

COMMONWEALTH OF PENNSYLVANIA
Department of Corrections
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SUBJECT: *Research in Review*

TO: Executive Staff
 Superintendents
 Other Readers

FROM: Gary Zajac, Ph.D. Kristofer Bret Bucklen
 Chief of Research and Evaluation Chief of Projections and Population Statistics

Enclosed please find Volume 12, Number 2 of *Research in Review* (RIR). With this issue of RIR, we continue with summarizing findings from evaluation projects that have been conducted within the Department.

This issue features a summary and commentary on the outcome evaluation of the Department's Therapeutic Communities (TC's) for the treatment of drug and alcohol abuse. TC's are the Department's most intensive and rigorous drug treatment programs and serve the most seriously addicted inmates. This study was conducted by Dr. Wayne Welsh of the Department of Criminal Justice at Temple University with funding from the Pennsylvania Commission on Crime and Delinquency. This study examined long term outcomes associated with participation in prison TC, with nearly 3,000 inmates in the sample being followed for at least five years after release from prison. Dr. Welsh had previously completed a process evaluation of the Department's addiction programs.

This outcome evaluation has found that TC reduces recidivism by nearly ten percentage points, compared to similar inmates not receiving such treatment. This represents one of the largest and longest term studies of prison TC ever undertaken. These results broadly concur with other national evaluations of prison TC, lending confidence to the conclusion that intensive prison drug treatment can be an effective means of recidivism reduction. This report represents the culmination of a ten year research effort with Temple that has supported a decision to expand the Department's TC capacity over the past several years.

We welcome your feedback on RIR. We also welcome your suggestions for specific topical areas for future issues. While we cannot promise that we can produce an issue in response to all suggestions offered, we are very much interested in knowing what questions and topics are most interesting to our readers. Future issues of RIR will continue with a review of our own departmental evaluation projects, as well as article reviews, book reviews, and other relevant pieces.

Thank you for your continued interest in *Research in Review*.

Research in Review

Bureau of Planning, Research, Statistics and Grants

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Special Focus on *Pennsylvania DOC Evaluation Agenda*

Volume 12, Number 2 of *Research in Review* continues with the focus on research and evaluation projects conducted within the Pennsylvania Department of Corrections. This issue highlights contributions made by our own organization to the national literature on evidence based correctional treatment. As many readers of RIR know, the Pennsylvania Department of Corrections maintains an active agenda for evaluating its inmate treatment programs. A summary of the Department's program evaluation agenda and major projects can be found at:

<http://www.cor.state.pa.us/stats/cwp/view.asp?a=384&q=136160> (or on DOCNET at: <http://docnet.cor.state.pa.us/stats/cwp/view.asp?a=1495&q=453239>).

This issue of RIR features a summary of the outcome evaluation of the Therapeutic Communities (TC's) for the treatment of drug and alcohol abuse, conducted by Dr. Wayne Welsh of the Department of Criminal Justice at Temple University. The report summarized here is the culmination of a series of studies begun with Dr. Welsh in 1998, with funding from the Pennsylvania Commission on Crime and Delinquency and the National Institute of Justice. TC's represent the most intensive form of drug treatment available within the PADO. This study has now tracked a very large group of inmates for at least five years after release from prison, to examine their outcomes relative to a comparison group of similar inmates not receiving TC. This study has found that TC reduces recidivism by nearly ten percentage points, which parallels findings from studies of prison TC's in other states. On the last page is a discussion of the PADO's response to this study.

Earlier findings from the outcome evaluation were discussed in 2003 in Volume 6, Number 4 of RIR, and results from the TC process evaluation were in Volume 6, Number 1. Previous RIR's can be accessed at: <http://www.cor.state.pa.us/stats/cwp/view.asp?a=384&q=135838&statsNav=|> (or on DOCNET at: <http://docnet.cor.state.pa.us/stats/cwp/view.asp?a=1495&q=434227&statsNav=|>).

The next issue of RIR will feature a review of the National Institute on Drug Abuse's Criminal Justice Drug and Alcohol Treatment Study (CJDATS), which is the next step in evaluation of drug treatment within the PADO. Other upcoming issues will feature summaries of recently completed partnership evaluations, such as the outcome evaluation of our Community Orientation Reintegration (COR) program with Dr. Linda Smith.

