

Utah Cost of Crime

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

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THE UNIVERSITY OF UTAH

Utah Criminal Justice Center

COLLEGE OF SOCIAL WORK
COLLEGE OF SOCIAL & BEHAVIORAL SCIENCES
UTAH COMMISSION ON CRIMINAL AND JUVENILE JUSTICE
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**Therapeutic Communities in Secure Settings for Substance-abusing
Offenders (Adults):
Technical Report**

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Between 70% and 85% of the U.S. prison population is in need of some level of substance abuse treatment (Office of National Drug Control Policy, 2009). The link between drug use and crime has been substantiated in an extensive body of research, leading many to the conclusion that treatment is a necessary component of preventing offenders from reoffending after release from custody (Harrison & Gfroerer, 1992; Lipton, 1998; Wexler, 1995). Therapeutic communities (TCs) are a treatment option commonly used in prisons or jails to address the substance abuse treatment needs of 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).

Therapeutic Communities (TCs) were first implemented in U.S. psychiatric hospitals in the 1950s, extending to community-based substance abuse programs in the 1960s, and eventually to prisons in the late 1960s (Canode, 2007). The development of the prison TC model can be attributed to a rapidly increasing prison population and a growing awareness of the link between drugs and crime (Wexler & Prendergast, 2010). TCs were developed as an offshoot of the Alcoholics Anonymous (AA) model in order to treat "hard core" heroin-dependent criminals. Subsequently, the model has evolved to include a broader perspective and population, serving individuals from a diverse demographic who are severely dependent on drugs (Gerstein, 1992; Wexler, 1995). The success of the TC model has led to its application with specific populations including women (Sacks et al., 2008), inmates with co-occurring disorders (Sacks, Banks, McKendrick, & Sacks, 2008), and youth (Gordon, 2002).

Prior Research

Growth in the acceptance of prison TCs has been fueled by the increase in outcome research starting in the 1980s. The main program evaluations were conducted by Cornerstone in Oregon (Field, 1985, 1989), Stay 'n Out in New York (Wexler, et al., 1990), KEY/CREST in Delaware (Inciardi et al, 1997; Martin et al., 1999), New Vision in Texas (Knight, K. Simpson, D., & Hiller, M., 1999), Amity in California (Wexler et al., 1999, Prendergast et al., 2004), and the Federal Bureau of Prison programs (Pelissier et al. 2000). Results have generally been positive, favoring in-prison TC treatment over comparison groups.

Meta-analytic reviews of the effectiveness of TCs targeting substance abuse for reducing criminal behavior (Aos, Miller, & Drake, 2006; Holloway, Bennett, & Farrington, 2006; Mitchell, Mackenzie, & Wilson, 2007; Pearson & Lipton, 1999; Perry et al., 2009; Smith, Gates, & Foxcroft, 2006) suggest promising results. However these reviews include offenders involved in a variety of substance abuse interventions; in community-based, correction-based, and outpatient treatments; and in one case include studies evaluating

populations of offenders and non-offenders. As a result, the findings are limited and not generalizable; nonetheless, 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 females or juveniles.

TCs have emerged as one of the primary approaches for the treatment of substance abuse for criminal offenders in a secure-care setting (Prendergast & Wexler, 2004), in part because research supports their impact on recidivism. Questions persist in the literature and research is being conducted to identify which particular program characteristics (e.g., length of treatment, the combination of TC and aftercare, implementation practices) are associated with the largest effects (Farabee et al., 1999; Linhorst, Knight, Johnston, & Trickey, 2001; Wexler & Prendergast, 2010).

Methods

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 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.
- b) Evaluations had to utilize a therapeutic community with the following elements: residents live in a separate unit within a secure facility (prison, jail, or psychiatric hospital); 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 progression through a hierarchy of 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.
- c) Evaluations had to report a post-treatment measure of criminal recidivism, such as arrest, conviction, or incarceration – as an outcome. Recidivism data from official sources was preferred, but studies using only self-report recidivism measures were also eligible.
- d) 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 30 studies that met inclusion criteria. After removal of studies that were ineligible or used overlapping samples, 21 studies met inclusion criteria and were coded. Twenty-percent (20%) of the full text articles (k=22) were double-screened for inclusion by a researcher. Nine of the included studies were identified as follow-up reports on the same study population. In order to avoid statistical dependence created by using multiple effect sizes from the same population, outcomes were included for only one timeframe from each study. Because the cost model was based on three to five year recidivism rates, the outcome closest to this timeframe was used in the analysis. In total, 20 studies (representing 25 comparisons and 29 manuscripts) were included in the final analysis (see Appendix A for PRISMA chart).

