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Filling Service Gaps: Providing Intensive Treatment Services for Offenders

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Abstract

Consistent with the few studies that have previously examined treatment prevalence and access in the adult and juvenile justice systems, the recent National Criminal Justice Treatment Practices (NCJTP) survey indicated that there is a particular need to expand intensive treatment modalities for offenders in both institutional and community corrections settings. Applying multilevel modeling techniques to NCJTP survey data, this study explores conditions and factors that may underlie the wide variation among states in the provision of intensive treatment for offenders. Results indicate that states' overall rates of substance abuse and dependence, funding resources, and the state governor's political party affiliation were significantly associated with intensive treatment provision. Numerous factors that have been implicated in recent studies of evidence-based practice adoption, including state agency executives' views regarding rehabilitation, agency culture and climate, and other state-level measures (e.g., household income, crime rates, expenditures on treatment for the general population) were not associated with treatment provision. Future research should examine further variations in offenders' service needs, the role of legislators' political affiliations, and how other factors may interact with administrator characteristics in the adoption and expansion of intensive treatment services for offenders.

Keywords

offender treatment; corrections; treatment provision; state government; criminal justice

1. Introduction

An extensive literature base has been established over the past thirty years documenting the high prevalence of drug and alcohol problems among offenders. It is estimated that

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approximately two-thirds of the incarcerated adult population used drugs regularly prior to their incarceration (Karberg and James, 2005), and over 80 percent had ever used drugs in the past (Mumola, 1999). Substance use among juvenile offenders also occurs in disproportionately high rates, with about 60 percent of arrested juveniles testing positive for at least one drug (Bureau of Justice Statistics, 2000; Farabee et al., 2001).

The relationships between substance abuse and crime are complex, and often characterized as a cycle that exacerbates both behaviors and leads to harmful outcomes for individuals, families, and communities (Keller et al., 2002; MacCoun et al., 2003; Van Horn et al., 2007). Stimulated by numerous federal and state initiatives, most notably involving prison- and jail-based therapeutic communities, TASC programs, and drug courts, a scattered mosaic of treatment programs and other services designed to “break” this cycle has been established in recent decades to serve offenders in both institutional and community settings (Anglin et al., 1999; Bureau of Justice Assistance, 2005; Peters and Wexler, 2005; Taxman et al., 2007a).

Despite the gradual expansion of these programs, there is wide consensus that the amount of substance abuse services provided to adults and juveniles involved in the justice system is insufficient (National Institute on Drug Abuse, 2006; Mumola, 1999; Welsh and Zajac, 2004). When services are available, researchers and clinicians question their quality and effectiveness, and note the preponderance of drug and alcohol education classes, self-help groups, peer counseling, and brief, large group meetings offered in correctional settings, and the relative dearth of more intensive modalities, such as individual and small group sessions that meet for several hours per week and are led by professionally-trained counselors, or residential programs and therapeutic communities (Belenko and Peugh, 2005; Mumola and Karberg, 2006; National Center on Addiction and Substance Abuse, 2004).

The need to increase offenders' access to intensive treatment services is a major conclusion drawn from the National Criminal Justice Treatment Practices (NCJTP) survey (Taxman et al., 2007a; Young et al., 2007). The NCJTP survey also documented the wide variation among states and localities in their adoption and provision of intensive service modalities. It is perhaps surprising then, that while greater use of treatment for offenders has been the goal of many advocacy efforts, there has been very little research on the processes involved in expanding treatment prevalence and access for this population. These efforts could be better targeted if there was improved understanding of the conditions and factors that are associated with wider adoption of intensive treatment in adult and juvenile corrections.

The present paper reports analyses of NCJTP data that begin to address this knowledge gap. Multilevel modeling methods are used to explore relationships between state correctional executives' beliefs and perceptions regarding rehabilitation, agency mission, culture, climate, and the provision of intensive treatment services in their state's prisons, jails, and probation and parole agencies. In addition to examining executives' views, we assess aggregated state-level measures on citizens (e.g., household income), crime and corrections (drug crime rates, incarceration levels), political context (governors' party affiliation), and treatment (expenditures on treatment and prevention) that may also influence correctional treatment provision. A more detailed review of relevant prior research on these issues follows.

Offenders' Substance Abuse Service Needs and Correctional Service Gaps

Researchers have employed a variety of methods to gauge the extent of substance abuse problems among adult and juvenile offenders, including results of urinalyses conducted at arrest, self-reports of use obtained from screens at admission to jail or prison and during incarceration, and more formal substance abuse assessments done in various adult and juvenile corrections settings (Arrestee Drug Abuse Monitoring System, 2003; McClelland et al., 2004; Mumola and Karberg, 2006; Zhang, 2004). An extensive review of prevalence studies

involving prison inmates over the past 40 years highlighted the heterogeneity of estimated rates of abuse and dependence, which range from 10% to 60% or more (Fazel et al., 2006). Recent studies have sought to distinguish levels of treatment need through the use of assessment tools administered at admission to systems of adult and juvenile institutions (Johnson et al., 2004; Rounds- Bryant and Baker, 2007).

Belenko and Peugh (2005) developed the most comprehensive method for estimating offender treatment needs, applying national data on prison inmates' drug use severity, drug-related behavioral consequences, and other social and health problems to a patient-treatment placement framework derived from the widely-used American Society of Addiction Medicine (ASAM) criteria. Their analysis indicated that about one-third (31.5%) of male inmates and just over half (52.3%) of female inmates are in need of residential treatment; 18.7% of men and 16.2% of women need outpatient treatment; and 20.2% of men and 8.3% of women are in need of a short-term intervention such as drug and alcohol education or a self-help support group.

Comparing these need levels to inmates' self-reports of treatment participation while in prison, Belenko and Peugh (2005) found substantial service gaps: only one in four inmates received substance abuse services of any type (including drug education or self-help), and just one in five inmates in need of residential treatment had participated in any clinical intervention (residential or outpatient treatment); one in three inmates in the high need group had taken part in drug education, self-help groups, or another brief intervention. In light of these results, the investigators urge "expanding the currently limited range of treatment levels and modalities offered to inmates" (p. 278), while also making greater use of assessments, treatment matching, and incentives for treatment participation.

