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Alternatives to Incarceration in California
A Guide to Research

Technical Appendix

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Brandon Martin and Ryken Grattet

How These Materials Were Selected

In our report *Alternatives to Incarceration in California*, we relied upon existing literature reviews, meta-analyses, and selected empirical studies and books. We chose pieces that were methodologically rigorous, representative of the evolving scholarship, and published in the last five years. In this appendix, we provide brief summaries of the key findings of a few of the studies we relied upon in the report. In doing so, we provide a source citation, highlight the key research questions that motivated the research, and underscore the significance of the research. When characterizing the findings we rely on direct quotes from the original sources, so as to not overly distill the author’s intent.

Does Incarceration Reduce Crime?

Specific research question: What is the effect of imprisonment on crime?
Source: Steven Raphael and Michael A Stoll. 2013. *Why are so many Americans in Prison?* Russell Sage Foundation Press. New York.
Significance: Raphael and Stoll synthesize the research to date on the causal effect of incarceration on crime using aggregate imprisonment and crime data and overcome the methodological criticisms levied at prior work to provide the most comprehensive estimates. Since 1989, increases in incarceration have offered less crime control benefit than they once did.
Key finding: “We have presented a detailed discussion of large bodies of research that suggest that the crime-preventing effects of incarceration vary quite a bit from inmate to inmate and that on average the effectiveness of prison in reducing crime rates diminishes as the incarceration rate increases.”

Table A1.
Relationship of crime rates and incarceration

	Range of the effect of increasing the incarceration rate by one person (per 100,000) on crime rate (per 100,000)	Average state incarceration rate
Violent crime		
1977 to 1988	-1.30* to -2.11*	171
1989 to 1999	.03 to .11	349
2000 to 2010	-.01 to -.18	449
Property crime		
1977 to 1988	-8.64* to -18.10*	171
1989 to 1999	-1.29* to .32	349
2000 to 2010	-2.05 to -2.82	449

SOURCE: Figure 7.8, Table 7.3 and 7.4, Raphael and Stoll, 2013.

NOTE: *Statistically significant above the 5 percent level of confidence.

Specific research question: Does imprisonment deter crime?

Source: Steven Durlauf and Daniel S. Nagin. 2011. "The Deterrent Effect of Imprisonment." In Philip J. Cook, Jens Ludwig, and Justin McCrary (eds.) *Controlling Crime: Strategies and Tradeoffs*. University of Chicago Press: Chicago.

Significance: Durlauf and Nagin review the vast literature on deterrence, focusing specifically on the deterrent effect of long prison terms, and highlight recent findings showing certainty of punishment is more important than severity of punishment.

Key Finding: "The key empirical conclusion of our literature review is that there is relatively little reliable evidence of variation in the severity of punishment having a substantial deterrent effect, but that there is relatively strong evidence that variation in the certainty of punishment has a large deterrent effect...One specific policy- relevant implication of this general conclusion is that lengthy prison sentences, particularly those that take the form of mandatory minimum- type statutes such as California's Three Strikes Law, are difficult to justify on a deterrence- based crime prevention basis. They must be justified based on either incapacitation benefits or along retributive lines. While we have not surveyed the evidence on incapacitation, we are skeptical of the incapacitative efficiency of incarcerating aged criminals. For their incarceration to be socially efficient it must have a deterrent effect on other presumably younger criminals. There is no reliable evidence of such an effect." (p. 81)

Is Incarceration More Effective than Community-based Supervision in Reducing Recidivism?

