Utah Cost of Crime

Therapeutic Communities in Secure Settings for Substance-abusing Offenders (Juveniles): Technical Report

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COLLEGE OF SOCIAL WORK
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Therapeutic Communities in Secure Settings for Substance-abusing Offenders (Juveniles): Technical Report

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In 2009, there were 5,804 arrests for every 100,000 youth between the ages of 10 and 17 in the United States (OJJDP, 2011). Research has demonstrated that the majority of youth entering the justice system have substance abuse issues and drug use as a juvenile has been shown to be related to criminal behavior as an adult (VanderWaal, McBride, Terry-McElrath, & VanBuren, 2001). Evidence suggests that early intervention with substance-abusing youth can reduce the frequency of use and related behaviors, including delinquency (Watson, 2004). VanderWaal et al. (2001) identify the following promising approaches: Balanced and Restorative Justice, graduated sanctions, systems collaboration, and integrated case management. Considering the unique physical, psychological, and developmental challenges of the juvenile justice population, no single form of treatment is effective for the population as a whole. Nevertheless, effective treatment has been shown to reduce recidivism among juveniles up to 80 percent (PLNDP, 2002).

Therapeutic communities (TCs) are a treatment option commonly used in prisons or jails to address the substance abuse treatment needs of adult offenders while they are incarcerated. TCs are residential settings that use a hierarchical model of care combined with treatment stages that reflect increased levels of personal and social responsibility. Unlike other treatment models, TCs utilize a "community as method" approach that sees treatment staff and those in recovery as agents of change. TC members interact in structured and unstructured ways to influence attitudes, perceptions, and behaviors associated with drug use and antisocial activities. Another fundamental component of a TC is "self-help," where the individuals themselves are main contributors to the change process. Of all incarceration-based drug treatment programs, TCs are the most intensive and typically the longest in duration (6 to 12 months). Dembo, Williams, and Schmeidler (1993) suggest modifying the TC model for use with juveniles to take into consideration youth specific needs (e.g., education) and variations in drug use and history.

Prior Research
Research on the effectiveness of therapeutic communities for juvenile offenders is limited, but meta-analytic reviews of the effectiveness of TCs for reducing criminal behavior in adults suggest promising results (Aos, Miller, & Drake, 2006; Holloway, Bennett, & Farrington, 2006; Mitchell, Mackenzie, & Wilson, 2007; Pearson & Lipton, 1999; Perry et al., 2009; Smith, Gates, & Foxcroft, 2006). When compared to treatment as usual, secure TCs for substance-abusing offenders are associated with lower rates of future offending. No meta-analyses have been conducted to evaluate the impact of the TC model on recidivism among juveniles. Three quasi-experimental studies evaluating the impact of juvenile TCs on recidivism reported small positive treatment effects; however, the effects were not statistically significant (Gordon, 2002; Miller & Miller, 2011; Pealer, 2004).

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Methods

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Inclusion Criteria
A systematic review was conducted, in accordance with the protocol outlined by PRISMA, to identify studies for inclusion in this meta-analysis (Moher, Liberati, Tetzlaff, & Altman, 2009). The study authors identified eligibility criteria for population, intervention, setting,

outcome, and methodology (see Methods Report for further explanation of the search strategy). Studies had to meet the following criteria to be eligible:

a) Both the treatment group and the comparison/control group must consist of adolescent offenders (between the ages of 12 and 21 and/or processed by the juvenile justice system). The intervention must target the criminal behavior of general offenders. Studies of specific populations (e.g. sex offenders, mentally ill offenders) were excluded from this study.

b) Both experimental and quasi-experimental evaluations were eligible for inclusion. Quasi-experimental studies had to use matching or statistical methods to demonstrate equivalence between the treatment and comparison group. The comparison group could receive treatment as usual, alternative treatment, or no treatment; however, the comparison group could not consist of program drop outs.

c) Evaluations had to utilize a therapeutic community with the following elements: residents live in a separate unit within a secure facility; treatment focused on substance use; peer influence, mediated through a variety of group processes, used to help individuals learn and assimilate social norms and develop more effective social skills; strict and explicit behavioral norms reinforced with specific contingencies (rewards and punishments); and a hierarchal progression toward increased privileges and responsibilities. No work release, community- and/or probation-based TCs were included. TCs for sex offenders or inmates with co-occurring disorders were not included.

d) Evaluations had to report a post-treatment measure of criminal recidivism--such as arrest, conviction, incarceration, or delinquency – as an outcome. Recidivism data from official sources was preferred, but studies using only self-report recidivism measures were also eligible.

e) Included studies had to provide sufficient quantitative results to compute an effect size. Given the interest in recidivism, dichotomous data were preferred (e.g. odds-ratios). If the study only included continuous measures, effect sizes were calculated and converted into odds-ratios using log odds (see Methods Report).

