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Journal of Substance Abuse Treatment 32 (2007) 267–277

Journal of Substance Abuse Treatment

Special article

Evidence-based treatment practices for drug-involved adults in the criminal justice system

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Received 25 September 2006; received in revised form 16 December 2006; accepted 25 December 2006

Abstract

Objective: The aim of this study was to estimate the extent and organizational correlates of evidence-based practices (EBPs) in correctional facilities and community-based substance abuse treatment programs that manage drug-involved adult offenders. **Methods:** Correctional administrators and treatment program directors affiliated with a national sample of 384 criminal justice and community-based programs providing substance abuse treatment to adult offenders in the United States were surveyed in 2004. Correctional administrators reported the availability of up to 13 specified EBPs, and treatment directors up to 15. The sum total of EBPs indicates their extent. Linear models regress the extent of EBPs on variables measuring structure and leadership, culture and climate, administrator attitudes, and network connectedness of the organization. **Results:** Most programs offer fewer than 60% of the specified EBPs to drug-involved offenders. In multiple regression models, offender treatment programs that provided more EBPs were community based, accredited, and network connected, with a performance-oriented, nonpunitive culture, more training resources, and leadership with a background in human services, a high regard for the value of substance abuse treatment, and an understanding of EBPs. **Conclusions:** The use of EBPs among facility- and community-based programs that serve drug-involved adult offenders has room for improvement. Initiatives to disseminate EBPs might target these institutional and environmental domains, but further research is needed to determine whether such organization interventions can promote the uptake of EBPs. Published by Elsevier Inc.

Keywords: Offenders; Evidence-based medicine; Evidence-based corrections; Substance-related disorders; Substance abuse treatment centers

1. Introduction

Research on the components of substance abuse treatment programs for substance abusers and/or offenders that reduce substance abuse and/or recidivism has grown tremendously over the last two decades. Systematic and expert reviews of the correctional literature have identified the components of programs that are likely to reduce recidivism. In their 1990 meta-analysis, Andrews et al. (1990) identified actuarial risk assessment tools, cognitive-behavioral programs and services, and matching offenders to appropriate services as effective programmatic components. Over the ensuing 15 years, researchers have echoed that key components of correctional and substance abuse programs for offenders generally fall into three areas: assessment and treatment matching, program services and content, and compliance management. Key elements of effective programs include (Fletcher & Chandler, 2006) standardized substance abuse assessment tool(s) for assessing severity of substance abuse disorder (Peters & Wexler,

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0740-5472/07/$ – see front matter. Published by Elsevier Inc.
doi:10.1016/j.jsat.2006.12.020

2005); standardized risk-assessment tool(s) to identify the appropriate clients for services (with a preference for high-risk offenders being placed in services (Thanner & Taxman, 2003; Lowenkamp, Latessa, & Hoslinger, 2006; Andrews & Bonta, 1996; Taxman & Thanner, 2006; Taxman & Marlowe, 2006); interventions to engage the offenders in treatment services and motivate them for change (Simpson, 2004); treatment orientations that employ therapeutic community, cognitive-behavioral, or standardized behavioral modification techniques (Andrews et al., 1990; Sherman et al., 1997; Mackenzie, 2000); comprehensive services that address co-occurring medical and psychosocial disorders (Friedmann, Saitz, & Samet, 2003; McLellan, Arndt, Metzger, Woody, & O'Brien, 1993); family involvement in treatment (O'Farrell, 1993); treatment duration of 90 or more days (Hubbard et al., 1989; Simpson, Joe, & Brown, 1997); systems integration and a continuum of care (including aftercare) as the offender moves through different phases of the criminal justice system (Butzin, Martin, & Inciardi, 2002; Taxman & Bouffard, 2000); routine drug testing to monitor treatment progress (Sherman et al., 1997); and use of sanctions and incentives to improve program retention or use of reinforcement schedules (Taxman, Soule, & Gelb, 1999; Marlowe & Kirby, 1999; Higgins et al., 1994).

As part of a growing consensus about effective programming for offenders, a number of models have evolved that focus on systemic policies and practices that involve strengthening the goals of drug treatment for offenders. The seamless system (Taxman, 1998) includes 12 programmatic processes to facilitate offender change, such as treatment goals that are compatible with public safety goals; assessment tools to identify appropriate offenders for treatment services; risk responsivity in matching of offenders to programs and services; incentives and sanctions to shape behavior and to work on compliance issues; drug testing to monitor progress; a continuum of care or program phases that allow the offender to move through the criminal justice system while obtaining treatment services to reinforce recovery; team strategies to adopt policies and procedures to reinforce the importance of individual programmatic components; and emphasis on quality in programming over the number of offenders served. The research on therapeutic communities in prisons reinforces many of these principles (Inciardi, Martin, Butzin, Hooper, & Harrison, 1997; Taxman & Bouffard, 2000). Simpson et al. (2002) advocate a treatment process that includes similar key components. They recommend that assessments should drive program placement (the concept of responsivity); treatment processes should consist of several phases to facilitate the individual change process, including engagement, intensive treatment to address client/offender needs, and adequate retention in treatment and support systems to affect change (Simpson, 2002).

