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Organizational Correlates of Medication-Assisted Treatment in Substance Abuse Treatment Facilities: Examining How Institutional Forces Shape Treatment

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Organizational Correlates of Medication-Assisted Treatment in Substance Abuse Treatment Facilities: Examining How Institutional Forces Shape Treatment

Abstract

Methadone and buprenorphine/naloxone are the two recommended pharmacotherapies for the treatment of opioid dependence, having been demonstrated to be effective in numerous clinical trials. While methadone has been an approved treatment for opioid dependence for that past 50 years, buprenorphine/naloxone is a newer substance that was only approved for use in 2002. This mixed-methods study utilizes a comprehensive conceptual framework of neoinstitutional theory and institutional logics to explore possible factors that might predict adoption of medication-assisted treatment.

First, in-depth qualitative interviews with managerial level staff at substance abuse treatment centers were conducted. The interviews were semi-structured and explored perceptions of treatment philosophy, the merging of substance abuse and mental health, managed care, services, funding, licensing and accreditation and personal and professional networks. Next, logistic regression models were used to explore possible predictors of medication-assisted treatment. The National Treatment Center Study (NTCS), a nationally representative survey of private substance abuse treatment facilities conducted between 2002-2004, was used in this study, allowing for the exploration of early adoption of buprenorphine/naloxone.

Findings from the qualitative interviews suggested that the two medications are viewed differently and should therefore be explored separately. Findings from the logistic analysis of the NTCS supported this distinction. The proportion of clients with a primary diagnosis of opiate dependence or abuse was the only factor positively associated with both the early adoption of buprenorphine/naloxone and methadone provision. The program's proportion of managed care funding was the only other significant predictor for early adoption of buprenorphine/naloxone. Accreditation by JACHO, proportion of clients who are women and past organizational participation in research, all positively predicted methadone provision, while the proportion of counselors with a master's degree or higher negatively predicted it.

The results indicate that coercive and normative institutional forces, as well as the institutional logics operating on organizations and the organizational networks they are embedded in, impact service provision and adoption of innovation. To promote adoption of pharmacotherapies into treatment, attention must be paid to the unique barriers and opportunities facing the adoption of each medication.

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ORGANIZATIONAL CORRELATES OF MEDICATION-ASSISTED TREATMENT
IN SUBSTANCE ABUSE TREATMENT FACILITIES: EXAMINING HOW
INSTITUTIONAL FORCES SHAPE TREATMENT

Maayan Lawental Schori

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Dedication

*To my parents, Zehava and Eli Lawental, for always being here and having my back
to my amazing girls, Adva & Gal, for being my light and the end of the tunnel,
to Udi and to all my family and friends scattered across the world.
I love you all and could not have done it without you!*

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ABSTRACT

ORGANIZATIONAL CORRELATES OF MEDICATION-ASSISTED TREATMENT (MAT) IN SUBSTANCE ABUSE TREATMENT FACILITIES: EXAMINING HOW INSTITUTIONAL FORCES SHAPE TREATMENT

Maayan Lawental Schori

Toorjo Ghose

Methadone and buprenorphine/naloxone are the two recommended pharmacotherapies for the treatment of opioid dependence, having been demonstrated to be effective in numerous clinical trials. While methadone has been an approved treatment for opioid dependence for that past 50 years, buprenorphine/naloxone is a newer substance that was only approved for use in 2002. This mixed-methods study utilizes a comprehensive conceptual framework of neoinstitutional theory and institutional logics to explore possible factors that might predict adoption of medication-assisted treatment.

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Organizational correlates of medication-assisted treatment (MAT)

for opioid dependence in substance abuse treatment facilities:

Examining how institutional forces shape treatment

Maayan Lawental Schori

Chapter 1

Introduction

According to the latest national data available from 2010, 22.1 million persons ages 12 and older suffered from a substance use disorder (abuse or dependence) in the last year, corresponding to 8.7% of the U.S. population (Substance Abuse and Mental Health Services Administration [SAMHSA], 2011a). These people, in addition to those already receiving treatment in at a specialty facility, are classified by SAMSHA as needing treatment. Of the 23.1 persons classified as needing treatment, only 4.1 million received it; and for over half of those who did receive treatment, it was in the form of self-help groups. Therefore, the vast majority of people needing treatment do not receive any (SAMHSA, 2011a). This represents the lowest treatment penetration of any illness or condition (McGlynn et al., 2003). According to the latest data available, submitted to the Office of National Drug Control Policy (ONDCP) the economic costs associated with illicit drug use were estimated to be over \$193 billion in 2007. Of this amount, only \$3.7 billion was spent on any form of treatment (National Drug Intelligence Center, 2011).

Several decades worth of research have demonstrated that medication-assisted treatment, particularly when combined with counseling, improves treatment outcomes for clients suffering from substance use disorders (Anton, Moak, Waid, Latham, Malcolm, &

Dian, 1999; Johnson, Eisenberg, Stitzer, Strain, Liebson, & Bigelow, 1995; Ling et al. 1998; Monti et al. 2001; O'Malley, Jaffe, Chang, Schottenfeld, Meyer, & Rounsaville, 1992; Volpicelli, Alterman, Hayashida, Volpicelli, J.R.; Alterman, A.I.; Hayashida, M. & O'Brien & O'Brien, 1992). Research has also shown that use of medication-assisted treatment results in reduced mortality and criminal activity rates (Greenfield & Fountain 2000; Saxon & McCarty 2005; Woody et al. 2008). For instance, in a meta-analysis of three decades worth of research on methadone maintenance treatment (MMT), a pharmacotherapy used for treating persons struggling with opioid dependence, Marsch (1998) found that this form of treatment significantly reduced levels of illicit opiate use, HIV risk behavior, and criminal activity. The National Institute on Drug Abuse (NIDA, 2009) and the World Health Organization (WHO, 2004) recommend methadone maintenance as the standard of treatment and care for opiate abuse. Though methadone is legal in all 50 U.S. States, issues remain surrounding proper dosage and length of maintenance. Buprenorphine/naloxone (aka Subutex® or Suboxone®), a newer pharmacotherapy for treatment of opioid dependence was approved for use in the U.S. in 2002 and has been the focus of many recent clinical trials which have demonstrated its effectiveness (e.g. Amass et al., 2004; Fischer et al., 1999; Fudula et al., 2003; Johnson, Chutuape, Strain, Walsh, Stitzer, & Bigelow 2000; Ling et al., 2005; Ling, Wesson, Charuvastra, & Klett, 1996; Lintzeris, Bell, Bammer, Jolley, & Rushworth, 2002). While additional pharmacotherapies are being developed and tested and much attention has been focused in recent research on their effectiveness, this thesis will focus on the above-mentioned opioid replacement therapies, methadone and buprenorphine/naloxone.

Substance abuse treatment organizations have often been criticized for their slow adoption of new practices (Kimberly & McLellan, 2006; Knudsen & Roman, 2004; Lamb, Greenlick, & McCarthy, 1998; Sloboda & Schildhaus, 2002). While previous studies have looked at organizational processes in service provision (e.g. D'Aunno, 2006; D'Aunno, Sutton, & Price, 1991; Guerrero, 2009; Roman & Johnson, 2002; Simpson & Flynn, 2007), the influence of organizational factors on treatment has seldom been interpreted in the context of organizational theory. With the notable exception of D'Aunno and colleagues (D'Aunno, Sutton, & Price, 1991; D'Aunno, Vaughn, & McElroy, 1999), and very recent work by Roman and colleagues (Savage, Abraham, Knudsen, Tothrauff, & Roman, 2012) most scholars do not employ a comprehensive conceptual framework to identify organizational predictors, or to interpret results. As a result, research on organizational research in substance abuse treatment has tended to focus on top-down institutional forces shaping treatment. Scholars have largely underplayed the role of individual organizational actors, a focus of recent works in the field of institutional logics (Thornton & Ocasio, 2008). An atheoretical approach that is based on examining only those organizational factors which have been found to be significant predictors by previous research results in: (a) constricting the universe of possible organizational predictors to those that have already been examined, thus ignoring the salience of new factors and unique processes predicted by theory, (b) failing to understand the complex and often contradictory processes that shape organizational behavior, and (c) undermining the theoretical framework underpinning the field of organizational substance abuse treatment research.

To improve the breadth of factors considered and the analytic methods used in explaining the provision of medication-assisted treatment, this thesis will apply the theory of institutional logics to examine an expanded set of organizational and institutional correlates of medication-assisted treatment in substance abuse treatment facilities, using a mixed methods approach. First, 30 qualitative interviews with decision makers in substance abuse treatment facilities will be used to develop an expanded set of organizational factors which could reasonably be expected to predict the provision of medication-assisted treatment. The interviews will also be used to frame the discussion of the results. Second, an additional analysis of The National Treatment Center Study (NTCS), a nationally representative dataset of substance abuse treatment facilities, will be conducted.

The NTCS is the largest, most contemporary and comprehensive source available examining organizational variables. The survey to be analyzed in this thesis comes from 405 private substance abuse treatment facilities in the U.S., conducted between 2002-2004 by the Institute of Behavioral Research at the University of Georgia. This survey collected data pertaining to changes organizations, structure, staffing, and service delivery patterns in substance abuse treatment facilities. The data will be used to examine the extent to which factors identified by theory, previous literature and the qualitative interviews, contribute to explaining the organizational adoption of medication-assisted treatment. Furthermore, since buprenorphine/naloxone was approved for use in 2002 (Amass et al., 2004; Brown, 2004; Ling et al., 2009; NIDA, 2006), this dataset provides a unique opportunity to look at early adoption of innovation in substance abuse treatment.

Rogers (2003) has pointed to the importance of studying early adoption of innovation in order to understand organizational characteristics that allow service providers to address client needs.

The next chapter provides background on medication-assisted treatment and possible barriers to adoption of this form of treatment. The third chapter on the theoretical framework outlines neoinstitutional theory and the theory of institutional logics, the organizing conceptual framework used in this research. The fourth chapter reviews the literature describing organizational factors associated with the provision of services in substance abuse treatment. The review highlights the concepts of neoinstitutional theory and institutional logics, and will be used to generate general hypotheses about how organizational forces shape service provision. The fifth chapter provides an overview of the methods culminating in the hypotheses stated in terms of the operationalized variables. The sixth chapter details findings from both the qualitative and quantitative components of the study, respectively. Finally, an integrative discussion of the results and implications for future research will be presented in chapter seven.

Chapter 2

Background

The Organizational Field

Substance abuse treatment facilities in the U.S.

Since 1992, the Substance Abuse and Mental Health Services Administration (SAMHSA) has been conducting an annual census of facilities providing treatment services in the U.S.¹ In the National Survey of Substance Abuse Treatment Services (N-SSATS) SAMHSA collects data on the location, organizational and client characteristics of treatment facilities and services throughout the 50 States, the District of Columbia, and other U.S. jurisdictions (e.g. Guam, Puerto Rico and US Territories).

According to the latest report available, a little less than 1.2 million persons per year are treated in 13,339 substance abuse treatment facilities across the U.S. (see figure 2.1. below). These include program level, clinic level and multi-site level facilities, but not jail or prison-based programs. All numbers in this section are based on a 91.4 percent survey response rate of the 2010 N-SSATS (SAMHSA, 2011b).

The majority of facilities surveyed (58%) were private non-profit, a number that has remained relatively constant in recent years. Private for-profit facilities represented 30 percent of all facilities in 2010, a five percent increase since 2003. Over 80 percent of all facilities offered outpatient care. These facilities served 90% of all clients. Non-hospital based residential treatment was offered by nearly 26 percent of facilities, but received by only 9 percent of clients. Inpatient hospital treatment was offered by 6

¹ Similar data was previously collected by NIDA since the 1970s

percent of facilities, but accounted for only 1 percent of client care. Nine percent of all facilities offered opioid replacement therapy (i.e. methadone maintenance, buprenorphine/naloxone) between 2006-2010. However, these facilities served nearly a quarter of all clients. Sixty percent of facilities reported receiving Federal, State or local government funds, and 95 percent of all facilities reported that they were licensed, certified, or accredited by one or more agency or organization (SAMHSA, 2011b). Though the question was not asked in the latest survey, in a previous survey almost half of the facilities reported contracts with managed care organizations (SAMHSA, 2008).

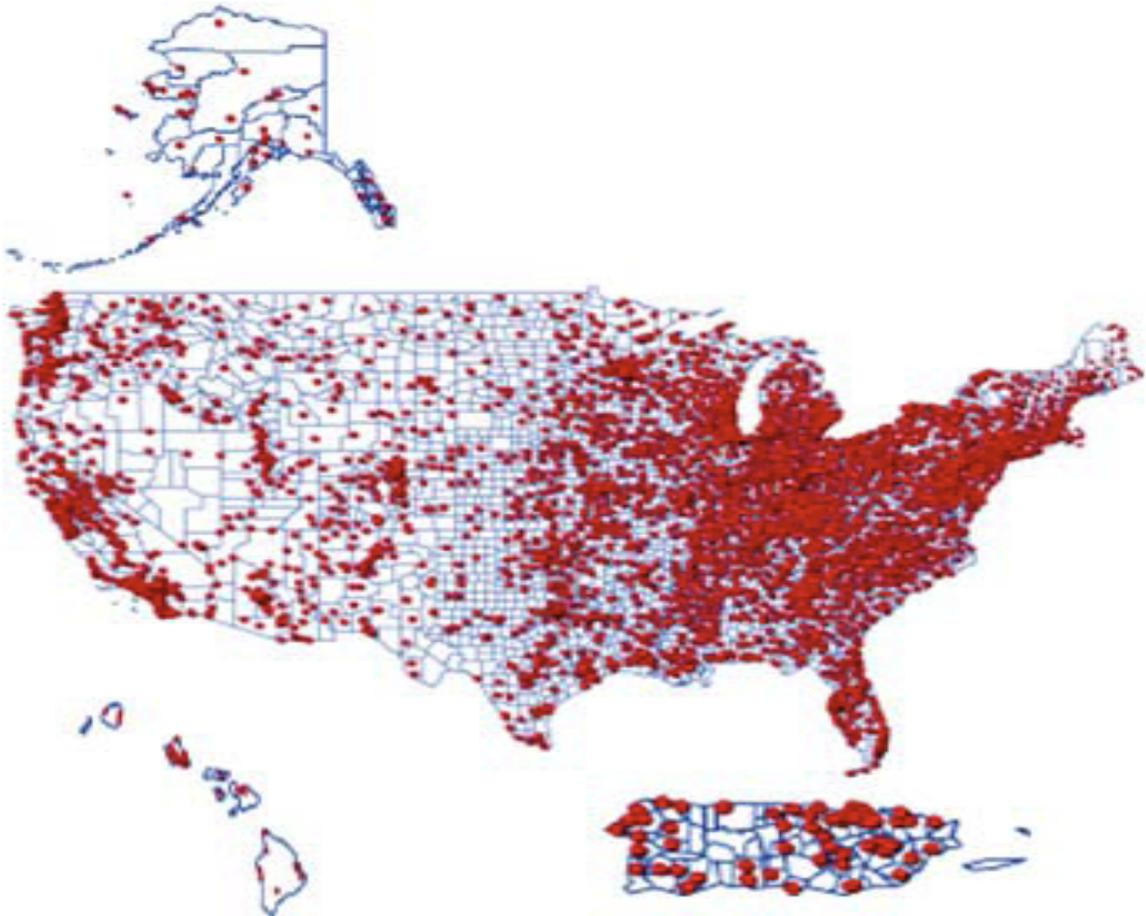


Figure 2.1. Location of treatment facilities in the U.S. on March 31st, 2008 (SAMHSA, 2008)

Over 90 percent of all facilities provided screening for substance abuse for assessment and pre treatment services. Ninety percent provided comprehensive substance abuse assessment or diagnosis; nearly 67% of facilities screened for mental health disorders, and only 20% reported providing intermediate services when immediate admission was not possible. The prevailing clinical/therapeutic approaches, reported to be used always or often, were substance abuse counseling (95%) and relapse prevention (85%). Additional approaches reported to be used always, often or at least sometimes were cognitive-behavioral therapy (92%), motivational interviewing (87%), anger management (84%), brief intervention (82%), 12-step (80%), trauma-related counseling (67%), and contingency management/motivational incentives (58%) (SAMHSA, 2011b).

Over eighty percent of facilities reported that they offered programs for needs of specific client types. Almost two fifths of the facilities offered services specifically tailored for clients with co-occurring mental health and substance abuse disorders. Roughly 30 percent of programs reported that they provided services for adult women, adolescents and DUI/DWI offenders each. Twenty-seven percent of facilities offered services for criminal justice clients and 25 percent offered specialty services for adult men. Among the less frequently offered were programs for pregnant or postpartum women (13%), persons with HIV or AIDS (9%), seniors or older adults (7%), and lesbian, gay, bisexual or transgender (LGBT) clients (6%) (SAMHSA, 2011b).

Finally, while some form of pharmacotherapy was offered by nearly 50% of facilities, most offered only medication for psychiatric disorders (34.6%). A little over 11% offered methadone, while 18.4% offered buprenorphine/naloxone in 2010

(SAMHSA, 2011b). While the percentage of programs offering methadone has remained relatively steady since 2002 (the year in which buprenorphine/naloxone was approved for use), the percentage of programs adopting buprenorphine/naloxone has been steadily increasing.

Medication-assisted treatment for opioid dependence

Methadone and buprenorphine/naloxone are the two recommended pharmacotherapies for the treatment of opioid dependence (VA, 2009; Soyka, Kranzler, van den Brink, Krystal, Muller, & Kasper, 2011). They are considered the ‘gold standard’ for treatment, as numerous clinical trials have demonstrated their effectiveness (Oliva et al., 2011). Before describing these two forms of treatment and summarizing the evidence of their effectiveness, a brief overview of opiates and opioid dependence is provided.

Opiates and opioid dependence.

Opiates, including heroin, morphine and other prescription painkillers (such as OxyContin, Vicodin, and Fentanyl) are psychoactive substances that act on receptors in the brain, which also interact with endorphins. Endorphins are important in regulating pain and emotion. Thus, while prescribed use of certain painkillers can be highly beneficial, opiates can be highly addictive because of their euphorogenic properties (Brown, 2004; NIDA, 2006). This is particularly true for heroin, developed from opium (poppy) originally as a cough suppressant in 1985 (Brown, 2004).

Opioid dependence is a chronic relapsing condition characterized by compulsive self-administration of opioids that persists despite adverse consequences (Brown, 2004).

The ICD-10 defines dependence as “a cluster of physiological, behavioral, and cognitive phenomena in which the use of a substance or a class of substances takes on a much higher priority for a given individual than other behaviors that once had greater value.” (World Health Organization, 1992). According to the ICD-10, drug dependence manifests in compulsive substance use despite evidence of harm due to use, the presence of characteristic withdrawal phenomena upon discontinuation or drastic reduction of use, development of tolerance to the effects of the substance, and dysfunction in other life areas due to use and/or preoccupation with use (Brown, 2004).

Similarly, the DSM-IV (2004) defines dependence as ‘a maladaptive pattern of use, leading to clinically significant impairment or distress, as manifested by 3 or more diagnostic symptoms, occurring at any time in the same 12-month period. Symptoms can include: tolerance, as defined by either the need for markedly increased amounts of substance to achieve intoxication or desired effect or markedly diminished effect with continued use of the same amount of substance; withdrawal, as manifested by either the characteristic withdrawal syndrome for opiates (3 of: dysphoric mood, nausea or vomiting, muscle aches, lacrimation or rhinorrhea, diarrhea, yawning, fever, insomnia, gooseflesh, sweating) or the same (or a closely related) substance is taken to relieve or avoid withdrawal symptoms; substance taken in larger amounts over a longer time period than intended; persistent desire or repeated unsuccessful attempt to quit; much time/activity to obtain, use, recover; important social, occupational, or recreational activities are given up or reduced, and; continued use despite knowledge of adverse consequences (American Psychiatric Association, 1994).

According to the National Survey on Drug Use and Health, an estimated 3.7 million people had used heroin at some time in their lives (NSDUH, 2004), and 200,000 of them reported using it within the month preceding the survey (SAMHSA, 2011a). An estimated 314,000 Americans used heroin in the past year, and the group that represented the highest number of those users were 26 or older. In 2003, over 55 percent of past year heroin users were classified with dependence on or abuse of heroin, and an estimated 280,000 persons received treatment for heroin abuse (NSDUH, 2004). Heroin use, particularly when injected, raises major public health concerns. There are significant and costly medical illnesses heroin dependence, such as HIV, hepatitis C and other infectious diseases. The social and economic costs due to associated crime and poverty exceed those of most other drugs (Mark, Woody, Juday, & Kleber, 2001). In addition, 2 million persons reported initial use of nonmedical painkillers with almost the same number of persons classified as dependent on or abusing painkillers [NSDUH, 2011].

Methadone.