These low rates of treatment participation echo findings reported from federal surveys of inmates. The 1997 survey that was the basis of Belenko & Peugh's analysis showed that about one-third of the inmates who reported using drugs in the month before incarceration took part in a drug abuse program while in prison (Mumola, 1999). In a more recent survey, done in 2004, this rate rose to 39 percent. However, this increase was entirely attributable to greater levels of participation in substance abuse education classes, and self-help and peer counseling groups; participation in treatment provided by a trained professional or in a residential program actually decreased by a percentage point over this time, to 14 percent (Mumola and Karberg, 2006). Results of a 1997 facility survey conducted by the federal Substance Abuse and Mental Health Services Administration were consistent with the inmate surveys in showing low rates of service provision (Substance Abuse and Mental Health Services Administration, 2000; 2002). In the national facility survey, just under 40% of both adult and juvenile facilities offered substance abuse treatment (defined as group and individual counseling, detoxification, and pharmaceutical treatments, and excluding drug and alcohol education and self-help programs). Although this survey does not provide information on the number of inmates who participated in these services, there is an evident treatment gap if more than 60% of the facilities housing offenders cannot provide even the kind of outpatient-level programming envisioned in Belenko and Peugh's treatment needs formulation.

In addition to research documenting the dearth of treatment services, of particular relevance to the present study are findings showing the wide variation among states in service provision. Lawrence and colleagues (2002) catalogued correctional programming in several states and were struck by the variety of service types, levels, and policies employed by these states. In a single state (Pennsylvania), Welsh and Zajac (2004) systematically reviewed services provided in 24 prisons and noted the wide variations in service type, intensity, and quality. Their findings led them to recommend reallocating resources to more intensive treatment services in

Pennsylvania; these investigators further observed that their findings and recommendations are likely applicable to most other states.

The National Criminal Justice Treatment Practices (NCJTP) survey sought to address information gaps evident in much of this earlier research (Taxman et al., 2007b). Employing multiple sampling frames – a census of state agency directors, and nationally representative samples of directors of state prisons and of local correctional and treatment facilities in 72 counties nationwide – the NCJTP survey was the first to provide data on service provision in the full diversity of adult and juvenile correctional settings. Findings showed that alcohol and drug education was the most prevalent type of substance abuse service, offered in about 60% of adult facilities and 75% of juvenile facilities (Taxman et al., 2007a; Young et al., 2007). Low intensity (1–4 hours per week) outpatient counseling was offered in nearly the same proportion (58%) of adult facilities and a lower proportion (40%) of the juvenile facilities. Provision of more intensive outpatient services (5+ hours of weekly outpatient counseling) was less common (28% in adult and 22% in juvenile facilities), as was therapeutic community treatment (15% in adult and 24% in juvenile facilities). Further, the prevalence of these various service modalities ranged widely across the different correctional (adult and juvenile prisons, jails, and community corrections facilities) and sampling units. In addition to service prevalence, access to services was measured from NCJTP survey response – that is, the number of offenders in the sample facility who attended each service modality on a typical day. Analyses of these data yielded the most troubling findings, as access to treatment on any given day in most settings (treatment access was notably higher in prisons) was limited to fewer than 10% of the offenders under custody.

State Support for Substance Abuse Service Provision and Evidence-Based Practices

Although there is accumulating evidence of state-level variability and general inadequacy of treatment services in corrections – particularly in regards to the more intensive modalities needed by many offenders – we know of no research that has explored the factors associated with these service gaps. A small number of studies have examined variations in support for substance abuse treatment for the general population. Analyses of trends in national substance abuse expenditures have revealed relative increases in public funding and pointed to the increased role of states, while showing that support from insurance companies and other private resources have decreased (Mark et al., 2005). McAuliffe and colleagues (2003) examined state variations in substance abuse service gaps by comparing need indicators and treatment admissions measured in federal surveys. Multivariate analytic models found per capita income to be an important explanatory factor, as the biggest treatment gaps were in poor states that did not or could not make up for the inadequacies of coverage provided by federal block grants.

Other recent studies have focused less on substance abuse service provision and access and turned to state-level variations in policies and their impacts on treatment practices. Variations in state requirements for certification and licensure of addictions counselors, particularly as compared to those for mental health counselors, are believed to have important implications for clinical practice, support for evidence-based practices (EBPs), and their dissemination in drug treatment settings (Kerwin et al., 2006). Chiqui and colleagues have added to the empirical literature on EBP implementation by showing that state agency requirements for comprehensive assessment, HIV education, family counseling, and other “best practices” predict more provision of these services and practices (Chiqui et al., 2008). These investigators have further shown that state accreditation and licensure policies are related to outpatient programs offering group and family counseling and other important wrap-around and aftercare services (Chiqui et al., 2007).

The present study extends previous research that has employed NCJTP survey data to explore factors that predict EBP use, which in turn builds on methodologies and measures used to

examine implementation of innovative and evidence-based practices in mental health, child welfare, and substance abuse treatment for general populations (e.g., D'Aunno, 2006; Goldman et al., 2001; Gotham, 2006; Hemmelgarn et al., 2006; Stetler et al., 2007). In three NCJTP studies, organizational structure, culture and climate variables, resources and training opportunities, administrator attitudes, and interagency collaboration were assessed for their relationships with measures of EBP use in both adult and juvenile settings (Friedmann et al. 2007; Henderson et al., 2007; Henderson et al., 2008). These studies – which indicated that internal support for new programs, staff training, cross-systems collaboration, management emphasis on treatment quality, and administrator commitment to the organization were influential in EBP use – assessed predictors obtained at the facility level from surveys of prison and jail wardens and directors of community corrections offices and treatment programs.

