and the ratio of state revenues to expenditures. Whereas decreases occurred in numbers of public aid recipients and facilities that receive public funding, the financial resources of states grew between the two time periods. Marginal differences were observed in facilities that treat at no charge (a decrease), and block grant expenditures for treatment (an increase). The remaining variables, infant mortality, distribution of private non-profits and public facilities, treatment gaps for alcohol and drug, clients, and ratio of inpatient to outpatients demonstrate no appreciable differences in their means between the two time periods.

In terms of external task environment, the results suggest that although median income had risen, the percentage of the population that lacked insurance grew, yet there is a decrease in the percentage of population receiving public aid. Populations were less dependent upon public aid, yet more people were going without health care coverage. These changes emphasize the ongoing and growing crisis of lack of affordable health care. However, it is noted that the T_1 and T_2 variables for public aid recipients are for years 2000 and 2003, respectively, and for population without insurance, years 1998-2000 and 2002-

2004, respectively. The significant changes in the means of the two variables may be offset, or perhaps amplified, by the mismatched time periods.

Not only did several of the external task variables change between T_1 and T_2 but also a number of internal task variables. The findings reveal increases in Block Grant funding, growth in the employment expenditures of government, an increase in states' financial resources, but no appreciable differences in the gap between persons in need of, but not in receipt of, alcohol and drug treatment.

Supply and delivery of treatment characteristics demonstrate growth in the for-profit sector and a reduction in facilities that receive public funding, as well as a reduction in those that offer treatment at no cost. The managed care variables indicate a decrease in HMO rates and a reduction in facilities that operate under managed care contracts.

From these results, it appears that the segmentation of the market, as claimed by previous research researchers (Wheeler and Nahra 2000; Wheeler, Fadel, and D'Aunno 1992; Friedmann, Alexander, and D'Aunno 1999; Rodgers and Barnett 2000; and Roman, Ducharme, and Knuden 2006) continues to increase. The findings suggest that although the federal government has increased block grant funding, state government continues to grow, public funding to treatment facilities is decreasing, facilities are less likely to offer free treatment, and the growth of the for-profit sector is thriving. These changes spell out a hazardous equation, pointing toward further market segmentation for substance abuse treatment. Those who will be most in need will likely be least able to obtain treatment.

Comparisons in Treatment Gap, Dependence, and Performance

Another set of paired T-tests were conducted to distinguish if states' yearly dependence rates, treatment gaps, or levels of goal displacement as inferred by their performance means for any two consecutive years for both alcohol and drug differed significantly from one another. Using the drug data the years were paired as follows: 2001 and 2002, 2002 and 2003, 2003 and 2004, 2004 and 2005. The same procedure was performed using the alcohol data, but the paired years 2001 and 2002 were omitted as complete data for 2001 were not available.

No significant differences between the means for any two consecutive years are discerned for alcohol performance, alcohol treatment gaps, or alcohol dependence rates. For alcohol performance, the levels of significance for the four consecutively paired years do not drop beneath 0.997. The significance levels for alcohol treatment gap range from 0.410 to 0.874 and from 0.422 to 0.946 for alcohol dependence and abuse rates.

Similar to alcohol performance, the means for the drug performance for any two consecutive years did not differ significantly. However, for paired years 2001 and 2002 and 2005 and 2006, differences between the means at the .01 level for drug treatment gap are revealed. The mean for the drug treatment gap rose from 1.972 in 2001 to 2.712 in 2002, a considerable and alarming increase. From 2005 to 2006 the nation experienced a significant decrease, from 2.682 to 2.574, in persons reporting needing but not receiving treatment. The nation's drug dependence rates mirrored a similar escalation and decline as unmet treatment needs did for the same two sets of paired years. Drug dependence rates rose from 2.223 to 3.049 from 2001 to 2002, and then dropped from 2.682 to 2.575 from 2005 to 2006. According to the renowned investigation of an Oregonian staff writer (Suo 2004), this

acceleration in dependence and unmet need for treatment could have been in part due to the debilitating and expanding spread of methamphetamine abuse in the early 2000s. Among the remaining paired years for both treatment gap and dependence rates, no appreciable differences are discerned.

Two additional paired t-tests were conducted comparing 2002 to 2005 drug and alcohol performances, but no statistically significant differences were discovered for either type of performance. Although changes occur in many of the independent variables between the two time periods, no appreciable differences occur in states' levels of goal displacement between T_1 and T_2. The paired t-test results for alcohol illustrate the relative stability of alcohol abuse rates as well as for proportions of states' populations that are in need of, but not in receipt of, treatment.

One-Way ANOVA

Drug Performance (Goal Displacement) and Volatility

One-Way Analyses of Variances were conducted to examine regional differences in levels of overall performance and volatility for both alcohol and drugs. In all runs, the Post Hoc test of Least Significant Difference (LSD) is used to test for pairwise comparisons. Because these analyses are regional in scope and because a state's level of goal displacement is inferred by its individual performance measurement and not as a regional phenomenon, the term *goal displacement* will not be used here, but rather *regional performance*.

In examining regions' overall drug performances, Levene's test for homogeneity of variance indicates that the variances for performance for each of the eight U.S. regions differ

significantly (p = .036). The regional standard deviations range from a high of 0.1762 in the

Mid East (DE, D.C. , MD, NJ, NY, and PA) to a low of 0.0221 in the Great Lakes (IL, IN,

MI, OH, and WI). Significant differences were found to exist within the regional

comparisons (p = 0.001). Of the six years, the Mid East states exhibit the poorest drug

performance, followed by the Great Lakes and New England. To which extent the

exceptionally poor performances of District of Columbia negatively contributed to the

region as a whole is confirmed by excluding D.C. and re-running the analysis. Upon doing

so, Levene's test statistic is no longer significant (p = 0.174); however, the ANOVA model

remained significant at the 0.01 level.   Although the exclusion of D.C. still results in the

Mid East as having the poorest regional performance, the mean decreased from -0.1253 to a

more modest -0.055 and the standard deviation dropped from 0.1762 to 0.0440. This

comparison illustrates how the negative and highly volatile performance of D.C. influences

the region's results.

  With the inclusion of D.C., pairwise comparisons indicate that many of statistically

significant differences at the .01 level are attributable to the poor performance of the Mid

East region. The difference between the two worst performing regions, the Mid East and the

Great Lakes, is still fairly substantial with a level of significance of 0.055. The Far West

(AK, CA, HI, NV, OR, and WA) demonstrate the best performance of all regions, followed

by the Southwest (AZ, NM, OK, and TX) and the Plains (IA, KS, MN, MO, NE, ND, and

SD). These three regions exhibit no statistically significant differences among one another.

  Excluding D.C., pairwise comparisons illustrate that the majority of statistically

significant differences at the .01 are attributed to the exceptional performance of the Far

West.

For volatility, Levene's test for homogeneity of variance reveals that the variances for consistency of drug treatment delivery for each of the eight U.S. regions do not differ significantly (p = 0.350), nor do significant differences exist within the regional comparisons (p = 0.716).

Alcohol Performance (Goal Displacement) and Volatility

Levene's test for homogeneity of variance indicates a marginal difference in variances for overall alcohol performance for each of the eight U.S. regions (p = .057). The most extreme variation is witnessed by the Rocky Mountains (standard deviation = 0.1968) and the least by the Southeast (0.0699). No significant differences are found to exist within the regional comparisons (p = 0.091) and 2006 (p = 0.03), thus confirming the relative stability of the states' response to alcohol problems.

No significant differences in variances for regions' consistencies for delivery were discerned (p = 0.775) or for within regional comparisons (p = 0.250).

Linear Regression

Goal Displacement in the Delivery of Drug Treatment

Table 2 presents the results for the original linear regression model using the T_1 data with the Enter Method to explain states' level of goal displacement with respect to its delivery of drug treatment. Two external task environment variables (IMR and AIAN) are significant at the 0.05 level as well as one facility supply variable (NoChrg) that are hypothesized to predict a state's delivery of substance abuse treatment. Only the internal task environment variable of GAPAlc is significant. Marginally significant are GAPDrg and

PNP. The model, statistically significant at the .001 level, explains 86% of the variance in states' levels of goal displacement.

The relationships of three of the six significant or marginally significant independent variables to goal displacement support the stated hypotheses. Two are contradictory. (The reader is reminded that a higher performance score is associated with a lower level of goal displacement; therefore, the interpretation of the sign of the coefficients is inverse.) States that have higher rates of IMR exhibit greater levels of goal displacement as hypothesized. Likewise, as states' alcohol treatment gaps increase, so too do their levels of goal displacement. But the opposite effect is shown for the predictor of GAPDrg. Increases in states' drug treatment gaps are associated with decreases in goal displacement. From this finding it may be presumed that states respond more to their drug abuse problems than to alcohol abuse. In support of the hypothesis, greater levels of goal displacement are also present in states with greater proportions of facilities that treat at no charge. Contrary to the stated hypotheses, increases in AIAN populations are associated with decreased levels of goal displacement. This implies that many states with high AIAN populations are reasonably adequate in meeting the drug treatment needs of their citizens. The ranking table presented in Appendix IV reaffirms this finding. Alaska, Arizona, North Dakota, and New Mexico, states with large percentages of AIAN, exhibit minimal levels of goal displacement. Although no hypothesis is formed regarding states' distribution of non-profit facilities, the table below reports that increases in non-profits are associated with lower levels of goal displacement.   The results imply that non-profits may be somewhat instrumental in helping states meet the treatment needs of those requiring care, thus in support of findings (Heinrich

and Fournier 2004, 2005) that non-profits were more effective than public and for-profits in reducing the number of drugs patients used after completion of treatment.