Worldwide, methadone is the most widely studied and accepted form of medication therapy for opiate addicts (Mattick, Kimber, Breen, & Davoli, 2008; NIH Consensus Panel 1998; Farrell et al. 1994, Marsch, 1998). Developed in the 1940s to treat pain, methadone is an orally administered full mu-opioid (morphine-like) agonist that reduces the withdrawal symptoms of and represses cravings without bringing about the euphoric feeling associated with the use of illicit opioids (Centers for Disease Control

and Prevention, 2002; Donny, Walsh, Bigelow, Eissenberg, & Stitzer, 2002, Marsch, 1998).

Methadone, administered daily, is regulated and offered only in licensed specialty treatment programs designed to offer treatment for opiate addicts. For decades, Methadone maintenance has been shown to reduce the frequency of opiate use (Langendam, van Brussel, Coutinho, & van Ameijden, 2001; Ling, 1976; Mattick et al., 2008), mortality (Ward, Malrick, & Hall, 1994; Langendam et al., 2001), and transmission of HIV (Ball, Lange, Myers, & Friedman, 1988; Des Jarlais et al., 1996). A recent meta-analysis of 11 clinical trials summarized the effectiveness of methadone maintenance for the treatment of heroin addiction compared to treatments that did not involve replacement therapy. The authors concluded that methadone was significantly more effective than non-medication treatments in retaining patients in treatment and in the suppression of heroin use as measured by self report and urine/hair analysis, but not statistically different in criminal activity or mortality (Mattick et al., 2008).

Buprenorphine/naloxone.

Buprenorphine/naloxone (marketed as Subutex® and Suboxone®) is a partial mu-opioid agonist that acts on the same receptors as heroin and morphine, relieving drug cravings without producing the same intense "high" or dangerous side effects (NIDA, 2006). Approved by the U.S. Food and Drug Administration in October 2002, buprenorphine/naloxone can be offered through community office-based settings (Amass et al., 2004; Brown, 2004; Ling et al., 2009; Mattick et al., 2008). Furthermore,

buprenorphine/naloxone treatment was implemented successfully in both inpatient and outpatient treatment settings (Amass et al, 2004). Consequently, buprenorphine/naloxone may present an appealing alternative for treatment providers and organizations that wish to expand their services but are unwilling or unable (for instance due to regulatory issues) to obtain a license for the use of methadone. To facilitate the dissemination of buprenorphine/naloxone, NIDA and SAMHSA's have recently developed and published training materials for interested providers (Ducharme, Knudsen, Roman, & Johnson, 2007).

Numerous clinical trials have been conducted to examine the effectiveness of buprenorphine/naloxone (Ling & Wesson, 2003). In a recent meta-analysis of 24 clinical trials summarized the effectiveness of buprenorphine/naloxone for the treatment of heroin addiction compared to treatments that did not involve replacement therapy and compared to methadone maintenance. The authors found that buprenorphine/naloxone was significantly more effective than non-medication treatments in retaining patients in treatment and in the suppression of heroin use when provided in medium or high doses as measured by self-report and urine/hair analysis. They also found that buprenorphine/naloxone was less effective than methadone prescribed at adequate dose levels (Mattick et al., 2008).

Barriers to adoption.

Oliva and colleagues (2011) recognize that various pharmacotherapies, though considered to have a strong evidence-base, are largely underutilized in substance abuse treatment settings. Utilizing a multi-level framework, they describe in detail some of the

main system, provider and patient-level barriers to the adoption and use of pharmacotherapies (Oliva, Maisel, Gordon, & Harris, 2011).

System-level barriers include Government and insurance policies that impact the availability and cost of services, program characteristics (e.g., treatment philosophy) and practices (e.g., suboptimal dosing), lack of pharmaceutical industry support compared with other psychiatric medications, and logistical issues such as lack of access to prescribing physicians, limited clinical and administrative support, cost concerns, issues with coordinating care, difficulties obtaining medications at local pharmacies, and the burden of laboratory testing. Provider-level barriers to the adoption of medication-assisted treatment include informational barriers (e.g. inadequate training or lack of knowledge), provider perceptions and concerns regarding effectiveness and demand and their own ability to utilize these medications appropriately. In addition to cost and access, an important patient-level barrier is lack of information. Considerably less attention has been paid to research examining patient perspectives, knowledge, and attitudes regarding medication therapy, a possible avenue for future research (Oliva et al., 2011; see also McLellan, Lewis, O'Brien, & Kleber, 2000).

Though the authors do not utilize a theoretical framework to organize their review of the literature pertaining to barriers associated with the use of pharmacotherapies, their analysis supports the use of a multi-level approach when studying adoption and utilization of practices. The conceptual framework of neoinstitutional theory and institutional logics detailed in the next chapter can be used to examine how various organizational processes and practices are formed and shaped. This study proposes to

apply and test the framework to study the provision of pharmacotherapies in substance abuse treatment organizations in the U.S. Studies from the last couple of decades have been concerned with various forces that may explain or predict the provision of services in this organizational field. The following chapter also reviews the literature on how organizational practices are formed and shaped in the field of substance abuse treatment leading to research questions and hypotheses.

Chapter 3

Conceptual Framework

In an attempt to understand why organizations are so similar to one another, and why the adoption of new items and practices is often slow, neoinstitutional theorists argue that organizational practices are structured by processes originating in an organization's institutional field (DiMaggio & Powell, 1983; Fligstein, 1990; Meyer & Rowan, 1977; Zucker, 1988). Organizational fields refer to a group of organizations that "constitute a recognized area of institutional life: key suppliers, resource and product consumers, regulatory agencies, and other organizations that produce similar services or products" (DiMaggio & Powell, 1983, p.148). Interactions among organizations within a particular field result in the emergence of clear interorganizational patterns, and the development of an understanding regarding the nature of their shared environment (DiMaggio & Powell, 1983).

Neoinstitutional theory and forces influencing organization

Neoinstitutional theory highlights the manner in which organizations become more like other organizations in their field as a result of external pressures exerted on them (DiMaggio & Powell, 1983; Fligstein, 1990; Meyer & Rowan, 1977; Zucker, 1988). This homogenization, or isomorphism as it is more widely referred to, is a 'constraining process that forces one unit in a population to resemble other units that face the same set of environmental conditions' (DiMaggio & Powell, 1983, p.149). Neoinstitutional theory

posits that individual actors are unable to visualize alternatives and thus they diffuse shared beliefs, or institutional myths, across organizations (Fligstein, 2001).

DiMaggio and Powell (1983) describe three forms of institutional isomorphism: coercive, mimetic and normative.

Coercive isomorphism, results from pressure exerted on organizations by other organizations on which they are dependent for funding or legitimacy. This pressure can be formal (e.g. government mandate, laws, regulatory agencies) or informal (i.e. societal and cultural expectations of the environment).

Mimetic isomorphism results when organizations mimic other organizations that they view as successful in order to survive or gain legitimacy. By modeling others, organizations sometimes adopt innovations, without consideration of their effectiveness or efficiency.

Normative isomorphism results from the pressures exerted by the norms that emerge in an organizational field through professionalization and standardization. Organizations find themselves steered to adopt prevalent norms, standards and practices in order to find legitimacy in their organizational field.

Institutional isomorphism is hypothesized to progress even in the absence of any indication that the new models, practices or organizational structures being adopted are effective or efficient. Often is the case that the structure of an organization is a manifestation of the myths of the institutional environment, which pays little attention to what should be accomplished (Meyer & Rowan, 1973). In other words, in these cases efficiency is not the main priority (see also Thornton & Ocasio, 1999, 2008; Tolbert &

Zucker, 1983). DiMaggio and Powell (1983) suggested that if effectiveness is enhanced in a modeling organization (an organization that mimics others in its field), it is often a result of the organization being rewarded for its likeness to other organizations in its field, thereby gaining legitimacy, prestige and funding opportunities. Thus, an isomorphic organization is not necessarily more efficient than its less conforming peer.

While neoinstitutional theory provides an important framework for examining organizational change and stability, it has often been critiqued for being overly deterministic, unidirectional (i.e. top-down) and for ignoring the role of agency (discussed below) in processes of organizational change (Cooney, 2007; Fligstein, 2001; Scott, 2008). Giddens (1984) argued that neoinstitutional theory treats individual actors as passive and powerless in the face of institutional forces exerted on them (see also Fligstein, 2001).

Rational choice neoinstitutionalism emphasizes a fixed set of rules that allow for rational decision making processes among individual actors while sociological neoinstitutionalism emphasizes uncertainty and isomorphic processes that are led by professionals and governments. Neither form of neoinstitutionalism adequately considers the issue of agency - individuals' power to act independently, to make choices, to mobilize resources in order to impact social structures in the face of prevalent institutional logics, rules and myths (Fligstein, 2001).

A related issue, often neglected by neoinstitutionalists, is power. Neoinstitutionalism focuses on actors as disseminators of myths and rules, suggesting they have no real motive for taking action. Thus, neoinstitutionalism by itself cannot

answer questions pertaining to how and why new institutions emerge, which actors act, why they do so and what meanings exist or do not exist (Fligstein, 2001). Institutional logics, discussed in more detail the following section, extend neoinstitutional theory and provide a framework for better understanding conflicting institutional environments.

Institutional logics

Institutional logics expands neoinstitutional theory's focus on isomorphic institutional processes by incorporating the contradictory institutional forces at play in an organizational field. Institutional logics can be thought about as 'taken-for-granted sets of understandings about what kinds of things exist, what kinds of practices might be deployed and what kinds of rationales could be offered to legitimate actions taken' (Mohr & Guerra-Pearson, 2007). Further, institutional logics highlights the manner in which organizational practices are shaped by organizational actors, who in turn, are responding to their social locations in organization and within other networks (Thornton & Ocasio, 2008). These multilevel environments both constrain behavior and enable agency (Friedland and Alford, 1991; Jackall, 1988; Thornton & Ocasio, 1999). In other words, the underlying logics of institutions both structures heterogeneity and homogeneity, as well as shape innovation and change in organizations (Thornton & Ocasio, 2008).

Institutional logics were first conceptualized by Alford and Friedland (1985) to explain inconsistent belief systems and practices in institutions (Friedland & Alford, 1991). As mentioned above, institutional logics are similar to neoinstitutional theory in the emphasis on how organizational structure is shaped by institutional forces. However, the focus is not on isomorphism and conformity, but on how competing logics originating

in diverse environments shape organizational behavior. Institutional logics shape rational behavior of individuals while these organizational actors change the institutional logics and shape the organizational structure (Thornton & Ocasio, 2008).

Individual values, beliefs and identities are embedded within the dominant institutional logics, while change and innovation are the result of interactions between agency and structure. Organizational form and adoption of innovations are thus explained by variation in prevailing institutional logics, rather than by isomorphic processes and conformity, thereby allowing for consideration of stability as well as heterogeneity, conflict, and change (Friedland & Alford, 1991; Jackell, 1988; Thornton & Ocasio, 1999, 2008). Thus, the idea of institutional logics extends neoinstitutional theory by pointing out that organizational practices and structure are explained by different, often conflicting institutional environments, rather than by isomorphism and conformity.

Three concepts enunciated by institutional logics theorists have special relevance to the field of innovative service provision in substance use treatment:

Competing organizational identities: Scholars have argued that organizational identities, and associated ideologies are constituted by sets of social codes, rules, rituals and interpretive schema that an organization is expected to possess (Hannan, Polos & Carroll, 2005; Polos, Hanan & Carroll, 2002) and utilize to define its purpose (meaning-making). Organizational actors become the carriers of organizational identities (Hsu & Hanan, 2005). It is often the case that different sets of organizational actors adhere to different identities. Hsu and Hanan (2005) note that within organizations, ideological differences may exist between top managers and entry-level workers, permanent and

temporary employees, and female and male workers, whereas in the institutional field, differences may exist between extra-organizational actors such as regulators, critics, industry analysts, consumers and clients, and potential employees.

Differences in organizational identities can trigger change and innovation. Examining changes in the U.S. brewing industry, Carroll and Swaminathan (2000) note that consolidation between local brewing firms with mass-produced industrial brewing practices produced two unique forms of brewing that were in opposition to national breweries: microbrewery and brewpubs that prioritized small-scale handcrafted methods of beer production. Similarly, food-cooperatives have incorporated innovative and competing identities (McEvily & Ingram, 2003). Food co-ops that had adopted the practices of large supermarkets by creating hierarchical organizational structures, went back to cooperative structures, when for-profit chains began entering the natural food market niche. Clashes in identities between the two types of organizations forced smaller food-co-ops to distinguish themselves by adopting innovative horizontal and democratic organizational bureaucracies. This process of adoption of new ways due to identity competition is enunciated in a study on French gastronomy where Rao, Monin and Durand (2003) document the way in which the nouvelle cuisine movement led elite chefs schooled in classical cuisine to adopt new approaches, identities and technologies. In this case, adoption was a result of collective identity processes whereby organizational actors plugged into the interpretive schema (or movement frame) of the nouvelle cuisine movement in order to change old institutional identities.

The salience of milieus: Drawing on Bourdieu's (1988) notion of habitus to describe the extra-organizational institutional field which structures organizational behaviors, Everett (2002) notes that organizational actors belong to networks and milieus which are marked by particular cultural practices and beliefs. The cultural ethos attached to these milieus shapes actors' orientations and have the potential to influence their organizational behaviors and choices. Ozbilgin & Tatli (2005) emphasize the importance of Bourdieu's formulation of social and cultural capital in understanding the way organizational actors draw on various repertoires of capital in making decisions about organizational practices. They note that social relationships outside the organization (that help to build social capital), as well as the kinds of symbolic, ideological and affective processes that are nurtured (thus developing cultural capital) in these external milieus, are important influencers of behavior in organizations. In explaining the manner in which nouvelle cuisine redefined French culinary traditions in France in the 1970s, Rao & colleagues (2003) for instance, emphasize the manner in which acclaimed French chefs were influenced by the cultural networks they were embedded in at the time, many of which were instrumental in critiquing the status quo in other fields like the government, theatre, the arts and the humanities. Similarly, examining the way welfare workers negotiated rigid welfare-to-work organizational rules at welfare agencies, Cooney (2007) found that their personal connections to families and friends who were finding it hard to deal with the lack of jobs at the time, made them resist an organizational ethos that blamed welfare recipients for being unemployed.

Embedded agency: Institutional logic scholars note that organizational actors and organizations, embedded as they are in organizations and extra-organizational institutional fields, are shaped by organizational and institutional processes, but simultaneously have the ability to shape these processes themselves (Battilana, 2006; Friedland & Alford, 1991; Seo & Creed, 2002; Thornton & Ocasio, 2008). Organizations and institutions thus both constrain agency, but are also subject to it (Giddens, 1984; Sewell, 1992). Legitimacy, valence, power and leadership characterize the modes through which embedded actors achieve change and re-shape the structural processes that seek to shape them (Thornton & Ocasio, 2008).

Summary

Institutional logics as a theory considers the processes of the interplay between multiple ideal types present in the organizational field, and of the strategizing that occurs on the part of agency. While many neo-institutional theorists also discuss the multiple levels of institutions present, institutional logic theorists combine this discussion with a discussion of the role of agency embedded within organizations.

Thornton and Ocasio (2008), in discussing common misconceptions regarding institutional logics, point out that ‘ideal types are not a description of what happens in an organizational field. Ideal types are formal analytical models by which to compare empirical observations across institutions’ (p.119). They also point out that many studies consider ideal types and develop typologies of those ideal types within an organizational field, but fail to tie their analysis back to the institutional orders of the inter-institutional system.

Thus, in addition to considering the various logics that are at play in an organizational field, we must focus on the process of strategizing on the part of agency. As stated by Thornton and Ocasio (2008), ‘institutional logics, do not emerge from institutional fields – they are logically instantiated and enacted in organizational fields and in other places such as markets, industries and organizations’ (p.119). While considering ideal types of institutional forces in a particular field is important, the contribution of institutional logics is the process of local enactment of picking a particular logic over another, mixing logics, and bringing in personal logics from various networks.

In conclusion, the theory of institutional logics suggests that in order to paint a more detailed picture of how organizational practices are formed and shaped in a particular organizational field multiple factors and the interaction between them ought to be considered. Specifically, consideration should be given to the role of agency and the various networks they are embedded in, ideal types of institutionalisms present in the field and the (sometimes conflicting) logics related to them, and structural factors such as market forces, or internal and external organizational characteristics.

This study aims to explore the role these factors play in the adoption of medication-assisted treatment within the organizational field of substance abuse treatment. To this end, the following section provides an integrated review of previous organizational and institutional literature in the field.

Chapter 4

Literature Review

Though the conceptual model of institutional logics detailed in the previous chapter can be used to examine how various organizational processes and practices are formed and shaped, this study proposes to apply and test the framework to study the adoption of medication-assisted treatment in substance abuse treatment organizations in the U.S. Studies from the last couple of decades have been concerned with various forces that may explain or predict the adoption of new practices in this organizational field. The following section reviews the literature on how organizational practices are formed and shaped in the field of substance abuse treatment leading to research questions and hypotheses.

Neoinstitutionalism, Institutional Logics and Substance Abuse Treatment

Researchers have pointed to a substantial gap between the practices that research has shown to be effective and the practices that are utilized in the field of substance abuse treatment. In an effort to understand this gap, scholars have focused their attention on the role of institutional and organizational-level factors in the provision and utilization of services and in shaping organizational practices. They have pointed to the importance of studying substance abuse treatment at these levels as a means to inform decision makers and improve the quality of care (i.e. D'Aunno, 2006; Durkin, 2002; Hasenfeld, 2008).

Substance abuse treatment organizations have often been criticized for their slow adoption of new practices (Knudsen & Roman, 2004; Lamb et al., 1998; Roman &

Johnson, 2002; Sloboda & Schildhaus, 2002), with some scholars suggesting that various organizational characteristics play a significant role in explaining the adoption and implementation of new practices and technologies (e.g. D'Aunno, 2006; D'Aunno et al., 1991; Guerrero, 2009; Roman & Johnson, 2002; Simpson & Flynn, 2007). Of particular importance to adoption of innovations in substance abuse treatment are organizations' institutional environments, such as funding sources, licensing and accreditation agencies, and ownership, that may demand (or hinder) the adoption of new practices (Baum & Oliver, 1992; D'Aunno, 2006; Ghose, 2006, 2008; Hasenfeld, 1992).

While Simpson and Flynn focused mostly on organizational factors that are considered to be internal to the organization (such as motivation, institutional resources and staff attributes), D'Aunno (2006) emphasized the role of external institutional demands such as ownership, size of the organization, accreditation and managed care arrangements. Institutional theory scholars have described an interlocking system of institutional forces that shape organizational practices. The conceptual framework described by neoinstitutional theory and institutional logics is useful in understanding the organizational practices of substance abuse treatment facilities

Institutional Forces: Coercive and Normative

Both coercive, as well as normative forces influence service provision in substance abuse treatment programs. Coercive forces are associated with the control exerted by funding, licensing and parental organizational sources. Normative forces in substance abuse treatment are characterized by managerial attitudes that shape the norms

associated with service provision, as well as client characteristics that shape the standards of care associated with certain types of client profiles.

Coercive institutional forces

Funding and managed care arrangements: Treatment services rely mostly on public funding and insurance payments (Durkin, 2002; SAMHSA, 2011b), which come with ties (D'Aunno, 2006). Licensing and professional accreditation agencies can also influence services provided (D'Aunno, 2006), as can managed care firms (Durkin, 2002; Lemak & Alexander, 2001; Sosin, 2002). The growth of managed care as a source of funding in substance abuse treatment has been extensive in recent years (Alexander, Lemak & Campbell, 2003). Scholars have found that managed care regulation is negatively correlated with treatment intensity (Lemak & Alexander, 2001) and the number of services provided (Corcoran & Vandiver, 1996; Gold, Hurley, Lake, Ensor & Berenson, 1995; Olmstead, White & Sindelar, 2004), limits autonomy of the provider (Alexander & Lemak, 1997; Mechanic, Schlesinger, & McAlpine, 1995; Schlesinger, Dorward, & Epstein, 1996; Schwartz & Wetzler, 1998), does not increase technical efficiency in service provision (Alexander, Wheeler, Nahra & Lemak, 1998) and increases relapse rates (Sosin, 2005). In their study of early adoption of buprenorphine/naloxone, Knudsen and colleagues (Knudsen, Ducharme & Roman, 2006) found that private centers were significantly more likely than public centers to report current use of buprenorphine/naloxone.

Licensing: Ninety-five percent of substance abuse treatment programs in the U.S. reported being licensed, certified or accredited by at least one agency (81% by the their

state), 47% reported having agreements or contract with managed care firms, and 60% receive either federal, state or local government funding (SAMHSA, 2008). These high percentages suggest that demands made by these agencies are influential in determining services offered in substance abuse treatment programs. Research has shown this to be the case with mental health services in substance abuse treatment (Durkin, 2002), and in HIV prevention (D'Aunno et al., 1999). Facilities accredited by the Joint Commission on the Accreditation of Healthcare Organizations (JCAHO) were more likely to provide primary care and mental health services (Friedmann, Alexander & D'Aunno, 1999; D'Aunno, 2006), physical exams and routine medical care (Durkin, 2002), use antidepressants (Knudsen, Ducharme, & Roman, 2007b) and be early adopters of buprenorphine/naloxone (Knudsen et al, 2006). National and state licensing agencies are likely to have a broader picture of addiction, HIV and the importance of reducing HIV rates among intravenous drug users (D'Aunno et al., 1999).