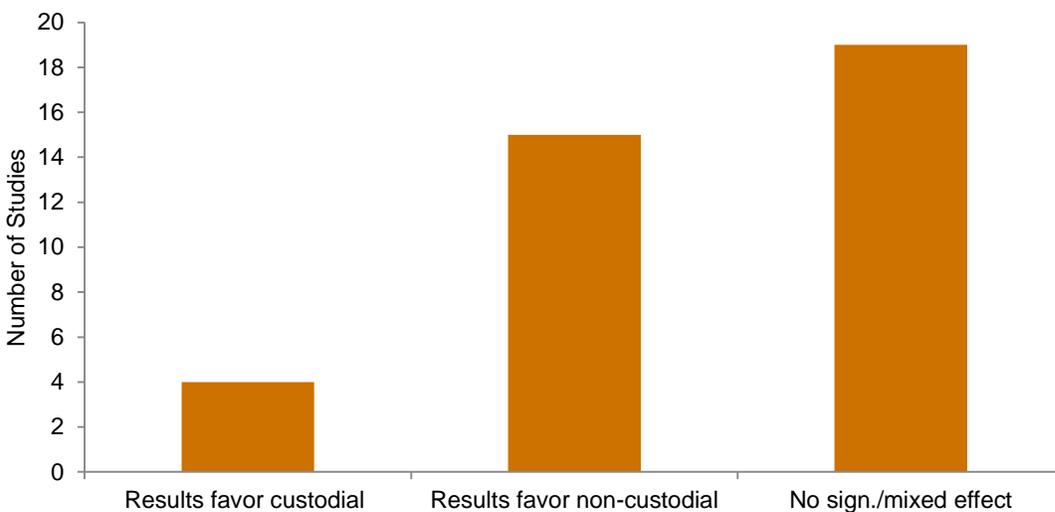
Specific research question: What is the effect on reoffending of custodial versus non-custodial sanctions?

Source: Patrice Villettaz, Gwladys Gillerion, and Martin Killias. 2014. *The effects on re-offending of custodial versus non-custodial sanctions: An updated systematic review of the state of knowledge*. Brå centre of knowledge on crime and measures to combat crime. The Swedish National Council for Crime Prevention.

Significance: This report updates a review published in 2006 for the Campbell Collaboration Crime and Justice Group (Patrice Villettaz, Isabelle Zoder, and Martin Killias) and provides a meta-analysis of the experimental and quasi-experimental studies comparing custody versus non-custodial punishments. The findings indicate that offenders given community-based punishments have the same or lower recidivism rates when compared to offenders that receive custody.

Key Findings: “The findings of the update confirm one of the major results of the first report, namely that the rate of re-offending after a non-custodial sanction is lower than after a custodial sanction in most comparisons. However, this is true mostly for quasi-experimental studies using weaker designs, whereas experimental evaluations and natural experiments yield results that are less favourable to non-custodial sanctions. It can be concluded that results in favour of non-custodial sanctions in the majority of quasi-experimental studies may reflect insufficient control of pre-intervention differences between prisoners and those serving ‘alternative’ sanctions.” (p. 10)

Figure A1.
Summary of research on custodial and non-custodial sanctions and re-offending



SOURCE: Table 1, Villettaz, Gillerion, and Killias, 2014.

NOTE: We use the “Results favour...” column of Table 1 to create this figure. The results needed to be statistically significant and only favoring one direction to be included in the specific direction category. If a study’s results were not statistically significant, or had mixed results, they are included in the last “no sign./mixed effect category.”

Research question: Does a custodial sanction prevent recidivism?

Source: Daniel S. Nagin and G. Matthew Sondgrass. 2013. "The Effect of Incarceration on Re-offending: Evidence from a Natural Experiment in Pennsylvania." *Journal of Quantitative Criminology* 29: 601-642.

Significance: This study focuses on the effect of custodial punishment on subsequent offending behavior. A notable feature of this investigation is that it observes recidivism outcomes at multiple points in time (1, 2, 5, and 10 years) from the point of sentencing, rather than the point of release. As a result, it includes the time during which the offenders sentenced to prison are in-custody and therefore incapacitated from committing further offenses. It is therefore noteworthy that the findings shows no difference in reoffending between those offenders who spent a portion of their sentence in custody and those that spent the entire period in the community.

Key findings: "On the whole, the results provide no indication of whether the experience of incarceration increases or decreases reoffending rate. This holds whether we observe rearrest during a very short window (1 year) or a long window (2 years)... This result is consistent with an emerging body of work that uses randomization of cases to judges as the basis for concluding that incarceration has no clear impact on recidivism." (p. 624-5)

Which Incarceration Alternatives Are Most Effective?

