

A Census of Prison-Based Drug Treatment Programs: Implications for Programming, Policy, and Evaluation

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Despite a growing realization that unmeasured programmatic differences influence prison-based drug treatment effectiveness, few attempts to systematically measure such differences have been made. To improve program planning and evaluation in this area, we developed a census instrument to collect descriptive information about 118 prison-based drug treatment programs in 24 state prisons. The census assessed program content and structure (e.g., program type, duration, and primary treatment approach), program staff (e.g., duties and staffing ratios), and inmates (e.g., eligibility and intake procedures). Collection of descriptive program information can greatly facilitate drug treatment program and policy planning, and meaningfully inform the design of subsequent outcome evaluations.

Keywords: *adult offenders; corrections; drug use; drug treatment; rehabilitation*

Despite a proliferation of prison-based drug treatment programs, most remain unevaluated and relationships between inmate characteristics, treatment process, and outcomes remain only partially understood (Lipton & Pearson, 1998; National Institute on Drug Abuse, 1981, 1999). Surprisingly little information is available about the content, structure, and process of such programs (e.g., intensity, duration, and type of treatment approaches). As part of a collaborative university/agency research partnership, we conducted a census of 118 prison-based alcohol or other drug (AOD) programs in Pennsylvania state prisons. We describe key findings from the AOD program cen-

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sus and discuss how these findings have shaped program development, policy, and evaluation.

THE NEED FOR DETAILED PROGRAM DESCRIPTIONS

In spite of recommendations that evaluators of correctional interventions need to more systematically measure programmatic (e.g., treatment approach and program content) and nonprogrammatic variables (e.g., offender differences and treatment settings), evaluators have rarely attempted to systematically assess such variables (Palmer, 1992, 1995). Evidence from systematic reviews and meta-analyses of correctional interventions has suggested that many unique programmatic features (alone and in combination with one another) may influence treatment effectiveness (Andrews, 1995; Andrews, Zinger, Hoge, Bonta, Gendreau, & Cullen, 1990; Bonta, 1996; Cullen & Gendreau, 2000; Gendreau, 1996; Gendreau & Andrews, 1994; Palmer, 1992).

Individual programs, even within the same generic “type” (e.g., outpatient counseling or therapeutic communities), often differ a good deal in terms of program content, structure, and approach. Any one program typically provides some unique *combination* of different treatment components (Harrison & Martin, 2003). As Palmer (1995) has argued, a more *global approach* to evaluating correctional interventions is needed:

Clearly delineated combinations have rarely been hypothesized or focused on in a context of systematic research. Accordingly, the first order of business for theorists and researchers is to delineate potentially effective combinations and to then generate studies in which a number of them are systematically examined to determine which ones are actually effective. (p. 103)

Although meta-analysis can focus on several features at once, it “seems less likely than the global approach to identify and integrate the complexities, patterns, and sequences that often characterize intervention, and it therefore should not be substituted for the latter” (Palmer, 1995, p. 116).

Indeed, although meta-analyses attempt to account for *methodological* differences among studies (e.g., differences in sample size, sampling technique, and construction of comparison groups), they rarely code *programmatic differences* in any detail. It is not our contention that meta-analyses are useless—quite the contrary (see Cullen & Gendreau, 2000). Nor is it our purpose to critique the methodology guiding meta-analyses (Hedges & Olkin, 1985; Hunter & Schmidt, 1990; Rosenthal, 1991; Yeaton & Wortman, 1993). Rather, meta-analyses suffer from important but neglected limitations (Cul-

len & Gendreau, 2000). They do not—and cannot—by themselves account for important programmatic and nonprogrammatic differences relevant to the development, implementation, and evaluation of effective correctional programs.

PRISON-BASED DRUG TREATMENT

Although estimates of AOD dependence among inmate populations vary widely, most professionals accept estimates based upon the DSM-IV Structured Clinical Interview (SCID-IV) as among the most reliable (Peters, Greenbaum, & Edens, 1998). Administering this instrument to a sample of 400 state prison inmates, Peters et al. (1998) estimated lifetime prevalence rates of substance abuse or dependence disorders among 74% of the inmate population. Over half were diagnosed as exhibiting substance abuse or dependence disorders for the 30 days prior to their current incarceration.

Annual inmate surveys and periodic jail and prison censuses conducted by the Bureau of Justice Statistics (2003) have provided some information about the number of inmates receiving drug treatment. For example, about two out of three inmates admit drug histories, but less than 15% receive any systematic treatment while in prison (Mumola, 1999). In 1997, 9.7% of state prison inmates (101,729) and 9.2% of federal prison inmates (8,070) reported participation in drug treatment (i.e., residential treatment, professional counseling, detoxification, or use of a maintenance drug) since their admission (Mumola, 1999). Participation in much less intensive drug abuse programs (e.g., self-help, peer group, or drug education classes) was more common: 20% of state and 9% of federal prison inmates reported participation in such programs.

According to the Substance Abuse and Mental Health Services Administration (SAMHSA, 2000), 40% of all correctional facilities nationwide (federal and state prisons, local jails, and juvenile facilities) provided some sort of onsite substance abuse treatment (i.e., detoxification, group or individual counseling, rehabilitation, and methadone or other pharmaceutical treatment) to inmates in 1997. Only about 11% of inmates in these institutions received any treatment, however, most frequently in a general facility population program. Few of these inmates were treated in specialized treatment units (28%) or in hospital or psychiatric inpatient units (2%).

Although estimates of inmate need for treatment, program availability, and participation in treatment are useful, surprisingly little information is available about the *variety* (e.g., intensity, duration, and quality) of prison-based drug treatment programs in local and state correctional systems. For

example, say that Inmate A receives 6 weeks of group counseling consisting of two 1-hour sessions per week for a total treatment exposure of 12 hours, whereas Inmate B completes a 1-year, residential drug treatment program consisting of 30 hours of individual and group counseling per week for a total treatment exposure of 1,560 hours. Such vast variations in total treatment dosage have important implications for evaluation, policy, and planning. Available studies do not adequately distinguish between different programs (and inmates), and program evaluations rarely account for such critical differences in treatment exposure.

