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Dissemination Activities: A Critical New Role for Substance Abuse Treatment Organizations

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Abstract

The Affordable Care Act calls for integration of substance abuse treatment into medical care via medical homes and continuing specialty care. For this integration to occur in the substance abuse treatment field, substantial sharing and dissemination of information by treatment providers is required. This study explored the determinants of organizational activities directed at disseminating evidence-based practices (EBP) undertaken by 193 community treatment programs who are members of the National Institute on Drug Abuse (NIDA) Clinical Trials Network. Using factor analysis, the research identified two generic categories reflecting different motivations for dissemination activities, and explored both treatment center leadership and organizational characteristics as determinants of these different types of dissemination activities. Organizational characteristics predicting treatment center dissemination activities included size, previous involvement in research protocols, linkages with other providers, and having non-profit status. The treatment center leader's membership in professional organizations was also a significant determinant. Organization variables account for a larger portion of the variance in treatment center dissemination activities. The results suggest that the willingness of treatment providers to help disseminate EBPs within the industry may be heavily influenced through shared network connections with other treatment organizations.

The Affordable Care Act (ACA) emphasizes both integration of all patient care and knowledge sharing among health care providers and their stakeholders.¹ Greater coordination among treatment providers is essential for ACA's goal of narrowing and combining the paths by which health care is obtained.² In order to better understand organizations' propensities to engage in sharing of information such as organizational

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Conflict of Interest

experiences in using evidence-based treatment practices, this study explored the predictors of voluntary dissemination activity by substance abuse treatment providers. Knowledge sharing has never previously been emphasized among SUDs treatment centers.³ Understanding the determinants of dissemination behavior in this context should add to the understanding of how such behaviors can be increased in the future.

The treatment of substance use disorders (SUDs) is frequently provided in separate specialty settings. Integration with other medical care providers or interaction with other SUDs providers tends to be limited.^{4, 5} Information and knowledge dissemination represent new activities for SUD treatment providers. As a result, the structures of such activities and the leadership or organizational factors that enhance or impede them are poorly understood. This study addresses this gap first by identifying distinct groupings of dissemination activities undertaken by SUD treatment centers and second by exploring the extent to which characteristics of both leaders and organizations are related to organizational dissemination efforts. Specifically, this study examines dissemination activities concerning evidence-based practices (EBPs) by treatment centers who participate in the Clinical Trials Network (CTN) established in 2000 by the National Institute on Drug Abuse (NIDA).⁶ The CTN is a national network of researchers and practitioners operating through twelve “nodes” of university-based researchers connected to over 200 collaborating community treatment programs (CTPs) engaged in SUD treatment.^{6, 7} The CTN goals include conducting multi-site clinical trials of promising evidence-based SUD treatment interventions and dissemination of information to increase the adoption of EBP, within and outside the CTN.^{6, 7, 8} Examining the determinants of CTN treatment center dissemination efforts may provide insights about prospective behaviors to meet new demands of the ACA.

EBP use and dissemination by SUD treatment organizations

Endorsed by influential scientific and policy leaders, the adoption and use of EBPs is seen as a needed systemic change to hasten improvements in the quality of SUD treatment mechanisms.^{9, 10} The movement throughout medicine promoting the use of evidence-based practices (EBPs) is quickly becoming institutionalized.^{9, 10, 11} However, entrenched norms may stymie EBP adoption in SUD treatment.^{11, 12} Implementing EBPs for SUD treatment includes replacing or supplementing traditional practices with the use of new medications and psychosocial interventions, which may entail ideological conflict.¹² These treatment approaches have been developed in outcome-focused research largely supported by the National Institute on Drug Abuse (NIDA).^{13, 14, 15, 16} Policy support for EBP diffusion has also come from the Substance Abuse and Mental Health Services Administration (SAMHSA), the agency responsible for allocating “formula grants” to support SUD treatment at the state level, as well as demonstration project funding which can occasionally provide boosts of support at the level of local treatment organizations.^{17, 18, 19, 20, 21}

