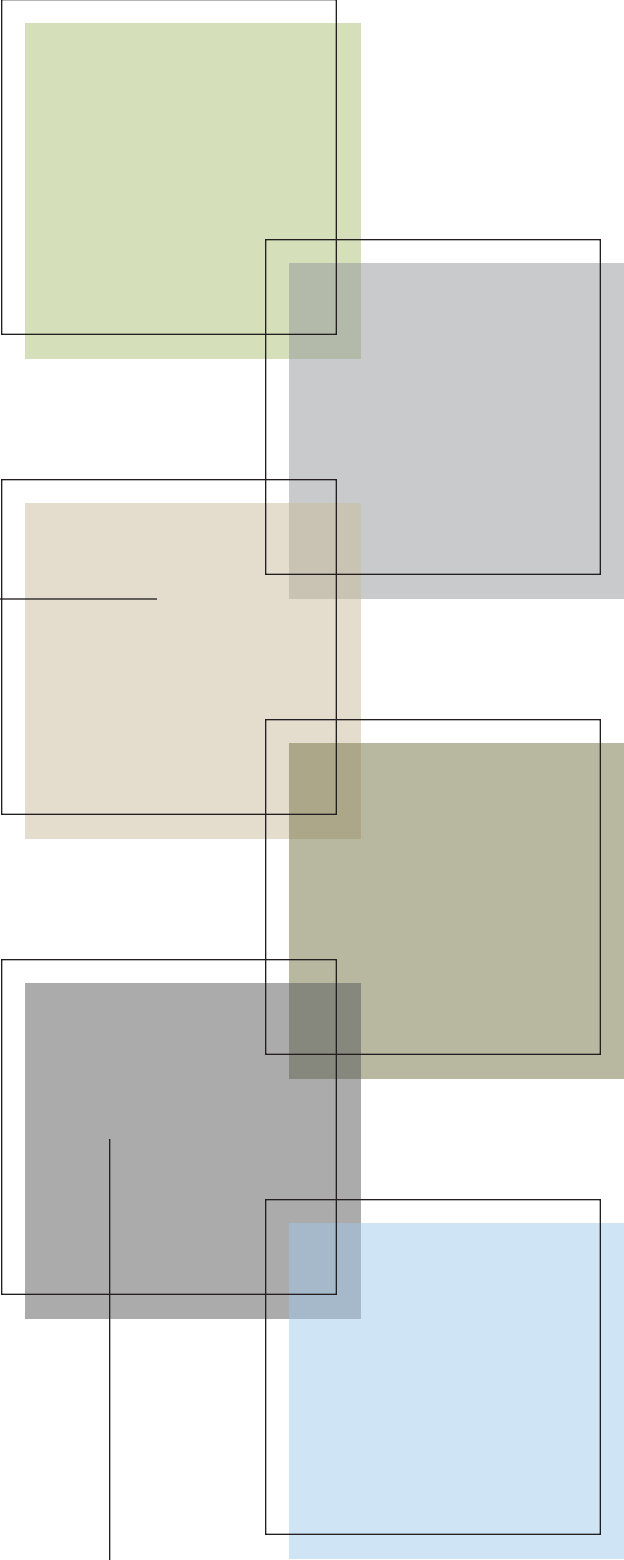




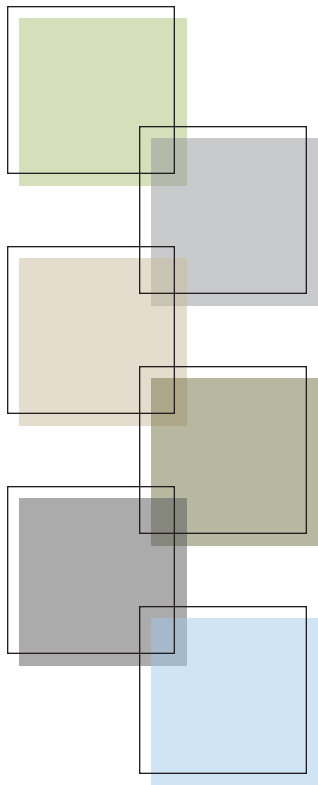
What Works

Effective Recidivism Reduction and Risk-Focused Prevention Programs

A Compendium of Evidence-Based
Options for Preventing New and
Persistent Criminal Behavior

Prepared for the Colorado Division of Criminal Justice

RKC Group
Roger Przybylski
February, 2008



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Summary



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Executive Summary

This report identifies and describes interventions that are effective in reducing recidivism and preventing crime. The primary audience is the Colorado Commission on Criminal and Juvenile Justice, and the primary goal of this compendium is to assist the Commission in carrying out its mission and statutory duties. These duties include investigating evidence-based recidivism reduction initiatives and cost-effective crime prevention programs.

The primary audience is the Colorado Commission on Criminal and Juvenile Justice, and the primary goal of this compendium is to assist the Commission in carrying out its mission and duties.

Descriptions of the findings presented in this summary can be found in the body of the report where relevant studies are referenced. Complete citations can be found in the bibliography.

Method

This report is based on a comprehensive and systematic review of the criminology literature on what works to reduce recidivism or prevent the onset of delinquent and criminal behavior. Information was obtained by reviewing evaluation and other reports on correctional interventions and early, risk-focused prevention programs operating in the United States and Canada. To identify what works, both quality and consistency of the evidence was considered. Quality was addressed by basing the conclusions presented here on the latest and most rigorous scientific evidence available. Consistency was addressed by focusing on research that synthesized the evaluation results from many studies and programs.

Findings

Incarceration and Crime

Given the increased use of incarceration as a crime control strategy, the review begins with a summary of recent research on the impact of incarceration on crime. The studies reviewed and findings presented are not Colorado-specific.

- Incarceration clearly prevents crimes by removing offenders from the community. Estimates of the number of crimes prevented vary, but an annual average of about 15 crimes per offender has been cited by two rigorous studies.
 - ▶ Most crimes prevented through incapacitation are property crimes.
 - ▶ The preventive effect of incapacitation on drug crimes is likely offset by a replacement effect in the community. That is, other offenders quickly replace incarcerated drug offenders.
- Research examining the impact of incarceration on crime rates has produced disparate results. Nevertheless, the following conclusions can be drawn from the most rigorous studies.
 - ▶ The relationship between incarceration and crime rates is quite complex. The fact that crime rates have declined in recent years while incarceration rates have increased is not conclusive evidence that the increased use of imprisonment caused the drop in crime or that incarceration is cost-effective relative to other crime control strategies. In fact, the relationship between higher rates of imprisonment and crime rates is quite uneven across time and jurisdictions.
 - ▶ The conclusions reached by several recent, highly rigorous studies are remarkably consistent in finding



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that a 10% higher incarceration rate was associated with a 2% to 4% reduction in the crime rate.

- ▶ The drop in crime that most jurisdictions experienced in the 1990s is primarily due to factors other than incarceration. Studies that have focused on explaining the drop in crime have consistently concluded that incarceration has played a role in the crime drop but that social, policing and other factors together are responsible for at least two-thirds and arguably much more of the overall crime decline.
- Research shows little evidence that incarceration has a positive effect on later reoffending.
 - ▶ Rigorous studies have shown that incarceration is associated with higher rates of recidivism when compared with community-based sanctions.
 - ▶ Longer prison sentences are also linked to higher rates of recidivism.
 - ▶ Recent research has begun to examine the collateral costs of incarceration on children of prisoners, and the longer-term costs to disadvantaged communities.
 - ▶ Community-level studies have found that the social fabric of neighborhoods can be negatively affected by the incarceration of large numbers of young adult men, thereby increasing rather than preventing crime at the neighborhood level.

Research shows little evidence that incarceration has a positive effect on later reoffending.

- Employment, aging, and marriage contribute to the termination of criminal activity, and these play a more important role in recidivism reduction than incarceration and surveillance-oriented supervision.
- Research shows that when supervision is service-oriented and focuses on the individual offender's deficits that are related to criminal behavior (such as addiction, employment problems, unstable living arrangements, pro-criminal attitudes and associates), recidivism can be significantly reduced.

What Works in Reducing Recidivism

More than 30 years of research has produced a body of evidence that clearly demonstrates that rehabilitation programs work. A variety of programs, properly targeted and well-implemented, can reduce recidivism and enhance public safety.

- **Education and vocational programming.** Based on the scientific evidence, education and vocational training programs work. Meaningful work is an important contributor to reductions in offending. These programs
 - ▶ Increase the rate of employment for ex-offenders.
 - ▶ Reduce recidivism.
 - ▶ Provide a positive return on investment.

A variety of programs, properly targeted and well-implemented, can reduce recidivism and enhance public safety.

- **Substance abuse treatment.** Substance abuse treatment works. Treatment programs
 - ▶ Reduce alcohol and drug use and crime.
 - ▶ Produce a significant return on taxpayer investment.In addition, research confirms the following:
 - ▶ The longer an offender stays in treatment, the better the chance of post-treatment success.
 - ▶ **Therapeutic communities** are particularly effective.
 - ▶ **Aftercare** is important for long-term success.
- **Drug courts.** Drug courts operate in nearly every state. They help keep offenders in treatment longer and they effectively reduce recidivism.
 - ▶ Drug courts are often initially more expensive than traditional drug offender processing, but they provide a substantial return on taxpayer investment.
- **Sex offender treatment.** Studies examining the effectiveness of sex offender treatment in the 1990s

produced mixed or inconsistent results, but systematic reviews conducted more recently indicate that certain sex offender treatment approaches can and do work.

- ▶ **Cognitive-behavioral therapy** and **modified therapeutic communities** have been shown to achieve at least modest reductions in sexual and general recidivism.
- ▶ **Containment** approaches to sex offender management also appear to be effective.
- **Mental health.** Offenders with mental illness present significant challenges for the criminal justice system.
 - ▶ Mental health treatment is highly effective with early intervention success rates of 60-80%.
 - ▶ Diversion, institutional and transition programs are all needed, and many of these can work.
 - ▶ Research indicates that **crisis intervention teams (CIT)**, **assertive community treatment (ACT)** and **modified therapeutic communities** for offenders with co-occurring mental illness and substance abuse disorders work.
- **Cognitive-behavioral programs.** Studies consistently show that cognitive-behavioral therapy (CBT) is effective at reducing recidivism. Several programs employing cognitive-behavioral approaches are widely used in the criminal justice system.
 - ▶ **Moral Reconnection Therapy®**, **Aggression Replacement Training®**, **Reasoning and Rehabilitation**, and **Relapse Prevention Therapy** are cognitive-behavioral programs that have been rigorously evaluated and found to reduce recidivism.
- **Programs for juvenile offenders.** While some effective programs are designed for use with juveniles and adults, programs specifically targeting juvenile offenders have generally been found to be effective. Family-based programs that address multiple causes of delinquency

Family-based programs that address multiple causes of delinquency have been shown to reduce recidivism and other problem behaviors in juvenile offenders.

have been shown to reduce recidivism and other problem behaviors in juvenile offenders.

- ▶ **Functional Family Therapy**, **Multidimensional-Treatment Foster Care** and **Multi-Systemic Therapy** are family-based programs demonstrated to be effective and cost-beneficial through rigorous scientific research.

What Works at Preventing the Onset of Criminal Behavior

More than forty years of research on conduct disorder has identified many of the risk factors associated with problem behavior, including those for crime and violence. Many of these risk factors are present early in life, and they help explain why young people differ in their long-term criminal potential. Risk focused prevention programs employ various strategies to reduce the influence of risk factors that are associated with criminal conduct. These risk-focused prevention programs are delivered early in life before law-breaking behavior begins.

Several risk-focused prevention programs delivered early in life are effective at preventing the onset of criminal behavior.

- **Nurse home visits during infancy.** Home visitation programs conducted by nurses and delivered during the pre- and post-natal periods have been shown to be highly effective.
 - ▶ The **Nurse-Family Partnership** program that is being implemented in Colorado has long-term crime prevention benefits for both children and their mothers.
- **Preschool programs.** Pre-school intellectual enrichment programs prevent delinquency from occurring later in life.
 - ▶ The **Chicago Child-Parent Center** program and the **High Scope/Perry Preschool** project are examples of programs that provide a variety of long-term benefits to participants, including the prevention of criminal conduct.



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- **Parent management training.** Several reviews of parent management training programs have concluded that they are effective at preventing juvenile delinquency. These programs focus on interactions between parents and their children.
 - ▶ The **Oregon Parent Management Training** model, the **Incredible Years Training Series** and the **Preparing for the Drug Free Years** program are examples of parent management training programs that have been shown to work.
- **Child social skills training.** Research suggests that programs delivered to very young children for the purpose of improving their social and emotional competencies are effective at preventing delinquency.
- **School-based programs.** Programs that focus on the school environment or self-control and social competency using cognitive-behavioral methods have been found to prevent delinquency and other problem behaviors.
 - ▶ The **Olweus Bullying Prevention Program**, **Responding in Peaceful and Positive Ways (RIPP)**, and **Life Skills Training** are examples of programs that work.
 - ▶ **CASASTART** is an effective school-centered program that involves the entire community.
- **Community-based programs.** Community-based programs have proven to be difficult to evaluate and little is known about their long-term effectiveness overall. However, after-school and mentoring programs that promote positive youth development have been shown to work.
 - ▶ The **Boys and Girls Clubs of America** and **Big Brothers Big Sisters** are examples of high-quality after-school and mentoring programs that work.

Implementation Issues

Evidence-based programs have to be implemented properly in order to be effective. Research has consistently shown that programs that have been implemented with a high degree of fidelity are far more likely to produce positive outcomes than those that have not.

- Delivering a program with a high degree of fidelity is difficult, even in the best situations.

Evidence-based programs have to be implemented properly in order to be effective.

- A variety of factors can undermine proper implementation and service delivery, critically weakening a program's intended effect.
- Ongoing monitoring of program implementation and delivery is critical.
- Evaluation feedback should be used to guide program development and operations, resolve problems and make mid-course program corrections when necessary.

Bottom line

There are effective prevention programs to counteract risk factors at every stage of a child's development. There also are effective programs for addressing the wide range of criminogenic needs that are found among offenders already in contact with the criminal and juvenile justice systems. Investing in these evidence-based programs is the key to reducing victimization and increasing public safety while simultaneously managing correctional costs.

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Section 1: Introduction

What works in reducing recidivism? What works in preventing criminal behavior? Answering these key questions is the focus of this What Works report. Both questions are important for policymaking and practice. Recidivism reduction and crime prevention are widely recognized as key components of a comprehensive and cost-effective public safety strategy, and they have taken on even more importance in recent years as criminal justice policy makers in many jurisdictions have been asked to find ways to curb correctional costs without compromising public safety.

Reducing recidivism and preventing crime are not easy tasks. Even the most effective interventions will not work for everyone, and delivering programs in the proper manner is often a challenge in real world settings. But we know more today than ever before about what works in preventing both the onset and continuation of criminal conduct.

More than 30 years of scientific research has created a body of knowledge that criminal justice policymakers and practitioners can draw upon to develop and deliver programs that are both effective and cost-beneficial. The purpose of this report is to shed light on this knowledge and its practical implications for public safety and criminal and juvenile justice in Colorado.

Primary Audience and Purpose of the Report

This report identifies and describes interventions that are effective in reducing recidivism and preventing crime. The primary audience is the Colorado Commission on Criminal and Juvenile Justice, and the primary goal of this compendium is to assist the Commission in carrying out its mission and duties. The Commission was created in May 2007 when the Governor signed House Bill 07-1358. Its mission is to enhance public safety, ensure justice and protect the rights of crime victims through the cost-effective use of public resources. The Commission's statutory duties include

investigating effective alternatives to incarceration and the factors contributing to recidivism, along with evidence-based recidivism reduction initiatives, and cost-effective crime prevention programs.¹

One of the factors behind the creation of the Commission is concern about Colorado's growing prison population and the associated taxpayer costs. Colorado's prison population has nearly doubled in the past 10 years, after more than doubling in the 10 years before that.² Another increase of about 25% is expected over the next five years.³ Despite expanding the prison system by more than 11,000 state prison beds, more than 4,500 contract prison beds and more than 1,900 community transition beds since 1985, Colorado's prison system cannot currently accommodate the projected inmate growth.⁴ The Colorado General Assembly's Joint Budget Committee (JBC) staff reports that all state prison beds will be full by the end of Fiscal Year (FY) 2008.⁵ That means that the state will have to build new prisons or house excess prisoners elsewhere, either in private prisons, which are also near capacity, or out-of-state.

Incarceration costs

Housing the state's growing prison population comes at a considerable price to taxpayers. In FY 2006, for example, the average cost of incarcerating one inmate for one year in the Colorado Department of Corrections (CDOC) was \$27,588; the cost of a private prison bed approached \$20,000.⁶ Over the past 20 years, the state's General Fund appropriation to the CDOC has grown from \$76 million in FY 1988 to more than \$636 million in FY 2008.⁷

But operating expenses are just one of the costs of incarceration. Construction costs are another. The current capital construction cost for one prison bed is about \$125,000.⁸ In its five-year capital construction plan submitted to the JBC, the CDOC requested \$821.1 million for prison system expansion projects in order to add 5,766 state prison beds through FY 2013.⁹ That request comes after the state spent



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roughly a half billion dollars on prison construction and expansion between 1994 and 2003.¹⁰

In this time of scarce resources, there are inevitable concerns about the rising costs of corrections and its impact on other state-funded responsibilities. In FY 1985, General Fund appropriations to the CDOC accounted for 2.8% of the state’s operating budget; today it accounts for 8.8%.¹¹ Because of the fiscal constraints imposed by TABOR and other laws, increases in spending for corrections inevitably require reductions in spending for other state services.¹²

Ensuring public safety

Public safety is undeniably one of the most important functions government provides. The ultimate goal of the criminal justice system is to protect the public and provide justice when crimes are committed. But it is reasonable to ask whether there are innovative and cost-effective ways to curb correctional costs without compromising public safety.

Cutting recidivism and preventing crime may very well be the key to managing costs while ensuring public safety. Arguably, if recidivism rates can be reduced and more young people can be prevented from ever committing crimes in the first place, fewer prison beds would be needed. There would be fewer crime victims and fewer offenders entering or returning to the system. There would be taxpayer savings, as well. For these reasons, recidivism reduction and crime prevention are at the heart of the Commission’s work and the primary focus of this report.