Prison-based therapeutic community (TC) programs are of particular interest. Modified therapeutic community drug treatment programs have been widely implemented in prison settings in recent years (De Leon, 2000; Inciardi, 1995; Inciardi, Martin, Butzin, Hooper, & Harrison, 1997; Inciardi, Martin, Lockwood, Hooper, & Wald, 1992; Lipton, 1995; Lipton, Falkin, & Wexler, 1992; Office of National Drug Control Policy, 1996, 1999). The aim of the TC is total lifestyle change, including abstinence from drugs, elimination of antisocial behavior, and development of prosocial attitudes and values. Individual and group counseling, encounter groups, peer pressure, role models, and a system of incentives and sanctions form the core of these programs. Inmate residents of the TC live together, participate in self-help groups, and take responsibility for their own recovery. All TCs have a highly defined structure and daily activities to reinforce the mission of the TC.

Although evaluations have found prison-based TCs to be effective, relationships between inmate characteristics, treatment process, and outcomes remain only partially understood (Hiller, Knight, & Simpson, 1999; Lipton & Pearson, 1998; National Institute on Drug Abuse, 1981, 1999). Studies in Texas (Knight, Simpson, & Hiller, 1999), Delaware (Martin, Butzin, Saum, & Inciardi, 1999), and California (Wexler, Melnick, Lowe, & Peters, 1999) found that graduates of prison TC had lower rates of rearrest, drug relapse, and/or return to custody than comparison samples, especially when prison TC was combined with structured aftercare following release from prison. The three studies, however, reported different patterns of results. Recidivism rates over a three-year follow-up period varied from 45% to 79% for *TC only*, and from 25% to 31% for *TC + Aftercare*. Differences in results are likely due to at least two major factors: differences in research design and unmeasured programmatic variations.

First, TC studies have been criticized for small sample sizes, biased selection and attrition, unknown or compromised program implementation, and weak outcome measures (e.g., self-reports of drug use and/or offending) (Austin, 1998; Fletcher & Tims, 1992). In a systematic review sponsored by the Campbell Collaboration, Mitchell, MacKenzie, and Wilson (2002) argued

that the effectiveness of prison-based TC drug treatment is less clear than commonly assumed, largely due to methodological deficiencies including inadequate comparison groups and inadequate statistical controls for selection bias. They note that the effectiveness of other types of prison-based drug treatment (e.g., outpatient treatment and 12-step groups) remains largely unknown.

Second, evaluations of prison-based drug treatment rarely provide detailed program descriptions or information about implementation (Taxman & Bouffard, 2002). Implementation issues include staff recruitment, experience, and training; client screening, assessment, and selection; quality of interactions between inmates, correctional officers, and treatment staff; and use of appropriate sanctions (Farabee et al., 1999; Inciardi et al., 1992; Linhorst, Knight, Johnston, & Trickey, 2001). Studies of prison-based TC in Texas (Martin, Butzin, & Inciardi, 1995), California (Wexler & Williams, 1986), and Delaware (Inciardi et al., 1992) noted numerous implementation problems, including inadequate numbers of trained and experienced counseling staff and lack of standardized screening, assessment, and selection processes (see also Farabee et al., 1999; Linhorst et al., 2001).

As Pearson and Lipton (1999) concluded in their meta-analysis of jail- and prison-based drug treatment programs:

In both settings, there is a need for programs to provide for research analyses into the details of the programming provided, including the specifics of the treatment models and curricula being used, the training and credentials of the treatment staff, how frequent the treatment sessions are, information on supervision procedures to ensure the quality of the treatment provided is maintained, and the planned and actual time in the program for the clients. (pp. 407-408)

Several tools have been used to assess the implementation of prison-based drug treatment programs. These include the Correctional Program Assessment Inventory (CPAI), a Structured Observation instrument developed by Taxman and Bouffard (2002), the Survey of Essential Elements Questionnaire (SEEQ), and the Field Review Protocol developed by Therapeutic Communities of America (Office of National Drug Control Policy, 1999).

The CPAI has been used in a number of process evaluations funded by the federal Residential Substance Abuse Treatment for State Prisoners (RSAT) initiative (Harrison & Martin, 2003). The CPAI attempts to ascertain how well programs meet principles of effective intervention (Andrews, 1995; Andrews et al., 1990; Gendreau, 1996; Gendreau & Andrews, 1994; Latessa & Holsinger, 1998; Matthews, Hubbard, & Latessa, 2001). CPAI assessments are based on several types of data including site visits, file reviews, structured interviews with program staff, and examination of program curric-

ula, policy manuals, and other program materials. Six primary dimensions are assessed: (a) program implementation, (b) client preservice assessment, (c) characteristics of the program, (d) characteristics and practices of staff, (e) evaluation, and (f) miscellaneous (e.g., ethical guidelines, funding, and community support). The CPAI tabulates the presence, number, and variety of the best-validated elements of effective correctional programs. Each item is scored as not applicable (*NA*), not known (*NK*), element absent (0), or element present (1). For each subsection, a subtotal is obtained by counting the percentage of elements present relative to the total number of elements assessed (e.g., if four out of six evaluation items are present, the program receives a score of 66% on the evaluation section). Each subsection is scored as *very satisfactory* (70% or higher); *satisfactory* (60-90%); *satisfactory, but needs improvement* (50-59%); or *unsatisfactory* (less than 50%). A total score is obtained by summarizing across each subsection.

In contrast, Taxman and Bouffard (2002) have developed a technique that emphasizes structured observations conducted by well-trained researchers but includes structured interviews, examination of official program documents, and collection of client-based data (e.g., drug testing, infractions, and disciplinary actions). Structured observations examine the degree to which certain treatment components typically associated with the TC model (De Leon, 2000) are present. The instrument yields narrative data for qualitative analysis as well as quantitative scores (e.g., using 5-point Likert-type scales, researchers rate the degree to which a particular program component was used in a treatment session). The instrument assesses five components: (a) program emphasis, (b) treatment topics, (c) treatment activities, (d) treatment style, and (e) view of the residential community. Researchers received considerable training and practice in the use of the instrument, and the instrument demonstrated acceptable interrater agreement (i.e., > 70%) on each dimension (Taxman and Bouffard, 2002, pp. 197-198).