Previous EBP dissemination activities have included NIDA-sponsored national and regional “Blending” [of research and practice] Conferences and NIDA-generated Web-based Blending Products providing guidance for use of specific EBPs.²² Additional dissemination activities undertaken by individual treatment centers have been less visible, yet may be contributing to the CTN's impact on the broader SUD treatment field. Dissemination

involvement by CTPs is voluntary since NIDA does not have authority to demand or reward treatment center dissemination activities. In a previous study, Roman and colleagues⁸ examined the prevalence of CTN treatment center engagement in eleven different EBP dissemination activities. These included providing information about EBPs for SUD treatment to state, county, or local governments; participating in state/local taskforces or workgroups on issues related to EBPs; interacting with the state funding agency or third party funding sources on issues related to EBPs; providing information about EBPs and/or training to other treatment providers; disseminating information about CTN activities to other treatment providers; and participating in the development of research and popular press publications. This study found that 85 percent of the CTPs participating in at least one dissemination activity, but that there was considerable variation in the number and types of activities.⁸ SUD treatment organization engagement in EBP dissemination activities is a strategic choice because external dissemination efforts fall outside the mainline business activities of SUD treatment centers. These activities may involve program staff and management resources in unusual roles, and may tax already strained organizational resources.^{21, 22, 23} Dissemination actions by treatment providers may also represent efforts to change policies, systems and institutionalized practices and thus represent advocacy for EBPs.^{24, 25, 26} Despite a growing interest in marshaling a range of resources for EBP dissemination, prior studies have not explored the determinants of voluntary dissemination behavior by treatment providers.

Organizations may strategically undertake dissemination activities because their leaders push such agendas in response to their personal interpretation of environmental uncertainties.^{25,28} For example, human service organizations tend to become involved with advocacy efforts when powerful individuals become aligned with the need.^{26, 27} An alternative view is that leaders may have limited impact and organizational dissemination activities reflect characteristics such as size and industry position.^{30, 31} The central question addressed by this study is the extent to which each of these two perspectives explains the variation in CTP dissemination activities.

The Leadership Perspective

Strategic leadership theorists assert that top managers who form the upper echelons are crucial determinants of organizational actions because of the nature of the decisions they are empowered to make and because ultimately they are accountable for successful organizational adaptation and survival.^{25, 28, 29} The central premise of upper echelons theory is that executives' experiences, values, and personalities greatly influence their interpretations of the situations they face and, in turn, affect their choices and the direction they provide to organizational subordinates.²⁹ The theory has been supported by evidence that demographic characteristics of executives can be used as valid proxies of cognitive perspectives.²⁹ For example, Young, Charns, and Shortell found that demographic characteristics describing the background and experiences which shaped a manager's cognitive base – values, beliefs and abilities –influenced the adoption of innovative management practices in a public hospital system.³² The effects of executive backgrounds on organizational actions may be increased by environmental conditions such as substantial means-ends ambiguity and by greater managerial job demands. Executives in ambiguous

situations or under heavy job demands may be forced to take mental shortcuts and fall back on what they have tried or seen work in the past; thus, their choices will likely reflect their backgrounds and dispositions.^{28, 29}

SUD treatment centers operate in a context characterized by complexity, uncertainty, ambiguity in cause and effect, and high managerial demands. In addition to uncertainties in funding and high rates of employee turnover, SUD treatment shows discouraging rates of success in terms of abstinence, coupled with high rates of treatment recidivism.³³ In addition, substantial proportions of patients leave SUD treatment without completing a prescribed regimen despite carefully developed clinical treatment plans. Thus leaders in SUDs treatment programs face uncertainty and ambiguous connection between ends and means. Under such uncertainty, leaders may gain power and influence as they are perceived as essential in providing stability and in taking bold and confident steps, with subordinates turning to them for insights needed for organizational survival. Previous studies of predictors of decision-making suggest that relevant director characteristics may include the following:

Directors of organizations trained in SUD treatment relevant fields of social work, psychology, nursing, or medicine may have increased interest in applying resources to EBP dissemination activities because EBPs may be seen as ‘cutting edge’ technologies and dissemination by their center may increase the director's standing among their peers and in the broader treatment community.³⁴ Center directors with clinical degrees may also be more professionally interested in dissemination of EBPs as a means to improve the quality and professionalism prevailing within the SUD treatment industry.

