



ADULT CRIMINAL JUSTICE

BENEFIT-COST ANALYSIS

RESULTS FIRST
DECEMBER 2016



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Adult Criminal Justice benefit-cost analysis - Executive summary

The 2015 Minnesota Legislature instructed Minnesota Management & Budget to conduct benefit-cost analyses for corrections and human services, using the Pew-MacArthur Results First framework. This framework allows Minnesota to estimate the cost effectiveness of select services using the best national evidence. Under this framework, we do not evaluate the impact of services as currently implemented in Minnesota. Rather, we estimate the benefits Minnesota can expect if our outcomes resemble those found in previous evaluations conducted in Minnesota or elsewhere in the country. Insights generated from the analysis have the potential to inform state and local decision-makers.

Adult Criminal Justice is the first programmatic area of study for Minnesota's Results First team. Minnesota's Department of Corrections (DOC) and county correction agencies provide a range of services designed to rehabilitate offenders and reduce their likelihood of future criminal activity. These investments have the opportunity to reduce crime, thereby generating benefits to the state and increasing public safety.

Minnesota's Results First Initiative conducted a benefit-cost analysis for 19 of these services and found estimated benefits range from \$15.90 to \$0.40 for each dollar spent. These benefits accrue due to savings in the criminal justice system from decreased recidivism and societal benefits, such as decreases in victimization. This analysis estimates benefits accrued in a five-year period after service delivery, though these services continue to generate benefits throughout the lifetime of the participant.¹

Overall, this analysis found that evidence-based practices can produce cost-effective reductions in recidivism. The DOC and county supervision agencies use a number of evidence-based practices, but opportunities exist to deepen their use. It is important for practitioners throughout the state to deliver services effectively. A common threat to effective implementation is caseloads that exceed recommended standards. If practitioners are unable to deliver services according to the research-based approach, the state and its residents may not receive the anticipated return on investment.

This report presents findings for services for which rigorous evidence is available. New and untested services could lead to effective results, but we do not have a basis for estimating their cost effectiveness until their impact on recidivism has been rigorously evaluated.

¹ Data availability limits the analysis to five years. Analysis in future years will include additional years of benefits.

Benefit-cost analysis can only speak to the cost-effectiveness of the service. It does not analyze other important goals, such as institutional security and staff safety, or higher-level goals such as equity, justice, fairness, and innovation. Nevertheless, benefit-cost analysis is a powerful tool to help make informed choices when employing scarce public resources.

Summary of benefit-cost analysis for supervision and prison services

Comparison of estimated benefits and costs five years after supervision begins			Comparison of estimated benefits and costs five years after release from prison		
Service or practice*	Per participant benefit minus cost	Benefit-cost ratio	Service or practice*	Per participant benefit minus cost	Benefit-cost ratio
Electronic monitoring (probation)	\$3,480	not applicable	Challenge Incarceration Program	\$20,870	not applicable
Employment & job training assistance	\$6,740	\$11.40	Affordable Homes Program	\$7,570	not applicable
Sex offender treatment	\$23,300	\$7.80	Work release	\$6,910	not applicable
Electronic monitoring (supervised release)	\$2,170	\$6.60	InnerChange Freedom Initiative	\$20,870	not applicable
Cognitive Behavioral Therapy	\$3,020	\$6.20	Correctional industries	Not estimated	not applicable
Supervision with Risk-Need-Responsivity	\$4,610	\$5.50	EMPLOY	\$18,010	\$15.90
Intensive supervision - surveillance & treatment	\$13,460	\$3.80	Cognitive Behavioral Therapy	\$12,120	\$13.40
Non-residential chemical dependency treatment	\$2,860	\$1.80	Chemical dependency treatment	\$8,630	\$2.80
			Career and technical education	\$5,080	\$2.50
			MnCOSA	\$17,440	\$1.80
			Correctional adult basic education	(\$1,370)	\$0.40

Source: Minnesota Management & Budget
 *Evidence-based services and practices operating in Minnesota that aim to reduce recidivism
Note: These are abbreviated tables. The complete benefit-cost findings begin on page 15.

Minnesota Results First Background

The 2015 Minnesota Legislature instructed Minnesota Management & Budget to conduct benefit-cost analyses for corrections and human services programs using the Pew-MacArthur Results First framework.² This framework allows states to identify the research base for correctional and human services and estimate the relative benefits to costs using the best national evidence. The Results First team at Minnesota Management and Budget (MMB) uses this framework in coordination with other key stakeholders to estimate benefit-cost ratios associated with practices evaluated through rigorous studies conducted in Minnesota and elsewhere. State and local policymakers and practitioners envision using this information to inform their decision-making.

Results First framework

Overview

The Pew-MacArthur Results First Initiative works with states to implement a framework based on research synthesis and benefit-cost modeling conducted by the Washington State Institute for Public Policy (WSIPP).³ The approach enables states to identify opportunities for investment that could generate positive outcomes for citizens and achieve substantial long-term savings. Minnesota is one of a growing number of states that are customizing this approach to their state-specific context and using its results to inform policy and budget decisions.

The Results First framework has two major components: the inventory of services and the benefit-cost analysis. The inventory identifies the degree to which there is evidence of effectiveness -- defined in this first phase as a reduction in recidivism -- for each of the services implemented in Minnesota.⁴ We developed an inventory of 72 adult criminal justice services and conducted benefit-cost analysis for the 19 services for which adequate research and fiscal data are available. As part of the benefit-cost analyses, we estimated the monetary value of a given change in recidivism over a five-year period due to a service.⁵ A decrease in recidivism yields reductions in criminal justice system costs and in some cases, reductions in victimization costs, depending on the crime avoided. These avoided costs are “benefits”.

² Laws of Minnesota 2015, chapter 77, article 1, section 13.

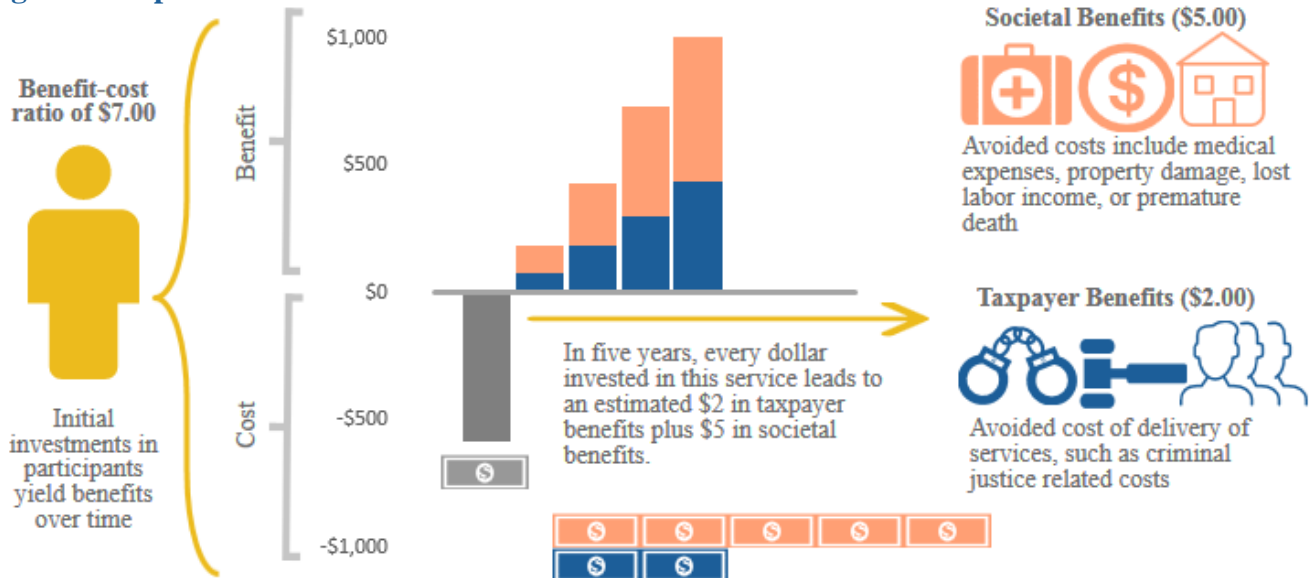
³ WSIPP website: <http://www.wsipp.wa.gov/> & Pew-MacArthur Results First Initiative website: <http://www.pewtrusts.org/en/projects/pew-macarthur-results-first-initiative>

⁴ Available in Appendix A and at: <https://mn.gov/mmb/results-first/inventory-of-services/>

⁵ The five-year period was longest possible timeframe we were able to use. In this regard, findings are conservative, as benefits continue to accrue after that period. In future analyses, the time period will be extended.

The benefit-cost ratio combines the benefits per participant and net cost per participant for each service. The ratio means that “for every dollar invested in this service, there are X dollars in benefits”.

Figure 1: Explanation of a benefit-cost ratio



Assumptions

MMB did not directly evaluate service outcomes or effectiveness. Rather, we estimate the benefits Minnesota can expect if our outcomes resemble those found in previous evaluations conducted in Minnesota or elsewhere in the country. To achieve the estimated benefit, evidence-based services in Minnesota must implement the service effectively. Confirming the state achieved the outcomes assumed in our analyses would involve conducting separate impact evaluations.

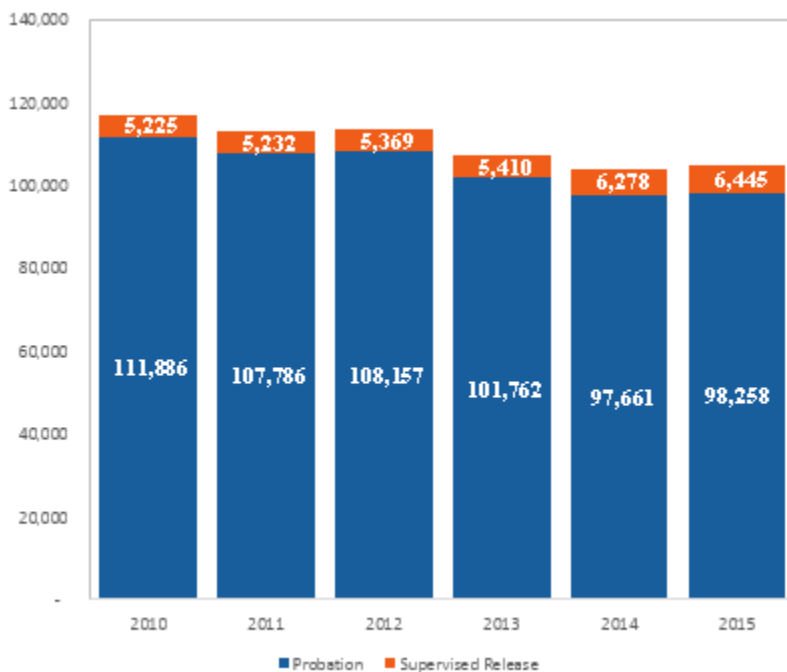
The findings presented in the supervision section of this report represent services provided in a sample of counties. These include three Community Correction Act (CCA) jurisdictions (Dakota, Stearns, Dodge-Fillmore-Olmsted); three County Probation Officer (CPO) counties (Mower, Itasca, Wright); the 28 Department of Corrections (DOC) contract counties; and DOC felony supervision in the 26 CPO counties. MMB estimated the average costs for services and the average benefits to reducing recidivism. The participating counties vary in size and proximity to metro areas, but they may not necessarily be representative of supervision agencies throughout the state. Future analysis may include additional counties.

Before diving into the analysis, it is important to understand the size, scope, and structure of Minnesota’s correctional system.

Corrections in Minnesota

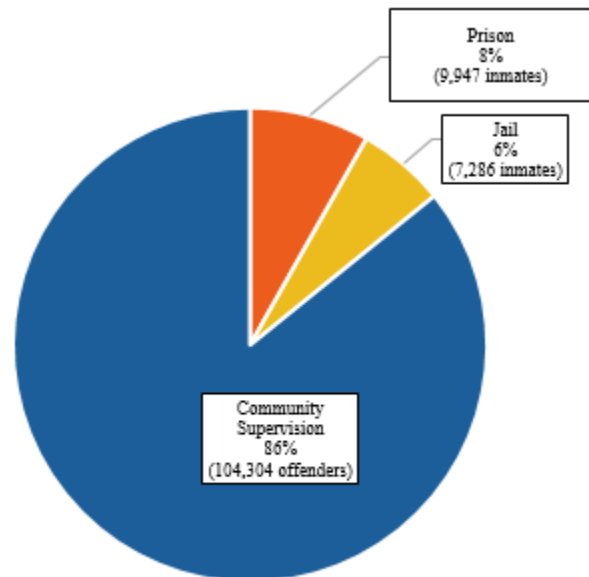
Every day, thousands of Minnesota adults are involved in various components of the criminal justice system, including prison, jail, supervised release, and probation. In Minnesota, when a judge sentences an offender to prison, the sentence consists of two parts.⁶ First, the offender goes to prison for a period that typically equals two-thirds of the executed sentence. Then, the offender transitions to supervised release for the remaining one-third of the executed sentence. Depending on the approved release plan, community corrections agents or Department of Corrections (DOC) agents provide the supervision.

Figure 3: Adult probation and supervised release population 2010-2015



Source: Minnesota DOC Probation Surveys 2010-2015

Figure 2: Adult corrections population snapshot



Source: Minnesota DOC Notable Statistics - July 2015, Adult Inmate Profile 1-1-2015, 2014 Probation Survey

State and county agencies also provide probation services throughout Minnesota. This is supervision for non-prison releases convicted of a felony, gross misdemeanor, or misdemeanor. On December 31, 2015, there were 98,258 adults on probation and 6,445 adults on supervised release.⁷ This represents the vast majority of supervised individuals in the corrections population (86%). Prison and jail, on any given day, have around 8% and 6% of the state's corrections population, respectively.⁸

⁶ Minnesota Statutes 2015, 244.101, subd. 1. Sentencing of offenders who commit offenses on and after August 1, 1993

⁷ The DOC counts individuals on December 31 of each year (Appendix C of each Probation Survey).

⁸ Prison population is from one day (January 1, 2015); Jail population is average daily population (CY2015); Community Supervision population is from one day (December 31, 2014). Sources: (Minnesota Department of Corrections, 2015b); (Minnesota Department of Corrections, 2015c); (Minnesota Department of Corrections, 2014)

Supervision structure and funding

In Minnesota, local government agencies administer correctional supervision, or contract with the Department of Corrections (DOC). This decentralized structure began in 1973 with the Community Corrections Act, which gave counties an option to administer and control community supervision services.⁹ As a result, a county can have one of three supervision models: DOC Contract (DOC counties), County Probation Officer (CPO counties), or Community Corrections Act (CCA jurisdictions).

Figure 4: Three supervision delivery models

Supervision deliver system	Number of counties	Administers misdemeanors	Administers felonies
Department of Corrections (DOC)	28	DOC	DOC
County Probation Officer (CPO)	26	County	DOC
Community Corrections Act (CCA)	33	County	County

The primary sources of correctional funding for counties are state and federal grants, local levies, and fees from offenders.

Department of Corrections (DOC): In DOC counties, the DOC supervises adult felony probation and supervised release, and provides juvenile and misdemeanor services. The cost is borne by the state.