Programs for offenders, however, always operate within a larger administrative, economic, and policy context that extends beyond the facility. Virtually all prisons, long-term juvenile institutions, and parole offices are part of state executive agencies responsible for public safety, adult corrections or juvenile justice. Jails and many adult and juvenile probation facilities are administered by local municipalities, but are subject to state regulatory and licensing agencies, and often depend on block grants and other funding administered by state executive agencies. Expanding on the analytic model employed in previous NCJTP studies, Henderson and others (this volume) consider these larger, state-level contextual factors in EBP use. In the present study, we employ these same multilevel modeling techniques to examine factors associated with the provision of intensive treatment programming for adult and juvenile offenders.

The inclusion of data gathered from surveys of executives of state corrections agencies is informed by an extensive literature in the field of organizational development evincing the importance of influential persons in adoption of innovations (Klein and Sorra, 1996; Rogers, 1995), and more recent studies that examine their role in EBP implementation in mental health settings (Aarons, 2006; Proctor et al. 2007). We hypothesize that states with executives that have more favorable attitudes about treatment and rehabilitation will be more likely to provide intensive treatment modalities for offenders. Paralleling previous NCJTP analyses (and Henderson et al. in the current volume), we also explore these executives' reports on organizational culture and climate, resources and training opportunities, and collaboration with other health and justice agencies. We also investigate aggregated state-level contextual factors, including those suggested from research reviewed above (e.g., household income, expenditures for substance abuse treatment for the general population) or which would be reasonably related to offender service provision (e.g., drug arrests and incarceration rates) and their relationship to intensive treatment service provision; to our knowledge, the current study is the first that has examined these relationships. We hypothesize that intensive treatment provision will be associated with both organizational characteristics (culture, climate, resources, collaboration) and these state-level characteristics. As detailed in the next section, basic structural and organizational factors such as facility type (prison, probation/parole, etc.) and size (offenders in residence or under custody), population served (adult, juvenile), and the type of linkage with state agency (direct, indirect) are also considered as covariates in the analyses.

2. Methods

The National Criminal Justice Treatment Practices (NCJTP) survey is a multilevel survey designed to assess substance abuse service provision, and organizational factors associated with service provision, in adult and juvenile justice systems throughout the U.S. Details of the study samples and survey methodology are provided in Taxman et al. (2007b). The present study examines the extent to which organizational characteristics of state executive agencies responsible for adult and juvenile corrections and state-level structural characteristics are

associated with the provision of intensive treatment services at local correctional facilities, which are nested within these states and agencies.

2.1. Sample

The samples consisted of two main target populations: (1) a sample of state correctional executives in the adult criminal ($n = 100$, response rate = 74.6%) and juvenile justice systems ($n = 70$, response rate = 66.7%), and (2) a sample of adult criminal ($n = 285$, response rate = 70.5%) and juvenile justice administrators ($n = 132$, response rate = 64.7%) who run local facilities and justice agencies. The correctional facilities are nested at the local level within jurisdictions, which served as our sampling unit. The survey targeted representative samples of adult prisons, juvenile residential facilities, and jails and community corrections agencies using a two-stage stratification scheme (first counties then facilities located within counties) that utilizes region of the country and size of the facility or jurisdiction as stratification variables.

The response rates meet or exceed those typically found for mailed, self-administered organizational surveys (Baruch, 1999), and an analysis of response bias indicated no systematic differences between responders and non-responders (see Taxman et al., 2007b). Most of the facilities included in the study were nested directly under the state agency executives responding to the survey, as these facilities are funded and operated as the local entity of the executive agency. We also, however, included facilities that are funded and/or operated by another entity (e.g., city or county) but are influenced at least indirectly by the state agency through licensure, regulations, or supplementary funding. To account for these distinctive relationships, we included a dummy-coded variable indicating whether the relationship was direct or indirect into the subsequent regression models. Please see Taxman et al. (2007b) for more information on the multiple samples of survey participants and the procedure used for obtaining data from them.

The final sample employed in this analysis consisted of 426 correctional facility administrators¹ and 97 executive administrators of state-level agencies² from 41 states. The correctional facilities consisted of 287 adult facilities (66.7%) and 139 juveniles facilities (33.3%). Overall, these included 176 community corrections facilities or offices (41.3%), 147 adult prisons or juvenile institutions (34.5%), and 103 local jails or detention facilities (24.2%).

2.2. Measures

2.2.1. Dependent Measure—The outcome measure – provision of intensive substance abuse treatment – was derived from responses provided by facility-level administrators. Respondents were asked if various substance abuse service modalities were provided in their facility and the number of offenders participating in each service on any given day. The survey solicited data on provision of drug and alcohol education; substance abuse group counseling (excluding self-help, Narcotics Anonymous, and Alcoholics Anonymous) up to 4 hours per week; counseling scheduled 5 to 25 hours per week; counseling 26+ hours per week; therapeutic community treatment in a segregated residence; and therapeutic community in a non-segregated residence or other residential treatment program. We scored the provision of intensive treatment dependent variable as a dichotomous measure, with ‘1’ indicating that the facility provided substance abuse group counseling 5 to 26 hours per week, 26+ hours per week, and/or therapeutic community treatment (segregated and/or non-segregated); facilities scored as ‘0’ offered a lower level of treatment, or none at all. This scoring provides an

¹Three cases were dropped due to missing data.

²Executive administrators from multiple state-level agencies were surveyed in all 50 states. For this analysis, we excluded executive-level respondents if they did not oversee one of the program-level administrators.

unambiguous measure of intensive service provision, minimally corresponding to intensive outpatient treatment and including residential care.