Hypothesis 1: A treatment center director's degree in treatment related fields will be positively related to a treatment center's level of EBP dissemination activities.

A director's tenure in the behavioral health field may increase a director's willingness to invest resources in EBP dissemination activities because of the director's existing standing in the professional community.^{34, 35} The length of a director's involvement within behavioral health field may represent greater levels of the social capital within the profession.³⁵ Networks of social relationships stemming from this investment may represent social and normative responsibilities that directors with greater tenure in the field feel obligated to assume.^{34, 35}

Hypothesis 1b: A treatment center director's tenure in the behavioral health field will be positively related to a treatment center's level of EBP dissemination activities.

Directors who are members of a professional organization may be more willing to engage in dissemination activities. Previous studies have suggested that important support for organizations undertaking advocacy activities is the presence of an organized constituency such as that provided by a professional association of treatment center directors.^{25, 26} This may link treatment center directors with the EBP movement within the SUD treatment field, leading them to advocate for EBP use, and to be sought by other center directors and government officials for information and insights. Social relationships where information and influence are shared tend to reinforce the director's professional identity. Thus center

directors may invest resources in dissemination activities to fulfill the expectations of other treatment directors who are linked through such professional organizations.

Hypothesis 1c: A treatment center director's membership in a professional organization will be positively related to a treatment center's level of EBP dissemination activities.

A treatment center director's organizational tenure may increase a center's involvement in EBP dissemination activities because the director has the internal power and credibility to undertake these non-traditional activities with governing board support (or at least acquiescence). Directors who have been with an organization longer may also have high levels of commitment to the organization³⁷ and believe that positioning the treatment center as a leader in innovation with the treatment field through EBP dissemination may increase the center's access to resources from third party payers as well as state and local government.

Hypothesis 1d: A treatment center director's tenure with the current CTP will be positively related to a treatment center's level of EBP dissemination activities.

The Organizational Perspective

In an influential study, Lieberman and O'Connor³⁰ found that organizational factors accounted for substantially more variance in overall organizational performance than leader characteristics. The view that variables outside the control of any single leader are the primary drivers of organizational performance and actions has been supported by multiple explanations for organizational choices and survival, including resource dependence and institutionalization.^{30, 38, 39, 40} In studies of SUD treatment centers, organizational variables have predicted the adoption of innovative treatment services, total quality management/continuous improvement practices and provision of comprehensive patient care.^{20, 41, 42, 43} D'Aunno and colleagues⁴¹ found that organizational resources, hospital affiliation, public ownership, referral sources, and licensing requirements predicted the extent to which treatment centers provided patient HIV testing and counseling. Form of ownership, extent of public funding, size, and dependence on social service referrals predicted the extent to which treatment centers provide comprehensive patient care.⁴² Resources, non-profit ownership, staff education composition, competition, and types of treatment offered may predict treatment center adoption and use of total quality management/continuous quality improvement practices.⁴³

The organizational variables likely to affect center choices to devote treatment center resources to EBP dissemination include:

Treatment centers which are connected with other treatment organizations through membership in provider associations may undertake external EBP dissemination activities to enhance a treatment center's credibility as forward-thinking and innovative among other association members. Institutional pressures for legitimacy may lead CTPs to not only adopt new or emergent technologies, but also to become proactive in encouraging other centers to approve and adopt these new approaches.^{44, 45} Previous studies also suggest that service provider advocacy actions are facilitated by the presence of an organized group of

supportive professionals.^{25, 26} Treatment centers may fulfill their advocacy role by working collaboratively with other treatment providers members of an association to influence important government policies and regulations in directions consistent with treatment organization priorities and preferences.

Hypothesis 2a: A treatment center's membership in a provider association will be positively related to the level of EBP dissemination activities.