Research question: Do swift, certain, but short periods of incarceration deter reoffending?
 Source: Angela Hawken and Mark Kleiman. 2009. *Managing Drug Involved Probationers with Swift and Certain Sanctions: Evaluating Hawaii's HOPE*. National Institute of Justice. (NIJ 2007-IJ-CX-0033)

Significance: Hawken and Kleiman evaluate Hawaii Opportunity Probation with Enforcement (HOPE), which uses the threat of swift and certain sanctions to deter drug use and reoffending among high-risk probationers. The study showed that offenders who were randomly assigned to project HOPE had fewer missed appointments and lower recidivism than offenders given regular probation.

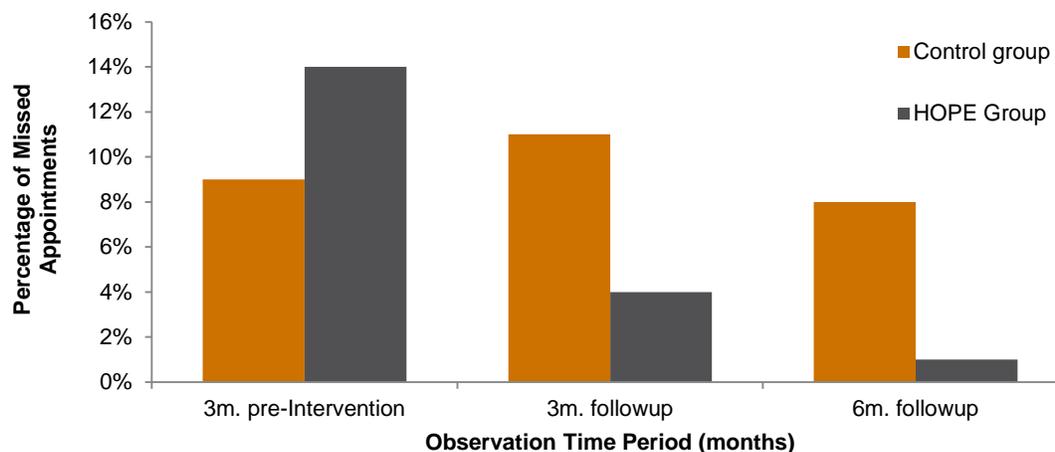
Findings: "Probationers assigned to HOPE had large reductions in positive drug tests and missed appointments, and were significantly less likely to be arrested during follow-up at 3 months, 6 months, and 12 months. They averaged approximately the same number of days in jail for probation violations, serving more but shorter terms. They spent about one-half as many days in prison on revocations or new convictions." (p. 4)

Table A2.
Key findings from Hawaii's Project HOPE

Outcome	Control group	HOPE group
Rate of positive drug test (6m. rate)	19%	4%
One-year rearrest rate	47%	21%
Days sentenced to prison for revocation (avg.)	267	138

SOURCE: Hawken and Kleiman, 2009.

Figure A3.
Missed appointment findings from HOPE study



SOURCE: Hawken and Kleiman, 2009.

Research question: What services and interventions reduce recidivism?
Source: Stephanie Lee, Steve Aos, and Annie Pennucci. 2015. *What works and what does not? Benefit-cost findings from WSIPP*. (Doc. No. 15-02-4101). Olympia: Washington State Institute for Public Policy.
Significance: The Washington State Institute for Public Policy publishes the results of meta-analyses of criminal justice and other social services programs and estimates cost-benefit ratios for each type of program. Their work shows consistent support for a variety of different interventions with offenders.
Findings: See table below.