A third technique uses a survey approach to examine the degree to which a particular TC program exhibits the generic elements of a therapeutic community. The Survey of Substantial Elements Questionnaire (SEEQ) asks respondents (treatment staff) to rate the importance of each of the essential elements of TC as practiced in their programs (Melnick & De Leon, 1999). The SEEQ consists of 139 questions covering six domains of TC treatment: (a) the treatment perspective (views of addictive disorders, the addict, recovery, and right living), (b) the approach and structure of the program (e.g., staff roles and functions, and members' roles and functions), (c) the use of community as a therapeutic agent (e.g., peers as gatekeepers, mutual help, and enhancement of community belonging), (d) the role of educational and work activities in therapy, (e) the characteristics of formal therapeutic elements (e.g., group

and counseling techniques), and (f) the stages of treatment. The SEEQ yields fairly reliable measures of treatment integrity as perceived by treatment staff but by itself is a limited source of data. Other data sources needed to gain a comprehensive picture of TC program implementation include site visits and observations by researchers and clinical experts; interviews and surveys of inmates, correctional officers, and treatment staff; and client assessment data (Office of National Drug Control Policy, 1999).

Therapeutic Communities of America (TCA) launched a project to develop minimum standards for operating modified TC programs in prison settings (Office of National Drug Control Policy, 1996). In Phase I, researchers and clinicians developed an initial draft of standards and recommended procedures (field review protocol) for assessing compliance with standards. Phase II involved a validation of the field review protocol, an instrument based heavily upon the SEEQ. Four expert reviewers visited each program and rated (on 5-point Likert-type scales) the degree to which each program met specific standards. Scoring is based on reviewers' subjective interpretation of observed behavior (onsite) and program data (e.g., policy manuals and client assessment information). Phase III translated TC standards into a formal accreditation format for modified TC programs in correctional settings. One caveat bears emphasis: "The field reviewers must be highly experienced in the TC and in the use of the review protocol" (Office of National Drug Control Policy, 1999, p. 8).

Each of these techniques shares at least one major limitation: Each is based on subjective interpretations provided by trained researchers or clinicians. Experience and training are necessary because each tool has an explicit *evaluative* dimension, not just a *descriptive* function. To judge overall program quality, each relies heavily on the accuracy and completeness of interpretations provided by program administrators, treatment staff, researchers, and/or expert clinicians. Were a purely *descriptive tool* available to assist correctional and treatment personnel in identifying major dimensions of program implementation across an entire system (e.g., local, county, or state), such a tool would greatly facilitate program monitoring and quality improvement, and it would provide an invaluable resource to design subsequent outcome evaluations.

If evaluation of correctional interventions such as prison-based drug treatment is to be useful in a more practical way (i.e., for program planning, development, implementation, and/or revision), we need to more systematically measure relevant programmatic features than has previously been the case (Palmer, 1992, 1995). The present study attempts to provide a foundation for doing so.

METHODS

Background: Pennsylvania Department of Corrections

The Pennsylvania Department of Corrections operates 25 state correctional institutions, one motivational boot camp, 14 community corrections centers, and 43 vendor-run community contract facilities (CCFs). The Department housed 38,195 inmates as of January 31, 2002, with males representing 96% of the state's inmate population (Pennsylvania Department of Corrections, 2002). Pennsylvania consistently ranks among the 10 highest prison populations in the country (Beck & Harrison, 2001). As of December 31, 2001, 16,100 inmates were enrolled in some level of AOD programming. This number has increased by 36 percent since 1996.

The department's approach to AOD programs is informed by a holistic health model that treats substance abuse as a complex problem with physiological, psychological, emotional, behavioral, spiritual, environmental, and sociopolitical dimensions (Pennsylvania Department of Corrections, 2001). Long-term goals are to reduce recidivism, drug dealing, and drug use and to increase the prospects for successful reintegration into society. The Department's drug and alcohol programming is grouped into four major categories.¹ They are (a) *drug and alcohol education* programs offered by the Department to inmates identified as having minimal drug and alcohol involvement; (b) *outpatient treatment* programs offered to inmates who are in need of more intensive, intermediate levels of intervention, including individual and group counseling; (c) *therapeutic communities* offered to inmates identified as needing intensive, residential substance abuse intervention; and (d) drug and alcohol treatment units (DATUs) that provide some combination of drug education and outpatient programming.²

Recognizing that most agencies lack substantial inhouse research and evaluation expertise and resources, the National Institute of Justice (NIJ) issued a targeted solicitation in 1998 that encouraged research partnerships between correctional agencies and research institutions that could provide such expertise specifically tailored to meet state and local needs. A steering committee was formed to guide joint research activity. Members included senior correctional policy makers, research and treatment personnel, and data specialists from the Department of Corrections. This group focused on reviewing research plans and providing oversight of the research process, they assisted in the development of the AOD Program Census described below, and they considered the larger organizational and policy issues that the research raised.

Alcohol or Other Drug (AOD) Program Census

Goals of the AOD program census included identifying critical variations in prison-based drug treatment, facilitating discussions about characteristics of effective programming, and building a statewide database and capacity for further studying these efforts. Guided by previously identified dimensions of effective correctional treatment (e.g., Andrews, 1995; Andrews et al., 1990; Bonta, 1996; Gendreau, 1996; Gendreau & Andrews, 1994) and prison-based drug treatment (e.g., De Leon, 2000; Hiller et al., 1999; Inciardi et al., 1992, 1997; Lipton, 1995; Lipton et al., 1992; National Institute on Drug Abuse, 1981, 1999; Office of National Drug Control Policy, 1996, 1999), researchers designed a census instrument to collect three types of descriptive information about programs: (a) program content and structure (e.g., program duration and treatment approach), (b) program staff (e.g., duties, staffing ratios), and (c) inmates (e.g., target eligibility and selection procedures).

Most of the census items asked for descriptive information about the programs only: name of program, program type (e.g., residential versus outpatient), number of years in operation, normal length of inmate participation, number of hours required for program completion, and number of staff assigned to program. Although several groups of items (below) used Likert-type scales, it is important to emphasize that we were interested in the descriptive properties of census items rather than in forming scales to measure constructs (see Nunnally, 1978). No scaling properties were intended for any group of items.³

Twenty-two items asked respondents to rate on a 4-point scale (1 = a great deal of time, 2 = a moderate amount of time, 3 = very little time, 4 = no time) how much time was spent in the program addressing different treatment topics: AIDS/infectious diseases, models of addiction, working steps to recovery, impacts of drug use, family issues, job issues, life skills, problem-solving skills, obstacles to treatment, thinking errors, social skills, interpersonal relationships, self-esteem, anger/temper control, assertiveness training, stress management, criminality/antisocial attitudes, antisocial peer associations, focus on harm done to victim, relapse prevention, addiction and spirituality, and pharmacology.