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=2), 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. Studies were classified as including aftercare if participation was mandatory following secure TC completion. In cases where aftercare was voluntary, the TC-only group comparisons were included and the TC with aftercare group was excluded.

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 offenders in the United States. Five of the reports were unpublished technical reports, conducted by government or private entities, and the remaining studies were published in peer-reviewed journals (15). Two studies received a score of five out of five on study quality and the remaining studies (90%) received a score of three or four. Three studies reported the outcomes for more than one TC, which were analyzed as separate samples. Six studies, representing seven comparisons, examined TCs that only served female offenders. Only one comparison evaluated a TC with mandatory aftercare. One evaluation was conducted in jail, with all others occurring in prisons. The majority of comparisons (21) evaluated TC participation as the treatment condition, compared to “treatment as usual.” Most of the studies (65%) included multiple outcome variables and follow-up periods. Follow-up periods ranged from six months to five years. The 20 included studies represent 25 independent comparisons. The total sample size ranged from 217 to 12,230 and the entire sample describes 10,611 offenders participating in TC and 15,158 offenders in comparison groups (see Appendix B for characteristics of included studies).

Table 1 Characteristics of studies included in meta-analysis (N=20)

Study Characteristics	Frequency	%
Publication type		
Peer-reviewed journal	15	75
Unpublished technical report	5	25
Sample location		
U.S.	20	100
Canada	-	-
Other	-	-
Methodological Quality		
5: Random Control Trial (RCT)	2	10
4: High quality quasi-experimental ^{1*}	1	5

Study Characteristics	Frequency	%
3: Quasi-experimental with testing or matching	17	85
Dropouts enumerated	14	70

¹Employs 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 both male and female offenders combined was examined in 25 comparisons. In 20 of those, results favored the intervention (15 were significant at $p < 0.05$). The odds-ratios for general recidivism ranged from 0.25 to 1.14. The random effects mean odds-ratio was 0.68 (95% CI of 0.60 to 0.75, $p < 0.001$), indicating that the treatment groups had significantly lower rates of general recidivism than the comparison groups (see Appendix C). The Q test revealed significant heterogeneity between studies ($Q = 60.74$, $df = 24$, $p < 0.01$, $I^2 = 60.49$), which means that the studies did not share a common effect size. Following the omnibus meta-analysis, studies were grouped by gender for further moderator analysis.

General recidivism by gender. Secure TCs for males were the most commonly evaluated program (18 comparisons). Fourteen comparisons favored treatment (12 significant at $p < 0.05$). The random effects mean odds-ratio was 0.69 (95% CI 0.61 to 0.78, $p < .001$) indicating a significant reduction in recidivism for the intervention group. The Q test revealed significant heterogeneity ($p < 0.001$). Secure TCs for females were evaluated in 7 comparisons (6 studies), of which 6 favored the treatment (3 significant at $p < 0.05$). The random effects mean odds-ratio was 0.63 (95% CI 0.5 to 0.79, $p < .001$) indicating a significant reduction in recidivism for the intervention group. The Q test was not significant ($p = 0.31$), which means that the effects are generally homogeneous and the mean OR is representative of the effects across studies. The between-groups Q test was not significant ($Q = 0.46$, $df = 1$, $p = 0.50$). This suggests that although there is a slightly larger effect for females in TCs than males (OR 0.63 vs. 0.69), this difference is not statistically significant.

None of the included studies that followed TC participation with aftercare allowed us to make a direct comparison between TCs with and without aftercare; however, findings point to the effectiveness of coupling the two approaches.

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. 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. Only two of the included studies were random control trials. Finally, the studies included here reflect significant heterogeneity in terms of offenders, settings, 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.