In the past decade, initiatives to transfer these research-supported practices into substance abuse treatment programs have coincided with the delineation of "what works" in criminal justice settings (Fletcher & Chandler, 2006; Institute of Medicine, 1998; Hall, 1997; Miller, Zweben, & Johnson, 2005; Simpson, 2002) The use of evidence-based practices (EBPs) is an essential feature of quality treatment programming for persons with substance use disorders. Prior research on community substance abuse treatment programs suggests that institutional and environmental factors affect these programs' adoption and utilization of "best practices" (Heinrich & Lynn, 2002; Knudsen, Ducharme, & Roman, 2006; Roman & Johnson, 2002; Simpson, 2002). Little is known about the implementation of evidence-based substance abuse treatment practices within criminal justice settings. For drug-involved offenders both inside and outside prison walls, the culture and resources of local and state criminal justice and addiction treatment systems likely exert important influences on the quality of substance abuse treatment practices.

The current study examines organizational correlates of EBPs in a nationally representative sample survey of adult prison and community correctional facilities and affiliated substance abuse treatment agencies. This article extends the work of Taxman, Perdoni, and Harrison (2007) that examines the availability of and access to services among adult offenders. A companion paper by Henderson et al. (2007) addresses a similar theme of exploring the use of evidence-based treatment practices in programs for juvenile offenders.

1.1. Conceptual framework

Prior investigations of the organizational determinants of quality substance abuse treatment practices suggest that open systems models apply (Scott, 1998; Marsden, 1998; D'Aunno, 2001). Such models view an organization's institutional and external environments as influencing its structures and processes (Marsden, 1998). Institutional factors associated with the quality treatment practices for substance-abusing clients include organizational culture and climate (Knudsen et al., 2006; Friedmann, Alexander, & D'Aunno, 1999; Friedmann, Alexander, Jin, & D'Aunno, 1999; Wheeler, Fadel, & D'Aunno, 1992), leadership background and attitudes (Roman & Johnson, 2002; Heinrich & Lynn, 2002), and staff background and training (Knudsen et al., 2006; Friedmann, Alexander, & D'Aunno, 1999; D'Aunno & Vaughn, 1995; Backer, Liberman, & Kuehnel, 1986). Characteristics of the external environment associated with treatment practices include requirements of regulatory or accreditation agencies (Anttewell & Gerstein, 1979; Brown & Flynn, 2002; D'Aunno & Vaughn, 1992; Friedmann, Alexander, & D'Aunno, 1999), resources and funding (Lehman, Greener, & Simpson, 2002; D'Aunno, Vaughn, & McElroy, 1999; D'Aunno & Vaughn, 1995; Simpson, 2002; Friedmann, Alexander, & D'Aunno, 1999), and network connectedness (Knudsen & Roman, 2004; Taxman & Bouffard, 2000). Based on previous research on organizational correlates of the adoption of EBPs (Knudsen

& Roman, 2004; Glisson, 2002; Stirman, Crits-Christoph, & DeRubeis, 2004), the current study hypothesizes that organizational structure and leadership, culture and climate, resources and staff training, administrator attitudes, and network connectedness will influence the extent to which adult correctional agencies and treatment providers offer evidence-based substance abuse treatment practices.

2. Methods

The National Criminal Justice Treatment Practices (NCJTP) survey is a multilevel survey designed to assess all levels of the adult and juvenile justice systems in the United States. The primary goals of the survey are to examine organizational factors that affect substance abuse treatment practices in correctional settings as well as to describe the programs and services available. The NCJTP survey solicited information from diverse sources ranging from executives of state criminal justice and substance abuse agencies to staff working in correctional facilities and drug treatment programs. Details of the various study samples and survey methodology are provided in an introductory paper to this issue (Taxman et al., 2007; Taxman, Young, Wiersema, Mitchell, Rhodes, A.G., 2007) The present study focused on survey results from administrators of correctional agencies and directors of substance abuse treatment programs serving adult offenders in prison, jail, and community settings.

2.1. Sample

The NCJTP Treatment Program Directors Survey targeted the subset of adult institutions that were identified as providing some type of substance abuse treatment service in a sampling frame provided by the Bureau of Justice Statistics. After stratification by geographical region and bed capacity, the prison sample was randomly selected proportionate to their size in the Bureau of Justice Statistics sample. To sample community-based programs, a two-stage sampling strategy initially selected a random sample of 72 counties from the 3,141 counties listed in the 2000 U.S. Census, and then a national data file of substance abuse treatment programs (OAS, 2004) was used to identify the five largest drug-free outpatient programs serving adult criminal justice clients in each county.