Retrieving and Screening Studies
The initial literature search identified 1,108 citations, from which researchers pulled 111 studies for further evaluation. Full articles were screened by one researcher, which resulted in 3 studies that met inclusion criteria and were coded. Twenty-percent (20%) of the full text articles (k=22) were double-screened for inclusion by a researcher; all disagreements were resolved through discussion with the research team. One of the included studies was identified as a report on the same study population and excluded from the analysis. In total, only two (2) studies were included in the final analysis (see Appendix A).

Extracting Data
The research team developed a detailed code sheet and manual, which included variables related to study quality, program characteristics, participant characteristics, and treatment variables (see Methods Report for a full description of coding variables). One author coded

all of the studies and entered the data into an Excel spreadsheet. Ten percent (10%) of included studies were double-coded (k=1), by a second researcher; discrepancies were resolved through discussion. To assess study quality, the authors used a modified version of The Maryland Scale of Scientific Rigor (Aos, Phipps, Barnoski, & Lieb 2001; Gottfredson, MacKenzie, Reuter, & Bushway, 1997). Studies that received a rating lower than "3" (unmatched comparison group or no comparison group) out of five possible points, were excluded. Where studies reported multiple measures of recidivism, researchers selected the broadest measure (e.g., arrest over conviction). Outcome data were collected on general recidivism only. Studies were classified as secure-based if the intervention took place in a prison, jail, or psychiatric hospital.

Analysis
Data were coded into an Excel spreadsheet, which allowed researchers to calculate descriptive statistics for the full sample. The authors then recoded variables, to condense data into comparable units wherein each study contributed only one effect size to each outcome measure, and entered those into Comprehensive Meta-Analysis (CMA, version 2). Using CMA, the authors assessed heterogeneity using the Q and I-squared statistics (see Results section). The Q statistic is a test of the null hypothesis: a significant value (p<.05) indicates that the variation between studies was greater than one would expect if the difference could be explained entirely by random error (Borenstein, Hedges, Higgins, & Rothstein, 2009). Because the Q statistic is not a precise measure of the magnitude of dispersion between studies, the authors conducted additional analyses to quantify the proportion of variance that could be attributed to differences in study characteristics (such as setting, population, and intervention). The I-squared statistic (values range from 0% to 100%) provides an estimate of how much of the variation between studies can be explained by random error: values near 0 indicate that all of the difference can be explained by random error. Values at 25%, 50% and 75% are, respectively, considered low, moderate, and large heterogeneity (Piquero & Weisburd, 2010). Given the range of study characteristics present in this sample, a random effects model, which assumes variability between studies differences (Piquero & Weisburd, 2010), was used to generate a summary effect size for each outcome measure. All data was coded and transformed into odds-ratios, with values above one (1) indicating a negative treatment effect and values below one (1) indicating a positive treatment effect (i.e., reduced recidivism rates for offenders who participated in treatment).

Results

Sample characteristics
All studies evaluated secure TCs for substance-abusing juvenile offenders in the United States. One of the reports was an unpublished technical report conducted by a private organization and the other study was published in a peer-reviewed journal. Both studies received a score of three out of five on study quality, utilized a 12 month follow-up period, and used an all-male sample. The total sample size ranged from 129 to 412 and the entire sample describes 561 offenders participating in TC and 535 offenders in comparison groups (see Appendix B for characteristics of included studies).

Table 1: Characteristics of studies included in meta-analysis (N=2)

Study Characteristics	Frequency	%
Publication type		
Peer-reviewed journal	1	50
Unpublished technical report	1	50
Sample location		
U.S.	2	100
Canada	-	-
Other	-	-
Methodological Quality		
5: Random Control Trial (RCT)	-	-
4: High quality quasi-experimental[1*]	-	-
3: Quasi-experimental with testing or matching	2	100
Dropouts enumerated	-	-

[1]Employs a quasi-experimental research design with a program and matched comparison group, controlling with instrumental variables or Heckman approach to modeling self-selection. May also include RCT with problems in implementation.