2.2.2. State-Level Factors—We included measures examined by McAuliffe et al. (2003) in their study of state treatment service gaps, as well as other state-level measures that are potentially related to provision of intensive substance abuse programming in correctional institutions. *Median household income* was obtained from the 2000 U.S. Census. We also included the 2000 U.S. Census estimate for *percent of the population living in an urban area*. A general indicator of service need, state *percent of substance dependence/abuse* was measured as the percent of the population reporting dependence on or abuse of any illicit drug or alcohol in the past year. These data were compiled from Substance Abuse and Mental Health Services Administration's Office of Applied Studies data (SAMHSA, 2006). Two variables related to substance abuse expenditures were included. *Substance abuse treatment expenditures per capita* were compiled from data provided in the Inventory of State Substance Abuse Prevention and Treatment Activities and Expenditures (Office of National Drug Control Policy, 2006).³ We also included a measure for the percentage of total *substance abuse-related expenditures funded by Medicaid* (Office of National Drug Control Policy, 2006). Contextual variables related to state justice and corrections systems included the *drug abuse violations arrest rate* (2005 Uniform Crime Reports) and the *average annual change in incarceration rates from 1995-04* (Harrison and Beck, 2005). Finally, political climate was measured using a dichotomous variable for whether the state had a *Republican Governor* in office as of 2005.

2.2.3. Organizational Characteristics—We examined several executive agency organizational characteristics. These factors can be separated into four primary domains: (1) executives' backgrounds and beliefs about the mission and goals of corrections, (2) resources and staff training, (3) organizational culture and climate, and (4) coordination and integration within and between justice and health systems. Nearly all the measures were derived from existing, psychometrically sound measures (Taxman et al., 2007b) and had excellent to adequate reliability in the NCJTP study samples (of the 16 scales or subscales employed in the present analysis, 4 showed $\alpha > .8$, 5 had $\alpha > .7$, 6 had $\alpha > .6$, and 1 2-item subscale had $\alpha = .55$). The systems integration measure was constructed for this research based on multiple theoretical models described in Taxman and Bouffard (2000) and Konrad (1996; Fletcher et al., this volume) and was shown to meet conventional psychometric standards.

Four measures comprised *executives' backgrounds and beliefs*. The background measures included one indicating whether the executive had previous experience or education in the human services field (0=No, 1=Yes), and another indicating whether she or he had a graduate degree (0=No, 1=Yes). Beliefs and attitudes regarding the mission and goals of corrections were measured through subscales that assessed beliefs about responses to crime (rehabilitation, punishment); these scales were adapted from previous similar surveys of public opinion and justice system stakeholders (Cullen et al., 2000). In addition we assessed executives' views about the importance of substance abuse treatment from a survey item where they rated whether other correctional services, such as education, mental health, and vocational programming, was more, less, or as important as substance abuse treatment.

Resources and staff training measures were adapted from the Survey of Organizational Functioning for correctional institutions (Lehman et al., 2002). Subscales assessed respondents' views about the adequacy of funding, the physical plant, staffing, resources for training and development, and internal support for new programming. *Organizational culture and climate* measures included scales assessing the extent to which the executive agency was

³The percentage of total substance abuse-related expenditures funded by federal block grants was also considered but this was highly correlated with the overall expenditures variable and did not contribute any unique variance to the analytic models.

characterized by cohesive, hierarchical, performance-oriented, or innovative cultures (Cameron and Quinn, 1999; Denison and Mishra, 1995). Another scale measured the extent to which there was a climate for learning within the agency, which included subscales that focused on innovation, openness, risk-taking, future goals, and performance orientation (Orthner et al., 2004; Scott and Bruce, 1994).

Coordination and integration within and among agencies was assessed in three ways. First, we examined the extent to which the executive communicated with other managers within the agency (e.g., medical directors, union leaders, chaplains, release authorities, etc.). A second measure assessed the extent to which the agency conducted coordination and integration activities (e.g., information sharing, cross training, pooled funding, etc.) with substance abuse treatment programs outside the organization and other criminal justice agencies. Detailed information on this measure of systems integration is available in a paper by Fletcher et al. in this volume. A third measure reflected the level of contact between the executive and line staff working in corrections and those providing substance abuse treatment.

State Correctional Structure: The analyses included an item indicating the state structure in which the executive agency operated. This variable was trichotomized to represent agencies operating in states where institutional corrections (prisons or long-term juvenile residential facilities) and community corrections (probation and/or parole) were centralized under one public safety agency; in partially centralized states, where institutional corrections was a state executive function while some parole/probation was subject to state regulation, licensing, or funding; and agencies in decentralized states, where parole or probation was exclusively a local responsibility of counties and/or cities. Because this centralization variable differed between adult and juvenile systems within states, it was necessary to specify this at the agency level in the models.

2.2.4. Facility-Level Factors—We further controlled for whether the facility served an adult or a juvenile population and whether it was a prison/juvenile institution, local jail/detention center, or community corrections office. Facility population (adult or juvenile) is an important control variable given the well-documented differences in the philosophy and goals of the two justice systems (Steinberg and Cauffman, 1999), and prior analyses of NCJTP data (Taxman et al., 2007a; Young et al., 2007) showed treatment prevalence and access to differ substantially by facility type (prison, jail, parole, probation). In addition, we controlled for facility size as reflected by the average daily census of offenders served by the facility, and for the facility's linkage (direct or indirect) to the executive level administrator included in the analysis (see sample description for a more detailed explanation).

2.3. Data Analysis

Study hypotheses were tested using hierarchical generalized linear modeling (HGLM) (Raudenbush and Bryk, 2002). HGLM was developed to address research questions involving multilevel data; in our study, we include data collected from local facility administrators and treatment directors, data collected from state corrections administrators, and state-level data. When analyzed as independent observations, hierarchically nested data violates critical assumptions on which multiple regression (and other analytic approaches based on the general linear model) rests, typically resulting in downwardly biased standard errors and inflated Type I error rates (Kreft and de Leeuw, 1998). HGLM deals with this issue by simultaneously estimating relationships at the facility (level 1; e.g., size, population), agency (level 2; e.g., views of rehabilitation, agency culture, climate), and state (level 3; e.g., household income, drug crime and incarceration rates) levels. The criterion variable in HGLM models is specified at the facility level; however, regression models can be constructed with local facility (e.g., size, population served), state agency level (e.g., centralization of the corrections system), and

state structural level (e.g., household income, political context) predictors.⁴ Note that while HGLM affords us the best opportunity for examining the magnitude of relationships among factors nested in these multiple levels, our analyses do not address directional relationships. Due to the cross-sectional nature of the data utilized in the analysis, we are unable to explore causal mechanisms in the present study.