LONG TERM OUTCOMES OF PRISON TC IN PENNSYLVANIA

by

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The Problem

Therapeutic community (TC) drug treatment programs have become the preferred treatment approach in correctional settings. Previous evaluations of prison-based TC have produced promising results, including significant reductions in recidivism over follow-up periods ranging from three to five years. However, studies have also been criticized for small sample sizes, less-than-optimal research designs (e.g., uncontrolled selection and attrition biases), and insufficient attention to interactions between inmate characteristics, treatment process, and treatment outcomes (e.g., rearrest, reincarceration, drug relapse). No studies have examined prison-based TC across multiple sites while controlling for individual and programmatic variations in analyses of outcome. Numerous questions remain about the true impact of prison-based TC, and the potential impacts of unmeasured variations in inmate characteristics, treatment programs, and multiple outcome measures.

Purpose of This Project

The purpose of this project was to examine multiple, post-release outcomes over a post-release period of five years for inmates who participated in Therapeutic Community (TC) drug treatment programs or comparison groups at five Pennsylvania State Correctional Institutions (SCI's). The research was greatly facilitated by a strong, collaborative research partnership between Temple University and the Department of Corrections which began in 1998 and continues to the present.

Research Design

Using a combination of automated databases and manual data collection techniques, we collected post-release data (e.g., reincarceration, rearrest, drug relapse, employment) on 2,809 inmates admitted to a drug treatment program at five state correctional institutions (SCI) between January and November of 2000. Adhering to principles of informed consent, we previously collected pre-treatment (e.g., demographics, criminal history, and assessed need for drug treatment) and in-treatment data (e.g., psychosocial functioning, inmate responses to treatment) for all research subjects.

The current grant allowed us to add 1,079 additional cases (i.e., new releases from prison) to a prior research sample, increasing our total n to 2,693 cases, and extending the post-release follow-up period to five years. We examined in-treatment predictors and multiple post-release outcomes for inmates who participated in TC drug treatment programs (n = 749) or comparison groups (n = 2,060) at five state prisons. Matched comparison groups made up of TC-eligible inmates participating in

less intensive forms of treatment (e.g., short-term drug education and outpatient treatment groups) at the same five institutions were constructed based upon known predictors such as drug dependency, need for treatment and criminal history. Process and outcome measures incorporated a range of institutional, intermediate (e.g., attitudinal and behavioral change, participation in treatment) and post-release measures (e.g., drug relapse, rearrest and reincarceration).

Major Results

No prior studies have simultaneously examined or reported all three outcomes used in this study. Three different outcomes (reincarceration, rearrest, and drug relapse) were tracked for the experimental (TC) and control groups for up to five years or more, making these results comparable to the longest follow-up studies on prison TC conducted to date. In addition, this study had a much larger sample than previous studies, and was better able to account for individual and programmatic differences across multiple sites. Three main research questions were examined.

1. *How effective are in-prison TC programs in reducing drug relapse and recidivism rates (rearrest and reincarceration), and do in-prison therapeutic community programs improve long term outcomes of released offenders (i.e., length of time without drug relapse, rearrest or reincarceration)?*
2. *Which kinds of inmates benefit most from in-prison TC programs?*
3. *How do inmate v. programmatic factors independently and interactively influence long term outcomes?*

Effectiveness of Prison-Based TC Drug Treatment

- *Major results are shown in the table below. TC had a strong, significant impact on reducing the probability of reincarceration over the five year follow-up period. The effect on rearrest was marginally significant ($p < .09$); the effect on drug relapse was minimal. Possible explanations for these findings are discussed in the report.*
- The non-significant effect of TC on drug relapse accords with mixed findings from prior research. Only one of the three major prison TC studies (Delaware) examined drug urinalysis as an outcome and found significant treatment effects. While prison TC addresses both addiction and criminal behavior, it is clear that the two types of behavior can exist independently, and drug using behavior appears more resistant to change.
- In contrast to previous studies, prison TC alone *did* result in a significant mean effect size for reincarceration and rearrest. In prior studies, TC reduced drug relapse *only* when mandatory

aftercare was provided. Mandatory aftercare may thus be more important for reducing *drug relapse* than *criminal recidivism*.

- Most inmates who were reincarcerated in this sample were returned to prison for a parole violation rather than a new conviction. Increases in parole violations (especially for technical parole violations such as drug or alcohol use), rather than increases in crime per se, have fueled rapidly increasing rates of incarceration observed over recent years. Our results, therefore, support arguments that changes in crime control *policies*, rather than crime rates per se, are the major drivers of incarceration rates.
- The first twelve months following release from prison are a particularly critical period of reentry. A very high short-term failure rate was observed for relapse in particular, suggesting that much greater efforts are needed to improve successful reintegration for drug-involved offenders. Much more comprehensive and coordinated efforts are needed to address both risk and protective factors during the first year back from prison.

