

February 2009

## THE DANGEROUS MENTALLY ILL OFFENDER PROGRAM: FOUR-YEAR FELONY RECIDIVISM AND COST EFFECTIVENESS

### Introduction

Significant reductions in felony recidivism rates for participants enrolled in Washington State's "Dangerous Mentally Ill Offender" (DMIO) program are observed four years after their release from prison.<sup>1</sup> The reduction in felonies associated with the program is valued, by taxpayers and crime victims, at approximately \$21,597 per participant after program costs. The program returns a benefit of about \$1.64 for every public dollar spent.

In 1999, legislation was passed to better identify and provide additional mental health treatment for mentally ill offenders released from prison who pose a threat to public safety and agree to participate in the program.<sup>2</sup> A dangerous mentally ill offender is defined as a person with a mental disorder who has been determined to be dangerous to self or others.

Through interagency collaboration and state-funded mental health and substance abuse treatment, housing, and other support services, the legislation intends to promote the safe transition of these individuals to the community. The program is intended to serve participants up to five years after prison release. Over 500 individuals were designated DMIOs from fiscal year 2004 through fiscal year 2008.

The original legislation directed the Washington State Institute for Public Policy (Institute) and the Washington Institute for Mental Illness Research and Training to evaluate the program. Previous evaluations examined implementation and recidivism outcomes after 1.5 and three years. The legislature has budgeted funds for the Institute to continue the evaluation; this analysis re-examines recidivism outcomes at four years post-release.

<sup>1</sup> The DMIO program operates under the name, Community Integration Assistance Program (CIAP).

<sup>2</sup> SSB 5011, Chapter 214, Laws of 1999.

### Summary

Washington State's Dangerous Mentally Ill Offender (DMIO) program, established by the 1999 Legislature, identifies mentally ill prisoners who pose a threat to public safety and provides them opportunities to receive mental health treatment and other services up to five years after their release from prison. This analysis of 172 DMIO participants four years after release from prison indicates that the program:

- ✓ **Reduces overall new felony recidivism rates 42 percent; and**
- ✓ **Reduces new violent felony recidivism 36 percent.**

Using methods developed by the Washington State Institute for Public Policy (Institute) for previous crime studies, the felony recidivism outcomes were used to estimate the total economic impact of the program for both taxpayers and victims of crime. The state spends \$33,866 (in 2007 dollars) per DMIO participant over four years. **For taxpayers and victims**, the DMIO program generates:

- ✓ **\$55,463 in benefits per participant.**
- ✓ **\$1.64 for every dollar spent.**

### DMIO Referral and Services

An offender incarcerated in a Department of Corrections (DOC) facility who may meet DMIO criteria is screened and referred to the statewide DMIO Committee, which determines if the offender should be designated a DMIO.<sup>3</sup> From fiscal year 2000 through 2008, DOC screened 5,121 offenders who might meet DMIO criteria. They referred 914 to the DMIO Committee, which designated 517 of the offenders as DMIO.

<sup>3</sup> The DMIO Committee is composed of representatives of DOC, DSHS, law enforcement, and community mental health and substance abuse treatment agencies.

DMIO designation occurs six months prior to release from prison. An offender designated as a DMIO is immediately assigned a treatment provider by the Department of Social and Health Services (DSHS), receives pre-engagement services three to four months prior to release, and also receives special treatment and transition planning just prior to leaving prison.

After release, and for up to five years, a variety of services are available to the DMIO based on assessed needs. Services may include mental health and substance abuse treatment, housing and medical assistance, training, and other support services. Unless required as a term of probation, DMIO designees are not required to use these services.

## Earlier Findings

Previous Institute reports demonstrated that the DMIO program significantly reduced felony recidivism up to three years following release from prison.<sup>4</sup> The program also appeared to be accomplishing its other principal objectives, such as improving social services delivery and participants' living situations.