We specified our HGLM models as follows. Prior to testing any predictor-prevalence relationships at either the facility (level 1), agency (level 2), or state (level 3) level, we used chi-square to ensure that there was significant variation in treatment provision across both agencies and states.⁵ This basic analysis is a useful starting point for further analyses, as it indicates whether sufficient variability exists among the level 2 and level 3 units to justify using an HGLM approach (Raudenbush and Bryk, 2002). If this model results in significant variability at the agency and state level, we will proceed with a series of models, entering predictors from each level one-by-one in order to estimate their bivariate relationships with provision of treatment. This approach was necessitated by collinearity among many of the predictor variables; including all the variables in a single model could complicate the interpretation of effects. Given the exploratory nature of this analysis, these estimates provide empirical input in reducing the number of possible predictors to those that specify the ‘best’ model.

The final model includes all of the predictors that had significant bivariate effects from the state, agency, and facility levels on the provision of intensive treatment, using a random-intercept three-level model. Given the limited sample sizes at the three levels, all variables were entered into the model as fixed effects. All of the predictor variables will be grand mean centered. All of the models presented in this paper were estimated using HLM, Version 6.05, using restricted maximum likelihood (REML) estimation.

3. Results

Descriptive statistics for the provision of treatment measure and all facility-, agency-, and state-level predictor variables are presented in Table 1. Just under half (47%) of the facilities provided intensive substance abuse treatment, while 29% provided another type of treatment (nearly all of these offered only 1-4 hours of weekly counseling or drug/alcohol education) and 24% had no substance abuse programming. We calculated chi-square statistics and found that there was significant variation in intensive treatment provision across executive administrators and states, warranting examination of these levels in HGLM.

Table 2 shows the results for each separate logistic regression model examining bivariate effects for each variable on provision of treatment. Several of the aggregated state-level measures were related to the treatment outcomes. Median household income ($b = <0.01$, $se = <0.01$, $OR = 1.00$, $p = .090$), average annual change in incarceration rates ($b = 0.09$, $se = 0.05$, $OR = 1.09$, $p = .077$), percent substance dependence or abuse ($b = 0.40$, $se = 0.17$, $OR = 1.50$, $p = .021$), and percent substance abuse expenditures from Medicaid ($b = 0.02$, $se = 0.01$, $OR = 1.02$, $p = .042$) were all at least marginally significantly and positively related to the provision of treatment in state correctional institutions. Having a Republican governor was significantly and negatively related to the provision of treatment ($b = -0.70$, $se = 0.25$, $OR = 0.50$, $p = .010$). Of the administrator variables, having sufficient physical facilities ($b = -0.25$, $se = 0.18$, $OR = 0.78$, $p = .015$) and direct contact between the executive administrator and facility correctional staff ($b = -0.43$, $se = 0.13$, $OR = 0.65$, $p = .002$), were negatively related to provision of

⁴One of the strengths of the HLM approach is the ability to test cross-level interactions. Given the small samples sizes, particularly within the agency and state units, we could not estimate cross-level interactions.

⁵Had our criterion variable been continuous, we would have run an unconditional model within the HLM program.

treatment, while administrator contact with intra-agency directors on issues related to substance abuse ($b = 0.04$, $se = 0.01$, $OR = 1.04$, $p = .009$) and having shared activities with other correctional agencies ($b = 0.06$, $se = 0.03$, $OR = 1.06$, $p = .082$) was positively related. None of the other administrator-level variables were significant. Again, this includes background (education or prior work experience) measures, beliefs regarding the relative importance of treatment, and attitudes in support of rehabilitation or punishment (in the form of a “just deserts” approach to sanctioning offenders; just deserts is a philosophy of punishment which contends that sanctions should be commensurate with the seriousness of the offense). The absence of an effect for rehabilitation-focused beliefs is not surprising given the very high mean (4.71 on a scale from 1 to 5) and low variability for this measure. The bivariate analyses further indicated that neither the overall organizational culture or climate for learning measures, nor any of the individual subscales that comprised these measures were significantly related to provision of treatment. Due to the limited statistical power in this analysis, we chose not to include the individual subscales in the final multivariate model; however, since culture and climate were found to contribute to EBP use in a prior NCJTP studies (Friedmann et al., 2007; Henderson et al., 2008), we considered keeping these overall measures in the final model. In addition to examining these bivariate relationships for data reduction purposes and to specify the final model, we assessed correlations between independent variables (tables not shown) to determine which predictors may be impacted by multicollinearity in subsequent regression analyses. This led us to drop the overall climate for learning measure (which caused model convergence problems in the multivariate model) and to pay particular attention to the effects of the few other variables identified in these analyses as sharing moderately high correlations ($r > .45$).

Table 3 presents the results showing relationships of agency- and state-level factors with provision of intensive treatment after controlling for facility-level characteristics (size and type of facility, population served). Results from these analyses indicate that several contextual factors exert direct effects on treatment provision. At the state level, the state substance abuse/dependence measure was significantly related to the treatment outcome such that states with higher levels of substance abuse and dependence were 1.40 times more likely to provide intensive substance abuse treatment in correctional facilities ($b = 0.34$, $se = 0.16$, $OR = 1.40$, $p = .038$). On the other hand, states with Republican governors were 0.59 times as likely to provide access to treatment ($b = -0.53$, $se = 0.23$, $OR = 0.59$, $p = .031$). None of the other state-level factors were significant; however, it should be emphasized that with so few degrees of freedom at this level of analysis, power to find statistically significant relationships is limited.