In Colorado and across the nation, almost everyone sent to prison eventually returns to the community. Given the

record number of offenders coming out of prison, perhaps nothing is more important for public safety than reducing the recidivism rate. Research has demonstrated that repeat offenders account for a disproportionate amount of crime, and that offenders released from prison are arrested at rates 30-45 times higher than the general population.¹³ In Colorado, more than 10,000 inmates were released from the prison system in FY 2007 alone. If current trends persist, about half will be back behind bars within three years of their release.¹⁴

Prisoner reentry

Policy makers, practitioners and scholars alike are beginning to focus attention on the challenges posed by the record number prison inmates returning to communities. Many of these offenders have a limited education, poor employment skills, substance abuse problems and other deficits that are well known risk factors for a return to crime. Without treatment and assistance during the transition to community life, many offenders are likely to fail and return to prison.

Organizations like the International Association of Chiefs of Police, the National District Attorneys Association, the National Institute of Corrections, and the Council of State Governments are supporting reentry services as a way to reduce victimization and cut recidivism.

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There is widespread recognition today that the successful reentry of prisoners to society is a critical public safety issue. Successful reentry reduces recidivism and victimization. It enhances public safety. It also saves public resources. There is also widespread recognition that successful reentry requires more than supervision by a parole officer. It requires treatment and transitional services, selected for individuals on the basis of rigorous assessment. Given the links between reentry and public safety, the entire criminal justice system, from law enforcement through corrections, has a role to play in the process. Organizations like the International Association of Chiefs of Police, the National District Attorneys Association, the National Institute of Corrections, and the Council of State Governments are supporting reentry services as a way to reduce victimization and cut recidivism.¹⁵

Crime prevention is key

Preventing the onset of delinquent and criminal behavior is equally important. While crime prevention takes many forms, early risk-focused prevention programs that target children and families and focus on risk factors for criminal conduct can produce long-lasting public safety benefits.

During the past 30 years, research has identified precursors of violent and other criminal behavior.¹⁶ These are called risk factors. Risk factors exist within communities, schools and peer groups, as well as within families and individuals. Protective factors that buffer the effects of exposure to risk and inhibit the development of problem behavior also have been identified.¹⁷ Some risk factors can be changed, others cannot. By counteracting risk factors that can be changed, particularly early in life before delinquent behavior begins, risk-focused prevention programs have been shown to reduce the likelihood of future offending.

Risk-focused prevention has been applied with great success in medicine and public health. In the criminal justice setting, however, the merit and value of early prevention is sometimes overlooked because the full payoff is not realized for many years. But prevention works. Effective risk-focused programs reduce victimization and the pool of offenders entering the juvenile and criminal justice systems. They also provide other social benefits across the life-course of individuals. Just as it is accepted in medicine and public health that prevention is better than cure, it is cheaper and safer to prevent crime than to treat its victims and manage its perpetrators.¹⁸

Despite a plethora of research, tradition rules

Unfortunately, many of the programs that reduce recidivism or prevent crime in the most cost-effective manner are not well known.¹⁹ Moreover, some interventions that sound good or that have considerable political or public appeal turn out, based on a thorough review of the evidence (that is, rigorous scientific evaluation), not to be very effective at all. Some even do more harm than good. This has led a number of leading criminologists to conclude that offender interventions and crime prevention efforts are more often than not based on tradition, conviction or ideology rather than the best available evidence about what works.²⁰ Renowned criminologists Mark Lipsey and Frank Cullen (2007) recently stated the following:

*At present, there is a growing body of evidence that suggests much of what is done within corrections is not based on sound evidence but, rather, on custom, bureaucratic convenience, and political ideology.*²¹

Some experts conclude that our programmatic response to offenders is based on tradition, bureaucratic convenience and political ideology rather than the best available evidence about what works.

Yet research shows that evidence-based programs produce the best results. Years of study have borne this out. Crime prevention and recidivism reduction initiatives are far more likely to be effective and cost-beneficial when they are based on the best and latest available evidence about what works.

Careful implementation is essential

Of course, knowing what works is only the first step. Evidence-based programs still have to be funded and implemented properly in order to produce results. Delivering a program with a high degree of fidelity - that is, according to plan - is difficult, even in the best situations with the most skilled and experienced staff. A variety of environmental and human factors can encumber, even undermine, proper implementation and service delivery, critically weakening a program's intended effect. Attention to proper program implementation is always a prerequisite for success. It requires continuous data collection for program oversight and feedback to staff to ensure that the program is on the right track.

Effective programs also carry a financial cost. Funding to support and sustain effective treatment and prevention interventions can be difficult to find. This is especially true when resources are limited and the competition for public funds is high.

The potential savings is great

But investing in evidence based crime reduction programs can pay significant dividends. When recidivism is reduced or crime is prevented, there are fewer victims and there are fewer offenders arrested, prosecuted, and sent to prison. The financial savings to victims and taxpayers can be significant. In a 1998 study conducted by Mark Cohen, one of the nation's leading experts on the costs of crime, a typical criminal career was estimated to cause \$1.3 to \$1.5 million in costs to victims and taxpayers. The monetary value of saving a high-risk youth from embarking on a life of crime was estimated to be between \$1.7 and \$2.3 million.²²

In a 1998 study conducted by Mark Cohen, one of the nation's leading experts on the costs of crime, a typical criminal career was estimated to cause \$1.3 to \$1.5 million in costs to victims and taxpayers. The monetary value of saving a high-risk youth from embarking on a life of crime was estimated to be between \$1.7 and \$2.3 million.

The value of investing in evidence-based programs on a statewide basis was recently estimated by the Washington State Institute for Public Policy (WSIPP). In 2005, the Washington legislature directed the WSIPP to conduct a study of evidence-based public policy options to reduce future prison construction, criminal justice costs and crime rates. As part of that work, the WSIPP estimated the costs and benefits of several evidence-based program implementation scenarios. A moderate implementation portfolio, where evidence-based programs currently operating in the state are expanded to serve 20% of the remaining eligible population, was esti-

Economists at the Washington State Institute for Public Policy calculated that, over 22 years, evidence-based programs could save taxpayers about \$1.9 billion through avoided prison and other criminal justice system costs. This is a savings to taxpayers after factoring in the annual costs for expanded programming. The return on investment was estimated to be more than \$2.50 in taxpayer benefits per dollar of cost. With a more aggressive statewide expansion of evidence-based programming, crime would further decline and taxpayer benefits would be even larger.

mated to cost about \$63 million annually. But the net effect of the investment would reduce the need for prison beds and lower the crime rate further. Between 2008 and 2030, taxpayers could save about \$1.9 billion through avoided prison and other criminal justice system costs. This is a savings to taxpayers after factoring in the annual costs for expanded programming. The return on investment was estimated to be more than \$2.50 in taxpayer benefits per dollar of cost. With a more aggressive statewide expansion of evidence-based programming, crime would further decline and taxpayer benefits would be even larger.²³

Indeed, economic evaluations consistently show that many of the programs described in this report are not only effective, but they pay for themselves in terms of reduced costs to taxpayers alone. The return on investment is even greater when intangibles such as victim pain, suffering and fear of crime are also taken into account. Evidence-based prevention and recidivism reduction programs work. They can prevent crime and cut recidivism rates, thereby enhancing public safety while decreasing taxpayer costs.

Structure of the Report

This report has eight sections. Section 2 focuses on the evidence-based concept and its application in criminal and juvenile justice. It explains what “evidence-based” means, and briefly describes why evidence-based programs are valuable. It also describes how trustworthy scientific evidence about the effectiveness of interventions is acquired. In Section 3, the methods used to identify the programs that are included in this report are described, including the process to find and acquire information, and the protocol followed to review the extant research and identify programs that work.

Sections 4 through 6 review the evidence in each of three broad areas. Section 4 focuses on incarceration. It includes a summary of what research tells us about the impact of incarceration on crime and crime rates. It also briefly discusses the relationship between incarceration and recidivism, as well as the latest research on desistance from crime, that is, the transition from criminal to noncriminal conduct.

Section 5 is devoted to effective recidivism reduction programs: interventions that work. Following a brief introduction concerning the efficacy of rehabilitation programs, the key principles of effective intervention are described. Then, effective recidivism reduction programs are sequentially discussed. Effective programs are briefly described in several programmatic areas along with the supporting scientific evidence. Selected evaluations of programs operating in Colorado also are briefly reviewed.

Section 6 is devoted to effective early prevention programs. The focus here is on programs that prevent the onset of delinquent and criminal behavior. These programs are delivered to children and often their families and they target known risk factors – the precursors of criminal conduct and other problem behaviors. Using a format similar to the one used in Section 5, effective early prevention programs are sequentially discussed. In each intervention area, specific

program models that work are identified and described, along with the supporting scientific evidence.

Section 7 summarizes key issues regarding the implementation of effective programs. Finally, a brief summary and a few closing comments are provided in Section 8. All source material used for the report is listed in a Bibliography following Section 8.

¹ Colorado Revised Statutes, 16-11.3-101.

² Colorado Department of Corrections Annual Statistical Reports.

³ Colorado General Assembly Joint Budget Committee. (December 20, 2007) *FY 2008-09 Staff Budget Briefing, Department of Corrections*. Page 6. In the five-year period from June 2007 through June 2012, Legislative Council Staff projects the total inmate population to increase by about 5,700 inmates (25.4%). The Division of Criminal Justice (DCJ) projects an increase of 4,900 inmates (21.8%).

⁴ Ibid. Page 6. Also, Colorado Department of Corrections *Annual Statistical Report, FY 2006*. Page 22.

⁵ Colorado General Assembly Joint Budget Committee. (December 20, 2007). *FY 2008-09 Staff Budget Briefing, Department of Corrections*. Page 6.

⁶ Ibid. Page 8.

⁷ Ibid. Page 2.

⁸ Ibid. Page 81.

⁹ Ibid. Page 6.

¹⁰ Colorado Department of Corrections *Annual Statistical Report, FY 2006*. Page 10.

¹¹ Colorado General Assembly Joint Budget Committee. (December 20, 2007). *FY 2008-09 Staff Budget Briefing, Department of Corrections*. Page 4.

¹² Colorado Lawyers Committee. (2006). *Report on the Sentencing System in Colorado: A Serious Fiscal Problem on the Horizon*. Task Force on Sentencing. Author, Denver, CO.

¹³ Rosenfeld, R., Wallman, J., and R. Fornango. (2005). The contribution of ex-prisoners to crime rates. In *Prisoner Reentry and Crime in America*, J. Travis and C. Visser (eds.). Cambridge University Press, New York, NY. Page 85.

¹⁴ Colorado Department of Corrections, *Admissions and Release Trends*, Statistical Bulletin OPA 08-08, December 1, 2007, and Colorado Department of Corrections Annual Statistical Reports.

¹⁵ For example, in 2006, the International Association of Chiefs of Police (IACP), in collaboration with the federal Community Oriented Policing Services Office (COPS), brought together over 100 law enforcement, correctional, and community leaders for a two day summit to address the issue of offender re-entry and in particular, the role of local law enforcement in re-entry programs. The results of that summit are contained in the final report: *Offender Re-Entry: Exploring the Leadership Opportunity for Law Enforcement Executives and Their Agencies*. The report provides 50 recommendations to help police leaders determine how they can reduce recidivism rates by supporting offender re-entry initiatives. In 2005, the National District Attorneys Association adopted Policy Positions on Prisoner Reentry Issues in the belief that prisoner reentry has become a crucial issue and that prosecutors should, where practicable, be participants in addressing this issue in an effort to reduce recidivism and ensure the safety of victims and the community.



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- ¹⁶ Office of Juvenile Justice and Delinquency Prevention. (1995). *Guide for Implementing the Comprehensive Strategy for Serious, Violent, and Chronic Juvenile Offenders*. Office of Juvenile Justice and Delinquency Prevention, Office of Justice Programs, U.S. Department of Justice, Washington, DC. Page 17.
- ¹⁷ Ibid.
- ¹⁸ Farrington, D.P., and Welsh, B.C. (2007). *Saving Children From a Life of Crime, Early Risk Factors and Effective Interventions*. Oxford University Press, New York, NY. Page 3; National Crime Prevention Council. (2005). *Engaging the Power of Prevention: 10 Action Principles*. National Crime Prevention Council, Washington, DC. Page 5.
- ¹⁹ Wilson, J.Q. (2007). Foreward to Farrington, D. and B. Welsh, *Saving Children From a Life of Crime: Early Risk Factors and Effective Interventions*. Oxford University Press, New York, NY.
- ²⁰ See for example Lipsey, M.W. and Cullen, F.T. (2007). The effectiveness of correctional rehabilitation: A review of systematic reviews. *Annual Review of Law and Social Science*, 3 at page 3; Greenwood, P. (2006). *Changing lives: delinquency prevention as crime-control policy*. University of Chicago Press, Chicago, IL at pages 5 and 155-167; and Mihalic, S., Fagan, A., Irwin, K., Ballard, D., and Elliott, D. (2004). *Blueprints for Violence Prevention*. Center for the Study and Prevention of Violence University of Colorado, Boulder. Office of Juvenile Justice and Delinquency Prevention, Office of Justice Programs, U. S. Department of Justice, Washington, DC, at page 14.
- ²¹ Lipsey and Cullen (2007). Page 3.
- ²² Cohen, M. (1998). The Monetary Value of Saving a High Risk Youth. *Journal of Quantitative Criminology*, 14, 1.
- ²³ Aos, S., Miller, M., and Drake, E. (2006). *Evidence-Based Adult Corrections Programs: What Works and What Does Not*. Washington State Institute for Public Policy. Olympia, WA. Available at <http://www.wsipp.wa.gov/pub>.



Section 2: The Evidence-Based Concept and its Application

The term “evidence-based” has been used in many fields and defined in many ways. In medicine, education and several other public policy arenas, including criminal and juvenile justice, the term has generally been used to describe practices and programs that are informed by the results of scientific research and deemed to be effective. While some people prefer the terms research-based or science-based, evidence-based programs and practices rely on sound theory and are considered to be effective according to rigorous scientific evaluation.¹

“Evidence-based” also applies to a broader decision-making approach. Rather than relying on conviction, conjecture or conventional wisdom, decision makers turn to the best available evidence about what does and does not work when evaluating options and making decisions. Evidence-based decision making is simply the routine and systematic application of the best available knowledge in order to identify and choose the optimal approach in policy, management and other applied settings.²

Origins of the Evidence-Based Movement

The evidence-based movement originated in the fields of medicine and public health. In the early 1970s, Archibald Leman Cochrane, a medical scientist and epidemiologist working in the United Kingdom, set off a firestorm in the medical community when he asserted that most medical treatments being used by practitioners were not based on any valid evidence of effectiveness. In his 1972 paper, *Effectiveness and Efficiency*, Cochrane argued that health services should be evaluated on the basis of scientific evidence, rather than on anecdotes, opinion or tradition.³

Four years later, the U.S. Office of Technology Assessment (OTA) issued the first of several reports supporting Cochrane’s thesis. In a 1976 report to Congress, for example, the OTA stated that “[o]nly 10 to 20% of all procedures used in present medical practice have been proven by clinical trial; many of these procedures may not be efficacious.”⁴

In a subsequent 1978 report, the OTA argued that:

*Given the shortcomings in current assessment systems, the examples of medical technologies that entered widespread use and were shown later to be ineffectual or unsafe, and the large numbers of inadequately assessed current and emerging technologies, improvements are critically needed in the information base regarding safety and efficacy and the processes for its generation.*⁵

Shortly thereafter, the medical community began assembling evidence on effective interventions drawn from highly rigorous studies and disseminating it in a way that practitioners could easily access and apply. In the 1980s and 1990s, this practice began to migrate to other fields, including criminology.

Accountability and efficiency

While evidence-based programs are obviously desirable because they can help address social problems, their popularity has grown for accountability and efficiency reasons, too.⁶ Today, more than ever before, taxpayers and government officials want to know that publicly funded programs are providing tangible, real-life benefits to people and communities. Evidence-based programs help fit the bill, because given proper targeting and implementation, they can be expected to produce results in a cost-effective way. What’s more, given the growing number of evidence-

From an economic standpoint, evidence-based programs are effective and efficient, and they help to ensure that limited resources produce a sound return on investment.



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based programs in various public policy areas, agencies can increasingly rely on proven program models instead of programming through trial and error. From an economic standpoint, evidence-based programs are effective and efficient, and they help to ensure that limited resources produce a sound return on investment.

Widespread interest

Interest in evidence-based criminal justice practices can be found across the country. In Oregon, for example, state law requires certain prevention, treatment and intervention programs that are intended to reduce criminal behavior to be evidence-based. Selected state agencies such as the Oregon Department of Corrections and the Oregon Youth Authority are required to expend an increasing percentage of their state funds on evidence-based programs, reaching 75% in 2009.

Other states have evidence-based initiatives underway as well. In 1997, the Washington State Legislature passed the Community Juvenile Accountability Act (CJAA), which established “research-based” programs in the state’s juvenile courts. In California, the Department of Corrections and Rehabilitation is funding the Center for Evidence-Based Corrections at the University of California Irvine to help corrections officials make policy decisions based on scientific evidence. And in Arizona and North Carolina, state-level juvenile justice agencies are working with researchers at the forefront of the evidence-based movement to assess how well each state’s juvenile justice and delinquency prevention programs match up against evidence-based practices.

Standards of Evidence

A fundamental premise of the evidence-based movement is that the information used to establish what works must be trustworthy and credible. Even within science, some types of evidence are more trustworthy than others, and it is not uncommon for studies of the same phenomena to produce ambiguous or even conflicting results. Hence, only the best and most rigorous studies should be used to determine

Even within science, some types of evidence are more trustworthy than others, and it is not uncommon for studies of the same phenomena to produce ambiguous or even conflicting results.

whether an intervention is effective, and both the quality and consistency of the evidence need to be considered.

In the scientific community there is general agreement that certain types of studies - namely well designed and implemented experiments, or randomized controlled trials (RCTs) as they are often called, along with highly rigorous quasi experiments - provide the best and most trustworthy evidence about an intervention’s effectiveness.⁷

Modeled on laboratory experiments, RCTs are powerful tools for determining the effectiveness of an intervention. They are considered superior for discovering effects and inferring causality because of their capacity to produce valid findings and reduce bias. In laymen’s terms, an RCT helps the evaluator discover in a highly trustworthy way whether or not a program was successful in a particular setting.