Table 2 – *Regression results of drug performance w/o volatility measure*

	Unstand. Coeff	Stand. Coeff	T	Sig.
Constant	-.020		-.049	.961
MHHInc	-3.95E-006	-.282	-1.737	.094
IMR	-.020	-.315	-2.768	.010
AIAN	.021	.660	3.412	.002
PNP	.007	1.182	1.993	.057
NoChrg	-.004	-.553	-3.584	.001
GAPAlc	-.035	-.397	-3.932	.001
GAPDrg	.075	.249	2.001	.056
R	.928			
R Sq.	.861			
F Ratio	6.699			
Sig.	.000			

*dependent variable – OvAllDRG w/o ConsistDRG

Consistency in the delivery of drug treatment.

PerfDRG is removed as the dependent variable and replaced by ConsistDRG to examine the impact the same predictor variables have on a state's goal displacement volatility. For the sake of brevity and because of the model's lack of significance, a table of results is not provided. As the model is not significant ($p = 0.116$), those variables that contribute explanatory power to the goal displacement model do not explain consistency of goal displacement or lack thereof. However, three different variables are significant at the .05 level: GOVTAdm ($p = .024$), GOVTPyrl ($p = .043$)[11], and MMBenf ($p = .025$). What is interesting to note is that relationships of GOVTAdm and GOVTPyrl to volatility of goal displacement are positive. As a state's payroll and per capita administration increases, so

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[11] Additional regressions were performed conducted substituting FTEEmpl for GOVTPyrl to discern if the replacement would alter the results but it did not.

does its volatility. Although the model is not significant, this finding suggests that the size of government, as measured by administration and payroll expenditures, inversely impacts the stability necessary to achieve the state objective of providing effective treatment. Looking at the model overall, it is clear that the variables that influence a state's level of goal displacement do not influence its stability or volatility.

Referring to Thompson and McEwen's (1958) position that volatility impedes the goal redefining and reinterpretation processes that are critical to goal attainment (a state adequately meeting the needs of its abusing and dependent populations), the drug performance measurement is regressed upon the same set of independent variables, but the dependent variable ConsistDrg is entered as an additional independent variable. It is believed that a state's volatility of delivery should impact level of goal displacement itself in a negative manner. Table 3 below illustrates this supposition to be true. The revised model, significant at the 0.001 level, explains an additional two percent (88%) of the variance in states' levels of goal displacement. ConsistDrg is significant at $p = 0.049$ and the nature of the correlation is negative as expected. As a state's volatility increases, goal displacement increases. Of the six variables that were found to be significant or marginally significant in the original regression run, five remain significant and the directions of all the relationships remain unchanged. The 0.01 significance levels of the variables IMR, AIAN, NoChrg, and GAPAlc remain unaffected, and the variable GAPDrg contributes slightly more to the model. The variable CLIENTS become marginally significant where it had not been in the prior run, and its positive relationship to goal displacement is as hypothesized. Another change that occurs is the increase in the explanatory contribution of MHHInc. Significant only at $p = .094$ in the first model, the variable becomes statistically significant

in the second (p = .050), but the relationship is contrary to what is hypothesized. The model indicates that as a state's median household income increases, so too does its level of goal displacement.

Table 3 – *Regression results of drug performance w/volatility measure*

	Unstand. Coeff	Stand. Coeff	t	Sig.
Constant	.207		.514	.612
MHHInc	-4.44E-006	-.317	-2.058	.050
IMR	-.021	-.343	-3.173	.004
AIAN	.019	.582	3.126	.004
PNP	.007	1.115	2.119	.044
NoChrg	-.004	-.477	-3.185	.004
CLIENTS	-000	-.307	-1.875	.073
GOVTPryl	1.13E-006	.269	1.907	.068
GAPAlc	-.033	-.379	-3.969	.001
GAPDrg	.078	.261	2.219	.036
ConsistDRG	-.504	-.226	-2.073	.049
R	.939			
R Sq.	.881			
F Ratio	7.418			
Sig.	.000			

*dependent variable – OvAllDRG w/ConsistDRG

Goal Displacement and Consistency in the Delivery of Alcohol Treatment

The same independent variables that were used in the Drug Delivery model are used to assess states' levels of goal displacement with respect to the delivery of alcohol treatment. As Table 4 reports, the model is significant at the 0.001 level, explaining ninety-one percent of the variance in states' levels of alcohol goal displacement. Only two variables, GAPAlc and PNP, that are significant in the drug goal displacement model offer explanatory power to the alcohol model. The directions of the relationships remain unchanged, but whereas the significance level of GAPAlc remains relatively the same, PNP demonstrates a greater level

83

of significance in the alcohol model. This suggests that non-profits are more influential in diverting goal displacement in alcohol treatment than in drug. Several other independent variables not significant in the drug model emerged as significant in this model, thus signifying that variables that explain states' level of drug goal displacement are not instrumental in explaining it with respect to delivery of alcohol treatment. One external task environment variable, W/OIns, contributes to alcohol goal displacement, but the relationship is contrary to what is hypothesized. Increases in states' uninsured populations are associated with decreased goal displacement. Could this suggest that states are responding to the alcohol treatment needs of their uninsured?

Several treatment supply characteristics also are significant in the model, the distributions of all types of facilities (PNP, PFP, and PUB) and clients in treatment. Increases in all facility types are associated with decreased goal displacement. This finding contradicts the hypothesis regarding a state's distribution of public facilities. The for-profit facility hypothesis is supported, but it is noted that the significance level of PUB is slightly more significant than that of PFP. However, from a rationale perspective, increases in all three types of facilities should be associated with decreased levels of goal displacement because more unmet treatment is being satisfied by the increased distributions of all facilities. As hypothesized, increases in the number of clients in treatment are also associated with increased levels of goal displacement.

In this model, the internal task environment variable of GOVTAdm is found to be significant at the 0.05 level; however, the direction of the relationship is opposite to what is hypothesized. The results suggest that as administration costs increase, goal displacement decreases, thereby implying that government is fulfilling its task of meeting the needs of

their alcohol-dependent populations. Additionally, the presence of any one of three types of

parity laws is also associated with increased levels of goal displacement, but it is noted that

the most basic of all laws, one which offers the least amount of parity, is the more

significant.

Table 4 – *Regression results of alcohol*
performance w/o volatility measure

	Unstand. Coeff	Stand. Coeff	t	Sig.
Constant	-1.086		-1.727	.096
W/OIns	.021	.591	3.943	.001
PNP	.014	1.729	2.58	.016
PFP	.013	1.144	2.248	.033
PUB	.014	1.293	2.670	.013
CLIENTS	.000	-.546	-2.795	.010
GOVTAdm	.000	.358	2.064	.049
PARITY	-.150	-.425	-2.557	.017
MMBenf	-.100	-.374	-2.251	.033
MandOF	-.117	-.429	-2.698	.012
GAPAlc	-.026	-.220	-1.930	.065
R	.907			
R Sq.	.822			
F Ratio	5.013			
Sig.	.000			

*dependent variable – OvAllAlc w/o ConsistALC

Repeating the dependent variable substitution that had been performed for the drug

model, the volatility measure, ConsistAlc, is regressed on the same set of independent

variables. But as the model is not found to be significant, the table is omitted. The only

variable found to be significant below the .05 is IMR (0.032) and its positive relationship to

goal displacement is as hypothesized. The results of both alcohol and drug volatility models

suggest that neither set of independent variables explains the presence or absence of goal

displacement volatility.

In the next model, OvAllAlc is again regressed on the T_2 independent variable but with the addition of ConsistAlc as an independent variable. The results, presented in Table 5, are fairly similar to the alcohol displacement model that includes the volatility measure. The significance levels of the variables that offer explanatory power in the first model remain relatively unchanged except for that of GAPAlc and GOVTAdm, both of which lose their prior marginal significances in attendance of ConsistAlc. It is interesting to note, however, that the alcohol volatility measure is not significant in this model ($p = 0.196$), but when the drug volatility measure is included in the drug goal displacement model, it contributes explanatory power ($p = 0.049$). This finding suggests that volatility impedes the effective delivery of drug treatment, causing greater levels of goal displacement significantly more so than in the delivery of alcohol treatment.

Table 5 – *Regression results of alcohol performance w/volatility measure*

	Unstand. Coeff	Stand. Coeff	t	Sig.
Constant	-1.078		-1.740	.094
W/OIns	.018	.526	3.376	.002
PNP	.014	1.801	2.717	.012
PFP	.015	1.295	2.517	.019
PUB	.015	1.387	2.874	.008
CLIENTS	.000	-.488	-2.467	.021
GOVTAdm	.000	.323	1.867	.074
PARITY	-.148	-.417	-2.548	.017
MMBenf	-.098	-.368	-2.248	.034
MandOF	-.120	-.43	-2.790	.010
GAPAlc	-.023	-.195	-1.709	.100
R	.913			
R Sq.	.834			
F Ratio	5.024			
Sig.	.000			

*dependent variable – OvAllAlc w/ConsistAlc

Comparing Results from 2002 to 2005 Findings

    Goal displacement in the delivery of drug treatment.

A second set of data, dated three years later than the original set for the independent variables, was collected from the same sources and analyzed using linear regression. Table 6 below presents both sets of results for goal displacement with respect to the delivery of drug treatment. For illustrative purposes, all variables that are statistically significant or marginally significant in both models are included.