At the agency-level of analysis, intensive treatment provision was not affected by whether the agencies operated in states that were centralized, partially centralized, or decentralized in structuring correctional responsibilities. With regard to respondents' reports of agency resources and staff training opportunities, perceptions of funding support for new programming was the lone predictor found as significant after controlling for facility-, agency-, and state-level factors ($b = 0.28$, $se = 0.12$, $OR = 1.32$, $p = .020$). Indicators of coordination within agencies were associated with provision of intensive treatment; specifically level of contact with substance abuse treatment staff showed a positive relationship ($b = 0.42$, $se = 0.09$, $OR = 1.52$, $p = .000$) while contact with correctional staff was negatively related to treatment provision ($b = -0.43$, $se = 0.22$, $OR = 0.65$, $p = .057$). At the facility level, the type of facility was the only significant factor ($b = 0.73$, $se = 0.35$, $OR = 2.10$, $p = .036$); as expected, intensive treatment was more likely to be offered in prisons compared to other facility types.

4. Discussion

Findings from the National Criminal Justice Treatment Practices survey indicate that about half of the institutions and community corrections facilities that comprise the adult and juvenile

justice systems in the U.S. do not offer the kind of intensive substance abuse treatment that is needed by many offenders. Increased understanding of the contextual factors that influence the provision of this treatment should help inform efforts to close this critical service gap. Our findings suggest that there are a few key variables at the state, agency, and facility level that are related to intensive treatment provision.

Despite the low statistical power available for the state-level analyses (see study limitations discussion below), two items from this group of factors emerged as significantly associated with the treatment outcome. Predictably, states that have higher rates of substance abuse and dependence in the general population are more likely to have intensive treatment offered in their correctional facilities. In the absence of state-level data on abuse and dependence rates among offenders, this general population measure may serve as a proxy for offender-specific rates, and this finding suggests that, at least to a limited degree, states are responding to greater service needs by providing more intensive programming. As data on state-level service gaps and offender needs improve, future studies will be able to examine this issue directly, comparing state gaps in services to the general population and to offenders.

The finding that political party affiliation of the governor predicted the outcome deserves further study, particularly given the limitations of this measure (e.g., it does not take into account the length of time a governor was in office) and the potential impacts of other sources of political influence, such as the dominant party affiliation of the state legislature.⁶ Nonetheless this finding is notable given that state-aggregated measures of household income, arrest and incarceration rates, overall expenditures on treatment, and the proportion of these expenditures funded by Medicaid were not related to the outcome. This at least suggests that investments in correctional treatment may be driven more by political discretion than by resources or need. The finding is also of interest in light of the fact that agency executives' beliefs and attitudes were not related to treatment provision. This lends weight to the notion that the absence of an effect for rehabilitation attitudes is due to the restricted range and variance of this measure; it is also possible that some executives exaggerated their level of support for rehabilitation in responding to the survey. Alternatively, it may suggest that the influence of these executives is eclipsed by that of their supervisor – the state's governor.

Results showing no relationships between any of the organizational culture and climate measures and treatment provision is further evidence of the limited influence of the executive and other agency-level variables on this outcome. Of the several resources and training variables, only favorable views about the adequacy of funding support for services and programming in the agency had a significant positive association with the treatment outcome in the multilevel model. The level and type of coordination and integrative activities between the corrections agencies and other justice or health agencies were also unrelated to the dependent measure. Analyses of intra-agency measures indicating strong positive relationships between the treatment outcome and executives' contacts with substance abuse treatment staff, and a negative relationship with the outcome and contact with correctional (security) staff would simply appear to reflect redundancies in these variables. The relative absence of relationships between intensive treatment provision and these executive and agency factors stands in contrast to findings from studies examining their association with treatment practices (Henderson et al., 2008; Henderson et al., this volume). Research showing that administrator attitudes and agency climate and culture predict use of evidence-based practices may indicate

⁶Additional data gathered to address these issues were not helpful in either refuting or supporting the finding. At the time the affiliation measure was taken, the ten governors who had been in office for less than a year were evenly split between Republicans (5) and Democrats (5); on average Republican governors had been in office for 3.4 years and Democratic governors for 2.3 years. A predictor variable indicating the percentage of state legislature seats held by Republicans in 2005 was also considered as a state-level predictor, but was not significant at the bivariate level. Given the limited variability and the range of state-level predictors already entered into the model, we decided to focus on the Governor's Party variable as our primary indicator for political influence in this exploratory analysis.

that, compared to treatment provision, practices are more dynamic and amenable to the influence of these factors. Taken together, the present findings suggest that state variation in provision of intensive treatment in correctional facilities may depend on decisions driven by political ideology and funding, or a complex mix of factors that interact in ways beyond the analytic and explanatory capacity of the present study.

Limitations

This study had several limitations. For one, we only had 41 units of analysis at the state level; with several state-level predictors in the model, degrees of freedom were very limited at the highest level of analysis (level 3), thus limiting our statistical power and ability to detect effects at level 3. Second, the dependent measure utilized in this analysis – provision of intensive treatment – was a binary outcome; it is possible that other, more developed constructions of this measure may lead to different findings. Unfortunately, our attempts to model a categorical outcome that distinguished the equivalent of intensive outpatient treatment (5-26+ hours week) and therapeutic community treatment had even less explanatory power. We also investigated a more comprehensive measure that took into account the level of access to treatment. In preliminary analyses, we considered NCJTP data on the proportion of offenders in the facility served by the program on a typical day as an outcome measure, but given that only about half of the facilities provided some level of intensive programming, the sample size was too small for the hierarchical framework. We also considered a dependent measure that combined the provision and access indicators (which we termed availability of intensive treatment); however, the distribution of this outcome was both right- and left-censored, and it was greatly skewed given the large number of facilities that do not provide programming. Unfortunately, HLM 6.05 cannot accommodate this type of distribution at this time, so we were not able to employ this outcome.