Parental organizational control: Scholars have argued that external agencies influence organizations' adoption of practices and policies, specifically agencies on which the organization relies on for resources (Pfeffer & Salancik, 1978) and legitimacy (D'Aunno, 2006; DiMaggio & Powell, 1983). Parent organizations, such as hospitals or mental health centers are an important aspect of an organization's external environment. Research has shown that the type of parent organizations is an explanatory factor in the provision of services (D'Aunno et al., 1991, 1999; Ghose, 2006) and outcome of treatment (Ghose, 2008). D'Aunno and colleagues (1999) note that parent facilities tend to provide more financial and resource support to substance abuse facilities that adopt

methods, technologies and ideologies that are similar to their own. For instance, units affiliated with hospitals were more likely to provide medical care, HIV testing and HIV counseling services (D'Aunno, 2006; D'Aunno et al., 1999). Knudsen and colleagues (2006) found that early adoption of buprenorphine/naloxone was also positively associated with being located in a hospital setting.

The research suggests that coercive forces are at play in substance abuse treatment facilities:

1a) I propose that centers that have state licensing, JCAHO or CARF accreditation and a parent organization that is a medical facility will be more likely to provide medication-assisted treatment and be early adopters of new medication-assisted treatment modalities than organizations who do not have state licensing, JCAHO or CARF accreditation or parent organization that is a medical facility.

1b) Further, I propose that centers with a higher proportion of funding derived from managed care and those who report greater impact by managed care arrangements will be less likely to provide medication-assisted treatment and less likely to be early adopters of new medication-assisted treatment modalities than organizations with lower proportions of funding derived from managed care and those who report less impact of managed care arrangements.

Normative institutional forces

Norms in a substance abuse treatment agency are established through managerial attitudes and orientations as well as the kinds of clients an agency caters to.

Managerial attitudes: Managerial support for new practices is often crucial in the adoption process (D'Aunno et al., 1991; Klein & Sorra, 1996). For instance, D'Aunno and colleagues (1999) studied the adoption of HIV prevention practices in outpatient substance abuse treatment units and found that adoption was more likely when managers supported the efforts.

D'Aunno and colleagues stress the key role that institutional beliefs and norms play in the adoption of new practices in substance abuse treatment organizations (D'Aunno, 2006; D'Aunno et al., 1991; D'Aunno et al., 1999). Thus, adoption of organizational practices is often shaped by values within the larger institutional environment, rather than on efficiency (D'Aunno, 2006; Scott, 2008).

Rosenberg and Phillips (2003) studied attitudes towards harm reduction among providers of substance abuse treatment in the U.S. They found that while 50% of respondents (mostly persons in clinical and managerial positions) rated several forms of harm reduction as somewhat or completely acceptable; the interventions themselves were not widely available at their agencies. For instance, only 1% of agencies offered needle exchange programs, 9% offered long-term methadone maintenance, and 23% and 38% accepted non-abstinence as final and intermediate treatment goals, respectively. For most forms of harm reduction included in the study, the main reason reported for lack of availability was inconsistency with the agency's philosophy, followed by lack of

resources and funding. For non-abstinence treatment goals, the main reasons provided by respondents were inconsistency with the agency's philosophy, not wanting to send the wrong message to clients, and belief that these goals are ineffective. Though the authors collected some organizational level data, their study remained descriptive in nature, and possible associations between the availability of harm reduction strategies and characteristics of the agencies and staff were not explored.

Client Characteristics: Norms in the types of services offered are also established by the types of clients being served by agencies. Hasenfeld (1992) notes that clients comprise the "raw material" for human service agencies and often dictate the types of treatment and service technologies adopted by the organization. Examining the extent to which psychologists accept harm reduction practices based on characteristics of their clients, Wryobeck and Rosenberg (2005) found that previous treatment attempts and HIV status were positively associated with the acceptability of needle exchange among psychologists, while other client characteristics, such as gender, race, employment status and criminal history were not. The acceptability of short-term methadone was significantly associated with client populations having a longer history of use, and with more previous treatment episodes. In a sample of over 2,300 specialized substance abuse treatment facilities in the U.S., Ghose (2006) found that higher proportions of clients vulnerable to HIV infection were positively associated with the provision of specialized substance abuse treatment to seropositive clients. Another study, found that higher percentages of relapsers increased the likelihood a center will use naltrexone (Roman & Johnson, 2002). Early adoption of buprenorphine/naloxone was found to be associated

with the percentage of opiate-dependent clients (Knudsen et al., 2006). These findings suggest that substance abuse treatment facilities' orientation might be shaped by client characteristics.

Taken together, these findings suggest that managerial attitudes and client characteristics shape the normative environment with respect to treatment modality in a substance abuse facility.

2a) Thus, I propose that centers whose managers are more positive towards medication-assisted treatment will be more likely to provide them and be early-adopters of new medication-assisted treatment modalities than centers whose managers are less positive.

2b) I also propose that centers with higher proportions of clients with more serious drug and drug-related problems (e.g. opiate users, relapsers, dual-diagnosis) will be more likely to provide medication-assisted treatment and be early adopters of new medication-assisted treatment modalities than centers with lower proportions of these clients.

Institutional Logics

Several organizational factors that influence substance abuse treatment highlight the manner in which institutional logics shape service provision. Specifically, service provision is influenced by competing logics associated with different types of treatment ideologies, the types of milieu that providers are embedded in, embedded agency as

characterized by organizational age and size, as well as by characteristics of its leadership and their support for provision of services.

Competing Identity logics

D'Aunno and colleagues (1991) explored the recent changes in the substance abuse treatment system treatment by focusing on the merging of substance abuse and mental health treatment sectors, each of which was dominated by a different identity, and associated treatment ideology. The mental health orientation was embedded in a psychological perspective with degreed professionals providing treatment, while the 12-step orientation, based in an abstinence-only approach was implemented through recovering (often non-degreed) counselors providing the majority of treatment. Each ideology brought with it a set of underlying assumptions regarding the etiology of addiction, as well as a different set of technologies. Treatment units operating in this environment were thus subject to two beliefs systems, or sets of ideological logics, which were often at odds. The mental health approach favored therapy and evidence-based practices, while the abstinence approach relied on modeling and mentoring by those in recovery, and attendance of 12-step recovery groups. Similarly, Ghose (2006) found that a treatment program's modality was a manifestation of its ideology and internal ethos: methadone-maintenance programs that were partial to harm reduction methods were more likely to offer specialized treatment services to seropositive clients.

D'Aunno and colleagues (1991) studied 'hybrid units', treatment units that provide substance abuse services alongside mental health services. While acknowledging that each individual sector was dominated by a fairly distinct set of logics, they proposed that

hybrid units borrow from both sets, which were often at odds. Hybrid units, or mental health services that added a drug abuse component to their service, were exposed to new practices and beliefs. This exposure led to pressures of gaining legitimacy in the drug abuse sector on the one hand, but also being forced to adopt new, evidence-based treatment practices in order to stay legitimate in the mental health field. The authors proposed that hybrid units would incorporate practices consistent with both sets of beliefs, practices that might be ‘structurally incompatible’ with each other. Furthermore, they proposed that since organizations could not incorporate every new conflicting practice, they would favor those that helped them achieve a minimum level of legitimacy in the conflicting institutional environments. Consequently, they found that hybrid units emphasized the hiring of professionals more than drug abuse treatment units and the hiring of personnel in recovery more than mental health units. They argue that the inconsistent practices exhibited by hybrid units were a byproduct of the addition of abstinence as a treatment goal; that these units were not abandoning traditional mental health practices, but rather, mixing them with new practices, a phenomenon they termed ‘partial adaptation’.

The literature in this section suggests that competing identity logics influence the provision of services. Following D’Aunno’s lead, I propose that institutional identities (and associated ideological logics) as measured by the proportion of counselors in recovery and degreed counselors, and by centers’ emphasis on 12-step and medical models shape a facility’s decision to provide services.

3a) I propose that centers with higher proportions of recovering

counselors on staff will be less likely to offer medication-assisted treatment and less likely to be early adopters of new medication-assisted treatment modalities than centers with lower proportions of recovering counselors on staff.

3b) Further, I propose that centers with higher proportions of degreed staff will be more likely to offer medication-assisted treatment and be early adopters of new medication-assisted treatment modalities than centers with lower proportions of degreed staff.

3c) I also propose that centers with stronger emphasis on 12-step approaches will be less likely to offer medication-assisted treatment and less likely to be early adopters of new medication-assisted treatment modalities than centers with lower emphasis on 12-step approaches, and,

3d) that centers with a higher emphasis on the medical model will be more likely to offer medication-assisted treatment and be early adopters of new medication-assisted treatment modalities than centers with lower emphasis on the medical model.

The salience of provider milieus

While institutional logics emphasize the salience of habitus and external networks, scholars of substance abuse treatment facilities for the most part, have not explored the way the external habitus influences organizational processes. There is however, some evidence to suggest that it may play a crucial role in influencing

organizational decisions. D'Aunno and colleagues (1999) for instance, found that the more time managers spent in research conferences or professional meetings, the more likely they were to be familiar with new practices (like incorporating outreach services for clients) and support their adoption. Similarly, summarizing extra-organizational factors that influence service provision, D'Aunno (2006) notes that units whose directors were linked to external professional networks were more likely to provide HIV prevention, have collaborative relationships with other agencies and survive over time. Knudsen and colleagues (Knudsen, Abraham, Johnson, & Roman, 2009) linked the adoption of buprenorphine/naloxone to involvement in a buprenorphine/naloxone protocol.

I propose that milieus that support evidence-based practices will encourage managers to incorporate medication-assisted treatment. However, organizational actors are also connected to another important milieu consisting of persons in recovery and treatment alumni who have completed the program. This is especially true for those providers who are recovering themselves and are connected to those in recovery. Given the abstinence-based ideologies that people in recovery tend to adhere to (D'Aunno et al., 1999) I propose that these milieus would nurture a resistance to medication-assisted treatment.

4a) Therefore, I propose that centers with stronger connections to substance abuse treatment research networks will be more likely to offer medication-assisted treatment and be early adopters of new medication-assisted treatment modalities..

4b) I also propose that centers with stronger connections to 12-step recovery alumni networks will be less likely to offer medication-assisted treatment and less likely to be early adopters of new medication-assisted treatment modalities..

Embedded agency

Institutional logic scholars (Thornton & Ocasio, 2008) call attention to agency on the part of organizations and organizational actors, that is sparked by being embedded in institutional fields and organizational structures. While being entrenched in these structures can result in normative organizational behavior, it can also lead to the ability to make changes because of the power that is associated with familiarity with the field, and credibility within it. The length of tenure of both facility and managers, as well as the size of a facility measure the level of embeddedness and credibility within the treatment field.

Ghose (2006) found that size of agency (the number of clients served) was positively associated with the provision of specialized substance abuse treatment to seropositive clients. Another study found that size was positively associated with the early adoption of buprenorphine/naloxone (Knudsen et al., 2006). In their study on adoption and implementation of a new treatment technology, naltrexone (a drug that reduces the rewarding aspects of drug use) in privately funded substance abuse treatment centers in the U.S., Roman and Johnson (2002) found that adoption was positively associated with the age of the treatment program. Older centers were more likely to adopt naltrexone. Moreover, the tenure of managers in the field was also positively associated

with offering naltrexone. D'Aunno et al. (1999) also found that larger mental health-substance use hybrid facilities were more likely than smaller facilities of the same kind to depart from an exclusively abstinence-based model. They concluded that prevailing mental health practices were more institutionalized in larger organizations, thus allowing them to resist the abstinence-only treatment modality that accompanied mergers with substance abuse treatment facilities.

The literature in this section suggests that embeddedness of actors in an organization or an organization in an organizational field can at times allow actors and organizations to innovate, buck prevailing trends and instigate change.

5a) Therefore, I propose that centers whose managers are more embedded in an organization (as indicated by the length of their tenure) will be more likely to offer medication-assisted treatment and be early adopters of new medication-assisted treatment modalities than centers whose managers are less embedded in an organization.

5b) I also propose that centers that are more embedded within their organizational field (as indicated by their size and age) will be more likely to offer medication-assisted treatment and be early adopters of new medication-assisted treatment modalities..

5c) Finally, I propose embeddedness will interact with the correlates described in the previous sections to influence the provision of medication-assisted treatment to a greater degree.

Summary of proposals emerging from the literature review

The literature review indicates that the provision of medication-assisted treatment services being provided at a treatment facility is shaped by neoinstitutional forces, which are coercive and normative, as well as by institutional logics processes like competing ideologies, the salience of provider milieus and embedded agency.

Neoinstitutional forces

Hypothesis 1a (coercive): *I propose that centers that have state licensing, JCAHO or CARF accreditation and a parent organization that is a medical facility will be more likely to provide medication-assisted treatment and be early adopters of new medication-assisted treatment modalities than organizations who do not have state licensing, JCAHO or CARF accreditation or parent organization that is a medical facility.*

Hypothesis 1b (coercive): *I propose that centers with a higher proportion of funding derived from managed care and those who report greater impact by managed care arrangements will be less likely to provide medication-assisted treatment and less likely to be early adopters of new medication-assisted treatment modalities than organizations with lower proportions of funding derived from managed care and those who report less impact of managed care arrangements.*

Hypothesis 2a (normative): *I propose that centers whose managers are more positive towards medication-assisted treatment will be more likely to provide them and be early-adopters of new medication-assisted treatment modalities than centers whose managers are less positive.*

Hypothesis 2b (normative): *I propose that centers with higher proportions of*

clients with more serious drug and drug-related problems (e.g. opiate users, relapsers, dual-diagnosis) will be more likely to provide medication-assisted treatment and be early adopters of new medication-assisted treatment modalities than centers with lower proportions of these clients.

Institutional logics processes

Hypothesis 3a (competing identity logics): *I propose that centers with higher proportions of recovering counselors on staff will be less likely to offer medication-assisted treatment and less likely to be early adopters of new medication-assisted treatment modalities than centers with lower proportions of recovering counselors on staff.*

Hypothesis 3b (competing identity logics): *I propose that centers with higher proportions of degreed staff will be more likely to offer medication-assisted treatment and be early adopters of new medication-assisted treatment modalities than centers with lower proportions of degreed staff.*

Hypothesis 3c (competing identity logics): *I propose that centers with stronger emphasis on 12-step approaches will be less likely to offer medication-assisted treatment and be early adopters of new medication-assisted treatment modalities than centers with lower emphasis on 12-step approaches.*

Hypothesis 3d (competing identity logics): *I propose that centers with a higher emphasis on the medical model will be more likely to offer medication-assisted treatment and be early adopters of new medication-assisted treatment modalities than centers with lower emphasis on the medical model.*

Hypothesis 4a (salience of milieus): *I propose that centers with stronger connections to substance abuse treatment research networks will be more likely to offer medication-assisted treatment and be early adopters of new medication-assisted treatment modalities..*

Hypothesis 4b (salience of milieus): *I propose that centers with stronger connections to 12-step recovery alumni networks will be less likely to offer medication-assisted treatment and less likely to be early adopters of new medication-assisted treatment modalities.*

Hypothesis 5a (embedded agency): *I propose that centers whose managers are more embedded in an organization (as indicated by the length of their tenure) will be more likely to offer medication-assisted treatment and be early adopters of new medication-assisted treatment modalities than centers whose managers are less embedded in an organization.*

Hypothesis 5b (embedded agency): *I propose that centers that are more embedded within their organizational field (as indicated by their size and age) will be more likely to offer medication-assisted treatment and be early adopters of new medication-assisted treatment modalities.*

Hypothesis 5c (embedded agency): *I propose embeddedness will interact with the correlates described in the previous sections to influence the provision of medication-assisted treatment to a greater degree.*

Gaps and Limitations of Current Research

The studies described above are useful in identifying many predictors crucial to the adoption of new practices, yet several gaps can be identified. Many of the studies, with the notable exception of D'Aunno and colleagues do not attempt to organize their hypotheses based on a theoretical framework. Furthermore, most studies reviewed explore only organizational and/or institutional level factors, and tend to underplay the possible role of agency in the adoption of practices. For instance, D'Aunno and colleagues (1991) discuss how strong evidence or emotional and ideological arguments in favor a particular practice may tempt managers (individuals) and organizations to abandon one practice for another, hinting that agency might has a role in organizational processes. However, they do not examine the unique role of agency or the strategizing that occurs. This study addresses this issue by using the more comprehensive framework of institutional logics to explore technological adoption.

Qualitative studies exploring possible individual-level factors pertinent to the adoption of new practices in substance abuse treatment are rare. As a result, discussion of the unique as well as combined effects of these various levels of analysis is scarce, and discussion of the processes that shape organizational practices is missing. This study will employ qualitative methods to examine the various institutional forces in the field of substance abuse treatment, and to explore the logics at play and the role of agency in bringing change to dominant logics.

The proposed study addresses these limitations by using a multi-level conceptual framework to identify possible predictors to the adoption of new practices, and to

interpret the findings. In particular, this study attempts to introduce the role of agency into decision-making regarding the adoption of practices in substance abuse treatment, in addition to exploring organizational characteristics and institutional demands. Further, this study uses qualitative methods to enrich the knowledge of the various forces, such as the role of agency and networks, contributing to or hindering the adoption of new practices.

Chapter 5

Research Design and Methods

Overview

This study proposes to explore the hypotheses presented in the previous chapter using a mixed-methods approach. Qualitative interviews with managerial level staff at substance abuse treatment centers in the greater Philadelphia area and New York City were conducted. The interviews were semi-structured and explored perceptions of treatment philosophy, the merging of substance abuse and mental health, managed care in substance abuse treatment, services, funding, licensing and accreditation and personal and professional networks. The content of these interviews was transcribed from audio recordings and analyzed to reveal recurring themes and answer the research questions. Secondary statistical analysis of a national data set of private substance abuse treatment centers and their characteristics was then used to test the research hypotheses quantitatively.

Qualitative analysis plan

In order to explore institutional forces and institutional logics, and the manner in which they influence the provision of medication-assisted treatment, I conducted 30 semi-structured qualitative interviews with managers of substance use treatment facilities operating in the greater Philadelphia area and in New York City. The first wave of facilities was selected from a list of treatment facilities available at the Treatment Research Institute (TRI) in Philadelphia, with which the investigators are affiliated. The

TRI host the Delaware Valley (DV) node of NIDA's Clinical Trials Network (CTN) and therefore has contact with various treatment organizations in the area. Initial contact with the managers of these facilities was facilitated by the fact that many of them have worked with TRI in the past. These facilities were in the Greater Philadelphia area. The second wave was sampled through snowball sampling methods whereby managers in the first wave referred me to other managers to the study or put me in touch with them, several of these referrals were to facilities in New York City (a place frequented by the investigator for another project).

Managers were contacted by phone and/or e-mail and the purpose of the study and the reason for their selection was explained. A face-to-face interview was arranged if they agreed to participate in the study (no one who was approached declined participation). Interviews typically lasted about an hour. All interviews were taped and transcribed. Interviews explored the types of services provided and the processes shaping decisions to provide them and information about personnel, clientele, funding, treatment philosophy, services and professional networks (see appendix 1).

Inclusion and exclusion criteria: Subjects had to be (1) one of the principal decision-making managers of his or her substance abuse treatment facility, (2) able to communicate in English, and (3) understand and sign the consent form.

Data collection and analysis: All interviews were transcribed by the author for textual analysis. A grounded theory approach was utilized by the author to code the interviews (Glaser & Strauss, 1967). Concepts that emerged from earlier data informed

the coding of subsequent interviews. The first round of coding identified primary codes. Subsequent rounds identified axial codes.

Concepts related to the content areas described in the literature review – coercive and normative forces, competing identities, milieus and embedded agency were explored. They were be used to further operationalize the quantitative variables described below when appropriate, and to frame and enrich the discussion of the results.

Secondary analysis plan:

Sampling: The National Treatment Center Study (NTCS) is a family of projects dating back to 1995, designed to document and track changes in the organization, structure, staffing, and service delivery patterns of substance abuse treatment programs throughout the U.S. For the proposed study, I used the NTCS, which is a nationally representative survey of 405 private substance abuse treatment facilities, conducted between 2002-2004 by a group of researchers at the Institute of Behavioral Research at the University of Georgia. This is the fourth time this survey of privately funded centers has been conducted (Roman & Johnson, 2004). This dataset is not available for public use and was graciously made available to the researcher by the principal investigator, Dr. Paul Roman, and his colleagues at the University of Georgia.

Centers were selected using a two-stage statistical sampling process to ensure representation across geographic regions and inclusion of a wide range of treatment facilities. First, all counties in the U.S. were assigned to one of 10 geographic strata of equivalent size, based on population. Next, counties within strata were randomly sampled. All privately funded treatment centers in those sampled counties were then

enumerated using published directories, yellow pages listings, and survey sampling databases. Centers were then sampled proportionately across strata. Over time, centers that have closed or declined to participate have been replaced with other eligible private centers from within the same geographic stratum, such that we maintain the geographic representativeness of the sample and a target sample size of about 400 centers at each wave of data collection (Roman & Johnson, 2004).