The final respondent sample of treatment program directors included a total of 384 criminal justice and community-based facilities providing substance abuse treatment to adult offenders. The number of respondents differs slightly from Taxman et al. (2007), as some programs targeted in the adult and juvenile sampling frames reported in their surveys that they provided services to both adults and juveniles; the numbers reported here refer to facilities that reported that they provided services for adults only. The correctional sample was composed of 98 prisons, 41 jails, 191 community agencies, and 151 probation or parole programs. Response rate was 69% for prisons and 71% for community corrections. The treatment director sample included directors of programs operating within the criminal justice facilities sampled above and the five largest community-based treatment programs in the county. This sample consisted of 95 facilities, including 62 directors of treatment programs in prisons, and 33 community-based treatment agencies serving adult offenders. Response rate was 61% for prison-based treatment programs and 60% for community-based programs.

2.2. Data collection

The postal survey instrument came in two versions: The correctional administrators' survey inquired about the correctional program and services provided in their institution, and the treatment program directors' instrument asked about treatment programs and practices offered in the prisons, jail, probation/parole office, and community. Survey participants were mailed a package that included informed consent documents, the 27-page survey questionnaire, a stamped return envelope, and a cover letter explaining the study and procedures for completing and returning the survey.

2.3. Measures

2.3.1. Dependent variable: EBPs

This article adopts the Institute of Medicine's (2001) and Hoagwood, Burns, Kiser, Rigeisen, and Schoenwald's (2001) definition of EBPs as "the integration of best research evidence with clinical expertise and client values." Recent studies (Sherman et al., 1997; Mackenzie, 2000; Taxman, 1998; Landenberger & Lipsey, 2006) and a recent policy/research report (Drug Strategies, 2005) guide the operational measurement of EBPs. Following Knudsen and Roman (2004), we sum the number of EBPs respondents reported being used in their programs because it allows for easier comparability across organizations and provides more consistent findings than focusing on individual EBPs (Damanpour, 1991). The dependent variable in the current study—extent of the use of EBPs—indicates the number of key elements implemented. The specific EBPs differed slightly between the two surveys, and, therefore, different measures were constructed for the two samples. The elements from the correctional administrator survey included (1) standardized risk assessment; (2) standardized substance abuse assessment and treatment matching, (3) use of techniques to engage and retain clients in treatment; (4) use of therapeutic community, cognitive-behavioral, or other standardized treatment orientation; (5) a comprehensive approach to treatment and ancillary needs; (6) addressing co-occurring disorders; (7) involvement of family in treatment; (8) a planned treatment duration of 90 days or longer; (9) integration of multiple systems to

optimize care and outcomes; (10) continuing care or aftercare; (11) use of drug testing in treatment; (12) use of graduated sanctions; and (13) incentives to encourage progress. The elements from the treatment directors' survey consisted of the first 11 elements in the corrections survey, plus four unique elements: (12) availability of qualified treatment staff, (13) assessment of treatment outcomes; (14) use of role plays in treatment sessions; and (15) small group treatment size, that is, small client to counselor ratio. Thus, possible responses ranged from 0 to 13 elements for the correctional sample and 0 to 15 for the treatment program sample.

Standardized substance abuse assessment and treatment matching measures categorized assessment practices as use of standardized assessment tools, use of tools developed by the organization, and no use of assessment tools (Taxman, Cropsey, Young, & Wexler, in press). Programs using standardized assessment tools met the criterion for this EBP. Likewise, programs using *standardized risk assessment* tools met the criterion for risk assessment. *Engagement techniques* were assessed as the extent to which the programs used specific engagement techniques such as motivational interviewing, with the criterion being their use "often" or "always." *Treatment orientation* was selected from a list. Given the literature on the effectiveness of therapeutic community, cognitive-behavioral treatment (Simpson, Wexler, & Incaridi, 1999), and standardized treatment approaches (National Institute on Drug Abuse, 1999), programs that indicated those modalities or used a treatment manual met this criterion.

Comprehensive treatment was assessed from an inventory of medical, mental health/substance abuse, and case management services. Respondents met the criterion for comprehensive treatment services when they provided medical, mental health/substance abuse, and case management services. Relatedly, the criterion to *address co-occurring disorders* was met if there was specific programming for clients with co-occurring disorders. *Family involvement* met criterion if the respondent indicated that family therapy was available. Programs also indicated the *planned duration of treatment services*, and responses of 90 days or greater met this criterion.

Systems integration was measured by a list of activities in which the respondents participated with judiciary, community corrections, and community-based treatment (see Henderson et al. [2007], for specific calculations and thresholds). Two items served as the basis for quantifying *continuing care*, one assessing the number of offenders that are provided a referral to a substance abuse treatment program and another assessing the number of offenders that had a prearranged appointment with a treatment program. Respondents working in facilities reported on the number of offenders that received the services when they were released; respondents working in treatment programs reported on the number of offenders that appeared to have received the services prior to their admission to the community-based agency. Programs meeting this criterion reported that all of the offenders received referrals and most or all of them had prearranged appointments. Respondents also indicated whether or not their program used *drug testing*. Because almost all programs did, we adopted a more stringent criterion based on the reported proportion of offenders who were tested. Testing of 50% or more offenders met this criterion.