Table 6 – *Comparison of T_1 and T_2 results of*
drug performance w/o volatility measure

	T_1	T_1	T_1		T_2	T_2	T_2
	Unstand. Coeff	t	Sig.		Unstand. Coeff	t	Sig.
Constant	-.020	-.049	.961		-.656	-1.304	.204
MHHInc	-3.95E-006	-1.737	.094		-4.36E-006	-1.748	.092
W/OIns	.002	.547	.589		.010	1.984	.058
IMR	-.020	-2.768	.010		-.011	-1.140	.265
AIAN	.021	3.412	.002		.010	1.391	.176
PNP	.007	1.993	.057		.006	1.495	.147
NoChrg	-.004	-3.584	.001		-.002	-2.119	.044
GOVTPryl	6.55E-007	1.133	.268		1.32E-006	2.029	.053
REV/EXP	.048	1.015	.319		.224	2.049	.051
GAPAlc	-.035	-3.932	.001		.001	.057	.955
GAPDrg	.075	2.001	.056		.078	1.852	.075
R	.928				.902		
R Sq.	.861				.813		
F Ratio	6.699				4.711		
Sig.	.000				.000		

    * dependent variable – OvAllDrg w/o ConsistDRG

As the table reports, the T_2 model remains significant, but the powers of several independent variables alter. Many that are not statistically significant in the T_1 Model become marginally significant in the second model: W/OIns, GOVTPyrl, and REV/EXP.

87

However, the relationships of W/OIns and GOVTPryl to level of goal displacement contradict what is hypothesized. Increases in each of these variables are associated with reduced levels of goal displacement. The relationship of states' financial position (REV/EXP) to displacement is as predicted. As state wealth increases, displacement decreases.

Just as these variables gain explanatory power in the T_2 model, several variables lose their significance in the T_2 model: IMR, AIAN, PNP, and GAPAlc. The internal task environment variable of GAPAlc drastically loses its prior significance of $p = 0.001$ that it exhibited in the T_1 model. These four variables no longer contribute to a state's level of goal displacement. GAPDrg and MHHInc remain relatively unchanged and the contribution of NoChrg to the model weakens. The changes between T_1 and T_2 suggest that states are responding to the drug abuse problem. More people are going uninsured, yet the variable's correlation to goal displacement is negative. As states' employment payrolls, state coffers, and drug treatment gaps increase, goal displacement is also found to decrease.   If this premise is in fact true, what factors have fueled state governments' increased responses to substance abuse treatment?

The peculiarity of this model is the changes in GAPAlc. In both models, increases in GAPDrg are shown to minimize drug goal displacement. This implies that states recognize the needs of their drug abusing populations. In the T_1 model, as GAPAlc increases, goal displacement increases. However, in the T_2 model, GAPAlc, having lost its significance, has no effect yet drug goal displacement. This change in GAPAlc suggests that in responding to unmet drug treatment needs, states are better at serving the alcohol abusing populations because the two addictions are generally mutually inclusive.

The second variable that exhibits a marginal level significance in the T_2 model where it did not in the first is REV/EXP. Its relationship to goal displacement supports the hypothesis that states with greater financial resources are in better positions to divert goal displacement and therefore exhibit lower levels of displacement.

Consistency in the delivery of drug treatment.

Regressing Consistency of Drug Performance on the T_2 independent variables yields a lower level of significance ($p = .173$) for the overall model than the T_1 ($p = .116$). Only one variable, GOVTAdm, is found to be marginally significant ($p = .074$). It is evident that volatility of drug goal displacement remains largely unexplained by the T_2 independent variables.

The goal displacement model when OvAllDrg is regressed on the T_2 independent variables is found to be significant when the volatility measure is included in the goal displacement model as was found in the T_1 model.

Incorporating the consistency measurement finds the T_2 model slightly less significant than the T_1 model, but the explanatory powers of several variables are altered as illustrated by Table 7 below.

Table 7 - *Comparison of T_1 and T_2 results of*
drug performance w/volatility measure

	T_1	T_1	T_1		T_2	T_2	T_2
	Unstand. Coeff	t	Sig.		Unstand. Coeff	t	Sig.
Constant	.207	.514	.612		-.401	-.797	.433
MHHInc	-4.44E-006	-2.058	.050		-4.44E-006	-1.855	.075
IMR	-.021	-3.173	.004		-.012	-1.370	.183
AIAN	.019	3.126	.004		.010	1.502	.146
PNP	.007	2.119	.044		.005	1.316	.200
NoChrg	-.004	-3.185	.004		-.002	2.073	.049
CLIENTS	.000	-1.875	.073		-4.31E-005	-.637	.530
GOVTPryl	1.13E-006	1.907	.068		1.43E-006	2.272	.032
GAPAlc	-.033	-3.969	.001		.001	.066	.948
REV/EXP	.029	.623	.539		.200	1.885	.071
GAPDrg	.078	2.219	.036		.066	1.592	.124
ConsistDRG	-.504	-2.073	.049		-.503	-1.808	.083
R	.939				.914		
R Sq.	.881				.835		
F Ratio	7.418				5.048		
Sig.	.000				.000		

*dependent variable – OvAllDrg w/ ConsistDRG

As results illustrate, several external task environment variables (MHHInc, IMR, and AIAN) and the facility characteristic variables (PNP, NoChrg, and CLIENTS) lose their statistical significance in the T_2 model and the two internal task environment variables of GOVTPyrl and REV/EXP gain explanatory power. Similar to the original T_2 model without the inclusion of the consistency measure, GAPAlc drastically loses its prior significance of p = 0.001 in the T_1 model. Again, what explains drug goal displacement among the states in 2002 does not explain the phenomenon as it occurs in 2005. Comparison of the two sets of results indicate that from T_1 to T_2, internal task environment variables of bureaucracy have surpassed external task environment and facility characteristic variables in explaining states' levels of goal displacement.

Comparing Results from 2002 to 2005 Findings

   Goal displacement in the delivery of alcohol treatment.

   Table 8 reports the comparison between 2002 and 2005 model of goal displacement

within the realm of alcohol treatment. As the results illustrate, the 2005 model is slightly

less significant than the 2002 model. Similar to the earlier model are the predictive factors

of W/OIns and distributions of all facility types, although the explanatory powers of the

three facility types become more prominent. This may be reflective of an increased

importance of treatment availability. GAPAlc and GOVTAdm are observed to lose

significance as do the three types of parity laws. The mandated offering law remains

marginally significant, and its association to goal displacement is positive, which is

justifiable on the grounds that it is the most rudimentary of the three laws and, therefore,

should have a greater link to goal displacement than the two other types, which are

presumed to offer greater access to healthcare. In the later model, clients in treatment are

also found to be less of a predictor of displacement. Interestingly, GOVTAdm loses its

significance in the second model, but it is replaced by the marginal significance of

GOVTPyrl in the latter. However, both of the government variables' relationships to goal

displacement contradict what is hypothesized. The results indicate that increases in

government payroll and administration are found among states with lower levels of goal

displacement, thereby suggesting that bigger government may be better at meeting the needs

of their uninsured, substance-abusing populations through the availability of public

facilities. Another difference between T_1 and T_2 is the effect of MHHInc. Not significant in

the first model, a marginal significance of 0.060 is reported in the latter, but again, the

results contradict the hypothesis that lower levels of goal displacement would be present in states with higher median household incomes.

Table 8 - *Comparison of T_1 and T_2 results of alcohol performance w/o volatility measure*

	T_1	T_1	T_1	T_2	T_2	T_2
	Unstand. Coeffic	t	Sig.	Unstand. Coeffic	t	Sig.
Constant	-1.086	-1.727	.096	-1.550	-1.939	.063
MHHInc	-6.01E-006	-.865	.395	-7.78E-006	-1.964	.060
W/OIns	.021	3.943	.001	.029	3.818	.001
PNP	.014	2.580	.016	.019	3.062	.005
PFP	.013	2.248	.033	.018	2.655	.013
PUB	.014	2.670	.013	.019	2.920	.007
CLIENTS	.000	-2.795	.010	.000	-2.084	.047
GOVTAdm	.000	2.064	.049	9.05E-005	.494	.625
GOVTPyrl	4.31E-007	.489	.629	1.99E-006	1.922	.066
PARITY	-.150	-2.557	.017	-.108	-1.617	.118
MMBenf	-.100	-2.251	.033	-.075	-1.383	.179
MANOf	-.117	-2.698	.012	-.106	-1.867	.073
GAPAlc	-.026	-1.930	.065	-.017	-.995	.329
R	.907			.861		
R Sq.	.822			.742		
F	5.013			3.109		
Sig.	.000			.003		

*dependent variable – OvAllAlc w/o ConsistALC

Similar to findings reported in the T_1 model, regressing ConsistALC on the independent variables in T_2 model yield no statistical significance (0.409). Because of this result, no further elaboration will be provided although it can be inferred that for both T_1 and T_2 models for both alcohol and drugs, no statistically significant relationship is found between the sets of variables and volatility of goal displacement.

Table 9 reports the comparison between the T_1 and T_2 models where performance (level of goal displacement) is regressed on the independent variables and the consistency measurement is included.