RCTs have several key features, most notably an intervention (such as a substance-abuse treatment program) and two groups of subjects. One group participates in the program, and the other does not. The subjects who participate in the program are called the experimental or treatment group; the subjects who do not participate in the program are called the control group. In RCTs, decisions about who participates in the program and who does not are randomly made by the researcher. Randomly assigning subjects to the treatment and control groups creates the optimal conditions for reducing bias and making statistical (that is, causal) inferences.

Although RCTs are an exceptionally powerful tool for inferring causality and determining program impact, they are difficult to implement in real life settings. RCTs are expensive, and they typically require considerable time and research expertise. In addition, there may be resistance to the use of random assignment on the grounds that it is unethical to withhold potentially beneficial services from control group subjects simply for the sake of research. In practice, a variety of constraints can preclude an evaluator from using an RCT.⁸ When that happens, researchers examining the impact of an intervention typically employ the next best approach, a quasi-experiment.

Quasi-experiments are similar to RCTs, but they do not employ random assignment. They attempt to determine a program’s effectiveness by comparing program participants with a similar but non-randomly selected group of people who did not participate in the program. In well designed quasi-experiments, researchers go to great lengths to ensure that program participants and the comparison subjects are similar in all ways but one: participation in the program. In criminal justice settings, researchers typically try to ensure that comparison group members are matched with program participants in terms of criminal history, demographics,



and other relevant factors. While quasi-experiments are less adept at reducing bias than experiments, most researchers agree that well designed and implemented quasi-experiments provide highly credible evidence.

The Need to Examine Many Studies

There also is widespread consensus in the scientific community that single studies are rarely definitive. Individual studies with seminal findings certainly do exist but single studies can be misleading, and research can best be understood in the context of other studies.⁹ Individual studies can also produce erroneous results.¹⁰ Hence, researchers typically rely on systematic reviews of an entire body of research evidence to arrive at generalizable conclusions about what does and does not work.

Systematic Reviews and Meta-Analyses

Systematic reviews of program evaluations are one of the primary vehicles researchers use to identify what works. A systematic review locates, appraises and synthesizes information from all relevant scientific studies on a particular topic.

Systematic reviews are fundamentally different than narrative reviews or other traditional ways of summarizing research because they adhere to a pre-established protocol regarding the selection and assessment of research studies.¹¹ This reduces bias, ensures comprehensiveness, and maximizes the validity and reliability, that is, the trustworthiness, of the findings. Properly executed, a systematic review produces a comprehensive summary of the scientific evidence on a particular topic, such as whether or not a program is effective in reducing recidivism.

The Maryland Scientific Methods Scale (SMS)

One of the most influential review models in criminal and juvenile justice was developed by Larry Sherman and his col-

leagues at the University of Maryland. For their *Preventing Crime: What Works, What Doesn't, What's Promising* report to Congress, Sherman et al. (1997) developed the Maryland Scientific Methods Scale (SMS). The SMS scores and ranks the methodological quality of a study along a number of dimensions, including:

- **The study's ability to control outside factors** and eliminate major rival explanations for an intervention's effects,
- **The study's ability to detect program effects;** the smaller the effects, the larger the sample size needs to be, and
- Other considerations, such as the study's **response rate, attrition** and the use of appropriate **statistical tests**.¹²

Using these criteria, the Maryland team graded every study in their review and assigned each one a "scientific methods score" based on methodological rigor. Generally, well designed and executed experiments received the highest rating and therefore received the greatest weight and consideration. Well designed and executed quasi-experiments were included in the review but were given less consideration when drawing conclusions about program effectiveness. Less rigorous studies were excluded from the analysis altogether.

This was one of the initial attempts in criminology to categorize evaluation evidence according to its scientific rigor. The Sherman Report, as it is sometimes called, has had a major influence on the systematic review process. Today, methodological quality considerations are a standard feature of most systematic reviews, and review protocols commonly exclude studies from further analysis that fail to reach a specified standard of methodological rigor. In practice, most systematic reviews rely exclusively on well designed and executed RCTs and quasi-experiments to draw conclusions about an intervention's effectiveness.

Meta-analysis

In recent years, more and more reviews are incorporating a specific statistical procedure for synthesizing the results of many different studies. This statistical method, called meta-analysis, has made systematic reviews even more objective and scientifically rigorous.

In practice, meta-analysis combines the results of many evaluations into one large study with many subjects (the total number of subjects from the individual studies). This is important, because single studies based on a small number of subjects can produce distorted findings about a program's effectiveness.¹³ By pooling the original studies, meta-analysis counteracts a common methodological problem in evaluation research – small sample size – thereby helping the

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analyst draw more accurate and generalizable conclusions about an intervention's effects.

Meta-analysis is especially useful when synthesizing the results of studies that use different types of measures. Evaluations of recidivism reduction programs provide a good example. Whereas some studies may define and measure recidivism as rearrest, others may define it as a return to prison. Follow-up periods may also vary across studies. Making sense of these variations can be quite difficult in a traditional review, but meta-analysis provides a way to combine studies and reach valid conclusions, despite such variations in the original studies.

Meta-analysis also reports its findings in terms of an average effect size, that is, the effect of the program on the desired outcome.¹⁴ This helps the evaluator gauge both the strength and consistency of a program's effect. Rather than using a vote-counting approach to determine the proportion of studies that found a statistically significant program effect, the evaluator can rely on a quantitative measure that more accurately captures and summarizes program performance.

Taken together, systematic reviews and meta-analyses are the principal scientific building blocks of the evidence-based movement. They provide the highest standard of evidence about what works because they do the following:

- Examine a large body of evidence on a program's effectiveness;

Taken together, systematic reviews and meta-analyses are the principal scientific building blocks of the evidence-based movement. These approaches serve as the primary sources of information for this report.

- Rely only on the most rigorous studies; and
- Employ rigorous scientific techniques to reduce bias and arrive at a valid conclusion about an intervention's effectiveness.

Because systematic reviews and meta-analyses provide the most trustworthy scientific evidence, they serve as the primary sources of information for this report.

The Role of Economic Evaluation

Analysts who conduct systematic reviews to identify effective interventions are increasingly reporting findings from economic evaluations, too. Economic evaluations apply analytic methods to identify, measure, value, and compare the costs and consequences of one or more programs.¹⁵ Economic evaluations are substantively different and more ambitious than standard outcome evaluations because they examine a program's efficiency or return on investment. As a result, economic evaluations provide decision makers with unique and important information about an intervention that is particularly valuable when making decisions about resource allocation.

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Common Approaches to Economic Evaluation

Cost-benefit analysis

One of the most common approaches to economic evaluation is cost-benefit analysis (CBA). A cost-benefit study examines and places monetary value on both the costs and effects of a program. The result is usually a single summary statistic – expressed as the program's benefit-cost ratio or net present value – that indicates whether and to what extent the program's benefits exceed its costs. Because CBA evaluates all programs strictly in monetary terms, it provides the basis for comparing many different programs, even those with widely disparate outcome objectives.

From a decision-making perspective, CBA has a fundamental advantage over other forms of economic evaluation

A Caution About Cost-Benefit Analysis

Monetary valuations of costs and benefits are often based on a variety of assumptions and they can be imprecise. The analyst's decision, for example, to measure or not measure certain costs or benefits can radically affect a program's bottom line. Thanks to the work of numerous scholars and the development of more sophisticated tools, however, the techniques for conducting cost-benefit analysis are improving all the time.

because it provides a basis for comparing a much broader range of competing alternatives. CBA can determine if a program is a good investment in and of itself, but it also can be used to determine which program out of any set of alternatives has the highest ratio of benefits to costs. In theory, CBA could be used to compare, for example, a corrections program, an education program and a public health program.

The primary disadvantage of CBA is that all costs and benefits must be quantified in monetary terms. In practice, this can be very difficult to do. Estimating the type and amount of crime that a given intervention will prevent can be hard enough without also having to estimate the monetary savings that will result from fewer victimizations and reductions in offender processing. Some critics have suggested that the state of the art is not sufficiently developed to support valid and accurate comparisons.¹⁶ Indeed, monetary valuations of costs and benefits are often based on a variety of assumptions and they can be imprecise. The analyst's decision, for example, to measure or not measure certain costs or benefits can radically affect a program's bottom line.

CBA continues to evolve

Thanks to the work of numerous scholars, along with the application of more sophisticated tools, the techniques for conducting cost-benefit analysis are improving all the time. Researchers in Florida and Oregon, for example, have developed cutting-edge methods for capturing data on program costs.¹⁷ Sophisticated models for quantifying the costs and

monetary benefits of criminal and juvenile justice programs have been developed by researchers at the Washington State Institute for Public Policy (WSIPP) and the Urban Institute. And researchers at the Evaluation Center at Western Michigan University are developing a practical checklist for cost-benefit analysis.

Despite its current limitations, cost-benefit estimates are becoming more precise, and most researchers agree that cost-benefit analysis is a valuable tool for estimating a program's return on investment. The federal Office of Management and Budget recommends cost-benefit analysis as the technique to use in a formal economic analysis of government programs or projects.¹⁸ And the National Institute of Justice, the research arm of the U.S. Department of Justice, is actively promoting CBA and placing greater emphasis on the funding of cost-benefit studies. In 2002, Congress actually amended the federal statute governing NIJ's evaluation duties, to expressly direct NIJ to engage in more economic evaluation where practical.¹⁹

Those at the forefront

Findings from CBAs of evidence-based programs are increasingly being used to more fully demonstrate an intervention's value. Researchers at the WSIPP are at the forefront of the movement. In response to requests from the Washington legislature, the WSIPP has been conducting CBAs that estimate a program's return on investment to Washington taxpayers. Recent reviews of criminal and juvenile justice interventions conducted by Farrington and Welsh (2007), MacKenzie (2006) and Greenwood (2006) have incorporated findings from CBAs, too.

As an objective means of documenting not only what works, but also what is cost-effective, economic evaluation can help decision makers identify crime control and prevention practices that produce results with a known return on investment. Since even an effective program may not be a viable option unless its benefits exceed its costs, we present the findings from economic studies when they were available for the programs discussed in this report.

Even an effective program may not be a viable option unless its benefits exceed its costs. For this reason, this report includes economic study findings for many programs when the information is available.



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- ¹ The terms “model programs” or “exemplary programs” are sometimes used.
- ² Substance Abuse and Mental Health Services Administration. (2007). *Understanding Evidence-Based Practices for Co-Occurring Disorders, Overview Paper 5*. U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration. Washington, DC. Page 1. See also Health Canada. (2004). *Creating a Culture of Evidence-Based Decision Making*. Canada Health Action: Building on the Legacy - Volume II - Synthesis Reports and Issues Papers. Available at: http://www.hc-sc.gc.ca/hcs-sss/pubs/renewal-renouv/1997-nfoh-fnss-v2/legacy_heritage5_e.html#4.
- ³ Cochrane, A.L. (1972). *Effectiveness and Efficiency, Random Reflections on Health Services*. The Royal Society of Medicine Press. London, UK.
- ⁴ Office of Technology Assessment, United States Congress. (1976). *Development of Medical Technology: Opportunities for Assessment*. Author, Washington, DC. Page 26.
- ⁵ Office of Technology Assessment, United States Congress. (1978). *Assessing the Efficacy and Safety of Medical Technologies*. Author, Washington, DC. Page 7.
- ⁶ Small, S.M., Reynolds, A.J., O'Connor, C., and Cooney, S.M. (June 2005). *What Works, Wisconsin? What Science Tells Us about Cost-Effective Programs for Juvenile Delinquency Prevention*. School of Human Ecology, University of Wisconsin, Madison. Madison, WI.
- ⁷ See for example Sherman et al. (1997), MacKenzie (2006) and Farrington and Welsh (2007).
- ⁸ As a result, there are generally fewer experiments than other types of studies.
- ⁹ Petticrew, M. (2007). *Making High Quality Research Accessible To Policy Makers And Social Care Practitioners*. Plenary Presentation at the Campbell Collaboration Colloquium. Plenary presentation at the Campbell Collaboration Colloquium, May 16, Glasgow, U.K. Also see Petrosino and Lavenberg (2007), Note 11.
- ¹⁰ In fact, this is the reason that good science requires replication.
- ¹¹ Petrosino, A. and Lavenberg, J. (2007). Systematic Reviews and Meta-Analysis: Best Evidence on “What Works” for Criminal Justice Decision Makers. *Western Criminology Review*, 8, 1-15. Also, the Campbell Collaboration Crime and Justice Group, available at: <http://www.campbellcollaboration.org/CCJG/reviews/index.asp>.
- ¹² Sherman, L. W., Gottfredson, D., MacKenzie, D., Eck, J., Reuter, P., and Bushway, S. (1997). *Preventing Crime: What Works, What Doesn't, What's Promising*. A Report To The United States Congress. Prepared for the National Institute of Justice, Office of Justice Programs, U.S. Department of Justice, Washington, DC.
- ¹³ See for example, Lipsey, M. (2002). Meta-analysis and program outcome evaluation. *Socialvetenskaplig Tidskrift*, 9, 194-208. (Translated.)
- ¹⁴ There are several methods used by meta-analysts to calculate effect sizes. For complete reviews see Lipsey and Wilson (2001).
- ¹⁵ Haddix, A.C., Teutsch, S.M., and Corso, P.C. (2003). *Prevention Effectiveness: A Guide to Decision Analysis and Economic Evaluation, 2nd ed.* Oxford University Press, New York, NY.
- ¹⁶ See for example, Zimring, F. E., and Hawkins, G. (1995). *Incapacitation: Penal Confinement and the Restraint of Crime*. Oxford University Press, NY.
- ¹⁷ See for example the Drug Abuse Treatment Cost Analysis Program (DATCAP) at the University of Miami (www.datcap.com) or the work of NPC research (www.npcresearch.com).
- ¹⁸ Office of Management and Budget. (October 29, 1992). Circular A-94, revised.
- ¹⁹ Homeland Security Act of 2002, Public Law 107-296, Section 237.

Section 3: Method

This section presents the approach used to identify what works in reducing recidivism and preventing crime. It specifies the framework adopted to define effectiveness.

Review Process

This report is based on a comprehensive and systematic review of the criminology literature on what works to reduce recidivism or prevent the onset of delinquent and criminal behavior. Information was obtained by reviewing evaluation and other reports on correctional interventions and early, risk-focused prevention programs operating in the United States and Canada.

Source materials were identified using several methods. National Criminal Justice Reference Service and Internet World Wide Web searches were undertaken, and abstracts were reviewed from recent American Society of Criminology, American Evaluation Association and Academy of Criminal Justice Sciences conference programs. Relevant listings and registries of “evidence-based” programs, such as the Surgeon General’s Report on Youth Violence, the Substance Abuse and Mental Health Services Administration’s National Registry of Evidence-Based Programs and Practices, and the University of Colorado’s Blueprints for Violence Prevention project, were also reviewed. To identify additional leads, several national and state organizations were contacted, including many in Colorado. Requests for evaluation studies were made to Colorado’s Interagency Committee on Adult and Juvenile Correctional Treatment and private research firms. These efforts were supplemented with outreach to professionals in the criminal and juvenile justice, research, and evaluation communities. Reference pages from a variety of on-line and print documents also were reviewed.

This process produced a number of published and unpublished documents deemed relevant for this project. Those that could be obtained with a reasonable investment of resources were collected and reviewed. Very few documents

were unavailable; most of these were published prior to 1990. All obtained source material was reviewed with a focus on what works in reducing recidivism and preventing crime. Patterns and common themes that emerged across multiple studies and sources were synthesized into the summary of what works presented in the following sections.

What Was Considered? Review Protocol

To identify what works in preventing crime and reducing recidivism, both quality and consistency of the evidence was considered. Quality was addressed by basing the conclusions presented here on the latest and most rigorous scientific evidence available. Consistency was addressed by focusing primarily on research that synthesized the evaluation results from many studies and programs.

While individual program evaluations were reviewed and sometimes included (where relevant), none of the conclusions presented here are based on the results of any single study.¹ Rather, the findings presented here are based first and foremost on systematic reviews and meta-analyses of highly rigorous evaluation research. This approach is consistent with the scientific principles and latest lessons learned concerning methods for discovering the efficacy of interventions.

As discussed in Section 2, systematic reviews and meta-analyses are techniques that place the results of any single study in the context of a larger body of research. This helps the analyst identify anomalies and better understand where the weight of the evidence lies. Meta-analysis takes the process one step further by calculating the average effect of the intervention. This statistic is a quantitative – and thus highly objective – metric that more accurately captures and summarizes program effectiveness.

Recency and saliency

First, the most recent systematic reviews and meta-analyses were reviewed, particularly those conducted since 1995.



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Earlier reviews are cited, particularly those that are considered seminal research that established key principles of effective correctional intervention, but reviews conducted within the past 12 years, especially those incorporating meta-analysis, received the greatest consideration.

Consistency of findings

When multiple reviews produced consistent findings that a program prevented crime or reduced recidivism, the program was considered to be effective. When multiple reviews produced inconsistent findings, the quality and weight of the evidence was assessed. Reviews that were based on randomized controlled trials (RCTs) and rigorous quasi-experiments, those that included a larger number of studies, and those that were more recent, were given the greatest weight. Conclusions are based on the preponderance of evidence.

Generally, when multiple rigorous and contemporary reviews produced findings that a program prevented crime or reduced recidivism, but one review did not, the program is considered effective, but the research that is at odds with this conclusion is also presented. When two or more reviews failed to demonstrate a program's effectiveness, we concluded that the evidence was insufficient to state that the program worked unless a larger number of rigorous, more recent reviews consistently demonstrated positive program effects. Of course, when the preponderance failed to demonstrate that a program prevented crime or reduced recidivism, we could not conclude that the program worked.

Focus on crime and criminal behavior outcomes

Since the primary goal here is to identify programs that prevent crime or reduce recidivism, the focus of this report is on reviews that examined program effectiveness using crime or criminal behavior outcomes. In most cases, we did not examine other possible program benefits, such as employment, reduced illegal drug use, reductions in foster care, or increases in communication among stakeholders.