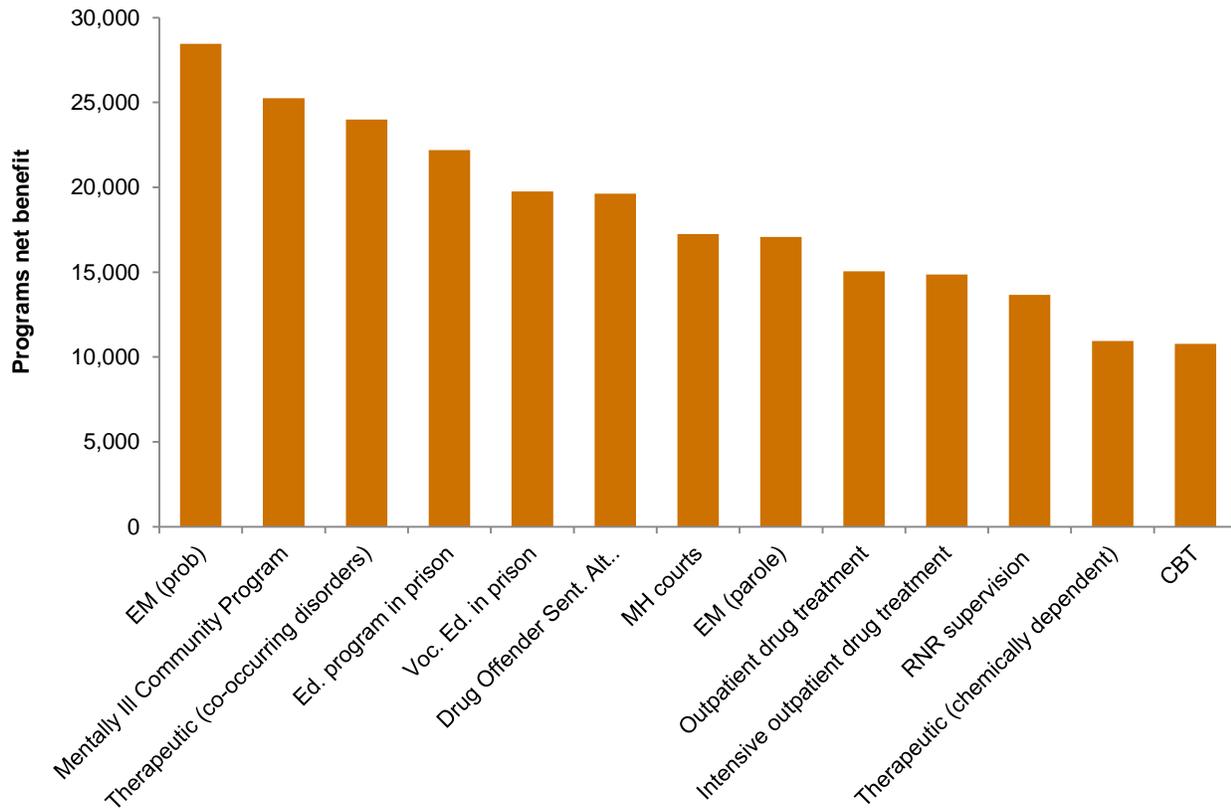
Table A3.
Current WSIPP estimates of services and interventions

Program name	Total benefits	Taxpayer benefits	Non-taxpayer benefits	Costs	Benefits minus costs (net PV)	Benefit to cost ratio	Chance benefits will exceed costs
Electronic monitoring (probation)	27,363	6,691	20,673	(1,102)	28,465	n/a	94%
Offender Re-entry Community Safety Program (dangerously mentally ill offenders)	58,499	19,337	39,162	33,254	25,245	1.76	95%
Therapeutic communities for offenders with co-occurring disorders	27,658	7,511	20,148	3,665	23,994	7.56	100%
Correctional education (basic or post-secondary) in prison	23,346	6,088	17,258	1,161	22,185	20.13	100%
Vocational education in prison	21,377	5,649	15,727	1,619	19,757	13.22	100%
Drug Offender Sentencing Alternative (for drug offenders)	21,204	5,494	15,710	1,576	19,629	13.48	99%
Mental health courts	20,253	5,541	14,711	3,007	17,245	6.75	100%
Electronic monitoring (parole)	15,979	3,950	12,030	(1,102)	17,081	n/a	100%
Outpatient/non-intensive drug treatment (incarceration)	15,982	4,195	11,788	923	15,060	17.35	100%
Inpatient/intensive outpatient drug treatment (incarceration)	16,436	4,390	12,046	1,575	14,861	10.45	100%
Risk Need and Responsivity supervision (for high and moderate risk offenders)	18,571	5,311	13,260	4,906	13,665	3.79	100%
Therapeutic communities for chemically dependent offenders (community)	12,489	3,310	9,179	1,541	10,948	8.12	100%
Cognitive behavioral treatment (for high and moderate risk offenders)	11,201	2,884	8,317	424	10,777	26.47	100%