Table 9 - *Comparison of T_1 and T_2 results of*

alcohol performance w/volatility measure

	T_1	T_1	T_1	T_2	T_2	T_2
	Unstand. Coeffic	t	Sig.	Unstand. Coeffic	t	Sig.
Constant	-1.078	-1.740	.094	-1.727	-2.145	.042
MHHInc	-3.25E-006	-.948	.352	-7.31E-006	-1.853	.076
W/OIns	.018	3.376	.002	.026	3.264	.003
PNP	.014	2.717	.012	.020	3.216	.004
PFP	.015	2.517	.019	.020	2.880	.008
PUB	.015	2.874	.008	.020	3.081	.005
CLIENTS	.000	-2.467	.021	.000	-1.716	.099
GOVTAdm	.000	1.867	.074	5.71E-005	.312	.758
GOVTPyrl	6.90E-006	.774	.446	2.03E-006	1.980	.059
PARITY	-.148	-2.548	.017	-.100	-1.507	.144
MMBenf	-.098	-2.248	.034	-.068	-1.247	.224
MANOf	-.120	-2.790	.010	-.100	-1.762	.090
ConsistALC	-.262	-1.328	.196	-.688	-1.219	.234
R	.913			.870		
R Sq.	.834			.756		
F	5.024			3.10		
Sig.	.000			.003		

*dependent variable – OvAllALC w/ConsistALC

As the Table 9 demonstrates, the amount of variance explained in goal displacement by the independent variables remained relatively unchanged from 2002 to 2005, and the effects each variable has on goal displacement are very similar to the results presented in the previous table that compared the difference between T_1 and T_2 without the inclusion of the consistency measure. The variable MHHInc becomes marginally significant and W/OIns remains relatively the same. Whereas the distributions of each of the facility types gain significance, the three types of parity laws lose importance. The former explanatory power of CLIENT is diminished and the marginal significance of GOVTAdm is replaced by the now-present marginal significance of GOVTPyrl. Essentially, the differences between the T_1 and T_2 models, which include ConsistALC, are no different than the differences between

the T_1 and T_2 models that exclude ConsistALC. This implies that volatility does not predict

goal displacement in either of the two time periods under study.

Chapter 6 – Discussion and Conclusion

The thesis research indicates that a mix of internal and external environmental characteristics impacts states' levels of goal displacement as measured by state delivery performances. This study also supports existing theory that the internal and external environment of an organization does not remain static but is fluid. Each state possesses unique internal and external task demand characteristics that not only affect the success or failure in meeting the needs of its addicted populations but that also change over time. The findings suggest that considerable differences exist between the goal displacement that occurs in the delivery of alcohol treatment and that which occurs in drug treatment. The environmental factors that are found to affect goal displacement in drug treatment delivery are not the same as those that influence it with respect to alcohol, and whereas the delivery of alcohol treatment is relatively stable, drug is highly volatile.

The examination of the changes that took place between the two time periods suggests that household wealth is growing, yet more citizens are finding themselves without health insurance coverage. This, coupled with the findings that states' distribution of private for-profit facilities is increasing, managed care rolls are declining, and fewer facilities are receiving public funds for treatment, point to decreasing access to substance abuse treatment for those that are likely most in need, thus placing an even greater burden on states to provide adequate treatment. The internal task environment of states is dynamic, undergoing changes with increases in financial resources, increased federal funding for prevention activities, and an overall growth in government payrolls and administration expenditures. However, no statistically significant changes in either type of states' levels of goal displacement have occurred between the two time periods or between any two consecutive

years.   This suggests that although states face increased external pressures to serve their addicted populations, no greater or lesser levels of goal displacement have taken place. Contrary to the internal task environment hypotheses, on administrative and financial levels, the findings suggest that changes to states' internal environments have improved their positions to deliver effective treatment and, hence, minimize their levels of goal displacement.

Not only are levels of goal displacement found to be stable, but treatment gaps and dependence rates for alcohol are as well. The only anomalies revealed for drug dependence rates and treatment gaps took place between 2001 and 2002. Rates for drug dependence rose sharply between those two years as did percentages of persons in need of, but not in receipt of, drug treatment, but these two aberrations are explained in the paragraphs that follow in which limitations of the study are discussed.

Although performance measures remain relatively stable for the years examined, regional differences are discerned among states' performances. More variation in goal displacement occurs within and between regions for drug delivery treatment than for alcohol, but variation in volatility for the two types of goal displacement within and between regions is not statistically significant.

Hawaii, California, Arizona, Idaho, Utah, and Kentucky are identified as states that experience minimal level of goal displacement in their drug and alcohol delivery systems. Rhode Island, Delaware, Montana, Wisconsin, Massachusetts, and Maryland are recognized as having elevated levels of goal displacement.   A visual evaluation of determining if the value of each variable is above or below the national mean reveals that the most distinct difference between the two sets of states occur with respect to proportion of the population

96

that is uninsured. Of the states that exhibit the least displacement, all but Hawaii have rates

that are average or above that of the mean. However, all but one of the displacement-prone

states (Montana) reveal low rates of uninsured, four which are located in the northeast, a

region that is traditionally recognized as having a relatively high standard of living. Rhode

Island, Delaware, Maryland, and Massachusetts all experience above-average median

household incomes and insured populations, but as to why the region cannot adequately

meet the needs of their substance abusing is still open to speculation. That states' responses

to their alcohol and drug problems are different as are the factors that influence the

corresponding levels of goal displacement prevents one from making inferences about

differences between the two sets of states.

The linear regression analyses reveal that although the two sets of independent variables

(T_1 and T_2) predict states' levels of goal displacement with respect to both the delivery of

drug and alcohol treatment, they do not predict states' stability or instability of goal

displacement levels. Although the purpose of this research is not to explain volatility but

rather goal displacement, the findings raise new questions as to what types of internal and

external environmental factors contribute to volatility, thus opening the door to further

investigations. As a direction, Wolf (1993) established negative correlations between public

agency volatility to political autonomy and leadership support.

Of the ten regression analyses, eight are found to be significant at either the 0.001 or 0.01

levels. The analyses do reveal a striking difference between the alcohol and drug categories

of goal displacement. Among the external task environment variables, the differences

suggest that health insurance is a factor in explaining alcohol goal displacement but not for

drug, and the predictive capability of the variable is contrary to what is hypothesized.

Minimal levels of goal displacement are found among states with increases in uninsured

populations, thus implying that states respond to the needs of their populations. Medium

household income, of marginal significance in several models, is found to influence goal

displacement in both alcohol and drug delivery; however, its relationship contradicts what is

hypothesized, but no valid explanation for this can be provided. In 2002 but not in 2005,

infant morality rates and AIAN populations and are found to impact goal displacement with

respect to drug treatment but not alcohol. The findings of the AIAN variable suggest that

the absence or presence of the indigenous populations does not impact goal displacement in

the delivery of alcohol. Yet in the realm of drug treatment, lower levels of displacement are

revealed among states with larger AIAN populations in 2002, but by 2005 the strength of the

relationship is greatly diminished. Historically, alcohol has been the preferred substance of

abuse among the AIAN communities, but it is very likely that America's growing meth and

prescription drug epidemics have leveled the playing field, making all ethnic groups equally

vulnerable to illicit drug abuse.

Differences between alcohol and drug treatment goal displacement are also evident

among the internal task environment variables. Government administration does not predict

goal displacement in drug treatment but does so for alcohol but only in 2002. Government

payroll is found to be of marginal significance, partially explaining the phenomenon for both

alcohol and drug treatment delivery, but the relationships of both bureaucracy variables to

goal displacement suggest that increases in the expenditures of governments are contributing

to reduced levels of goal displacement. The results also imply that the financial resources of

states have no effect on displacement in alcohol treatment but are conducive to reduced

levels of goal displacement in the delivery of drug treatment. Again, because of our nation's

"war on drugs" mentality yet laissez-faire attitude toward alcohol abuse, and because of the financial costs that are incurred in combating drug abuse, these two findings come as no surprise.

The impacts of internal task variables of alcohol and drug treatment gaps on goal displacement are also distinct. Neither type of treatment gap has a significant effect on goal displacement in the delivery of alcohol treatment yet both are for drug treatment, but the effects are different between the goal displacement that is experienced in drug treatment and that of alcohol, as well as changes that take place between the two time periods. Alcohol treatment gaps are found to maximize and drug treatment gaps to minimize goal displacement in the delivery of drug treatment in 2002, but not in 2005. As alluded to earlier, the reduced explanatory power that both treatment gaps have on the level of drug goal displacement, particularly when volatility is considered as a factor, suggests that in responding to unmet drug treatment needs, states are better at serving the alcohol abusing populations because the two addictions are generally mutually inclusive.

Perhaps the most dissimilar difference between alcohol and drug goal displacement is found among the facility characteristic variables. Distributions of types of facilities do not influence goal displacement in the delivery of drug treatment but do so in alcohol treatment and in a negative manner. The relationship between free treatment and a state's level of drug goal displacement is also positive, but no such relationship is found with regards to alcohol treatment. Likewise, increases in numbers of clients is conducive to goal displacement in alcohol treatment but not so in drug treatment, thus signaling the pervasiveness of alcohol abuse and the burden it puts upon health care systems.

For parity laws, all three types have a positive connection to goal displacement but only in the delivery of alcohol treatment and not drug and, oddly, only for 2002 but not 2005. The difference between the two time periods with respect to alcohol treatment could be attributed to changes that took place in states' parity laws, but because this research does not specify the year to which a state adopted or made changes to its current laws, this difference is not within the realm of explanation. The correlation between performance of alcohol treatment and not of drug treatment may again be explained by the commonness of alcohol abuse. As noted earlier in Chapter 3, parity laws vary from state to state. Some states have laws that allow for treatment of alcoholism but not all types of substance abuse. It can be assumed that the least liberal laws will exclude illicit drug abuse. That the most rudimentary of parity laws, mandated offering, was a stronger contributor to goal displacement than the more comprehensive laws should be of concern to those state that have it.