Meta-analysis

General recidivism for male youth offenders was examined in 2 studies. In both cases, results favored the intervention; however, neither were significant (p<0.05). The random effects mean odds-ratio was 0.86 (95% CI of 0.64 to 1.15, p=0.31), indicating that the treatment groups had lower rates of general recidivism than the comparison groups but the results were not statistically significant (see Appendix C).

Given the small sample size in this meta-analysis, the results presented here should be interpreted with caution. Neither of the two included studies found statistically significant differences between treatment and control group participants. Gordon (2002) found that substance-abusing male youth (11 to 17 years old) in a medium security TC were no less likely to be rearrested upon release than a comparison group (OR = 0.84, p=0.30). Study results did reveal increased substance use upon release in relation to comparison youth. One possible explanation for the apparent increased substance use by the treatment group was greater supervision by parole officers, which presumably resulted in increased detection. The authors attributed the lack of significant findings to the adaptation and implementation of the TC model in an institutional setting and the lack of aftercare. Miller and Miller (2011) found no significant differences in parole failure (revocation and/or recidivism combined) between substance-abusing male youth (17 to 25 years old) in a modified TC and comparison group youth (OR=0.93, p=0.83). The authors acknowledged operational problems and research design challenges that contributed to the lack of stronger results and concluded that additional research, using rigorous designs, is needed on the use of an adult treatment model in juvenile settings.

Limitations

Any meta-analysis is only as good as the comprehensiveness of the sample of included studies. While the authors sought to identify all eligible studies, the possibility exists, nonetheless, that the search did not identify all the extant research on Therapeutic

Communities (TC) in secure settings for juveniles. In some cases, the researchers identified studies that appeared to meet inclusion criteria, but were unable to obtain those studies, despite extensive searching. Furthermore, the results of a meta-analysis depend on the quantity and quality of the available primary research. The research team only identified two studies that were eligible for inclusion in this review and neither was a random control trial. Finally, the studies included here are diverse in terms of setting, dosage, study quality, and outcome measures. While the researchers created narrow inclusion criteria to account for study-level differences, future research should examine those study characteristics in moderator analyses, to identify specific treatment characteristics that are associated with the largest treatment effects.

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Watson, D. (2004). Juvenile offender comprehensive reentry substance abuse treatment. *The Journal of Correctional Education, 55* (3), 211-224.

Included Studies
Note: The studies marked with an asterisk were included in this analysis. The studies without an asterisk are eligible but statistically dependent

*Gordon, J. A. (2002). *Barrett Juvenile Correctional Center: Is it effective? A comparison of youth released from a residential substance-abuse treatment center to youth at a traditional juvenile correctional center: Final report.* Arlington, VA: Virginia Commonwealth University.

Miller, J. M., & Koons-Witt, B. (2003). *Outcome evaluation of the South Carolina Residential Substance Abuse Treatment Program for state prisoners.* Washington, D.C: United States Department of Justice.

*Miller, J. M., & Miller, H. V. (2011). Considering the effectiveness of drug treatment behind bars: Findings from the South Carolina RSAT evaluation. *Justice Quarterly, 28*(1), 70-86.

APPENDIX A: Search Results

Search: Title and Abstract
Search Limiters: Date Range
(1987-2011), English

Records identified through database searching and other sources

Articles screened by reviewing abstracts:
1. Exclude reviews, theoretical articles, or correlational studies
2. Exclude studies that do not have a comparison group
3. Exclude dissertations
4. Exclude articles unable to be obtained
5. Exclude studies conducted outside the U.S. or Canada that are not published in peer reviewed journals

111 reports meet inclusion criteria
Full text of all articles screened.

Articles screened by reading full-text articles.
Criteria 1-5 above plus additional criteria:
6. Must report on a quantitative outcome variable of recidivism
7. Must demonstrate equivalence between treatment and comparison groups
8. Must meet specific TC program criteria

3 studies meet final inclusion criteria

1 study excluded for statistical dependence

2 primary studies of secure TCs for substance-abusing juvenile offenders coded and included in Meta-analysis

APPENDIX D: Table of Included Studies

Author	Date	N in Each Group		Study Design	General Recidivism	
		Treatment	Control		Odds-ratio	95% CI
Gordon	2002	412	406	Retrospective matching	0.84	0.60, 1.17
Miller & Miller	2011	149	129	Convenience with testing	0.93	0.50, 1.74
Total Sample = 1096						