Major Results: Effects of TC and Other Predictors on Three Measures of Outcome

Outcome	Comparison Group	TC Group	Was TC Effective?	Other Significant Predictors (+ or - indicates direction of effect on outcome)
Reincarceration Rate	59.3%	50.5%	Yes (p < .05)	Time remaining until minimum release date (-); Successful completion of TC (-), Post-release employment (-), Time at risk in the community (-).
Rearrest Rate	59.3%	52.3%	Marginally (p < .09)	Time remaining until minimum release date (-); Age (-); Current Offense Severity (-); Prior Offense Severity (+); Post-release employment (-); Time at risk in the community (-).
Drug Relapse Rate	51.2%	50.8%	No (p > .10)	Time remaining until minimum release date (-); Post-release employment (-); Need for treatment (+);

Inmate characteristics predictive of long term success

- One of the most consistent empirical findings in criminology is that previous criminality predicts future criminality. However, for two out of three outcomes examined (reincarceration and drug relapse), prior offense severity had no effect at all.

- Only for rearrest did we find a significant (positive) relationship with prior criminality. Even then, prior offense severity dropped out of the equation after all control variables were entered. Results question arguments that criminal propensity remains stable throughout the life course. Rather, criminal propensity appears to be changeable in response to intensive, well-structured treatment (i.e., prison based TC).
- Current offense severity actually predicted lower rates of rearrest (even after entering all control variables); this lends further ambiguity to the idea that prior criminal behavior is a stable predictor of future criminal behavior. PADOC's own studies have found consistently lower rates for violent and sex offenders than for property and drug offenders. Part of the explanation is that less serious crimes such as property and drug offenses are committed more frequently, while serious crimes such as rape and murder are rarer.
- Results supported arguments that dynamic rather than static predictors are better predictors of recidivism, and that criminal "propensity," if such a thing exists independently of an individual's social context and experience, may be malleable in response to well-implemented, intensive criminal justice interventions, as well as other turning points.
- Inmates who had more time remaining in their minimum sentence upon admission to prison drug treatment had lower reincarceration, rearrest, and drug relapse rates upon release from prison. It is possible that inmates who were motivated to participate in drug treatment benefited from receiving treatment somewhat earlier in their sentence. A second possibility is that there was a "deterioration effect" of treatment over time, at least for inmates who remained in prison following successful treatment completion.
- Inmates who successfully completed treatment had lower reincarceration and rearrest rates than those who did not. However, when personality characteristics (motivation, negative affect, and self confrontation) were entered into regression equations, the effects of treatment retention became nonsignificant. It is likely, therefore, that dynamic individual characteristics such as motivation influence one's likelihood of both entering and completing treatment.
- Inmates who were at risk in the community for longer periods of time did better on the post-release outcomes of reincarceration and rearrest (although time at risk was examined mainly as a variable to control for the passage of time). This effect remained after controlling for baseline individual characteristics. It appears that inmates who did not recidivate during the first two years of their release from prison had a higher likelihood of desisting from crime.
- Inmates who were employed full-time or part-time did much better than those who were unemployed and/or unable to work (confirming results of prior studies). In fact, the magnitude of effect of post-release employment was stronger than that of treatment (i.e., participation in TC). Inmates employed full-time showed the lowest rates of reincarceration and drug relapse. For rearrest, however, only older inmates benefited from fulltime employment. Relationships between employment, recovery, recidivism, and relapse are discussed further in the report.

- An age effect was found for rearrest only, and was based on official records rather than offender self-reports. Consistent with previous research, younger offenders had higher rates of rearrest. However, older (rather than younger) offenders had slightly higher rates of drug relapse. These results are consistent with the findings of Laub and Sampson (2003), who found that the peak age for drug offending was later and the rate of decline in drug offending over time was slower.

Influence of Individual and Programmatic Factors on Long Term Success

- Psychosocial characteristics of inmates *at baseline* (e.g., anxiety, depression, hostility) were not strong predictors of post-release outcomes; post-release employment remained the strongest predictor.
- No significant interactions between TC program and individual inmate characteristics predicted rearrest, reincarceration, or drug relapse. These results hint that *post-release contextual variables* (e.g., human and social capital) rather than *individual* factors are more predictive of successful reentry. However, individual inmate “traits” may also change over time in response to treatment, as well as in response to post-release factors such as social supports, opportunities, peer associations, etc.
- Treatment effects were invariant across the five institutions, although variance in outcomes was greatest for drug relapse. All five programs previously evidenced implementation fidelity, and all five programs were of similar duration. Programs did vary somewhat on dropout rate and other contextual factors, however (see *Methods* section).
- There is little doubt that assessing programmatic and institutional variation in independent (e.g., treatment) and dependent (e.g., recidivism) measures can be a useful exercise both for theoretical and policy purposes. However, the relatively small number of programs assessed remains a substantial challenge for researchers that seek to examine between-program characteristics.