Several variables are shown to have no effect on goal displacement. The two managed care variables of percentage of facilities that operate under managed care contracts and HMO penetration rates are not contributory to any of the models. The implication that managed care has no effect on treatment delivery, and hence on goal displacement, is noteworthy because previous research has demonstrated managed care to be this magnificent tool that increases access to health care, which, therefore, should improve the effectiveness of treatment. However, as was postulated earlier, increased presence of managed care does not necessarily imply effectiveness, and here it is shown to have no effect on level of goal displacement.

Although federal monies to the states have increased, the effects of block grant funding for either prevention or treatment on goal displacement remain unchanged. Again, as

suggested earlier, to throw money at a complex social problem such as substance abuse will not necessarily result in its improvement. That the funding is federal grant monies, essentially "free money" to the states, and that the discretionary guidelines to how it is to be expended was not researched, the ways to which it is specifically used is unknown.

The last three variables that are not foretelling of goal displacement are proportion of states' populations that receive public aid, ratio of inpatient to outpatient treatment, and proportion of facilities that receive public funding.   The resulting nonsignificance of public aid is surprising, given that all of the other external task environment variables provide some level of contributory power to one or more of the regression models. One would think that if the proportion of a state's uninsured population and infant mortality rate affect goal displacement, proportion of public aid recipients would also, but it does not.

For alcohol, the differences between the T_1 and T_2 models that include the volatility measure are no different than the differences between the T_1 and T_2 models that exclude it. Volatility does not predict goal displacement in either two of the years under study. This reaffirms the stability of alcohol treatment delivery. However, the same is not found for the same comparisons for goal displacement in the delivery of drug treatment. Percentage of population uninsured has a significant but negative effect on goal displacement in 2005 where it had not been in 2002, but it is not a factor in either model when volatility is considered as predictor. Similarly, numbers of clients treated has a positive effect on displacement in the presence of volatility in 2002 that it does not have in 2005. Overall, the findings indicate that states appear to be responding to the needs of their populations and the pervasiveness of drug treatment volatility is diminishing.

A critical limitation of this study is use of state-level financial and employment data to infer a state agency's internal task environment. As state agencies often operate independently of one another, it is faulty to assume that such broad state-level characteristics have a direct impact upon a specific agency's level of goal displacement. As a bureaucratic organization, does a state's Department of Mental Health experience goal displacement? It is very probable. However, measuring the phenomenon, as discussed in the beginnings of this piece of research, is extremely difficult. More appropriate indicators of internal task environment are the organizational structure of the agency itself, its financial resources, and employment expenditures.

It is also erroneous to infer a state's level of goal displacement based on its overall performance of meeting the needs of its addicted populations. Although a state is responsible for providing adequate health services to its populations, a whole host of factors can impact performance in any one type of treatment facility, whether that be the non-profit, for-profit, or the public sector. To attribute goal displacement to a sole sector, such as the public sector as is implicitly hypothesized in this piece of research, when all contribute to a state's performance, and the possibility that non-profit and for-profits may experience it, is flawed.

Interpretation of the findings must be made with caution. SAMHSA surveys are voluntary in nature and point prevalent, providing a snapshot of a state's substance abuse factors at one moment in time. As independent entities, not all states have similar substance abuse treatment systems, and those systems may change over time as well as reporting requirements. Additionally, SAMHSA's National Survey on Drug Use and Health data are estimated and incorporate, as a base, decennial census data for population counts totals.

Changes in survey methods have also been reported (DHS 2006). SAMHSA reported that in 2002 it began providing a thirty dollar financial incentive to respondents of its National Survey on Drug Use and Health, and that this change was responsible for the substantial differences between 2001 and 2002 prevalence rates, therefore making comparisons ineffectual. However, because the incentive resulted in increases in all prevalence rates in 2001, treatment gaps and dependence rates alike, and because both rates were used to construct the final performance measurement of each state, this methodological defect did not weaken any findings as they related to goal displacement.

Regardless of whether or not future research will unquestionably uncover the extent to which goal displacement occurs within states' publicly operated treatment systems is not of utmost consideration here. What is important is that the findings denote the verity that certain internal and external task environment factors are predictive of states' success or failure in meeting the needs of their substance abusing populations, and that the factors that influence the effective or ineffective delivery of treatment are vastly different for alcohol than they are for drug. Although rarely a number one priority on a state's administrative agenda, addressing illicit drug use and abuse is much more of a policy-driven issue than for it is for alcohol. A website article addressing states' drug policies (www.drugstrategies.org) claimed that some states have made substance abuse a primary concern, as did New Mexico's Governor Johnson in 2001 in the reformation of drug policies. In 2001 Idaho passed legislation that created new funding to expand treatment and rehabilitation services, and in 2000, the Western Governors' Association adopted a "Drug Policy in the West" resolution that utilized professionals to aid association states in developing strategic plans to curb substance abuse (www.drugstrategies.org). Perhaps it is a regional initiative such as

this that accounts for the western regions enhanced delivery performances. Because of government's level of commitment to substance abuse, the other noteworthy implication is that many other state characteristics such as government leadership, states' outcome assessment requirements, and the influence of interest groups should be points of departure for further investigation (Wolf 1993; Rosenbloom and et al. 2006).

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APPENDICES

Appendix A: Dependent Variables and Source of Data

Variable Name	Variable Label	Table	Source
drugDEPC06	Total Percent of State Population Reporting Past Year Any Illicit Drug Dependence or Abuse	B.18 pgs 162-163	Wright, D. & Sathe, N. & Spagnola. K. 20078. State Estimates of Substance Use from the 2005-2006 Survey on Drug Use and Health
drugGAP06	Total Percent of State Population Reporting Past Year Any Illicit Drug Treatment Gap	B.21 pgs 168-169	DHHS Pub. No. (SMA) 08-4311, NSDUH Series H-33 Rockville, MD, http://www.oas.samhsa.gov/2k6State/pdf/2k6State.pdf
alcoDEP06	Total Percent of State Population Reporting Past Year Alcohol Dependence or Abuse	B.16 pgs 158-159	SAMHSA, Office of Applied Studies Retrieved 3/05/08
alcoGAP06	Total Percent of State Population Reporting Past Year Alcohol Treatment Gap	B.22 pgs 170-171	
drugDEPC05	Total Percent of State Population Reporting Past Year Any Illicit Drug Dependence or Abuse	B.18 pgs 166-167	Wright, D. & Sathe, N. & Spagnola. K. 2007. State Estimates of Substance Use from the 2004-2005 Survey on Drug Use and Health
drugGAP05	Total Percent of State Population Reporting Past Year Any Illicit Drug Treatment Gap	B.21 pgs 172-173	DHHS Pub. No. (SMA) 07-4235, NSDUH Series H-31 Rockville, MD, http://www.oas.samhsa.gov/2k5State/pdf/2k5State.pdf
alcoDEP05	Total Percent of State Population Reporting Past Year Alcohol Dependence or Abuse	B.16 pgs 162-163	SAMHSA, Office of Applied Studies Retrieved 3/05/08
alcoGAP05	Total Percent of State Population Reporting Past Year Alcohol Treatment Gap	B.22 pgs 174-175	
drugDEPC04	Total Percent of State Population Reporting Past Year Any Illicit Drug Dependence or Abuse	B.18 pgs 158-159	Wright, D. & Sathe, N. 2006. State Estimates of Substance Use from the 2003-2004 Survey on Drug Use and Health
drugGAP04	Total Percent of State Population Reporting Past Year Any Illicit Drug Treatment Gap	B.21 pgs 164-165	DHHS Pub. No. (SMA) 06-4142, NSDUH Series H-29 Rockville, MD, http://www.oas.samhsa.gov/2k4State/pdf/2k4State.pdf
alcoDEP04	Total Percent of State Population Reporting Past Year Alcohol Dependence or Abuse	B.16 pgs 154-155	SAMHSA, Office of Applied Studies Retrieved 3/05/08
alcoGAP04	Total Percent of State Population Reporting Past Year Alcohol Treatment Gap	B.22 pgs 166-167	

Variable Name	Variable Label	Table	Source
drugDEPC03	Total Percent of State Population Reporting Past Year Any Illicit Drug Dependence or Abuse	B.16 pgs 138-139	Wright, D. & Sathe, N. 2005. State Estimates of Substance Use from the 2002-2003 Survey on Drug Use and Health
drugGAP03	Total Percent of State Population Reporting Past Year Any Illicit Drug Treatment Gap	B.19 pgs 144-145	DHHS Pub. No. (SMA) 05-3989, NSDUH Series H-26 Rockville, MD, http://www.oas.samhsa.gov/2k3State/2k3SAE.pdf
alcoDEP03	Total Percent of State Population Reporting Past Year Alcohol Dependence or Abuse	B.14 pgs 135-135	SAMHSA, Office of Applied Studies Retrieved 3/05/08
alcoGAP03	Total Percent of State Population Reporting Past Year Alcohol Treatment Gap	B.20 pgs 146	
drugDEPC02	Total Percent of State Population Reporting Past Year Any Illicit Drug Dependence or Abuse	A.15 pgs 110-111	Wright, D. 2004. State Estimates of Substance Use from the 2002 Survey on Drug Use and Health
drugGAP02	Total Percent of State Population Reporting Past Year Any Illicit Drug Treatment Gap	A.18 pgs 116-117	DHHS Pub. No. (SMA) 04-3907, NSDUH Series H-23 Rockville, MD, http://www.oas.samhsa.gov/2k2State/PDFW/2k2SAEW.pdf
alcoDEP02	Total Percent of State Population Reporting Past Year Alcohol Dependence or Abuse	A.13 pgs 106-107	SAMHSA, Office of Applied Studies Retrieved 1/06/08
alcoGAP02	Total Percent of State Population Reporting Past Year Alcohol Treatment Gap	A.19 pgs 118-119	
drugDEPC01	Total Percent of State Population Reporting Past Year Alcohol Dependence or Abuse	B.15 pgs 146-147	Wright, D. 2003. State Estimates of Substance Use from the 2001 Survey on Drug Use and Health
drugGAP01	Total Percent of State Population Reporting Past Year Any Illicit Drug Treatment Gap	B.18 pgs 152-153	DHHS Pub. No. (SMA) 03-3775, NSDUH Series H-19 Rockville, MD, http://www.oas.samhsa.gov/NHSDA/2k1State/PDF/2k1SAEv1.pdf SAMHSA, Office of Applied Studies Retrieved 11/12/07