Eligibility criteria for centers: Eligible centers were those offering treatment for alcohol and drug problems, at a level of care at least equivalent to structured outpatient programming as defined by the American Society of Addiction Medicine's Patient Placement Criteria. Counselors in private practice, DUI / driver education programs, halfway houses, and programs offering exclusively methadone maintenance services were not eligible (a separate survey collected information about these programs). Programs with methadone units were eligible if other (non-maintenance) addiction treatment services meeting ASAM level of care criteria were available. Additionally, because the research design focused on privately funded treatment services available to the general public, treatment units based in correctional facilities and those operated by the Veteran's Administration were not eligible (Roman & Johnson, 2004).

Data collection procedures: Administrators and clinical directors of each participating treatment center provided data in face-to-face interviews that were conducted between 1995-1996. These interviews were repeated in 1997-1998, 2000-2001, and 2002-2004. This final wave of data will be utilized for this research, allowing

for an exploration of early adoption of buprenorphine/naloxone (approved for use in 2002) compared to methadone, a medication that has been available for several decades.

Interviews focused on organizational structure, management practices, personnel (number and type), case mix, and services offered. A particular focus was the centers' adoption and use of various evidence-based treatment techniques, including pharmacotherapies and psychosocial therapies for addiction treatment (Roman & Johnson, 2004).

The NTCS is often used in studies examining the association between organizational characteristics of substance abuse treatment programs and the adoption of various practices and provision of services (e.g. Abraham, O'Brien, Bride & Roman, 2011; Abraham & Roman, 2010; Rothrauff, Abraham, Bride & Roman, 2011). Though it is a large nationally representative sample, rich in its institutional variables, several limitations with regard to this dataset can be anticipated:

First, the available data are cross-sectional and therefore any analysis cannot include historical trends or changes.

Second, the available data include only private substance abuse treatment facilities. Therefore, comparing privately funded facilities to publically funded ones is not possible. In previous studies this has been a variable of interest (e.g. D'Aunno, 2006; Friedmann, Durkin, Lemon, & D'Aunno, 2003; Knudsen et al., 2006). The NTCS uniquely defines private centers as those receiving less than 50% of their annual operating revenues from government grants or contracts, and collects data on the proportion of funding from managed care sources. Therefore, we will use the proportion

of managed care funding as a predictor variable. We will also explore themes related to funding in our qualitative data.

Third, the survey did not include validated scales or other previously used measurement for the concepts of interest. Of course, since I am conducting secondary data analysis, it is important to note that the survey was not constructed with specific goals of theory testing in mind, so not all measurements are theory driven.

Dealing with missing data: The NTCS is a very long survey conducted often over several interviews. It is complex and overall requires several hours to complete. As such, missing values occur in several of the variables of interest. Multiple Imputations (MI) for handling missing values were performed. Imputation is the substitution of some value for the missing values, allowing for complete-case analysis rather than list-wise deletion, which can significantly reduce the sample size. Single imputation methods, such as imputing with a single arithmetic mean value, are traditional methods for dealing with missing values. However, multiple imputation is increasingly being used (Allison, 2002; 2010; Enders, 2010).

Multiple imputation is a 3-step process. First, multiple datasets are generated according to a specified imputation model. In each generated dataset the missing values are replaced with regression-estimated values. Second, data analysis, in which standard analytical techniques are performed on each imputed (i.e., completed) dataset to obtain a set of data estimates; the obtained estimates are adjusted for missing-data uncertainty (variances). Finally, results are pooled from the completed-data analyses into one MI dataset.

Multiple imputation assumes that the data are at least missing-at-random. Another assumption of MI is that variables in the model have a multivariate normal distribution. However, the imputation method seems to work well even when this assumption is clearly violated (Allison, 2010). Stata 11.0 was used for all MI and statistical analysis.

Allison (2010) recommends that the imputation model include all the variables that are to be included in the regression models to be tested on the imputed dataset. Table 5.1 summarizes the variables included in the imputation model and details their percent of missingness. Allison and (2010) and von-Hippel (2009) both recommend 'transform then impute'. Therefore, continuous variables which did not meet the assumption of normality were transformed before performing the multiple imputations, though normality violations of variables may not pose a serious threat to the multiple imputation parameter estimates (Enders, 2010).

Analysis: Means, standard deviations and frequencies were calculated for all variables, and distributions were examined. In all analyses, the assumptions underlying the application of all the statistical methods that are used (such as normality) were examined, principally through the use of standardized residuals, influence diagnostics, and graphical displays. Variables were transformed when appropriate. Logistic regression models were used to examine the effects of the correlates described and in the hypotheses above operationalized below on the dependent variables. In order to identify the most parsimonious model, the significant correlates in each model were retained.

Table 5.1
Summary of Variables Used in the Imputation Model and % of Missingness
(N=369)

| Variable | % missingness |
|---|----------------------|
| Currently treat with methadone | 0 |
| Currently treat with buprenorphine/naloxone | 0 |
| Currently provide MAT (methadone or buprenorphine/naloxone) | 0 |
| State licensing | 0.3 |
| JCAHO accreditation | 1.1 |
| CARF accreditation | 1.1 |
| Parent organization medical facility (dummy variable) | 0 |
| Participation in research - ever | 1.4 |
| Use of ASAM to match client with appropriate level of care | 0.8 |
| Use of ASI during intake | 0.8 |
| Active alumni program | 0.5 |
| Proportion of MC funding | 20.9 |
| Impact of managed care arrangements (mean of 17 items on a scale of 0-5 each) | 13.3 |
| Orientation to medical/psychiatric model of addiction (0-5) | 0.5 |
| Proportion of clients with dual diagnosis | 26.3 |
| Proportion of clients who are relapsers | 3.3 |
| Proportion of clients with primary diagnosis of opiate dependence or abuse | 5.7 |
| Proportion of counselors – MA level or higher | 20.6 |
| Proportion of counselors in recovery | 19.2 |
| Knowledge of CTN (0-5) | 0.5 |
| Alumni activity (mean of 6 items on a scale of 0-5 each)* | 0.5 |
| Manager tenure at organization (years) | 2.7 |
| Manager tenure in BH field | 0.5 |
| Age of organization | 3.5 |
| Facility size (# of admissions/FTE's) | 10.6 |
| 12-step orientation (mean summary of yes responses to 4 questions) | 0.3 |
| Proportion of clients who are women | 1.4 |
| Proportion of women clients who are pregnant | 2.7 |

Variables and measures.

Dependent variables.

The unit of analysis in this study is substance abuse treatment centers. Using the NTCS, provision of medication-assisted treatment is operationalized at the treatment center level and is measured dichotomously – does the center provide methadone or buprenorphine/naloxone (yes/no). Early adoption of medication-assisted treatment is also measured dichotomously via the provision of buprenorphine/naloxone (yes/no), which was approved for use in 2002. This wave of the NTCS was collected between 2002 and 2004, during the first couple of years from the introduction of buprenorphine/naloxone.

Independent variables.

The independent variables in this study are the various institutional forces and logics operating in the organizational field of substance abuse treatment. I now turn to operationalize each group of independent variables in accordance with the hypotheses (see also figure 5.1).

Coercive Factors:

Data on JCAHO and CARF accreditation was collected (yes/no), and administrators were asked whether the center was licensed by the state (yes/no).

Type of parent organization - administrators were asked to report whether parent organization was state/county, local, hospital, individual, corporation, religious, university, private, board of directors or other type of organization. A dummy variable was created for organizations whose parent facility was a hospital (yes/no).

Proportion of managed care funding - proportion of managed care funding was computed by dividing the amount of funding (in dollars) from managed care sources (HMOs, PPOs, POSs) by the total revenue of the center (continuous measure).

Impact of managed care arrangements - Administrators were asked about the impact of managed care on various organizational practices (each on a scale of 0-5). Questions included to what extent does managed care: (1) recommend the content of the treatment plan (2) change the content of the treatment plan recommended by your staff (3) require that communication for authorization of further treatment be conducted with the client's primary clinician (4) refuse authorization of further treatment even though center staff recommends that treatment continue (5) require written communication by members of your staff (6) require efficiency in your center's treatment protocols (7) require members of your staff to coordinate care with health care or social service providers on behalf of clients (8) require your staff to closely monitor client progress (9) require verification of quality assurance procedures (10) require your staff to pay attention to matching clients with appropriate level of care (11) require staff awareness of effective treatment practices (12) require close monitoring of center's operating costs (13) require close monitoring of patient charges (14) require negotiation for provision of services (15) require negotiation for patient charges (16) require staff training and development, and finally (17) to what extent has managed care led to the development of new standard operating procedures in your center. A mean score ranging was calculated to measure the level of managed care involvement.

Normative Factors:

Attitudes towards medication-assisted were not measured in the NTCS, and will be explored in depth using the qualitative interviews

The proportions of clients who are relapsers (have been in treatment for their drug dependence two or more times), have a primary diagnosis of opiate addiction, and are dually diagnosed were also assessed directly in the survey (continuous measure, assessed by a direct question in the survey).

Competing identity logics:

Administrators were asked how many counselors employed at the center were in recovery. Proportions of staff in recovery were calculated by dividing this number by the total number of counselors at the center.

Administrators were asked how many counselors employed at the center held a master's degree or any higher degree. Proportions were calculated by dividing this number by the total number of counselors at the center.

Centers' emphasis on the 12-step approach is also operationalized at the treatment center level. Directors were asked (1) whether their program is based on the 12-step model, (2) whether attendance in 12-step meetings during treatment is mandatory, (3) whether 12-step meeting were held at the center and (4) whether there is a direct effort to link clients with 12-step programs at discharge. A composite score ranging from 0 yes responses (low emphasis on 12-step approaches) to 4 yes responses (high emphasis on 12-step approaches) was compiled.

Center's emphasis on the medical model was assessed directly in the survey (on a scale of 0-5).

Salience of milieus:

Connections to research – directors were asked if their center has ever participated in research (yes/no), director knowledge of the Clinical Trial Network (on a scale of 0-5), and use of standardized addiction measures to assess clients' level of addiction (ASI and ASAM).

Connections to alumni networks – directors were asked whether or not the agency has an active alumni program. If the answer was yes, they were asked to what extent (on a scale of 0-5) alumni were involved in 6 areas: (1) referring patients, (2) serving as 12-step sponsors, (3) volunteering, (4) making charitable contributions, (5) serving on the board, and (6) lobbying for funding. A mean score was calculated to measure the level of activity.

Embedded Agency:

Clinical directors were asked to provide personal background. They were asked about their tenure at the center and in the behavioral health field (in years).

Administrators were asked to report the age of their center. Size of center was operationalized as the number of full time employees.

Organizational Correlates of Medication-Assisted Treatment Provision

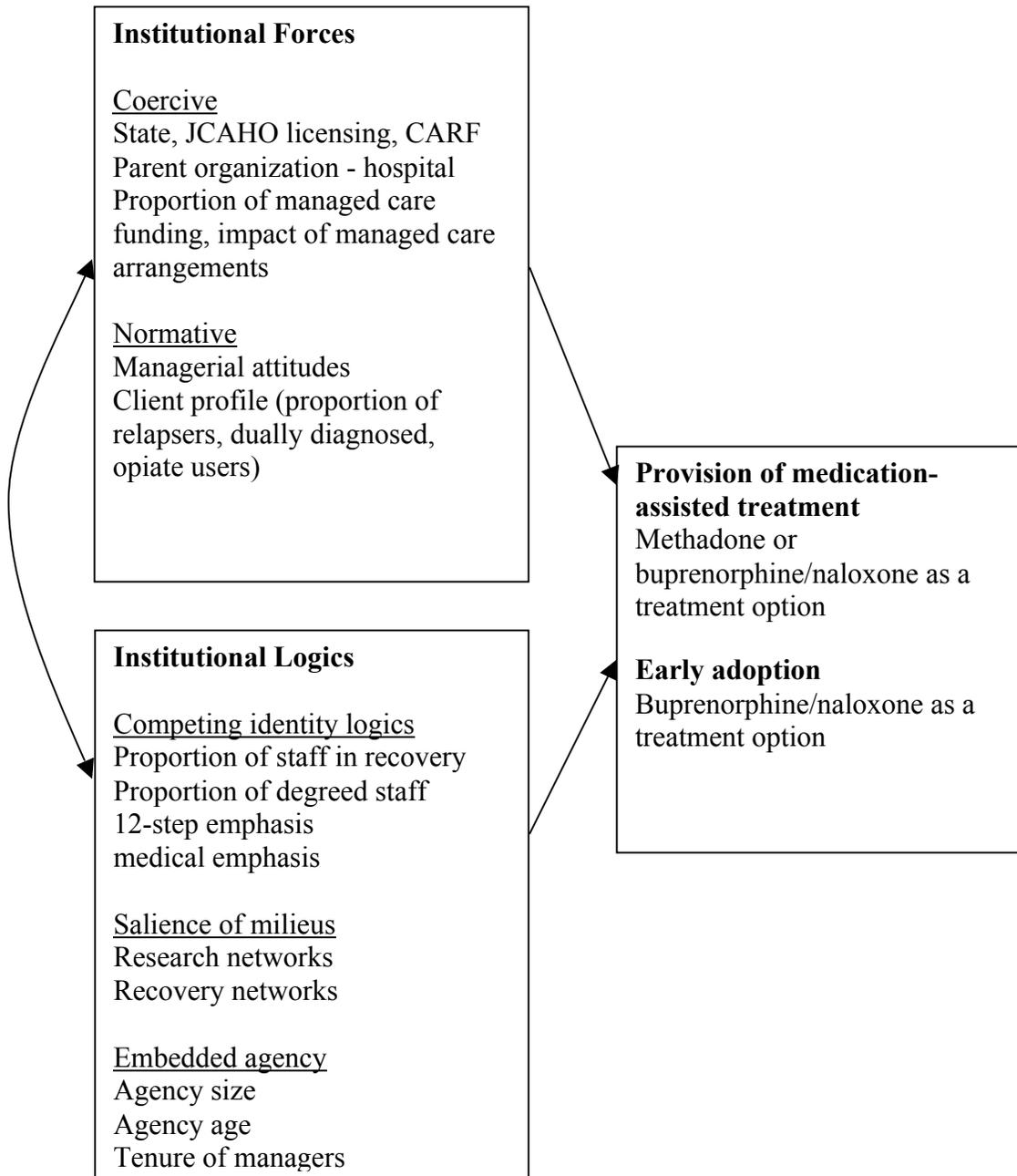


Figure 5.1: Predictors of medication-assisted treatment and early adoption

Chapter 6

Findings

Chapter Overview

This chapter presents findings of the study, both qualitative and quantitative. First, in the qualitative section, I discuss the main themes that emerged from the interviews. The goal of this section is to foster a nuanced discussion of factors that may be salient to organizational service provision and adoption of practices in the field of substance abuse treatment. In the quantitative section I first present descriptive statistics on the relevant dependent and independent variables. I then present a series of logistic regression models to examine the extent to which the identified organizational and institutional characteristics (independent variables) affect the likelihood of providing medication-assisted treatment, being early adopters of medication-assisted treatment and providing methadone (dependent variables).

Qualitative Findings

Thirty face-to-face interviews with managers and directors in substance abuse treatment centers between were conducted May 2009 and June 2011. An analysis of the content revealed that networks, individual agency and competing ideologies are extremely salient factors in service provision and adoption of practices and that these factors can either compliment or battle coercive and normative forces. Specifically, much attention was paid by interviewees to the coercive and normative forces that play a central role in organizational change, while simultaneously stressing the active role of

individuals within the organization to promote or hinder change. For heuristic purposes, the five central themes presented in the theoretical framework chapter, will be used to frame the results. These themes were often complicated by personal attitudes and beliefs.

Coercive institutional forces

Coercive forces are associated with the control exerted by funding, licensing and parental organizational sources. Almost all of the interviewees pointed to issues of funding, licensing and accreditation as forces that hinder service provision. This was particularly strong for managed care arrangements. One CEO of a large hospital-based program said:

[The drug and alcohol field] has changed considerably. It has gotten much more professionalized. Now it's getting tighter and tighter with regulations. [We] have to do a lot more for a lot less... [There are] HMO changes and the behavioral health carve outs. All of that stuff has changed how we do things ... They [licensing and accreditation agencies] are all over us. We answer to more people than you can think of. All of them have different agendas ... None of them line up, which is one of the greatest difficulties. JACHO has their set of expectations and state have their set of expectations and CBH which is the major HMO for Medicaid recipients in Philadelphia have their expectations. It would be nice if the three of them would talk occasionally and realize they are asking for the same thing. But it doesn't work that way. Each one of these individuals who come with each given agency come with their own expectations and their own biases as to what something should look like and how it should be written in the treatment plan, how it should look like in the progress notes. One person may think it's completely satisfactory and another person may look at it at from a different angle and say it's completely unsatisfactory. So we try to aim for the most stringent of the reviewers but we still wind up missing the mark.

The program director provided an example (similar examples were provided by several other interviewees):

They [licensing and accreditation people] are stringent about a lot of things. Especially how methadone is kept and stored. How it is spent. They are specific about a lot of stuff. And it's really difficult to get them [to allow us] to modify [services] or get exceptions if they are seeking methadone, that is, requesting opioid replacement therapy, then there are very specific rules as to do who can get on the methadone program regarding the rate of addiction etc. There are a whole bunch of rules. The other services are not so stringent. Somebody can walk in off the street and say that they are a cocaine addict, say 'I want something to use' ... In all likelihood you can sit there and see what they need recipient and probably can get them started [in treatment] and get the process moving.

This example also suggests that client characteristics (not being an opiate addict) may be interacting with licensing (a coercive force) to influence certain types of services.

Managed care arrangements were discussed by many as hindering service provision. One director, whose thoughts were echoed by several other interviews, said:

[Managed care] was a major problem when it first came in. Because they don't want to pay for anything... When they did decide to carve out behavioral health - give it to CBH for Medicaid patients, it has worked much more smoothly. A lot of bumps in the beginning, but worked smoothly. They pay for designated services of substance but they do not cover methadone treatment. They will not cover it at all. And that is, unfortunately, an argument that we haven't been able to win with them.

Another director of a public treatment center added:

I've seen that the people that they [managed care firms] are authorizing are people who have had a shorter time of addiction. People who are chronic substance abusers, they are not letting in treatment, and they are the people who are more impaired and more in need.

The last quote, which also supports that client characteristics play a role in service provision, was reflected in a number of other interviews. It is interesting to note that the

director suggested that managed care arrangements prevent his organization from treating clients with more serious issues.

A program director at a very large and established private organization described how issues with managed care arrangements caused the organization to modify its entire structure, also causing changes in the types of clients they treat:

When I first started here, we had county contracts. We did managed care. At that point we were also were defining programs around that. We had a short-term stabilization program, because that's all managed care would fund. At some point our leadership team decided that rather than designing programs to meet other people's needs, we were going to design treatments to meet the patient's needs. So then we designed programming. It reminds me of the 'Field of Dreams' movie – if you build it, they will come... So then we switched to a private pay facility. And so our patients then choose to pay. And we can offer scholarship dollars in relation to that ... Our clientele currently are those who can afford it. Previously when we had county contracts and things of that nature we were having patients of the county that were sent here.

This director suggested that managed care arrangements prevented his organization (formally a public one) from treating clients with more serious substance use problems.

While his organization was not willing to accept the situation and switched to private pay, it seems that the new structure also prevents the organization from treating certain types of clients – those who cannot afford their services. This supports the notion that while managed care is crucial to making services affordable, it is also restrictive.

One director discussed issues of funding and managed care particularly in reference to medication-assisted treatment. He suggested that different factors might be influencing the provision buprenorphine/naloxone and methadone, a point made by many other interviewees. Specifically, he suggested that managed care promotes the provision

of methadone because it is a cheaper medication, while not giving clients an alternative treatment options:

So, of course, now there is a big move to move to medicated assisted treatment ... the suboxone people and the methadone people. The suboxone people are saying - and it does look to me like it's a great drug - that it is much better for opiate addicts because it's the blocker ... and it's not as addictive as the methadone. So I don't know why people are struggling with switching that off. Now suboxone is very expensive and I don't think Medicare pays for all of it. There must be some financial thing to it. But methadone is pretty cheap. The idea of health choices, which is a state initiative that PA has to follow, says that each client has the choice. These clients clearly do not have a choice and how managed care is getting away with it is they are saying 'well, we are giving them a choice, we are telling them you either go on methadone or you don't go anywhere'. Well, that's not a choice. If the client says openly 'I don't want methadone' then they say 'well, I'm sorry, that's what we are giving you, that's your choice, we are giving you something'. So it is the genocide. I've had a lot of parents call me, at least 10 in the last year, parents of young heroin or benzodiazepine addicts, I've had 2 grandparents call me ... they went and bought suboxone of the street and detoxed their own kids because they didn't want to go back on methadone. So it is causing another kind of unofficial system to go on.