The extent to which CTPs are active as sites for clinical trials may impart norms that also enhance participation in dissemination. CTPs directly involved in CTN clinical trials are likely to be knowledgeable about specific EBPs tested in a protocol as well as possibly more committed to its wide-spread EBP use because of improved treatment results. In addition, CTPs which have been involved in one or more clinical trial protocols may strategically undertake external activities to increase the extent to which other centers also adopt EBPs, adding to further testing and legitimacy of their use. It is also possible that these CTPs view dissemination activities as an opportunity to increase the extent to which government and third-party payers view EBPs as superior technology, in turn increasing the image of those centers that make greater use of EBPs.^{43, 46}

Hypothesis 2b: A treatment center's extent of involvement in CTN clinical trial protocols will be positively related to the level of EBP dissemination activities.

Treatment centers with more employees and serving larger numbers of patients may have established substantial legitimacy and may undertake external actions to inform government entities, third-party payers, and other programs about EBPs in order to protect their legitimate positions.⁴⁷ In addition, CTPs with larger numbers of staff members may be able to achieve some internal efficiencies that make available staff time to undertake EBP dissemination activities. Previous findings studies of advocacy efforts have found that participation increased with additional organizational size, suggesting that size may indicate capacity to participate in advocacy activities of all types.⁴⁸

Hypothesis 2c: A treatment center's organizational size will be positively related to the level of EBP dissemination activities.

Non-profit organizations are in permanent interaction with other entities in the environment where resource exchange relationships take place and participants are compelled to adapt to the requirements of important resource providers.^{49, 50} For-profit centers may have more diverse possible sources from which to borrow funds or acquire additional equity than nonprofits who are constrained in their ability to retain operating surpluses over time. Thus EBP dissemination activities may be viewed by non-profit centers as opportunities to improve relationships with possible sources of public support and third-party payers. In environments where resources are limited or contested, organizations may adopt strategies that reduce dependency and increase healthcare organizations' control over the environment.^{50, 51} Less encumbered by the trappings of government bureaucracy or shareholder profit expectation, nonprofit organizations may also have greater opportunities for innovativeness and non-traditional roles such as EBP dissemination.

Hypothesis 2d: A treatment center's non-profit status will be positively related to the level of EBP dissemination activities.

Having more staff members relative to a treatment center's patient census may be an indicator of relative munificence of the organization.⁴³ Although a treatment center's absolute size may increase its visibility and standing in the industry and create implied demand for EBP dissemination efforts, having higher levels of slack resources may serve as a buffer from such institutional demands regardless of organizational size. Therefore treatment centers with greater staff resources per patient therefore may be less inclined to undertake dissemination efforts of any kind.

Hypothesis 2e: A treatment center's level of staff per patient will be negatively related to the center's level of EBP dissemination activities.

Methodology

Sample

These analyses use data from the third data collection period (2008-2009) of a longitudinal study of treatment centers within the NIDA CTN. "Treatment center" was defined as an organizational unit with an autonomous administrator with discretionary control over the unit's budget. To be eligible, CTPs were required to provide a minimum level of care at least equivalent to American Society of Addiction Medicine (ASAM) defined outpatient services⁵² or to be a methadone maintenance treatment program. The first wave of data was collected between late 2002 and mid-2004 when the CTN consisted of 17 research "nodes," each of which was a Regional Research and Training Center (RRTC), and a collection of 262 CTPs linked to the RRTCs for clinical trials. In 2006, CTP administrators were again invited to participate in face-to-face interviews and 215 CTPs participated. One hundred-seventy programs were eligible for the 48-month follow-up in 2008. Due to changes in the CTN membership, 54 new CTPs were added and after 26 refusals to participate, the 48-month follow-up sample consisted of 198 CTPs (84.7% response rate of eligible programs). Missing values on one or more of the study variables reduced our sample for the study to 193 CTPs. The absence of 5 centers did not alter significantly any of the correlations among our study variables.