SOURCE: Lee, Aos, Pennucci, 2015.

NOTES: Electronic monitoring is the only program that WSIPP says actually makes money. Because it is the only program to make money, we highlight it by putting it in ()'s. In addition, because the program makes money it is not possible to create the benefit to cost ratio. All program costs listed in bold are programs that cost the organization to offer the program.

Figure A4.
WSIPP estimates of total program benefits minus cost (net present value)



SOURCE: Lee, Aos, Pennucci, 2015.

NOTE: The figure is a graphic representation of the findings in Lee, Aos, and Pennucci. We present their calculations of the total benefits minus the program cost to give an estimated program net benefit.

Other Valuable Reference Material

Research question:	What are the consequences of imprisonment for offenders, their families, and their communities?
Source:	National Research Council. 2014. <i>The Growth of Incarceration in the United States: Exploring Causes and Consequences</i> . Committee on Causes and Consequences of High Rates of Incarceration, J. Travis, B. Western, and S. Redburn, Editors. Committee on Law and Justice, Division of Behavioral and Social Sciences and Education. Washington, DC: The National Academies Press.
Significance:	This report by a respected body of researchers and scientists concludes that sentencing and corrections policies emphasizing imprisonment have not resulted in cost-effective crime reduction and have had numerous deleterious consequences for poor and minority communities.
Findings:	"The change in penal policy over the past four decades may have had a wide range of unwanted social costs, and the magnitude of crime reduction benefits is highly uncertain...People who live in poor and minority communities have always had substantially higher rates of incarceration than other groups. As a consequence, the effects of harsh penal policies in the past 40 years have fallen most heavily on blacks and Hispanics, especially the poorest." (p. 339 and 340)

Research question: Does electronic monitoring reduce recidivism?

Source: Stephen V. Gies, Randy Gainey, Marcia I. Cohen, Eoin Healy, Martha Yeide, Alan Bekelman, and Amanda Bobnis. 2013. *Monitoring High-Risk Gang Offenders with GPS Technology: An Evaluation of the California Supervision Program Final Report*. National Institute of Justice (2009-SQ-B9-K018).

Findings: “The findings indicate that during the two-year study period, subjects in the GPS group, while less likely than their control counterparts to be arrested in general or for a violent offense, were much more likely to violate their parole with technical and nontechnical violations...The cost analysis indicates the GPS program costs approximately \$21.20 per day per parolee, while the cost of traditional supervision is \$7.20 per day per parolee—a difference of \$14. However, while the results favor the GPS group in terms of recidivism, GPS monitoring also significantly increased parole violations. In other words, the GPS monitoring program is more expensive, but may be more effective in detecting parole violations.” (p. vii)

Table A4.
Outcomes of California’s GPS supervision program

Measure	GPS	Control
Technical Parole Violation	43.9%	42.6%
Nontechnical Parole Violation	54.9%	53.8%
Any Arrest	46.7%	56.1%
Violent Arrest	12.5%	19.6%

SOURCE: Gies et al., 2013..

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San Francisco, CA

PUBLIC POLICY INSTITUTE OF CALIFORNIA
500 Washington Street, Suite 600
San Francisco, California 94111
phone: 415.291.4400
fax: 415.291.4401
www.ppic.org

PPIC SACRAMENTO CENTER
Senator Office Building
1121 L Street, Suite 801
Sacramento, California 95814
phone: 916.440.1120
fax: 916.440.1121