County Probation Officer (CPO): In these counties, probation officers work under the county’s chief judge, and the county’s court services director supervises them. DOC provides felony offender supervision, while the county provides juvenile and adult misdemeanor offender supervision (Minnesota Department of Corrections, 2016c). A state funding subsidy administered by DOC reimburses up to 50 percent of salary and fringe benefits of the director and probation officers in CPO counties.¹⁰ The size of the funding pool is fixed, and current appropriations for reimbursement compensate around 30 percent of actual costs (2016-17 Governor's Budget - Department of Corrections). The state also funds grants for reducing workloads.¹¹ In FY16, CPO counties received \$5 million in reimbursement and \$1 million in caseload reduction grants.

Community Corrections Act (CCA): Counties administer all levels of supervision. Funding for supervision and probation is a mix of a state subsidy and county tax dollars with the size of the county investment varying between counties. The DOC administers the state subsidy, which is based on a

⁹ Minnesota Statutes 2015, Chapter 401 Community Corrections, Section 401.01; historically as 1973 c 354 s 1

¹⁰ Minnesota Statutes 2015, section 244.19, subdivision. 6.

¹¹ Minnesota Statutes 2015, section 244.22.

legislatively determined formula. Components of the formula include case filings, county population, number of convicted felons sentenced to probation, and adjusted net tax capacity.

It is challenging to determine the exact amount spent by the 33 CCA counties. However, according to analysis by the Minnesota Association of Community Correction Act Counties (MACCAC), counties pay roughly 75 percent of total spending on supervision in CCA counties (Erdmann, 2016). This figure includes the cost of operating adult and juvenile facilities. CCA agencies often operate workhouses and juvenile facilities, and one agency operates the county jail.

In addition to the state funding presented in the following figure, the DOC provides funding for housing services, electronic monitoring, and sex offender assessments, and also administers and/or funds Intensive Supervised Release and Sentencing to Service supervision. CCA counties receive the largest share of state subsidies (66 percent) and provide services to the majority of offenders on supervision (64 percent of supervised release clients and 72 percent of probation clients).

Figure 5: County share of general fund appropriations

County Delivery System	State subsidy (\$ in millions)	Share of total subsidy	Share of supervised release clients	Share of probation clients
Dept. of Corrections - DOC	\$23	27%	36%	17%
County Probation Officer - CPO	\$7	7%		11%
County Corrections Act - CCA	\$62	66%	64%	72%

Source: (SWIFT: Statewide Integrated Financial Tools); (2016-17 Governor's Budget - Department of Corrections); (2015 Probation Survey)

Fees are another component of supervision funding.¹² Offenders on probation and supervised release may be required to pay correctional fees for components of their sentence, such as community service or work placement, restitution collection, supervision services, and court-ordered investigations.¹³ How the fee is used depends on the delivery system. Per statute, DOC agents deposit fees into the general fund.¹⁴ CPO and CCA counties use fees to pay for services.¹⁵

¹² We include this discussion of fees because it is an important component of funding supervision. Unless otherwise stated, this analysis does not include fees.

¹³ Minnesota Statutes 2015, section 241.272, subdivision 1 & 2.

¹⁴ Minnesota Statutes 2015, section 241.272, subdivision. 6.

¹⁵ Minnesota Statutes 2015, section 244.18, subdivision. 6.

Evidence-based research in adult corrections

In the 1970s, most adult rehabilitation research accepted that “nothing works” and the best a criminal justice system could do to prevent crime was to keep offenders in prison (Lipton, Martinson, & Wilks, 1975; Martinson, 1975). Since this era, academic literature has largely discredited this view and demonstrated that a range of services is effective at reducing recidivism. The following sections of this report use this literature, commonly referred to as “what works,” to estimate the impact correctional services have on recidivism.

This “what works” literature suggests that correctional interventions are most effective when they address risk-need-responsivity principles (Andrews, Bonta, & Hoge, 1990; Andrews & Bonta, 2010). The risk principle prioritizes services to higher risk offenders. The need principle recommends programming should address criminogenic needs, which are dynamic risk factors directly linked to criminal behavior. The responsivity principle suggests service administrators are responsive to the participant’s learning style and ability.

Minnesota has made sizable investments in evidence-based services, and national publications recognize the Department of Corrections (DOC) for its rigorous evaluation work. These local findings inform decision-making within the state and contribute to the broader evidence base. Where possible, we use the DOC’s research to estimate the impacts of a service.

Effective community supervision

There is growing interest in identifying and maintaining effective, evidence-based models specific to community supervision. The “traditional” approach emphasized monitoring compliance with court-ordered conditions (Latessa, Smith, Schweitzer, & Labrecque, 2013). Shifting the focus of community supervision from enforcement and surveillance to a mission of producing public safety through the success of supervisees can enhance public safety and decrease incarceration (McGarry, et al., 2013). Community corrections, as delivered by all three delivery systems in Minnesota, implements many evidence-based practices (EBP) in supervision. Examples include assessing risk/needs, enhancing intrinsic motivation, targeting interventions, engaging community support, measuring practices in service delivery, and providing feedback to the offender and the organization (Minnesota Department of Corrections, 2011). Implementing and maintaining EBP in community supervision has the potential to reduce recidivism, prevent crime and future victimizations, hold supervisees accountable, and control public spending on corrections (Soloman, et al., 2008).

Several challenges, including resource limitations, hinder a wide adoption of evidence-based practices, but there is a long history of collaboration and training. Subject matter experts in cognitive-behavioral therapy, offender risk assessment, female offenders, and motivational interviewing meet regularly to develop curriculum, train staff, and implement policies (Minnesota Department of Corrections, 2011).

Findings

Overview

This section presents benefit-cost findings for 19 services that satisfy the following criteria. First, adequate research is available to estimate the effect of the service on recidivism. Second, practitioners report that they deliver the service consistent with the evidence-based model. The terms defined in figure 6 apply to both supervision and prison services.

Figure 6: Benefit-cost analysis terms

Term	Definition
Benefits	In the context of services aimed at reducing recidivism, benefits are avoided costs that would have occurred when an individual recidivates. Total benefits are the sum of taxpayer benefits such as avoided use of public services and other benefits to society, such as avoided victimization. We round estimates to the nearest ten dollars.
Benefit-cost analysis	A systematic approach to estimate the cost effectiveness of services or policies by comparing expected benefits to expected costs.
Benefit-cost ratio	The net present value of anticipated service benefits to state residents for every dollar in programmatic costs, in a five-year period. We round ratios to the nearest ten cents.
Effect on recidivism	Effect on recidivism reflects the degree to which there is evidence of effectiveness for a given service, as reflected in one or more of eight national clearinghouses. The categories largely mirror the levels of evidence defined by The Pew Charitable Trusts and MacArthur Foundation.
Proven effective	A proven effective service or practice has a high level of research on effectiveness, determined through rigorous evaluation (such as randomized controlled trials) or a high quality local evaluation.
Promising	A promising service or practice has some research demonstrating effectiveness, such as a single randomized controlled trial or evaluation with a comparison group design not contradicted by other such studies, but does not meet the full criteria for the proven effective designation.
Theory-based	A theory-based service or practice has no research on effectiveness or less rigorous research designs that do not meet the above standards. These services and practices typically have a well-constructed logic model or theory of change. This ranking is neutral. Services may move up to promising or proven effective after research reveals their impact on measured outcomes.
No effect	A service or practice with no effects has no statistically significant impact on the measured outcomes. It does not include the service’s potential effect on other outcomes. Research methods include rigorous evaluation (such as randomized controlled trials) or rigorous local evaluations.
Category of services	These services represent a category of services that a client may receive, dependent on need. As services can vary from client to client, we cannot assess their effectiveness.

Term	Definition
Estimated average annual recidivism reduction	The estimated annual percent change in recidivism.
Evidence-based	A service or practice whose effectiveness has been rigorously evaluated using studies with treatment and control group designs.
Involved public agency	State or county public sector entities that have a role in funding, directing policy, setting conditions, or administering the service. CPO refers to County Probation Officer counties. CCA refers to Community Corrections Act counties.
Net costs	The incremental cost of providing the service to one individual minus the cost of the likely alternative. For example, the net cost of providing intensive supervision minus the cost of the type of supervision received if intensive supervision is unavailable (<i>i.e.</i> , enhanced supervision). Service cost is the average amount to provide the service in the sample counties that participated in the analysis. We round estimates to the nearest ten dollars.
Net present value period	The difference between the present value of cash inflows and the present value of cash outflows, for five years.
Other societal benefits	Benefits that accumulate to society are victim costs avoided when a crime is not committed. Depending on the type of crime avoided, these can include medical expenses, cash losses, property theft or damage, pain and suffering, lost earnings from injury or in the case of premature death from homicide, the value of a statistical life. We round estimates to the nearest ten dollars.
Per participant benefit minus cost	The difference between the present value of cash inflows (anticipated benefits) from a given service and the present value of cash outflows (costs).
Probation	A period of time during which community-based probation officers, by orders of the court, supervise offenders where they live, go to school or work, and otherwise participate in the community.
Recidivism	The relapse of a person into criminal behavior, measured by criminal acts that result in conviction for a new crime.
Service	An intervention (treatment, program, or practice) implemented to reduce recidivism.
Supervised release	In Minnesota, when a felony offender is sentenced to prison, the total sentence consists of two parts: (1) imprisonment equals two-thirds of the executed sentence length; (2) supervised release equals one-third of the executed sentence length. ¹⁶
Taxpayer benefits	Benefits that accumulate to Minnesota taxpayers through avoided costs to the criminal justice system. These include resources used for police arrests, the cost of prosecutors, defenders and courts, and the costs of jails, prisons, and supervision (parole and probation). We round estimates to the nearest ten dollars.
Time frame	Because of data availability, this analysis looks at the impact five years after the start of the treatment. The vast majority of articulated benefits accrue during this period. In the real world, benefits would likely continue to accumulate after this period.

¹⁶ Minnesota Statutes 2015, section 244.101, subd. 1.

Supervision services with benefit-cost ratios

For all nine of the supervision-associated services analyzed, the estimated benefits exceed costs for the five-year period of study. The benefit-cost ratios range from \$11.40 for employment & job training to \$1.80 for non-residential chemical dependency treatment.¹⁷ The most expensive service to administer, intensive supervision (net cost of \$4,740 per participant), generates the second highest total benefit per participant (\$18,200). Electronic monitoring for probationers does not have a benefit-cost ratio because the net cost of service is negative (i.e., the use of electronic monitoring is less expensive than if the client remained in jail). To calculate a ratio, the net cost (denominator) must be positive. The report also differentiates the portion of benefits experienced by taxpayers versus society more broadly.

Figure 7: Comparison of estimated benefits and costs five years after supervision begins

For the first service below, a benefit-cost ratio is not applicable.

Service or practice*	Per participant benefit minus cost	Benefit-cost ratio		
Electronic monitoring (probation)	\$3,480	Service is less expensive than the alternative and generates benefits from reducing recidivism.		
Service or practice*	Per participant benefit minus cost	Benefit-cost ratio	Taxpayer benefits	Other societal benefits
Employment & job training assistance	\$6,740	\$11.40	\$3.60	\$7.80
Cognitive Behavioral Therapy	\$3,020	\$6.20	\$3.00	\$3.20
Electronic monitoring (supervised release)	\$2,170	\$6.60	\$2.60	\$4.00
Supervision with Risk-Need-Responsivity	\$4,610	\$5.50	\$2.60	\$2.90
Sex offender treatment	\$23,300	\$7.80	\$2.40	\$5.30
Intensive supervision - surveillance & treatment	\$13,460	\$3.80	\$1.20	\$2.60
Non-residential chemical dependency treatment	\$2,860	\$1.80	\$0.60	\$1.20

Source: Minnesota Management & Budget

*Evidence-based services and practices operating in Minnesota prisons that aim to reduce recidivism

Per participant benefit minus cost is the difference between the present value of cash inflows (anticipated benefits) from a given service and the present value of cash outflows (costs).

Benefit-cost ratio is the net present value of anticipated benefits to state residents for every dollar invested in the service, for a five-year period.

Taxpayer benefits (blue) accumulate to Minnesota taxpayers through avoided costs to the criminal justice system. These include resources used for police arrests, the cost of prosecutors, defenders, and courts, and the costs of jails, prisons, and supervision (supervised release and probation).

Other societal benefits (yellow) are victim costs avoided when crime is not committed. These vary depending on the crime avoided, but could include medical expenses, cash losses, property theft or damage, lost earnings from injury, and others.

¹⁷ We estimated costs using data from a sample of participating counties. In some cases, service costs between counties varied widely. We used the best available information to estimate costs, but it may not reflect costs experienced in all counties.

Cognitive Behavioral Therapy (supervision)

Cognitive-behavioral therapy (CBT) emphasizes individual accountability and teaches offenders how to identify and change dysfunctional beliefs, thoughts, and patterns that influence criminal behavior.

Different treatments incorporate cognitive behavioral therapy, including sex offender treatment and domestic violence perpetrator treatment. The most common iteration of CBT is *Thinking 4 a Change* (T4C).¹⁸ T4C applies a cognitive behavioral curriculum that focuses on changing the thinking process of offenders through cognitive restructuring, social skills development, and problem-solving practice.

Effect on recidivism	Estimated average annual recidivism reduction:	Average duration	Average frequency	Involved public agencies
Proven effective	9 percent	5-6 months	Two hours per week	Counties (CPO & CCA), Courts, Dept. of Corrections (supervision)

Benefit-cost ratio five years from the start of treatment:

Benefit-cost ratio	Type	Total	Taxpayer	Other societal benefits
\$6.20	Benefits	\$3,600	\$1,710	\$1,860
	Net costs	\$580	\$580	\$580
	B/C ratio	\$6.20	\$3.00	\$3.20

Cost and effectiveness: Cost estimates are derived from Thinking for a Change (T4C) and include supervision agents' labor for co-facilitation and, when applicable, payments to treatment providers. We applied the effects to a probation population, but this service also targets supervised release populations. This likely contributes to a more conservative benefit-cost ratio.

Implementation: In interviews with supervision staff, we learned that many offenders who are eligible for T4C do not receive this service. In one county, there were 10 times as many individuals eligible (based on risk level) than received the service in a given year. Part of this is a training gap, and, in recent years, Minnesota's Cognitive-Behavioral Network has trained new officers. Counties reported that additional funding for training and service grants could increase use of T4C; yet, even when resources are available to contract for the service, there are few trained providers offering T4C. Another barrier to satisfying unmet need is the high caseloads for supervision agents.

¹⁸ National Institute of Corrections description of Thinking for a Change: <http://nicic.gov/t4c>

Electronic monitoring (probation)

Electronic monitoring technology is a form of supervision that uses monitoring devices to verify an offender’s location; some of these devices are equipped with global positioning system (GPS) capability. The equipment includes a tamper-resistant bracelet worn by the offender and a tracking device. The primary goals of electronic monitoring are to ensure offender compliance to the terms and conditions of their supervision, and to reduce recidivism and protect the public and potential victims of crime (Bales, et al., 2010). This benefit-cost analysis looks at 30 days on electronic monitoring, as opposed to a jail stay of the same length. The next page provides a separate analysis for the use of electronic monitoring in supervised release.

Effect on recidivism	Estimated average annual recidivism reduction:	Average duration	Average frequency	Involved public agencies
Proven effective	15 percent	1-2 months	Continuous	Counties (CPO & CCA), Courts, Dept. of Corrections (supervision)

Benefit-cost ratio five years from the start of treatment:

Benefit-cost ratio	Type	Total	Taxpayer	Other societal benefits
not applicable¹⁹	Benefits	\$2,130	\$1,060	\$1,070
	Net costs	(\$1,350)	(\$1,350)	(\$1,350)
	B/C ratio	n/a	n/a	n/a

Cost and effectiveness: Electronic monitoring saves counties money by freeing up jail beds, in addition to reducing recidivism. The net cost reflects 30 days of monitoring and supervision less savings from 30 days of jail per diem. Because the cost is negative (the money saved by the service exceeds the cost to administer it), a benefit-cost ratio cannot be calculated. Electronic monitoring loses much of its positive impact on recidivism once the supervision officer removes the device, so other services often complement it.