There were two major exceptions to this practice. First, some programs are designed to address risk factors that are related to criminal offending, that is, those that are criminogenic in nature or known precursors of delinquency or criminal conduct later in life. When such risk factors are directly relevant to program success and program effectiveness was reported in risk factor reduction terms, the evidence was reviewed and findings are presented in this report.

Second, economic evaluations have attracted a great deal of interest and attention in recent years. It is becoming more and more commonplace to report on a program's monetary

It is important to keep in mind that the focus of this What Works compendium is exclusively on the direct public safety benefits that a practice or program produces. Programs that work are defined as those that are effective at reducing recidivism or preventing criminal conduct later in life.

costs and benefits before concluding that a program works. For this reason, and to more fully demonstrate the value of effective programs, economic evaluations were examined and this report includes the results from any relevant cost benefit analyses (CBAs) concerning a program's return on investment.

It is important to keep in mind that the focus of this compendium is exclusively on the direct public safety benefits that a practice or program produces. Programs that work are defined as those that are effective at reducing recidivism or preventing criminal conduct later in life. While a program's capacity to alter risk factors for criminal conduct and provide a sound return on investment are also concerns, there may be other benefits, or other dimensions of program performance, that stakeholders deem to have merit or value that are not addressed in this report. It is not the intention to discount these benefits, or suggest that any one perspective on program performance is inherently superior to others. Rather, the goal of this review is to be responsive to the duties mandated to the Colorado Commission on Criminal and Juvenile Justice to investigate evidence-based recidivism reduction initiatives and cost-effective crime prevention programs.²

While more than 400 documents were reviewed for the development of this report, several key sources played a major role in identifying programs that work. These include:

- Systematic reviews made available through the Campbell Collaboration, an international network of researchers that prepares and disseminates systematic reviews of high-quality research on effective methods to reduce crime and delinquency.
- Meta-analyses conducted by Mark Lipsey and his colleagues on the effectiveness of rehabilitation and correctional interventions.

- Meta-analyses conducted by Doris MacKenzie and her colleagues on effective recidivism reduction programs.
- Systematic reviews on the effectiveness of early prevention programs conducted by David Farrington and Brandon Welsh.
- Research and reviews on prevention programs conducted by Peter Greenwood and his colleagues.
- The Blueprints for Violence Prevention Project at the University of Colorado Center for the Study and Prevention of Violence.
- Meta-analyses and cost-benefit analyses on crime reduction and prevention programs conducted by the Washington State Institute for Public Policy.

A complete list of the source material used for this report is presented in the Bibliography.

Colorado Program Evaluations

The search strategy used to find source materials for this report also produced a number of documents dealing with programs operating in Colorado. Since Colorado-specific studies may be of particular interest, findings from several of these local evaluations are presented in the report.

Dozens of documents dealing with Colorado evaluations were acquired. Those that met the following criteria were reviewed:

- The study was based on an outcome evaluation of a program that currently or recently operated in Colorado;
- Program effects on crime or criminal behavior, including recidivism, were reported;
- Recidivism outcomes were identified using a pre-post, comparison or control group design, and
- The report was published between 1995 and the present.

Findings from selected evaluations that met these criteria are summarized in relevant sections of the report. Again, the primary goal of this review of local studies is to acquaint the audience with work that has been done in Colorado. The reader should keep in mind, however, that the Colorado evaluations may or may not be methodologically rigorous. No attempt was made to systematically critique any of the studies reported here in terms of evaluation methodology. It is important to remember that the Colorado studies are not systematic reviews or meta-analyses, and they are quite unlike those used to demonstrate what works overall.

To acquaint the audience with work that has been done in Colorado, findings from local evaluations are presented throughout the report. The reader should keep in mind, however, that the Colorado evaluations may or may not be methodologically rigorous. No attempt was made to systematically critique any of the studies in terms of evaluation methodology. In fact, it is important to remember that the Colorado studies are not systematic reviews or meta-analyses, and they are quite unlike those used to demonstrate what works overall.

Framework

Focus on results, not on intent. At this stage of the report, it is important to underscore that this review of what works relies on a scientific definition of effectiveness. Following the lead of Sherman and his colleagues in their 1997 “What Works” report to Congress, an effective program is defined as one that reduces or prevents criminal conduct, based on scientific study. The empirically tested success or failure of an intervention in reducing or preventing crime is the primary concern in the current report. This report is not concerned with an intervention’s intent to punish, deter, or rehabilitate. Nor is this report concerned with labels or perceptions that an intervention is hard or soft on crime. This definition of effectiveness is firmly grounded in science and criminology, and it was eloquently articulated by Sherman and his colleagues in their 1997 report:

The empirically tested success or failure of an intervention in reducing or preventing crime is the primary concern in the current report. This report is not concerned with an intervention’s intent to punish, deter, or rehabilitate.



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Crime prevention is widely misunderstood. The national debate over crime often treats “prevention” and “punishment” as mutually exclusive concepts, polar opposites on a continuum of “soft” versus “tough” responses to crime.... The science of criminology, however, contains no such dichotomy.... Crime prevention is a result.

Crime prevention is therefore defined not by its intentions, but by its consequences. These consequences can be defined in at least two ways. One is by the number of criminal events; the other is by the number of criminal offenders (Hirschi, 1986). Some would also define it by the amount of harm prevented (Reiss and Roth, 1993: 59-61) or by the number of victims harmed or harmed repeatedly (Farrell, 1995). ...What all these definitions have in common is their focus on observed effects, and not the “hard” or “soft” content, of a program.³

A final caveat

It is important to keep in mind that the list of effective programs provided here is by no means exhaustive. In each of the effective program areas discussed, representative examples of specific programs that work are presented. Interventions that others view as effective or promising may not be among those identified. There are several reasons why this may occur. As Greenwood points out, recommendations on “what works” have been published by many organizations, often with what appears to be a lack of consistency regarding the specific programs that are considered to be effective. These differences are largely “explained and reconciled” by variations in purpose, focus and screening criteria that are found across different reviews.⁴ When two reviews focus on different outcomes, for example, they inevitably will use different studies to arrive at a conclusion about what works. Decisions about how much evidence is needed to make a generalizeable conclusion will also influence results.

Indeed, there were program models examined for this report for which there was evidence of effectiveness, but the level of certainty was not great enough to justify a clear and generalizeable conclusion regarding recidivism reduction or crime prevention effects. This typically was the case when the evidence was not based on a systematic review or an adequate number of rigorous studies or when criminal behavior outcomes were not directly addressed. Of course, there also may be effective programs that simply have not yet been evaluated.

Crime prevention is widely misunderstood. The national debate over crime often treats “prevention” and “punishment” as mutually exclusive concepts, polar opposites on a continuum of “soft” versus “tough” responses to crime.... The science of criminology, however, contains no such dichotomy.... Crime prevention is a result.

Crime prevention is therefore defined not by its intentions, but by its consequences (Sherman, et al, 1997).

Summary

This report is intended to serve as resource for members of the Colorado Criminal and Juvenile Justice Commission, and other professionals as well. The aim is to provide Commission members with practical and trustworthy information about programs that work, serving as a basis for discussing, debating and eventually crafting safe and cost-effective strategies for addressing the Commission’s legislative mandate. Each of the programs identified and described here has been rigorously evaluated and found to be effective. Most have been shown to produce a substantial return on investment. Many have been certified as “evidence-based” by a federal agency or well-respected research organization. Based on the latest and most rigorous research available, the programs identified in this report are viable, evidence-based options for reducing recidivism and preventing crime in Colorado.

- ¹ A single study will not typically provide a trustworthy indicator of the effectiveness of a particular treatment. See Wilson, D.B., and Lipsey, M.W. (2001). The role of method in treatment effectiveness research: Evidence from meta-analysis. *Psychological Methods*, 6, 413-429. Page 424.
- ² Colorado Revised Statutes, 16-11.3-101.
- ³ Sherman, L.W., Gottfredson, D., MacKenzie, D., Eck, J., Reuter, P., and Bushway, S. (1997). *Preventing Crime: What Works, What Doesn't, What's Promising*. A Report To The United States Congress. Prepared for the National Institute of Justice, Office of Justice Programs, U.S. Department of Justice, Washington, DC. Pages 2.2-2.3.
- ⁴ Greenwood, P. (2006). *Changing lives: delinquency prevention as crime-control policy*. University of Chicago Press, Chicago, IL. Pages 42-44.



What Works

Section 4: Incarceration and its Impact on Crime

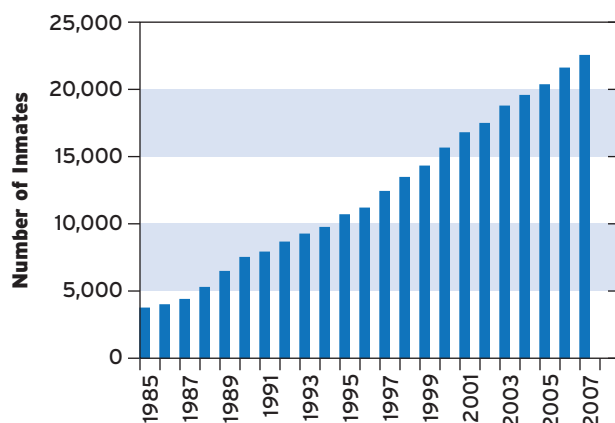
This section focuses on incarceration and its impact on crime. Recent research on desistance from crime – that is, the transition from criminal to noncriminal conduct – is also briefly discussed. Following a brief overview of Colorado’s prison population growth, this section addresses the following questions:

- Does incarceration prevent crime?
- Does incarceration reduce the criminal propensities of prisoners so that they are less likely to persist in criminal behavior once they transition on to parole?
- What factors are important in promoting desistance from crime?

Colorado’s prison population growth

Colorado’s prison population has increased more than 400% over the past 20 years. During the fiscal year (FY) ending June 30, 2007, Colorado’s average daily prison population was 22,424. This compares with an average daily prison population of 12,205 in FY 1997, and only 4,327 in FY 1987 (Figure 4.1).¹

Figure 4.1. Average Daily Inmate Population



Source: Colorado Department of Corrections, Annual Statistical Reports and General Statistics.

Across the nation, prison population growth has largely been driven by changes in public policy. Since the late 1970s, numerous laws have been enacted in Colorado that affect criminal sentencing and correctional practices. While various motivations were behind these laws, including greater consistency and certainty in sentencing as well as enhanced public safety, there is little question that these statutory changes resulted in more people going to prison for longer periods of time. Within three years of the passage of H. B. 1320 in 1985, for example, the average length of a prison stay in Colorado had increased by about two-thirds.² By 1990, the prison population had more than doubled.

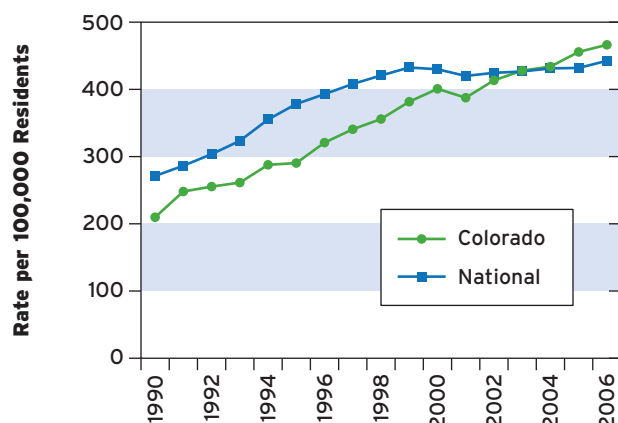
Whereas the Colorado prison incarceration rate was 23% below the national average in 1990, it was 5% higher than the national average in 2006.

According to the U.S. Department of Justice, Bureau of Justice Statistics (BJS), Colorado incarcerated more than twice as many individuals for every 100,000 residents in 2006 than it did in 1990, 469 compared to 209 (Figure 4.2).³ Whereas the Colorado prison incarceration rate was 23% below the national average in 1990, it was 5% higher than the national average in 2006.

Of course, Colorado’s increasing use of incarceration is by no means unique. According to BJS, state prison populations increased more than 90% between 1990 and 2006, from fewer than 690,000 inmates to more than 1.3 million. As a result, the 50-state incarceration rate increased 64%, from 272 to 445 state prisoners for every 100,000 citizens.

Colorado’s incarceration rate, however, has been increasing at a faster pace than that of most other states. Between 1990

Figure 4.2. State Prison Incarceration Rate



Source: U.S. Department of Justice, Bureau of Justice Statistics

and 2006, Colorado's state prison incarceration rate jumped from the 30th to the 18th highest in the nation. In 2006, there were 469 state prisoners in Colorado for every 100,000 residents. That compares with a rate of 437 state prisoners for every 100,000 residents in other western states, and a rate of 445 per 100,000 residents for all 50 states combined.⁴

Between 1990 and 2006, Colorado's state prison incarceration rate jumped from the 30th to the 18th highest in the nation. In 2006, there were 469 state prisoners in Colorado for every 100,000 residents. That compares with a rate of 437 state prisoners for every 100,000 residents in other western states, and a rate of 445 per 100,000 residents for all 50 states combined.

In these times of fiscal constraint, escalating prison populations and their associated costs have become a concern across the nation. According to the Vera Institute of Justice, more than 25 states took steps to lessen sentences and otherwise modify sentencing and corrections policy as a way to curb correctional costs in 2003 alone.⁵ Sentencing reform, alternatives to incarceration, and an emphasis on successful reentry and prevention programs are included in the range of reforms being enacted. Indeed, the creation of the

Colorado Commission on Criminal and Juvenile Justice reflects a growing concern on the part of Coloradans with the escalating expenditure of public resources for incarceration at the expense of funding for other state services, such as education and health care.

Impact of Incarceration on Crime

Given the increased use of incarceration as a crime control strategy, this review begins with a summary of recent research on the impact of incarceration on crime. Numerous studies on the topic have been undertaken in recent years, though none are specific to Colorado. These studies examined the impact of imprisonment on individual levels of offending or the relationship between incarceration rates and crime rates.

Given the increased use of incarceration as a crime control strategy, this review begins with a summary of recent research on the impact of incarceration on crime.

Crimes are averted by incarceration

Incarceration can affect crime in a number of ways. First, crimes may be averted because offenders in prison or jail are incapacitated. As long as offenders are locked up, they cannot commit crimes in the community.⁶ Second, the threat of incarceration may deter potential individuals from committing criminal acts. Finally, the prison experience itself may deter those who have been incarcerated from resuming criminal conduct once they return to the community.

Incapacitating offenders undeniably prevents some number of crimes from occurring. But quantifying that number is difficult, primarily because of the methodological problems inherent in such research.⁷ The primary data sources used to estimate the number of crimes an offender commits in the community – criminal history records and self-reports of prisoners – provide imprecise estimates. Studies have also demonstrated that a small percentage of the offending population commit crimes at a very high rate.⁸ As a result, it is extremely difficult to estimate either the average number of crimes a single offender commits, or the average number of crimes prevented when an offender is incarcerated.⁹

Targeting high rate offenders is key to effectiveness

One of the most comprehensive studies of the frequency of offending was conducted by Blumstein et al. (1986) and published in the National Academy of Sciences report *Criminal Careers and Career Criminals*. Averages of 2 to 4 violent crimes per year for active violent offenders and 5 to 10 property crimes per year for active property offenders were reported. Estimates derived from self-reports of inmates were higher.¹⁰ Before being incarcerated, those who were active in robbery committed an average of 15 to 20 robberies annually and those who were active in burglary committed 45 to 50 burglaries. Blumstein et al. also found that the median offender commits very few crimes annually, while a small percentage of offenders commit more than 100. This research was replicated in Colorado by the Division of Criminal Justice (Mande and English, 1988, and English and Mande, 1992). Interviews with nearly 2,000 prisoners in the Department of Corrections found the average self-reported crime rate to be less than ten crimes per year across eight major crime types.

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Early criminal career research like that published by the National Academy of Sciences confirmed that a small number of high-rate offenders are responsible for a disproportionate amount of crime. It also provided support for selective incapacitation strategies designed to reduce crime by incarcerating high-rate offenders for long periods of time.¹¹ The enactment of “three strikes” laws across the country are a prime example of selective incapacitation in action. Research has shown, however, that selective incapacitation strategies have had less impact on crime than originally anticipated, primarily because identifying high-rate offenders and targeting them for incarceration is difficult in practice.¹² As Nagin (1998) points out, perhaps the only legally permissible factor that can be used to identify and target high-rate offenders – prior record – is highly imperfect because only a small percentage of crimes result in arrest and conviction.¹³ A lengthy criminal record can also take time to accumulate, meaning that some offenders will

already be “aging out” of crime by the time they are targeted for a lengthy prison sentence. The replacement effect (new offenders quickly replace those incarcerated) that is associated with crimes such as drug dealing also diminishes the impact of selective incapacitation.

Property crimes most likely to be averted

One of the more frequently cited studies on the number of crimes averted when an offender is incarcerated was published by economist Steven Levitt.¹⁴ Using data from 12 states for the years 1971 to 1993, Levitt estimated that each additional prisoner leads to a reduction of between 5 and 6 reported crimes per year. Including unreported crime raises the total to 15 crimes eliminated per prisoner per year. The bulk of the crime reduction – about 80% – is in property crimes. A 1994 study by Marvell and Moody produced generally similar estimates.¹⁵ They examined incarceration rate data from 49 states for the years 1971 to 1989 and estimated that about 17 crimes were averted annually for each additional prisoner behind bars.¹⁶

Bhati (2007) used arrest data from 13 states to estimate the number of crimes averted by the continued incarceration of released prisoners.¹⁷ The mean number of all crimes averted annually was estimated to be 18.5 (with a median of 13.9). The estimates showed no substantial differences in annual crimes averted across gender, race or ethnicity, or crime type. While Bhati’s findings are generally consistent with Levitt’s, the study affirms that averages can be misleading: 5% of the releasees were responsible for 30% of all property crimes, and a small proportion was not anticipated to commit any crimes at all.

Researchers have noted that the number of crimes averted is linked to the type of crime. A careful analysis by Cohen and Canela-Cacho (1994) found that incarcerating violent offenders was associated with crime reduction, but imprisoning drug offenders had no effect on crime. Incarcerated drug offenders seem to be “replaced” in the community, confounding the ability to estimate the effect of incarceration on overall crime.



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Does incarceration work to reduce the crime rate?