Nine items asked respondents to rate on a 3-point scale (1 = primary approach, 2 = secondary approach, 3 = not used at all) how much emphasis was placed on different treatment approaches: cognitive therapy, traditional behavior modification, cognitive-behavioral approach, psychotherapy, rational emotive therapy, transactional analysis, reality therapy, milieu therapy, and dual diagnosis.⁴

Nine items asked respondents to rate on a 3-point scale (1 = very important, 2 = somewhat important, 3 = not very important) how important different criteria were in making program admission decisions: level of motivation, level of drug involvement, type of offense, criminal history, amount of time served in current sentence, absence of medical problems, institutional record of drug use, institutional record of violence, and institutional record of other misconducts.

Three items asked respondents to rate on a 3-point scale (1 = very important, 2 = somewhat important, 3 = not very important) how important specific criteria were to determine successful program completion: a drug and alcohol knowledge test, measures of attitudinal or behavioral change, and case progress review by treatment staff.

Nine items asked respondents to rate on a 3-point scale (1 = very important, 2 = somewhat important, 3 = not very important) how important different criteria were to determine unsuccessful discharge: violation of program rules, violation of institutional rules, security concerns, failure to pass drug and alcohol (D & A) knowledge test, inadequate attitudinal or behavioral change, not attending required number of sessions, failure to complete required assignments, inappropriate classroom or session behavior, and case progress review by treatment staff.

The census respondents were DOC personnel responsible for directing AOD programs at each of the 24 DOC institutions.⁵ A total of 118 programs were identified in cooperation with Bureau of Inmate Services. Census packages were mailed to the superintendent at each institution, who in turn was asked to forward them to the drug treatment supervisor or manager, who then completed the program census or assigned appropriate treatment personnel to do so. A cover letter signed by the secretary of corrections emphasized that the census was intended to gather descriptive information about prison-based drug treatment programs; this was not an audit or an evaluation. We received completed censuses from all 118 programs identified (a 100% response rate). The completed program censuses included 44 education programs, 58 outpatient treatment programs, 10 DATUs, and 6 TCs.⁶

Researchers also conducted in-depth process evaluations at two institutions chosen by the steering committee. Both provided a full range of AOD services. Process evaluation results, although not discussed in this paper, helped clarify and interpret results of the AOD program census. We used four forms: (a) a staff interview form, (b) an inmate interview form, (c) an observer checklist, and (d) a case file review form.⁷ Each method gathered additional data about program activities, staff, and inmates. We also acquired program documents (e.g., program/treatment unit rules or policies, unit and/or program handbooks, curricula, and intake forms) to assist us in developing

written program descriptions. At the two institutions, we conducted a total of 44 program observations, 18 staff interviews, 31 inmate interviews, and 5 case file reviews.

Finally, we held a 1-day symposium at the DOC Training Academy to discuss census results. Representatives ($n = 44$) from treatment programs at each of the 24 institutions attended. We set three major goals: (a) present program census results, including similarities and differences in AOD programming across institutions; (b) discuss implications for AOD programming and evaluation; and (c) discuss and prioritize elements of effective treatment. Following presentation of census results in the morning session, three treatment supervisors organized participants into focus groups to discuss several specific questions. Participants were then reconvened in the central meeting room where the three facilitators asked each group to give a 5-10-minute summary of their responses to each question. Responses from each group were written by facilitators on posters at the front of the room and displayed to the full group for discussion.

RESULTS

Below, we examine both *within-program differences* (e.g., how education programs differed from one another) and *between-program differences* (e.g., differences between TC and other program types). Both are important. Large differences in content within any of the major program types, for example, would provide strong evidence of the need for greater standardization. Between-program differences are also important to identify to what degree the nature, quantity, and quality of "treatment" that an inmate receives depends on which type of program he or she is assigned to. Substantial between-program differences, for example, would reinforce the need for reliable and valid assessment tools to determine an inmate's appropriate program assignment (Inciardi, 1994; Shearer & Carter, 1999). Programs that *appropriately* target the specific needs and learning styles of their clients tend to be more effective (Andrews et al., 1990; Cullen & Gendreau, 2000; Gendreau, 1996).

The results describing programmatic differences and similarities are intended to be primarily descriptive. Because the entire population of DOC drug treatment programs was sampled, however, the means presented in Tables 1 and 2 represent *population parameters* rather than inferential sample statistics. Tests of statistical significance (F tests) are provided only to help clarify the interpretation of results.⁸ Only a small portion of the total

TABLE 1: Program Content and Structure: Selected Results

Variable	Education			Outpatient			DATU			TC			F
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	
Program duration: weeks	12.4 _a	5.4	40	13.3 _a	7.4	53	22.2 _b	13.8	9	46.3 _c	10.2	6	38.6*
Program intensity: hours/week	2.6 _a	2.9	43	3.2 _a	5.2	57	8.1 _b	6.8	10	30.0 _c	11.0	6	53.2*
Minimum hours required for program completion	14.0 _a	10.7	39	18.6 _a	13.8	50	38.3 _b	39.2	6	—	—	—	6.70**
Content coverage (1 = a great deal of time; 4 = no time)													
AIDS/infectious diseases	2.7 _{ab}	.83	44	2.8 _a	.78	58	2.2 _{ab}	.67	9	2.0 _b	.63	6	3.21*
Models of addiction	2.1 _{ab}	.80	43	2.5 _a	.73	58	1.7 _b	.68	10	1.7 _b	.82	6	5.24**
Problem-solving skills	2.1 _a	.84	44	1.4 _b	.55	58	1.5 _b	.71	10	1.2 _b	.41	6	11.36***
Thinking errors	1.6 _b	.72	43	1.3 _{ab}	.50	58	1.6 _b	.70	10	1.0 _a	.00	6	3.60*
Social/communication skills	2.3 _a	.90	44	1.6 _{ab}	.70	57	1.6 _{ab}	.52	10	1.3 _a	.51	6	7.34***
Interpersonal relationships	2.3 _b	.87	44	1.6 _{ab}	.62	58	1.7 _{ab}	.48	10	1.2 _a	.41	6	9.30***
Anger/temper control	2.4 _b	.89	44	1.8 _{ab}	.76	58	1.4 _a	.70	10	1.2 _a	.41	6	9.03***
Assertiveness training	2.7 _b	.95	44	2.0 _{ab}	.78	58	1.5 _a	.71	10	1.3 _a	.52	6	10.71***
Relapse prevention	2.2 _b	.98	44	1.4 _a	.59	58	1.4 _a	.52	10	1.2 _a	.41	6	11.82***
Treatment approach (1 = primary, 2 = secondary, 3 = not used at all)													
Behavior modification	2.0 _c	.78	44	2.4 _{bc}	.63	57	2.0 _{bc}	.82	10	1.7 _{ab}	.82	6	4.98*
Cognitive behavioral	1.7 _a	.77	42	1.6 _a	.70	58	1.5 _a	.70	10	1.2 _a	.41	6	1.31
Psychotherapy	2.8 _c	.39	43	2.4 _{bc}	.78	58	2.1 _b	.74	10	1.5 _a	.55	6	9.56*
Rational emotive therapy	2.1 _c	.71	43	1.7 _{bc}	.69	58	1.5 _{bc}	.53	10	1.2 _{ab}	.41	6	6.76*
Staffing ratio (inmates/staff)	20.0 _a	14.2	39	17.2 _a	10.7	51	29.6 _a	25.8	9	17.2 _a	5.5	6	2.20