Implementation: Judges often set electronic monitoring as a condition in lieu of jail time. The client generally pays the cost of the service. Those that are unable to pay remain in jail. This creates disparities for indigent populations and has ramifications on employment prospects, relationships, and future incarceration. Some counties offer funding—albeit limited—for indigent populations.

¹⁹ We are unable to calculate a benefit-cost ratio when cost is negative. This service saves the state more dollars than the service that would be offered in its place. In addition to this cost avoidance, benefits accrue from declines in recidivism.

Electronic monitoring (supervised release)

Electronic monitoring technology is a form of supervision that uses monitoring devices to verify an offender’s location; some of these devices are equipped with GPS. The equipment includes a tamper-resistant bracelet worn by the offender and a tracking device. The primary goals of electronic monitoring are to ensure offender compliance to the terms and conditions of their supervision, and to reduce recidivism and protect potential victims of crime (Bales, et al., 2010). Unlike the analysis presented on the previous page, in the context of supervised release electronic monitoring is not used in lieu of prison time. For this reason, the net cost is positive and a benefit cost ratio can be calculated.

Effect on recidivism	Estimated average annual recidivism reduction::	Average duration	Average frequency	Involved public agencies
Proven effective	6 percent	1-2 months	Continuous	Counties (CCA), Courts, Dept. of Corrections (supervision)

Benefit-cost ratio five years from the start of treatment:

Benefit-cost ratio	Type	Total	Taxpayer	Other societal benefits
\$6.60	Benefits	\$2,560	\$1,020	\$1,540
	Net costs	\$390	\$390	\$390
	B/C ratio	\$6.60	\$2.60	\$4.00

Cost and effectiveness: This cost represents the weighted average contract cost for two categories of monitoring (GPS and electronic home monitoring). Most offenders receive GPS monitoring. The results differ from probation because this service does not save prison or jail beds; corrections officials told us that they release an individual whether electronic monitoring was available or not. The state pays providers directly for electronic monitoring devices.

Employment & job training assistance

Employment and training programs teach skills necessary to find and retain a job, including assistance with job searches, resumes, interviews, and hands-on training. Many of these trainings also address how to overcome barriers to employment for convicted offenders. In some jurisdictions, this service targets high-risk inmates and pairs it with transition and support services, including transitional housing and case management. This category includes both services offered post-release (from prison or jail) and those that start during supervision.

Effect on recidivism	Estimated average annual recidivism reduction:	Average duration	Average frequency	Involved public agencies
Proven effective	10 percent	1-2 months	Weekly sessions	Counties (CCA), Dept. of Corrections (supervision)

Benefit-cost ratio five years from the start of treatment:

Benefit-cost ratio	Type	Total	Taxpayer	Other societal benefits
\$11.40	Benefits	\$7,390	\$2,310	\$5,080
	Net costs	\$650	\$650	\$650
	B/C ratio	\$11.40	\$3.60	\$7.80

Cost and effectiveness: This category includes a diverse set of services with varying intensities.²⁰ We averaged the cost of three different types of services offered in the community. We do not include short duration (1-2 day) employment sessions, as the research literature indicated the impact relates to longer duration services. Meta-analysis by Washington State Institute of Public Policy indicates a statistically significant positive impact on earnings, but we are unable to monetize this impact. Estimates are conservative in this regard.

Implementation: Surveys suggest that 50 percent of ex-offenders remain unemployed a year after release (Schmitt & Warner, 2011). This has negative outcomes for communities, by way of lower economic output, and for offenders, higher rates of poverty. The lack of employment also means offenders are sometimes unable to pay supervision fees.²¹ Employment services, alongside regulatory reform, such as Ban the Box, can eliminate potential barriers to employment (Henry & James, 2007).

²⁰ A meta-analysis collects all existing evaluations on the service and calculates an average effect size on the distinct outcome.

²¹ Supervision fees go back to corrections agencies to pay for services or to Minnesota's general fund.

Intensive supervision - surveillance & treatment

Intensive Supervised Release (ISR) is for high-risk violent or serious offenders who finish their prison sentences. Specially trained corrections agents provide services to these offenders, which includes face-to-face contact, electronic home monitoring, mandatory work or school, daily curfews, mandatory restitution, and random drug testing. Offenders also must comply with release conditions, including treatment or individual/group therapy. Treatment includes risk-need-responsivity principles, cognitive behavioral therapy, and special conditions of their release, which may include sex offender treatment, Alcoholics Anonymous, or anger management. These services seek to protect the public and positively change the offender's behavior.

Effect on recidivism	Estimated average annual recidivism reduction:	Average duration	Average frequency	Involved public agencies
Proven effective	17 percent	12 months	Phase 1: 4x week, Phase 2: 2x week, Phase 3: 1x week	Counties (CCA), Dept. of Corrections (supervision)

Benefit-cost ratio five years from the start of treatment:

Benefit-cost ratio	Type	Total	Taxpayer	Other societal benefits
\$3.80	Benefits	\$18,200	\$5,720	\$12,480
	Net costs	\$4,740	\$4,740	\$4,740
	B/C ratio	\$3.80	\$1.20	\$2.60

Cost and effectiveness: Costs are from per diem and participant data. This analysis looks at Intensive Supervised Release for a prison release population. It includes supervision agents' labor costs, electronic home monitoring, and a pro-rated cost for drug testing, less the counterfactual cost. The counterfactual is the cost of the next level down of supervision, which is enhanced supervision. Treatment complements intensive supervision, and when taken together, they produce a larger impact than either one can alone.

Implementation: The DOC and six CCA jurisdictions (on a contract basis) provide this service. Our county partners reported that, based on risk scores, some individuals who could benefit from this service are not receiving the service because of budgetary constraints. Instead, these individuals are often on an enhanced caseload, which does not offer the same level of supervision or services.

Non-residential chemical dependency treatment

Supervision agencies coordinate with local treatment providers to offer short-term, outpatient service to offenders.²² These sessions include individual and group counseling and help individuals develop strategies to avoid drug use. A mixture of county, state, and federal dollars pays for treatment services. This analysis does not include inpatient treatment or treatment for co-occurring chemical dependency and mental illness.

Effect on recidivism	Estimated average annual recidivism reduction:	Average duration	Average frequency	Involved public agencies
Proven effective	6 percent	1-2 months	Weekly group and individual sessions	Counties, Courts, Dept. of Corrections, Dept. of Human Services

Benefit-cost ratio five years from the start of treatment:

Benefit-cost ratio	Type	Total	Taxpayer	Other societal benefits
\$1.80	Benefits	\$4,560	\$1,430	\$3,130
	Net costs	\$1,700	\$1,700	\$1,700
	B/C ratio	\$1.80	\$0.60	\$1.20

Cost and effectiveness: The cost for this service was the state and county portion of chemical dependency treatment, as well as additional time spent by officers in coordination with treatment professionals. It excludes the federal portion of chemical dependency treatment. This analysis may underestimate benefits as the model only monetizes the impact on recidivism and does not include other potential positive outcomes, such as employment or declines in hospitalizations, homelessness, or emergency room visits.

Implementation: This analysis does not assess the effectiveness of treatment at reducing addiction. County supervision agencies reported that chemical dependency treatment was too reliant on the “Minnesota Model” or short-term treatments. DHS’s (2013) own analysis agrees and suggests Minnesota move from an “acute, episodic model of treatment to a chronic, longitudinal model of health care would expand the continuum of care and improve integration and coordination with primary care, mental health services, peer support and other recovery support.”

²² Outpatient treatment includes a variety of therapies (individual or group) offered at treatment facilities or clinics, but allows the individual to live in the community during non-treatment hours.

Sex offender treatment (supervision)

Supervision agents and treatment providers conduct psychosexual evaluations, case planning, and treatment. Treatment includes education on relationships and cognitive-based group therapy.

Sex offenders receive a specialized risk assessment with supervision and treatment based on risk and needs. Supervision agencies generally assign sex offenders to separate units with smaller caseloads managed by specially trained agents. In addition, supervision officials place particularly high-risk sex offenders on Intensive Supervised Release.²³

Effect on recidivism	Estimated average annual recidivism reduction:	Average duration	Average frequency	Involved public agencies
Proven effective	26 percent	16-36 months	Weekly group and monthly individual sessions	Counties (CPO & CCA), Courts, Dept. of Corrections (supervision)

Benefit-cost ratio five years from the start of treatment:

Benefit-cost ratio	Type	Total	Taxpayer	Other societal benefits
\$7.80	Benefits	\$26,750	\$8,390	\$18,360
	Net costs	\$3,450	\$3,450	\$3,450
	B/C ratio	\$7.80	\$2.50	\$5.30

Cost and effectiveness: Individuals on probation or supervised release receive these services.

Services range from group and individual therapy to inpatient stays. This analysis bases the cost per participant on the average cost for a supervision agency to complete outpatient treatment and co-facilitate group sessions. In some cases, clients or private insurance pay for treatment, but often Medicaid and supervision agencies will pay the cost for indigent populations. In interviews, many agencies noted that most of their sex offender clients are indigent and the county uses state grants to cover the cost of treatment. The DOC demand for services exceeds present capacity, as need has grown, but state funding has remained steady.

²³ This does not include the Minnesota Sex Offender Program (MSOP) operated by DHS. Individuals in MSOP are civilly committed to Moose Lake and St. Peter to receive sex offender treatment for an unspecified period of time (Minnesota Department of Human Services, 2016).

Supervision with Risk-Need-Responsivity principles

Key principles of Risk-Need-Responsivity (RNR) include: matching the level of services to the risk level of the offender; targeting criminogenic needs in treatment; and matching interventions to the ability and learning style of the offender. This includes supervision levels that match the level of risk assessment, motivational interviewing, and case planning.

Effect on recidivism	Estimated average annual recidivism reduction:	Average duration	Average frequency	Involved public agencies
Proven effective	20 percent	n/a	n/a	Counties (CPO & CCA), Courts, Dept. of Corrections (supervision)

Benefit-cost ratio five years from the start of treatment:

Benefit-cost ratio	Type	Total	Taxpayer	Other societal benefits
\$5.50	Benefits	\$5,630	\$2,670	\$2,960
	Net costs	\$1,020	\$1,020	\$1,020
	B/C ratio	\$5.50	\$2.60	\$2.90

Cost and effectiveness: The estimated cost of this practice reflects initial and ongoing training prorated by the number of offenders on an average medium to high (M-H) risk caseload. RNR also requires proper caseloads for M-H risk caseload individuals; we added the labor costs associated with moving from an average caseload of 100 to a caseload of 50. The former figure is an average caseload for M-H risk offenders in participating counties and the latter is at the top of the American Probation and Parole Association’s (2006) suggested caseload range for that caseload type. This method presents challenges because of wide variance in caseloads between counties statewide.

Implementation: One large barrier to successful implementation of evidence-based practices (EBP), including RNR, is caseloads not aligned to deliver differentiated case management. There is not a prescription for the “right size,” but most of the interviewed county staff recognized caseloads were too high. The responsivity principle states caseloads should align with gender and cultural factors, in addition to criminogenic needs in the needs principle. To that end, a 2011 DOC report to the legislature notes, “Often times agencies simply do not have the resources to consistently adhere to the responsivity principle” (Minnesota Department of Corrections, 2011).

Ignition interlock device

Offenders with multiple alcohol-related driving offenses install an interlock device in their vehicle. The interlock device connects the ignition system to a breath analyzer. Before the offender can start the car, they must breathe into the device, but if the alcohol level exceeds the preprogrammed level, the device “locks” the ignition, preventing the offender from driving the vehicle while intoxicated.

Effect on recidivism	Estimated average annual recidivism reduction:	Average duration	Average frequency	Involved public agencies
Proven effective	not available	3-12 months	Continuous	Courts, Dept. of Public Safety,

Cost and Effectiveness: Presently, there is no benefit-cost ratio because the statistical model does not have the ability to monetize the impact of alcohol-related offenses. Research for this service estimates a 36 - 64 percent reduction in alcohol-related offenses.

Implementation: In practice, this service should focus on individuals with alcohol-related DUIs, as the device cannot detect drug-related intoxication. State law treats DUIs from drugs the same as alcohol, which means that individuals with narcotic related DUIs have the option to enroll in the ignition interlock program.²⁴ This service could prevent future alcohol-related events for individuals initially arrested for a narcotic-related DUI, but would not prevent repeat narcotic-related offenses. The treatment will not have the intended impact if it targets the wrong population.

Clients pay for the installation and maintenance of the device. A review of prices show providers charge around \$80-\$130 a month for the service with additional fees for installation, maintenance, violations, and removal. Reduced fees are available for individuals with inadequate means to pay.

²⁴ Minnesota Statutes 2015, 169A.20, Driving While Impaired.

Prison Services with benefit-cost ratios

For 10 of the 11 prison-associated services analyzed, the estimated benefits exceed costs for the five-year study window. The benefit-cost ratio ranges from \$15.90 for EMPLOY to \$0.40 for correctional adult basic education. The Challenge Incarceration Program, Affordable Homes Program, and Work Release do not have a benefit-cost ratio because the net cost of service is negative. In other words, inmate participation generates a benefit to the state because it is cheaper to provide than the alternative service. InnerChange Freedom Initiative uses outside grant dollars to administer the program. We did not estimate the cost for correctional industries, but anticipate it also has a net negative cost.

The percentage of benefits accruing to taxpayers versus the broader society varies as each service has different impacts on the likelihood an offender will be reconvicted and, if so, of what type of offense.

Figure 8: Comparison of estimated benefits and costs five years after release from prison

For the first five services below, a benefit-cost ratio is not applicable.

Service or practice*	Per participant benefit minus cost	Benefit-cost ratio		
Challenge Incarceration Program	\$20,870	Service is less expensive than the alternative and generates benefits from reducing recidivism.		
Affordable Homes Program	\$7,570	Service is less expensive than the alternative and generates benefits from reducing recidivism.		
Work release	\$6,910	Service is less expensive than the alternative and generates benefits from reducing recidivism.		
InnerChange Freedom Initiative	\$20,870	Service is costless to the state and generates benefits from reduced recidivism.		
Correctional industries	Not estimated	We were unable to estimate the cost of this service, but it generates benefits from reduced recidivism.		

Service or practice*	Per participant benefit minus cost	Benefit-cost ratio	Taxpayer benefits	Other societal benefits
EMPLOY	\$18,010	\$15.90	\$5.10	\$10.80
Cognitive Behavioral Therapy	\$12,120	\$13.40	\$4.20	\$9.20
Chemical dependency treatment	\$8,630	\$2.80	\$0.90	\$1.90
Career and technical education	\$5,080	\$2.50	\$0.80	\$1.70
MnCOSA	\$17,440	\$1.80	\$0.60	\$1.20
Correctional adult basic education	(\$1,370)	\$0.40	\$0.10	\$0.30

Source: Minnesota Management & Budget

*Evidence-based services and practices operating in Minnesota prisons that aim to reduce recidivism

Per participant benefit minus cost is the difference between the present value of cash inflows (anticipated benefits) from a given service and the present value of cash outflows (costs).

Benefit-cost ratio is the net present value of anticipated benefits to state residents for every dollar invested in the service, for a five-year period.