Several interviewees discussed other ways in which managed care affects their organization, as exemplified by the following quote. The director of a large methadone program, discussing managed care oversight and education requirements, pertaining to hiring decisions said:

[Managed care monitor us] in a couple of different ways. One, the most obvious, they come in and say 'you have service - show us the documentation. And you better have the documentation available! ... Another way they control level of care is through authorization of services... So there is definitely oversight that way. Oversight and control ... it's much more obvious with inpatient treatment, hospitalization, residential. They are much more stringent than outpatient. Also, I have seen that has probably resulted in elevation of the sort of minimum education requirements. I can't say that it has formalized anywhere. ... We used to be able to hire people with life experience. And they could be

counselors with life experience and very little academic training at all... in state recovery. Pennsylvania now has very stringent rules. The educational requirements and experiential requirements to be called a counselor is a minimum bachelor's degree, preferably a master's degree. So the folks that we used to be able to bring on board, we can't bring on board because of the supervisory requirements that are imposed upon us. It's just too burdensome.

This last quote also hints at some of the complexities and interactions that might be affecting service provision in the field. For example, while managed care might affect service provision directly, it is also possible that it interacts with factors such as counselor credentials, education and recovery status (competing identity logics) to impact service provision indirectly.

Normative institutional forces

Normative forces in substance abuse treatment are characterized by managerial attitudes that shape the norms associated with service provision, as well as client characteristics that shape the standards of care associated with certain types of client profiles. Managerial attitudes are the only force I was unable to explore in the quantitative data set. Therefore, this section on normative institutional forces is comprised of two parts: themes related to client characteristics are followed by a broad discussion of managerial attitudes.

Client characteristics.

Interviewees often pointed to the unique or changing needs of their client populations, and how these needs often determine the types of services offered and the

level of care. They also pointed to changing needs of client population as a catalyst for adopting new practices, particularly when those were in line with organizational ideology. In addition to clients suffering from opiate abuse as well as clients with dual-diagnosis, many pointed to HIV status and demographic characteristics of the clients, such as age, race, religion and gender as influencing service provision. One director discussed his program's opiate addicted clients:

We have patients on methadone for a long time who are very low dose and they just do not want to detox. Nobody says that they have to go. We have to accept people with such high dose that they are a danger to themselves and everybody else. We use to have a cap of 80mg of methadone. In Philadelphia it's just not sufficient. So they have done away with caps. A lot has changed because everyone was requesting exceptions.

While this quote exemplifies how client needs and desires were instrumental in modifying an organizational practice, this next quote, by a director of a women's program, suggests that normative forces have an effect but that they take a back seat to organizational ideology. It also suggests that client characteristics might be interacting with each other to influence service provision (in this case opiate addiction and gender):

That program also is a fairly traditional 12-step program. The women's treatment plans are all about what steps are you on. We do use methadone for maintenance for women who are in pregnancy, but then detox them after.

This was not the case in another 12-step oriented program that encounters pregnant women who were opiate abusers. Rather than provide a service that is at odds with the organizational ideologies, this organization does not accept pregnant women into treatment. The program stated: "We don't accept pregnant women who are on opiates, mainly because we don't do maintenance, and that's what they need."

Many other interviewees discussed methadone in the treatment of opiate addicted women in general, and pregnant women in particular. Methadone, though often viewed as replacing one addictive substance with another, was generally more acceptable for this population, even if not adopted in a particular organization.

This next quote by another director of a women's' program discussed how her personal views towards methadone for pregnant women over the years have shaped services provision, suggesting that her long term embeddedness in the field might be interacting with normative forces to influence service provision.

We've seen a tremendous increase in the number of clients that they are forcing on to methadone. But everybody knows that I caused a big hoopla in the city when I was working for a women and children's program - used to be straight D&A. It is now a methadone program. Before it turned into a total methadone program I was responsible for evaluating face-to-face interviews with all the women who were going over there who were on methadone. Well, I had a real problem with all this, because most of the women who were coming to see me were pregnant, and they were really dosed up. So dosed that they could not really participate in the interview, nodding out, really out of it on very high doses of methadone - which I kept denying them. I said 'something is wrong here', I made a big stink about it and the medical director over there called me because I said 'aren't they like breaking the law? I don't think you are allowed to have a certain amount of dose.'. Well, I learned a lesson then, too. Because when you are pregnant you can be on a very high dose of methadone because your fetus takes more of the methadone. I said 'well, ok, but I think they on too high of a dose'. They couldn't even sit, they were really literally nodding out. But we admitted them and what happened was I was trying to stop, I was resistant to the organization turning into a methadone and children's program, but I lost that fight because I was the only one. Nobody else cared. So here they are now - a methadone women and children's program. But I hired some of the people who worked there, too and they said what happens to those babies afterwards, it's inhumane.

This director, who was unable to change her former organization's practices based on her experience and beliefs, mentioned it was the main reason she left that organization. She

chose to work for an organization that does not treat pregnant opiate addicts with methadone.

Another director of a therapeutic community pointed to the complex relationship between client characteristics, funding and organizational philosophy:

Our philosophy is abstinence. We only have one program that is a women and children program that takes chronically mentally ill women and their children. The only way we were able to get this grant is that we had to sort of get in bed with them and say – ok, if you have a methadone woman, we agree that we will take one or two of them. But other than that we don't have maintenance, nothing like that because the concepts and just the values of the therapeutic community are abstinence, drug-free.

Another director of a program for adolescents explained how working with adolescents has led to treatment practices that are not necessarily in line with the organizational ideology, at least initially:

Our company is an abstinence-based program. ... That being said, you deal with adolescents, you have no option but harm reduction at times ... When you are moving somebody through the stages of change, and then they come in not ready for abstinence and you have to then prepare them for an IOP and meet with them individually. So you are trying to reduce their risk while moving them along.

Therefore, while encountering and treating pregnant women might facilitate the adoption of methadone by some programs, long-term methadone maintenance for women who are not pregnant remains an unacceptable treatment option for this organization because the practice is seen to be at odds with their 12-step ideology. Similarly, encountering and treating adolescents might facilitate harm reduction practices in an abstinence-based program.

Race and religion were also described by several interviewees to affect service provision. One director pointed to disparities in service provision for Latino clients:

We're smack in the Latino community here ... a mono-lingual person, their choices are way limited to where I can send them, as oppose to somebody who can get by speaking English. And [even when they get treatment] the services then differ in terms of the quality. Shouldn't be that way, but it's the way it is. Now we are starting to look at that whole disparity issue, which affects our approach to public health.... So there is a whole disparity going around in terms of the amount of services that we provide.

Another director at a large private organization pointed to clients' religious and cultural needs as promoting service provision, while giving the example of orthodox Jews:

I think one of the things that absolutely sets [my organization] apart...is our pastoral care – the spiritual side of things is gigantic. It's a gigantic gap in most using drug addicts' life, and alcoholics' life. And it's something that needs to be addressed in treatment and in recovery. And our pastoral services ability to meet [our clients] in a meaningful spiritual way, that age group, very difficult to do – they do it beautifully. It's a huge part of what we do. In fact, one thing we do as well as any treatment center that's not affiliated with a specific religion. For instance, orthodox Jews choose this organization ... for a number of reasons. We understand Judaism and what it means to be a recovering Jew. We have a Rabbi on staff ... we have any number of minority kids, and especially minority religion, Jewish being the most well represented. So I think it's not atypical to have 10-15% Jewish clients, and a decent percentage of them even orthodox. Kosher kitchen, understanding of the orthodox tradition, needing to sleep parents close to campus or even on campus during family weekend so that they can observe the Sabbath. I think you are going to find that [here], always a willingness to have that level of customer service. If you ask we are going to try and get it don't. We know our limit's, but if we can we are going to get it done. So a kid coming in, a Jewish kid who is not Kosher and not orthodox, a lot easier perhaps. We're still going to offer Temple, still going to offer Rabbi services, but they might not be as invested. But a true orthodox, who needs all the other stuff that we have, we are going to get their needs met, too.

Many of the directors discussed clients with dual-diagnosis, and how the field in general has evolved to accommodate them, via the recent merging of substance abuse and mental health. One director described how changing practices in his organization following the merging are also impacted by demands from funders:

... You can't really separate them (SA and MH) completely because all of our clients have some kind of MH issues, even if it's just depression. ... However, the other thing that sometimes people don't realize is that there is a huge variety in dual-diagnosis clients, so you have dual diagnosis that are primarily MH and their D&A is secondary, you have clients that are the opposite – the D&A is primary and the MH is secondary, and then you have the in-between. So sometimes program funders want us to be able to treat everybody and say 'well, you are dual diagnosis, you should be able to handle somebody with MH', and that is just unrealistic because certain types of disorders have to be treated in a different way. It's like mixing apples and oranges. These are the issues for this population, even though they have a common thread - they have dual diagnosis and they have more than one issue – it doesn't mean that they are all in the same boat and they require very specialized treatment. But I think that it's kind of unrealistic to expect that you can deal with one and not the other or deal with them completely separately.

She was not the only one who described some of the issues arising from providing integrated services. Another director states:

Our day IOP is always a dual diagnosis because if they [clients] are not working, it's usually is a symptom [that they have] mental health issues. If someone is coming in with bipolar, major depression, generalized anxiety disorder – they will have a life counseling clinician while they are in IOP, and their psychiatrist. So we use all these to become more integrated although we don't have a really sophisticated model. We are working on that. We are trying to figure a way that we can work with more integrated clients. And we are published as a dual diagnosis agency. And we're not.

The last two quotes, by directors discussing the merging of substance abuse and mental health, can also exemplify competing identities in the field, suggesting again that multiple factors interact to influence the types of services offered.

Managerial attitudes.

As mentioned above, managerial attitudes towards medication-assisted treatment were not assessed in the quantitative dataset, in which the unit of analysis is the organization. However, this theme was explored in the interviews. Attitudes of interviewees were more often than not in line with the organizational philosophy of their organization. Methadone was viewed by many of the interviewees as part of the harm reduction movement, and entirely contradictory to 12-step, abstinence-based approaches. Several described it as replacing 'one addiction with another'. Attitudes towards buprenorphine/naloxone, on the other hand, were more favorable and, when discussed, it was mostly viewed as a medication for the treatment of addiction.

One director in a 12-step based program (who used the terms methadone and harm reduction interchangeably throughout the interview) said:

I've never heard it to work, for me I just can't imagine that it would work. I just think it's a rationalization for people to continue their use. To tell you the truth, I think that some people who promote harm reduction in those cases, probably they are heavy drinkers. That's my theory about it and saying they don't want to tell somebody else 'give it up completely' because they don't want to give it up completely because they can't imagine doing it themselves. And I'm not saying that in other fields its bad, like HIV does a lot of HR and that's a whole different story, but when you are dealing with addiction I just don't think it makes any sense.

Another director who also used the terms interchangeably expressed a similar view:

Personally I don't subscribe to that. I don't believe in the harm reduction, mainly because I think to some degree it negates the disease concept, and I believe in the disease concept and the medical aspect of it. And so I believe you can put the symptoms in remission. My own take. At the same time, I know it exists. I respect people who do that, and I do believe there are some patients that just like methadone, although I personally would not work in a methadone clinic.

A third director said:

I believe personally that [harm reduction] is a dangerous philosophy and I also believe that that kind of stuff – harm reduction or moderation management or any number of those things – they are beautiful marketing tools for the addicted brain, which is always looking for an easier out. When you are a drug addict, when you are an alcoholic, that's a great marketing tool. If I'm a person considering treatment or if I'm getting pressed into treatment, harm reduction – that's beautiful. That's where I want to go to rehab. Because that model falls right into line with my addictive thinking pattern. So I espouse ... a 12-step philosophy and an abstinence-based model that I am completely comfortable with, and frankly if an employee comes here, and is not comfortable with that, or if they come to interview, it's not going to work for them here.

These three quotes, reflected ideas brought up in several other interviews, equate methadone provision with harm reduction, which was not viewed favorable by many interviewees. Another director, whose organization has adopted buprenorphine/naloxone for detoxification went further to criticize the manner in which organizations provide methadone to their clients, especially their younger clients:

I think Suboxone is probably better [than methadone]. I have, in all my years of working with addicts, have never found anybody to do well on methadone, because the methadone clinics in themselves, just the environment and the atmosphere has so many addicted things going on – people are dealing drugs, people are using – there really isn't any clinical treatment going on in the methadone programs and people just go in to get their juice and leave so it perpetuates the dependency and real unhealthy behavior. And they put people on such a dose, they start them and they go up such a high dose that people can't just stop going, they have to keep going. And they bring them down very, very slowly – they pump them up really quickly and bring them down slowly. But there is nobody who is really challenging them, nobody who is really evaluating them, no one really doing that because it's a big money maker and they are very well protected by the city. So nobody has really exposed really what's going on. We've had a lot of staff that has come here, who works for us now, who worked in methadone programs and they tell you stories that are like horror stories of young kids. [I was told] that in this one methadone

program ... they are seeing younger and younger and younger kids – 18, 19 year old kids are on high dosages of methadone. And when they are done [with treatment], and they keep getting the methadone, they are getting high and they are young, they are not even heroin addicts, they are benzodiazepine addicts, so any opiate, benzodiazepine, Percocet, anything like that, they are throwing everybody on methadone. So I'm not a pro-methadone person, even though I have a friend, who has been a methadone doctor forever, and she's a good friend of mine. We've had some heavy conversations about it. But in the purest sense if you talk to people, in the purest sense of what they think should happen, if it really did happen that way – then, ok, it would be great, but it doesn't. In reality, it doesn't happen that way. There is a lot of riffraff.

This suggests that views towards buprenorphine/naloxone and methadone, though both medication-assisted treatment might be quite different and that it is possible that different factors influence the adoption of each. This statement also lends support to the hypothesis that certain characteristics of clients served by the organization might be influencing the types of services provided, in this case age. The same director provided an example of how his views towards methadone for younger clients played out to determine a course of treatment:

There is one psychiatrist ... who I've worked with for many, many years... We just had a 20-year old kid, she just turned 20. He said 'look, ... she can only go to methadone'. She's been using heroin for 5 years, been in and out. Well, I said to him 'she was an adolescent when she started using'. We have to keep everything in perspective. It's not like an adult who's a chronic user, this is a kid who was in high school. And I said to him 'give us a chance we will put her on suboxone here, let's see how that works'. He said 'ok, I'll do it'. So we had her here, she stayed on suboxone, she completed treatment, he was quite surprised because she runs every time, but people who are on methadone there is nothing else happening, I mean, that's all they are doing is getting dosed every day. There is nothing else, nobody is dealing with any of their other issues and addiction is a symptom. If you don't deal with everything else, people are going to keep using. If it was that easy that we would just give everyone a dose that the substance abuse field would be done. We wouldn't be as big as we are.

A director of a 12-step based women's program shared that her attitude is to 'be open to what works' and that she often questions her organizations' practices. She said:

Sometimes I will question [why we don't have a longer detox]. ... And then whenever I see any kind of article that looks at longer detoxing I send it over to the medical director ... We have family education and patient family members have to go through the family education day before they can come visit their family members. And so there is a rule that if the person ... looks like they are high or actively, or if the patient tells us that they are actively using then they are not allowed to come in for the family education. I can see how that somewhat makes sense ... Their more likely than someone else to you know try to sneak drugs and stuff. But one of the counselors said that so and so boyfriend shouldn't come in because he's on methadone. And I hit the roof! He's taking a legal medication. He's taking it as directed! Is there any evidence that he's abusing it?! [I told them] Lets just pretend its insulin and that's how I [got him in] ... My feeling is that you can find a way to manage without medication is better than with medication because medication is always going to give you side effects. ... but not everybody can do that. Some people need insulin, their diabetes is just so whacky that they can't control it with diet and exercise, and that's how I explain it to the staff. And it's wrong to penalize and to stigmatize those people.

Her explanation, which was also given by several other interviewees, introduces the diffusion of the medical model into the field. While some of the interviewees stressed their support of this model, others were open to it, yet preferred to leave decision-making to medical professionals. For instance, one director, who has recently entered the treatment field, admitted her lack of knowledge:

He had the modality that it's just safer to be on it forever. So I would give him clients, and he'd have no reason to taper them, to take them off. I don't really know what to do with suboxone clients, if it's safe to keep them on. Parents ask me 'what do you think? How long should they be on it?' and I say 'it's up to your doctor'. I'm going to stay out of that one. I don't know.

Another director shared his attitudes towards methadone and buprenorphine/naloxone, suggesting that attitudes might be influenced by knowledge of research in the field:

I have thought that it is safer to stay on [suboxone]. If it's going to keep you away from smoking or blowing or using oxi, than stay on it. Especially, I have a client that's in his 60's. Tapering him off suboxone right now, he's only on like a tab and a half a day, if it's going to keep him away from Heroin then I'm comfortable with it. But we also have clients that do the dance. You know, who are getting high, using the suboxone for the buprenorphine/naloxone effect and then those who are crushing and injecting it or selling it because the street market value is so high. ... I also think there are some side effects to any drug. There's urinary retention, problems with constipation, definitely sexual side effects with suboxone, like any other anti-depressant. I'm mixed about it. With methadone, my only fear with that is people, places and things. It's so much easier to abuse. For every motivated client there are 10 who aren't, but I don't have a whole lot of experience with methadone. But I just know that would be a fear of mine. You know, what kind of care you get. So I'm as much for it as I am against it, I guess. I'm not really against it, I need it.

A CEO of an organization who has provided methadone maintenance for years expressed very favorable attitudes towards medication-assisted treatment and talked about how years ago he was able to get his clients treatment in another organization that was initially unwilling to accept them:

The guy who is the head of [another organization]... We used to have these knockdowns, when we got to meetings we get into these huge fights about methadone vs. drug free [treatment]. Now they take patients with methadone, they are a little more open to it, but still, these communities really do not like methadone clinics.

Another director, who has been in the field for many years, discussed how his views have changed based on a newfound understanding of the disease model. He went on to criticize drug-free settings that are not open to incorporating medications of any kind in treatment:

I didn't really truly accept the disease concept until like 1995. That was my own personal issue – there IS brain chemistry here involved, and that's why this person isn't getting this. It was never a moralistic issue with me, I can say that, I wasn't on that side of the fence. But I was 'this person isn't doing anything to help themselves' and I think that's part of the disease itself. So (in 1995) I really got an open mind and started looking at why medication is important and why therapy is important. I don't think you can be effective if you do one OR the other. There are some programs, I won't name them, but there are programs around that believe in the [drug-free) therapeutic community and they beat stuff into kids... It's funny because there's still a perception in our communities regarding medication, and that if you take medication you are bad or you're weak. We've been trying to squash that stereotype by working with our families and getting them to say 'just like a diabetic'. A diabetic has to take insulin. You don't call them weak or bad. So we really work with the disease model to get them to understand that there is brain chemistry involved here and that's the way it is.

In sum, it seems managerial attitudes towards medication-assisted treatment are tied to controversy in the larger institutional field between the 12-step abstinence-based orientation and the medical orientation. Also, while many interviewees equated methadone maintenance with harm reduction (not viewed favorably by many regardless of their personal definition of the term), this was less often the case when discussing buprenorphine/naloxone.

Competing identity logics

Often different sets of organizational actors adhere to different identities and the ideologies associated with them. As motioned above, a prevalent theme that was brought up and explored in depth was ideological clashes within the field of substance abuse treatment. In particular, interviewees discussed conflicts based on the merging of the more traditional abstinence/ 12-step /AA model service providers with a drug and alcohol

background (often in recovery) with the medical orientation of the people coming into substance abuse from the mental health field (often with a higher education).

A clinical director of a program at a large organization discussed recovery status and education among clinicians and counselors. He disclosed that he was both in recovery and had a master's degree, which was not common in his organization. He suggested that while many counselors in recovery also have degrees (mostly bachelors), there are philosophical differences between those who are in recovery and those who are not, that might be influencing the services they provide:

There are a lot of people that are in recovery. Depending on what position, you could have as many as 50% in recovery ... there are some recovering folks certainly with bachelor's degrees, and even a few more with masters. I think if you come to work here, strictly without "formal education" but through 12-step and recovery, you're going to have your own set of ideals that are going to have to intertwine clinically with some of the ideals that perhaps psychology, MSW might bring, that are non-recovering people with those degrees. So, I think there are some differences in expectation, and some philosophical differences in how you might address a certain behavioral symptom, and how you might intervene on said behavioral symptom. There might be some differences between how a recovering person would do that without an education, a psychology or social work or counseling degree, and how someone with a degree and no recovery might interact.

Another director gave an example of how people who have been through 12-step programs and are in recovery have a different focus in treatment than people with professional backgrounds:

Mainly, 12-step is a lot more didactic. And typically someone who comes from a more clinical psycho-social work background they may incorporate, try and create more of a group therapy setting, where they are using psychodrama, empty chairs techniques, different group activities, having a big array of strategies. ... So I kind of see a lot more process

focused, sometimes with the traditional clinical background, whereas without it it's a lot more client talking to clinician.