Choosing from a list, respondents also indicated *graduated sanctions* and *incentives* that the substance abuse treatment program employed. The literature supports the use of swift and certain responses to behavior instead of relying upon discretionary decisions by the staff. Because the use of more than one sanction and incentive would indicate a more diverse and presumably more thoughtful implementation of them, we selected cutoff scores of two incentives and three sanctions as meeting this criterion. We selected three sanctions to avoid a floor effect, as a large proportion of programs reported using at least two.

In the treatment directors' survey, determination of *qualified staff* was made from an item that indicated the proportion of staff that had specialized training or specific credentials in substance abuse treatment. Programs were considered to meet this criterion if 75% or more of their staff had specialized training or credentials in substance abuse treatment. *Assessment of treatment outcomes* was operationalized by an item that assessed the extent to which the respondents were regularly kept informed about the effectiveness of their substance abuse treatment programs. Finally, programs who reported they made regular use of role plays (approximately every session) and programs who reported that the used small group (less than 10 clients) sessions on an approximately weekly basis met the criteria for *role play* and *small group treatment size*, respectively.

2.3.2. Explanatory variables and their organizational domains

The NCJTP survey incorporates organizational items/scales from existing, psychometrically sound instruments (Taxman et al. 2007). We examine five domains: (1) organizational structure and leadership, (2) organizational culture and climate, (3) training and resources (funding, staff, physical plant, etc.), (4) administrator attitudes, and (5) network connectedness (only assessed in the treatment sample). *Organizational structure and leadership* measures included dichotomous items indicating whether the setting was an institution (prison or jail) or community based, and whether the administrator had education or experience in human service provision. An item assessing facility size was log-transformed to more closely approximate a normal distribution. In addition, the corrections survey included measures assessing the leadership style of the lead administrator (transformative and transactional leadership styles (Arnold, Arad, Rhoades, & Drasgow, 2000; Podsakoff, MacKenzie, Moorman, & Fetter, 1990) and a measure assessing the administrator's knowledge of EBP (Young &

Taxman, 2004; Melnick & DeLeon, 1999; Melnick, Hawke, & Wexler, 2004). The treatment director's survey included dichotomous items indicating (1) whether the institution was a substance abuse treatment setting, (2) whether the facility provided services for both offenders and nonoffenders, and (3) whether the program was licensed, accredited or certified by an outside organization. An item also assessed the number of years the administrator had worked in substance abuse. *Organizational climate* measures in the treatment director's survey included subscales that assessed perceptions of management emphasis on treatment quality and improvement, staff empowerment, and correctional staff support for treatment (Schneider, White, & Paul, 1998). Subscales in the correctional survey assessed *organizational culture* (cohesive, hierarchical, performance achievement, and innovation/adaptability), as well as the extent to which it promoted new learning (Denison & Mishra, 1995; Cameron & Quinn, 1999; Orthner, Cook, Sabah, & Rosenfeld, 2004; Scott & Bruce, 1994).

Training and resources measures were adapted from the resources and staff attributes subscales of the Survey of Organizational Functioning for correctional institutions (Lehman et al., 2002). They assessed respondents' views about the adequacy of funding, the physical plant, staffing, resources for training and development, and internal support for new programming. *Administrators' attitudes* about various organizational and treatment-related issues were measured through subscales that assessed beliefs about the value of different responses to crime and drug crime (rehabilitation, punishment, deterrence), as well as support for substance abuse treatment offered in prison and in the community, adapted from previous similar surveys of public opinion and justice system stakeholders (Cullen, Fisher, & Applegate, 2000). Other attitude scales in the treatment director's survey were not specific to treatment and focused more generally on the organization. These included scales adapted from standardized measures of organizational commitment (Balfour & Wechsler, 1996), cynicism for change (Tesluk, Farr, Mathieu, & Vance, 1995), and personal values fit with the agency (Parker & Axtell, 2001). *Network connectedness* refers to the extent to which the institution had formal and informal working relationships with various justice agencies (courts, law enforcement, corrections, etc.), mental health programs, health clinics and hospitals, housing services, vocational support agencies, and victim and faith-based organizations. Respondents indicated the degree to which their institution was involved with these other entities on a 5-point Likert scale.

2.4. Data analysis

One-way analysis of variance compared the number of EBPs used in prison, jails, and community settings, and chi-square tests compared the proportion of institution (prison or jail) versus community settings using the different EBPs, in both correctional administrator and treatment director data. To examine the association between organizational factors and the extent of EBP usage, multiple regression models regressed the extent of EBP usage on the organizational domains separately for both the correctional and treatment directors' samples. Because the two surveys differed, we generated four domain-specific multiple regression models for the correctional sample (organizational structure and leadership, organizational climate and culture, training/resources, and administrator attitudes, and excluding network connectedness) and five such models for the treatment director sample (Table 2). Correlates ($p < .1$) from the domain-specific models were entered into multivariate linear models; manual backward selection ($p < .05$) generated final independent explanatory models for each sample.