A considerable amount of research has examined the relationship between incarceration rates and crime rates in recent years. Overall, these studies have produced somewhat disparate results depending on the type of measures used. A 2007 report published by Vera Institute for Justice provides a good illustration.¹⁸ Fifteen different studies that examined the impact of incarceration on crime rates were identified in the Vera report, each with different results. The estimated impact of a 10% increase in the incarceration rate ranged from a 22% reduction in serious crime to virtually no impact at all. One study reported a 28% reduction in violent index crime for every 10% increase in the incarceration rate.¹⁹

One reason for the variation in findings is the type of data used. Whereas some of the earliest studies used national data, more recent research has been based on state and community-level data. Researchers generally agree that localized data provide more accurate and reliable results.²⁰ Studies using national-level data have reported crime rate reductions ranging from 9% to 22% for a 10% increase in incarceration rates.²¹ More recent studies using state-level crime data, on the other hand, have generally found a more modest impact.²² For every 10% increase in the incarceration rate, reductions in the crime rate ranging from less than 1% to about 4% have typically been reported.²³ Several highly rigorous studies using state or county-level data are remarkably consistent in finding that a 10% higher incarceration rate was associated with a 2% to 4% reduction in the crime rate.²⁴

Research has also tried to determine how much of the crime drop that has occurred in recent years can be attributed to the increased use of imprisonment. Unfortunately, as Zimring (2007) points out, the methods available to answer the question leave considerable room for error and studies that have focused on the issue have produced a wide range of estimates.²⁵ Zimring suggests that low-end estimates attribute about 10% of the post-1990s crime drop to incarceration.²⁶ At the high-end, Levitt (2004) estimated that the increase in incarceration over the 1990s might account for

as much as one-third of the crime drop. Two recent studies looking at incarceration and violent crime are also worth noting. Spelman (2000) analyzed violent crime and prison data over a 25-year period ending in 1996 and concluded that about one-fourth of the crime drop could be attributed to the prison buildup. And Rosenfeld (2000) concluded that, at most, incarceration explains 15% to 20% of the decline in adult homicide since 1980.

Incarceration and Crime: Summary

As the 2007 Vera Institute report points out, one could use the available research to argue that an increase in incarceration is associated with a substantial drop in crime or no drop in crime at all.²⁷ Despite the disparate findings, at least three conclusions can be drawn from the research:

1. The relationship between incarceration and crime rates is quite complex. The fact that crime rates have declined in recent years while incarceration rates have increased is not conclusive evidence that the increased use of imprisonment caused the drop in crime or that incarceration is cost-effective relative to other crime control strategies. In fact, the relationship between higher rates of imprisonment and crime rates is quite uneven across time and jurisdictions. Zimring (2007), for example, recently showed that crime rates actually increased in the late 1980s when a 54% increase in incarceration occurred. And Levitt (2004) estimated that a dollar spent on prisons yields a crime reduction benefit that is 20% less than a dollar spent on police.
2. The conclusions reached by several recent, highly rigorous studies are remarkably consistent in finding that a 10% higher incarceration rate was associated with a 2% to 4% reduction in the crime rate.
3. The drop in crime that most jurisdictions experienced in the 1990s is primarily due to factors other than incarceration. Studies that have focused on explaining the drop in crime have consistently concluded that incarceration has played a role in the crime drop but that social, policing and other factors together are responsible for at least two-thirds and arguably much more of the overall crime decline.

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Whether or not the impact of incarceration justifies the cost is largely a question for policy makers to answer. Research, however, can shed light on the economic issues that come into play. For example, increasing the incarceration rate by 10% to achieve a 4% reduction in the crime rate is far more expensive today than it was years ago. In 1990, increasing Colorado's prison population by 10% meant adding about 750 prisoners. Today it means adding about 2,250.

Research also demonstrates that the impact of incarceration on crime largely depends on who goes to prison and for what length of time.²⁸ Incarceration has a far greater impact and return on investment when it is used for violent and high-rate offenders. Prisons are expensive, but violent and career criminals impose tremendous financial and social costs on society. The empirical evidence is increasingly clear, however, that the increased use of incarceration for low-rate, non-violent offenders prevents and deters few crimes.²⁹

The impact of incarceration on crime largely depends on who goes to prison and for what length of time. Incarceration has a far greater impact and return on investment when it is used for violent and high-rate offenders.

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Diminishing Returns

From a policy making perspective, it is important to recognize that the increased use of imprisonment eventually results in diminishing returns. The reason for this is simple: locking up more and more people eventually leads to the incarceration of less serious offenders. When that happens, costs increase without a commensurate increase in public safety.

Incarceration may increase crime

Several recent studies have confirmed that incarceration becomes less effective at reducing crime as the prison popu-

lation grows.³⁰ But Liedka, Piehl and Useem (2006) also found that there is a point beyond which increases in the incarceration rate are actually associated with higher crime rates.³¹ Using state-level prison and crime data from 1972 through 2000, they found that higher crime rates begin to occur when a state's incarceration rate reaches between 3.25 and 4.92 inmates per 1,000 persons in the general population. Colorado's incarceration rate in 2006 reached 4.69 per 1,000 persons.³²

Community Impacts

Research on the impact of incarceration at the community level is relatively new, but it is beginning to shed light on the unintended consequences of imprisonment. High rates of incarceration tend to be concentrated in certain communities, particularly those that are poor or disadvantaged. Over time, these communities can be weakened rather than strengthened by high rates of incarceration. When a relatively high percentage of parent-aged males are absent due to incarceration, family structures are weakened and social resources are strained. As a result, crime increases.³³

Numerous studies using neighborhood level data have demonstrated that increases in incarceration rates have compromised informal social control and produced higher rates of crime at the neighborhood level.³⁴ While more research is needed to confirm and better understand these dynamics, there is no question that poor communities are disproportionately affected by high rates of incarceration. And the evidence is becoming increasingly clear that over time, high rates of incarceration can destabilize a neighborhood to the extent that crime actually increases, thereby offsetting and even outstripping any crime reduction effects provided by increased incarceration.

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Impact on Children

Finally, research also is demonstrating that incarceration has unintended consequences for children. On any given day in the United States, there are over 1.5 million minor children



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with an incarcerated parent. About two-thirds of all female prisoners and one-half of all male prisoners are parents with an average of approximately 2 children each. Fifty-eight percent of the children who have a mother in prison are under the age of 10. Another 5% of women entering prison are pregnant.³⁵

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Bosley et al. (2002) estimated that at least 2,500 children in Colorado have a mother in prison and 13,000 children in Colorado have a father in prison.³⁶ In total, a minimum of 15,500 children currently have a parent in prison. Certainly, a much larger number have experienced the incarceration of a parent at some point in their lives.

Research has documented that children suffer a host of negative consequences upon parental incarceration. Children of incarcerated parents are at an increased risk of abuse and neglect, and they are far more likely to engage in criminal behavior, and be imprisoned themselves later in life than their peers.³⁷ Gabel and Shinkledecker (1993) found that children of incarcerated parents are seven times more likely to become involved in the juvenile and adult criminal justice system.

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However, having parents involved in crime is a significant risk factor for children. Therefore, this issue presents a dilemma that is difficult to resolve with the current state of knowledge. There is a pressing need for research to understand how best to meet the needs of these children.

These collateral consequences of incarceration – the negative impact on families, children and neighborhoods, and perhaps the crime rate itself – have underscored that the relationship between incarceration and crime is quite complex. While incarceration certainly prevents a certain number of crimes from occurring in the community, incarceration also has negative community impacts that are difficult to quantify and are often overlooked. All of these impacts, positive and negative, along with their financial and social costs are important considerations in any assessment of crime control policy.

Prison and Recidivism

Another aspect of incarceration that research has examined is the relationship between imprisonment and post-release offending. Several studies have specifically looked at the impact of prison sentences on recidivism.

Two meta-analyses conducted by Gendreau and his colleagues have actually found that imprisonment is associated with negative reoffending outcomes. In 1999, Gendreau and colleagues conducted a meta-analysis of 50 studies involving more than 300,000 prisoners and found no evidence that prison sentences reduced recidivism. In fact, the more rigorous studies in that analysis found a strong connection between longer prison stays and increased recidivism.³⁸ In a separate meta-analysis conducted a few years later, Gendreau et al. (2002) found that incarceration was associated with an increase in recidivism when compared with community-based sanctions, and that longer time periods in prison (compared with shorter sentences) were associated with higher recidivism rates. A systematic review of the research published by Lipsey and Cullen (2007) reached similar conclusions. In summarizing the evidence on deterrence-oriented corrections programs and the effects of longer prison terms, Lipsey and Cullen stated the following:

In sum, research does not show that the aversive experience of receiving correctional sanctions greatly inhibits subsequent criminal behavior. Moreover, a significant portion of the evidence points in the opposite direction - some such actions may increase the likelihood of recidivism. The theory of specific deterrence inherent in the politically popular and intuitively appealing view that harsher treatment of offenders will dissuade them from further criminal behavior is thus not consistent with the preponderance of available evidence.³⁹

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Mark Lipsey and Francis Cullen
(2007)

Research on Desistance from Crime

Research has also examined the process of desistance from crime. Desistance generally refers to the transition from criminal to noncriminal conduct. Although most researchers agree that desistance should be viewed as a process rather than an event, there is less agreement about how desistance should be measured.⁴⁰ Some argue that the permanent absence of offending is the best measure of desistance, but abstinence can be difficult to capture.⁴¹

Others argue that reduced levels of offending – as measured by reduced frequency or seriousness of offenses – is a better metric because it is part of the desistance process for many offenders and more apt to be measured accurately. While both abstinence and reduced offending have been used as

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measures in desistance research, there is a growing consensus that desistance should be thought of as the sustained absence of offending along with positive social reintegration.⁴² While different measures of desistance can lead to different research findings, the scientific evidence is remarkably consistent that people who desist from crime are those who are better integrated into pro-social roles in the family, workplace and community.⁴³

Promoting Desistance from Crime

Employment, marriage, and aging are linked to desistance

Desistance from crime was a major focus of a recent study conducted by a committee of researchers for National Research Council (Petersilia et al. 2008). In the report entitled *Parole, Desistance from Crime, and Community Integration*, Petersilia and her colleagues on the committee identified family and work as being particularly important in the desistance process. Marriage, especially strong marital attachment, is a significant factor in desistance for men and to a lesser extent for women. Strong ties to work and stable employment also can lead to desistance. Other factors such as education and reduced consumption of drugs promote desistance, too. Perhaps the most obvious and simplest pathway to desistance from crime is aging: offending declines with age for all offenses.

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Individualize the intervention

Several other important findings emerged from the work of the National Research Council (NRC):

1. Desistance from crime varies widely among parolees. In the words of the report's authors, when it comes to desistance or recidivism, there is no such thing as the 'average' parolee. Parolees need to be viewed as a heterogeneous population.
2. The time period immediately following release from prison is the riskiest for the offender and the public. In fact, the peak rates for reoffending occur in the very first days and weeks out of prison. Arrest rates then decline over time, especially for property and drug crimes.
3. Death rates for new releasees are disproportionately high, with drug overdose, homicide and suicide accounting for three of the four leading causes of death.

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Taken together, the NRC committee's findings have important implications for corrections and public safety policy. Given the importance of stable employment and marriage, public policies that block employment and other

Taken together, the NRC committee's findings have important implications for corrections and public safety policy. Given the importance of stable employment and marriage, public policies that block employment and other opportunities for ex-offenders to resume a regular life in the community are likely to serve as a barrier to desistance, eventually leading to higher rates of reentry failure.

opportunities for ex-offenders to resume a regular life in the community are likely to serve as a barrier to desistance, eventually leading to higher rates of reentry failure. Conversely, programs and policies that reduce criminogenic risk factors (see below for a description of criminogenic needs) and promote successful reentry are likely to lead to higher rates of desistance and greater public safety. The evidence that reoffending declines over time and is most likely to occur soon after release suggests that supervision and transition service strategies are likely to be most cost-effective when they focus on immediate needs in the first weeks and months after release.

Overall, the NRC report, as well as other research, underscores the need for evidence-based recidivism reduction programs both in prisons and the community. On their

Criminogenic Needs

There are two basic types of criminal risk factors: (1) static, which cannot be changed (e.g., criminal history, age), and (2) dynamic, which are malleable. Dynamic risk factors are also known as criminogenic needs because they are amenable to change and are appropriate targets for intervention and case management. These risk/needs factors include criminal attitudes, thinking and values; unstable living arrangements; lack of employment; antisocial peer associations; problems with substance abuse; and lack of self-control. There are also non-criminogenic needs, that is, factors that research has not linked with criminal conduct. These include anxiety and low self-esteem.

Source: Crime and Justice in Colorado: 2006.

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own, incarceration and community supervision have little positive impact on recidivism rates and desistance from crime, and many if not most offenders are likely to fail and return to prison without treatment and transitional services.⁴⁴

In a review of the research on the impact of imprisonment on the desistance process, Maruna and Toch (2005) concluded that the experience of imprisonment alone “is largely irrelevant to the subsequent offending patterns of individuals.”⁴⁵ They did suggest, however, that the prison experience may deter some individuals from subsequent offending, specifically those who have prosocial bonds to family and the community.

Indeed, recent studies conducted by the Washington State Institute for Public Policy indicate that treatment-oriented supervision programs, for example, reduced recidivism and provided taxpayers with a sound return on investment. Conversely, surveillance-oriented programs failed to reduce recidivism and their costs exceeded their benefits.⁴⁶

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- ¹ Colorado Department of Corrections. (Multiple years). Annual Statistical Reports and General Statistics: Historical Inmate Jurisdictional Population, Average Daily Population by Fiscal Year. Colorado Springs, CO. Available at <http://doc.state.co.us>.
 - ² Colorado Legislative Council Staff. (2001). *An Overview of the Colorado Adult Criminal Justice System*. Report to the Colorado General Assembly, Research Publication #487. Colorado State Capitol, Denver, CO.
 - ³ *Sourcebook of Criminal Justice Statistics Online*, Table 6.29.2004, available at <http://www.albany.edu/sourcebook/> ; Sabol et al. (December 2007). Prisoners in 2006. Bureau of Justice Statistics, U.S. Department of Justice. Available at: <http://www.ojp.usdoj.gov/bjs/pub/pdf/p06.pdf>.
 - ⁴ Sabol et al. (December 2007). *Prisoners in 2006*. Bureau of Justice Statistics, U.S. Department of Justice. Available at: <http://www.ojp.usdoj.gov/bjs/pub/pdf/p06.pdf>.
 - ⁵ Wool, J. and Stemen, D. (2004). *Changing Fortunes or Changing Attitudes? Sentencing Reforms in 2003*. Vera Institute of Justice, New York, NY.
 - ⁶ MacKenzie, D. L. (2006). *What Works? Reducing the Criminal Activities of Offenders and Delinquents*. Cambridge University Press, New York, NY.
 - ⁷ Relying on official criminal history records significantly underestimates the number of crimes committed. Self-report data also has deficiencies in terms of its accuracy.
 - ⁸ See for example, Visher, C. (1986). The RAND Inmate Survey: A Reanalysis. In *Criminal Careers and Career Criminals*, Alfred Blumstein, Jacqueline Cohen, Jeffrey Roth and Christy Visher (eds). National Academies Press, Washington, DC.
 - ⁹ Nagin, D. S. (1998). Deterrence and Incapacitation. In *The Handbook of Crime and Punishment*, Michael Tonry (ed). Oxford University Press, New York, NY.
 - ¹⁰ This is to be expected because exposure to arrest and incarceration is greater for high-rate offenders.
 - ¹¹ MacKenzie (2006).
 - ¹² Blumstein, A., Cohen, J., Roth, J., and Visher, C. (1986). *Criminal Careers and Career Criminals*. National Academies Press, Washington, DC.



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- ¹³ Nagin (1998: 364-365)
- ¹⁴ Levitt, S.D. (1996). The effect of prison population size on crime rates: Evidence from prison overcrowding litigation. *Quarterly Journal of Economics*, 111, 319-351.
- ¹⁵ Marvell, T.B. and Moody, C.E. (1994). Prison population growth and crime reduction. *Journal of Quantitative Criminology*, 10, 109-140.
- ¹⁶ Again, mostly property offenses.
- ¹⁷ Bhati, A.S. (2007). *An Information Theoretic Method for Estimating the Number of Crimes Averted by Incarceration*. Urban Institute, Washington, DC.
- ¹⁸ Stemen, D. (2007). *Reconsidering incarceration: New directions for reducing crime*. Vera Institute of Justice, New York, NY.
- ¹⁹ See the Devine, Sheley, and Smith (1988) study reported in Table 1 on page 4 of the Vera Institute report (2007). Also, Visser (1987) conducted a review of the research on general incapacitation and concluded that doubling the prison population during the 1970s and early 1980s reduced crime by 10 to 30%.
- ²⁰ For example, see: MacKenzie, D.L. (2006). *What Works? Reducing the Criminal Activities of Offenders and Delinquents*. Cambridge University Press, New York, NY.
- ²¹ Stemen (2007). Page 3.
- ²² See MacKenzie (2006) or Stemen (2007). Findings from these studies are generally viewed to be more accurate because they are based on a lower level of data aggregation.
- ²³ See for example Stemen (2007).
- ²⁴ See for example Levitt (1996), Spelman (2000), Aos et al. (2003), MacKenzie (2006) and Stemen (2007). For a contrary finding, see Kovandzic and Sloan (2002) and Kovandzic and Vieraitis (2006) – these found no relationship between incarceration rates and crime.
- ²⁵ Zimring, F.E. (2007). *The Great American Crime Decline*. Oxford University Press, New York, NY. Pages 55 and 198.
- ²⁶ Ibid. Page 55.
- ²⁷ Stemen (2007). Page 3.
- ²⁸ Austin, J. and Fabelo, T. (2004). *The Diminishing Returns of Incarceration, A Blueprint to Improve Public Safety and Reduce Costs*, JFA Institute, Malibu, CA.
- ²⁹ See Piehl, A.M., Useem, B. and J. Dilulio, Jr. (1999). Right-Sizing Justice: A Cost Benefit Analysis of Imprisonment in Three States. Center for Civic Innovation at the Manhattan Institute, No. 8, New York, NY; and Aos, S. (2003). *The criminal justice system in Washington State: Incarceration rates, taxpayer costs, crime rates, and prison economics*. Washington State Institute on Public Policy, Olympia, WA. Available at <http://www.wsipp.wa.gov/pub>.
- ³⁰ See Spelman (2000), Liedka, Piehl and Useem (2006), and Cohen and Canela-Cacho (1994).
- ³¹ Liedka, R., A. Piehl and B. Useem. 2006. The crime-control effect of incarceration: Does scale matter? *Criminology and Public Policy*, 5, 245-276; Kovandzic, T.V. and Vieraitis, L. (2006). The effect of county-level prison population growth on crime rates. *Criminology and Public Policy*, 5, 213-244.
- ³² Sabol, et al. (December 2007). *Prisoners in 2006*. Bureau of Justice Statistics, U.S. Department of Justice. Appendix Table 6. Available at <http://www.ojp.usdoj.gov/bjs/pub/pdf/p06.pdf>.
- ³³ Clear, T., Waring, E. and Scully, K. (2005). Communities and reentry: concentrated reentry cycling. In *Prisoner Reentry and Public Safety in America*, Travis, J. and C. Visser (eds.). Cambridge University Press, New York, NY.
- ³⁴ See Lynch and Sabol (2001), Fagan et. al. (2003) and Piquero et. al. (2005).