References

- Aos, S., Miller, M., & Drake, E. (2006). Evidence-based public policy options to reduce future prison construction, criminal justice costs, and crime rates. Olympia, WA: Washington Institute for Public Policy.
- Aos, S., Phipps, P., Barnoski, R., & Lieb, R. (2001). The comparative costs and benefits of programs to reduce crime, v. 4. Olympia, WA: Washington State Institution for Public Policy.
- Borenstein, M., Hedges, L. V., Higgins, J. P. T., & Rothstein, H. R. (2009). Introduction to meta-analysis. West Sussex, United Kingdom: Wiley & Sons.
- Canode, B. (2007). Therapeutic communities in prison: An evidence-based tool for treating drug involved offenders in prison. A review and discussion of the literature on prison-based therapeutic communities in the United States. (Unpublished Terminal Project). University of Oregon, Eugene, OR.
- Farabee, D., Prendergast, M., Cartier, J., Wexler, H., Knight, K., & Anglin, D. (1999). Barriers to implementing effective correctional drug treatment programs. *The Prison Journal*, 79, 150-162.
- Field, G. (1985). The Cornerstone Program: A client outcome study. *Federal Probation* (49), 50-55.
- Field, G. (1989). A study of the effects of intensive treatment on reducing the criminal recidivism of addicted offenders. *Federal Probation*, 53(10), 51-56.
- Gerstein, D. (1992). The effectiveness of drug treatment. *Research Publications - Association for Research in Nervous and Mental Disease*, 70, 253-282.
- 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.
- Gottfredson, S. L., MacKenzie, D., Eck, J., Reuter, P., & Bushway, S. (1997). Preventing crime, what works, what doesn't, what's promising. Washington, DC: U. S. Department of Justice.
- Harrison, L., & Gfroerer, J. (1992). The intersection of drug use and criminal behavior: Results from the National Household Survey on Drug Abuse. *Drug Use and Crime*, 38(4), 422-443.

- Holloway, K. R., Bennett, T. H., & Farrington, D. P. (2006). The effectiveness of drug treatment programs in reducing criminal behavior: A meta-analysis. *Psicothema, 18*(3), 620-629.
- Knight, K. Simpson, D., & Hiller, M. (1999). Three-year reincarceration outcomes for in-prison therapeutic community treatment in Texas. *The Prison Journal, 79*(3), 337-351.
- Linhorst, D., Knight, K., Johnston, J., & Trickey, M. (2001). Situational influences on the implementation of a prison-based therapeutic community. *The Prison Journal, 81*(4), 436-452.
- Lipsey, M. W., & Wilson, D. B. (2001). Practical meta-analysis. Thousand Oaks, CA: Sage.
- Lipton, D. (1998). Treatment of drug abusing offenders during correctional supervision: A nationwide overview. *Journal of Offender Rehabilitation, 26*(3/4), 1-45.
- MacKenzie, D. (2006). What works in corrections: Reducing the criminal activities of offenders and delinquents. New York: Cambridge University Press.
- Martin, S., Butzin, C., Saum, C., & Inciardi, J. (1999). Three-year outcomes of therapeutic community treatment for drug-involved offenders in Delaware: From prison to work release to aftercare. *The Prison Journal, 79*(3), 294-320.
- Mitchell, O., Wilson, D. B., & MacKenzie, D. L. (2007). Does incarceration-based drug treatment reduce recidivism? A meta-analytic synthesis of the research. *Journal of Experimental Criminology, 3*(4), 353-375.
- Moher, D., Liberati, A., Tetzlaff, J., Altman D. G. & The PRISMA Group. (2009). Preferred reporting items for systematic reviews and meta-analyses: The PRISMA statement. *PLoS Med 6*(7):0 e1000097.
- Pearson, F. S., & Lipton, D. S. (1999). A Meta-analytic review of the effectiveness of corrections-based treatments for drug abuse. *Prison Journal, 79*(4), 384-410.
- Perry, A., Darwin, Z., Godfrey, C., McDougall, C., Lunn, J., Glanville, J., & Coulton, S. (2009). The effectiveness of interventions for drug-using offenders in the courts, secure establishments and the community: A systematic Review. *Substance Use & Misuse, 44*, 374-400.
- Prendergast, M., & Wexler, H. (2004). Correctional substance abuse treatment programs in California: A historical perspective. *Prison Journal, 84*(1), 8-35.
- Piquero, A. R., & Weisburn, D. (2010). Handbook of quantitative criminology. New York: Springer.

Office of National Drug Control Policy (2009). *National Drug Control Strategy: 2009 Annual Report*. Washington, DC: Office of the President.

Sacks, S., Banks, S., McKendrick, K., & Sacks, J. (2008). Modified therapeutic community for co-occurring disorders: A summary of four studies. *Journal of Substance Abuse Treatment, 24*(1), 112-122.

Smith, L.A., Gates, S., & Foxcroft, D. (2006). Therapeutic communities for substance related disorder. *Cochrane Database of Systematic Reviews 2006, Issue 1*. Art. No.: CD005338. DOI:10.1002/14651858.CD005338.pub2.

Wexler, H. K. (1995). The success of therapeutic communities for substance abusers in American prisons. *Journal of Psychoactive Drugs, 27*(1), 57-65.

Wexler, H. K., & Prendergast, M. L. (2010). Therapeutic communities in United States' prisons: Effectiveness and challenges. *Therapeutic Communities, 31*(2), 157-175.