Prior to examining the correlates of EBP usage we examined the distributional properties of the dependent variable. The skewness and kurtosis of EBP usage was within acceptable limits for each of the samples (correctional administrators: skewness = .927, kurtosis = .247; treatment directors: skewness = .360, kurtosis = −.483). After conducting the regressions, there was no discernable pattern in the residuals, the relationships between explanatory variables and the dependent variable were linear, and there was no noticeable heteroscedasticity. These findings provide assurance that the EBP variable fulfils the assumptions of multiple regression analysis.

3. Results

3.1. Descriptive results

Prison, jail, and probation/parole administrators indicated that prisons use more EBPs than jails or probation/parole departments: Welch's $F(2, 124) = 106.57$, $p < .001$ (Table 1). They reported that 64.7% of these institutions overall provided 3 or fewer of the 13 possible EBPs correctional administrators could report. Treatment directors reported higher use of EBPs than did correctional administrators (Table 1). Treatment directors reported that use of EBPs in prison- and community-based institutions did not differ, $F(1, 93) = 2.26$, $p = .136$ (Table 1). They reported that 62.1% of these institutions overall provided 9 or fewer of the 15 possible EBPs treatment directors could report.

Other important differences between the respondents and settings emerged. Correctional administrators reported that prisons were more likely to use standardized substance use assessments, $\chi^2(2) = 6.24$, $p = .044$, engagement strategies, $\chi^2(2) = 5.82$, $p = .054$ address co-occurring disorders, $\chi^2(2) = 17.02$, $p < .001$, and use incentives, $\chi^2(2) = 20.49$, $p < .001$, than jails or probation/parole agencies. However, prisons were less likely than jails or probation/parole agencies to have integrated institution and community systems, $\chi^2(2) = 6.83$, $p = .033$. Probation/parole was

Table 1
Use of EBPs by sample and setting

	Corrections administrator sample, *n* (%)[a]			Treatment director sample, *n* (%)[a]	
EBPs	Prisons	Jails	Probation/Parole	Prisons	Community
Standardized substance abuse assessment	59 (60)	21 (51)	66 (44)	46 (74)	26 (79)
Standardized risk assessment	20 (20)	5 (12)	51 (34)	18 (29)	0 (0)
Engagement techniques	35 (36)	10 (24)	33 (22)	31 (50)	24 (73)
Treatment orientation	22 (21)	5 (12)	18 (12)	59 (95)	30 (91)
Comprehensive treatment	82 (84)	37 (90)	128 (85)	21 (34)	14 (42)
Address co-occurring disorders	49 (50)	13 (32)	37 (25)	30 (48)	23 (70)
Family involvement in treatment	19 (19)	4 (10)	15 (10)	37 (60)	29 (88)
Planned duration greater than 90 days	53 (54)	20 (49)	60 (40)	42 (68)	18 (55)
Systems integration	52 (53)	30 (73)	100 (67)	35 (57)	14 (45)
Continuing care	47 (48)	13 (32)	61 (41)	17 (27)	7 (21)
Drug testing	31 (32)	14 (34)	88 (59)	23 (37)	17 (52)
Graduated sanctions	31 (32)	11 (27)	55 (37)	...	...
Incentives	79 (81)	22 (54)	80 (53)	...	...
Qualified staff	...	...	...	35 (57)	28 (85)
Assessment of treatment outcomes	...	...	...	28 (45)	26 (79)
Role play in sessions	...	...	...	15 (24)	31 (94)
Small group treatment group size	...	...	...	47 (76)	27 (82)
No. of EBPs, mean (*SD*)	5.9 (2.6)	1.6 (1.1)	2.0 (1.5)	7.8 (2.9)	8.7 (2.3)

Note. EBPs differed between the samples. Ellipses indicate items not asked of a sample. Correctional administrators could report up to 13 and treatment program directors up to 15 EBPs.

[a] Number and percentage of organizations except where noted.

more likely to use standardized risk-assessment tools, $\chi^2(2) = 10.55$, $p = .005$, and drug testing, $\chi^2(2) = 20.15$, $p < .001$, than were prisons and jails.

The treatment directors reported that community-based treatment programs were more likely to use engagement techniques, $\chi^2(1) = 4.56$, $p = .033$; address co-occurring disorders, $\chi^2(1) = 3.97$, $p = .046$; involve families in treatment, $\chi^2(1) = 8.08$, $p = .004$; have staff qualified to provide substance abuse treatment, $\chi^2(1) = 10.55$, $p = .005$; and assess treatment outcomes, $\chi^2(1) = 9.93$, $p = .002$. Treatment directors also reported that programs located in prisons were more likely to use standardized risk assessment tools, $\chi^2(1) = 11.82$, $p = .001$, and report integrated prison and community treatment systems, $\chi^2(1) = 5.52$, $p = .019$.