Appendix B: Tranformed Variables
Transitionary Dependent Variable Calculated Directly from Raw Data Published by SAMHSA
State Estimates of Substance Use from the National Surveys on Drug Use and Health (NSDUH)

Variable Name	Variable Label	Formula
PerfALC06	State alcohol performance 2006	p = (estimated[1] 06 alcohol treatment gap – 06 alcohol treatment gap mean) – (observed 06 alcohol dependence rate – 06 alcohol dependence rate mean)
PerfDRG06	State drug performance 2006	p = (estimated 06 drug treatment gap – 06 drug treatment gap mean) – (observed 06 drug dependence rate – 06 drug dependence rate mean)
PerfALC05	State alcohol performance 2005	p = (estimated 05 alcohol treatment gap – 05 alcohol treatment gap mean) – (observed 05 alcohol dependence rate – 05 alcohol dependence rate mean)
PerfDRG05	State drug performance 2005	p = (estimated 05 drug treatment gap – 05 drug treatment gap mean) – (observed 05 drug dependence rate – 05 drug dependence rate mean)
PerfALC04	State alcohol performance 2004	p = (estimated 04 alcohol treatment gap – 04 alcohol treatment gap mean) – (observed 04 alcohol dependence rate – 04 alcohol dependence rate mean)
PerfDRG04	State drug performance 2004	p = (estimated 04 drug treatment gap – 04 drug treatment gap mean) – (observed 04 drug dependence rate – 04 drug dependence rate mean)
PerfALC03	State alcohol performance 2003	p = (estimated 03 alcohol treatment gap – 03 alcohol treatment gap mean) – (observed 03 alcohol dependence rate – 03 alcohol dependence rate mean)
PerfDRG03	State drug performance 2004	p = (estimated 03 drug treatment gap – 03 drug treatment gap mean) – (observed 03 drug dependence rate – 03 drug dependence rate mean)
PerfALC02	State alcohol performance 2002	p = (estimated 02 alcohol treatment gap – 02 alcohol treatment gap mean) – (observed 02 alcohol dependence rate – 02 alcohol dependence rate mean)
PerfDRG02	State drug performance 2004	p = (estimated 02 drug treatment gap – 02 drug treatment gap mean) – (observed 02 drug dependence rate – 02 drug dependence rate mean)
PerfDRG01	State drug performance 2001	p = (estimated 06 drug treatment gap – 06 drug treatment gap mean) – (observed 06 drug dependence rate – 06 drug dependence rate mean)

[1] All calculated performance measures take into account published estimates from SAMHSA's
"State Estimates of Substance Use from the National Survey on Drug Use and Health"

Final Dependent Variables

Variable Name	Variable Label	Formula
OvAllALC	Overall State Alcohol Performance The mean for years 2002-2006	The mean of all years for PerfALC, n = 5 (PerfALC02 + PerfALC03 + PerfALC04 + PerfALC05 + PerfALC06)/5
OvAllDRG	Overall State Drug Performance for years The mean for years 2001-2006	The mean of all years for PerfDRG, n = 6 (PerfDRG01 + PerfDRG02 + PerfDRG03 + PerfDRG04 + PerfDRG05 + PerfDRG06)/6
ConsistALC	Consistency of Alcohol Performance 2002-2006	Standard Deviation of OvAllALC as calculated by Excel STDEV function
ConsistDRG	Consistency of Drug Performance 2001-2006	Standard Deviation of OvAllDRG as calculated by Excel STDEV function

Independent Variables

Variable Name	Variable Label	Formula
EXP/REV05	Total State Revenues/Total Expenditures 2005-06	Total State and Local Revenue/Total State and Local Expenditures
GOVTAdm05	Per Capita Gov't Administration, 2005-06	Total Government Administration (Financial, Judicial and Legal, General Public Buildings, & Other) / estimated 2005 population per 1000*
GOVTEmpl05	Per Capita Full-Time Equivalent Gov't Employees per 1000, 2005-06	Full-Time Equivalent Employees / Estimated 2005 population per 1000
GOVTPyrl05	Per Capita Gov't Payroll in Dollars per 1000, 2005-06	Total March Payroll / Estimated 2005 population per 1000
REV/EXP00	Ratio of Total State Revenues to Expenditures 1999-2000	Total State and Local Revenue/Total State and Local Expenditures
GOVTAdm00	Per capita Government Administration 1999-2000	Total Government Administration (Financial, Judicial and Legal, General Public Buildings, & Other) / estimated 2000 population per 1000)
GOVTEmpl02	Per Capita Full-Time Equivalent Gov't Employees per 1000, 2002	Full-Time Equivalent Employees / Estimated 2002 population per 1000
GOVTPyrl02	Per Capita Gov't Payroll in Dollars per 1000, 2002	Total March Payroll / Estimated 2002 population per 1000

* All population estimates were obtained from the U.S. Census Bureau, Annual Population Estimates 2000-2007
  http://www.census.gov/popest/states/tables/NST-EST2007-01.xls
  Retrieved 6/10/08

Appendix C: T$_1$ Independent Variables and Dependent Variables

Variable Name	Variable Label	Source
STATE	U.S. State	
MHHInc02	Median Household Income 2002	U.S. Census Bureau, 2002 Community Survey http://www.2010census.biz/acs/www/Products/Ranking/2002/R07T040.htm Retrieved 7/17/08
W/OIns00	% pop. Without Insurance 1998-2000 Table 147, pg 420	National Center for Health Statistics "Health, United States, 2006" http://www.cdc.gov/nchs/data/hus/hus06.pdf Retrieved 5/9/08
IMR01	Infant Mortality Rate 2001	U.S. Center of Disease Control - CDC Wonder http://wonder.cdc.gov/lbd.html Retrieved 7/23/08
PubAid00	Public Aid Recipients as % of Population 2000 Table A-81, pg 111	U. S. Census State and Metropolitan Area Data Book: 2006, 6th Ed. www.census .gov/prod/2006pubs/smadb/smadb-06.pdf Retrieved 1/03/08
AIAN00	Amer Ind/Alaska native as % pop, 2000 GCT-P6. Race and Hispanic or Latino: 2000	U. S. Census Bureau American Fact Finder GCT-P6 Race and Hispanic or Latino: 2000 http://factfinder.census.gov/servlet/GCTTable?_bm=y& geo_id=_01000US&-_box_head_nbr=GCT-P6&-ds_name=DEC_2000_SF1_U&-format=US-9 Retrieved 2/14/08
PNP02	%distribution PNP 2002 Table 5.3b, pgs 68-69 Percent distribution of Private Non-Profit	U.S. Dept. of Health & Human Services, Office of Applied Studies, SAMHSA National Survey of Substance Abuse Treatment Services (N-SSATS): 2002 Data on Substance Abuse Treatment Facilities DASIS Series: S-19, DHHS Pub. No. (SMA) 03-3777, Rockville, MD, 2003 http://wwwdasis.samhsa.gov/02nssats/nssats2002report.pdf Retrieved 1/06/08
PFP02	%distribution PFP 2002 Table 5.3b, pgs 68-69 Percent distribution of Private For-Profit	U.S. Dept. of Health & Human Services, Office of Applied Studies, SAMHSA National Survey of Substance Abuse Treatment Services (N-SSATS): 2002 Data on Substance Abuse Treatment Facilities DASIS Series: S-19, DHHS Pub. No. (SMA) 03-3777, Rockville, MD, 2003 http://wwwdasis.samhsa.gov/02nssats/nssats2002report.pdf Retrieved 1/06/08

Variable Name	Variable Label	Source

PUB02	%distribution PUB 2002
	  Table 5.3b, pgs 68-69
	Combined Percent distribution of Private
		U.S. Dept. of Health & Human Services, Office of Applied Studies, SAMHSA
		  National Survey of Substance Abuse Treatment Services (N-SSATS): 2002 Data
		  on Substance Abuse Treatment Facilities
		  DASIS Series: S-19, DHHS Pub. No. (SMA) 03-3777, Rockville, MD, 2003
		  http://wwwdasis.samhsa.gov/02nssats/nssats2002report.pdf
		  Retrieved 1/06/08

PubFd02	% of facilities that rec. public funds for SAT programs 2002
	  Table 5.15, pgs 100-101
	  Combined % distribution of Local, County, or
	  Community Government and State Government
	  Funding
	  (excludes Federal and Tribal Government)
		U.S. Dept. of Health & Human Services, Office of Applied Studies, SAMHSA
		  National Survey of Substance Abuse Treatment Services (N-SSATS): 2002 Data on
		  Substance Abuse Treatment Facilities
		  DASIS Series: S-19, DHHS Pub. No. (SMA) 03-3777, Rockville, MD, 2003
		  http://wwwdasis.samhsa.gov/02nssats/nssats2002report.pdf
		  Retrieved 3/05/08