Data about each organization were provided by administrative and clinical directors acting as key informants through face-to-face interviews. Key informants have been used in research studies to describe organizational variables including innovation adoption, environmental influences, power of major suppliers and customers, human resource practices, and quality management practices.^{42, 43, 53} The key informants in our sample were top managers with an average of over 6 years of tenure with their current organization, were knowledgeable about the areas being studied, and were able and willing to communicate about these areas.⁵⁴

Measures

Dissemination activities—In the interviews, program administrators responded to a series of questions concerning whether the treatment center director or staff performed eleven different external activities listed in Table 2. The response to each was yes (coded 1) or no (coded 0). Eighty-five percent of the treatment centers in our study sample had engaged in one or more of these activities during the past year. Since one of the research

objectives was better understanding of treatment center dissemination actions, groups of dissemination efforts were explored. A factor analysis of these dichotomous variables was conducted using the polychoric correlations among these variables following the MINRES procedure.^{54, 55} These analyses were conducted using PRELIS and LISREL 8.80 software enabling a comparison of models involving one to three factors. The fit of the alternative factor models to the data is shown in Table 1. The two factor model showed the best fit to the data.

The first factor was interpreted as EBP dissemination efforts motivated by treatment center efforts to build organizational capital. This includes an improved image and standing among entities in state and local level government as well as patient insurers that could affect access to resources. The second factor was interpreted as activities motivated by professional organizational citizenship norms as well as improved standing within the CTN. The items associated with each factor are shown in Table 2 along with the Promax rotated factor loadings. The zero order correlation between these factors was .46 ($p < .01$).

Two outcome variables were computed as the sum of the items in each factor. The two additive indexes of dissemination activities had values limited in range by a lower bound of 0 and upper bounds of 7 and 4 respectively.

Characteristics of leaders—During interviews, the center directors were asked to describe their field of study when achieving his/her highest degree. These responses were used to code a variable denoting that a director had education in the fields of social work, psychology or medicine (compared to all other fields). Treatment center directors also reported in the interviews each director's years of work experience in the behavioral health field, membership in professional association where he/she networked with other treatment provider directors, and years of tenure with the current treatment center.

Organizational variables—During the interviews, the treatment center directors reported the size of the center in full-time-equivalent (FTE) employees, whether the center belonged to a provider membership organization involving treatment programs with common interests, the patient census across modalities of treatment, whether the center operated as for profit or nonprofit, and the extent to which the center had participated in each of sixteen CTN clinical trial protocols. These responses, were used to calculate indicators of treatment center non-profit status (compared to for-profit and government operated CTPs) and treatment center membership in a provider association. The ratio of the number of FTEs per patient for each center was calculated and used as a measure of resources available relative to opportunities for use (Fields and Roman, 2010). Finally, an additive index of the number of CTN protocols in which each center had participated was calculated. Fifty percent of the centers in our sample had not participated in any CTN clinical trial protocols, while 31% had participated in one protocol and 19% in two or more.

Control variables—Since greater relative levels of public funding might establish obligation for CTPs to conduct some dissemination activities, each center's percentage of public funding was controlled. In addition, being based within a hospital was controlled, as

hospital affiliation might reduce a treatment provider's discretion to undertake dissemination activities.

Results

The means, standard deviations and correlations of the study variables are presented in Table 3.

As Table 3 shows, the two indices of external activities are significantly correlated ($r = .46$, $p < .01$). The means of the variables indicate that on average these treatment centers engaged in approximately 3.5 dissemination activities of both types, out of a possible maximum of 11. On average, centers undertook activities aimed at building organizational capital more than twice as frequently as activities categorized as contributing to the treatment profession. Sixty percent of the directors of the treatment centers in our study sample have been trained in the areas of social work, psychology, or medicine and have worked in the behavioral health field for an average of 22 years. Sixty-two percent of the directors belong to professional associations for networking treatment professionals and 59% of the centers belong to associations of treatment programs. Eighty-eight percent of the programs in the study are non-profit operations.

The relationships of leader and organizational characteristics with treatment program EBP dissemination efforts were investigated by estimating the parameters of censored multiple regression models predicting each index of dissemination activities. Because the two additive indexes of dissemination activities had multiple values limited in range at a lower bound by 0 and upper bounds of 7 and 4 respectively, censored regression procedures were used for multivariate analyses. The maximum likelihood estimates provided by the censored regression procedures in LISREL are unbiased when the dependent variables have restricted range. The coefficients and fit measures (R^2) for these censored regression models are shown in Table 4.