A 2008 analysis based on a three-year follow-up indicated that the reductions in DMIO recidivism generated \$6,566 more in financial benefits to taxpayers and crime victims than program costs. This report re-estimates the total economic benefits to taxpayers and crime victims based on four-year recidivism rates.

## Key Methodological Issue: A Similar Comparison Group

This analysis includes 172 DMIO designees who were released from the beginning of the program through December 31, 2003.<sup>5</sup>

<sup>4</sup> D. Lovell, G. Gagliardi, & P. Phipps. (2005). *Washington's Dangerous Mentally Ill Offender Law: Was community safety increased?* Olympia: Washington State Institute for Public Policy, Document No. 05-03-1901; J. Mayfield. (2007). *The Dangerous Mentally Ill Offender Program: Cost effectiveness 2.5 years after participants' prison release.* Olympia: Washington State Institute for Public Policy, Document No. 07-01-1902; D. Lovell & J. Mayfield. (2007). *Washington's Dangerous Mentally Ill Offender Law: Program costs and developments.* Olympia: Washington State Institute for Public Policy, Document No. 07-03-1901; and J. Mayfield & D. Lovell. (2008). *The Dangerous Mentally Ill Offender Program: Three-year felony recidivism and cost effectiveness.* Olympia: Washington State Institute for Public Policy, Document No. 08-02-1901.

<sup>5</sup> This study relied on databases maintained by the Administrative Office of the Courts; Department of Corrections; Department of Social and Health Services Mental Health Division, Division of Alcohol and Substance Abuse, and Research and Data Analysis Division; and Department of Health.

To evaluate the program, it is necessary to compare DMIO participants to a group of offenders with similar characteristics (comparison group) who were released without the interagency coordination and supplemental funding for services created for the DMIO program. Due to ethical and political concerns about denial of service and public safety, the law establishing this program did not allow for a random assignment research design. Instead, we used a quasi-experimental approach that compares outcomes between closely matched pairs of individuals in the DMIO and comparison groups.

Individuals with characteristics that closely resemble DMIO program participants were selected from a pool of 1,356 offenders released from prison between January 1, 1996, and December 31, 2000, and who met specific mental health criteria. These individuals were matched with DMIO program participants based on similarities among eight variables that predict the likelihood of recidivism and the propensity for being a DMIO program participant.<sup>6</sup>

Exhibit 1 shows the eight variables used to pair DMIO participants with their counterparts in the comparison group. There are no statistically significant differences in seven of the eight characteristics that predict felony recidivism or participation in DMIO. The only statistically significant difference is the younger age at release of individuals in the comparison group.<sup>7</sup>

**Exhibit 1**  
**Pre-Release Characteristics of DMIO Participants and Matched Comparison Group (Average/Percent)**

	DMIO Group (n=172)	Comparison Group (n=172)
Past felonies	3.7	3.3
Residential mental health days	429	392
Past drug offenses	.67	.56
Non-white	30%	26%
Past violent offense index	72%	72%
Age at release*	37	35
Annual infraction rate	4.0	3.4
Female	13%	11%

\* Statistically significant at  $p < .05$ .

<sup>6</sup> The method used to select members of the matched comparison group is described in Mayfield & Lovell, 2008, op.cit.

<sup>7</sup> Additional multivariate analyses are used to control for the differences in age and other variables.

Because individuals in the DMIO and comparison groups are so similar, differences in actual recidivism are assumed to be attributable to participation in the DMIO program. There are, however, two key limitations to this research design:

- Some individuals in the comparison group were released from prison more than four years before DMIO participants were released. During the intervening period, changes in factors, such as interagency coordination and community supervision, could account for some effects attributed to the DMIO program.
- The statistically matched control group minimizes observable differences between the study groups. Unobserved differences, however, such as motivation, may still bias the estimate of program effects. Consequently, for the benefit-cost analysis, we discount the estimated effect size, creating a more cautious estimate of the economic outcomes.