3.2. Correlates of EBP use

The correlates of EBP usage for the two sets of analyses varied between the correctional and treatment agency respondents as shown in Table 2.

3.2.1. Correctional administrators

Among prison, jail, and community corrections administrators, organizational structure and leadership correlated with EBP use, $F(7, 251) = 16.41$, $p < .001$, $R^2 = .31$. Jails and community corrections use more EBPs than do prisons ($\beta = -.52$, $t = -9.60$, $p < .001$). Facilities whose administrators reported greater knowledge of EBPs ($\beta = -.14$, $t = 2.64$, $p = .009$) and education or experience in human services ($\beta = -.20$, $t = 3.70$, $p < .001$) were more likely to use EBPs. Organizational culture and climate variables were also related to EBP use, $F(6, 279) = 3.95$, $p = .001$, $R^2 = .08$, $\Delta R^2 = .08$, with performance achievement culture ($\beta = .15$, $t = 1.93$, $p = .055$) associated with more use. Likewise, climates more conducive to learning showed a trend toward more EBP use ($\beta = .16$, $t = 1.82$, $p = .069$). The training and resources domain also correlated with EBP use, $F(7, 275) = 4.51$, $p < .001$, $R^2 = .10$, $\Delta R^2 = .10$, especially training ($\beta = .16$, $t = 2.13$, $p = .034$) and internal support ($\beta = .22$, $t = 3.17$, $p = .002$). Finally, administrator attitudes were related to EBP use, $F(5, 212) = 3.31$, $p = .007$, $R^2 = .07$, $\Delta R^2 = .07$, with more prominent attitudes toward rehabilitation ($\beta = .16$, $t = 2.00$, $p = .047$) associated with more use. Administrator attitudes emphasizing less punishment were marginally associated with more EBP use ($\beta = -.12$, $t = -1.66$, $p = .098$).

When combined in a multivariate model, community setting ($\beta = -.53$, $t = -10.53$, $p < .001$), correctional administrator background in human services ($\beta = .11$, $t = 2.07$, $p = .040$), performance achievement culture ($\beta = .13$, $t = 2.06$, $p = .041$), and attitudes less reflective of punishment or deterrence ($\beta = -.26$, $t = -4.45$, $p < .001$) were independent correlates that explained 42% of the variability in EBP use.

3.2.2. Treatment directors

Among directors of prison-, jail-, and community-based substance abuse treatment programs for offenders, organizational structure variables as a group were related to EBP use, $F(8, 80) = 4.83$, $p < .001$, $R^2 = .33$, $\Delta R^2 = .32$, particularly larger facility size ($\beta = .23$, $t = 2.12$, $p = .037$), greater treatment director experience ($\beta = .23$, $t = 2.31$, $p = .024$), and accreditation ($\beta = .30$, $t = 2.85$, $p = .006$). Substance abuse treatment programs showed a marginal trend toward

Table 2
Organizational correlates of number of EBPs

Organizational domain	Corrections administrators (13-item scale)				Treatment directors (15-item scale)			
	Domain-specific			Multivariate	Domain-specific			Multivariate
Variables	*B*	*SE*	*β*	*β*	*B*	*SE*	*β*	*β*
Structure/leadership								
Institution vs. community setting	−2.77	0.29	−.52**	−.53**	−0.59	0.77	−.11	–
Size of facility	0.08	0.20	.02	–	0.51	0.24	.23*	.24**
Administrator background in human services	0.82	0.22	.20**	.11*	−0.50	0.55	−.09	–
Transformational leadership	−0.21	0.38	−.06	–	...	...	...	...
Transactional leadership	0.46	0.34	.13	–	...	...	...	...
Administrator knowledge about EBPs	0.06	0.02	.14**	–	...	...	...	...
Substance abuse treatment program	...	...	...	–	0.91	0.54	.17	–
Program accreditation	...	...	...	–	1.95	0.68	.30**	.24**
Years administrator in substance abuse service delivery	...	...	...	–	0.08	0.03	.23*	–
Facility provides services to offenders and nonoffenders	...	...	...	–	0.69	0.70	.13	–
Culture and climate								
Climate for learning	0.81	0.44	.16	–	...	...	...	...–
Cohesive culture	−0.03	0.34	−.01	–	...	...	...	...–
Hierarchical culture	0.07	0.33	.02	–	...	...	...	...–
Performance achievement culture	0.55	0.29	.15*	.13*	...	...	...	...–
Innovation/adaptability culture	−0.03	0.30	−.01	–	...	...	...	...–
Management emphasis on quality treatment	...	...	...	–	0.88	0.67	.27	–
Staff empowerment	...	...	...	–	0.57	0.64	.18	–
Correctional staff support for treatment	...	...	...	–	−0.56	0.43	−.19	–
Training and resources								
Funding	−0.10	0.23	−.03	–	−0.03	0.37	<−.01	–
Physical plant	0.88	0.56	.30	–	−0.54	0.83	−.20	–
Staffing	0.09	0.22	.03	–	−0.57	0.40	−.20	–
Resources	−1.02	0.63	−.31	–	0.59	1.00	.19	–
Training development	0.67	0.31	.16*	–	0.87	0.47	.23	–
Internal support	0.87	0.28	.22**	–	0.82	0.46	.22	–
Administrator attitudes								
Punishment/deterrence	−0.43	0.26	−.12	−.26**	−0.70	0.48	−.17	–
Rehabilitation	0.87	0.43	.16*	–	0.57	0.94	.08	–
Importance of substance abuse treatment in prison	0.10	0.13	.06	–	−0.20	0.35	−.09	–
Importance of substance abuse treatment in the community	−0.04	0.20	−.02	–	0.59	0.28	.34*	–
Organizational commitment	...	...	...	...	−0.86	0.78	−.22	–
Cynicism for change	...	...	...	...	−0.40	0.71	−.09	–
Value fit with agency	...	...	...	...	0.79	0.55	.26	–
Network connectedness								
Non-criminal-justice programs	...	...	...	...	1.27	0.42	.36**	.39**
Criminal justice programs	...	...	...	...	0.45	0.35	.15	–