In regression models predicting CTP dissemination efforts making up the index for building organizational capital, leader characteristics and control variables accounted for 11% of the variance in EBP dissemination activities, while organizational characteristics by themselves accounted for 19%. The two sets of variables together predicted 24% of the variance in EBP dissemination activities related to building organizational capital. In the regression model containing leader and organizational variables, the director's membership in a professional association had a significant positive regression coefficient, supporting hypothesis 1c. Hypothesis 1d was partially supported as the coefficient for director's tenure was significant, but only in the regression model limited to the leader characteristics and control variables. Hence hypotheses 1a and 1b were not supported. Hypotheses 2a – 2e were all supported in the regression containing only the organization variables and the controls. However, in the more fully specified model containing both leader and organizational characteristics, only hypotheses 2a, 2b, and 2c were supported. The standardized estimates of effect sizes provided by LISREL 8.80 for the regression model combining leader and organizational variables showed that while both leadership and organizational variables predict these types

of dissemination activities, organizational characteristics had approximately twice the effect of leader characteristics.

In regression models predicting CTP efforts motivated by network and professional citizenship, leader characteristics and controls accounted for 10% of the variance in EBP dissemination activities, while organizational characteristics and the controls accounted for 16%. The two sets of variables together predicted 21% of the variance in these dissemination activities. Hypothesis 1c was also supported for these dissemination activities as the director's membership in a professional association were significant in the regression model containing both leader and organizational characteristics. Hypothesis 1b was partially supported since the director's tenure in the behavioral health field was supported only in the regression model limited to the leader characteristics and the controls. Hypotheses 1a and 1d were not supported. Hypotheses 2c and 2e were supported only in the regression model limited to organizational variables and the controls. Hypotheses 2a, 2b, and 2d were supported within the fully specified model containing both leader and organizational characteristics. Based on the standardized estimates of effect sizes provided by LISREL 8.80 for the combined regression model, organizational characteristics had approximately 50% larger effects than leader characteristics in predicting treatment program EBP dissemination activities motivated by network and profession citizenship.

Discussion

This study analyzed the nature and determinants of EBP dissemination activities undertaken by SUD treatment providers. These activities provides information about EBPs that may equip treatment practitioners to adopt and implement evidence-based practices. Two alternative explanations for why SUD treatment programs from the NIDA CTN may engage in these dissemination behaviors were examined. One explanation attributed EBP dissemination efforts to the characteristics of the top leaders of treatment programs. The alternative explanation focused on organizational characteristics. In multivariate analysis, both sets of variables made significant contributions in explaining dissemination activities of two types: a) those motivated to build organizational capital and b) those motivated to contribute to the goals of the CTN network and to the SUD treatment profession. The significant effects of both leadership and organizational variables were present when examined separately and together in combined censored regression models predicting both types of dissemination activities.

Although the organizational variables had larger effects for both outcomes, the direct relationship of leader characteristics should not be dismissed. A treatment center's willingness to undertake activities directed at dissemination of EBPs is an activity that may influence government and insurance payers, alter the norms used within the profession, and enhance the stature and reputation of an individual treatment provider. In this study, leader characteristics with the control variables accounted for 10% of the organizational dissemination actions, a level of impact consistent with those found in studies measuring similar strategic outcomes.^{32, 46}

The findings do however challenge upper echelon theory which predicts leaders of organizations facing an uncertain and turbulent external environment, as SUDs providers often do, may be more influential through their discretion and power. Our results lend greater support to a view that individual leader influences within professional service settings may be bounded by norms inherent to institutionalized practices that may be formally endorsed by accrediting and certification organizations. In a somewhat ironic manner, there is also a “certainty of the uncertainties” affecting SUD treatment environments.⁵⁷ Ambiguities surrounding the definition of SUDs, pressure from policy and funding agencies for use of EBPs, and limitations in public and third-party treatment reimbursement approaches are not new but chronic problems for SUDs treatment providers. These sources of uncertainty may create an “iron-cage” that limits the effects of leader discretion.³⁹