- ³⁵ Greenfeld, L. and Snell, T. (1999). *Women Offenders: Bureau of Justice Statistics Special Report*. Washington, D.C.: U.S. Department of Justice, Office of Justice Programs. Available at <http://www.ojp.usdoj.gov/bjs/pub/pdf/wo.pdf>.
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- ³⁷ Little Hoover Commission (December 2004). *Breaking the Barriers for Women on Parole*, Report #177, Sacramento, CA. See also Gabel, S. and Shindledecker, R. (July 1993). Characteristics of children whose parents have been incarcerated. *Hospital and Community Psychiatry*, 44, 656-660.
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- ⁴⁰ National Research Council. (2008). *Parole, Desistance from Crime, and Community Integration*. Committee on Community Supervision and Desistance from Crime. Committee on Law and Justice, Division of Behavioral and Social Sciences and Education. The National Academies Press, Washington, DC.
- ⁴¹ The National Research Council (2008:20) report points out “that care must be taken not to erroneously attribute the absence of further crime events near the end of an observation period or at the end of a specific age to (career) desistance rather than to the random time between events. Improved measures of the permanent absence of offending, which remains the clearest definition of desistance from crime, are needed.”
- ⁴² National Research Council (2008: 1-21).
- ⁴³ See National Research Council (2008), Uggen et al. (2005), Petersilia (2003), and Sampson and Laub (1993).
- ⁴⁴ See Solomon et al. (2005) and Maruna and Toch (2005).
- ⁴⁵ Maruna, S. and Toch, H. (2005). The impact of imprisonment on the desistance process.” In *Prisoner Reentry and Crime in America*, Travis, J. and Visser, C. (eds.). Cambridge University Press, New York, NY. Page 140.
- ⁴⁶ See Aos, S., M. Miller, and E. Drake. (2006). *Evidence-Based Public Policy Options to Reduce Future Prison Construction, Criminal Justice Costs, and Crime Rates*. Washington State Institute for Public Policy, Olympia, WA.



What Works



Section 5: Effective Recidivism Reduction Programs

At risk for recidivism

In Colorado, over 95,000 individuals were on probation, in community corrections or juvenile placements, or under the jurisdiction of the Colorado Department of Corrections on December 31, 2007.¹ Thousands more were incarcerated in county jails. Most of these offenders under correctional supervision – more than 65,000 – were living in communities across the state. Of those behind prison bars, more than 9 out of 10 will eventually return to the community. Finding ways to reduce the recidivism rate for these offenders is a critical public safety challenge.

Defining recidivism

Recidivism rates typically refer to the proportion of offenders who commit a subsequent crime following contact with the justice system. Sometimes the rate includes those who have been placed in prison because they violated the conditions of supervision. High rates of recidivism are a principal reason why Colorado's prison population and correctional costs are rising. A sizeable percentage of inmates released

Recidivism rates typically refer to the proportion of offenders who commit a subsequent crime following contact with the justice system. Sometimes the rate includes those who have been placed in prison because they violated the conditions of supervision. High rates of recidivism are a principal reason why Colorado's prison population and correctional costs are rising.

from prison today – as many as 49 out of every 100 – will be back behind bars within three years. Among adult probationers, about 20% fail due to technical violations and many of these eventually are resentenced to prison.² Of the adults who successfully complete probation, 8% commit a new crime within one year. Breaking this cycle of repeat offending is an essential first step in curbing correctional costs.

Impact of Rehabilitation Services on Recidivism

The end of rehabilitation

In 1975, Doug Lipton, Robert Martinson and Judith Wilks published their famous study on the effectiveness of rehabilitation programs for criminal offenders.³ In a preview of the findings released the year before, Martinson stated that “With few and isolated exceptions, the rehabilitative efforts that have been reported so far have had no appreciable effect on recidivism.”⁴ Widely interpreted as “nothing works” in offender rehabilitation, the Martinson report is often cited as the beginning of a shift away from more than six decades of emphasis on correctional rehabilitation and toward punishment and deterrence in correctional policy. In 1979, Martinson recanted his earlier position in an article published in the Hofstra Law Review, but “nothing works” had permanently entered the lexicon of criminal justice policy.⁵

Irrefutable evidence

More than 30 years of research since the Martinson report has produced a body of evidence that clearly contradicts the “nothing works” thesis. In 1987, for example, Gendreau and Ross reviewed more than 200 studies on offender rehabilitation and concluded that effective recidivism reduction programs were conducted in a variety of settings, with both juvenile and adult offenders.⁶ More recently, MacKenzie

Rehabilitation programs can and do work. Summarizing this body of literature is the purpose of this section of the compendium.

(2006) examined various correctional strategies using meta-analysis, simulations and other methods and concluded: “There is sufficient evidence to reject the nothing works mantra.”⁷ Finally, Lipsey and Cullen’s (2007) review of the research on correctional interventions determined that every meta-analysis comparing offenders who received rehabilitation treatment with those who did not found lower recidivism for those who received treatment.⁸ Most of the analyses found average recidivism reduction effects in the 20% range. Lipsey and Cullen (2007) concluded that “the preponderance of research evidence, therefore, supports the general conclusion that rehabilitation treatment is capable of reducing the reoffense rates of convicted offenders and that it has greater capability for doing so than correctional sanctions.”⁹

In short, the scientific evidence is unmistakably clear. A variety of programs, properly targeted and well-implemented, can reduce recidivism and enhance public safety. The remainder of this section identifies and describes what works toward reaching these goals.

Given the knowledge that has been built over the past 30 years, recidivism rates can be cut, provided the services delivered are needed by the offender and the program is well implemented. Research has demonstrated that several interventions are effective at reducing recidivism, even among serious, high-risk offenders.

Principles of Effective Intervention

One of the key findings of the past 30 years of research is that effective interventions share a common set of features. These common characteristics form what leading criminolo-

gists Don Andrews, Paul Gendreau and their colleagues call the “principles of effective intervention.”¹⁰ These principles are summarized below.

- 1) **Effective intervention is intensive and targets behavioral change.** Intensive treatment occupies 40% to 70% of the offender’s time and is 3 to 9 months in duration. Behavioral programs focus on changing the cognitions and values that maintain anti-social behavior, and they emphasize positive reinforcement rather than the threat of punishment to strengthen pro-social behavior.
- 2) **To effectively reduce recidivism, behavioral programs must target multiple criminogenic needs of higher risk offenders.** This is what is known as the need principle. Criminogenic needs are dynamic risk factors that are related to subsequent offending, such as substance abuse, lack of education, and anti-social attitudes and beliefs. Dynamic risk factors can be changed through programming, whereas static risk factors, such as criminal history and age at first arrest, cannot.

An important correlate of the need principle is the critical role of risk assessment. It is possible to predict the risk of recidivism of groups of offenders by using well-researched assessment tools that are capable of identifying a wide range of criminogenic needs. The use of a comprehensive, reliable and valid instrument such as the LSI (Level of Service Inventory) offers significant improvements and advantages over guessing about future risk. The LSI predicts recidivism but, perhaps more importantly, it also provides information pertaining to offender needs. Most offenders in Colorado are assessed using the LSI tool.

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- 3) Another important principle is that higher risk offenders are more likely to benefit from interventions than lower risk offenders. This is what's known as the risk principle. In practice, more intensive levels of treatment should be reserved for higher-risk offenders. In fact, using high levels of treatment with low-risk offenders is not only inefficient, it can actually do more harm than good.

In Ohio, for example, Lowenkamp and Latessa (2004) found that community-based residential programs were successful in reducing recidivism for high-risk offenders, but that recidivism actually increased with low-risk offenders. These increases in recidivism rates were substantial, and they led the authors to question the policy of admitting low-risk offenders into residential programs in Ohio as well as across the country.¹¹ And in New York, Wilson (2007) found that participants in a short-term, prison-based reentry program, Project Greenlight, fared significantly worse than offenders who did not participate in the program, both in terms of rearrest and parole revocations. In a report published by the National Institute of Justice, Wilson discussed the reasons why Greenlight did more harm than good.

"Although the developers of Project Greenlight drew elements from the literature on correctional interventions, there were some key failures - most notably, ignoring the treatment principles that form the foundation of effective programming. There is general agreement that interventions should be directed toward high-risk participants and that assessing risk

There must be a match between the treatment approach, staff characteristics and the learning style and personality of the offender. Programs must take into account and be responsive to the motivation, cognitive ability, age, gender, ethnicity and other characteristics of the offender.

and needs should be a part of any intervention protocol. Project Greenlight staff found, however, that the assessment tool was too cumbersome and time-consuming to administer and therefore dropped it. Another basic treatment principle is that interventions should target participants' specific needs. Project Greenlight was a broad-based intervention in which everyone in the group was exposed to the same program elements. Postrelease interviews indicated that some participants felt significant frustration and anger about being forced to attend drug education sessions when they had no history of substance use. It should also be noted that an emerging body of evidence suggests that the delivery of intensive services to low-risk individuals may be counterproductive."¹²

- 4) Finally, a basic principal for successful treatment delivery is that responsivity should occur between

The Level of Service Inventory (LSI) is one of the most common classification tools used with adult offenders. The LSI is used in a variety of correctional contexts across the United States to guide decision-making. In Colorado, the LSI is used in probation, community corrections, prison, and parole to develop supervision and case management plans and to determine placement in correctional programs. In some states, the LSI is used to make institutional assignments and release from institutional custody decisions. It may be the most used instrument: In a 1999 study, researchers found that 14% of the agencies surveyed in a national study were using the LSI with another 6% planning on implementing it in the near future. The instrument is perhaps the most researched correctional risk/needs assessment and, from the first validation study in 1982, it has continued to show consistent predictive validity for a range of correctional outcomes.

Source: Andrews, Dowden and Gendreau (1999).



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program staff, offenders and program settings.¹³ This is the responsivity principle. In essence, there must be a match between the treatment approach, staff characteristics, and the learning style and personality of the offender. Programs must take into account and be responsive to the motivation, cognitive ability, age, gender, ethnicity and other characteristics of the offender.

Research has demonstrated that programs incorporating these principles are far more effective at reducing recidivism than those that do not. A meta-analysis conducted by Andrews and Bonta (2006), for example, found that programs that embodied the principles of effective intervention achieved a recidivism reduction of around 50%, while programs that departed from them had little or no impact on recidivism.¹⁴

What Works Program Areas

Education and Vocational Programs

Education matters

A deficit in education is associated with many social problems, including crime. Rates of delinquency are higher among adolescents who drop out than among those who stay in school, and the association between dropping out and later criminal behavior has been shown to persist into early adulthood.¹⁵ Indeed, more than 2 out of 3 state prison inmates in America have not graduated from high school. Research has shown that repeat offenders are far more likely than first offenders to have left school without completing even an elementary education. This suggests that offenders that have the lowest level of educational skills, and are therefore less employable, are also the most likely to return to prison time and time again.¹⁶ In addition, dropouts are more likely than high school graduates to be unemployed, living in poverty, and on public assistance.¹⁷

Dropouts are more than eight times as likely to be in jail or prison as high school graduates.

Education, work and crime are linked

Research has consistently shown that crime and unemployment are linked, and that one of the most important conditions that leads to less offending is a strong tie to meaningful employment.¹⁸ MacKenzie (2006) recently reported that offenders are more likely to be unemployed than the general population, and that young adult males have higher rates of offending during periods of unemployment.¹⁹ Extensive research has demonstrated that strong ties to work can lead to desistance of offending. In fact, the

Certain groups-particularly black males-are disproportionately represented in the prison system, and are disproportionately undereducated.

informal social controls that are associated with work are far more effective than formal controls in increasing desistance from crime.²⁰ Yet a substantial number of offenders have educational, cognitive and other deficits that directly affect their prospects for meaningful employment.

Common programs

Educational and vocational training programs are common in correctional systems, particularly prisons, across the United States. According to the National Institute of Corrections, correctional education is generally comprised of four broad categories of programs: adult basic education (ABE), secondary/General Educational Development (GED), postsecondary education programs and vocational training.²¹

Adult basic education includes instruction to improve reading, language and arithmetic skills of those who are functionally illiterate or those who lack basic communication capabilities. Secondary education provides instruction that leads to a high school diploma or that prepares individuals for the General Educational Development Equivalency Examination (GED). Postsecondary education (PSE) includes college courses, and many of these programs are

What does the scientific evidence tell us about the effectiveness of educational and vocational training programs? Overall, the weight of the evidence indicates that they work. Highly rigorous studies of educational and vocational programs have found lower recidivism rates for program participants and positive returns on investment.

Most state prisons provide educational programs for their inmates, and many offenders take advantage of educational opportunities while they are under correctional supervision. In studies conducted by the Bureau of Justice Statistics, 52% of State prison inmates in 1997 and 23% of probationers in 1995 said they had participated in an educational program since admission to a correctional facility or their most recent sentence to probation.²² In Colorado, educational programs have been used with offenders in prison, on probation and under the jurisdiction of community corrections. In the CDOC alone, GED instruction and testing are available in all facilities. According to the CDOC website, 998 offenders received GED certificates in FY 2007, and 2,359 vocational certificates were awarded to offenders in FY 2006.²³

offered through community colleges or four-year institutions of higher education.

Vocational education is designed to develop occupational awareness and provide skills and experience in a particular trade or industry. Training in how to apply for a job, interview successfully, and retain employment through professional workplace habits is also common.

Do Educational and Vocational Programs Work?

What does the scientific evidence tell us about the effectiveness of educational and vocational training programs? Overall, the weight of the evidence indicates that they work. Highly rigorous studies of educational and vocational

How does Colorado rank?

The high school graduation rate for 2002-2003 was 73% statewide, according to the National Center for Education Statistics and the Education Research Center. For every 100 students in Colorado in the 9th grade, 91 enter 10th grade, 85 enter 11th grade, 78 enter 12th grade and 73 graduate. Specifically, Denver County graduates only 46.8 of every 100 students that enter the 9th grade, according to Education Week magazine. In addition:

- *Colorado ranked 37th among the 50 states for funding K-12.*
- *Colorado ranked 42nd in the nation for Hispanic graduation rates.*
- *Colorado ranked 48 out of 50 in funding for higher education.*

Source: www.edweek.org/rc.

Dropout rates effect on crime

Studies show that the lifetime cost to the nation for each youth who drops out of school and later moves into a life of crime and drugs ranges from \$1.7 to \$2.3 million. The relationship between crime and education is clearest when looking at dropout status and incarceration: although they constitute less than 20% of the overall population, dropouts make up over 50% of the state prison inmate population. Overall serious crime rates are reduced by 10-20% with a high school education. This reduction in crime is assumed to have a corresponding effect on incarceration rates and societal costs.

Source: Bridgeland, Dilulio, and Morison (2006) and Levin, Belfield, Muennig and Rouse (2007).



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programs have found lower recidivism rates for program participants and positive returns on investment.

One of the most comprehensive studies of offender education programs was undertaken by the Correctional Education Association in 1998.²⁴ The research examined the effect of education on the rate of recidivism and on post-release employment in three states - Maryland, Minnesota and Ohio. More than 3,000 inmates released between September 1997 and December of 1998 were studied, and the researchers found a significant relationship between participation in education programs and a lower rate of recidivism in every state.

A more recent analysis conducted by the Florida Department of Corrections (2001) produced similar findings.²⁵ Inmates who earned a GED were less likely to recidivate than those who did not complete an educational program. The recidivism rate for the 1,788 inmates in the study who received a GED was 30% compared to 35% for those who did not complete a program. This reduction in recidivism translated into approximately 100 inmates not returning to prison. Moreover, inmates who received a GED and improved their TABE reading scores to 9th grade level or higher were far less likely to recidivate than those who received a GED and read at an 8th grade level or less. Inmates who earned a vocational certificate also were less likely to recidivate than those who did not complete a program.

Several systematic reviews of correctional education programs confirm what was found in these single studies. Gaes et al. (1999) reviewed the research on a variety of different correctional interventions, including education and work programs, and Wilson and Gallagher (2000) conducted a meta-analysis of the outcomes of 53 different education, vocation, and work programs. Each of these reviews concluded that education programs increase employment and reduce recidivism.

One review that failed to reach a similar conclusion was conducted by Visser (2006). Her review focused specifically on employment programs delivered in settings other than prison or jail. While her analysis did not find that employment-focused interventions for ex-offenders reduced recidivism, she cautioned that the studies in her review were mostly out of date and the average subject was not typical of persons released from prisons today.

Two very recent and rigorous systematic reviews provide strong evidence that education and vocational training programs work. The first was conducted by the Washington State Institute for Public Policy (WSIPP) in 2006. It included a meta-analysis of three types of programs: prison-

based vocational training, prison-based general education, and community-based employment programs. The study found that vocational training programs delivered in prison reduced recidivism an average of 9%. General education programs delivered in prison and employment programs delivered in the community were also found to reduce recidivism, albeit at a more modest rate. All three programs produced a positive return on investment. For example, prison-based vocational training programs provided an average of \$5.76 in taxpayer benefits for every \$1 of cost.

Prison-based vocational training programs provided an average of \$5.76 in taxpayer benefits for every \$1 of cost.