Note. From multiple regression models with extent of EBP usage as the dependent variable. Separate domain-specific models by the organizational domain, and one multivariate model (adjusted for region of the country) were generated for each of the two samples. *B* = unstandardized regression coefficient; *SE* = standard error; *β* = standardized regression coefficient. Ellipses indicate an item not asked of a sample. Dashes indicate nonsignificant values not shown.

* $p < .05$.

** $p < .01$.

using more EBPs than did corrections ($\beta = .17$, $t = 1.67$, $p = .099$). Unlike the correctional respondents, treatment directors reported that programs located in prisons, jails, and the community used a similar number of EBPs. Similar to the corrections administrator sample, organizational climate also correlated with EBP use in the treatment program sample, $F(4, 70) = 2.54$, $p = .047$, $R^2 = .13$, $\Delta R^2 = .12$, but none of the individual climate variables was significantly related to use. Training and resources were only marginally associated with EBP use as a group, $F(7, 84) = 1.86$, $p = .086$, $R^2 = .13$, $\Delta R^2 = .13$. Training and internal support were likewise marginally related to EBP use (training: $\beta = .23$, $t = 1.85$, $p = .067$; internal support: $\beta = .22$, $t = 1.76$, $p = .082$). Treatment directors' attitudes as a group correlated

with the extensiveness of EBP use, $F(8, 68) = 2.04$, $p = .054$, $R^2 = .19$, $\Delta R^2 = .19$, and higher importance placed on substance abuse treatment in the community ($\beta = .34$, $t = 2.11$, $p = .039$) was associated with EBP use. Network connectedness was related to EBP use, $F(3, 85) = 8.17$, $p < .001$, $R^2 = .22$, $\Delta R^2 = .22$, according to the treatment directors; stronger relationships with non-criminal-justice agencies correlated with more use of EBPs ($\beta = .36$, $t = 3.02$, $p = .003$).

A multivariate model for the treatment agencies indicated that facility size ($\beta = .24$, $t = 2.71$, $p = .008$), program accreditation ($\beta = .24$, $t = 2.67$, $p = .009$), and network connectedness with non-criminal-justice agencies ($\beta = .39$, $t = 4.35$, $p < .001$) were independent correlates of EBP use, with the final model accounting for 46% of EBP use.

4. Discussion

Most programs for drug-involved adult offenders employ fewer than 60% of the specified EBPs. Respondents differed as to which settings had more EBPs in place. Correctional administrators reported that adult prisons have instituted EBPs to a greater extent than either jails or community corrections, whereas treatment agency directors indicated that community-based substance abuse treatment programs use more EBPs than do prison-based programs. Although we cannot be certain which respondent group's assessment is correct, the sampling design was predicated on the likelihood that correctional administrators would have limited knowledge or understanding of the actual components of the addiction treatment programs operating in their settings. The data appear to support this supposition. For example, correctional administrators' reports of "comprehensive treatment" in 84% of prisons compared with treatment directors' report of 34% suggests that correctional administrators are overstating the extent of available programming (Friedmann, Lemon, Durkin, & D'Aunno, 2003). Social desirability and availability biases, the latter stemming from the notoriety of the Department of Justice's Residential Substance Abuse Treatment (RSAT) for State Prisoners Program (42 U.S.C. § 3796), and the prevalence of alcohol and drug education sessions are likely sources of correctional officials' overestimates of EBPs in prisons.