## Criminal Recidivism After Four Years

**Significant Reductions in Overall Felony and Violent Felony Recidivism.** We define recidivism, in all Institute reports, as a reconviction in a Washington court for any offense during the follow-up period.<sup>8</sup> We examined two categories of recidivism: any felony and violent-only felony.<sup>9</sup> The analysis reveals statistically significant differences in overall felony and violent-only felony recidivism.<sup>10</sup>

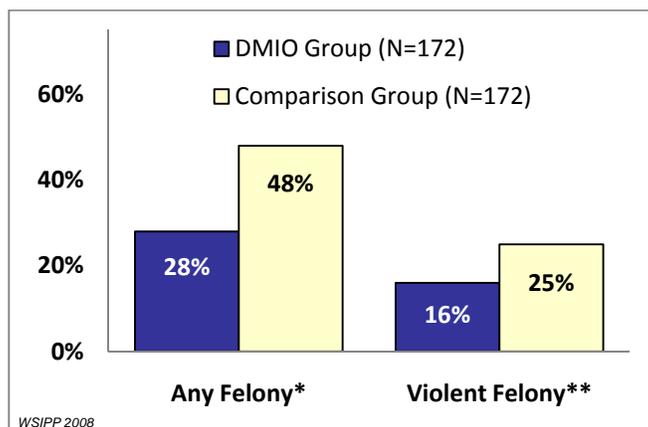
Compared to other mentally ill offenders with similar potential to reoffend (Exhibit 2), individuals participating in the DMIO program were significantly less likely to commit any new felony (28 versus 48 percent). DMIO program participants were about 42 percent less likely to be reconvicted of a new felony than similar offenders in the comparison group.

<sup>8</sup> R. Barnoski. (1997). *Standards for improving research effectiveness in adult and juvenile justice*. Olympia: Washington State Institute for Public Policy, Document No. 97-12-1201.

<sup>9</sup> Violent felonies are crimes with Criminal Justice System Law Category codes of 100 and above. Misdemeanor offenses are not reported because the comparison group was selected based on felony history, not misdemeanor history. The groups are not comparable for that analysis.

<sup>10</sup> The analysis is based on pairwise comparison of recidivism outcomes for 172 pairs of DMIO participants and matched members of the comparison group. Additional logistic regression analysis controlling for prerelease characteristics support this finding (felony recidivism: DMIO treatment coefficient=-1.25, p=.0001, ROC=.810; violent felony recidivism: DMIO treatment coefficient=-0.61, p=.0403, ROC=.761). These regression-based results are used in the final estimate of benefits and costs.

**Exhibit 2**  
**Felony Recidivism Rates**  
**DMIO Participants versus Comparison Group**  
**(Four-Year Follow-up)**



\* McNemar test,  $\chi^2=11.458$ ,  $p=.0004$ . \*\* $\chi^2=5.114$ ,  $p=.0237$ .

Similarly, individuals participating in the DMIO program were also significantly less likely to commit a new violent felony (16 versus 25 percent). DMIO program participants were about 36 percent less likely to be reconvicted of a new violent felony than similar offenders in the comparison group.

## Program Costs and Recidivism Savings

**Benefit-Cost Analysis.** The Institute has developed methods of economic analysis to assess program benefits in terms of reduced costs to taxpayers for law enforcement, adjudication, and corrections, and for the victims of crime. To calculate benefits, the reductions in recidivism attributable to the DMIO program were applied to the lifetime distribution of criminal offenses expected from those released from prison. Per-person program costs were estimated based on a review of provider billing records.

**Program Costs.** The state compensates Regional Support Networks (RSNs) and other providers that contract with the DSHS to provide additional support services for DMIO program participants. The program funds up to \$10,000 per DMIO participant per year, for a maximum of five years. The specific funding formula established by DSHS-Mental Health Division is as follows:

- Providers of special services during the three months just before and just after prison release are reimbursed \$6,000 to engage the participant.
- After the first three months, providers are reimbursed \$700 per month for special DMIO services for Medicaid-eligible participants and \$900 per month for non-Medicaid-eligible participants.