The second review was conducted by MacKenzie (2006), also examining several types of education and vocational training programs in both prison and community settings. Her meta-analysis of education programs found that on average, adult basic education and GED programs reduced recidivism by 9 percentage points. Post-secondary education programs produced an even greater impact, reducing recidivism by 13 percentage points. MacKenzie (2006) concluded that “the preponderance of evidence supports the conclusion that corrections-based education programs are effective in reducing recidivism.”²⁶

The preponderance of evidence supports the conclusion that corrections-based education programs are effective in reducing recidivism.

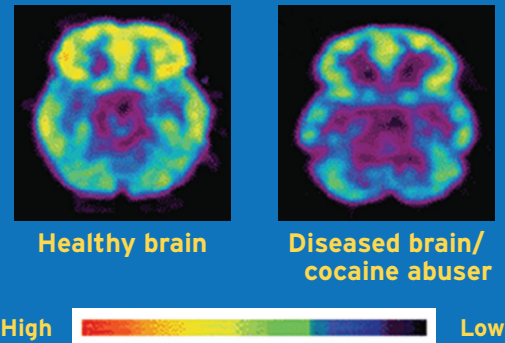
Wilson et al. (2000) also conducted a meta-analysis of 26 studies evaluating the effectiveness of vocational and work programs, including prison industries. They found that vocational training increased the employment rates and reduced the recidivism rates of program participants.²⁷ Correctional industries and other work programs did not. Across 17 vocational training studies, the average effect size was an 11 percentage point reduction in recidivism.

Why do people involved in the criminal justice system continue abusing drugs?

The answer to this perplexing question spans neurobiological, psychological, social, and environmental factors. The repeated use of addictive drugs eventually changes how the brain functions. Subsequent brain changes, which accompany the transition from voluntary to compulsive drug use, affect the brain's natural inhibition and reward centers, causing the addict to use drugs in spite of the adverse health, social, and legal consequences. Craving for drugs may be triggered by contact with the people, places, and things associated with prior drug use, as well as by stress. Forced abstinence without treatment does not cure addiction. Abstinent individuals must still learn how to avoid relapse, including those who have been incarcerated and may have been abstinent for a long period of time. Potential risk factors for released offenders include pressures from peers and even family members to return to drug use and a criminal lifestyle. Tensions of daily life – violent associates, few opportunities for legitimate employment, lack of safe housing, even the need to comply with correctional supervision conditions – can also create stressful situations that can precipitate a relapse to drug use.

Research on how the brain is affected by drug abuse promises to help us learn much more about the mechanics of drug-induced brain changes and their relationship to addiction. Research also reveals that with effective drug abuse

Figure 5.1. Decreased brain metabolism in a drug abuser



Source: From the laboratories of Drs. N. Volkow and H. Schelbert.

treatment, individuals can overcome persistent drug effects and lead healthy, productive lives.

Source: National Institute on Drug Abuse (2006). Principles of Drug Abuse Treatment for Criminal Justice Populations, U.S. Departments of Health, available at http://www.drugabuse.gov/podat_cj/faqs/faqs2.html.

Is continued drug abuse a voluntary behavior?

The initial decision to take drugs is mostly voluntary. However, when drug abuse takes over, a person's ability to exert self control can become seriously impaired. Brain imaging studies from drug-addicted individuals show physical changes in areas of the brain that are critical to judgment, decision making, learning and memory, and behavior control. Scientists believe that these changes alter the way the brain works, and may help explain the compulsive and destructive behaviors of addiction.

Source: National Institute on Drug Abuse (2006). The Science of Addiction. U.S. Departments of Health, <http://www.drugabuse.gov/scienceofaddiction/addiction.html>.



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Based on the scientific evidence, education and vocational training programs work. They increase the rate of employment for ex-offenders, and meaningful work is an important contributor to less offending. More importantly, the evidence clearly shows that they reduce recidivism and provide a positive return on investment.

Other Factors

In 2002, the Urban Institute published a report focused specifically on employment-related programs in prison. They reviewed the literature on prison-based education, vocational training, and prison industry programs. They also conducted an inventory of programs in seven states, and offered recommendations for improving existing employment-related programs and introducing new ones.

The Urban Institute’s report underscored the importance of the following factors:

- Correctional programs can increase post-release employment and reduce recidivism, provided the programs are well designed and implemented. Programs are far more likely to work when they embody evidence-based principles of effective intervention.
- To be effective, employment programs should focus on skills applicable to the job market, be delivered close to an offender’s release so that skills and work habits are internalized by the offender, be integrated with other programs, and followed by aftercare services in the community (Lawrence et al. 2002).²⁸

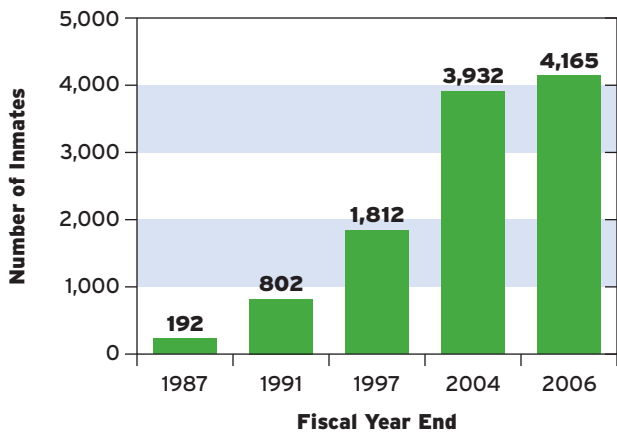
What Works Program Areas

Substance Abuse Treatment

Offenders convicted of drug crimes

In both Colorado and across the nation, offenders convicted of a drug crime make up a sizeable proportion of the prison population. Drug offenders account for about 20% of the inmate population in Colorado, and more people are serving prison time for a drug offense than for any other type of crime. At mid-year 1987, there were 192 drug offenders in prison in Colorado. Today there are more than 4,000

Figure 5.2. Number of CDOC Inmates Incarcerated for a Drug Offense



Source: CDOC Statistical Reports.

(Figure 5.2). At mid-year 2006, drug offenders accounted for about one-third of the inmate population serving time for a non-violent crime.²⁹

While drug policy is often a catalyst for heated and sometimes polarizing debate, there is little question that drug offenders are one of the driving factors behind prison population growth. In FY 1987, there were fewer than 200 new court commitments to Colorado prisons for drug crimes. In FY 2006, there were 1,638.³⁰ Many drug offenses are statutorily labeled as “extraordinary risk” crimes, a designation that automatically increases the presumptive sentencing range that applies to these offenders. Drug offenders also make up a substantial portion of the community corrections and probation populations. In FY 2006, for example, offenders sentenced for a drug offense accounted for 36% of the offenders discharged from residential community corrections program in Colorado.³¹

Offenders with substance abuse problems

Statistics on offenders convicted of drug crimes, however, present only a small part of the picture. A far larger number of offenders are involved with drugs or alcohol, and a significant number are clinically addicted. Nearly 9 out of every 10 CDOC inmates, for example, are in need of substance abuse treatment.³²

The links between substance abuse and crime are well documented. Drug abusers often engage in crime to support their drug habits, and research has shown that rates of criminal behavior increase during periods of drug addiction.³³ Studies of prisoners and probationers at the national level also indicate that about half were under the influence of alcohol or drugs when they committed their current offense.³⁴ About 1 in 5 state prisoners reported in a national survey that they committed their current offense to get money for drugs.³⁵

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Left untreated, alcohol and drug abuse are associated with elevated rates of failure on probation and parole, repeated contacts with the justice system, and higher rates of recidivism overall. Given the high percentage of offenders in need of treatment, it is unlikely that recidivism rates can be appreciably reduced without breaking the cycle of substance abuse and crime. Without appropriate assessment, treatment and aftercare, offenders with chronic substance abuse problems will have little chance for success upon release. They will likely resume criminal activity due to their addiction and eventually return to prison.

Without appropriate assessment, treatment and aftercare, offenders with chronic substance abuse problems will have little chance for success upon release.

Several types of treatment are used to address the specific needs of substance-abusing offenders. Major treatment modalities include detoxification, methadone maintenance for opiate addicts, drug-free outpatient therapy, and residential therapy, including therapeutic communities. Even within these modalities, treatment programs can vary in terms of structure and services. Treatment programs for substance-abusing offenders generally fit into the following three categories: in-prison therapeutic communities,

other prison or jail-based programs, and community-based programs-both residential and outpatient.³⁶ Each of these is used with offenders in Colorado.

Treatment Effectiveness

Substance abuse treatment can work

Research has produced clear and convincing evidence that substance abuse treatment works. Treatment reduces alcohol and drug use and crime. It also produces a significant return on taxpayer investment.³⁷ Numerous studies have found therapeutic communities to be particularly effective, and treatment appears to work equally well for those who are coerced into treatment and those who volunteer. Staying in or completing treatment increases the likelihood of positive outcomes.

Research has produced clear and convincing evidence that substance abuse treatment works. Treatment reduces alcohol and drug use and crime. It also produces a significant return on taxpayer investment.

Treatment reduces drug use and crime

One of the most comprehensive studies on treatment effectiveness was the National Treatment Improvement Evaluation Study (NTIES).³⁸ This Congressionally-mandated five-year study of more 4,400 subjects found that treatment decreased substance abuse as well as criminal activity. One year pre- and post treatment comparisons found that the use of illicit substances by treatment participants in the study fell by about 50% in the year after treatment, while the number arrested fell by 64% (Figure 5.3). Drug selling decreased 78%, and the percentage who supported themselves largely through illegal activity was nearly cut in half.³⁹

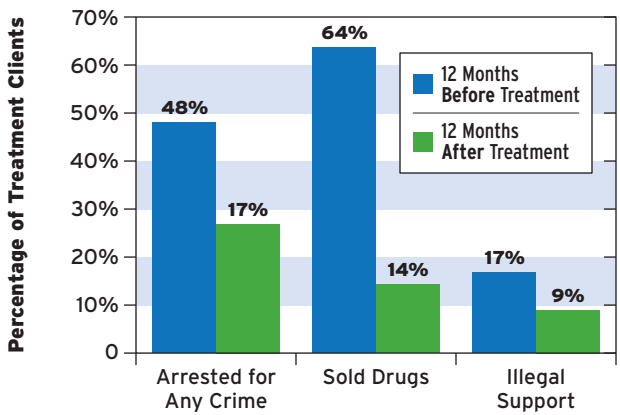
Significant cost benefit

The NTIES confirmed the positive treatment effects found two years earlier in the often cited California Drug and Alcohol Treatment Assessment (CALDATA) research. The CALDATA study found that treatment reduced criminality by two-thirds and that there were \$7 in savings for



What Works

Figure 5.3. Changes in Criminal Activity Before vs. After Treatment



Source: National Treatment Improvement Evaluation Survey, Gerstein et al. (1997).

every \$1 spent on treatment.⁴⁰ Whereas the CALDATA study was one of the first to quantify treatment’s return on investment, NTIES was the first study of its kind to include correctional clients.

Coerced treatment works

Several systematic reviews of treatment success have been undertaken in recent years, and their findings are consistently positive, too. Sherman et al. (1997) systematically reviewed evaluations that examined the effectiveness of drug treatment programs in prison and in the community, and concluded that drug treatment is effective in reducing the recidivism of offenders. One of the review’s other key findings was that offenders coerced into treatment by the criminal justice system do as well as those who enter treatment voluntarily.⁴¹

A meta-analysis conducted by Prenderghast and his colleagues (2002) reached similar conclusions. Treatment resulted in less drug use and fewer crimes. Mitchell et al. (2005) meta-analyzed sixty-six rigorous evaluations of prison and jail-based treatment programs and found a modest reduction in post-treatment offending. On average, treatment clients recidivated at a rate of 28% compared to a recidivism rate of 35% for the non-treatment comparison group. Therapeutic communities (TCs), however, produced a slightly larger reduction in recidivism.

It works for offenders in prison, jail and the community

More recently, MacKenzie (2006) examined the effectiveness of incarceration and community-based treatment separately.

She found that out-patient drug treatment programs delivered to offenders in the community were effective at reducing future criminal behavior.⁴² Treatment programs delivered in correctional facilities also worked, but the majority of the effective programs were TCs, particularly when they were followed by community-based aftercare.⁴³

MacKenzie (2006) examined the effectiveness of incarceration- and community-based treatment separately. She found that out-patient drug treatment programs delivered to offenders in the community were effective at reducing future criminal behavior. Treatment programs delivered in correctional facilities also worked, but the majority of the effective programs were TCs, particularly when they were followed by community-based aftercare.

Aos and his colleagues (2006) conducted a meta-analysis of 35 rigorous evaluations of substance abuse treatment programs as part of a larger systematic review of adult corrections programs. Statistically significant reductions in recidivism were found for every category of substance abuse treatment examined: prison-based programs, jail-based programs, and treatment programs delivered in the community. Savings to taxpayers due to reductions in crime ranged from nearly \$5,000 per program participant for community-based treatment to about \$2,700 per program participant for prison-based treatment.⁴⁴

Substance-abuse treatment has been the focus of numerous other economic evaluations. Reviews conducted by Cartwright (2000), Harwood et al. (2002), and McCollister and French (2003) have all reached similar conclusions. Substance abuse treatment pays for itself and generates net economic benefits for taxpayers. One of the most comprehensive reviews of treatment economic research was recently conducted by researchers at the Addictions Research Institute (ARI) at the University of Pennsylvania. Based on their findings, Steve Belenko and his colleagues (2005) at ARI concluded the following:

*"Economic studies across settings, populations, methods, and time periods consistently find positive net economic benefits of alcohol and other drug treatment that are relatively robust. The primary economic benefits occur from reduced crime (including incarceration and victimization costs) and post-treatment reduction in health care costs."*⁴⁵

A Few Cautionary Points

It's not a slam dunk

While the evidence is unmistakably clear that substance abuse treatment works, several factors can influence treatment effectiveness. These include:

- **Time in treatment.** Research has consistently shown that time in treatment matters. Program completion and longer retention times are associated with better substance abuse and recidivism outcomes.
- **Aftercare.** Treatment programs delivered to offenders under correctional supervision are unlikely to produce long-term results if offenders return to an environment where relapse is likely. Aftercare services help prevent relapse and sustain the positive treatment effects that are initiated when the offender is under correctional supervision. Studies have shown that while aftercare is expensive, prison-based treatment is most effective and cost-beneficial when aftercare is also provided.⁴⁶
- **Program integrity.** Treatment programs that are well designed, properly staffed and delivered with integrity are likely to achieve positive results. Conversely, programs that are poorly implemented or delivered are likely to fail. A recent report by the California Office

A recent report by the California Office of the Inspector General (2007) on in-prison substance abuse programs managed by the California Department of Corrections and Rehabilitation concluded that over a billion dollars of taxpayer funds had been "wasted" in the poor delivery of in-prison substance abuse services.

of the Inspector General (2007) on in-prison substance abuse programs managed by the California Department of Corrections and Rehabilitation concluded that over a billion dollars of taxpayer funds had been "wasted" in the poor delivery of in-prison substance abuse services.⁴⁷ This underscores the need to deliver services that are consistent with evidence-based principles for effective correctional intervention (described at the beginning of this section), and the need for continual monitoring of program delivery to ensure fidelity to the program design.

Few receive services

Despite the evidence that well designed and properly implemented treatment programs are effective and cost-beneficial, many offenders are not receiving the treatment they need. Between 70% and 85% of state prison inmates need some level of substance abuse treatment, yet only a fraction of these offenders receive services. A 2004 national study of prison inmates found that only about 15% of the inmate population received treatment since admission.⁴⁸ And since that time, services in prisons across the country have been reduced due to fiscal constraints. Therefore, expanding

Data reported by the Alcohol and Drug Abuse Division (ADAD) of the Colorado Department of Human Services are not offender-specific, but they illustrate the gravity of the treatment resource situation. Among all 50 states, Colorado ranked fifth in persons 12 years of age or older needing but not getting treatment for illicit drug use. Nationwide, \$27 per U.S. resident is spent on publicly funded substance abuse treatment; Colorado spends \$7.50 per resident. In addition, for every \$100 Colorado spent on programs that address the negative consequences of substance abuse, only six cents was spent on treatment, prevention or research. The average amount spent by other states was \$3.70 per \$100 of spending.



What Works

access to treatment is likely an essential step in reducing recidivism and ultimately correctional costs.

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Treatment as an Alternative to Prison

Research on the costs and benefits of imprisonment has shown that using expensive prison space to incarcerate large numbers of drug offenders is not a cost-effective use of public resources. In a study of prisoners entering prison in New York, New Mexico and Arizona in 1997, researchers conducted a cost-benefit analysis that led them to conclude that “at least some prison beds currently occupied by drug offenders would be better reserved for high-rate property and violent offenders” and that policy makers in “these and other states need to revisit mandatory-minimum drug laws that are increasing prison populations without demonstrably and cost-effectively increasing public safety” (Piehl, Useem and Dilulio, 1999).⁵⁰ According to the Vera Institute of Justice, there is an emerging consensus that sentences for drug offenses, particularly those involving simple possession, should be reassessed and that community-based treatment may be a more cost-effective sanction.

Treatment-based alternatives to incarceration are less expensive than prison and they can reduce recidivism.⁵¹ The average daily cost of an Intensive Residential Treatment (IRT) bed in Colorado, for example, is about 25% less per offender than the cost of incarceration. IRT programs are community-based and utilized by offenders with serious substance abuse problems who are transitioning from prison back to the community.

Evaluations of Substance-Abuse Programs for Offenders in Colorado

Several evaluations of substance abuse treatment programs for offenders have been undertaken in Colorado. Two important evaluations that examined recidivism outcomes are briefly described below.

Evaluation of Therapeutic Community (TC) Programs for Offenders

Klebe and O’Keefe (2004) examined the effectiveness of two TCs for offenders in Colorado. One is a prison-based program and the other is community-based. The prison program is the Crossroads to Freedom House TC at the Arrowhead Correctional Center (ACC); the community-based program is Peer I located in Denver. Together these two programs provide a continuum of care for high risk substance abusing felons.⁵²

The outcome study was based on 778 subjects who were retrospectively placed in one of five groups for the analysis. Group 1 were those inmates who successfully completed TC treatment in prison who then went on to receive treatment at the community-based Peer I TC. Group 2 received treatment at the Peer I TC only.⁵³ Group 3 received and successfully completed treatment at the ACC TC only. They did not attend Peer I or any other community-based TC treatment. Group 4 received treatment at the ACC TC only, but these inmates did not successfully complete the program.⁵⁴ Group 5 was comprised of inmates identified as needing residential treatment who did not participate in a TC either in prison or the community.⁵⁵ These five groups were compared on several recidivism outcomes. Survival analysis was used to explore the length of time to a new offense.