The descriptive findings suggest a number of ideas that warrant exploration in future work. One can speculate that the minimal use of standardized substance abuse and risk assessments suggest that selection of appropriate groups for treatment and comprehensive services is inconsistent and suboptimally targeted (Taxman et al., submitted). In combination with the high prevalence of incentives in prison-based programs, this finding might imply that the widespread use of "good time credit" for treatment enrollment might not be appropriately targeted to clients who would benefit most. Engagement techniques appear to be widely used in community settings, but greater efforts could be made in prison settings to motivate appropriate clients for treatment. Finally, limited systems integration and inaccessibility of continuing care might possibly diminish the overall impact of the RSAT program's widespread dissemination of effective treatment orientations in prisons (e.g., therapeutic community and cognitive-behavioral approaches).

As hypothesized, adoption of EBPs in correctional settings appears to reflect organizational leadership and culture. Administrators with a background in human services, knowledge about EBPs, and a favorable attitude toward rehabilitation have the opportunity and power to set informed priorities and policies to improve services for drug-involved offenders. Relatedly, an organizational culture that fosters performance achievement and backs it up with training and internal support for its employees will likely value and seek to implement higher quality programming, including EBPs.

According to their treatment directors, community-based programs reportedly have greater implementation than prison or jails of EBPs that enhance treatment process, such as engagement techniques to facilitate treatment participation, programs, or services that address co-occurring disorders and involve families to meet those important needs, hiring qualified staff to ensure quality counseling, and assessing outcomes to get feedback. Organizational size, program accreditation, the administrator's experience and belief in the importance of community treatment, and network connectedness with noncorrectional community agencies appear associated with the use of these EBPs. Organizational size likely indicates the availability of "slack resources" that facilitate innovative programming (Damanpour, 1991). Accreditation is a marker for a quality orientation and external requirements that impact comprehensive service delivery and professional staffing (Friedmann, Alexander, & Jin, et al., 1999; Knudsen et al., 2006). Like the correctional sample, experienced community treatment directors who believe strongly in the value of community substance abuse treatment appear to be more likely to have the vision and staff buy-in necessary to lead innovation and quality improvement efforts.

Network connectedness facilitates diffusion of innovations through processes of coercive, normative, and mimetic isomorphism (DiMaggio & Powell, 1991). For example, local connections with managed care organizations that require particular EBPs might influence local agencies to develop those programs and services (Roman & Johnson, 2002). Connections with organizations that share similar values and goals, such as other human service organizations, can lead to conformity in response to professional norms. Finally, when organizational technologies are of uncertain efficacy either in truth or perception, as is the case with addiction treatment, organizations commonly mimic the structure and processes of other similar organizations (DiMaggio & Powell, 1991). Network connectedness allows information gathering about the

practices of similar institutions (Knudsen & Roman, 2004), a necessary precursor to their imitation (D'Aunno, Sutton, & Price, 1991; DiMaggio & Powell, 1991). For these reasons, network connectedness with non-criminal-justice organizations, which are most similar to the treatment agencies, but not criminal justice organizations, was associated with the extent of EBP use.

Several limitations apply. The response rate of 61% for prison-based treatment programs and 60% for community-based programs leaves open the possibility that respondents represent more motivated, progressive, and interested agencies, which may not generalize to all prison-based treatment programs and community-based programs. Such bias would suggest, for example, that the estimate of programs' use of EBP is an upper bound. Furthermore, causal direction cannot be inferred from these cross-sectional data, so we cannot discern, for example, whether program accreditation is a cause or result of more implementation of EBPs. In addition, although some work suggests that substance abuse treatment directors can provide valid reports of agency practices (Batten et al., 1993; D'Aunno & Vaughn, 1995), the validity and reliability of these administrators' reports is unknown. Medication-assisted treatment, another EBP, was not evaluated because it is so uncommon in criminal justice settings (Rich et al., 2005). Finally, respondent burden prevented asking detailed questions about the nature, quality, fidelity, and utilization of evidence-based services.

Nonetheless, these findings suggest features of offender treatment organizations more likely to be ready to accept EBPs: large, accredited, network-connected, community programs with a performance-oriented, nonpunitive culture, training resources, and an administrator who has a background in human services, high regard for the importance of substance abuse treatment, and an understanding of EBPs. This characterization also suggests possible strategies for improving the dissemination of EBPs for drug-involved offenders. For example, state correctional agencies might contract preferentially with agencies that meet standards of accreditation, performance orientation, training resources, leadership characteristics, and community presence. Alternatively, in order to facilitate the successful reentry of drug-involved adult offenders into the community, federal, state, or local initiatives might focus on improving the integration of jail, prison, and community systems, and the accessibility of continuing care. This study implies that improving network connectedness with non-criminal-justice agencies might be one step toward accomplishing those goals. That said, further research is needed to determine whether interventions to manipulate particular aspects of organizational structure and leadership, culture and climate, administrator attitudes, and network connectedness can facilitate the adoption of EBPs among correctional institutions and their affiliated addiction treatment programs. Effectiveness research should also evaluate whether adoption of these EBPs leads to lower rates of recidivism and relapse.

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