NOTE: Means with differing subscripts are statistically different at the .05 level, using Tukey-B posthoc comparison tests. **p* < .05 (one-way ANOVA). ***p* < .01 (one-way ANOVA). ****p* < .001 (one-way ANOVA).

TABLE 2: Criteria for Client Selection, Program Completion, and Discharge: Selected Results

Variable Names and Values	Education			Outpatient			DATU			TC			
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	F
Selection Criteria ^a													
Level of motivation	2.2 _c	.81	43	1.7 _{bc}	.74	57	1.7 _{bc}	.48	10	1.2 _{ab}	.41	6	5.98*
Level of drug involvement	1.5 _a	.77	43	1.5 _a	.60	57	1.5 _a	.53	10	1.0 _a	.00	6	1.22
Type of current offense	2.1 _a	.86	43	2.3 _a	.86	57	2.2 _a	.79	10	2.5 _a	.55	6	0.77
Amount of time served	2.0 _a	.83	42	2.4 _a	.81	57	2.3 _a	.68	10	2.2 _a	.75	6	1.58
History of institutional violence	2.3 _c	.62	41	2.5 _c	.71	57	1.8 _{bc}	.79	10	1.5 _{ab}	.84	6	5.45*
Criteria for successful completion													
Drug and alcohol knowledge test	1.7 _a	.83	43	2.5 _b	.63	56	2.0 _{ab}	.82	10	1.6 _a	.55	5	9.94***
Measures of attitudinal or behavioral change	1.9 _a	.92	44	1.5 _a	.68	57	1.5 _a	.71	10	1.2 _a	.41	6	2.62
Case progress review	2.4 _b	.73	43	1.9 _b	.65	56	1.3 _a	.48	10	1.0 _a	.00	6	15.35***
Reasons for unsuccessful discharge ^a													
Violation of program rules	1.2 _a	.50	43	1.1 _a	.26	58	1.3 _a	.48	10	1.0 _a	.00	6	1.71
Violation of institutional rules	1.1 _a	.33	44	1.1 _a	.31	58	1.0 _a	.00	10	1.0 _a	.00	6	0.52
Inadequate attitudinal or behavioral change	2.1 _b	.65	44	1.9 _{ab}	.69	58	1.5 _{ab}	.71	10	1.3 _a	.52	6	4.05**
Poor attendance	1.2 _a	.58	44	1.0 _a	.18	58	1.2 _a	.42	10	1.3 _a	.52	6	2.86*
Inappropriate behavior in group	1.2 _{ab}	.49	44	1.1 _a	.31	58	1.6 _b	.52	10	1.5 _{ab}	.55	6	5.34**
Case progress review	2.5 _c	.79	44	2.0 _{bc}	.79	58	1.4 _{ab}	.70	10	1.0 _a	.00	6	10.12***

NOTE: Means with differing subscripts are statistically different at the .05 level, using Tukey-B posthoc comparison tests.

a. For all variables, 1 = very important, 2 = somewhat important, 3 = not very important.

* $p < .05$ (one-way ANOVA). ** $p < .01$ (one-way ANOVA). *** $p < .001$ (one-way ANOVA).

results is presented here. The final report for this project included 78 results tables examining between- and within-program differences across the state prison system (Welsh, 2001).

Program Structure and Content

Program duration and intensity. Prison-based AOD programs evidenced considerable variation in duration and intensity (Table 1). Here, we focus on differences between program types to illustrate that *both the nature and quantity of "treatment" that an inmate receives depends a great deal on which type of program he or she is assigned to.* On average, the TC programs lasted much longer (mean = 46 weeks) and provided many more total hours of programming per week (mean = 30 hours/week) than any other program type. Education programs lasted anywhere from 4 to 32 weeks (mean = 12 weeks), outpatient programs lasted anywhere from 4 to 36 weeks (mean = 13 weeks), and DATUs ranged from 8 to 52 weeks (mean = 22 weeks).

Differences in intensity (e.g., treatment hours per week) also distinguished these program types. Education programs provided anywhere from 1 to 14 hours of programming per week (mean = 3 hours), outpatient programs provided anywhere from 1 to 28 hours per week (mean = 3 hours), DATU ranged from 2 to 20 hours per week (mean = 8 hours), and TC programs provided 15-40 hours per week (mean = 30 hours).

TC was far more likely than other program types to address diverse inmate needs including but not limited to substance abuse (e.g., criminality and lifestyle issues); education was least likely to do so. Outpatient programs tended to emphasize certain areas (e.g., thinking errors, problem-solving skills, and relapse prevention) but neglect others (e.g., AIDS and models of addiction). Individualized treatment plans were developed for inmates in all six TC programs (100%) but in only 5 (12%) education programs, 19 (34%) outpatient programs, and 5 (50%) DATU programs. Counselors were assigned to work with individual inmates in 5 (83%) TC programs and 7 (70%) DATU programs but in only 29 (50%) outpatient and only 10 (23%) education programs.