NoChrg03	% of facilities that treat at no charge 2003
	  Table 6.16b, pg 126-127
		U.S. Dept. of Health & Human Services, Office of Applied Studies, SAMHSA
		  National Survey of Substance Abuse Treatment Services (N-SSATS): 2003 Data on
		  Substance Abuse Treatment Facilities
		  DASIS Series: S-24, DHHS Pub. No. (SMA) 04-3966, Rockville, MD, 2004
		  http://wwwdasis.samhsa.gov/03nssats/nssats_rpt_03.pdf
		  Retrieved 3/05/08

HMO00	% of pop enrolled in HMOs 2000
	  Table 146, pg 419
		National Center for Health Statistics "Health, United States, 2006"
		  http://www.cdc.gov/nchs/data/hus/hus06.pdf
		  Retrieved 05/09/2008

MCContr02	% of facilities w/MC agrmts/contracts, 2002
	  Table 6.3b, pgs 94-95
		U.S. Dept. of Health & Human Services, Office of Applied Studies, SAMHSA
		  National Survey of Substance Abuse Treatment Services (N-SSATS): 2002 Data on
		  Substance Abuse Treatment Facilities
		  DASIS Series: S-19, DHHS Pub. No. (SMA) 03-3777, Rockville, MD, 2003
		  http://wwwdasis.samhsa.gov/02nssats/nssats2002report.pdf
		  Retrieved 3/05/08

CLIENTS02	Total Clients in treatment per 100,000, age 18 and over 2002
	  Table 5.20, pgs 114-115
		U.S. Dept. of Health & Human Services, Office of Applied Studies, SAMHSA
		  National Survey of Substance Abuse Treatment Services (N-SSATS): 2002 Data on
		  Substance Abuse Treatment Facilities
		  DASIS Series: S-19, DHHS Pub. No. (SMA) 03-3777, Rockville, MD, 2003
		  http://wwwdasis.samhsa.gov/02nssats/nssats2002report.pdf
		  Retrieved 3/05/08

Variable Name	Variable Label	Source

IN/OP02	Ratio of Median # of Inpatient to Outpatient clients 2002
	  Table 5.8, pgs 80-81
	  Total Residential + Total Hospital/Total Outpatient
		U.S. Dept. of Health & Human Services, Office of Applied Studies, SAMHSA
		  National Survey of Substance Abuse Treatment Services (N-SSATS): 2002 Data on
		  Substance Abuse Treatment Facilities
		  DASIS Series: S-19, DHHS Pub. No. (SMA) 03-3777, Rockville, MD, 2003
		  http://wwwdasis.samhsa.gov/02nssats/nssats2002report.pdf
		  Retrieved 3/05/08

BGPrv00	Block Grant funds per capita on prevention activities, 2000
	  Appendix A: FY 2000, pg 783
		Office of National Drug Control Policy. 2006. "Inventory of State Substance Abuse
		Prevention and Treatment Activities and Expenditures".
		  Washington, D.C: Executive Office of the President (Pub. No. NCJ 216918)

BGTrtmt00	Block Grant funds per capita on treatment activities, 2000
	  Appendix C: FY 2000, pg 789
		Office of National Drug Control Policy. 2006. "Inventory of State Substance Abuse
		Prevention and Treatment Activities and Expenditures".
		  Washington, D.C: Executive Office of the President (Pub. No. NCJ 216918)

REV/EXP00	Ratio of Total State revenues to expenditures 99/00	U.S. Census Bureau
		  http://www.census.gov/govs/www/estimate00.html
		  states M – W http://ftp2.census.gov/govs/estimate/00 slss1.xls
		  states A – M http://ftp2.census.gov/govs/estimate/00slss2.xls
		  Retrieved 6/08/08

GOVTAd00	Per capita gov't administration 99/00	U.S. Census Bureau
		  http://www.census.gov/govs/www/estimate00.html
		  states M – W http://ftp2.census.gov/govs/estimate/00 slss1.xls
		  states A – M http://ftp2.census.gov/govs/estimate/00slss2.xls
		  Retrieved 6/08/08

Variable Name	Variable Label	Source
GOVTEmply02	Per Capita FTE Gov't Employees per 1000, 2002	U.S. Census Bureau http://ftp2.census.gov/govs/apes/02stall.xls Retrieved 6/08/08
GOVTPyrl02	Per Capita Gov't Payroll per 1000, 2002	U.S. Census Bureau http://ftp2.census.gov/govs/apes/02stall.xls Retrieved 6/08/08
Region	Region of the U.S.	As classified by the U.S. Census Bureau
PARITY	Parity	Martin, G. No date. National Council of State Legislators. "Policy Matters. Critical Issues in Healthcare Access. Substance Abuse Parity. State Actions". http://www.ncsl.org/programs/health/forum/pmsap.pdf Retrieved 4/12/08
MMBenf	Min mandated benefits	Martin, G. No date. National Council of State Legislators. "Policy Matters. Critical Issues in Healthcare Access. Substance Abuse Parity. State Actions". http://www.ncsl.org/programs/health/forum/pmsap.pdf Retrieved 4/12/08
MNOff	Mandated offering	Martin, G. No date. National Council of State Legislators. "Policy Matters. Critical Issues in Healthcare Access. Substance Abuse Parity. State Actions". http://www.ncsl.org/programs/health/forum/pmsap.pdf Retrieved 4/12/08
OvAllALC	Mean Alcohol Performance for 2002-2006	calculated
OvAllDRG	Mean Drug Performance for 2001-2005	calculated
ConsistALC	Consistency of Alcohol Performance 2002-2006	calculated
ConsistDR	Consistency of Drug Performance 2001-2006	calculated

APPENDIX D: T$_2$ Independent Variables

Variable Name	Variable Label	Source
MHHInc05	median HH income 2005 R2001	U.S. Census Bureau, American Fact Finder http://factfinder.census.gov/servlet/GRTSelectServlet?ds_name= ACS_2005_EST_G00_&_lang=en&_ts=233555490515 Retrieved 7/17/08
W/OIns04	% w/o insurance 2002-2004 Table 147, pg 420	National Center for Health Statistics "Health, United States, 2006" http://www.cdc.gov/nchs/data/hus/hus06.pdf Retrieved 05/09/2008
IMR04	Infant Mortality Rate 2004	U.S. Center of Disease Control - CDC Wonder http://wonder.cdc.gov/lbd.html Retrieved 7/23/08
PubAid03	Public Aid Recipients as % of population 2003 Table A-81, pg 111	U. S. Census State and Metropolitan Area Data Book: 2006, 6th Ed. www.census .gov/prod/2006pubs/smadb/smadb-06.pdf Retrieved 6/03/08
AIAN04	Amer Ind/Alaska native as % pop, 2004 Table A-5, pg10	U. S. Census State and Metropolitan Area Data Book: 2006, 6th Ed. www.census .gov/prod/2006pubs/smadb/smadb-06.pdf Retrieved 6/03/08
PNP05	%distribution PNP 2005 Table 6.5b, pgs 102-103 Percent distribution of Private Non-Profit	U.S. Dept. of Health & Human Services, Office of Applied Studies, SAMHSA National Survey of Substance Abuse Treatment Services (N-SSATS): 2005 Data on Substance Abuse Treatment Facilities DASIS Series: S-34, DHHS Pub. No. (SMA) 06-4206, Rockville, MD, 2006 http://wwwdasis.samhsa.gov/05nssats/nssats2k5web.pdf Retrieved 3/05/08
PFP05	%distribution PFP 2005 Table 6.5b, pgs 102-103 Percent distribution of Private For-Profit	U.S. Dept. of Health & Human Services, Office of Applied Studies, SAMHSA National Survey of Substance Abuse Treatment Services (N-SSATS): 2005 Data on Substance Abuse Treatment Facilities DASIS Series: S-34, DHHS Pub. No. (SMA) 06-4206, Rockville, MD, 2006 http://wwwdasis.samhsa.gov/05nssats/nssats2k5web.pdf Retrieved 3/05/08

Variable Name	Variable Label	Source

PUB05	%distribution PUB 2005
	    Table 6.5b, pgs 102-103
	    Combined % distribution of Local, County, or
	    Community Government and State Government
	    Funding
	    (excludes Federal and Tribal Government)
		U.S. Dept. of Health & Human Services, Office of Applied Studies, SAMHSA
		    National Survey of Substance Abuse Treatment Services (N-SSATS): 2005
		    Data on Substance Abuse Treatment Facilities.
		    DASIS Series: S-34, DHHS Pub. No. (SMA) 06-4206, Rockville, MD, 2006
		    http://wwwdasis.samhsa.gov/05nssats/nssats2k5web.pdf
		    Retrieved 3/05/08

PubFd05	% of facilities that rec public funds for SAT programs 2005
	    Table 6.16, pgs 134-135
		U.S. Dept. of Health & Human Services, Office of Applied Studies, SAMHSA
		    National Survey of Substance Abuse Treatment Services (N-SSATS): 2005
		    Data on Substance Abuse Treatment Facilities.
		    DASIS Series: S-34, DHHS Pub. No. (SMA) 06-4206, Rockville, MD, 2006
		    http://wwwdasis.samhsa.gov/05nssats/nssats2k5web.pdf
		    Retrieved 3/05/08