Implications and Recommendations for Policy

It is generally agreed that a multistage therapeutic community treatment continuum (TCTC) for drug dependent offenders (e.g., TC treatment in prison, followed by transitional TC in a work-release setting, followed by supervision and aftercare treatment in the community) is associated with significant reductions in drug use and crime for up to 5 years after prison release. This evidence-based intervention has become the dominant paradigm for treating drug dependent inmates. Our results support evidence regarding the efficacy of this approach, but also highlight some pressing needs for further research.

Unexamined variations in TCTC implementation practices (e.g., staff selection, training, and evaluation) and implementation outcomes (e.g., fidelity) are likely to influence client outcomes, especially when multiple programs, institutions, agencies, and measures are examined. Despite recommendations that treatment researchers need to more systematically measure implementation processes as predictors of treatment outcomes, researchers have been relatively slow to assess such factors. Between-program, between-unit, and between-agency differences in implementation practices and outcomes may threaten the internal validity of many multisite outcome studies. Policy-relevant research would benefit greatly from more careful attention to mapping critical dimensions of implementation associated with TCTC, and examining how diverse implementation practices (including core implementation components, organizational factors, and external influences) influence outcomes.

Several other policy-relevant questions about prison TC remain unanswered. Perhaps most important among these are “*How long does prison-based TC need to be in order to be effective?*” Studies are needed to address questions about the stability and generalizability of prison TC effectiveness, given that the definitive studies were all based on treatment durations of 12 months or more, while the *majority* of prison drug treatment programs (61%) now last 6 months or less. Almost no research has specifically sought to identify the minimum length of treatment needed to realize significant reductions in post-release criminal behavior and drug abuse.

In general, policy-relevant research should further explore more detailed interactions between inmate characteristics, treatment process, and post-release outcomes. There is good reason to believe that prison TC can be a life altering experience for many drug involved offenders, but future research should incorporate a longitudinal perspective that includes more detailed assessments of the diverse individual, programmatic and environmental influences of offender behavior pre-, during-, and post-prison.

Limitations

- Missing data on the instruments measuring inmate responsiveness to treatment (REST and CRC) at Time 2 (6 months) and Time 3 (12 months) limited our ability to examine inmate responsiveness to treatment over time, or examine relationships between during-treatment change and recidivism. More research is definitely needed to assess to what degree dynamic risk factors change over time in response to prison-based TC drug treatment, and what kinds of individuals may be most likely to benefit from well-implemented TC treatment.
- In the current study, major variables predictive of recidivism were statistically controlled, constituting a strong alternative to a randomized experiment (Mitchell et al., 2006; Pearson & Lipton, 1999). It is still possible, however, that unmeasured sources of bias could have influenced the results. Well-crafted experimental and longitudinal studies are still needed to examine inmate responsiveness to treatment and long term outcomes.

- While we cannot rule out the possibility that some inmates may have received some kind of post-release aftercare treatment, the lack of mandatory aftercare treatment for released offenders in PA and the scarcity (and expense) of residential beds available for ex-offenders seriously restrict the likelihood that such services were provided on any meaningful scale to inmates in our sample. It is possible that previous studies may have overstated the effects of community aftercare, and understated the independent effects of prison TC treatment on long term outcomes. However, glaring differences in definitions and implementation of aftercare services across jurisdictions have inhibited advances in this area of research.
- Although the measurement of employment preceded the measurement of recidivism in the present study, more detailed, longitudinal data on pre- and post-release employment (e.g., type of employment, employee performance, earnings) are needed to examine how non-relapsing or non-recidivating parolees differ from others. However, none of the control variables examined in this study substantially weakened the observed relationships between post-release employment and three different measures of recidivism, suggesting that the effect of post-release employment is robust.
- It is possible that larger samples of programs may yield different findings. Two of the five TC units studied were quite large (100+ inmates), and staffing ratios (inmates per counselor) ranged from 9:1 to 26:1. Although overall program dropout rates were low, two programs evidenced lower rates than the others. More systematic assessments of programs as well as individuals are needed, as are larger samples of programs.

