

CHAPTER 1: INTRODUCTION

In the late 1980's, the Federal Bureau of Prisons (BOP) implemented a residential drug abuse treatment program (DAP) designed to assist inmates struggling with drug problems. The treatment strategy addressed inmate drug abuse by attempting to identify, confront, and alter the attitudes, values, and thinking patterns that led to criminal and drug-using behavior. From that initial effort, the program has grown to include an essential transitional component that keeps inmates engaged in treatment as they return to their home communities.

To assess the effects of its DAP program, the BOP, in conjunction with the National Institute on Drug Abuse (NIDA), initiated an evaluation project, which has become known as the TRIAD¹ drug treatment evaluation project. The evaluation was a multi-site study that compared inmates who received in-prison residential drug and alcohol abuse treatment to inmates who did not receive such treatment. While initial plans called for an experimental design, we were not able to implement random assignment procedures. Since inmates had to volunteer to participate in the DAP program, we had to address the possibility that the DAP outcomes could be influenced by selection bias. Thus, the analyses of the major DAP outcomes incorporated statistical procedures to measure and adjust for selection bias. In addition, our analyses controlled for other predictors of post-release outcomes.

This report focuses on the effects of the BOP's in-prison DAP on post-release drug use, recidivism, employment, and halfway house placements, while controlling for a variety of other factors related to treatment outcomes. The results contained in this report relate to inmates who were released to community-based supervision between August 1992 and December 1997 and assessed over a 3-year post-release period. The sample included 2,315 individuals — 1,842 men and 473 women — for whom comprehensive data were available and who were released to supervision.² Our earlier preliminary report provided 6-month outcome results for 1,866 subjects where we reported most results for men and women combined due to the limitations of the sample size of women (see Pelissier et al., 1998). In contrast, the current 3-year outcome study provides separate analyses for men and women.

We sampled treatment subjects from 20 different institutions, which represented three-quarters of the institutions that were operating programs during our evaluation study, but only 40 percent of the institutions that currently operate residential treatment programs. These prisons included all security levels except maximum security, and they served both male and female populations. The residential programs included two components of treatment — an in-prison component and a

¹TRIAD is the acronym for “Treating Inmates’ Addiction to Drugs.”

²An additional 257 men and 74 women – a total of 331 subjects – who were not released to supervision or for whom information was not available from a Probation officer were also included in analyses of arrests.

transitional services component (as part of community placement and supervision). The in-prison treatment programs consisted of two different levels of duration — 9-month programs (500 hours) and 12-month programs (1,000 hours).

Male and female comparison subjects were drawn from more than 40 institutions, some of which had residential drug abuse treatment programs and some of which did not. The comparison subjects consisted of individuals who had histories of previous drug use and, therefore, would have met the criteria for admission to the residential drug treatment programs.

Our 3-year post-release results demonstrate positive effects of the BOP's residential drug treatment programs on the post-release outcomes of drug use and recidivism as measured by arrests, and arrests or revocations first noted in the preliminary findings. These positive results were statistically significant for men but not for women.

Results showed that the approximately 763 male offenders who completed the residential drug abuse treatment program and had been released to the community for up to 3 years were less likely to be rearrested for a new offense, to be rearrested *or* revoked, or to test positive for drug use than was a similar group of untreated.

The probability of rearrest or revocation within 3 years after release was 44.3 percent for male treatment completers as compared to 52.5 percent for untreated male subjects. Although the results for women were not statistically significant, the difference between the treated and comparison group suggests that treatment helped to reduce recidivism among women. Among women who completed residential drug abuse treatment, 24.5 percent were arrested for a new offense or had their supervision revoked within 36 months after release compared to 29.7 percent among untreated inmates.

The probability of drug use was 49.9 percent for male treatment completers as compared to a probability of 58.5 percent for untreated subjects. We also found that treated women had a lower probability of drug use than untreated women (35.0 percent and 42.6 percent, respectively), even though the results were not statistically significant.

The third outcome measure, post-release employment, revealed positive effects for women completing treatment but not for men. This report contains two measures of post-release employment, both of which differ from that used in our previous 6-month report that found no positive effects of treatment on post-release employment for either men or women. Women who completed treatment were more likely to be employed full-time during the entire post-release period and had a higher employment rate (that is, the percent of post-release time employed in any capacity) than the comparison group. Women who completed treatment were employed 68.6 percent of the post-release period and untreated women were employed 59.1 percent of the time. Among men, those who completed treatment were employed 70.5 percent of the time and untreated men were employed 68.6 percent of the time.