Included Studies

Note: The studies marked with the asterisk (*) were included in the analyses reported here. Studies without an asterisk are eligible but statistically dependent.

*Daley M., Love C. T., Shepard, D. S., Petersen C. B., White K. L., & Hall F. B. (2004). Cost effectiveness of Connecticut's in-prison substance abuse treatment. *Journal of Offender Rehabilitation, 39*, 69-92.

*Duwe, G. (2010). Prison-based chemical dependency treatment in Minnesota: An outcome evaluation. *Journal of Experimental Criminology, 6*(1), 57-81.

Eisenberg, M., & Fabelo, T. (1995). *In-depth review of the evaluation of the Texas Correctional Substance Abuse Treatment Initiative*. Austin, TX: Criminal Justice Policy Council.

*Fabelo, T., & Eisenberg, M. (1999). *Three year recidivism tracking of offenders participating in substance abuse treatment programs*. Austin, TX: Criminal Justice Policy Council.

*Inciardi, J. A., Martin, S. S., Butzin, C. A., Hooper, R. M., & Harrison, L. D. (1997). An effective model of prison-based treatment for drug-involved offenders. *Journal of Drug Issues, 27*(2), 261-278.

*Klebe, K. J., & O'Keefe, M. (2004). *Outcome evaluation of the Crossroads to Freedom House & Peer I therapeutic communities*. National Institute of Justice: Local evaluations of the residential substance abuse treatment for State prisoners program, Grant # 99-RT-VX-K021.

- *Messina, N., Burdon, W., & Prendergast, M. (2006). Prison-based treatment for drug-dependent women offenders: Treatment versus no treatment. *Journal of Psychoactive Drugs, SARCSUPPL3*, 333-343.
- Mosher, C., & Phillips, D. (2002). *Program evaluation of the Pine Lodge pre-release residential therapeutic community for women offenders in Washington State: Final report*. Pullman, WA: Washington State University.
- *Mosher, C., & Phillips, D. (2006). The dynamics of a prison-based therapeutic community for women offenders: Retention, completion, and outcomes. *The Prison Journal, 86*(1), 6-31.
- Olson, D., & Rohzon, J. (2011). *Process and impact evaluation of the Southwestern Illinois Correctional Center Therapeutic Community Program during fiscal years 2007 through 2010*. Chicago, IL: Illinois Criminal Justice Information Authority.
- *Olson, D., & Rohzon, J. (2011). *Process and impact evaluation of the Southwestern Illinois Correctional Center Therapeutic Community Program during fiscal years 2004 through 2010*. Chicago, IL: Illinois Criminal Justice Information Authority.
- *Pealer, J., & Latessa, E. (2002). The effectiveness of a prison-based therapeutic community in reducing arrest and incarceration. *Ohio Corrections Research Compendium*, Vol. 1.
- *Pelissier, B., Rhodes, W., Saylor, W., Gaes, G., Camp, S., Vanyur, S., Wallace, S. (2000). *TRIAD Drug treatment evaluation of project final report of three-year outcomes*. Washington, DC: Federal Bureau of Prisons, Office of Research and Evaluation.
- *Peters, R. H., Kearns, W. D., Murrin, M. R., Dolente, A. S., & May li, R. L. (1993). Examining the effectiveness of in-jail substance abuse treatment. *Journal of Offender Rehabilitation, 19*(3/4), 1-39.
- *Prendergast, M. L., Hall, E. A., Wexler, H. K., Melnick, G., & Cao, Y. (2004). Amity Prison-Based Therapeutic Community 5-year outcomes. *The Prison Journal, 84*(1), 36-60.
- *Sacks, J. Y., Sacks, S., McKendrick, K., Banks, S., Schoeneberger, M., Hamilton, Z., & Shoemaker, J. (2008). Prison therapeutic community treatment for female offenders: Profiles and preliminary findings for mental health and other variables. *Journal of Offender Rehabilitation, 46*(3-4), 233-261.
- * Utah Department of Corrections. (2011). *Con-Quest: Outcome evaluation of a residential substance abuse program (Research Brief)*. Salt Lake City, UT: Author.
- *Utah Department of Corrections. (2011). *Ex-Cell: Outcome evaluation of a residential substance abuse program (Research Brief)*. Salt Lake City, UT: Author.