Conclusions

- Participation in intensive prison-based TC drug treatment produced significant, long term reductions in recidivism. However, in contrast to previous studies, prison TC exerted strong, significant treatment effects *independently* of community aftercare, and did so across five different prison sites.
- The effects of prison TC drug treatment varied depending upon the outcome examined. TC significantly lowered the likelihood of reincarceration and rearrest, but not drug relapse. Post release employment emerged as the strongest predictor of all three outcomes.
- Further research should explore how both individual and programmatic variations influence treatment outcomes over time, and explore why prison-based drug treatment seems to have stronger effects on reducing criminal behavior than drug using behavior. The effects of prison TC and aftercare (both independent v. cumulative and short-term v. long-term) remain ripe areas for future research.

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Pearson, F. & Lipton, D. (1999). A meta-analytic review of the effectiveness of corrections-based treatments for drug abuse. *The Prison Journal*, 79, 384-410.

ENDNOTE:

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"A Multi-Site Evaluation of Prison-Based Drug Treatment: A Research Partnership Between the Pennsylvania Department of Corrections and Temple University. " Wayne Welsh (Temple University) Principal Investigator. Pennsylvania Commission on Crime and Delinquency – Grant # 04-DS-19-15286. January 2005 – March 2008.

More information about this project and results are found in the full evaluation report (available from the Pennsylvania Department of Corrections at <http://www.cor.state.pa.us/stats/lib/stats/TempleTCOutcomeEvaluationFinalReporttoPCCD.pdf> , or on DOCNET at <http://docnet.cor.state.pa.us/stats/lib/stats/TempleTCOutcomeEvaluationFinalReporttoPCCD.pdf>):

Wayne N. Welsh. (April 2009). *A Multi-Site Evaluation of Prison Based Drug Treatment: A Research Partnership Between the Pennsylvania Department of Corrections and Temple University*. Philadelphia: Temple University. Report to the Pennsylvania Commission on Crime and Delinquency.

**THE PENNSYLVANIA DEPARTMENT OF CORRECTIONS REPOSE:
BUILDING UPON TREATMENT STRENGTHS**

In some respects, discussing an agency's response to an evaluation is easier when the evaluation reveals poor program performance. In that case, one can talk at length about action plans to address program weakness and to redevelop the program. When an evaluation finds good program performance, as is the case with the Temple TC evaluation, one is tempted to simply say: "Well, we will just keep doing what we're doing!". There is a logic to this response. Programs that have shown evidence of effectiveness should be replicated, and ideally studied even further.

When we began this research partnership with Temple University in 1998, the PADOc had only approximately ten TC programs statewide. Most of our State Correctional Institutions (SCI's) did not have a TC. As of May 2009, the PADOc runs 45 TC programs, with each SCI having at least one TC, for a total bed capacity of over 2,100. We are now able to offer these services to many more inmates than ever in the past. We also revised our drug treatment policy several years ago to reflect the latest research on evidence based practices. This expansion and evolution of our drug treatment systems owes no small debt to the research undertaken with Temple. Through this research, we are confident that TC is a worthwhile service to provide to the seriously addicted inmates in our custody.

Looking beyond Pennsylvania, the study reported on here represents the culmination of a decade long effort to open the "black box" of prison drug treatment, to find out exactly what is going on in there and what difference it makes. This work has contributed to a national dialogue on the effectiveness of such treatment, and to a body of literature on the outcomes of TC's in particular (see RIR Vol. 3, No's 1&2; Vol. 4, No.2; Vol. 7, No.1). Indeed, our study is one of the longest, largest and most rigorous evaluations of prison TC. Thus, the research done here is valuable not only for Pennsylvania, but for the correctional profession nationwide.

Looking to the future, while this particular study may now be completed, we are not done with our work on offender drug treatment. The PADOc recently embarked on a new partnership with Temple University. Together, we are participating in the national Criminal Justice Drug Abuse Treatment Study (CJDATS) initiative, funded by the National Institute on Drug Abuse. While most of our previous work with Temple has focused on outcomes, the CJDATS studies will focus on implementation issues. Through CJDATS, we will develop a better understanding of how to take evidence based programs, such as TC's, to scale while maintaining fidelity to the program model. This is of vital importance to maximizing program outcomes. An upcoming issue of RIR will discuss CJDATS in greater detail.

On behalf of the PADOc, I would like to extend our deepest appreciation to Dr. Wayne Welsh and colleagues at Temple for their dedicated work with us over the past decade, and for their commitment to continuing this work in the future.