When considering a fourth measure of effectiveness — successful completion of halfway house

placements³ — results showed no positive effects of in-prison drug treatment for either men or women.

This report is the first of our 3-year outcome reports. Our second report will assess the role of transitional services provided during halfway house placements for individuals who did not receive residential in-prison drug treatment. It will also assess the role of post-release treatment services, which are provided after release from BOP custody (that is, after release from a halfway house) while under supervision of a U.S. Probation officer. Lastly, this report will identify inter-institutional differences in treatment effectiveness.

Background

A large proportion of State and Federal inmates have histories of substance abuse. A self-report assessment of Federal inmates in 1989 indicated that between 30 and 44 percent had substance abuse histories (Whittenberger, 1990). A survey of State and Federal prisoners in 1997 found that over 70 percent of Federal prisoners and over 80 percent of State prisoners reported previous drug use (Mumola, 1999). Considerable evidence suggests that criminal behavior is amplified during periods of moderate and heavy drug use (Anglin and Speckart, 1986; Anglin and Speckart, 1988; Ball et al., 1981; Nurco et al., 1985; Nurco et al., 1988; Speckart and Anglin, 1985; Speckart and Anglin, 1986).

The BOP has provided drug abuse treatment in various forms for decades. Although the number of drug treatment units in Federal institutions grew to a high of 33 in 1978, the number of programs began to decline in the early-to-middle 1980's due to changes in the social and political climate (Wallace et al., 1991). However, with the passage of the Anti-Drug Abuse Acts of 1986 and 1988⁴ and an increased emphasis on and resources for drug abuse treatment, the BOP redesigned its drug treatment programs after careful review of drug treatment programs nationwide.

The BOP's renewed interest in prison-based drug treatment programs began in 1988 when then-director J. Michael Quinlan organized a national drug conference. Immediately following this conference, the BOP Executive Staff approved the establishment of five institution-based residential drug abuse treatment programs. In the years to follow, similar programs were established throughout the Federal prison system and, by January, 2000, 44 residential programs were operational.

In 1989 the National Institute on Drug Abuse expressed interest in a comprehensive evaluation of prison-based drug treatment programs, and the BOP submitted a research proposal for

³ In the BOP, referred to as a Community Corrections Center (CCC) placement.

⁴ The Anti-Drug Abuse Act of 1986 laid the groundwork for the drug treatment programs, and the Anti-Drug Abuse Act of 1988 contained provisions for the funding of these programs.

evaluating drug treatment programs in the Federal system. That proposal resulted in the signing of an interagency agreement between the BOP and NIDA in 1990 for a multi-site evaluation of the BOP's residential drug abuse treatment program, which eventually emerged as the TRIAD project.

The objectives of the TRIAD evaluation project specified in the original evaluation proposal submitted to NIDA in 1990 were:

To conduct a process evaluation. This aspect of the evaluation would address the following issues:

- 1) the nature of the services provided;
- 2) the characteristics of the service recipients;
- 3) program staffing patterns; and,
- 4) implementation of residential drug treatment programs within a correctional environment.

To conduct an outcome evaluation. The most important objective was to assess the extent to which in-prison residential treatment, reinforced by community-based aftercare services, could reduce drug use and criminal behavior after release from prison. Specific questions were:

- 1) Who are the program participants? Does the program serve the most serious offenders?
- 2) What are the different types of substance abusing offenders?
- 3) What types of incarcerated offenders are more likely to volunteer for in-prison drug treatment programs?
- 4) Are the 12-month (1,000-hour) drug treatment programs more effective than the 9-month (500-hour) programs?
- 5) What role do services provided after release from prison play in preventing relapse to drug use or criminal behavior?
- 6) Are there specific types of drug-abusing offenders who benefit more from participation in the in-prison residential drug treatment?
- 7) What are the relative effects of pre-treatment characteristics, the treatment program, and the post-release environment on the various outcomes?

Organization of the Report

This report is organized into eight chapters. Chapter 1 provides a brief introduction and background to this evaluation project, as well as to this 3-year post-release outcome report. The chapter concludes with synopses of the report's remaining chapters.

Chapter 2 is divided into two sections. The first section discusses the nature of evaluation research in an applied setting, with a focus upon what we view as the most significant

methodological problem — selection bias. Our goal is to represent the difficulties of applied correctional research, to describe the organizational pressures that determine which inmates receive treatment, to depict these influences in an understandable model of selection pressures, and to offer potential solutions to these problems, both analytical and methodological. We discuss the two different processes we used in our analyses to address the problem of selection bias.