- *Utah Department of Corrections (2011). *Hope: Outcome evaluation of a residential substance abuse program (Research in Brief)*. Salt Lake City, UT: Author.
- *Watson, L., Adkins, G., Cook, M., & Stageberg, P. (2010). *Process and outcome evaluation of the STAR (Sisters Together Achieving Recovery) Program*. Des Moines, IA: Iowa Department of Human Rights, Division of Criminal and Juvenile Justice Planning, Statistical Analysis Center.
- Welsh, W. N. (2003). *Evaluation of prison-based therapeutic community drug treatment programs in Pennsylvania. Final research report*. Harrisburg, PA: Pennsylvania Commission on Crime and Delinquency.
- *Welsh, W. N. (2007). A Multisite evaluation of prison-based therapeutic community drug treatment. *Criminal Justice and Behavior*, 34(11), 1481-1498.
- Wexler, H. K., De Leon, G., Thomas, G., Kressel, D., & Peters, J. (1999). The Amity Prison TC Evaluation: Reincarceration outcomes. *Criminal Justice and Behavior*, 26(2), 147-167.
- *Wexler, H. K., Falkin, G. P., & Lipton, D. S. (1990). Outcome evaluation of a prison therapeutic community for substance abuse treatment. *Criminal Justice & Behavior*, 17(1), 71-92.
- Wexler, H. K., Melnick, G., Lowe, L., & Peters, J. (1999). Three-year reincarceration outcomes for Amity In-Prison Therapeutic Community and aftercare in California. *Prison Journal*, 79(3), 321-336.
- *Zhang, S. X., Roberts, R. E. L., & McCollister, K. E. (2009). Therapeutic community in a California prison: Treatment outcomes after 5 years. *Crime and Delinquency*, 57(1), 82-101.

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 procured and printed for screening and review.

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

21 studies meet final inclusion criteria.

1 study excluded for
statistical dependence

20 primary studies of secure TCs for
substance abusing offenders coded and
included in Meta-analysis (reflecting 29
reports)

APPENDIX B: Table of Included Studies

Author	Date	Population	N in Each Group		Study Design	General Recidivism	
			Treatment	Control		Odds-ratio	95% CI
Daley et al.	2004	Adult Male	72	545	Convenience with testing	0.34	0.19, 0.60
Duwe	2010	Adult Male	926	926	Matched	0.86	0.71, 1.03
Fabelo & Eisenberg	1999	Adult Male	279	395	Convenience with testing	1.00	0.73, 1.36
Inciardi et al.	1997	Adult Male	37	180	Convenience with testing	1.13	0.55, 2.31
Inciardi et al.	1997	Adult Male	43	180	Convenience with testing	0.25	0.12, 0.55
Klebe & O'Keefe	2004	Adult Male	418	232	Convenience with testing	1.09	0.78, 1.51
Messina et al.	2003	Adult Female	168	125	Matched	0.48	0.21, 1.11
Mosher & Phillips	2006	Adult Female	279	279	Matched	0.68	0.46, 1.00
Olson & Rohzon	2011	Adult Male	4152	8078	Convenience with testing	0.75	0.70, 0.81
Pealer & Latessa	2002	Adult Male	273	258	Convenience with testing	0.56	0.40, 0.80
Pelissier et al.	2000	Adult Male	948	894	Convenience with testing	0.73	0.60, 0.89
Pelissier et al.	2000	Adult Female	245	228	Convenience with testing	1.00	0.62, 1.65
Peters et al.	1993	Adult Male	168	252	Convenience with testing	0.80	0.53, 1.21
Prendergast et al.	2004	Adult Male	341	235	Random	0.62	0.41, 0.95
Sacks et al.	2008	Adult Female	163	151	Random	0.37	0.19, 0.72
UDC – Con-Quest	2011	Adult Male	395	395	Matched	0.54	0.41, 0.71
UDC – Ex-Cell	2011	Adult Female	115	115	Matched	0.59	0.34, 1.00
UDC – Hope	2011	Adult Male	232	232	Matched	0.55	0.38, 0.80
Watson et al.	2010	Adult Male	164	173	Matched	0.51	0.31, 0.84
Welsh	2007	Adult Male	217	491	Convenience with testing	0.61	0.43, 0.88
Wexler et al.	1990	Adult Male	435	159	Convenience with testing	0.53	0.31, 0.88
Wexler et al.	1990	Adult Male	435	261	Convenience with testing	0.56	0.40, 0.77
Wexler et al.	1990	Adult Female	247	38	Convenience with testing	0.70	0.31, 1.58
Wexler et al.	1990	Adult Female	247	113	Convenience with testing	0.53	0.36, 0.78
Zhang et al.	2009	Adult Male	294	403	Matched	1.14	0.79, 1.66
Total Sample = 25,769							