Taxpayer benefits (blue) accumulate to Minnesota taxpayers through avoided costs to the criminal justice system. These include resources used for police arrests, the cost of prosecutors, defenders, and courts, and the costs of jails, prisons, and supervision (supervised release and probation).

Other societal benefits (yellow) are victim costs avoided when crime is not committed. These vary depending on the crime avoided, but could include medical expenses, cash losses, property theft or damage, lost earnings from injury, and others.

Affordable Homes Program (AHP)

This service trains participants in the construction trade by having them build affordable housing units. DOC houses non-dangerous, minimum-security inmates in local jails while they build affordable housing under the supervision of a qualified construction foreman. AHP builds partnerships with community action agencies, housing and redevelopment authorities, and economic development agencies.

Effect on recidivism	Estimated average annual recidivism reduction:	Average duration	Average frequency	Involved public agencies
No effect	20 percent	7 months	40 hours per week	Counties, Dept. of Corrections

Benefit-cost ratio five years after release from prison:

Benefit-cost ratio	Type	Total	Taxpayer	Other societal benefits
not applicable ²⁵	Benefits	\$7,470	\$2,420	\$5,050
	Net costs	(\$100)	(\$100)	(\$100)
	B/C ratio	n/a	n/a	n/a

Cost and effectiveness: Costs are from per diem and participant data. The DOC saves money on this service, as the participants stay in local jails, which have a lower per diem than prison. After release, participants have a higher chance of obtaining employment, working more hours on average, and earning a higher wage on average than non-participants do. Our model for corrections programs is currently unable to monetize benefits associated with higher wages and employment. The estimated benefits are conservative in this regard. In addition, local communities and nonprofits also benefit from low-cost labor and additions to the availability of affordable housing. This benefit is not included in our analysis, but Bohmert & Duwe discuss it in their evaluation (2012).

Implementation: AHP remains small with 14 participants in 2015; the size of the service is often a function of demand from contractors. Given shortages of affordable housing, especially in rural Minnesota, and a robust housing market, there may be room for expansion of the service in the future.

²⁵ We are unable to calculate a benefit-cost ratio when cost is negative. This service saves the state more dollars than the service that would be offered in its place.

Career and technical education

Post-secondary correctional education is academic coursework beyond a high school diploma that allows prisoners to earn credit while they are in prison. Vocational training includes barbering, cabinetmaking, computer careers, cosmetology, and many others. On-site Associate Degree courses are available at nearly every adult facility.

Effect on recidivism	Estimated average annual recidivism reduction:	Average duration	Average frequency	Involved public agencies
Proven effective (MN)	16 percent	8 months	Varies	Dept. of Corrections

Benefit-cost ratio five years after release from prison:

Benefit-cost ratio	Type	Total	Taxpayer	Other societal benefits
\$2.50	Benefits	\$8,590	\$2,780	\$5,810
	Net costs	\$3,510	\$3,510	\$3,510
	B/C ratio	\$2.50	\$0.80	\$1.70

Cost and effectiveness: Costs are from expenditure and participant data. The recidivism reduction estimate featured above assumes attainment of a post-secondary degree or vocational certificate, not merely participation in the program. Other services analyzed look at program participation. This reflects the benefit of completion and overstates the benefit to participation alone.

Duwe & Clark (2014) note that offenders who earn post-secondary degrees work significantly more hours following release to the community, resulting in increased total wages. In addition, total wages for the treatment group was \$2,649 higher than the comparison group per participant, after an average of 2.5 years after release. The benefit-cost ratio does not include this benefit, as the model cannot presently monetize the impact of additional earnings.

Challenge Incarceration Program

The Challenge Incarceration Program (CIP) is a voluntary boot camp and treatment regimen consisting of three phases, each lasting approximately six months. The first phase includes chemical dependency treatment, education, cognitive skills, restorative justice, physical training, military bearing, work crew, and transition preparation. The second and third phases include intensive supervision in the community.

Effect on recidivism	Estimated average annual recidivism reduction:	Average duration	Average frequency	Involved public agencies
Proven effective (MN)	32 percent	18 months; final 12 months on supervision	Phase I: 6x/week Phase II: 1-3x/week Phase III: 2x/month	Dept. of Corrections

Benefit-cost ratio five years after release from prison:

Benefit-cost ratio	Type	Total	Taxpayer	Other societal benefits
not applicable²⁶	Benefits	\$14,540	\$1,340	\$13,200
	Net costs	(\$6,330)	(\$6,630)	(\$6,630)
	B/C ratio	n/a	n/a	n/a

Cost and effectiveness: Costs are from a review of per diem data. CIP has a negative cost because its early release component reduces the need for prison-beds, saving the state money. The state also accrues additional benefits from the declines in recidivism associated with CIP. Overall taxpayer benefits, including bed day savings is \$7,670 per participant. CIP participants are more likely to return to prison for a technical violation than the comparison group (Duwe & Kerschner, 2008). MMB adjusted the figures to account for this increase in revocations.²⁷ The DOC reports CIP is at capacity. In 2016, the Governor’s capital budget included a request to expand CIP by 75 beds.

Implementation: Phase I of the service is offered in a boot camp setting, while Phase II-III is in the community, under intensive supervision. If an offender fails to meet program standards, they return to prison and the time served in CIP does not count toward their time served.

²⁶ We are unable to calculate a benefit-cost ratio when cost is negative. This service saves the state more dollars than the service that would be offered in its place. In addition to this cost avoidance, benefits accrue from declines in recidivism.

²⁷ Our model uses reconvictions, not revocations. After running the analysis in the model, we subtracted out the cost of the increased revocations from Duwe & Kerschner (2008), using present prison per diem rates. Their analysis found the treatment group had 117 additional days from revocations compared to the control, at a rate of \$60.45. We removed this amount from total and taxpayer benefits. The net costs also reflect the impact on revocations.

Chemical dependency treatment

Prison staff assess inmates shortly after their admission to prison, and house those with chemical dependency separately from the rest of the population. Separating these individuals for treatment follows the therapeutic community model of chemical dependency, which gives them an opportunity for intensified treatment, a sober environment, and staff supervision. The DOC offers short-term (90 days), and medium- to long-term (180-365 days) chemical dependency services. Every prison facility offers chemical dependency services including treatment readiness, primary long-term treatment, and aftercare.

Effect on recidivism	Estimated average annual recidivism reduction:	Average duration	Average frequency	Involved public agencies
Proven effective (MN)	21 percent	6-9 months (long-term); 4 months (short-term)	15-25 hours a week	Dept. of Corrections

Benefit-cost ratio five years after release from prison:

Benefit-cost ratio	Type	Total	Taxpayer	Other societal benefits
\$2.80	Benefits	\$13,520	\$4,280	\$9,240
	Net costs	\$4,890	\$4,890	\$4,890
	B/C ratio	\$2.80	\$0.90	\$1.90

Cost and effectiveness: Costs are from expenditure and participant data. These results are likely conservative, as chemical dependency tends to be a high-risk population; because of data availability, this analysis uses a general prison release population. Research findings (Duwe, 2010) show short- and medium-term treatment have a positive impact on recidivism. For the purposes of this analysis, we consolidated to a single service length. This analysis also does not include any diverted future health-care costs or gains in employment.

Implementation: Chemical dependency treatment services are at capacity. A DOC (2016b) factsheet noted the state has 991 treatment beds, but would need an additional 1,200 beds to offer treatment to all offenders with a directive to treatment. The cost to add an additional bed is around \$13,000 annually, not including start-up costs.

Cognitive Behavioral Therapy (prison)

Cognitive behavioral therapy (CBT) is a treatment that focuses on changing the thinking process of offenders through cognitive restructuring, social skills development, and developing problem-solving skills. Many treatments utilize CBT techniques as part of the larger treatment protocol, including the Challenge Incarceration Program and chemical dependency treatment. This analysis looks at CBT as a standalone service. Thinking 4 a Change (T4C) is the current CBT curriculum offered for male offenders.

Effect on recidivism	Estimated recidivism reduction:	Average duration	Average frequency	Involved public agencies
Proven effective	9 percent	25 sessions	2-4 hours per week	Dept. of Corrections

Benefit-cost ratio five years after release from prison:

Benefit-cost ratio	Type	Total	Taxpayer	Other societal benefits
\$13.40	Benefits	\$13,100	\$4,120	\$8,980
	Net costs	\$980	\$980	\$980
	B/C ratio	\$13.40	\$4.20	\$9.20

Cost and Effectiveness: Costs are from a review of contract and labor cost and participant data.

Presently, three DOC sites use Thinking 4 a Change funded through a federal Department of Justice Statewide Recidivism Reduction Implementation grant. DOC is contracting with two providers to administer T4C to high- and very high-risk offenders, co-facilitated with trained DOC staff. We used an estimate of the per participant contract rate and the labor cost for facilitation as a proxy for the true cost of T4C. In other words, this would be the cost if DOC implemented T4C without federal dollars.

If we take those present federal dollars as costless, the state's benefit-cost ratio is \$63.10.

Implementation: Outside of this provider-led service, there are several other implementations of T4C. Its use varies from facility to facility. In conversations with DOC staff, we learned individual facilities make funding decisions, and budget constraints could be an impediment to proper delivery of the service. For the purposes of this analysis, we analyzed the cost of the dominant CBT paradigm, T4C. We did not analyze the cost of Moving On (gender-specific CBT) or other iterations.²⁸

²⁸ For more information on the impact of Moving on, see Duwe & Clark, (2015). *Moving On: An Outcome Evaluation of a Gender-Responsive, Cognitive-Behavioral Program for Female Offenders*.

Correctional adult basic education

This broad category of services includes secondary education that offers instruction in arithmetic, reading, and writing. High school-level coursework prepares inmates to take the General Education Development (GED) exam in order to earn a certificate of high school equivalency. English as a Second Language (ESL) and special education courses are also available.

Effect on recidivism	Estimated average annual recidivism reduction:	Average duration	Average frequency	Involved public agencies
No effect	2 percent	4-5 months	Varies	Dept. of Corrections, Minnesota Dept. of Education

Benefit-cost ratio five years after release from prison:

Benefit-cost ratio	Type	Total	Taxpayer	Other societal benefits
	Benefits	\$930	\$300	\$630
	Net costs	\$2,300	\$2,300	\$2,300
	B/C ratio	\$0.40	\$0.10	\$0.30

Cost and effectiveness: Costs are from expenditure and participant data. The recidivism reduction estimate featured above assumes attainment of a GED, not merely participation in the program. This reflects the benefit of completion and overstates the benefit to participation alone.

While research from Minnesota shows attaining a GED has no statistically significant impact on recidivism, post-secondary degree attainment does (Duwe & Clark, 2014). To study for a post-secondary degree, offenders must first complete a GED. In that way, basic education opens a pathway to positive benefits associated with post-secondary attainment. A GED also increases the odds of attaining employment, though this did not translate into statistically significant changes in total wages.²⁹ In addition, our model calculated benefits based a 2 percent decline in reconvictions; research finds a much larger impact on re-incarceration (-18 percent).

Implementation: All offenders have access to Adult Basic Education (ABE) programming with the goal of attaining a GED. Minnesota ranks first nationally in GED completion rates for offender students (Minnesota Department of Corrections, 2016a).

²⁹ Total wages for the treatment group were \$1,363 higher per participant with an average follow-up period of 2.5 years after release. This figure was not statistically significant. The benefit-cost ratio does not include this wage impact.

Correctional industries

The Minnesota Department of Corrections industry service, MINNCOR Industries, provides work skills training to offenders in 18 business units that serve government entities, educational institutions, non-profit organizations, and private sector companies in Minnesota. MINNCOR is a public entity that operates as a division of the DOC. Its mandate includes teaching positive work habits, increasing the marketable skills of inmates, reducing inmate idle time, and operating without a state subsidy.

Effect on recidivism	Estimated recidivism reduction:	Average duration	Average frequency	Involved public agencies
Proven Effective	5 percent	Less than 48 months	25 hours a week	Dept. of Corrections, MINNCOR Industries

Benefit-cost ratio five years after release from prison:

Benefit-cost ratio	Type	Total	Taxpayer	Other societal benefits
not applicable³⁰	Benefits	\$7,060	\$2,220	\$4,830
	Net costs	not estimated	not estimated	not estimated
	B/C ratio	n/a	n/a	n/a

Cost and effectiveness: In FY2015, MINNCOR had a net income of \$3.2 million, most of which is used to fund additional offender programs, including re-entry planning and career and technical education. This profitability means that participants generate benefits greater than the cost of participation, in addition to any future cost savings from reductions in recidivism. We do not, however, estimate the net costs because it is difficult to determine what the marginal benefit of an additional worker would be. In other words, what would be the increase in net income from the addition of another worker?

Implementation: MINNCOR officials noted potential to expand operations, but there are limits to how much labor time they can add. Hours available for work need to be balanced with educational programming, mental health or chemical dependency treatment, and other directives, as well as ensuring the safety of inmates and staff (Office of the Legislative Auditor, 2009). Additionally, participants must possess a high school diploma or GED and complete other assessments.

³⁰ We are unable to calculate a benefit-cost ratio for Correctional Industries because we did not estimate the cost of the service. This service likely saves the state more dollars than the service that would be offered in its place. In addition to this cost avoidance, benefits accrue from declines in recidivism.

EMPLOY

This is a voluntary service for current or prior MINNCOR participants. While still incarcerated, participants meet twice with a job-training specialist 60-90 days prior to their release date, once immediately after release from prison, and three times within the following year. Initial meetings cover material related to skills assessment, résumés, job-searching techniques, and interviewing skills; meanwhile, a job development specialist searches for jobs based on these meetings in the weeks before release. Follow-up meetings provide support and referrals.

Effect on recidivism	Estimated average annual recidivism reduction:	Average duration	Average frequency	Involved public agencies
Proven effective (MN)	32 percent	15 months	Daily	Dept. of Corrections, MINNCOR Industries

Benefit-cost ratio five years after release from prison:

Benefit-cost ratio	Type	Total	Taxpayer	Other societal benefits
\$15.90	Benefits	\$19,220	\$6,190	\$13,040
	Net costs	\$1,210	\$1,210	\$1,210
	B/C ratio	\$15.90	\$5.10	\$10.80

Cost and effectiveness: Costs are from expenditure and enrollment data. Besides reducing recidivism, EMPLOY significantly increases the chances of securing employment within the first 12 months after release, and EMPLOY participants earn more total wages and work more total hours than a similar offender with no EMPLOY participation (Duwe, 2015). At present, the corrections model is unable to monetize the value of increased employment. DOC research also estimates total cumulative wages, three years post-release, were \$5,400 higher for the treatment group than the control group.

Implementation: These positive results demonstrate that creating a “continuum of care from prison to community is critical in helping offenders successfully reenter society.” Because of these positive outcomes, EMPLOY has expanded in recent years, adding participants and hiring new staff. Even with this growth, there are potential participants for whom the system does not have capacity to provide this service.

InnerChange Freedom Initiative

Inmates begin the InnerChange Freedom Initiative (IFI) 18 months before their release from prison by living together in the same housing unit. The service consists of three phases: weekday instruction plus work or educational programming (12 months), weekly meetings with an assigned community mentor plus evening classes (6 months), and a reentry phase starting after release into the community (12 months). Instruction covers substance abuse education, victim impact awareness, life skills development, cognitive skill development, educational attainment, community reentry, religious instruction, and moral development. During the reentry phase, participants and their mentors attend support groups, one-on-one counseling, and build relationships with employers and housing providers.