The significance of organizational size in positively influencing both categories of dissemination activities suggests the frequently observed reality that having more staff resources available increases a treatment center's ability and propensity to undertake non-traditional activities that both improve the standing of the organization and further the profession. The positive effects of treatment program's membership in an association of similar providers may reflect shared perceived needs to maintain visibility and information flows that may buffer regulatory and financial uncertainty. In addition, the positive relationship between CTN clinical trials protocol participation and the level of both types of dissemination efforts may be an indicator of a cultural affinity among the participating organizations, voluntarily enhancing treatment provider commitment to both of the CTN's major goals. The positive relationship of non-profit status with dissemination efforts motivated by needs to enhance organizational capital seems consistent with expectations, but also suggests that non-profit SUD treatment providers view themselves as exposed from a resource standpoint.

The study has some limitations that should be noted. First, the data were provided through interviews provided by directors of each of the treatment centers and could contain inaccuracies unknown to the respondents. Second, the centers in the study sample were all selected for membership in the CTN for reasons unrelated to their representativeness of the populations of specialty treatment programs. Third, our measures covered only the incidence of a center's having undertaken EBP related external dissemination activities within the most recent one year time period. Use of the study results should take into account the possible unmeasured effects of being in a NIDA sponsored CTN research related program. Future studies should investigate the level and determinants of dissemination activities undertaken by SUDs treatment organizations not connected by formal network connection such as that provided by the CTN.

Implications for Behavioral Health

Informed policy making and treatment center management requires understanding the variables related to differences in the extent and types of EBP dissemination activities in order to effectively tailor support for these activities and set expectations for the future. The results of this study indicate that voluntary EBP dissemination efforts by SUD treatment

centers can be explained to a substantial extent by variables measuring the nature of the organization and to some extent by the characteristics of its executive director. Dissemination activities of SUD treatment providers are important because of evidence about how treatment providers and their staff gain new information and because SUD providers have tended to operate in isolation from one another. Previous studies in the US and the Netherlands found that SUDs treatment leaders and staff preferred to obtain information through direct contact and consultation with colleagues and made very limited use of scientific journals, and conferences.⁵⁸ These realities suggest that dissemination activities undertaken by treatment providers may be critical in the ultimate diffusion and implementation of evidence-based practices across SUD treatment organizations.

Policy leaders' efforts to increase EBP implementation and care integration targeted by the ACA may want to pay particular attention to the effects of network involvement found in this study. Specifically, increased adoption and implementation of EBPs within the SUDs treatment field may depend substantially on the influences of other peer organizations and their members. The analyses in this study suggest that policies which support treatment organization involvement in networks involving EBP research, professional connections, and information sharing with other providers may increase the willingness to transfer information about EBPs and provide assistance in their use. However, although the centers studied were encouraged by CTN membership, their relatively low level of dissemination engagement may suggest that the advantages of the formation of strategic alliances may not be readily apparent to treatment centers or is perhaps limited by efficiencies required by treatment reimbursement requirements enforced by external regulatory and third party funding organizations business setting. However, alliances among providers have helped buffer the effects of resource pressures in other segments of healthcare and may offer opportunities for increased EBP dissemination and ultimate improvement in SUD treatment quality if recognized and rewarded.

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Fit of alternative factor models of evidence-based practice dissemination activities by CTN treatment programs (N= 193).

Table 1

	χ^2	d.f.	RMSEA	NFI	CFI	GFI	χ^2
One -factor model	87.24	44	.07	.87	.93	.93	16.76(1) **
Two-factor model [/]	70.48	43	.06	.89	.95	.94	-----
Three-factor model	109.35	42	.08	.83	.89	.92	38.87(1) **

*
p < .05;

**
p < .01

[/] Best fit model

Table 2
EBP dissemination activities of CTN treatment programs with factor loadings in parenthesis