NoChrg05	% of facilities that treat at no charge 2005
	    Table 6.14b, pgs 128-129
		U.S. Dept. of Health & Human Services, Office of Applied Studies, SAMHSA
		    National Survey of Substance Abuse Treatment Services (N-SSATS): 2005
		    Data on Substance Abuse Treatment Facilities.
		    DASIS Series: S-34, DHHS Pub. No. (SMA) 06-4206, Rockville, MD, 2006
		    http://wwwdasis.samhsa.gov/05nssats/nssats2k5web.pdf
		    Retrieved 3/05/08

HMO05	% of pop enrolled in HMOs 2005
	    Table 146, pg 419
		National Center for Health Statistics "Health, United States, 2006"
		    http://www.cdc.gov/nchs/data/hus/hus06.pdf
		    Retrieved 05/09/2008

MCContr05	% of facilities w/MC agrmts/contracts, 2005
	    Table 6.3b, pgs 94-95
		U.S. Dept. of Health & Human Services, Office of Applied Studies, SAMHSA
		    National Survey of Substance Abuse Treatment Services (N-SSATS): 2002
		    Data on Substance Abuse Treatment Facilities.
		    DASIS Series: S-19, DHHS Pub. No. (SMA) 03-3777, Rockville, MD, 2003
		    http://wwwdasis.samhsa.gov/02nssats/nssats2002report.pdf
		    Retrieved 3/05/08

CLIENTS05	Total Clients in treatment per 100,000, aged 18 and over 2005
	    Table 6.28, pgs 168-169
		U.S. Dept. of Health & Human Services, Office of Applied Studies, SAMHSA
		    National Survey of Substance Abuse Treatment Services (N-SSATS): 2005
		    Data on Substance Abuse Treatment Facilities.
		    DASIS Series: S-34, DHHS Pub. No. (SMA) 06-4206, Rockville, MD, 2006
		    http://wwwdasis.samhsa.gov/05nssats/nssats2k5web.pdf
		    Retrieved 3/05/08

Variable Name	Variable Label	Source

IP/OP05	Ratio of Median # of Inpatient to Outpatient clients 2005
	    Table 6.9, pgs 112-113
	    Total Residential + Total Hospital/Total Outpatient
		U.S. Dept. of Health & Human Services, Office of Applied Studies, SAMHSA
		    National Survey of Substance Abuse Treatment Services (N-SSATS): 2005
		    Data on Substance Abuse Treatment Facilities.
		    DASIS Series: S-34, DHHS Pub. No. (SMA) 06-4206, Rockville, MD, 2006
		    http://wwwdasis.samhsa.gov/05nssats/nssats2k5web.pdf
		    Retrieved 3/05/08

BGPrv03	Block Grant funds per capita on prevention activities, 2003
	    Appendix A: FY 2003, pg 783
		Office of National Drug Control Policy. 2006. "Inventory of State Substance Abuse Prevention and Treatment Activities and Expenditures".
		    Washington, D.C: Executive Office of the President (Pub. No. NCJ 216918)

BGTrtmt03	Block Grant funds per capita on treatment activities, 2003
	    Appendix C: FY 2003, pg 789
		Office of National Drug Control Policy. 2006. "Inventory of State Substance Abuse Prevention and Treatment Activities and Expenditures".
		    Washington, D.C: Executive Office of the President (Pub. No. NCJ 216918)

REV/EXP05	Ratio of Total State revenues to expenditures 05/06	U.S. Census Bureau
		    http://www.census.gov/govs/www/estimate06.html
		    States N – W
		    States A – M
		    Retrieved 6/08/08

GOVTAd05	Per capita gov't administration 2005-06	U.S. Census Bureau
		    http://www.census.gov/govs/www/estimate06.html
		    States N – W
		    States A – M
		    Retrieved 6/08/08

GOVTEmply05	Per Capita FTE Gov't Employees per 1000, 2005-06	U.S. Census Bureau
		    http://ftp2.census.gov/govs/apes/05stall.xls
		    Retrieved 6/08/08

GOVTPyrl05	Per Capita Gov't Payroll per 1000, 2005-06	U.S. Census Bureau
		    http://ftp2.census.gov/govs/apes/05stall.xls
		    Retrieved 6/08/08

Appendix E: State Rankings for Alcohol and Drug Treatment Performance and Volatility

	Alcohol Treatment Performance		Volatility of Alcohol Performance			Drug Treatment Performance		Volatility of Drug Performance
Worst 51	south dakota	-0.3733	south dakota	0.3655	Worst 51	distrColum	-0.4759	distrColum	0.2282
50	montana	-0.3513	alaska	0.3084	50	rhd island	-0.1742	alaska	0.1843
49	alaska	-0.2493	massachu	0.3067	49	alabama	-0.1142	rhd island	0.1798
48	rhd island	-0.1913	kentucky	0.2771	48	delaware	-0.1109	alabama	0.1573
47	washington	-0.1613	new mexico	0.2623	47	massachu	-0.1059	louisana	0.1559
46	colorado	-0.1421	rhd island	0.2550	46	new york	-0.0825	west virgi	0.1439
45	massachu	-0.1353	utah	0.2462	45	new jersey	-0.0509	connecticu	0.1414
44	nebraska	-0.1233	maine	0.2383	44	virginia	-0.0509	virginia	0.1369
43	wisconsin	-0.1213	maryland	0.2363	43	wisconsin	-0.0475	kansas	0.1358
42	minnesota	-0.1213	north dako	0.2274	42	kansas	-0.0459	hawaii	0.1318
41	new mexico	-0.0973	hawaii	0.2151	41	montana	-0.0442	utah	0.1240
40	indiana	-0.0973	arkansas	0.2116	40	ohio	-0.0425	arizona	0.1228
39	maryland	-0.0893	missouri	0.2105	39	michigan	-0.0392	washington	0.1172
38	delaware	-0.0573	distrColum	0.2085	38	south caro	-0.0375	delaware	0.1170
37	north dako	-0.0493	texas	0.1980	37	maryland	-0.0359	oklahoma	0.1131
36	maine	-0.0493	nevada	0.1961	36	illinois	-0.0309	new mexico	0.1084
35	wyoming	-0.0453	colorado	0.1904	35	west virgi	-0.0259	south caro	0.1033
34	connecticu	-0.0413	virginia	0.1852	34	arkansas	-0.0209	kentucky	0.1002
33	south caro	-0.0393	minnesota	0.1797	33	north caro	-0.0175	new jersey	0.0926
32	north caro	-0.0293	alabama	0.1731	32	connecticu	-0.0142	minnesota	0.0905
31	iowa	-0.0193	new hampsh	0.1629	31	louisana	-0.0142	south dako	0.0882
30	missouri	-0.0093	west virgi	0.1614	30	new hampsh	-0.0109	wyoming	0.0866
29	ohio	-0.0013	south caro	0.1607	29	wyoming	-0.0092	nevada	0.0858
28	michigan	0.0047	kansas	0.1586	28	pennsylvan	0.0041	florida	0.0830
27	new hampsh	0.0067	wyoming	0.1499	27	indiana	0.0075	oregon	0.0823
26	vermont	0.0227	iowa	0.1390	26	georgia	0.0075	indiana	0.0822
25	virginia	0.0267	arizona	0.1361	25	south dako	0.0091	michigan	0.0817
24	west virgi	0.0287	indiana	0.1356	24	vermont	0.0125	new hampsh	0.0805
23	new york	0.0527	washington	0.1325	23	mississipp	0.0208	new york	0.0761
22	kansas	0.0567	illinois	0.1296	22	florida	0.0291	wisconsin	0.0738
21	new jersey	0.0567	louisana	0.1294	21	nevada	0.0308	massachu	0.0728
20	distrColum	0.0667	connecticu	0.1259	20	nebraska	0.0341	nebraska	0.0710

19	nevada	0.0687	georgia	0.1257	19	tennessee	0.0391	iowa	0.0696
18	louisana	0.0687	north caro	0.1118	18	texas	0.0391	mississipp	0.0614
17	oklahoma	0.0687	montana	0.1085	17	new mexico	0.0408	tennessee	0.0600
16	arkansas	0.0767	oklahoma	0.1048	16	utah	0.0408	california	0.0600
15	oregon	0.0767	pennsylvan	0.1000	15	colorado	0.0408	montana	0.0589
14	utah	0.0767	vermont	0.0945	14	minnesota	0.0458	colorado	0.0589
13	kentucky	0.0827	nebraska	0.0831	13	kentucky	0.0458	maine	0.0585
12	georgia	0.1007	new jersey	0.0813	12	north dakota	0.0525	north dakota	0.0580
11	illinois	0.1147	oregon	0.0748	11	idaho	0.0541	idaho	0.0570
10	pennsylvan	0.1147	idaho	0.0726	10	washington	0.0725	arkansas	0.0563
9	mississipp	0.1227	mississipp	0.0724	9	oregon	0.0808	ohio	0.0545
8	alabama	0.1247	delaware	0.0673	8	oklahoma	0.0808	pennsylvan	0.0541
7	florida	0.1247	new york	0.0646	7	missouri	0.0841	north caro	0.0529
6	arizona	0.1247	ohio	0.0601	6	arizona	0.0875	vermont	0.0509
5	tennessee	0.1507	michigan	0.0584	5	california	0.0975	georgia	0.0437
4	idaho	0.1507	florida	0.0487	4	hawaii	0.1058	missouri	0.0358
3	california	0.1627	tennessee	0.0485	3	iowa	0.1108	texas	0.0309
2	hawaii	0.1967	california	0.0465	2	maine	0.1225	maryland	0.0306
Best 1	texas	0.2647	wisconsin	0.0450	Best 1	alaska	0.2008	illinois	0.0306