Treatment approach. First, we examined between-program differences to identify to what degree programs used similar or different approaches. Although prison-based drug treatment is eclectic, drawing on various treatment approaches, two (cognitive-behavioral and rational emotive therapy) were frequently cited as primary approaches. Each provides a structured approach to identifying and analyzing thoughts, values, and beliefs associated with drug use and criminal behavior (e.g., "triggers" for relapse). TC was much more likely than any other program type to emphasize a primary

treatment approach of any sort. Psychotherapy, used infrequently overall, was relatively common among TC programs (50%), likely due to the traditional TC emphases on group therapy and peer-oriented confrontation (De Leon, 2000).

Although we would expect to see differences in treatment approaches used by different program types, substantial variability observed within program types other than TC was a cause for concern. For example, 31 (53%) outpatient programs reported cognitive behavioral therapy as the primary approach, 20 (35%) reported it as a secondary approach, and 7 (12%) claimed that it was not used at all. Similarly, psychotherapy was reported as a primary approach for 10 outpatient programs (17%) and a secondary approach for 12 programs (21%), but 36 programs (62%) did not use psychotherapy at all. Nineteen education programs (45%) reported cognitive behavioral therapy as a primary approach, 15 (36%) reported it as a secondary approach, and 8 (19%) claimed it was not used at all.

Program content. Programs were asked how much time they spent on different types of content (1 = a great deal, 2 = moderate, 3 = very little, 4 = none). Although space limitations preclude detailed discussion of within-program results, three examples illustrate substantial variability within education programs. First, 12 (27%) education programs reported spending a great deal of time on problem-solving skills, 16 (36%) spent a moderate amount of time, 15 (34%) spent very little time, and 1 (2%) spent no time on this topic at all. Second, 11 (25%) education programs reported spending a great deal of time on life skills, 17 (39%) reported spending a moderate amount of time, 14 (32%) spent very little time, and 2 (5%) spent no time at all on this topic. Third, 12 (27%) education programs reported spending a great deal of time on stress management, 14 (32%) reported spending a moderate amount of time, 13 (30%) spent very little time, and 5 (11%) spent no time at all on this topic. Outpatient programs evidenced similar variability.

Staffing. Patient-to-staff ratios varied substantially within program types, illustrating a strong need for greater standardization. TC was the most consistent (9:1-16:1), DATU the least (8:1-92:1), and education (5:1-64:1) and outpatient (7:1-60:1) were in between.

To the degree that treatment personnel in different programs have different types of responsibilities, between-program differences in staffing are also relevant. Different program types such as TC place unique demands on treatment staff, and adequate numbers of well-trained, experienced staff are critical to the success of any treatment program (De Leon, 2000). TC and outpatient had the lowest mean inmate/staff ratios (17:1), DATU had the highest (30:1), and education (20:1) was in between (Table 1).

Target Selection and Program Completion Criteria

Because different programs should correctly identify and treat inmates with different levels of risk and need (Cullen & Gendreau, 2000), we would expect to find differences in target selection and program completion criteria throughout the four program types.

Selection criteria. Although all program types emphasized an inmate's *level of drug involvement* (Table 2), programs differed on two other selection criteria: *inmate motivation* and *institutional violence*. TC tended to place a greater emphasis on these two criteria than the other program types. Because TC units house participating inmates together, a greater consideration of institutional violence appears well advised.

Amount of time served is a criterion intended to place inmates into programs that can be completed prior to their minimum release date, a goal with potentially important legal and practical ramifications (e.g., the need to provide court- or parole-mandated treatment prior to the inmate's release from custody). This factor seemed less important, however, than other selection criteria. No significant differences were observed throughout the four program types. Similarly, criteria involving an inmate's criminal history (e.g., *type of current offense*) had very little influence on AOD program placement decisions.

Criteria for unsuccessful discharge. A high proportion of inmates entering drug treatment programs fail to complete them; dropout rates vary from 30% to 90% (Simpson, Joe, Broome, Hiller, Knight, & Rowan-Szal, 1997; Young, 2002). Several criteria were consistent among program types (Table 2): *violation of program rules*, *violation of institutional rules*, and *poor attendance* were all rated important regardless of program type (Table 2).⁹ *Inadequate attitudinal or behavioral change* was rated as "very important" most often for TC and least often for education, with outpatient and DATU in between. *Inappropriate behavior in group* was somewhat more important for education and outpatient than for DATU or TC. *Case progress review* was most important for TC.

Criteria for successful program completion. Except for TC, in which very specific tasks, skills, and other indicators of progress must be demonstrated at each phase (De Leon, 2000), most programs required completion of a specific number of hours for graduation. There was little difference between education (mean = 14 hours) and outpatient (mean = 18 hours) in this regard; DATUs required about twice as many hours (mean = 38 hours) (Table 1).

The importance of other criteria for program completion varied substantially (Table 2). A *drug and alcohol knowledge test* was rated as more important by education programs than outpatient ones (means = 1.7 versus 2.5), but as very important by only 22 educational programs (51%). For the other three program types, measures of attitudinal or behavioral change and case progress review were more often rated as very important. Case progress review tended to be rated as very important for TC (100%) and DATU (70%) programs, but rarely for outpatient (27%) or education (14%) programs.

*One-Day Symposium With
Drug and Alcohol Treatment Staff*

With input from 44 drug and alcohol treatment specialists (DATS) representing the 24 institutions, we were able to focus on key differences in treatment programming identified by the census. The first focus group was asked to discuss reasons for within-program variability in intensity and duration: "Why is there so much variation in the amount and type of programming provided across institutions, especially education and outpatient?" Four major types of responses were reported. First, staff suggested, different institutions have somewhat different histories and missions. For example, higher security institutions are more likely to tailor treatment programs toward high-risk inmates. Second, AOD programming at each institution was originally guided less by department-wide guidelines than by the treatment orientations and experience of individual staff. Staff generally agreed that greater programming standards were now needed. Third, staff suggested, because demand for drug treatment in prison is so high, staff felt that they often had little time or opportunity to focus on consistency in programming. Treatment specialists often perceived a gap between the resources required for AOD programming (e.g., needs for physical space, treatment personnel, and materials) compared to the resources available.