Per-person program costs over the four-year follow-up period are estimated at \$33,866 per participant (in 2007 dollars). This estimate is based on a detailed review of billing records for agencies serving DMIO participants released between July 1, 2002, and December 31, 2003.<sup>11</sup>

**Cost Savings of Reduced Recidivism.** Does the value of the reduction in crime attributed to the DMIO program outweigh the costs? To answer this question, we turned to the Institute’s benefit-cost model.<sup>12</sup> When there are fewer crimes, there are fewer victims and taxpayers spend less on the criminal justice system. We estimate the present value of crime-related costs avoided over the lifetime of a participant for both taxpayers and crime victims. To determine the economic “bottom line” of the program, we subtract the cost of the DMIO program from the present-value sum of its benefits (including avoided costs).

When research is based on a less-than-randomized research design, we know the results have a larger margin of error than a randomized design. Random assignment was not possible for this study. Additionally, the DMIO and comparison groups are separated by four years, during which time policies influencing outcomes may have changed. There is also the possibility of selection bias in the process of designating a felon DMIO. Consequently, we reduce the estimated effect on recidivism by 50 percent when calculating cost savings.<sup>13</sup> That is, since we cannot control for selection bias that may result in an overestimation of the effectiveness of the program, we apply a 50 percent discount factor to the program effect when we perform our benefit-cost analysis.

We estimate that the DMIO program costs about \$33,866 per participant over the first four years post-release and produces about \$55,463 in crime-reduction benefits (Exhibit 3). Of these total benefits, \$18,770 accrues to taxpayers in the form of reduced criminal justice system expenditures; another \$36,693 accrues to the public because there are fewer crime victims. The result is an overall return to society of \$21,597, or \$1.64 per dollar spent on a DMIO participant.<sup>14</sup>

**Exhibit 3**  
**DMIO Program Benefits and Costs**  
**(In 2007 Dollars)**

	Taxpayers and Victims	Taxpayers Only
Benefits (lifetime)	\$55,463	\$18,770
Costs (over 4 years)	\$33,866	\$33,866
Benefit/Cost Ratio	\$1.64	\$0.55
Net Benefits	\$21,597	-\$15,096

## Conclusion

Participation in the DMIO program is associated with statistically significant decreases in felony recidivism and violent felony recidivism four years after release from prison. A benefit-cost analysis indicates that the reduction in criminal recidivism attributed to the DMIO program is a net economic benefit to crime victims and taxpayers, providing net benefits comparable to other adult offender programs.

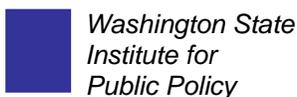
Suggested citation: Jim Mayfield. (2009). *The Dangerous Mentally Ill Offender Program: Four-Year Felony Recidivism and Cost Effectiveness*. Olympia: Washington State Institute for Public Policy, Document No. 09-02-1901.

<sup>11</sup> D. Lovell & J. Mayfield. (2007).  
<sup>12</sup> S. Aos, R. Lieb, J. Mayfield, M. Miller, & A. Pennucci. (2004). *Benefits and costs of prevention and early intervention programs for youth*. Olympia: Washington State Institute for Public Policy, Document No. 04-07-3901.  
<sup>13</sup> Ibid. The rationale for this discount is explained in Aos, et al., 2004. Previous studies used a 50 percent discount because of the dissimilar comparison group.

<sup>14</sup> Cost savings and benefits are significantly different from previous reports for several reasons. Over time, the DMIO program has demonstrated increasingly significant reductions in felony recidivism. Additionally, the Institute’s benefit-cost model used to estimate cost savings and benefits has incorporated improved statistical methodology and data on the costs associated with crime.

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Document No. 09-02-1901



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