Effect on recidivism	Estimated recidivism reduction:	Average duration	Average frequency	Involved public agencies
Proven effective (MN)	35 percent	30 months	Varies	Dept. of Corrections

Benefit-cost ratio five years after release from prison:

Benefit-cost ratio	Type	Total	Taxpayer	Other societal benefits
not applicable³¹	Benefits	\$20,870	\$6,700	\$14,160
	Net costs	\$0	\$0	\$0
	B/C ratio	n/a	n/a	n/a

Cost and effectiveness: IFI is a volunteer-based program, with any costs borne by private funders and is, therefore, costless to the state. At present, our model is unable to monetize the value of increased employment. Analysis by Duwe (2012) shows participants are more than two times as likely to be employed three years after release as comparable nonparticipants. Total wages were \$6,244 dollars higher per participant three years after release, although this result was not statistically significant.

Implementation: Consistent with effective correctional programming, IFI services focus on high-risk offenders, addressing criminogenic need, providing a therapeutic community, and offering a continuum of care from prison to the community.

³¹ We are unable to calculate a benefit-cost ratio when cost is zero. This service saves the state more dollars than the service that would be offered in its place. In addition to this cost avoidance, benefits accrue from declines in recidivism.

MnCOSA

The DOC trains volunteers to provide pro-social support and accountability to the offender. A circle of four to six volunteers meet weekly with the offender for one to two-hour meetings, starting in prison, then in a halfway house, and finally in the community. The circles provide social support and assist offenders with employment, housing, treatment, and other needs. Participants are Level 2 sex offenders. They begin MnCOSA in prison at least four weeks before release and continue for at least one year.

Effect on recidivism	Estimated average annual recidivism reduction:	Average duration	Average frequency	Involved public agencies
Proven effective (MN)	59 percent	9-15 months	1-2 hours a week	Dept. of Corrections

Benefit-cost ratio five years after release from prison:

Benefit-cost ratio	Type	Total	Taxpayer	Other societal benefits
\$1.80	Benefits	\$40,540	\$12,860	\$27,690
	Net costs	\$23,100	\$23,100	\$23,100
	B/C ratio	\$1.80	\$0.60	\$1.20

Cost and effectiveness: Costs are from expenditure and participant data. One should exercise caution with these results because of the small sample size for the research. Duwe (2013) shows a 59 percent decline in reconviction two years after release, although these results were not statistically significant. The effect size on reducing recidivism measures all recidivating events, not isolated to sexual offenses (Duwe, 2013). Research shows that each offender avoids nearly 100 days of incarceration compared to the control group.

Implementation: The service population is small, serving 7 participants in FY2015. This service could be expanded, but it is often difficult to find the 4-5 community volunteers needed for each COSA, especially given the stigma around convicted sex offenders.

Work release

Carefully screened inmates are eligible to work in the community during the last eight months prior to their supervised release date. The DOC Work Release Unit administers contracts with county jails, halfway houses, and community corrections facilities to house work release offenders while they work. Most state inmates on work release live in halfway houses operated by nonprofits in the Twin Cities metropolitan area. The DOC assigns work release agents to monitor these offenders.

Effect on recidivism	Estimated average annual recidivism reduction:	Average duration	Average frequency	Involved public agencies
Proven effective (MN)	14 percent	4-5 months	40 hours a week	Counties, Dept. of Corrections

Benefit-cost ratio five years after release from prison:

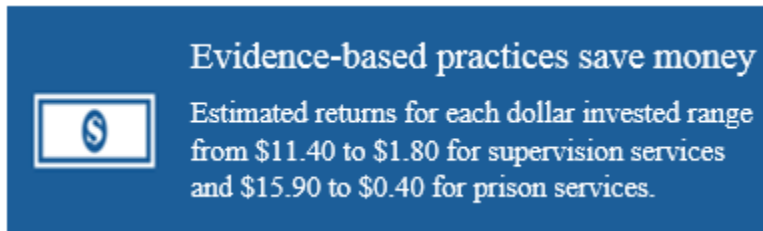
Benefit-cost ratio	Type	Total	Taxpayer	Other societal benefits
not applicable³²	Benefits	\$5,710	\$440	\$5,270
	Net costs	(\$1,200)	(\$1,200)	(\$1,200)
	B/C ratio	n/a	n/a	n/a

Cost and Effectiveness: Costs are from expenditure and participant data. The net costs are negative for work release because it is cheaper for the DOC to house offenders in jail than prison. Participating in work release increases the chances of securing employment, total hours worked, and total wages earned. Presently, we are unable to monetize these impacts. Analysis by Duwe (2015) estimates total wages, four years post-release, were \$4,869 higher for the treatment group. This research also found an increase in days spent in prison due to technical revocations. Accordingly, the benefits reported above are net of the costs associated with the additional prison days resulting from these revocations.

³² We are unable to calculate a benefit-cost ratio when cost is negative. This service saves the state more dollars than the service that would be offered in its place. In addition to this cost avoidance, benefits accrue from declines in recidivism.

Key considerations

Evidence-based practices save money



Evidence-based practices save money
Estimated returns for each dollar invested range from \$11.40 to \$1.80 for supervision services and \$15.90 to \$0.40 for prison services.

The Department of Corrections (DOC) and counties are implementing many evidence-based practices. As reflected in the supervision and prison inventories (Appendix A), the majority of prison and

supervision services studied qualify as “Proven effective” or “Promising,” which means there is evidence that the service reduces recidivism.³³ In particular, evaluations by the DOC have shown many of the high-cost services (e.g., chemical dependency treatment, Challenge Incarceration Program, and career and technical education) have a positive impact on recidivism.

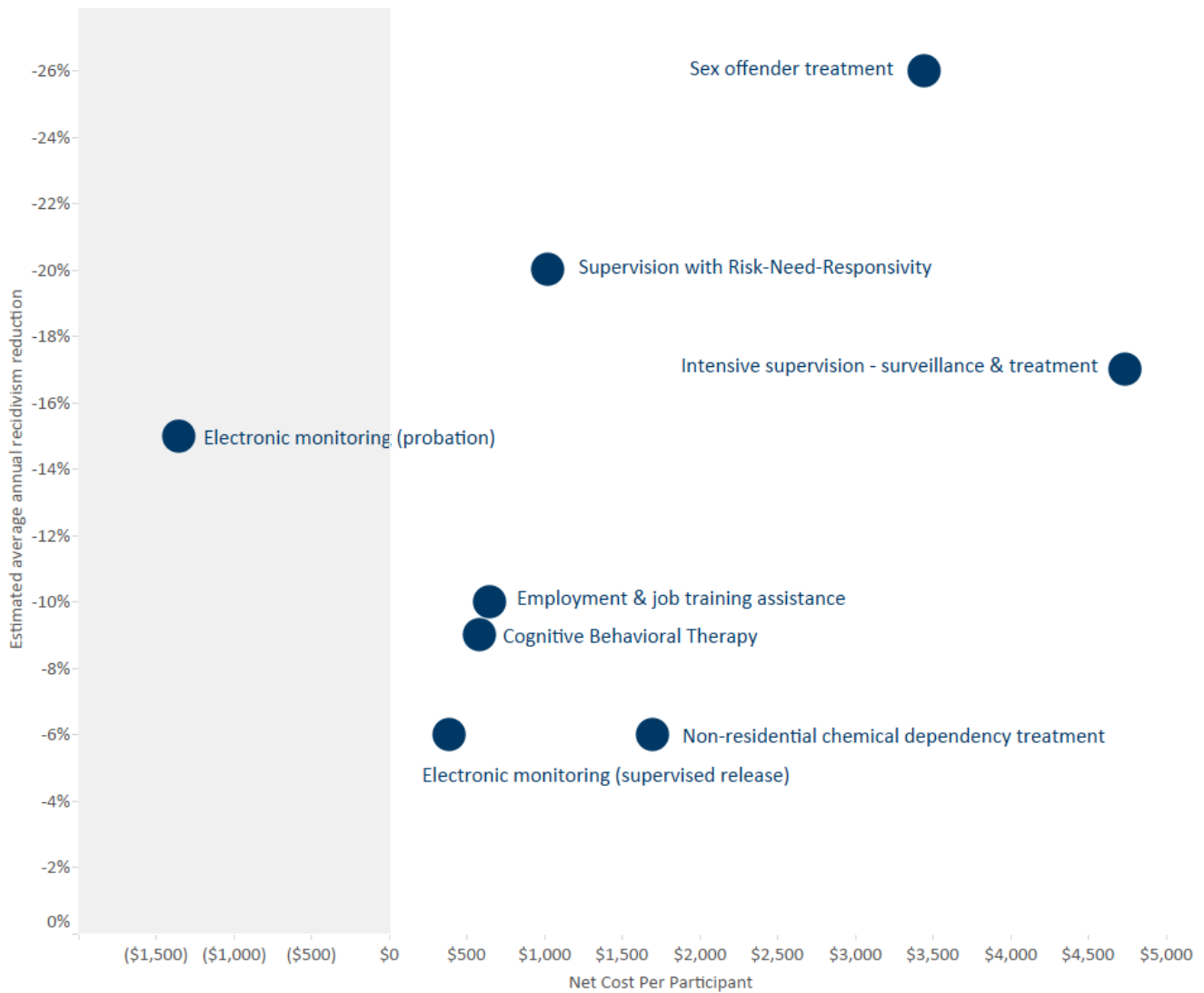
Implementing evidence-based services that reduce recidivism enables state and local governments to avoid adult criminal justice system costs. When an offender participates in an evidence-based service, returns to the community, and does not re-offend, the system avoids costs for arrest, courts, prison or jail, and supervision. As policymakers face difficult budget choices, knowing which services have proven outcomes that lead to taxpayer savings is valuable.

The majority of services analyzed in this report have a benefit-cost ratio greater than the initial investment. These estimates reflect a five-year follow-up period, but in reality, benefits continue to accrue to these services beyond the five-year window of measurement. Data was not available to capture impacts beyond five years, so estimated benefits are conservative in this regard. In future years, this analysis will include additional years of data, which could result in higher estimated benefit-cost ratios.

It is not always possible to switch an offender from a service with a low benefit-cost ratio to one with a higher benefit-cost ratio. Corrections staff match offenders to services and treatment based on risk level and needs. This means services are not perfect substitutes. For example, Minnesota’s Intensive Supervised Release program has a lower benefit-cost ratio than some other adult criminal justice services because of its relatively high cost per participant. Yet, it has a meaningful effect on recidivism for a difficult to impact population. For jurisdictions using a specific service, it may be the most cost-effective treatment to acquire the desired outcomes. This is important to keep in mind when comparing benefit-cost ratios.

³³ The complete inventory of services can be accessed at <https://mn.gov/mmb/results-first/inventory-of-services/>

Figure 9: Net costs & anticipated recidivism impact - Supervision



Note: Services with a negative cost per participant save the state more dollars than the alternative.

The importance of implementation

While investing in evidence-based practices is important, it is equally important that the practices are implemented effectively. Figure 9

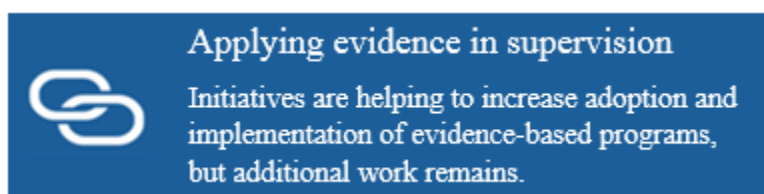
illustrates that certain policies are more likely to yield cost-effective outcomes than other services. The mere presence of this service or treatment, however, will not reduce recidivism in a population, because improper implementation leads to variability in effects on recidivism (Lipsey & Cullen, 2007).

Two examples in Minnesota highlight this: In (2015), Duwe and Clark compared the outcomes of female offenders at the Shakopee prison between 2003 and 2013. The first group participated in a

gender-responsive cognitive-behavioral program called Moving On before 2011. The second group participated in the program after 2011, when program administrators modified the treatment dosage and curriculum; meaning, the program differed in key ways from the version found to be effective in studies. This unique situation presented an opportunity for an outcome evaluation to determine whether participation in Moving On, and program fidelity, had an impact on recidivism. Duwe and Clark found the “low fidelity” version of Moving On (post-2011) had no impact on recidivism, while the “high fidelity” version had a significant impact. The DOC used this research to return the program to a high-fidelity model in subsequent years. This illustrates the potential value of using evaluation to inform decision-making that improves outcomes and yields economic benefits.

Another potential source of variation in outcomes can stem from misaligning treatment and target population. Providers install ignition interlock devices in vehicles of individuals convicted of driving under the influence and only allow vehicle operation if the driver passes a breathalyzer test. Statute does not distinguish between DWI for alcohol or drug related offenses. In this way, providers install devices in the cars of individuals with drug-related driving offenses, such as those operating a vehicle under the influence of heroin.³⁴ These devices only detect alcohol, and not all individuals with drug-related driving offenses are at significant risk of driving under the influence of alcohol. This illustrates a case of applying an evidence-based practice to a population that may not experience the intended impact.³⁵ This misapplication also represents a potential misuse of resources.

Minnesota is applying evidence-based practices in supervision



The proper application of evidence-based practices has the potential to decrease recidivism and generate significant benefits to society.³⁶ This section

highlights two examples of Minnesota counties sharing best practices and promoting the adoption of evidence-based practices.

³⁴ Minnesota Statutes 2015, 169A.20, Driving While Impaired. When the law passed in 2011, there was not a distinction when drivers received an implied consent or DWI conviction for drugs, the sanction could be the same as an alcohol-related DWI offense. In 2014, legislature revised the statute to separate drugs from alcohol in the case of criminal vehicular operation statutes. These require non-fatal alcohol offenses to enroll in ignition interlock.

³⁵ Washington State Institute of Public Policy (WSIPP) has a [meta-analysis](#) for ignition interlock devices.

³⁶ (Bonta, et al., 2010), (Latessa, Smith, Schweitzer, & Labrecque, 2013), (Robinson, et al., 2012)

In 2008, Hennepin County began assessing correctional practices using the Evidence-Based Correctional Program Checklist (CPC).³⁷ This checklist has two areas of measurement. The capacity area measures whether a correctional practice has the capability to deliver evidence-based interventions to offenders, and the content area focuses on the extent to which the practice meets certain principles of effective intervention (University of Cincinnati Corrections Institute, 2016). Assessors collect information at site visits through interviews with staff and offenders, observation of services, and review of materials (University of Cincinnati Corrections Institute, 2016).

Several other counties and the DOC started using the checklist in 2015 and formed the Minnesota CPC Collaborative.³⁸ As of June 2016, the CPC Collaborative assessed and scored 67 practices. Only 38 percent of the services studied had strict adherence to evidence-based practices, while 46 percent had low adherence. While this performance is better than the national average, it shows the challenge of implementing services with fidelity. This process of evaluating fidelity can improve service delivery. A recent reassessment of twelve previously reviewed services found, on average, a five percent improvement in their adherence to EBP (Minnesota CPC Collaborative, 2016).

In 2014, the DOC received a Statewide Recidivism Reduction grant (later named Minnesota's Statewide Initiative for Recidivism Reduction-MNSIRR) from the federal Department of Justice to better engage stakeholders in corrections facilities, community corrections, and community service providers in their alignment with evidence-based and core correctional practices.³⁹ Now in its second year of application, MNSIRR funds a practice model implementation strategy in four pilot counties.⁴⁰ This pilot creates a plan and set of deliverables for community corrections leadership, with the goal of developing the knowledge, skills, and coaching abilities needed to implement a practice model (MNSIRR, 2016).