One director of a program for youth explained that it 'used to be us (i.e. substance abuse treatment) and them (mental health treatment)'. He went on to elaborate:

To me substance abuse is a brain issue. Mental health –also a brain issue. You can't have it both ways. You can't say I'm an addict or an alcoholic and I don't have mental health problems. We find out when we really sit down and look, most of the people that we deal with begin to use drugs or alcohol for emotional reasons. It is a crutch, it either calms or develops a part of them that they need for stability. ... The part that I don't get. Well I do get it, because all the funding happens and that's why people want substance abuse and mental health to stay separate. The D&A folks say 'if we merge the mental health folks will take all our dollars' the mental health people say 'well, those D&A people are too concrete'. But the one thing, and I came from the substance abuse side, that the mental health people have over the substance abuse people: substance abuse people expect you to go to treatment and get better immediately. Mental health people have it in their minds that you are a client for life. And that's what we, the D&a side need to move to ... it really is archaic, because the fact of the matter is it's chicken and the egg – what came first? The mental health and then the substance abuse? It doesn't matter, you treat them simultaneously!

A director of a methadone program discussed some of the challenges to the blending together of traditional substance abuse and mental health, and how it can affect many aspects of the organizational structure. He also pointed to a possible solution, via hiring of new personnel that are 'dually-oriented':

It's been very, very hard. And so there have been a lot of failures on trying integrate them. ... We can force people to work together, but then they come up with ways 'we are going to separate the waiting room ... all the drug and alcohol people will be in this wing and we'll be in the other wing. And that just naturally happens. They naturally kept away from each other, they naturally had separate staff meetings. We would try to combine the beds and they would still sit apart from one another and there was a lot of gap(?) even at Christmas parties, holiday parties, they would not mingle. ... So we hire new people and we bring in people who do both.

We hire them immediately to take on both. It's kind of hard to take the old school drug and alcohol person and their biases and it's usually around the AA model, abstinence only. There is nothing else and they can be working with a bipolar and never refer to a doctor because you don't take drugs. You just don't take drugs. We want to get passed that but it's hard. ... I am not going to change them. But we've been very successful in bringing in and hiring new people. We ask 'what's your experience with mental health, what's your experience with drug and alcohol?' ... They are less prevalent to be in recovery themselves... they get both (the substance abuse and the mental health) and they want to work for both. So they'll see individuals for mental health and they will also be able to run a drug and alcohol group. That's been successful. I mean we don't know what percentage... Probably a third of our organization consists of those people. I can see that over the years it's went up from zero up to a third and as we hire, and the old people retires or those who are part time, we are only bringing in people who will integrate stuff.

Another director added, who disclosed his recovery status and described himself as adhering to the 'old school 12-step model' said:

Personally I struggle sometimes. It's different work, it's a different way of looking at things. The downside to this whole co-occurring movement is it's great to diagnose that someone has depression, but people are still foggy. If they don't stop drinking, and you're just going to take and approach to treat the depression, you're not going to have good outcomes ... So it's an interesting phenomenon that's happening. What I've always worried about from a D&A standpoint is in behavioral health D&A has systemically always been slow. If you look at [the director of one of our other branches], he has a mental health background. ... A lot of times has a blind side to some of the addictions stuff and he admits it openly. He'll talk with me or [our CEO] about it and say 'well, what do you think about this?' 'I have some real concerns here philosophically about how that might affect the way that we do things.' ... I kind of look at my role as protecting some of the old school stuff, but being open to the new ideas, and how do you make that merge. ... So what I want to make sure the D&A component doesn't get lost is if somebody is doing a co-occurring group where mental health is more the focus. ... And I think some people are purely mental health and they miss the D&A piece or they don't want to go there all together, or they have some outer counter-transference going on.

Several directors pointed to academic training as lagging behind changes in the field, as exemplified by this next quote:

I think the combination of the two - that merging - has been beneficial. Frankly, I am not sure though that the educational arena has caught up to that. And what I mean by that is - I am responsible for a lot of hiring of staff. And I find that people depending on what school they have gone to have a different turbulence. They either still looking at a patient through a MH lens because that how they have been trained or they are looking at them through an addiction lens because that is how they have been trained. I find it rare that someone just coming out of school and kind of have that full broad picture.

In sum, while most directors acknowledged that being in recovery and belonging to the ‘old-school traditional AA model’ and coming from a mental health background are not mutually exclusive (or exhaustive of people’s orientations in the field), it seems views differed on which background had more influence on service provision. This was particularly ambiguous since it was noted that many people who are in recovery went back to school to get their credentials and/or degrees (often because of demands by licensing and accreditation agencies as well as managed care firms).

Salience of milieus

Organizational actors belong to networks and milieus that are marked by particular cultural practices and beliefs. Knowledge of current research and evidence-based practices was often mentioned as a factor that affects service provision in general and adoption of new practices in particular. This was particularly true for organizations whose directors were affiliated with TRI, who helped facilitate the interviews. One director of a methadone maintenance program simply stated ‘the research has been very

clear that to artificially impose a low dose [of methadone] just doesn't work. So now it's different.'

Another director discussed large-scale changes both in the field and for his organization that he believes can be largely attributed to what research milieus share with organizations:

... 'meeting the client we're he's at', is the biggest change I've seen from when I've started in the field 25 years ago. I think we made a lot of mistakes early on in D&A. It was very confronted, and more about tearing down the ego. ...I don't think back in those days we took into account that people are individuals, there personalities are individual, and so is what works. You can't always go cookie cutter. That might be better for the organization than it was for the client. TRI has been responsible, I keep up on their research and stuff. Trying to talk people into more a disease recovery model, if you relapsed 25 years ago it was like you discharged the client. ... This is something that I found fascinating – we changed our model because of it: when we first started out, [our program was] 5 nights a week, 4 hours a night. And then one of the first rounds of TRI research they found that it's more important to have contact with the center, but it doesn't have to be 5 times a week. After that first month, it could be twice a week, or once a week, or at the 12-18 months it could be once a month – people checking in – and outcomes don't change that much. I found that fascinating and have taken that whole mentality. When people come in now, it's not like they are here for mental illness anymore, they look at it like 'you can do a course of treatment, but keep in touch and stop in, and call us before you relapse.' And you can do that, and I think it really makes a difference.

One director discussed how methadone has been shown to be effective in numerous studies, yet is not widely adopted. His point also lends support to the suggestions in previous sections that ideological conflicts may hinder the adoption of practices and that methadone is not compatible with abstinence-based approaches to treatment:

I think the current administration of the behavioral health is really trying to bring methadone in as part of just another vein of treatment. I think there is much more acceptance. But you have to realize in this field many

of the basics were established early by the national council on alcohol. The 12 step and only AA, abstinence all the way. And methadone is perceived as just another drug that they are abusing. So even narcotic addicts who go to narcotics anonymous don't necessarily accept methadone.

A director of an organization that offers a needle exchange program discussed how his organization tries to use research to lift the ban on needle exchange, unsuccessfully.

We're fighting, trying to get the federal ban lifted from funding syringe exchange. Because there is a federal ban that doesn't let us use federal fund to actually fund a syringe exchange. We can fund ancillary services to it, but not the actual exchange. We can't buy syringes with federal money. We think we are close to getting the language lifted. That's all about the science at this particular point. And in Philadelphia it makes a lot of sense, because, you're spending 7 cents a syringe. It's \$200,000 to treat 1 person with HIV a year. It's just common sense. It makes a huge amount of good sense, even from a financial perspective, which is an argument that we get to make. Never mind the health stuff. People in government are interested – spend a dime rather than the \$200,000 you are going to spend. That's what it's come down to, so I do think we're at a point where thanks to research we can make these kinds of valid arguments... You know, they are supportive of us for the most part, they hear it, but it's politics. And that's the thing that floored me. For the most part, people want to do the right thing. In our political system, our politicians want to do the right thing, but they also want to stay in office. And so we have to figure out ways to help them do that so that they support us.

Several others also argued that research findings could be a catalyst for organizational change, as long as they do not clash with prevalent ideologies in the field or societal values. One director described the process his organization goes through before disseminating a new practice. He clearly stated that a new practice would not be adopted if it is perceived to be at odds with the organizations treatment philosophy, even if there was ample research to support it, giving the example of harm reduction:

Typically our process here when we get new information we disseminate it to our clinical oversight team, and it gets discussed and debated and that

sort of thing. To determine first and foremost if it fits into our philosophy of treatment, and then if there is a lot of research that backs this up vs. a one-time thing. And so once it goes to clinical oversight, it's debated and then decided whether or not we are going to use it or not use it, and then it gets disseminated to all staff... I know harm reduction exists ... There may be all this research with harm reduction, [but] it doesn't fit into our philosophy of treatment, and therefore it would not be disseminated.

Several of the organizations whose directors were interviewed mentioned they employ alumni (from their own program) and that many alumni serve on their boards. A couple of the directors pointed to alumni as being instrumental to organizational practices. In one organization, a director stated:

If it's an organizational decision, many times involved is our leadership team, with input from board members, our board of directors. Our strategic planning process also involves some of our referrals, some of our employees and some of our former patients. Our main referral source is our alumni.... When individuals leave [treatment], they have to have a continuing care plan. So that could be us referring to an outpatient therapist, a marriage and family therapist, a halfway house, whatever they need following their stay here.

She later attributed this continuing care plan to lessons learned from former patients.

Another director, while discussing where he gets his information, mentioned that research is important but that the most significant knowledge about that field and what works comes from their alumni:

I get it [my information] from people that know the field. Colleagues, people I meet at a conference for instance. Families ask for it. It's not atypical for a family to say 'hey, this kid can't come home, we can't do it, the kid can't do it, what's out there?' And we have people that research, we have people that travel to different places and look around, ask the right questions. We have people who come here and tell us about their stuff, their place. But the biggest single person that speaks to us, or back to us is our alumni – 'here's what we did after [we left treatment here], here's what works for us, here's what was lacking'. Our alumni tell us, and keep us in the know.

Embedded agency

Institutional logics scholars contend that organizational actors and organizations, embedded in organizations and institutional fields, have the ability to shape these processes themselves. Accordingly, in this study, almost all of the interviewees discussed how they found themselves in substance abuse treatment. Half of them disclosed that they were in recovery themselves and many of them have been in the field for at least 20 years. A central theme that emerged was how their personal experience and long tenure (which is often accompanied by many personal and professional connections) shape their attitudes on one hand, and provide them with opportunities and leverage to affect treatment and service provision on the other hand. One director said:

When you're in D&A it's kind of a knit community, so when you open up a new center I just kind of use my name, go in there, make connections... I've been in personal recovery 27 years so a lot of people know me from NA, AA. ... I have families, they call, I treated their son or daughter years ago [another organization]. I'll get back to them and say I don't work there anymore clinically, but I can put you in touch with the manager down there. Or if they tell me a situation, I'll say X might work better with your son because what his personality and specialty is. So that's what they do. And I think it's from being an old head, from being around so long.

One director discussed how his organization's medical director stood between him and getting a new drug approved for use at his organization.

So our medical director is really not impressed with [a new drug for alcohol addiction]... [He says to me] 'I read the report ..., it just reduces alcohol usage, it doesn't stop it'. ... It's not supposed to stop it! It's supposed to help the patient think before taking another drink. It's supposed to be used as an aid, but he talked to [our CEO] about it and [told him] he's not impressed. So no new medication here.

Another director discussed how she established a program for women. Following her own recovery and years of professional experience, she realized that many women had unmet needs:

So about 15 years ago, I realized that there was a need for co-occurring treatment for women because back then D&A and mental health were separated and there were 2 pots of money. I really wanted to create a program ... were I used to work, that would serve women who had co-occurring disorders, because it was a big treatment gap back then. ... When I first came to [this organization], it wasn't the program it is now. It's been 15 years, but I've been able to create into something that I felt that women need.

These quotes, which also touch upon the merging of substance abuse and mental health, the influence of research in the field and the coercive nature of various funding streams exemplify how embeddedness of individuals in organizations and institutional fields interacts with other forces that are at play to influence service provision and adoption of innovation.

Similarly, directors of older and larger organizations talked about how their organizations were able to resist certain changes in the field while promoting others. One director of an old and established private treatment center talked about how his organization was one of the pioneers in bringing in mental health aspects into treatment with adolescents, which caused many employees who had a traditional substance abuse background to quit:

So at [this organization] we decided we were going to be at the forefront of offering a new kind of rehab services, a transition, so that we're not calling it D&A rehab. That we really were providing some real therapy to kids, figuring out what was going on, that drug use is one of the things that's going on, but it's not everything that's going on, and then really combining that, moving that on... So we brought it mental health. It was

difficult because it was a really AA/NA model, they were saying to kids 'you can't follow this rule, you're out'. And I never understood that in treatment anyway, part of treatment is picking up again. That's just part of it. So to kick somebody out for using, doesn't make sense to me, because that's why they are in the program in the first place. So we had to begin to retrain staff. I would say that 80% of that staff was gone ... [in] 5 years. And that's because they were traditionalists, and much to their credit, some people came up to me and said 'this is not what I signed on for. You have a different model and I'm going to leave because I can't support that.' And then some people left in not so supportive ways.

A director of a center that provides needle exchange services discussed how his organization was able to use being kicked out of a neighborhood to make leeway on another project. He attributed it to the fact that his organization, though controversial, is considered well established and carries weight in the city:

We were having a little bit of trouble a couple of years ago with one of the sites we drive vans out to. In one of the sites, people in the neighborhood were saying 'your people litter, they use and then litter, and we have all of these needles all over the place and it's not safe'. So they told the city about it, and the city said we had to do something about it and we said 'we could, but by the way you guys are impeding any kind of progress that we want to make in terms of getting people in when they are ready to go in.' Because that's sort of the way they sell syringe exchange to the community is 'this is the bridge to getting people into treatment'. And we were able to set up a project where they didn't take the ID [before providing treatment]. We did all of that [bureaucratic] stuff secondary, after the person was in. So in 3 months, 47 people got in, where 3 months earlier we got only 7 people in, because we would have to go do the ID stuff sorted out first. This way we were doing all of that stuff afterwards. They were already in a bed [being treated]. And then we would send them to the different places that they needed.

Other directors described how the fact that their organization is well established and respected, has allowed it to avoid providing services that are not in line with their traditional treatment philosophy. For instance, one director of a very large and old private facility discussed how the organizational philosophy influences service provision and

hiring decisions:

I am comfortable and in line with [my organization's] philosophy, which is an abstinence-based model where it's understood that harm reduction, although out there, is dangerous. ... The organization espouses a 12-step philosophy and an abstinence-based model ... frankly if an employee comes here, and is not comfortable with that, or if they come to interview, it's not going to work for them here. They are going to cross philosophically what we are trying to do, and it's not going to work.

These last few quotes suggest that embeddedness of organizations in the institutional field might be interacting with other factors to influence treatment.

Summary

Analysis of the interviews points to the salience of many factors that may promote or hinder service provision and the adoption of new practices in substance abuse treatment. Though these factors can be discussed using the conceptual framework presented in this thesis, it is evident that they often interact and that the lines are often blurred. For instance, while managed care (a coercive institutional force) might affect service provision directly, it is also possible that it interacts with factors such as counselor credentials, education and recovery status (competing identity logics) to impact service provision indirectly. It is also possible that managerial attitudes and embeddedness in the field might be interacting with normative forces to influence service provision. Furthermore, it seems that some services and practices are adopted faster and more effectively. These are often practices that are evidence-based, less controversial and go hand in hand with the treatment philosophy of the organization, its leadership and societal values.

Results also point to several other variables that might be influencing services. For example, while the literature reviewed above suggested that service provision is influenced by proportions of opiate addicts, dual-diagnosis clients and relapsers, interviewees pointed to the importance of demographic factors such as gender, pregnancy status, age, race and religion. Consequently, gender and pregnancy status that were collected in the NTCS were added to the logistic models, whose results are presented in the following section.

Finally, throughout the results, and in particular when exploring managerial attitudes, many interviewees equated methadone with harm reduction (i.e. used the terms interchangeably), which they did not view favorably. Managers believed that using methadone is replacing one addiction for another. Views towards buprenorphine/naloxone were more accepting. The findings from the interviews suggest that the factors influencing the provision of methadone might be different than those influencing the provision of buprenorphine/naloxone. Since the NTCS allows for a comparison of methadone and buprenorphine/naloxone provision, an additional logistic model was added to this study in order to explore any possible differences. This model is presented in the following section and is then compared to the model predicting buprenorphine/naloxone adoption.

Quantitative Findings

Descriptive statistics of the variables of interest are presented in tables 6.1 (for the dependent variables), 6.2 (for independent dichotomous or categorical variables) and 6.3 (for independent continuous variables). Methadone was not originally conceptualized as a separate dependent variable but is presented in table 6.1 because (1) it was used to compute medication-assisted treatment, and (2) the qualitative interviews suggested that views towards methadone and buprenorphine/naloxone and the factors influencing their adoption might be different. Consequently, logistic models were added to explore the factors influencing provision of methadone.

Table 6.1 demonstrates that over 90 percent of the centers participating in the survey indicated they treat patients who are addicted to opiates (369 centers out of a total of 405 centers). Of these 369 centers that treat patients addicted to opiates, only 65 (17.6%) currently use methadone to treat their clients, and 42 (11.4%) were early adopters of buprenorphine/naloxone. However, there was almost no overlap between centers currently providing methadone and those providing buprenorphine/naloxone. Only four of the centers provided both medications, leading to 103 centers that provided at least one medication-assisted treatment option (27.9%).

Table 6.1
Descriptive Statistics for Dependent Variables (N=369)

| Variable | N | % |
|---|----------|----------|
| Currently provide MAT (methadone or buprenorphine/naloxone) | 103 | 27.9 |
| Currently treat with methadone | 65 | 17.6 |
| Currently treat with buprenorphine/naloxone | 42 | 11.4 |

Table 6.2 presents descriptive statistics for independent variables that are categorical. The vast majority of private centers in the study had state licensing (94%). Over 60% reported being accredited by JCAHO, and 12.6% reported being accredited by CARF. About one third of centers reported being owned by a hospital. About 40% reported participating in research, and nearly the same amount of centers reported using the ASI during intake. Over 7% of centers reported using ASAM criteria to match their clients with the appropriate level of care. Finally, almost 40% reported having an active alumni program.

Table 6.2
Descriptive Statistics for Categorical Independent Variables

| Variable | N | % |
|--|----------|----------|
| State licensing (coercive) | 346 | 94 |
| JCAHO accreditation (coercive) | 226 | 61.9 |
| CARF accreditation (coercive) | 46 | 12.6 |
| Parent organization medical facility (coercive) | 127 | 34.4 |
| Participation in research – ever (milieus) | 143 | 39.3 |
| Use of ASAM to match client with appropriate level of care (milieus) | 284 | 77.6 |
| Use of ASI during intake (milieus) | 139 | 38 |
| Active alumni program (milieus) | 144 | 39.2 |

Table 6.3 presents descriptive statistics for independent variables that are continuous. Centers reported that an average 19% of funding came from managed care arrangements and that the average impact managed care arrangements was 2.86 (from a scale of 0-5). On average, 47% of clients had a dual diagnosis, 54% had relapsed in the past, 20% had a primary diagnosis of opiate abuse or dependence, 38% were women and 4% of the women were pregnant. The average proportion of counselors at a center

holding a masters degree or higher was about 40% as was the average proportion of counselors in recovery. Directors reported being employed at the center for an average of 13.1 years and in the behavioral health field for 19.3 years. The average organizational age was 23.6 years, and the average size was 68.9 (number of admissions/number of full time employees). The average center’s orientation to the medical model was 3.51, average knowledge of CTN 0.83, average alumni activity 0.77 (all on a scale of 0-5). Finally, centers reported and average of 0.69 on 4 questions designed to measure their orientation to the 12-step model.

Table 6.3
Descriptive Statistics for Continuous Independent Variables

| Variable | Mean | SD | Min | Max |
|---|-------------|-----------|------------|------------|
| Prop of MC funding (coercive) | 0.19 | 0.25 | 0 | 0.99 |
| Impact of managed care arrangements (mean of 17 items on a scale of 0-5 each)(coercive) | 2.86 | 0.82 | 0 | 4.6 |
| Orientation to medical/psychiatric model of addiction (0-5)(identity logics) | 3.51 | 1.76 | 0 | 5 |
| Prop of clients with dual diagnosis (normative) | 0.47 | 0.25 | 0.01 | 1 |
| Prop of clients who are relapsers (normative) | 0.54 | 0.24 | 0.03 | 1 |
| Prop of clients with primary diagnosis of opiate dependence or abuse (normative) | 0.2 | 0.2 | 0 | 1 |
| Prop of counselors – MA level or higher (identity logics) | 0.40 | 0.27 | 0 | 0.97 |
| Prop of counselors in recovery (identity logics) | 0.39 | 0.25 | 0 | 0.92 |
| Knowledge of CTN (0-5) (milieus) | 0.83 | 1.50 | 0 | 5 |
| Alumni activity (mean of 6 items on a scale of 0-5 each) (milieus) | 0.77 | 1.12 | 0 | 4.83 |
| Manager tenure at organization (years) (embedded agency) | 13.31 | 7.12 | 1 | 33 |
| Manager tenure in BH field (embedded agency) | 19.33 | 7.58 | 1 | 40 |
| Age of organization (embedded agency) | 23.56 | 14.07 | 1 | 103 |
| Facility size (# of admissions/FTE's) (embedded agency) | 68.89 | 181.87 | 1.04 | 2068.33 |
| 12-step orientation (mean summary of yes responses to 4 questions) (identity logics) | 0.69 | 0.30 | 0 | 1 |
| Prop of clients who are women (normative) | 0.38 | 0.16 | 0 | 1 |
| Prop of women clients who are pregnant (normative) | 0.04 | 0.09 | 0 | 0.99 |

Two logistic regressions models will regress medication-assisted treatment and early adoption of buprenorphine/naloxone on the 5 sets of independent variables, coercive, normative, competing identity logics, milieus and embedded agency factors. As mentioned above, a third model was added to measure the influence of these factors on methadone adoption separately.