A second focus group was asked about between-program criteria for successful program completion: "Why weren't measures of attitudinal and behavioral change rated as more important for program completion and/or unsuccessful discharge across different program types?" and "What other factors determine successful versus unsuccessful discharge?" Treatment staff confirmed that criteria varied depending on program type. For example, measures of attitude and behavior change are critically important in a TC. Only a very limited amount of time is, however, spent with inmates in other programs, including education and outpatient. As one specialist stated, "We treat huge numbers, but we don't really know people." In addition, staff may be hesitant to terminate inmates from programs because they are acutely

aware that an unsuccessful program discharge means that the inmate will likely be denied parole.

We asked a third group to examine reasons for within-program variation in content: “Why do some types of program content receive much less emphasis than others?” and “Why does content vary so much even within the same program type (e.g., education)?” We heard three major types of responses. First, prior to our study, there were few specific departmental guidelines about what topics to include in each program type. Second, staff suggested, some topics (e.g., HIV/AIDS) were already covered in other programs. For example, DOC has an HIV/AIDS education program offered through each institution’s medical department. In addition, the needs and abilities of inmates in specific programs and/or institutions may vary considerably, influencing choices about program content. For example, according to staff, some inmates may lack the intellectual skills needed to comprehend complex concepts such as pharmacology. Time limits also set limitations on the type of program content that can feasibly be offered (e.g., a program that meets for only 2 hours per week for 6 weeks has limited capacity to address diverse inmate needs).

We asked a fourth group about between-program differences in target selection criteria: “Why isn’t level of drug involvement and motivation more important for program admission in all programs?” Although assessments conducted by qualified clinical personnel should logically drive program placement decisions, other factors can override such considerations. For example, Prescriptive Program Planning (PPP) may already mandate AOD treatment regardless of any assessment made by AOD staff. Other personnel (e.g., a parole board) may require completion of a specific treatment program as a means of establishing parole eligibility. As one counselor stated, “We can’t refuse to treat inmates.” Good assessment decisions may require more information, time, or other resources that are unavailable at the time an inmate applies for treatment. More thorough assessments of individual needs often followed rather than preceded program placement.

DISCUSSION

Results identified a number of critical issues regarding prison-based drug treatment programming and policies. Within certain program types (i.e., TC), we found high levels of consistency (e.g., primary treatment approach and program content). Within other program types, we found considerable variation (e.g., program duration, intensity, and staffing; target selection criteria; and program placement decisions). It is unlikely that the within-program variation in drug and alcohol programming reported in this article is

unique to Pennsylvania. Process evaluations of prison-based drug and alcohol treatment in other states have reported numerous implementation difficulties including inadequate numbers of trained and experienced counseling staff and lack of standardized screening, assessment, and selection processes (e.g., Inciardi et al., 1992; Martin et al., 1995).

Following presentation and discussion of our findings with steering committee members, we made specific recommendations to revise prison-based drug treatment programming and policies. To be useful to a specific agency, recommendations must to some degree be localized, short term, timely, useable, and policy relevant. More general principles and recommendations applicable to a nationwide audience were, however, also formulated. We summarize those recommendations below.

Recommendations for Prison-Based Drug Treatment Policies

Recommendation #1. Correctional agencies should make greater use of standardized instruments for screening inmates' level of need for treatment, readiness for treatment, and psychological functioning to (a) improve program selection and placement decisions, (b) inform treatment planning, and (c) construct comparison groups in valid evaluation research designs. DOC, for example, has reviewed its tools for screening and assessing the substance abuse problems and needs of inmates, as well as its procedures for placing them into programs. Research results pointed out the importance of placing the right inmates into the right program types for the right reasons, and researchers recommended a more structured approach to inmate screening and assessment. For example, DOC reviewed the drug and alcohol screening instrument (the PACSI) developed and validated inhouse within the Department during the 1990s, and DOC concluded that a standardized instrument such as the TCU Drug Screen would better suit their needs.¹⁰

We also recommended that DOC delegate a subcommittee to make recommendations about the use of specific clinical assessment tools to be used for AOD programs. The process evaluation revealed that a variegated battery of clinical instruments was being administered throughout institutions (mainly to TC inmates) but only *after* an inmate was admitted to a program. Although these assessments took some time to administer, they had little observable influence on individualized treatment planning. A more comprehensive and standardized assessment package, including instruments such as the TCU Initial Intake Form (Simpson, 1994; Simpson & Knight, 1998), has been adopted (Pennsylvania Department of Corrections, 2001). The objective is to ensure that inmates enter programs that best meet their needs, level of risk, and readiness for change. The DOC is presently pilot-testing a battery

of tools for the assessment of other criminogenic needs, such as antisocial cognitions and attitudes.

Recommendation #2. The mission of drug and alcohol education and outpatient treatment programs within the full spectrum of AOD programming offered by correctional agencies deserves careful consideration and review. The findings of substantial within-program variation in drug education and outpatient treatment programs indicate a need for more standardized procedures. For example, we recommended development of a program rating system that reflects the intensity level of each drug and alcohol program offered to inmates at each institution. Written policies and procedures for different types of programs also needed to be more clear, complete, and consistent among institutions.

Our findings contributed to an overall program standardization effort that was underway in the department. The committee overseeing the standardization effort reviewed our research findings carefully and used our conclusions and recommendations in their planning efforts (Pennsylvania Department of Corrections, 2001). Explicit policies regarding program duration, content, structure, and selection criteria have now been created for each program type. Standardization will promote more consistent delivery of services and facilitate the development of a more cohesive, consistent treatment system.

Recommendation #3. Correctional agencies should develop overall information system capacities regarding offender program participation. We recommended that DOC continue to update (on an annual basis) the AOD Program Database created through the program census. Census results were partially intended to provide DOC with useful information for program management and monitoring, and such information has proven vital for informing the research design of outcome evaluations (e.g., designing appropriate treatment and comparison groups). We need more reliable, current information about programs as well as offenders in order to understand how offender characteristics interact with program process (e.g., program duration and treatment approach) to influence outcome. Correctional administrators across the U.S. stated that they often lack the basic information needed to formulate new policies or to defend existing practices (U.S. Department of Justice, 1998).