Unfortunately, systemic barriers can impede proper implementation. For example, current caseloads carried by many supervision agents exceed nationally recognized standards.⁴¹ This limits the time available to supervise and work with a given offender and address all components of the Risk-Need-Responsivity model.

³⁷ Developed by the University of Cincinnati Corrections Institute (UCCI), http://www.uc.edu/corrections/services/program_evaluation.html

³⁸ Hennepin, Stearns, Olmsted, Ramsey, Anoka, Dakota, and Scott counties

³⁹ DOC Press Release: [Policy and Corrections Leaders Weigh Tactics to Curb Recidivism](#)

⁴⁰ A practice model organizes evidence-based practices and principles into a trainable model, capable of reducing recidivism when officers receive adequate training and coaching (Robinson, et al., 2012). EPICS, STARR and STICS are examples.

⁴¹ The [American Probation and Parole Association \(APPA\)](#) suggests a 20:1 cases to staff ratio for intensive cases, 50:1 cases to staff ratio for moderate- to high-risk cases, and 200:1 cases to staff ratio for low risk cases.

Further evaluation of promising or theory-based services needed

To conduct a benefit-cost analysis for a given service, there needs to be strong evidence of the impact of the service.

For many services—defined as theory-

based in our inventory—researchers have not yet conducted evaluations. Theory-based does not mean the program is ineffective, rather we do not have strong evidence indicating how effective it is at generating desired outcomes. As jurisdictions invest in new, theory-based services, they should take care to ground the service in science, have well-defined logic models that target criminogenic needs, and have a compelling theory of change. It may also be desirable to invest in evaluations to determine whether these services are getting the anticipated effect.



Further evaluation needed

Rigorous local evaluations, especially of new or untested services, can indicate if we are getting anticipated benefits.

Supervision services vary from county to county



Supervision practices vary

Differences exist in the adoption of evidence-based practices; much of this is associated with varying resource availability.

Minnesota's unique model of three supervision delivery systems means there are differences in the types of services offered throughout the state. This

decentralized system allows for application of local knowledge to supervision populations. It also means varying levels of adoption of evidence-based practices. As noted in a DOC review of evidence-based practices (2011, p. 8), "Resource-poor, sparsely populated/geographically isolated, and economically-challenged areas within the state often cannot provide the proper dosage of programming (longer programs for higher-risk offenders)." Geographic isolation makes attaining scale in correctional programming difficult. This can lead to challenges in attaining proper treatment dosage and addressing responsivity factors including gender, ethnicity, and culture. Isolated counties may also have limited choice for providers. In many areas, there is only one provider, so if they do not provide a service or are not implementing a service with fidelity, there are no other local options.

Counties also have varying ability to supplement state correctional subsidies with tax revenue. As evidenced by the benefit-cost analysis, investments in evidence-based services have the potential to generate benefits that exceed the initial cost. To implement these practices, counties must absorb the cost of training agents and providing the service. For many, this investment is not possible. These differences are relevant context for policymakers seeking to increase the use of evidence-based practices.

Evidence-based practices can help free prison and jail beds

Prison overcrowding is a problem not only for Minnesota facilities, but also for public safety. As of July 2016, the adult inmate population was 557 beds over capacity, and this gap is projected to

widen in future years. As a short-term fix, the DOC contracts with county jails to provide needed beds. Inmates housed at county jails often do not receive the same level of programming or treatment (Mannix, 2016). There can be an increased risk of recidivism for inmates who do not receive treatment and programming. The DOC found the chances of recidivism increased by 15% among prisoners released between 2003 and 2011 who did not participate in any sort of programming (Duwe & Clark, 2016).

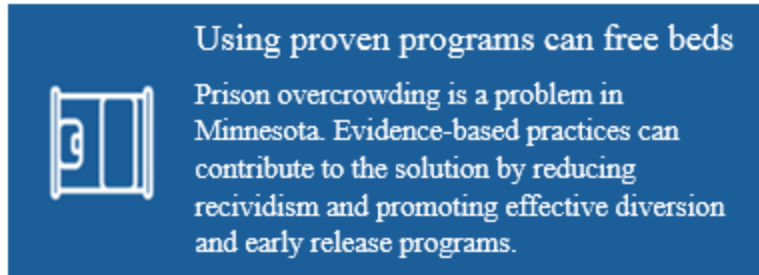
Evidence-based practices reduce the future need for prison beds by reducing recidivism. In addition, some of the services analyzed, including the Challenge Incarceration Program (CIP), can free up prison beds in the short term from early release and produce sustainable reductions in recidivism in the medium-term.⁴²

Conclusion

The 2015 legislature instructed Minnesota Management & Budget to conduct benefit-cost analyses for corrections and human services, using the Pew-MacArthur Results First framework. This framework allows states to identify the research base for correctional and human services and estimate the relative benefits to costs using the best national evidence. Overall, this analysis found that evidence-based practices (EBP) increase the potential for attaining cost-effective correctional outcomes. The vast majority of services examined had benefits that exceeded the cost.

The DOC and county supervision agencies routinely use evidence-based practices, but opportunities exist to deepen their use. It is important that practitioners deliver services effectively; if not, Minnesota may not get the anticipated returns on investment.

The analysis also found that the availability of these evidence-based services varied from county to county. Demand for correctional services in this report regularly outpaces the state and counties' ability



Using proven programs can free beds

Prison overcrowding is a problem in Minnesota. Evidence-based practices can contribute to the solution by reducing recidivism and promoting effective diversion and early release programs.

⁴² In past budget cycles the DOC proposed expanding both Willow River and Togo facilities to add 75 beds to the program (State of Minnesota Capital Budget Requests, 2016), but has not yet secured funding.

to provide them. The report finds that use of many evidence-based services could lead to declines in recidivism and sustainable cost-savings.

This analysis only monetizes the benefits associated with reducing recidivism. In future years, we hope to include additional benefits, including employment affects. Future reports will also review additional treatments and services.

Finally, benefit-cost analysis can only speak to the cost-effectiveness of a given service. It does not analyze other important goals of government, such as institutional security and staff safety, or other goals such as equity, justice, fairness, and innovation. Nevertheless, benefit-cost analysis is a powerful tool to help make informed choices when employing scarce public resources.

Appendix A: Inventory of services⁴³

The Results First inventories are an intermediary step to determine which services to include in the final benefit-cost analysis. Each contains information about the service, the agencies involved in funding or overseeing the service, service details, and the extent to which there is evidence that the services are attaining desired outcomes.

MMB places featured services in one of the five categories listed in the following table, based on evidence of effectiveness found in eight [national clearinghouses](#). The categories largely mirror the levels of evidence defined by the [Pew-MacArthur Results First Initiative](#). Services delivered in Minnesota that closely resemble ones featured in a national clearinghouse (with respect to the nature, length, frequency, and targeted population) or have been rigorously evaluated in Minnesota are included.

Proven effective	A proven effective service or practice offers a high level of research on effectiveness, determined through multiple qualifying evaluations outside of Minnesota or one or more qualifying local evaluation. Qualifying evaluations use rigorously implemented experimental or quasi-experimental designs.
Promising	A promising service or practice has some research demonstrating effectiveness, such as a single qualifying evaluation that is not contradicted by other such studies, but does not meet the full criteria for the proven effective designation. Qualifying evaluations use rigorously implemented experimental or quasi-experimental designs.
Theory-based	A theory-based service or practice has no research on effectiveness or less rigorous research designs that do not meet the above standards. These services and practices typically have a well-constructed logic model or theory of change. This ranking is neutral. Services may move up to promising or proven effective after research reveals their impact on outcomes.
No effect	A service or practice with no effects has no impact on the desired outcome. It does not include the service's potential effect on other outcomes. Qualifying evaluations use rigorously implemented experimental or quasi-experimental designs.
Category of services	These services represent a category of services that a client may receive, dependent on need. As services can vary from client to client, we cannot assess their effectiveness.

⁴³ Higher resolution versions available at <https://mn.gov/mmb/results-first/inventory-of-services/>

This inventory presents information about services and treatments offered to those on supervised release or probation. These services are predominately provided by counties and the Minnesota Department of Corrections (DOC). The Impact on outcomes column shares findings from rigorous research on how effective the service is at reducing recidivism. This analysis does not look at other potentially beneficial outcomes, such as increased employment or improved health outcomes. More information about the findings or about Results First can be found at the bottom of the inventory.

Service Inventory: Supervision

Service/Practice	Service description	Involved agencies	Similar services	Average length of service	Average frequency of service	Impact on outcomes	Source of evidence	Voices from the field
Services with wide adoption								
Cognitive Behavioral Therapy	Cognitive behavioral therapy includes cognitive restructuring, social skills development, and use of problem-solving skills. Thinking for a Change (T4C) is a brand name cognitive behavioral therapy. Probation officers co-facilitate group sessions.	Counties, Courts, DOC (Supervision)		5-6 months	Two hours per week	Proven effective at reducing recidivism	WSIPP	
Community work service	Low risk offenders participate in community improvement projects, often as an alternative to jail or fines.	Counties, Courts, DOC (Supervision)	Sentence To Service, Community Work Service	1-6 months; dependent on sentence	Hours set by sentence	Theory-based effect on recidivism		Minnesota Department of Corrections (MINDOC) notes work crews provide benefits to local communities through service.
Domestic violence perpetrator treatment (Batterer intervention - treatment only)	Treatment uses "Power and Control Wheel" as a tool to understand patterns of abusive behavior, including acts and threats of physical and sexual violence. This treatment is one component of the Duluth Model. These findings are for supervision services only.	Counties, Courts, DOC (Supervision)		6 months	1.5 hours per week	Research on the recidivism impact is inconclusive	Crime Solutions	Research from quality sources (WSIPP, Crime Solutions, CEBC) have mixed findings on this treatment's impact on recidivism and domestic violence. The Minnesota Coalition for Battered Women (MCBW) notes, "in the context of battering, increased public safety and cost reduction are measured not only by recidivism, but also by change in battering behavior."
Domestic violence perpetrator treatment (Batterer intervention within Coordinated Community Response)	Treatment uses "Power and Control Wheel" as a tool to understand patterns of abusive behavior, including acts and threats of physical and sexual violence. It also adds a coordinated response from all criminal justice system players.	Counties, Courts, DOC (Supervision)		6 months	1.5 hours per week	Theory-based effect on recidivism		Despite the absence of adequate evidence to categorize this service as "promising" or "proven effective," the Minnesota Coalition for Battered Women (MCBW) provided research that indicates this service decreases recidivism and instances of domestic violence. Their summary of this research is available here: http://www.mcbw.org/batterer-intervention . MCBW also notes, "in the context of battering, increased public safety and cost reduction are measured not only by recidivism, but also by change in battering behavior."
Domestic violence supervision for high-risk offenders	Repeat domestic offenders receive close surveillance, weekly check-ins, and treatment. Victims receive support services to enhance their safety.	Counties, DOC (Supervision)		18 months	Weekly sessions	Theory-based effect on recidivism		The Minnesota Coalition for Battered Women (MCBW) notes, "in the context of battering, increased public safety and cost reduction are measured not only by recidivism, but also by change in battering behavior."
Driving with Care	Offenders with DUIs receive cognitive behavioral therapy.	Counties, Courts, DOC (Supervision)		3 months	2 hours per week	Promising effect on recidivism	Crime Solutions	
Drug court	Drug courts use a multi-disciplinary team to modify drug-related behavior with supervision, drug testing, treatment, incentives and immediate sanctions	Counties, Courts, DOC (Supervision), DHS, DPS	Adult Problem Solving Court	18-24 months	Varies	Promising effect on recidivism	Crime Solutions	
DUI court	This integrated treatment program uses high levels of supervision, electronic monitoring, and ignition interlock devices. Sometimes, it is an alternative to incarceration.	Counties, Courts, DOC (Supervision), DPS	Wellness Court	18 - 22 months	Varies	Promising effect on recidivism	Crime Solutions	
Electronic monitoring	A tracking device electronically monitors the location of an offender. It is often an alternative to jail.	Counties, Courts, DOC (Supervision)	GPS (global positioning system), Electronic Home Monitoring	1 - 2 months	Continuous	Proven effective at reducing recidivism	WSIPP	
Employment & job training assistance	Job search tools and resources are available for those re-entering the community and workforce. It includes training, assistance with job searches, resumes, and interviews. Research also finds positive impacts on earnings.	Counties, DOC (Supervision)	You are employable, RAP, Customer Services Job Skills	1-2 month	2 hours per week	Proven effective at reducing recidivism	WSIPP	

Service/Practice	Service description	Involved agencies	Similar services	Average length of service	Average frequency of service	Impact on outcomes	Source of evidence	Voices from the field
Housing supports (Medium-Term)	These housing supports assist formerly incarcerated individuals re-integrate into communities and bridge gaps to permanent housing options. Participants often had no other housing options at release.	Counties, DOC (Supervision), MHFA	Housing Trust Fund, Re-entry assistance pilot program	3-6 months	Continuous	Promising effect on recidivism	WSIPP	
Housing supports (Short-term)	These housing supports provide temporary housing for high-risk offenders. Participants often had no other house options at release.	Counties, DOC (Supervision)	ISR housing, Rental Assistance for Homeless Offenders (RAHO), Half-way homes, Emergency Housing, Scattered site leases	30-90 days	Continuous	Theory-based effect on recidivism		
Ignition interlock device	First-time DUI offenders install a device in their vehicle that connects the ignition system to a breath analyzer.	Counties, Courts, DOC (Supervision), DPS		3-12 months	Continuous	Proven effective at reducing recidivism	WSIPP	
Integrated Case Management for Targeted High-Risk Offenders	Enhanced case management using evidence-based practices, including motivational interviewing, case planning, effective interventions, and comprehensive, collaborative release planning.	Counties, DOC (prison & supervision), DHS, MHFA		6-24 months	Twice Monthly	Promising effect on recidivism	WWR	DOC notes that research demonstrates case management focused on employing behavioral techniques and focusing on criminogenic needs, significantly reduces recidivism rates.
Intensive supervision - surveillance & treatment	High-intensity, three-phase supervision program for high-risk prison releases. Includes monitoring, drug testing, frequent agent visits, and work or education requirements.	Counties, Courts, DOC (Supervision)		12 months	Phase 1: 4x week, Phase 2: 2x week, Phase 3: 1x week	Proven effective at reducing recidivism	WSIPP	
Medication Assisted Treatment	Medication-assisted treatment (MAT), including opioid treatment programs (OTPs), combines behavioral therapy and medications to treat substance use disorders.	Counties, DHS		Based on need	Daily	Proven effective at reducing recidivism	Crime Solutions	
Mental health courts	This program is modeled after drug courts. Courts divert defendants with mental illnesses into supervision and treatment programs.	Courts, Counties, DHS	Problem solving courts	6-12 months	Varies	Promising effect on recidivism	Crime Solutions	
Moral Reconciliation Therapy	Cognitive-based skills group focused on increasing offenders moral reasoning.	Counties, Courts, DOC (Supervision)		Program: 4 months Aftercare: 4 months	Program: 2 hours per week Aftercare: 1 hour per week	Promising effect on recidivism	Crime Solutions	
Moving On	Moving On is a gender-specific cognitive behavioral therapy for female offenders.	Counties, Courts, DOC (Supervision)		22-24 sessions	2 hours per week	Promising effect on recidivism	WWR	
New Leaf- Employment assistance	Employment workshops for offenders post-release include strategies for addressing and overcoming barriers to employment.	DEED		5 hours	Once	Theory-based effect on recidivism		
Non-residential chemical dependency treatment	Outpatient treatment services include individual and group treatment. Counties coordinate with DHS and local providers.	Counties, Courts, DHS		1-2 months	Weekly group and individual sessions	Proven effective at reducing recidivism	WSIPP	
Probation reporting center	Group supervision for low risk offenders. Check-in ensures probationers are following their treatment plans.	Counties, Courts, DOC (Supervision)		Probation term	Once per month	Theory-based effect on recidivism		