It was previously noted that the study methods, data, and analyses could not address causality among the variables explored in this research. A related limitation concerns the temporal ordering of the dependent measure and some of the agency-level factors we employed as independent variables. Provision of intensive services is likely a function of multiple decisions and actions, some of which occurred before the survey respondents were in a position to express their attitudes or beliefs, or to influence the agency's organizational climate, or resources and support for programming. Funding of correctional treatment, and setting further policies related to its provision are complex processes that are only partially amenable to research using cross-sectional data.

Finally, our findings do not rule out the possibility that there may be other state- and agency-level factors that are related to the provision of intensive treatment. As noted above, research in this area will be much more informative when data on the levels of treatment needs among offenders are available by state, population (juvenile vs. adult), and setting (prison, jail, probation, parole, etc.). Similarly, the availability of data on correctional agencies' expenditures for treatment (or even better, for specific treatment modalities) would allow researchers to assess these expenditures as outcomes directly rather than relying on a simple dichotomous measure as an indicator of an agency's investment in intensive treatment. The NCJTP researchers recognized the value of these data and sought to gather budget information from correctional agencies only to find that many could not report reliable or comparable data on treatment expenditures. In addition to the potential value of data not yet available, interactions among factors we did include in the analysis are likely to explain treatment provision in ways not considered here. Given the limited number of agencies within states, we could not explore potential interactions. For example, administrator attitudes or resources may be important in determining treatment provision within prison settings, as opposed to jail, parole, or probation settings. We might also expect substantial differences between agencies serving juvenile versus

adult populations. The much smaller size and lower costs of juvenile correctional systems as compared to adult systems, and the greater focus on rehabilitation in juvenile systems (Butts and Mears, 2001) may lead to different results, however our samples did not allow us to investigate these kinds of interactions.

Conclusions and Future Research

The present study helps establish an initial knowledge base about factors involved in states' provision of intensive treatment services for offenders. The findings suggest that political and funding issues may override the influence of correctional agency executives, or longstanding organizational culture or climate factors in determining whether correctional facilities meet offender needs with appropriate treatment. The limited role of administrators in filling this service gap is consistent with studies that point to the multiple factors that must interact with agency leadership to achieve change. Implementing new policies and practices require a blending of authority and leadership with strategic planning around such factors as agency fit, staff attitudes and receptivity, training, and resources (Proctor et al., 2007). Change also must address political realities and our findings suggest that advocates seeking to close this treatment gap would be advised to focus efforts on convincing policymakers and elected officials of the public safety and cost benefits of providing treatment to offenders with the greatest needs.

Some fruitful directions for future research have been noted above, including obtaining and analyzing improved measures of offender service needs, state correctional agencies' treatment-specific expenditures, and their service provision in terms of levels of treatment intensity and offenders' actual access to these services. Given the complexity of the state treatment funding process, longitudinal research focusing on a few states may offer the greatest yield in filling the gaps of information left by the present study. Future studies should afford a closer look at relevant policymakers, relationships between their beliefs and party affiliations, dynamic political and economic factors, and the decisions made over time that affect the policies and provision of correctional treatment.

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Table 1
Sample Characteristics

Variable	%	Mean (SD)	Scale Range
Provision of Intensive Treatment	46.7		
<i>State Structural Characteristics (N = 41)</i>			
Median Household Income		42,286.73 (5936.35)	30,187-52,990
Percent Urban		74.58 (13.54)	40.2-94.4
Drug Arrest Rate		427.58 (189.76)	125.51-941.51
Average Annual Change in Incarceration Rates 1995-2004		3.90 (2.50)	-2.00-8.50
Percent Substance Dependence/Abuse		9.47 (1.09)	7.4-12.2
Republican Governor in 2005	51.2		
SA TX Expenditures per capita		1102.08 (437.54)	409.67-2021.25
Percent SA Expenditures from Medicaid		8.10 (12.16)	0-37.0
<i>Executive Administrators (N = 97)</i>			
Administrator has Graduate Degree	67.0		
Administrator has Service Experience and/or Social/Health Degree	52.6		
Goals of Corrections			
Rehabilitation		4.71 (0.53)	1 – 5
Just Deserts		1.72 (0.77)	1 – 5
Importance SA Treatment relative to Other TX Services		9.09 (1.32)	1 – 5
Organizational Climate for Learning		3.54 (0.52)	1 – 5
Future Goals		3.48 (0.76)	1 – 5
Training		3.82 (0.55)	1 – 5
Performance Review		3.56 (0.69)	1 – 5
Innovation		3.61 (0.68)	1 – 5
Risk-taking		3.24 (0.73)	1 – 5
Organizational Culture		3.71 (0.51)	1 – 5
Cohesion		4.02 (0.58)	1 – 5
Hierarchy		3.75 (0.57)	1 – 5
Performance/Achievement		3.60 (0.63)	1 – 5
Innovation/Adaptability		3.46 (0.71)	1 – 5
Training & Resources			
Training		3.50 (0.78)	1 – 5
Funding		2.08 (0.75)	1 – 5
Physical Facilities		3.00 (0.83)	1 – 5
Staffing & Retention		2.41 (0.72)	1 – 5
Community Support		3.35 (0.65)	1 – 5
Systems Integration			
Shared Activities with SA TX Programs		4.98 (3.34)	0 – 10
Shared Activities with Other Correctional Agencies		3.24 (3.44)	0 – 10
Contact w/Intra-Agency Directors on SA Issues		13.53 (8.56)	0 – 36
Direct Contact Between Executive and SA TX Staff		2.04 (0.87)	1 – 4
Direct Contact Between Executive and Correctional Staff		1.48 (0.70)	1 – 4
Centralized Agency	40.2		
Partially Centralized	36.1		
Decentralized	23.7		
<i>Facility Characteristics (N = 426)</i>			
Percent Adult	67.4		
Prison/Juvenile Residential Institution	34.5		
Jail/Detention Facility	24.2		
Community Corrections Facility/Office	41.3		
Size of Facility		2430.11 (7818.53)	4 – 95,000

Table 2
Individual Effects of Agency- and State-Level Variables on Provision of Treatment (all variables entered into separate models)