Recommendation #4. Correctional agencies should carefully examine programming priorities and resources required for prison-based drug treatment programs. Based on research findings illustrating substantial between-program differences, we recommended that programming priorities (e.g., the extensive use of low-intensity education and outpatient programs) be reeval-

uated. Nationwide, it is unlikely that even a majority of inmates with serious substance abuse problems receive intensive treatment (Lipton, 1995). The Department used research findings and recommendations to revise drug treatment programming, policies, and priorities (Pennsylvania Department of Corrections, 2001). Pennsylvania now places a much greater emphasis on providing more intensive forms of treatment (especially TC) to addicted inmates. Twenty-three TC units with a total of 1,334 beds now operate at 15 state correctional institutions. Of the 1,334 total TC beds, 430 (32%) were added in the past 2 years.

CONCLUSION

Results of the prison-based drug treatment program census identified substantial variability in AOD programming, even within the same program type. We discussed the implications of these findings for program development and evaluation, including how the research has affected drug treatment policies within the Pennsylvania Department of Corrections (e.g., a comprehensive program standardization initiative). The context in which this research has taken place is that of organizational learning (Argyris, 1982), by which the department, in cooperation with researchers, actively seeks information about the strengths, weaknesses, and overall effectiveness of these programs (Welsh, Zajac, Gnall, West, & Close, 2001; Zajac, 2002).

Efforts to design, monitor, and evaluate drug treatment programs in local and state correctional systems would benefit greatly from more careful attention to mapping critical dimensions of program structure, content, and process than has previously been the case (Welsh & Zajac, 2001). To demonstrate that a program (X) produces any specific outcome such as lowered recidivism (Y), we must be able to specify what X was in the first place. Otherwise, the program becomes a "black box" that defies description (Hiller et al., 1999). How do we know what treatment components were delivered or to what degree implementation varied among different sites? How can we form valid comparison groups for outcome evaluation absent a rigorous mapping of programmatic characteristics?¹¹

This descriptive approach should precede and inform meaningful research designs examining drug treatment effects (Welsh & Harris, 1999). This task is by no means utopian: "Hopefully, combinations of features can be found that are germane to important offender needs and circumstances that exist in a number of targets, that is, which are relevant to needs that are common to those targets" (Palmer, 1995, p. 116). The challenge is not to measure *every* possible programmatic feature but to identify the ones most *relevant* to particular targets (e.g., drug-addicted offenders) and settings

(prisons). It is our hope that we have made progress toward identifying such features of prison-based drug treatment and that such analysis will further inform program planning, refinement, and evaluation.

NOTES

1. Ancillary groups such as self-help and peer counseling are also offered to inmates as supplements to formal treatment or when slots are not available in the more intensive treatment modalities.

2. The purpose of housing inmates together on a DATU is primarily one of administrative convenience: Inmates can be assigned to drug and alcohol groups that meet nearby to minimize their movement through the institution. In stark contrast to a TC, a DATU has neither a unifying treatment approach nor a self-governing community structure.

3. For example, any additive “scale” that would group items asking to what degree different treatment approaches were emphasized would not be meaningful in any theoretical or practical sense.

4. Discussions during census development with three drug and alcohol treatment supervisors indicated a lack of consensus about the definitions of several approaches. Rather than offering respondents detailed definitions of debatable validity in the census instrument, we asked census respondents (certified addictions counselors) to use standard clinical definitions of each approach.

5. An additional prison for young adult offenders, SCI-Pine Grove, was opened after this research was conducted.

6. To ensure reliability of the data, we followed up with respondents to obtain any missing program information. We also identified any outliers or unusual responses and followed up with respondents in attempts to correct any discrepancies detected. The DOC research and evaluation manager capably assisted us in these efforts. Although the number of corrections made to program census data was not extensive, we wanted to ensure that the data were as accurate as possible and that no outliers severely influenced subsequent data analyses.

7. All instruments, including the AOD Program Census, are available in the final report for this project. The report is available online at <http://www.ncjrs.org/pdffiles1/nij/grants/197067.pdf> (Welsh, 2001).

8. Although the level of measurement for many of the census items is ordinal rather than interval, this is not usually problematic. As Kerlinger (1986) argued, “Ordinal measurement requires that the objects of a set can be rank-ordered on an operationally defined characteristic or property. The so-called transitivity postulate must be satisfied: If a is greater than b, and b is greater than c, then a is greater than c” (p. 399). Most measurement in behavioral research (intelligence, aptitude, and personality test scores) depends on this postulate. Most Likert-type items (e.g., 1-5 scales) assume some rank ordering of responses but not equal intervals—they are ordinal. At the same time, these are continuous variables, not categorical, and ANOVA rather than chi-square is a commonly used statistical technique for analysis of such variables. We can often assume that ordinal-level measures approximate interval-level measures without serious consequences, and the results we get from assuming equal intervals “are quite satisfactory” (Kerlinger, 1986, p. 402) because most ordinal measures approximate interval equality fairly well: “The best procedure would seem to be to treat ordinal measurements as though they were interval measurements, but to be constantly alert to the possibility of gross inequality of intervals” (Kerlinger, 1986, p. 403).

9. Although a significant overall *F* statistic was found for poor attendance, no pairwise comparisons revealed significant differences. We thus favor a conservative interpretation of the results: No significant differences could be detected in this population. The observed discrepancy between the overall *F* test and the pairwise comparisons is likely due to high variance within each group as well as unequal sample sizes.

10. In response to recommendations by researchers, based on results of the AOD program census and process evaluations, DOC began using the TCU Drug Screen in January 2001 to screen all inmates for AOD treatment needs (Simpson, 1994; Simpson & Knight, 1998). The TCU Drug Screen has been widely used and validated with inmate populations (Broome, Knight, Joe, & Simpson, 1996; Peters et al., 1998).

11. A major product intended as a result of this research was the development of a valid research design to evaluate outcomes of prison-based drug treatment. Informed by results of the AOD Program Census, the choice of a sampling strategy was guided by a review of major descriptors of drug and alcohol programming at all DOC institutions, including the number of treatment slots available at each institution for inmates with varying levels of need. Through the AOD Program database developed through our research partnership and through the generous access provided by DOC to its automated databases, we were able to account for differences among treatment programs (e.g., content, structure, duration, and intensity) and individuals (e.g., levels of need and risk, and treatment exposure), and use this information to design valid comparison groups. Postrelease data collection is now underway.

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