<u>Factor 1 items: Building organizational capital</u>	
1	Provided information to the state legislature or legislative committees about evidence-based treatment practices (EBPs) for substance abuse treatment. (.73)
2	Participated in state/local taskforces or workgroups working on issues related to EBPs. (.74)
3	Provided information to county and/or local governments related to EBPs. (.54)
4	Engaged in discussions with third-party payers and other purchasers of substance abuse treatment services about EBPs. (.66)
5	Organized or led training sessions for other treatment providers about EBPs. (.68)
6	Provided technical assistance to another treatment organization that was trying to adopt an EBP. (.62)
7	Presented information about EBPs to professional associations. (.64)
 <u>Factor 2 items: Network and professional citizenship</u>	
1	Interacting with the Single State Agency (SSA) [or State Methadone Authority [if appropriate] on issues related to EBPs. (.44)
2	Disseminated information specifically about the CTN's activities to other treatment providers. (.60)
3	Contributed to the development of journal articles related to the CTN's activities (includes protocol outcome papers). (.68)
4	Participated in the development of articles about addiction treatment for lay publications (e.g. magazines, newspapers, newsletters). (.74)

Responses to all were yes (coded 1) or no (coded 0).

Table 3
Means, Standard Deviations, and Correlations of the Study Variables (N= 193)

Variable	M	sd	1	2	3	4	5	6	7	8	9	10	11
1. Building Org. Capital	2.45	2.05	----										
2. Professional Citizenship	1.11	1.20	.46**	----									
3. Director SW/Psy/Med Deg. [/]	.60	.49	-.05	-.10	----								
4. Director. Yrs Beh. Hlth.	21.8	9.88	.19**	.22**	.03	----							
5. Director. Professional Org. [/]	.62	.49	.24**	.18*	.14*	.13	----						
6. Director. Tenure	6.6	7.02	.20**	.21**	.01	.48**	.11	----					
7. Org. Provider Association [/]	.59	.49	.25**	.22**	.03	.23**	.16*	.13	----				
8. Org. Protocol Involvement [/]	.81	1.11	.28**	.25**	.05	.15*	.08	.10	.09	----			
9. Org. Non-profit [/]	.88	.33	.18*	.11	-.05	-.02	.09	-.14*	.04	.12	----		
10. Org. Size FTEs	31.3	41.7	.19*	.20**	-.08	.13	.07	.09	.18*	.08	.03	----	
11. Org. FTEs/patient	.60	.81	-.09	-.08	-.08	.00	.00	-.09	.05	-.01	.05	.20**	----

* p < .05;

** p < .01

[/] Coded 1 = yes; 0 = no

Table 4
Maximum Likelihood Censored Regressions Predicting CTN Program EBP
Dissemination Activities (N= 193)

Network and Profession	Building Organizational			
	Capital			
Citizenship	b (se)	b(se)	b(se)	b (se)
	b (se)	b(se)		
<u>Leader Characteristics</u>				
Director SW/Psy/Med Deg (.31) ---- -.54 (.30)	-.39 (.39)	----	-.43 (.37)	-.52
Director Yrs. in Behavioral Health (.17) * ---- .02 (.02)	.03 (.02)	----	.01 (.02)	.34
Director Professional Org. (.31) ** ---- .67 (.31) *	1.39 (.40) **	----	1.07 (.38) **	.87
Director Org. Tenure (.03) ---- .02 (.02)	.06 (.03) *	----	.06 (.03)	.04
<u>Organizational Characteristics</u>				
Org. Provider Association .89 (.31) ** .65 (.31) *	----	1.07 (.38) **	.76 (.38) *	----
Org. Protocol Involvement .38 (.13) ** .35 (.13) **	----	.55 (.17) **	.51 (.16) **	----
Org. Non-profit .66 (.50) .61 (.49)	----	1.29 (.59) *	1.29 (.59) *	----
Org. Size FTEs .01 (.004) * .01 (.003) *	----	.01 (.005) *	.01 (.01)	----
Org. FTEs/patient <u>-.63 (.31) *</u> <u>-.55 (.28)</u>	----	-.44 (.22) *	<u>-.40 (.22)</u>	----
<u>Control variables</u>				
Percent public funding (.01) .01 (.01) .01 (.01)	-.01 (.01)	-.01 (.01)	.01 (.01)	.01
Hospital based (.47) .42 (.45) .27 (.45)	-1.43 (.62) *	-.80 (.58)	-1.07 (.58)	-.05
R ²	.11	.19	.24	.10
	.16	.21		

* p < .05 (2 tail test);

** p < .01 (2 tail test)