Service/Practice	Service description	Involved agencies	Similar services	Average length of service	Average frequency of service	Impact on outcomes	Source of evidence	Voices from the field
Random drug testing with swift and certain sanctions	Consistent use of immediate jail sanctions when offenders violate the terms of supervision.	Counties, Courts, DOC (Supervision)		2 months	Twice per month	Proven effective at reducing recidivism	WSIPP	A key component of success is establishing a Behavior Accountability Guide. This document, provided to all offenders, defines high and low violations, what the process entails for violations, and aggravating factors.
Remote Electronic Alcohol Monitoring (REAM)	A continuous alcohol monitoring device, worn on the ankle, reads transdermal alcohol concentration and uploads data to determine blood alcohol concentration levels.	Counties, Courts, DOC (Supervision)		1 -2 month	Continuous	Proven effective at reducing recidivism	WSIPP	The evidence-base is for general electronic monitoring, not specifically for alcohol monitoring.
Residential chemical dependency treatment	Inpatient treatment services for individuals with substance abuse problems. Assessments determine the intensity (low, medium, or high) of treatment needed. Counties coordinate with DHS and local providers.	Counties, Courts, DHS		1-3 months	Daily	Proven effective at reducing recidivism	WSIPP	
Restorative Justice conference	A trained facilitator mediates a face to face meeting between the victims and offenders.	Counties, Courts		2-3 sessions	2 hours per session	Promising effect on recidivism	WSIPP	
Risk-Need-Responsivity Supervision Model	Supervision and treatment matches an offender's criminogenic risk factors. Includes risk assessments, motivational interviewing, and case planning.	Counties, DOC (Supervision)		not applicable	not applicable	Proven effective at reducing recidivism	WSIPP	
Sex offender treatment	Sex offenders are assigned to psychosexual evaluations, case planning, and treatment. Treatment includes education on relationships and cognitive-based group therapy. Often co-facilitated with probation officers and treatment providers.	Counties, Courts, DOC (Supervision)		16-36 months	Weekly group and monthly individual treatment sessions.	Proven effective at reducing recidivism	WSIPP	
Telephone reporting system	Low/medium risk offenders call probation agent to ensure they are meeting release conditions.	Counties, Courts		Probation term	Once per month	Theory-based effect on recidivism		
Thinking for a Change (T4C)	T4C is a cognitive behavioral therapy program that includes cognitive restructuring, social skills development, and use of problem-solving skills. Group sessions co-facilitated by probation officers.	Counties, Courts, DOC (Supervision)	Pre-T4C intervention and T4C aftercare	5-6 months	Two hours per week	Proven effective at reducing recidivism	WSIPP	
Veterans court/protocol	Modeled after drug courts, this uses a multi-disciplinary team to help veterans who interact with criminal justice system. Services matched to need, including mental health and substance treatment, counseling, therapy, and supervision. Often as part of a jail diversion program.	Counties, Courts, DOC (Supervision), Department of Veteran's Affairs		12-24 months	1.5 hours per month	Theory-based effect on recidivism		Participating counties note this employs theories of evidence-based programs adopted from drug courts.
Work release	Carefully screened offenders leave confinement during the day to continue their normal employment.	Counties, Courts, DOC (Supervision)		3-8 months	Daily	Theory-based effect on recidivism		Rigorous evaluations have shown work release is proven effective at reducing recidivism for prison populations. We were unable to find comparable studies for jail populations.
Adult Diversion	Diversion offers first-time, low-level adult offenders an opportunity to accomplish specific conditions in exchange for a dismissed charge.	Counties, Courts		3-12 months	Varies	Category of services		
General educational programming	Typically, one time courses for low-risk offenders, such as first-time DWI or domestic abusers. Seek to educate offenders and change behavior.	Counties, Courts	Domestic violence education, One day DWI program, Choices (first time offender education)	One day	Once	Category of services		

Service/Practice	Service description	Involved agencies	Similar services	Average length of service	Average frequency of service	Impact on outcomes	Source of evidence	Voices from the field
Mental health supervision & treatment coordination	Assist offenders with mental illness in successful integration into the community. Includes supporting, monitoring, and motivating offenders to manage mental health conditions.	Counties, Courts, DOC (Supervision), DHS		Varies	Varies	Category of services		
Re-Entry Planning	A range of services to assist offenders returning to the community, such as assistance finding employment, healthcare, and housing.	Counties, DOC (Supervision)		At beginning of supervision period	Varies	Category of services		
Specialized services with low-to-moderate adoption								
Re-entry Assistance Program (RAP)	Provides high-risk jail inmates with transitional and support services, including assistance in finding employment and transitional housing.	Counties		3 months	Once per week	Promising effect on recidivism; ongoing local evaluation	Crime Solutions	
Breaking Free	A cognitive behavioral based support service available to women attempting to leave prostitution.	Counties		12 months	As needed	Theory-based effect on recidivism		
Community Reinforcement and Family Transitions Project (CRAFT)	Support, education, and outreach to women with chemical health concerns who are pregnant or have children under 24 months old.	Counties		12 months	Two to three meetings per week	Theory-based effect on recidivism		
Healthy relationships	Introduce clients to education on sex, relationships and how to make their relationships healthy and equitable.	Counties		24 sessions	Weekly session	Theory-based effect on recidivism		
Safe Streets First/Strategies for Responsible Living	Supervision for repeat DUI offenders. Includes cognitive-based group therapy, chemical dependency treatment, and regular check-ins for alcohol use.	Counties		6 months	Weekly sessions	Theory-based effect on recidivism		

Impact on outcomes - definitions	
Proven effective	A proven effective service or practice offers a high level of research on effectiveness, determined through multiple qualifying evaluations outside of Minnesota or one or more qualifying local evaluation. Qualifying evaluations use rigorously implemented experimental or quasi-experimental designs.
Promising	A promising service or practice has some research demonstrating effectiveness, such as a single qualifying evaluation that is not contradicted by other such studies, but does not meet the full criteria for the proven effective designation. Qualifying evaluations use rigorously implemented experimental or quasi-experimental designs.
Theory-Based	A theory-based service or practice has no research on effectiveness or less rigorous research designs that do not meet the above standards. These services and practices typically have a well-constructed logic model or theory of change. This ranking is neutral. Services may move up to promising or proven effective after research reveals their impact on outcomes.
No effect	A service or practice with no effects has no impact on the desired outcome. It does not include the service's potential effect on other outcomes. Qualifying evaluations use rigorously implemented experimental or quasi-experimental designs.
Category of services	These services represent a category of services that a client may receive, dependent on need. As services can vary from client to client, we cannot assess their effectiveness.

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<p>A bipartisan provision enacted during the 2015 legislative session instructs Minnesota Management & Budget (MMB) to conduct benefit-cost analyses for corrections and human services, using the Pew-MacArthur Results First framework. The Results First team at MMB partners with agencies and counties to estimate benefit-cost ratios associated with practices that have been rigorously evaluated.</p> <p>As policymakers face difficult budget choices, knowing which services have proven outcomes that lead to taxpayer savings is valuable. This ability to make informed choices when employing public resources maximizes the benefits to state residents. This inventory provides a central repository of services offered in Minnesota and evidence of their effectiveness.</p> <p>MMB will release the adult criminal justice benefit-cost analysis in late 2016. More information is available on our website: https://mn.gov/mmb/results-first/.</p> <p>The benefit-cost analysis is based on the Washington State Institute for Public Policy (WSIPP) model. The technical appendix is on their website: http://www.wsipp.wa.gov/BenefitCost</p> <p>Voices from the field column MMB understands that services are complex and quality research exists that may not meet our definitions. We welcome that context and detail. If your organization would like to add a voice from the field comment, email ResultsFirst@state.mn.us. The statement must be brief, validated by MMB, and attributable to the submitting organization. It can include links to additional information.</p>

Service Inventory: Prisons

This inventory presents information about major services and treatments offered in prison settings. These services are predominately provided by the Minnesota Department of Corrections (DOC). The Impact on Outcomes column shares findings from rigorous research on how effective the service is at reducing recidivism. This analysis does not look at other potentially beneficial outcomes, such as increased employment or improved health outcomes. More information about the findings or about Results First can be found at the bottom of the inventory.

Service/Practice	Service description	Involved agencies	Average length of service	Average frequency of service	Impact on outcomes	Source of evidence	Voices from the field
Affordable Homes Program (ICWC/AHP)	Inmates construct affordable housing under supervision of a qualified construction foreman and stay in county jails for the duration of the program.	DOC	7 months	40 hours a week	No effect on recidivism (MN)	What Works with MN Prisoners	MNDOC notes a positive change on employment in the construction trade. Moreover, local communities and nonprofits benefit from low-cost labor and additions to the stock of affordable housing.
Beyond Trauma	Beyond Trauma is a gender-responsive, cognitive behavioral program for female offenders with a history of trauma.	DOC	3 months	Twice a week	Theory-based effect on recidivism		MNDOC notes the California Evidence-Based Clearinghouse categorizes Beyond Trauma as an evidence-based practice when it is delivered with Helping Women Recover (bit.ly/2aSrROS).
Beyond Violence	Beyond Violence is a gender-responsive, cognitive behavioral program for female offenders with a history of victimization and violence.	DOC	5 months	Twice a week	Theory-based effect on recidivism		MNDOC cites a study that found Beyond Violence led to positive changes in "mental health symptoms and forms of anger expression." An ongoing study is assessing the impact on recidivism. If the findings are positive and meet the criteria for rigor, Beyond Violence would move to promising.
BRIDGE	BRIDGE includes job training and placement services, in conjunction with work release.	DOC, MINNCOR	8 months	40 hours a week	Theory-based effect on recidivism; ongoing local evaluation		Requires a high school diploma or GED to participate.
Career and technical education	This includes post-secondary education and technical training in various vocations to develop skills offenders can use to find and retain post-release employment.	DOC, MINNCOR	8 months	Varies	Proven effective at reducing recidivism (MN)	What Works with MN Prisoners	Requires a high school diploma or GED to participate.
Challenge Incarceration Program (CIP)	CIP is a voluntary early-release, boot camp program that includes physical training, cognitive skills development, education, chemical dependency treatment and intensive supervised release (ISR).	DOC, Counties	18 months: final 12 months on supervision	Phase I: 6x/week Phase II: 1-3x/week Phase III: 2x/month	Proven effective at reducing recidivism (MN)	What Works with MN Prisoners	
Challenge Program	This service utilizes interactive journaling and group discussions to encourage self-reflection.	DOC	10-11 months	1.5 hours a week	Theory-based effect on recidivism		
Chemical dependency treatment (CD)	CD participants stay in long-term residential living units that address both substance abuse issues and criminogenic factors.	DOC	6-9 months	15-25 hours a week	Proven effective at reducing recidivism (MN)	What Works with MN Prisoners	
Chemical dependency treatment (CD) (Short term)	Inpatient CD for those with shorter prison sentences. Emphasizes release planning component.	DOC	4 months	15-25 hours a week	Proven effective at reducing recidivism (MN)	What Works with MN Prisoners	
Cognitive Behavioral Therapy	Cognitive behavioral therapy includes cognitive restructuring, social skills development, and use of problem-solving skills. Thinking 4 a Change (T4C) is a brand name cognitive behavioral therapy.	DOC	25 sessions	2-4 hours per week	Proven effective at reducing recidivism	Crime Solutions	
Correctional adult basic education	Correctional adult basic education occurs in a prison setting. It includes special education, English as a Second Language (ESL), and General Education Development (GED) preparation. A high school diploma or GED is a prerequisite for post-secondary coursework.	DOC, MDE	4-5 months	Varies	No effect on recidivism (MN)	What Works with MN Prisoners	Minnesota Department of Corrections (MNDOC) notes the program opens a pathway to post-secondary attainment. Their research shows post-secondary credentials lead to improved employment and recidivism outcomes (see Career Technical Education below). Minnesota ranks first nationally in GED completion rates for offender students.
Emotional intensity groups	Psychoeducation treatment uses components of the Systems Training for Emotional Predictability and Problem Solving (STEPPS) curriculum.	DOC	2 months	2 hours per week	Theory-based effect on recidivism		

Service/Practice	Service description	Involved agencies	Average length of service	Average frequency of service	Impact on outcomes	Source of evidence	Voices from the field
EMPLOY	EMPLOY is vocational education combined with programming on job search skills and assistance finding and retaining post-release employment.	DOC, MINNCOR	15 months	Daily	Proven effective at reducing recidivism (MN)	What Works with MN Prisoners	Requires a high school diploma or GED to participate.
InnerChange Freedom Initiative	InnerChange is a faith-based prisoner reentry program with mentorships that continue post-release.	DOC	30 months	Varies	Proven effective at reducing recidivism (MN)	What Works with MN Prisoners	
Institution/Community Work Crew (ICWC)	Inmates work on community projects under supervision of a crew leader.	DOC	8 months	40 hours a week	Theory-based effect on recidivism		Minnesota Department of Corrections (MNDOC) notes work crews provide benefits to local communities through service.
MINNCOR (Correctional Industries)	Prison jobs where inmates earn a wage and develop job skills. A portion of profits from product sales is reinvested into DOC programming.	DOC, MINNCOR	Less than 48 months	25 hours a week	Proven effective at reducing recidivism (MN)	VWWR	Requires a high school diploma or GED to participate.
MnCOSA	A group of trained volunteers provide weekly pro-social support to Level 2 sex offenders four weeks before release and for at least one year after release.	DOC	9-15 months	1-2 hours a week	Proven effective at reducing recidivism (MN)	What Works with MN Prisoners	
Moving On	A gender-responsive, cognitive behavioral program for female offenders.	DOC	3 months	4 hours per week	Proven effective at reducing recidivism (MN)	VWWR	
Power of People (prison-based services)	Power of People includes life skills and relationship-building for inmates. The curriculum teaches readers to identify positive relationships and lifestyles.	DOC	3 months	2 hours per week	Theory-based effect on recidivism	What Works with MN Prisoners	MNDOC notes that this program has changed since the 2006-2011 period studied in an evaluation that found no impact on recidivism (Clark & Duwe, 2015). This evaluation did not examine other potentially important outcomes such as prison misconduct.
Pre-release employment services (DEED)	This employment service program for offenders is often provided in conjunction with a career and resource fair.	DOC, DEED	6-8 hours	Once	Theory-based effect on recidivism		
Restorative Justice 101	This introductory class teaches principles and practices of restorative justice.	DOC	2 months	1.5-2 hours per week	Theory-based effect on recidivism		
Sex offender treatment	This prison-based inpatient sex offender treatment incorporates cognitive behavioral therapy and focuses on high-risk offenders.	DOC	16 months	Daily	Proven effective at reducing recidivism (MN)	What Works with MN Prisoners	
Thinking for a Change (T4C)	T4C is a cognitive behavioral therapy program that includes cognitive restructuring, social skills development, and use of problem-solving skills.	DOC	25 sessions	2-4 hours per week	Proven effective at reducing recidivism (MN)	Crime Solutions	
Victim Impact Class	This course increases an offender's awareness of the impact crime has on victims and teaches them to take responsibility for their actions.	DOC	3 months	2 hours per week	Theory-based effect on recidivism		
Work release	Carefully screened offenders are released from prison to county jails and are employed in the community.	DOC, Counties	4-5 months	40 hours a week	Proven effective at reducing recidivism (MN)	What Works with MN Prisoners	
Core correctional services, required offerings, or other service categories							
General reentry services	Release planning prepares offenders for life outside prison. It addresses how to attain identification, housing, employment, health care, etc.	DOC	2 months, prior to release	Varies	Category of services		
Other behavioral health services	Continuum of mental health services. Four levels include self-help groups, outpatient interventions, supporting living units, and residential care.	DOC	Varies	Varies	Category of services		