Factors associated with provision of medication-assisted treatment

Table 6.4 presents results of model 1, regressing provision of medication-assisted treatment (methadone or buprenorphine/naloxone) on to all hypothesized predictors. JCAHO accreditation, proportion of clients with primary diagnosis of opiate dependence or abuse, proportion of clients who are women and past participation in research were all significantly associated (at the .05 level) with provision of medication-assisted treatment. Table 6.4 also presents a second model, which included only these significant four predictors from model 1. All four retained their significance in the second model. In model 1, state licensing approached significance with provision of medication-assisted treatment at $p < 0.1$, and it was not included in model 2.

Coercive institutional forces: Of the coercive institutional variables, only JCAHO accreditation was a significant predictor of medication-assisted treatment provision. The odds of medication-assisted treatment being provided in an organization were almost four times greater in organizations that were accredited by JCAHO (AOR=3.85; 95%CI: 2.05-7.22).

Normative institutional forces: Two of the normative factors were significant predictors of medication-assisted treatment provision. A standard increase in the proportion of clients with a primary diagnosis of opiate dependence or abuse and clients who are women, increases the odds of medication-assisted treatment being provided by 48 times (AOR=48.03; 95% CI: 12.36-186.54) and 5.4 times, respectively (AOR=5.44; 95% CI: 1.00-29.47). Proportion of dually diagnosed clients, relapsers and women who were pregnant did not significantly predict provision of medication-assisted treatment.

Salience of milieus: Only past organizational participation in research was a significant predictor of medication-assisted treatment provision. The odds medication-assisted treatment being provided in an organization almost doubled in organizations that had previously participated in research (AOR=1.97; 95% CI: 1.16-3.33).

Finally, none of the *competing identity logics* or *embedded agency* variables were found to be significant predictors of medication-assisted treatment provision in private organizations.

Table 6.4

Predictors of medication-assisted treatment

| Variable | Model 1 (full) β (SE) | Adjusted odds ratio (95% CI) | Model 2 (only significant variables) β (SE) | Adjusted odds ratio (95% CI) |
|--|--------------------------|---------------------------------|--|---------------------------------|
| <i>Coercive institutional forces</i> | | | | |
| State licensing | 1.901 (1.107)* | 6.695 (0.763-58.727) | | |
| JCAHO accreditation | 1.358 (0.427)*** | 3.890 (1.684-8.986) | 1.346 (0.322)*** | 3.845 (2.047-7.224) |
| CARF accreditation | 0.578 (0.471) | 1.782 (0.708-4.484) | | |
| Parent organization medical facility | 0.323 (0.341) | 1.382 (0.708-2.695) | | |
| Prop of MC funding | 0.286 (0.636) | 1.332 (0.382-4.637) | | |
| Impact of managed care arrangements | -0.024 (0.035) | .976 (0.911-1.045) | | |
| <i>Normative institutional forces</i> | | | | |
| Prop of clients with dual diagnosis | 1.054 (0.915) | 2.870 (0.476-17.315) | | |
| Prop of clients who are relapsers | 0.967 (0.931) | 2.631 (0.424-16.321) | | |
| Prop of clients with primary diagnosis of opiate dependence or abuse | 3.974 (0.786)*** | 53.207 (11.389-248.562) | 3.872 (0.268)** | 48.026 (12.364-186.541) |
| Prop of clients who are women | 2.317 (1.025)** | 10.150 (1.360-75.726) | 1.694 (0.862)** | 5.440 (1.004-29.469) |
| Prop of women clients who are pregnant | -0.228 (1.431) | .796 (0.048-13.169) | | |
| <i>Competing identity logics</i> | | | | |
| Prop of counselors – MA level or higher | -0.626 (0.618) | .535 (0.159-1.800) | | |
| Prop of counselors in recovery | 0.945 (0.677) | 2.573 (0.681-9.716) | | |
| Orientation to medical/psychiatric model of addiction | 0.104 (0.105) | 1.109 (0.902-1.364) | | |
| 12-step orientation | -0.150 (0.604) | .861 (0.264-2.811) | | |

| Variable | Model 1 (full) β (SE) | Adjusted odds ratio (95% CI) | Model 2 (only significant variables) β (SE) | Adjusted odds ratio (95% CI) |
|--|--------------------------|---------------------------------|--|---------------------------------|
| <i>Salience of milieu</i> | | | | |
| Participation in research – ever | 0.646 (0.319)** | 1.909 (1.021-3.568) | 0.677 (0.322)** | 1.969 (1.1647-3.331) |
| Knowledge of CTN | 0.045 (0.202) | 1.046 (0.704-1.555) | | |
| Use of ASI during intake | 0.171 (0.385) | 1.187 (0.558-2.524) | | |
| Use of ASAM to match client with appropriate level of care | 0.180 (0.305) | 1.197 (0.658-2.179) | | |
| Active alumni program | -0.0767 (0.558) | .926 (0.310-2.767) | | |
| Alumni activity | -0.062 (0.248) | .940 (0.578-1.527) | | |
| <i>Embedded agency</i> | | | | |
| Manager tenure at organization | 0.107 (0.249) | 1.114 (0.678-1.830) | | |
| Manager tenure in BH field | -0.012 (0.025) | .988 (0.942-1.037) | | |
| Age of organization | 0.054 (0.123) | 1.055 (0.829-1.344) | | |
| Facility size | 0.069 (0.160) | 1.072 (0.782- 1.469) | | |

No. of imputations: m=20; *p<0.1; **p<0.05; ***p<0.01

Factors associated with provision of buprenorphine/naloxone

Table 6.5 presents results of model 1 regressing provision of buprenorphine/naloxone on to all hypothesized predictors. Proportion of managed care funding and proportion of clients with a primary diagnosis of opiate dependence or abuse were the only two significant variables. They were added to model 2, also presented in table 6.6, and retained their significance. Three additional variables - impact of managed care arrangements, proportion of counselors with a masters degree or higher and orientation to the medical/psychiatric model of addiction - also approached significance with adoption of buprenorphine/naloxone at p<0.1 and were not included in model 2.

Coercive institutional forces: Of the coercive institutional variables, only

proportion of managed care funding was a significant predictor of adoption of buprenorphine/naloxone as a new treatment modality. A standard increase in the proportion of clients of managed care funding, increases the odds of buprenorphine/naloxone provision by 10.6 times (AOR=10.58; 95% CI: 3.13-35.76), suggesting that managed care funding may be freeing up resources that enable buprenorphine/naloxone adoption. The impact of managed care arrangements only approached significance in the first model at $p < 0.1$, and was therefore not included in model 2.

Normative institutional forces: Only proportion of clients with a primary diagnosis of opiate dependence or abuse was significantly associated with provision of buprenorphine/naloxone. A standard increase in the proportion of clients with a primary diagnosis of opiate dependence or abuse, increases the odds of buprenorphine/naloxone provision by 712% (AOR=7.13; 95% CI: 1.49-34.0). Proportion of dually diagnosed clients, relapsers, women and women who were pregnant did not significantly predict provision of buprenorphine/naloxone.

Finally, none of the *competing identity logic, salience of milieus* or *embedded agency* variables were found to be significant predictors of early adoption of buprenorphine/naloxone in private organizations. However, two of the competing identity logics factors – proportion of counselors with a masters degree or higher and the organizations' orientation to the medical/psychiatric model of addiction – approached significance in model 1, suggesting they might have a positive effect on provision of buprenorphine/naloxone.

Table 6.5

Predictors of early adoption of buprenorphine/naloxone

| Variable | Model 1 (full) β (SE) | Adjusted odds ratio (95% CI) | Model 2 (only significant variables) β (SE) | Adjusted odds ratio (95% CI) |
|---|--------------------------|---------------------------------|--|---------------------------------|
| <i>Coercive institutional forces</i> | | | | |
| State licensing | 0.284 (1.159) | 1.329 (0.137- 12.911) | | |
| JCAHO accreditation | 0.237 (0.561) | 1.267 (0.422-3.802) | | |
| CARF accreditation | 0.049 (0.657) | 1.050 (0.290-3.805) | | |
| Parent organization medical facility | -0.12 (0.469) | .887 (0.354-2.222) | | |
| Prop of MC funding | 2.078 (0.803)*** | 7.990 (1.651-38.681) | 2.359 (0.621)*** | 10.579 (3.129-35.764) |
| Impact of managed care arrangements | -0.088 (0.051)* | .916 (0.828-1.013) | | |
| <i>Normative institutional forces</i> | | | | |
| Prop of clients with dual diagnosis | 0.765 (1.387) | 2.149 (0.139-33.106) | | |
| Prop of clients who are relapsers | 0.574 (1.301) | 1.776 (0.139-22.762) | | |
| Prop of clients with primary diagnosis of opiate dependence or abuse | 2.189 (1.021)** | 8.926 (1.206-66.047) | 1.964 (0.797)** | 7.126 (1.493-34.002) |
| Prop of clients who are women | 0.925 (1.403) | 2.522 (0.161-39.442) | | |
| Prop of women clients who are pregnant | -1.018 (2.362) | .361 (0.004-37.064) | | |
| <i>Competing identity logics</i> | | | | |
| Prop of counselors – MA level or higher | 1.604 (0.900)* | 4.973 (0.849-29.136) | | |
| Prop of counselors in recovery | 0.131 (0.986) | 1.140 (0.164-7.920) | | |
| Orientation to medical/ psychiatric model of addiction | 1.159 (0.884)* | 1.268 (0.940-1.712) | | |
| 12-step orientation | 0.542 (0.852) | 1.720 (0.323-9.143) | | |

| Variable | Model 1 (full) β (SE) | Adjusted odds ratio (95% CI) | Model 2 (only significant variables) β (SE) | Adjusted odds ratio (95% CI) |
|--|--------------------------|---------------------------------|--|---------------------------------|
| <i>Salience of milieu</i> | | | | |
| Participation in research – ever | -0.234 (0.446) | .791 (0.330-1.898) | | |
| Knowledge of CTN | 0.039 (0.263) | 1.040 (0.620-1.743) | | |
| Use of ASI during intake | 0.412 (0.599) | 1.917 (0.593-6.200) | | |
| Use of ASAM to match client with appropriate level of care | 0.651 (0.407) | 1.510 (0.680-3.355) | | |
| Active alumni program | -0.104 (0.740) | .901 (0.211-3.844) | | |
| Alumni activity | 0.382 (0.310) | 1.466 (0.789-2.692) | | |
| <i>Embedded agency</i> | | | | |
| Manager tenure at organization | 0.170 (0.324) | 1.186 (0.621-2.263) | | |
| Manager tenure in BH field | -0.020 (0.036) | .980 (0.914-1.052) | | |
| Age of organization | 0.142 (0.159) | 1.153 (0.843-1.577) | | |
| Facility size | 0.097 (0.202) | 1.102 (0.843-1.577) | | |

No. of imputations: m=20; *p<0.1; **p<0.05; ***p<0.01

Factors associated with provision of methadone

Table 6.8 presents results of the model regressing provision of methadone on to all hypothesized predictors. JCAHO accreditation, proportion of clients with a primary diagnosis of opiate abuse or dependence and women, proportion of counselors with a masters degree or higher and past participation in research were all significantly associated with methadone provision at p<0.05. These five variables were retained for model 2 and all retained their significance. Several other variables were significant at p<0.1 - CARF accreditation, impact of managed care arrangements, proportion of clients who are dual diagnosis and use of ASI during intake – and were not included in model 2.

Coercive institutional forces: Similar to the medication-assisted treatment model, only JCAHO accreditation was a significant predictor of methadone provision. The odds of methadone being provided in an organization were almost 6 times greater in organizations that were accredited by JCAHO (AOR=5.94; 95% CI=2.5-14.1). Two additional coercive factors - CARF accreditation and impact of managed care arrangements - approached significance in the first model, and were not included in model 2. The latter also approached significance in the model predicting buprenorphine/naloxone adoption, though in the opposite direction

Normative institutional forces: Again, similar to the medication-assisted treatment model, two of the normative factors were significant predictors of methadone provision. A standard increase in the proportion of clients with a primary diagnosis of opiate dependence or abuse and clients who are women, increases the odds of medication-assisted treatment being provided by 55 times (AOR=55.05; 95% CI: 11.28-268.68) and 14 times, respectively (AOR=14.35; 95% CI: 1.86-110.67). Proportion of dually diagnosed clients approached significance, while relapsers and women who were pregnant did not significantly predict provision of methadone, though.

Competing identity logics: This was the only model in which an identity logics factor was found to be significant. Interestingly, the effect was negative. For every standard unit increase in the proportion of counselors with a master's degree or higher, the likelihood of offering methadone decreased by 81% (AOR=0.19; 95% CI: 0.05-0.63).

Salience of milieus: Once again, similar to the medication-assisted treatment model, only past organizational participation in research was a significant predictor of

methadone provision. The odds of methadone being provided in an organization nearly tripled in organizations that had previously participated in research (AOR=2.8; 95% CI: 1.47-5.31). Use of ASI during intake approached significance ($p < 0.1$) and was not included in the final model

Finally, similar to both previous models, none of the *embedded agency* variables were found to be significant predictors on methadone provision in private organizations.

Table 6.6
Predictors of methadone adoption

| Variable | Model 1 (full) β (SE) | Adjusted odds ratio (95% CI) | Model 2 (only significant variables) β (SE) | Adjusted odds ratio (95% CI) |
|--|--------------------------------|---------------------------------|--|---------------------------------|
| <i>Coercive institutional forces</i> | | | | |
| JCAHO accreditation | 2.444 (0.738)*** | 10.283 (3.190-33.141) | 1.782 (0.441)*** | 5.942 (2.504-14.103) |
| CARF accreditation | 1.353 (0.744)* | 2.142 (0.622-6.930) | | |
| Parent organization medical facility | 0.513 (0.483) | 1.352 (0.569-3.069) | | |
| Prop of MC funding | -1.489 (1.289) | 0.162 (0.022-1.175) | | |
| Impact of managed care arrangements | 0.089 (0.053)* | 1.038 (0.951-1.133) | | |
| <i>Normative institutional forces</i> | | | | |
| Prop of clients with dual diagnosis | 2.495 (1.477)* | 3.765 (0.349-40.599) | | |
| Prop of clients who are relapsers | 1.571 (1.386) | 4.386 (0.433-44.436) | | |
| Prop of clients with primary diagnosis of opiate dependence or abuse | 5.242 (1.123)*** | 69.649 (11.269-430-489) | 4.008 (0.806)*** | 55.046 (11.277-268.684) |
| Prop of clients who are women | 3.876 (1.577)** | 16.506 (1.225-222.365) | 2.664 (1.042)** | 14.350 (1.860-110.669) |
| Prop of women | -0.714 (2.035) | 1.642 | | |

| Variable | Model 1 (full) β (SE) | Adjusted odds ratio (95% CI) | Model 2 (only significant variables) β (SE) | Adjusted odds ratio (95% CI) |
|--|--------------------------|---------------------------------|--|---------------------------------|
| clients who are pregnant | | (0.074-36.531) | | |
| Competing identity logics | | | | |
| Prop of counselors – MA level or higher | -2.017 (0.883)** | 0.117 (0.026-0.514) | -1.686 (0.625)*** | 0.185 (0.054-0.631) |
| Prop of counselors in recovery | 0.660 (1.042) | 1.717 (0.331-8.911) | | |
| Orientation to medical/psychiatric model of addiction | 0.019 (0.157) | 0.971 (0.751-1.256) | | |
| 12-step orientation | -1.265 (0.910) | 0.353 (0.084-1.494) | | |
| Salience of milieus | | | | |
| Participation in research – ever | 1.113 (0.491)** | 3.300 (1.462-7.451) | 1.029 (0.323)*** | 2.798 (1.474-5.310) |
| Knowledge of CTN | 0.154 (0.312) | 1.097 (0.655-1.836) | | |
| Use of ASI during intake | -0.956 (0.579)* | 0.832 (0.3434-2.071) | | |
| Use of ASAM to match client with appropriate level of care | -0.103 (0.464) | 1.233 (0.579-2.625) | | |
| Active alumni program | -0.326 (0.872) | 1.370 (-.328-5.719) | | |
| Alumni activity | -0.438 (0.427) | 0.995 (0.270-1.118) | | |
| Embedded agency | | | | |
| Manager tenure at organization | 0.025 (0.373) | 1.037 (0.547- 1.966) | | |
| Manager tenure in BH field | 0.008 (0.549) | .995 (0.936-1.059) | | |
| Age of organization | -0.064 (0.182) | 0.924 (0.677-1.261) | | |
| Facility size | -0.048 (0.255) | 1.049 (0.712-1.546) | | |

No. of imputations: m=20; *p<0.1; **p<0.05; ***p<0.01

Summary

Table 6.7 summarizes only the significant variables from all the models and their direction. According to the table there are many independent variables (including all of the embedded agency variables) that do not significantly predict any of the dependent variables that were explored. However, several of the variables significantly predict more than one variable.

Coercive institutional forces: JCAHO accreditation was a significant predictor of both medication-assisted treatment provision and methadone provision separately, but not of buprenorphine/naloxone adoption. Proportion of managed care funding, on the other hand, was a significant predictor of buprenorphine/naloxone adoption but not of medication-assisted treatment and methadone provision. Impact of managed care arrangements approached significance in both the buprenorphine/naloxone and methadone models, though in the opposite direction. State licensing approached significance only in the medication-assisted treatment model, while CARF accreditation approached significance only in the methadone model. Having a medical facility as a parent organization was not significant in any of the models.

Normative institutional forces: As expected, proportion of clients with a primary diagnosis of opiate dependence or abuse positively predicted all three dependent variables. Proportion of women clients, a variable added to the analysis following the qualitative interviews, was a significant predictor of both medication-assisted treatment provision and methadone provision separately. This finding supported the theme brought up by several of the interviewees. Proportion of clients with dual-diagnosis approached

significance only in the methadone model, while proportion of relapsers and pregnant women was not significant in any of the models.

Competing identity logics: Proportion of counselors with a master's degree or higher was a significant negative predictor in the methadone provision model and approached significance in the opposite direction in the buprenorphine/naloxone model. Orientation to the medical/psychiatric model of addiction approached significance in the buprenorphine/naloxone model but not the other two models, while proportion of counselors in recovery and orientation to 12-step ideology were not significant in any of the models.

Salience of milieus: Only past organizational participation in research was a significant predictor of medication-assisted treatment provision, as well as of methadone provision separately. Use of ASI during intake approached significance in the model predicting methadone provision, while use of ASAM, knowledge of CTN, having an active alumni program and the level of alumni activity were not significant predictors in any of the models.

Embedded agency: None of the embedded agency variables were found to be significant predictors of any of the dependent variables.

Table 6.7.

Significant associations of hypothesized predictors

| Variable | Medication-assisted treatment | Buprenorphine/naloxone | Methadone |
|--|--------------------------------------|-------------------------------|------------------|
| <i>Coercive institutional forces</i> | | | |
| State licensing | (+) | | |
| JCAHO accreditation | + | | + |
| CARF accreditation | | | (+) |
| Parent organization medical facility | | | |
| Prop of MC funding | | + | |
| Impact of managed care arrangements | | (-) | (+) |
| <i>Normative institutional forces</i> | | | |
| Prop of clients with dual diagnosis | | | (+) |
| Prop of clients who are relapsers | | | |
| Prop of clients with primary diagnosis of opiate dependence or abuse | + | + | + |
| Prop of clients who are women | + | | + |
| Prop of women clients who are pregnant | | | |
| <i>Competing identity logics</i> | | | |
| Prop of counselors – MA level or higher | | (+) | - |
| Prop of counselors in recovery | | | |
| Orientation to medical/psychiatric model of addiction | | (+) | |
| 12-step orientation | | | |
| <i>Salience of milieus</i> | | | |
| Participation in research – ever | + | | + |
| Use of ASAM to match client with appropriate level of care | | | |
| Use of ASI during intake | | | (+) |
| Knowledge of CTN | | | |
| Active alumni program | | | |
| Alumni activity | | | |
| <i>Embedded agency</i> | | | |
| Manager tenure at organization | | | |
| Manager tenure in BH field | | | |
| Age of organization | | | |
| Facility size | | | |

*(-) or (+) indicate the variable approached significance in model 1 at p<0.1 and was not subsequently included in model 2.