In the second section of this chapter, we use our model of selection pressures to critique the research design, analyses, and interpretation of results contained in the most commonly cited, related studies. Overall, our review suggests that methodological problems associated with evaluating residential drug treatment programs create important obstacles to interpreting the results of this research. We believe that, for the most part, the research we reviewed suffers from inferential problems associated with disentangling treatment effects from selection bias effects. We argue that it would be prudent to temper strong conclusions about successful treatment outcomes — which are often portrayed in the literature — with a bit of skepticism, born from a closer look at the methodological problems.

Chapter 3 provides a summary of the literature on gender differences within substance abusing and criminal justice populations. This literature is important to understanding the selection of predictor variables, to help provide an interpretation of the results, and to suggest the direction for future research to enhance our understanding of gender differences in treatment needs and treatment outcomes.

Chapter 4 summarizes the evolution of the Bureau's drug treatment programs from the beginning of the TRIAD drug treatment evaluation project to the completion of the in-prison data collection phase of the study. This summary details the nature and intensity of the services received and the various pathways into treatment. That is, research subjects may have received drug treatment services while in prison, while housed in a halfway house (if applicable), while under post-release supervision (if applicable), or during some combination of the three. Chapter 4 also describes the various components of the BOP's in-prison drug treatment programs, as well as the treatment services available following release from an institution. As is true for many major research efforts, changes in research design and data collection procedures occurred throughout the project in order to adapt to changes in program implementation.

Chapter 5 describes the research design. After a summary presentation of the basic research design, we provide information on the procedures used for selecting research subjects, the resulting sample, the data collection instruments, and the data collection procedures. We describe the differences between the selection of treatment and comparison subjects, as well as the methods used to collect information at the various stages of a subject's criminal justice status. At any given time, he or she was either in prison, in a halfway house, terminated from BOP custody without supervision, or terminated from BOP custody with supervision by a probation officer. Chapter 5 concludes with listings and descriptions (when necessary) of all the variables used in the analyses.

Chapter 6 contains a description of the subject sample. This chapter provides univariate statistics for each of six subject groups – treatment and comparison subjects – by gender. The primary purpose of these descriptive statistics is to provide the reader with a basic understanding of the background characteristics of the subject groups, the treatment services received, the type and level of supervision provided after release from prison and the post-release outcomes. These six subject groups were:

- inmates who completed a residential drug abuse treatment program;
- inmates who dropped out of a program;
- inmates discharged for disciplinary reasons;
- inmates who did not complete a program through no fault of their own;
- inmates from drug treatment sites who did not volunteer for treatment; and,
- inmates who were housed at institutions at which there were no drug abuse treatment programs offered.

Chapter 6 is particularly relevant to service providers and others who want to know more about the general nature of the drug abusing population being served by BOP drug abuse treatment programs.

Chapter 7 contains results of analyses of treatment entry and treatment completion. An understanding of treatment entry provides important information to treatment providers for cases where program participation is voluntary in nature. Furthermore, treatment-seeking behavior within a prison setting is a neglected topic within the drug treatment field. In addition, we provide the results for models of treatment entry and completion. These models are vital for the subsequent outcome analyses described in Chapter 8.

Chapter 8, which describes the analysis and results, begins with a description of our outcome measures: recidivism, drug use, employment and Community Corrections Center placement failure. This is followed by a description of our three analytic strategies. Two of these analytic strategies represent methods of addressing the problem of selection bias, a methodological problem encountered often in treatment outcome studies. We continue with a presentation of the consideration of missing data. Because listwise deletion — the deletion of a subject with a missing value on one or more data elements — can result in a biased sample available for analyses we imputed the missing values using various methods.

In this chapter, we describe the diagnostic tests for outcome model specification, when applicable, and the steps taken in response to these tests. We then proceed to compare the treatment effect across the various analytic strategies and discuss the other significant predictor variables highlighting gender differences.

Chapter 9 provides a summary of the results. This discussion focuses upon the conclusions we can make regarding the effectiveness of the Bureau's drug abuse treatment programs. We seek to identify consistencies in results across the various outcomes and, more specifically, consistencies across the different analytic strategies for a particular outcome. Finally, this

chapter identifies the limitations of our conclusions, the issues to be presented in the second report, and the issues important to future analyses.