Service/Practice	Service description	Involved agencies	Average length of service	Average frequency of service	Impact on outcomes	Source of evidence	Voices from the field
Core correctional services, required offerings, or other service categories							
Other enrichment services	These services provide an opportunity for self-development. Examples include art, critical thinking skills, library, and a computer learning center.	DOC	Varies	Varies	Category of services		
Other groups addressing criminogenic needs	Individual institutions have latitude to offer a range of courses that seek to address criminogenic needs. These programs range from professionally staffed programs to loosely structured, volunteer-led groups.	DOC	Varies	Varies	Category of services		
Parenting & family services	Assorted programs, such as Families in Focus, Parenting with a Purpose, and Reading is Fundamental, promote healthy, growing, and supportive family relationships.	DOC	Varies	Varies	Category of services		
Release planning for Serious and Persistent Mental Illness (SPMI)	Services to address vocational, housing, chemical dependency, psychiatric medical, and transportation needs for offenders with serious and persistent mental illness.	DOC	2 months, prior to release	Varies	No effect on recidivism (MN)	What Works with MN Prisoners	Statute requires release planning for every offender with SPMI. MNDOD adds, though no impact was found on recidivism, there may be positive impacts on hospitalizations or psychiatric symptoms. These impacts have not yet been studied in Minnesota.
Religious services	A wide range of faith-based groups and services are offered at facilities and cover many faiths and religious bodies.	DOC	Varies	Varies	Category of services		

Impact on outcomes: definitions	
Proven effective	A proven effective service or practice offers a high level of research on effectiveness, determined through multiple qualifying evaluations outside of Minnesota or one or more qualifying local evaluation. Qualifying evaluations use rigorously implemented experimental or quasi-experimental designs. The label MN indicates a local rigorous evaluation.
Promising	A promising service or practice has some research demonstrating effectiveness, such as a single qualifying evaluation that is not contradicted by other such studies, but does not meet the full criteria for the proven effective designation. Qualifying evaluations use rigorously implemented experimental or quasi-experimental designs.
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No effect	A service or practice with no effects has no impact on the desired outcome. It does not include the service's potential effect on other outcomes. Qualifying evaluations use rigorously implemented experimental or quasi-experimental designs. The label MIN indicates a local rigorous evaluation.
Category of services	These services represent a category of services that a client may receive, dependent on need. As services can vary from client to client, we cannot assess their effectiveness.

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Appendix B: Summary of research methods

Overview

Inventory of services

In the preparation of this report, we compiled an inventory of all services available in the participating jurisdictions. That inventory is available on our website (<https://mn.gov/mmb/results-first/inventory-of-services/>) For each policy area, the inventory lists information about the service description, the oversight agency, treatment components, and the supporting evidence that it reduces recidivism. In Adult Criminal Justice, we compiled two inventories: a prison inventory and a supervision inventory. For the prison inventory, we collaborated with the Minnesota Department of Corrections (DOC). For the supervision inventory, we worked with a sample of six counties and the DOC to collect information about their supervision offerings. The inventory and the associated benefit-cost analyses reflect the experiences of these counties.

Benefit-cost analysis

Benefit-cost analysis is a tool used to compare policy alternatives to determine which will generate the highest net benefit over time for each dollar invested. The results provide important data on cost-effectiveness, but do not address other important factors in the policy-making process, such as equity. An advantage of using benefit-cost analysis within the same policy area is the ability to measure costs and outcomes in the same way across different services.

The model uses an integrated set of calculations in a computerized model to produce a benefit-cost ratio. This ratio indicates how many dollars in benefits to taxpayers and society the state can expect to occur over time, for every dollar spent to fund the service.

Benefits from reduced recidivism

Benefits included in this analysis include taxpayer benefits and other societal benefits. Taxpayer benefits include avoided costs to law enforcement, adjudication, the Minnesota Department of Corrections, and county supervision jurisdictions. Local partners provided assistance calculating a marginal operating cost for each area of adult criminal justice. Societal benefits include avoided victim costs, measured when a crime is not committed. Depending on the type of crime avoided, these can include medical expenses, cash losses, property theft or damage, pain and suffering, lost earnings from injury or in the

case of premature death from homicide, the value of a statistical life taken from economic work on valuation of crime.^{44 45 46}

Data quality and limitations

In order for a service to be included in the benefit-cost analysis, it needed to have a similar treatment, duration, frequency, and participant profiles as the empirical research that indicated its level of evidence. The benefit-cost model assumes services in the state have an impact comparable to the impact found in previous research. In cases where they did not meet these requirements or staff articulated a concern with fidelity, the service was not included in the benefit-cost analysis. We did not conduct fieldwork to ensure fidelity of implementation, but rely on professional judgement about services targeting the appropriate population as well as dosage per the treatment design. Without effective implementation, we may not see the anticipated benefits here in Minnesota.

There are limits to using a state-wide benefit-cost ratio since there are differences between service delivery systems throughout the state, including differences in law enforcement, charging practices, availability to provide services, and capability to follow evidence-based practices. In addition to differences in service delivery, there are demographic differences across the state. For these reasons, a generalized state level ratio may not be an accurate representation of individual counties.

Many public services are composed of a set of treatments given in concert. This analysis uses existing research, some of which reflects treatment combinations exactly as offered in Minnesota and some of which reflects individual services that may be bundled with other services. This analysis does not estimate the impact of two separate services delivered together. For example, if a prison inmate is participating in an education service and a cognitive-behavioral therapy service, the analysis will not measure the interaction between them, and if that interaction has any effect on reducing recidivism.

⁴⁴ McCollister, K.E., French, M.T., & Fang, H. (2010). The cost of crime to society: New crime-specific estimates for policy and program evaluation. *Drug and Alcohol Dependence*, 108(1), 98-109.

⁴⁵ Cohen, M.A., & Piquero, A.R. (2009). New evidence on the monetary value of saving a high-risk youth. *Journal of Quantitative Criminology*, 25(1), 25-49.

⁴⁶ Miller, T.R., Cohen, M.A., & Wiersema, B. (1996). *Victim costs and consequences: A new look* (Document No. NCJ 155282). Washington, DC: National Institute of Justice.

Recidivism and resource use

Crime types

The costs associated with a person who recidivates are substantial and result in expenses to both Minnesota taxpayers and victims of these events.⁴⁷ These costs vary, but on average a person who is convicted of aggravated robbery (felony) will incur higher institutional and victim costs than a person who is convicted of trespassing (misdemeanor). To capture the cost differences, we categorized the criminal offense code. The recidivism analysis organizes crime into seven offense categories. Each category links to both resource use and victimization costs.

Minnesota utilizes a gross misdemeanor category in between felonies and misdemeanors, which is not a subcategory of misdemeanor, but an independent category at a higher severity than misdemeanors (House Research Department, 2007). For purposes of this analysis, we categorize gross misdemeanor crimes as misdemeanors. We recognize there are wide differences between misdemeanors and gross misdemeanors. In some cases, such as a gross misdemeanor domestic assault, the victimization costs are more similar to the felony version of the offense. Because the Results First framework has seven crime categories coded into the model, and these interact with many other variables, we opted to align all misdemeanors. This means victimization costs are likely understated. We do not include petty misdemeanors.⁴⁸

⁴⁷ We define recidivism as any offense committed after release to the community that results in a new conviction. Conviction categories include the following dispositions: convicted, continued for dismissal, dismissed, conditions met or expired, statutory stay of adjudication, stay of adjudication, vacated, diversion, continued without adjudication, adjudication unknown and continued without findings.

⁴⁸ Statute prohibits a petty misdemeanor, but it does not constitute a crime. The fine cannot exceed \$300; for example, traffic violations. See Minnesota Statutes 2015, Chapter 609 Criminal Code, Section 609.02.

Figure 10: Results First seven crime categories

Category	Description	Example
Homicide	felony offenses resulting in the loss of human life	murder, manslaughter
Sex Offense	felony sex crimes	sexual assault and abuse
Robbery	felony robbery offenses	home invasion burglary
Assault	felony aggravated assaults	kidnapping, physical harm
Property	felony property crimes	theft over \$1,000
Drug & Other	felony drug crimes, other felony charges that have lower resource use and victimization costs	felony drug possession, weapons charges, sex offender registration violations
Misdemeanor	all misdemeanor and gross misdemeanor offenses	petty drug charges, traffic violations

Source: Pew-MacArthur Results First Initiative and Minnesota Management & Budget

Cohorts

Cohorts represent the offender population that are the primary participants of evidence-based services. Based on data availability, we decided on two cohorts of offenders that best matched the available data and intended participants: prison release and supervised release. Future iterations of this project may add additional cohorts based on risk level and other factors.

Prison Release: all adults released from prison into the community on supervised release during calendar year 2010

Supervised release: all adults placed on supervision during calendar year 2010⁴⁹

The follow-up period for each cohort is from 2010-2015. The Department of Corrections provided the data needed to create a baseline cohort for each category, and Minnesota Courts provided the conviction data for the five-year follow-up period. Cohort members were matched in both datasets in order to track if they recidivated. Because recidivism data comes from the Minnesota courts and we are ultimately interested in understanding recidivism-related costs experienced by Minnesota, this analysis only counts convictions that took place in Minnesota, not convictions in other states.

⁴⁹ This also includes other active forms of supervision including sentencing to service or similar programming.

We matched each offender in the original cohort to criminal convictions in Minnesota Courts data, then calculated five characteristics of recidivism for each cohort: cumulative recidivism rate, hazard rate, most serious recidivating event, average trips through the system (based on most serious offense), and average number of counts per conviction.

In this analysis, we apply each service's effect size to the relevant cohort's baseline recidivism rate and calculate a percentage change in recidivism. This percentage change translates to avoided costs for taxpayers and foregone victimization costs.

Resource Use

We examined adult correctional resource use including the likelihood of using specific resources and the average length of time offenders use a resource. How a convicted individual moves through the system, and for how long, affects the use of different local and state criminal justice resources. Our model considers both aspects of resource use.

We used Minnesota extracts from Minnesota Judicial Analytical Database (MNJAD) to calculate the likelihood an offender would use a resource (prison, probation, supervised release) for each of the seven crime categories. The record examines dispositions from 2014. We included initial dispositions that led to later system use, removing any initial dispositions that have no future system use (dismissed, acquitted, etc.).⁵⁰ For offenders with multiple convictions, we took the most serious offense (by crime category). To determine crime categories, we created a crosswalk from Minnesota statutes to the seven Results First crime categories.

For post-prison supervision, we assumed all offenders would get some form of supervision. Minnesota statute requires all inmates "serve a supervised release term upon the completion of the inmates term of imprisonment."⁵¹ Generally, an inmate serves two-thirds of the term in prison and the remaining one-third on supervised release. Statute, however, highlights some cases where an individual may get no supervision.⁵² This means that we likely overestimate the percent of individuals who receive supervised release.

⁵⁰ We note there were some inconsistencies in the use of dispositions in MNJAD. This may lead to the inclusion of individuals with no future system use being included. We anticipate this impact is small and mitigated by the fact that we use the same disposition filters to estimate the probability of recidivism and the probability of system use. If an individual is erroneously included as a recidivator, the fact they did not later use any resources would decrease the overall probability of resource use.

⁵¹ *Minnesota Statutes* 2015, 244.05 Supervised Release Term

⁵² *ibid.*

We also calculated the length of time resource use for five categories: jail with a local prison sentence, jail with a prison sentence, community supervision post-jail sentence, prison sentence, and community supervision post prison. For jail with a local sentence, the model does not differentiate between post-disposition incarceration and jail credit on executed sentences. For each, we break the lengths out by the seven Results First crime categories.

Prison resource length came from analysis of 2014 DOC data on releases from prison. From the prisoner history, we took the total days in confinement for those released by crime categories. For adult jail, with a local and prison sentence, we were unable to use jail confinement data because it does not consistently track an individual by the case number or by an offense type. Because of this gap, we used Minnesota Court data to find the average number of jail credit days per offender. Both categories of supervision came from the Statewide Supervision System (S^3). For supervised release time, it is the time supervised in the county, less any confinement time in prison during that period (from the DOC prison database). For probation, it is time supervised less any stays in jail during the period (From MNJAD). For each, we extracted cases ending in 2015 and took the longest period of supervision to ensure we counted each offender once.

Calculation of Benefits

Types of Government Costs Calculated as Criminal Justice Benefits

Benefits included in this analysis are taxpayer benefits or other societal benefits. Taxpayer benefits include avoided costs to law enforcement, adjudication, the DOC, and county supervision jurisdictions. We used past research and local data to calculate a marginal operating cost for each area of adult criminal justice. The marginal cost represents the incremental change in dollars, for one additional person consuming this resource. For jail, prison, and supervision it is an annual total. The limitation to this approach is that it simplifies what can be wide variations in cost between and inside of the crime categories.

Figure 11: Adult criminal justice system data collection strategies

Resource	Cost Description
Law enforcement	Police costs are dollars per arrest.
Adjudication	Court costs, which include court, prosecutors, and public defenders, are dollars per conviction.
Department of Corrections	State prison costs and supervision (DOC and CPO counties) costs are annual costs per average daily population unit.
County supervision	Jail costs and supervision (CCA counties) costs are annual costs per average daily population unit.

Types of victimization costs calculated as societal benefits

The model monetizes tangible and intangible avoided victim costs as societal benefits. Tangible victim costs are direct economic losses suffered by crime victims. They include medical expenses, cash losses, property theft or damage, and lost earnings due to injury or related consequences. In the model, some criminal offenses, for example misdemeanor offenses, do not have victim costs. In these instances, the model does not identify a victim.⁵³

Intangible victim costs are indirect losses suffered by crime victims. They include pain and suffering, decreased quality of life, psychological distress, and the value of a statistical life in the case of premature death from homicide (McCollister, French, & Fang, 2010). It is difficult to place a dollar value on a victim of homicide; yet, we can use theoretical and statistical values to impute a cost. The intangible costs for a homicide are determined by examining pain and suffering measured by jury award and settlements in wrongful death suits.

The model uses tangible and intangible victimization cost estimates from two studies: *The Cost of Crime to Society: New Crime-Specific Estimates for Policy and Program Evaluation* (McCollister, French, & Fang, 2010) and *New evidence on the monetary value of saving a high-risk youth* (Cohen & Piquero, 2009). Cost estimates pre-loaded in the Results First model and measured in 2010 dollars. The model estimates the likelihood of avoided victimizations by crime category. Added together, tangible and intangible costs estimate the societal benefits we can expect from reduced recidivism.

⁵³ The societal benefits in the model are pre-loaded from McCollister, French & Fang (2010) and Cohen & Piquero (2009). All misdemeanor offenses assume no tangible nor intangible victim costs. This presents a limitation of the model since it is possible that misdemeanors (and gross misdemeanors in Minnesota) have victim costs: domestic abuse, DWI, theft, and prostitution.

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