Variable	Coefficient	SE	T-ratio	df	Odds Ratio
State Structural Characteristics (N = 41)					
Median Household Income	<0.01	<0.01	1.74*	39	1.00
Percent Urban	<0.01	0.01	0.33	39	1.00
Drug Arrest Rate	<0.01	<0.01	0.34	39	1.00
Average Annual Change in Incarceration Rates 1995-2004	0.09	0.05	1.82*	39	1.09
Percent Substance Dependence/Abuse	0.40	0.17	2.41**	39	1.50
Republican Governor in 2005	-0.70	0.25	-2.75**	39	0.50
SA TX Expenditures per capita	<0.01	<0.01	1.48	39	1.00
Percent SA Expenditures from Medicaid	0.02	0.01	2.10	39	1.02
Executive Administrators (N = 97)					
Administrator has Advanced Degree	-0.09	0.31	-0.31	95	0.91
Administrator has Service Experience and/or Advanced Social/Health Degree	-0.30	0.22	-1.33	95	0.74
Goals of Corrections					
Rehabilitation	0.10	0.14	0.69	95	1.10
Just Deserts	-0.02	0.12	-0.15	95	0.98
Importance SA Treatment relative to Other TX Services	-0.05	0.06	-0.79	95	0.95
Organizational Climate for Learning (All)	0.17	0.23	0.76	95	1.19
Future Goals	0.16	0.19	0.87	95	1.18
Training	0.01	0.19	0.03	95	1.01
Performance Review	-0.07	0.16	-0.41	95	0.93
Innovation	0.18	0.19	0.95	95	1.20
Risk-taking	0.16	0.16	1.01	95	1.18
Organizational Culture	-0.09	0.18	-0.50	95	0.91
Cohesion	0.01	0.14	0.05	95	1.01
Hierarchy	0.09	0.19	0.49	95	1.10
Performance/Achievement	-0.25	0.18	-1.34	95	0.78
Innovation/Adaptability	-0.05	0.16	-0.33	95	0.95
Training & Resources					
Training	-0.07	0.10	-0.70	95	0.90
Funding	-0.04	0.14	-0.25	95	0.96
Physical Facilities	-0.25	0.10	-2.49**	95	0.78
Staffing & Retention	-0.13	0.16	-0.85	95	0.88
Community Support	-0.08	0.19	-0.45	95	0.92
Systems Integration					
Shared Activities with SA TX Programs	0.01	0.03	0.45	95	1.01
Shared Activities with Other Correctional Agencies	0.06	0.03	1.75*	95	1.06
Contact w/Intra-Agency Directors on SA Issues	0.04	0.01	2.67***	95	1.04
Direct Contact Between Executive and SA TX Staff	0.02	0.12	0.19	95	1.02
Direct Contact Between Executive and Correctional Staff	-0.43	0.13	-3.17***	95	0.65
Centralized Agency	0.54	0.31	1.73*	94	1.71
Decentralized	0.78	0.29	2.67***	94	2.18
Partially Centralized	--	--	--	--	--
Facility Characteristics (N = 426)					
Adult Corrections	0.33	0.19	1.71*	424	1.39
Prison/Juvenile Residential Institution	0.64	0.32	1.98**	423	1.89
Jail/Detention Facility	0.14	0.23	0.58	423	1.14
Community Corrections Facility/Office	--	--	--	--	--

Variable	Coefficient	SE	T-ratio	df	Odds Ratio
Size of Facility	<0.01	<0.01	0.54	424	1.00

Note. SE = Standard Error, SA TX = Substance Abuse Treatment

*
 $p < .10$
**
 $p < .05$

 $p < .01$

Results for Fixed Effects for HGLM Models (Random Intercept Only) for Provision of Intensive Treatment

Table 3

Variable	Coefficient	SE	T-ratio	df	Odds Ratio
State Structural Characteristics (N = 41)					
Median Household Income	<-0.01	<0.01	-0.32	32	1.00
Percent Urban	0.01	0.02	0.79	32	1.01
Drug Arrest Rate	<-0.01	<0.01	0.16	32	1.00
Average Annual Change in Incarceration Rates 1995-2004	0.08	0.06	1.30	32	1.09
Percent Substance Dependence/Abuse	0.34	0.16	2.16**	32	1.40
Republican Governor in 2005	-0.53	0.23	-2.25**	32	0.59
SA TX Expenditures per capita	<-0.01	<0.01	1.92	32	1.00
Percent SA Expenditures from Medicaid	-0.02	0.01	-1.24	32	0.98
Executive Administrators (N = 97)					
Organizational Culture	0.15	0.29	0.53	84	1.17
Training & Resources	-0.23	0.18	-1.26	84	0.79
Funding	0.28	0.12	2.37**	84	1.32
Physical Facilities	0.06	0.18	0.36	84	1.07
Staffing & Retention	0.01	0.22	0.04	84	1.01
Community Support	-0.11	0.25	-0.45	84	0.89
Systems Integration	0.03	0.04	0.81	84	1.03
Shared Activities with Other Correctional Agencies	0.02	0.02	0.95	84	1.02
Contact w/Intra-Agency Directors on SA Issues	0.42	0.09	4.72***	84	1.52
Direct Contact Between Executive and SA TX Staff	-0.43	0.22	-1.93*	84	0.65
Direct Contact Between Executive and Correctional Staff					
Centralized Agency	0.30	0.32	0.95	84	1.36
Decentralized	0.27	0.37	0.73	84	1.31
Partially Centralized (Suppressed)	--	--	--	--	--
Facility Characteristics (N = 426)					
Adult Corrections	0.20	0.29	0.69	400	1.22
Prison/Juvenile Residential Institution	0.73	0.35	2.10**	400	2.08
Jail/Detention Facility	0.21	0.27	0.76	400	1.23
Community Corrections Facility/Office	--	--	--	--	--
Size of Facility	<0.01	<0.01	0.81	400	1.00

Note. SE = Standard Error, SA TX = Substance Abuse Treatment

* $p < .10$

** $p < .05$

*** $p < .01$