Chapter 7

Summary and Discussion

Despite the demonstrated effectiveness of both methadone and buprenorphine/naloxone in the treatment of opioid dependence, only 17.5 percent of private treatment facilities offer methadone to their clients, while a little over 10% offer buprenorphine/naloxone. Interestingly, only four centers provided both medications. Previous studies, conducted within NIDA's Clinical Trails Network (CTN), indicated that the odds of buprenorphine/naloxone adoption were significantly greater in programs offering methadone (Knudsen et al., 2009; Koch, Arfken, & Schuster, 2006). However, this was not sustained at a 24-month follow-up when the availability of methadone was no longer associated with buprenorphine/naloxone adoption (Knudsen et al., 2009), suggesting that while provision of medication-assisted treatment in general was low, buprenorphine/naloxone was adopted by organizations that did not previously offer pharmacotherapies.

Neoinstitutional forces, as well as institutional logics influence provision of medication-assisted treatment in substance abuse treatment facilities. Several factors emerged as significant predictors of the dependent variables. Only one factor, the proportion of clients with a primary diagnosis of opiate dependence, was positively associated with all dependent variables. Predictors for medication-assisted treatment were very similar to those of methadone alone; all four factors associated positively with medication-assisted treatment in general were also positively associated with methadone separately. It is important to keep in mind that medication-assisted treatment was

comprised only of methadone and buprenorphine/naloxone, and that more facilities provided methadone. However, predictors of methadone provision were not similar to those for the early adoption of buprenorphine/naloxone.

Coercive institutional forces: Both qualitative and quantitative results indicate that coercive forces, such as managed care and accreditation, play a role in the provision of medication-assisted treatment.

Managed care: The proportion of managed care funding was a positive significant predictor of early adoption of buprenorphine/naloxone. Scholars have found how managed care's propensity to curtail costs has resulted in the reduction of service provision, mostly in public facilities. Managed care regulation was negatively correlated with treatment intensity (Lemak & Alexander, 2001) and the number of services provided (Corcoran & Vandiver, 1996; Gold, Hurley, Lake, Ensor & Berenson, 1995; Olmstead, White & Sindelar, 2004). It was also found to limit autonomy of the provider (Alexander & Lemak, 1997; Mechanic, Schlesinger, & McAlpine, 1995; Schlesinger, Dorward, & Epstein, 1996; Schwartz & Wetzler, 1998), not increase technical efficiency in service provision (Alexander, Wheeler, Nahra & Lemak, 1998) and increase relapse rates (Sosin, 2005).

However, the findings in this study suggest that the availability of managed care funds promotes evidence-based innovation, which is supported by recent literature. Roman and Johnson (2002) found that early adoption of naltrexone was positively and significantly associated with the percentage of the center's caseload covered by managed care programs. Also, in their study of early adoption of buprenorphine/naloxone,

Knudsen and colleagues (2006) found that private centers were significantly more likely than public centers to report current use of buprenorphine/naloxone. It is possible that managed care is more sympathetic to innovative interventions like buprenorphine/naloxone because there is data to show that it will translate to better results in efficient private care settings, thus curtailing costs in the long run. Managed care firms have the option is to deny care (or various aspects of care), and they may be authorizing certain types of clients and treatment options over others. Interestingly, the impact of managed care arrangements (how involved they are in organizational decision-making processes) approached significance in the first model, suggesting a possible opposite effect on buprenorphine/naloxone provision. It is possible that in organizations where managed care is more involved in day-to-day operations, adoption becomes increasingly challenging. Future research needs to examine possible differential beliefs about private versus public facilities and medication-assisted treatment on the part of managed care funders.

Accreditation: In the qualitative interviews accreditation was mostly viewed as a hindrance, as regulatory agencies sometimes force agencies to take measures and provide services that are not in line with the current norms of the organizations or the treatment modality. The quantitative results showed that JACHO accreditation significantly associated with both medication-assisted treatment provision and methadone provision separately, though not of early adoption of buprenorphine/naloxone. It is important to note here again that organizations who provide methadone, must be licensed to do to. The same is not true for buprenorphine/naloxone which is less tightly controlled and can be

prescribed by many qualified doctors in primary care settings. These findings are only partially consistent with previous research, which found that accreditation increases service provision of HIV services to seropositive clients (Ghose, 2006) as well as early adoption of buprenorphine/naloxone (Knudsen et al., 2006). However, it lends support to the hypothesis emerging from the qualitative interviews that the factors influencing adoption of each drug are not the same; while funding is essential for early adoption of buprenorphine/naloxone, accreditation may be a more salient factor in the provision of methadone.

Normative institutional forces: The salience of client characteristics in influencing adoption and provision of services was supported by both the qualitative and quantitative findings. Managers provided multiple detailed examples of how organizations adapt and change to cater to the needs of certain types of clients. One of the main themes discussed was how treating opiate-addicted women, particularly pregnant women, forces the organization to be more open to providing methadone (or referring to organization who already provide methadone). Subsequently, the proportion of women treated by the organization was added to the logistic analysis. Though this variable has not previously been explored, it emerged as a significant predictor of both medication-assisted treatment provision and methadone provision, but not of buprenorphine/naloxone.

As expected, proportion of clients with a primary diagnosis of opiate dependence or abuse positively predicted all three dependent variables. This is consistent with previous research (Ghose, 2006; Knudsen et al., 2006), and lends further support to the

hypothesis that clients, who comprise the ‘raw material’ of human service organizations, dictate the types of treatment and service technologies adopted by the organization (Hasenfeld, 1992). Organizational theorists have noted that institutional norms, standards and expectations shape and structure processes (Barley & Tolbert, 1997; Cooney, 2007; Orlikowski, 2000). Organizations and institutions thus both constrain agency, ideology and materials but are also subject to them (Giddens, 1984; Sewell, 1992).

Competing identity logics: Managers often described ideological clashes within the substance abuse treatment field. Many traced the source of these clashes to the merging of the substance abuse and mental health fields. Similar to work by D’Aunno and colleagues (1991), managers discussed how people in the field are subject to two beliefs systems, or sets of ideological logics, which are often at odds. They argued that that people coming from the substance abuse treatment field are more traditional and more likely to adhere to the 12-step/abstinence/AA model of addiction, often as a result of their personal experience with substance abuse, while people coming from the mental health field hold a more medical orientation towards addiction and are often more educated. Though not mutually exclusive, it was suggested that those with a background in mental health education favor the use of medication-assisted treatment, while those with a substance abuse background prefer total abstinence from all substances, methadone included. However, when buprenorphine/naloxone was discussed, it was viewed as a short-term crutch, and more acceptable than methadone among those who identified themselves as belonging to the ‘old-school’ model.

Interestingly, the logistic analysis painted a slightly different picture. The proportion of counselors with a master's degree or higher was a significant negative predictor in the methadone provision model and only approached significance in the positive direction in the buprenorphine/naloxone model. A possible explanation for these findings is that people with higher education have better access to and knowledge of research on innovative approaches to treatment. Therefore, they may have been aware of the new medication available, buprenorphine/naloxone, and supportive of introducing it as a treatment option, perhaps even offering it instead of the already available alternative, methadone.

As previously mentioned, many of the managers who were interviewed expressed differential orientations towards methadone and buprenorphine/naloxone. While methadone was often viewed as replacing one addictive substance with another, buprenorphine/naloxone was viewed as an innovative medication for the treatment of addiction. Furthermore, 'methadone' was often used interchangeably with 'harm reduction', which was not viewed favorably by many managers. Scholarship indicates that methadone maintenance is often considered a controversial issue (McLellan, 2003) and can be considered a harm reduction strategy (Weschberg & Kasten, 2007).

Riley and O'hare (2000) summarized some of the main barriers to harm reduction practices. The main argument is that people who would not otherwise use drugs might begin doing so if they perceive that it is safe and legal (or at the least not criminalized). They also argued that currently society does not accept drug use as a 'legitimate form of risk taking', thus the moral stance is prevalent. These notions, in addition to laws already

in place and to lack of knowledge in the general public regarding the true nature of substance abuse, leads to a political climate which is less than supportive of efforts to implement harm reduction measures (Riley & O'Hare, 2000), possibly including methadone. At the organizational level, Rosenberg and Phillips (2003) that the low rates of adoption of methadone, which were conceptualized as a form of harm reduction in their study, were attributed mostly to lack of consistency with agency philosophy, and to a lesser degree, to a lack of resources and funding. Buprenorphine/naloxone was not included in their study as a form of harm reduction, also supporting the need to distinguish between the two substances, in research and in practice. Future research should explore trends in the adoption as well as discontinuation of the two substances. This finding, though surprising, lends additional support to the merit of exploring methadone and buprenorphine/naloxone adoption separately.

Salience of milieus: Research has called for the examination of the role of networks and interorganizational relationships in influencing medication adoption (Ducharme et al. 2007). Findings from the qualitative interviews indicate that research networks are important in promoting adoption. Access and participation in research and training were viewed as critical in the process of adopting new practices and in determining service provision. However, knowledge of evidence-based practice was not enough. Many stressed that in order for their organization to provide a service or consider adding an innovation to their menu of available treatment options, it must be consistent with the organizational philosophy.

The logistic analysis also indicated that research networks have a role in service provision. Past organizational participation in research was a significant predictor of medication-assisted treatment provision, as well as of methadone separately. Though further research in this area is needed, previous literature has found that units whose directors were linked to external professional networks were more likely to provide HIV prevention, have collaborative relationships with other agencies and survive over time (D'Aunno, 2006). Knudsen and colleagues (2009) also linked the adoption of buprenorphine/naloxone to involvement in a buprenorphine/naloxone protocol. This in turn, carries with it significant policy and practice implications.

Embedded agency: None of the embedded agency variables were found to be significant predictors of any of the dependent variables. In previous research, organizational size in particular, has been consistently found to be a positive predictor of medication adoption in general and buprenorphine/naloxone adoption in particular (Knudsen et al., 2006, 2007a; Duchrame & Roman, 2009). Two possible explanations are offered for the lack of statistical significance of these factors in predicting the dependent variables. First, the data set used in this study only captures the universe of private treatment facilities, and it is likely that organizational characteristics such as age and size will emerge as significant predictors of medication-assisted treatment when exploring the whole universe of substance abuse treatment facilities. Second, it is possible that the operationalization of embedded agency (size and age for the organization and tenure for managers) did not capture the complexity of the idea that individuals and organizations may be influencing their institutional environment.

In sum, the multiple factors discussed by decision-makers, support the use of a comprehensive conceptual framework to study adoption of practices, particularly in a field that is as fragmented and value-laden as substance abuse treatment. The large, nationally representative data set used for this study, combined with multiple imputation procedures to handle missing data, allowed for inclusion of multiple predictors in the analysis, thereby addressing one limitation of previous research (e.g. as suggested by Knudsen et al., 2009).

Implications for organizations:

The results of this study have several implications for substance abuse treatment organizations:

Managed care funding was positively associated with early adoption of buprenorphine/naloxone, suggesting that managed care encourages early adoption of innovation. This suggests that managed care views buprenorphine/naloxone as a medication and is therefore more likely to fund it. This point carries with it important implications for managers who need to make decisions on how to fund treatment for clients. Decision makers in private facilities looking to add a medication to their regime, should be aware that buprenorphine/naloxone might be an easy sell to managed care; the goal of managed care firms is to save money, and buprenorphine/naloxone is a cheaper treatment avenue than residential care or detoxification for clients suffering from opioid dependence. With this in mind, managed care arrangements and their involvement in organizational professional decision-making processes should be carefully reviewed, and

further research is needed in this area, particularly research exploring how managed care funders view different medication-assisted treatments.

Organizations encounter different types of clients and they must cater their services to meet clients' unique needs. This requires specialized training oriented towards innovations and evidence-based practices. For instance, working with opiate addicts requires training on available medications for opiate addiction. Having managers attend research conventions, fostering research connections with universities and research centers and participating in research can, at the very least, orient managers to innovations in the field, thereby adding to their knowledge and perhaps shaping attitudes towards treatment options that are more controversial.

Implications for policy:

Several implications for policy also arise from this study:

Accreditation by JCAHO was positively associated with adoption of medication-assisted treatment. However, there are still large portions of private facilities that are not licensed by JCAHO, suggesting there is room for growth in this area. This implication is supported by findings of previous research, which found that facilities accredited by JCAHO were more likely to provide primary care and mental health services (Friedmann et al., 1999; D'Aunno, 2006), physical exams and routine medical care (Durkin, 2002), use antidepressants (Knudsen et al., 2007b) and be early adopters of buprenorphine/naloxone (Knudsen et al, 2006). It is important to note that this is a cross-sectional survey, and therefore it is also possible that the adoption of practices predates organizational accreditation. However, as accreditation has consistently been shown to

promote service provision, organizational efforts to gain accreditation should be supported. Furthermore, licensing and accreditation agencies can monitor training and research efforts to help organizations achieve better outcomes and increase their efficiency.

Being involved in research milieus facilitates the uptake of innovative medication-assisted treatment. Organizations should also aspire to increase their participation in research, and managers should be made part of academic-provider partnerships - such as has been done by the National Institute on Drug Abuse (NIDA) in their Clinical Trial Network (CTN) program. Though this involvement may not necessarily encourage managers to become more positively disposed towards certain controversial evidence-based practice (methadone), the results of this research indicate that being involved in research networks makes them more likely to adopt others (buprenorphine/naloxone). Furthermore, involvement in these networks can help organizations shift to outcome oriented thinking. A focus on outcomes, which are directed towards the unique, needs of clients, can in turn help promote better quality of care, and is in line with the increasing demands for transparency and accountability in human service organizations in general and substance abuse treatment organizations in particular, shrinking social service budgets and increased commitment to improved services and results-oriented management. (McLellan, Carise, & Kleber, 2003; McLellan, Chalk, & Bartlett, 2007; McLellan, Kemp, & Brooks, 2008; McLellan, McKay, Forman, Cacciola, & Kemp, 2005).

Utility of conceptual model

The use of theory in the study of substance abuse treatment is limited. With the notable exception of D'Aunno and colleagues (D'Aunno et al., 1991; D'Aunno et al., 1999), and very recent work by Roman and colleagues (Savage et al., 2012) most scholars do not employ a comprehensive conceptual framework to identify organizational predictors, or to interpret results. As a result, research on organizational research in substance abuse treatment has tended to focus on top-down institutional forces shaping treatment.

Utilizing a comprehensive framework, such as the one in this study, allows for organization of the institutional, organizational and individual forces at play in decisions regarding service provision. Moreover, it allows for exploring certain variables that have not been highlighted in previous research that may be salient. The conceptual framework can help highlight important dynamics that are taking place in the field. For example, the salience of research milieu was predicted by the conceptual model, yet is not often included as a factor of interest in organizational studies in the field. The importance of institutional logics and of individuals embedded in organizations to facilitate organizational change is another example, a theme highlighted in the qualitative results.

The conceptual model may also be utilized to explain anomalous results. For instance, while managed care has often been found to undermine service provision in previous research, was beneficial for the adoption of buprenorphine/naloxone in this research. Use of the conceptual model allows us to theorize regarding possible

explanations, such as how the influence of coercive forces aligns with the use of efficient technology.

Limitations

This study has several limitations. First, While NTCS is a nationally representative dataset, rich in organizational and institutional variables it was not constructed with a specific conceptual framework in mind or with the goal of testing theory. Therefore, measuring concepts such as those discussed here was not ideal. Future research needs to address these complex concepts and others by including appropriate measures.

A second related limitation is that the NTCS included primarily organizational variables, and did not account for the possible role of agency. Future research should explore the role of individuals within the organization (from different positions and professions). As noted by Oliva and colleagues (2011), considerably less attention has been paid to research examining patient perspectives, knowledge, and attitudes regarding medication-assisted treatment in general and the various medications in particular. Additional qualitative work might also be useful in exploring these issues.

Third, the NTCS included only private facilities, which were uniquely defined as those receiving less than 50% of their annual operating revenues from government grants or contracts. It is possible that organizations do not characterize themselves based on this criterion. A possible alternative might be to use the actual proportion of public or private funding as continuous measures, rather than forcing a dichotomous public/private distinction in the current economic environment. Regardless, future research should

include the entire universe of facilities, allowing for a comparison of public and private facilities when appropriate.

The public vs. private comparison has been a major variable of concern in previous literature, and previous studies have demonstrated that private centers were more likely to be early adopters of buprenorphine/naloxone and provide methadone to their clients (Knudsen et al., 2006; Knudsen, Abraham, & Roman, 2011), suggesting that the low rates of adoption in private facilities might be even lower for substance abuse treatment organizations in general. Furthermore, it is likely that the public/private division, which could not be addressed in this study, may interact with some of the factors explored in this study, to impact service provision and innovation adoption.

Fourth, the available data are cross-sectional and therefore any analysis cannot include historical trends or changes. Any analysis yields correlational results and causal inferences cannot be made. Future research that utilizes longitudinal data and analysis of trends is needed, for instance, in the comparison of adoption and discontinuation of methadone compared to buprenorphine/naloxone.

Finally, I utilize multiple imputations to account for missing data. Though the literature is in agreement that this is one of the preferred methods for dealing with missing values in order to keep the sample unbiased and as large as possible (Allison, 2010; Enders, 2010) it must be noted that two of the variables that were significant in the models – proportion of managed care funding and proportion of counselors with a masters degree or higher – had a relatively high percentage of missing data (20.9 and 20.6, respectively). Biased estimations increase as the rates of missing data increase,

though accurate estimates were found as long as missingness was up to approximately 25% (Enders, 2010).

Suggestions for future research

Based on the results of this study, both quantitative and qualitative, several additional suggestions for future research are offered. One avenue for future research might be to explore harm reduction practices other than methadone to see if findings from this study are consistent and if methadone can conceptually be categorized as a harm reduction practice.

Themes emerging from the qualitative interviews also suggest that future research should examine attitudes towards adoption of specific innovations (e.g. attitudes of clients, employees, decision-makers), individual and organizational decision-making processes, patient preferences, as well as public policy and societal-level barriers to adoption.

In general, the use of an organizing framework as well as incorporation of qualitative methods can help point to additional factors that might be influencing the adoption of practices, as was the case with proportion of women in this study. A next logical step, would be to design and conduct studies that manipulate these organizational-level variables to promote adoption of evidence-based practices in general, and medication-assisted treatment in particular, with the goal of improving the quality of services in the field. The widespread adoption of medication-assisted treatments, new and established, requires large-scale organizational changes that can only be achieved through

comprehensive and multi-faceted initiatives that take into account all levels of organizational life.

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Appendix 1: Semi-structured qualitative interview

for managers of substance abuse treatment facilities

Services

- 1) Could you tell us about the type of services offered at this facility?
- 2) Follow-up: Could you tell us about the following services at this facility?
 - a) Substance use treatment services
 - b) Mental health services
 - c) Medical services
 - d) HIV-related services
 - e) Supplemental services (transportation, childcare, housing)
- 3) Are there areas that you feel this facility excels in providing services? If you had the resources, what type of services would you like to add?
- 4) What do you feel about evidence-based practice/services? Do you have ways to link research with practice?

Ideology/Orientation

- 5) Could you tell us about your views about how best to treat substance use
- 6) Follow-up: Explore disease model vs. harm reduction model. Explore chronic vs acute conceptualization of substance use.
- 7) Do you think being an ex-user is preferable in a counselor? If so why, if not, why not?
- 8) What are your views on brief treatment? Outpatient treatment? Residential treatment? Methadone maintenance/opioid replacement therapy? Harm reduction vs abstinence?
- 9) Can you tell us about venues (meetings, conferences, gatherings) where you meet other facility managers, counselors and members of the treatment community in Philadelphia?
- 10) Follow-ups: Could you tell us about what gets discussed at these venues? What is the level of contact you have with fellow members of the treatment community?
- 11) In your opinion, how prevalent/popular in the treatment community are views supporting: a) Harm reduction, b) abstinence, c) using ex-addicts as counselors, d) using licensed professional counselors d) using AA/NA groups, e) using brief treatment modalities, f) using methadone maintenance treatment?
- 12) How do you find out/keep track about what views are prevalent in the treatment community?

Funding?

- 13) What are the funding streams for your facility? What proportion of funds are government (explore type of gov funding- Medicaid, managed medicaid etc); client-paid fees per session; managed care;
- 14) Have you seen a change in funding during the last 5-7 years? What are they? How has managed care funding affected you?

Personnel

- 15) What is the size of the staff at your facility? How many counselors? How many degreed counselors, paraprofessionals?
- 16) What is your opinion about ex-users as counselors? Degreed counselors providing treatment?
- 17) How does funding influence the personnel you hire?

Clients

- 18) What is the demographic profile of your clients? Do you see more of a certain type of clients than others? How do you feel these clients are best treated?
- 19) Does funding affect the types of clients the facility treats? How do you retain clients who need more long-term care in the present funding environment?