Results found that offenders with the lowest rate of community supervision failures were those who completed the prison-based ACC TC and continued on to Peer I treatment in the community. For example, the 2-year supervision failure rate was 41% for Group 1 compared to 72% for Group 5, those offenders who did not participate in TC treatment either in prison or the community (See Table 5.1). Only 33% of the inmates who received TC treatment both in prison and the community returned to prison during the 2-year follow-up period. That compares with 58% of the no treatment group. In addition, survival analysis showed that the participants who received treatment in both TCs had the slowest failure rates. Overall, the researchers concluded that long-term TC treatment that provides a continuum of care from prison to the community can substantially reduce recidivism.

Table 5.1. CDOC Therapeutic Community (TC) Evaluation

2-Year Recidivism Rates	Inmates who Received TC Treatment in Prison and the Community	No TC Treatment Comparison Group
Technical Violations	4%	34%
Felony Arrests	18%	26%
Return to Prison	33%	58%
Overall Supervision Failure	41%	72%

Source: Klebe and O’Keefe (2004).

Evaluation of Intensive Residential Treatment in Colorado

O’Keefe et al. (2003) also investigated the effectiveness of Intensive Residential Treatment (IRT) programs for offenders in Colorado.⁵⁶ These programs are community-based and offenders are frequently referred to them in lieu of prison, either as a diversionary program or as a transition from prison back to the community.

Four IRT programs were a part of the study: the Community Intensive Residential Treatment (CIRT) program at the San Luis Valley Community Corrections Center, the Drug and Alcohol Residential Treatment (DART) program at Williams Street Center in Denver, the Residential Treatment Center (RTC) in Greeley, and the Short-Term Intensive Remedial Residential Treatment (STIRRT) program in Denver. These programs varied on a number of dimensions, including the treatment model used, treatment duration and aftercare. For example, length of stay in treatment could range from 14 days at STIRRT to approximately 45 days at the other three sites.

The study employed a quasi-experimental design with comparison groups drawn from matched judicial and CDOC offender populations not receiving IRT. The researchers pointed out, however, that it is likely that most comparison group members received some form of non-residential treatment, therefore the research primarily addressed whether IRT “provided an added benefit over outpatient treatment.”⁵⁷ Several outcomes were examined. In terms of recidivism, the study found mixed results across programs and even within some programs on different measures of recidivism. For example, only STIRRT participants had statistically significant outcomes across multiple recidivism measures relative to a comparison group.

Overall, O’Keefe and her colleagues concluded that the study’s findings indicate a positive trend across IRT programs, but they raised several important program and policy issues. Given the evidence that treatment duration is linked to post-treatment success, they suggested that the residential portion of IRT may not be long enough to produce substantive change in the population being served. The researchers also cited problems with program implementation fidelity, including referral of offenders who may not be appropriate for the IRT program.⁵⁸ In terms of policy, the researchers suggested that it may be beneficial to the criminal justice system to provide intensive treatment services to high-risk offenders in lieu of prison, but proper assessment, referral and program delivery are critical. Continuing care for six months or longer following IRT may also be essential for success.

Colorado Social Research Associates (2006) also recently evaluated STIRRT. They found that program participants demonstrated positive change in terms of substance abuse, recidivism, and other outcomes.

What Works Program Areas

Drug Courts

What is a drug court?

A drug court is a special court given the responsibility to handle cases involving drug-using offenders through comprehensive supervision, drug testing, treatment services, immediate sanctions and incentives. Drug courts use the authoritative weight of judges, prosecutors, defense attor-

neys, treatment providers and others to compel the offender to deal with his or her substance abuse problem.⁵⁹ In the drug court model, the judge uses his or her authority to hold the offender accountable for treatment progress. The intention is to combine intensive judicial supervision with substance abuse treatment in an environment of multidisciplinary collaboration.



What Works

In the drug court model, the judge uses his or her authority to hold the offender accountable for treatment progress. The intention is to combine intensive judicial supervision with substance abuse treatment in an environment of multidisciplinary collaboration.

Drug courts vary somewhat from one jurisdiction to another in terms of structure, scope, and target populations, but they all share three primary goals:

1. Reduce recidivism;
2. Reduce substance abuse among participants; and
3. Rehabilitate participants.

Core elements almost always include the integration of substance abuse treatment with criminal justice system case processing, frequent alcohol and drug testing, a continuum of measured responses to continued substance abuse, and intensive ongoing collaboration between the criminal justice system and treatment providers.

In 1997, the National Association of Drug Court Professionals and the U.S. Department of Justice's Office of Justice Programs published *Defining Drug Courts: The Key Components*, which describes the basic elements of drug courts.⁶⁰ The 10 key components are:

1. Integration of substance abuse treatment with justice system case processing.
2. Use of a non-adversarial approach, in which prosecution and defense promote public safety while protecting the right of the accused to due process.
3. Early identification and prompt placement of eligible participants.
4. Access to a continuum of treatment, rehabilitation, and related services. Drug court personnel need to understand that addiction is a health problem that is difficult to cure and requires long-term treatment. Relapses may be frequent, making it necessary to extend treatment well beyond the typical 12 month period.
5. Frequent testing for alcohol and illicit drugs.

6. A coordinated strategy among the judge, prosecution, defense, and treatment providers to govern offender compliance.
7. Ongoing judicial interaction with each participant.
8. Monitoring and evaluation to measure achievement of program goals and gauge effectiveness.
9. Continuing interdisciplinary education to promote effective planning, implementation, and operation.
10. Partnerships with public agencies and community-based organizations to generate local support and enhance drug court effectiveness.

Drug courts operate in nearly every state

As of April 2007, more than 1,700 drug courts were operating nationwide and about 350 more were in the planning stage.⁶¹ More than 300,000 adults have entered drug court programs since the first drug court opened in 1989.⁶²

Drug courts are primarily used for non-violent, drug-involved offenders, but the profile of offenders accepted into programs has changed considerably over the years. Originally, drug courts targeted low-level and first-time offenders. Today, more and more drug courts are accepting or focusing on offenders with more serious substance abuse problems or criminal histories. Drug courts for adult offenders are most common, but juvenile drug courts, which first emerged in the mid-1990s, have proliferated in the past decade. Family drug courts that apply the drug court model to child abuse and neglect cases related to substance abuse, and reentry drug courts for offenders who have been released from short terms of confinement, have also emerged.

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Program settings have also expanded considerably. Originally, drug courts focused on diversion from prosecution. Today, drug courts may be based on post-adjudication or probation revocation strategies, too. Regardless of the setting, a judge exercises authority to defer case prosecution if the offender agrees to participate in the treatment process. Successful completion of a drug court program typically results in dropped charges, vacated or reduced sentences, or rescinded probation.

Do Drug Courts Work?

Evaluations find drug courts reduce recidivism

Drug courts have been the focus of extensive evaluation since their inception in 1989. Evaluations have examined drug courts both at the individual program and state levels. The costs and benefits of drug courts also have been studied, perhaps more so than any other criminal justice program. Overall, drug courts have been found to reduce recidivism and provide a sound return on investment.

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One of the largest statewide studies of drug courts ever undertaken was conducted by the Center for Court Innovation (CCI) in New York. The study found that the three-year rearrest rate across six courts was on average 29% lower for drug court participants compared to similar offenders who did not participate in the drug court program

In California, the Judicial Council reported that arrest rates compiled on drug court graduates from 17 counties were 85% lower in the two years after admission than they were in the two years prior to drug court entry. Cost offset and avoidance was estimated at \$43 million, predominately due to averted jail and prison costs.

(Rempel et al., 2003). In California, the Judicial Council reported that arrest rates compiled on drug court graduates from 17 counties were 85% lower in the two years after admission than they were in the two years prior to drug court entry. Conviction rates for the same participants declined 77%, and incarceration rates declined by 83%. Cost offset and avoidance was estimated at \$43 million, predominately due to averted jail and prison costs.⁶³

The United States Government Accountability Office (GAO) reviewed 27 rigorous drug court evaluations in 2005 and concluded that drug courts reduced the likelihood of rearrest and reconviction.

Several systematic reviews of drug court evaluations have also been undertaken in recent years. Belenko (2001) reviewed three highly rigorous drug court evaluations and found reductions in recidivism for drug court participants. The United States Government Accountability Office (GAO) reviewed 27 rigorous drug court evaluations in 2005 and concluded that drug courts reduced the likelihood of rearrest and reconviction. Rearrest rates for drug court participants were 10% to 30% below those of the comparison group in 10 of the 13 drug court programs that reported rearrest data. Seven drug courts provided data on costs and benefits. Although program costs typically exceeded the costs of business as usual, all seven drug courts yielded positive net benefits, primarily from reductions in recidivism. Latimer (2006) and his colleagues conducted a meta-analysis of 54 studies and found that drug treatment courts in Canada reduced the recidivism rates of participants by 14%. Similarly, MacKenzie (2006) conducted a meta-analysis of 24 rigorous drug court studies and found favorable recidivism reduction effects in 22 of them.

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What Works

Recent studies conducted by the WSIPP are also worth noting. Barnoski and Aos (2003) conducted a meta-analysis of 30 rigorous drug court evaluations and found that, on average, drug courts reduced recidivism by 13%. A more recent meta-analysis of 57 rigorous drug court evaluations conducted by the Institute in 2006 found somewhat more modest results (Aos et al. 2006). Adult drug courts reduced recidivism by an average of 8%, and they produced a positive return on investment.

The WSIPP also evaluated six adult drug courts operating in Washington state. Their research found that five of the drug courts reduced recidivism by an average of 13%. Only one of the courts failed to reduce recidivism significantly. A cost-benefit analysis showed that the five successful drug courts were more expensive than regular criminal court – \$3,891 more per participant – but that their return on investment was substantial: \$1.74 in benefits for every \$1 of costs.

The WSIPP also evaluated six adult drug courts operating in Washington state. Their research found that five of the drug courts reduced recidivism by an average of 13%. One of the courts failed to reduce recidivism significantly.

The weight of the evidence shows that drug courts work. Every review reported here found favorable effects on recidivism for drug courts overall. Economic evaluations also indicate that drug courts produce a reasonable return on investment. Although drug courts typically are more expensive than standard processing at first because they provide more intensive supervision and services, they save taxpayer

Although drug courts typically are more expensive than standard processing at first because they provide more intensive supervision and services, they save taxpayer dollars over the long-term, primarily through reduced victimization and criminal justice processing costs.

dollars over the long-term, primarily through reduced victimization and criminal justice processing costs. Another important and consistent finding of drug court research is that drug court programs keep clients in treatment for longer periods of time. Given the evidence concerning the importance of treatment duration, this is an important program outcome that contributes to recidivism reduction.

Evaluations of the Denver Drug Court

Denver initiated one of the first drug courts in the nation. The program began accepting cases in 1994, but it was dissolved in 2002. The program was reestablished early in 2007 with funding from the City of Denver.

Two evaluations of the Denver drug court have examined the program's impact on recidivism. Each was conducted prior to 2002. The first was conducted by the DCJ, and it was based on the program's first two years of operation (Harrison et al. 2001). The study analyzed outcome and other information obtained on all drug offenders processed through the Drug Court during the first quarters of 1995 and 1996. A matched sample of drug offenders serving probation/deferred judgement sentences in 1993 served as the comparison group for the study.

The DCJ evaluation found that 81% of drug court cases participated in treatment for at least six months, a positive finding given the research linking length of time in treatment with post-treatment success. Although drug court clients had criminal histories that were significantly more serious than those of comparison group members, drug court clients fared slightly better than their comparison group counterparts in terms of new criminal filings. At two years after program entry, 18% of the drug court clients had received a new filing compared to 22% of the comparison group. Equal proportions (of approximately one-third) of the offenders in both groups were arrested during the two-years following their entry into drug court or their probationary/deferred judgment period.

Drug court participants, however, were significantly less likely to complete their supervision successfully (49% compared to 65%). This finding is linked to the fact that drug court offenders were more likely to get arrested while under supervision (62% compared to 50%), which should be expected when supervision and compliance requirements are intensified, and when the population is significantly more serious than the comparison group. Consistent with a higher program failure rate, a larger proportion of drug court offenders were eventually sentenced to prison following a probation revocation: 38%, compared to 24% of the comparison group. Overall, these findings do not indicate

that the program was effective at reducing recidivism during its early years of operation.

The second evaluation conducted by Tjaden et al. (2002) focused on clients participating in the drug court between 1997 and 1999. The study included a recidivism analysis that compared Drug Court participants with a group of drug offenders from a nearby county who did not participate in a drug court program. Drug court participants were found to have lower recidivism rates based on new charges filed during a 24 month follow up period (20% vs. 24%), but the differences dissipated somewhat during the third year after program intake. Survival analysis also revealed that comparison group members tended to recidivate more quickly than drug court participants. Finally, a cost analysis found that the Drug Court had a slightly lower operating cost than a typical court and that while some net savings occurred due to reductions in recidivism, those savings were somewhat short-lived.

One of the important points noted in the study is that although eligibility policies changed over time, the Denver drug court initially handled virtually all offenders charged with drug crimes, with more serious cases being expedited for sentencing.⁶⁴ While most clients were earmarked for treatment services, the dual mission of the court was a fundamentally different approach than the therapeutic jurisprudence model that underlies most other drug courts.

Evaluation of the Denver Juvenile Drug Court

The Denver Juvenile Drug Court was established in 1998 to provide substance abusing juvenile offenders the opportunity for community based treatment and other services, while enhancing community safety through swift sanctions and incentives. Juveniles entering the program receive deferred adjudication and cases are dismissed upon successful completion of treatment and supervision requirements.

A recent evaluation of the Denver Juvenile Drug Court conducted by Readio and Harrison (2003) focused on juveniles participating in the program between October 2000 and June 2003. The study compared drug court participants with a matched group of substance abusing juvenile offenders who were placed on probation prior to the advent of the drug court program. Drug court clients were found to have fewer new criminal filings than their comparison group counterparts both during and after program participation. While in the program, 16% of drug court clients had a new criminal filing compared to 20% of the comparison group members. During the 12 month period following discharge from supervision, new filing rates were 10% for drug court clients and 24% for the comparison group.⁶⁵

What Works Program Areas Sex Offender Treatment

Since mid-year 2000 alone, the number of CDOC inmates who were sentenced for a sex crime has increased 17%. There were nearly 6,000 offenders convicted of sex crimes serving a prison sentence in Colorado in January, 2008.⁶⁶ Included in this number are more than 1,130 serving life-time supervision sentences, all of whom must participate in sex offender treatment prior to being considered for parole.⁶⁷

According to the Association for the Treatment of Sexual Abusers (ATSA), most states require convicted sex offenders to participate in treatment while in prison or on probation. A Safer Society survey (McGrath, Cumming, and Burchard, 2003) recently found that more than 1,500 sex offender treatment programs were operating in the U.S. and that most were community-based (80%). A survey of prison

treatment conducted in 2006 by the Colorado Department of Corrections (Lins, 2006) found that formal sex offender treatment programs were operating in 44 state prison systems but the study revealed significant variation in the operation of these programs.⁶⁸

Treatment Effectiveness

Studies examining the effectiveness of sex offender treatment in the 1990s produced mixed or inconsistent results, but systematic reviews conducted more recently indicate that certain sex offender treatment approaches can and do work. Specifically, cognitive-behavioral therapy and therapeutic communities have been shown to be effective in reducing recidivism.

Systematic reviews conducted more recently indicate that certain sex offender treatment approaches can and do work. Specifically, cognitive-behavioral therapy and therapeutic communities have been shown to be effective in reducing recidivism.

In 1996, the GAO published a review of sex offender treatment research based on 22 other reviews covering 550 studies. Their analysis found no consensus among the reviews about what treatment works to reduce the recidivism of sex offenders. Cognitive-behavioral treatment was most often reported to be promising, while psychotherapy was generally viewed as not being effective. Because most of the reviews reported methodological problems, definitive conclusions about the efficacy of treatment could not be drawn.⁶⁹

Lösel and Schmucker's (2005) meta-analysis of 69 studies involving more than 22,000 offenders found a 6% reduction in recidivism among offenders who received treatment.

Gallagher et al. (1999) conducted a meta-analysis of 25 evaluations of sex offender treatment and found strong evidence that cognitive behavioral approaches with relapse prevention components are effective at reducing recidivism. Sex offenders treated with cognitive-behavioral/relapse prevention techniques recidivated at a rate 8 percentage points below that of comparison sex offenders. In 2002, Hanson and his colleagues conducted a meta-analysis of 43 studies and found that treatment reduced sexual recidivism by 4.5 percentage points. A follow-up analysis based only on the more recent studies found a 7.5% reduction in sexual recidivism. Cognitive-behavioral approaches again were most effective. Lösel and Schmucker's (2005) meta-analysis of 69 studies involving more than 22,000 offenders found a 6% reduction in recidivism among offenders who received treatment.⁷⁰ Prentky et al. (2006) conducted a narrative review of treatment effectiveness studies and concluded that "the most reasonable estimate at

this point is that treatment can reduce sexual recidivism over a five year period by between 5% and 8%."⁷¹

Two recent reviews reported even more positive results. A meta-analysis of 30 studies conducted by Luong and Wormith (2006) found that sex offenders who received any treatment recidivated at a significantly lower rate than sex offenders who did not receive treatment. The researchers reported that for every 100 untreated sex offenders who sexually recidivate, 82 sex offenders who received any form of treatment will do so.⁷² Again, cognitive-behavioral approaches were associated with significant reductions in recidivism whereas other treatment approaches were not. Positive treatment effects were also recently found by MacKenzie (2006). Her meta-analysis of 28 evaluations found statistically significant reductions in recidivism for treatment participants. The average rate of recidivism was 12% for treatment participants compared to 22% for those not participating in treatment. Further analysis demonstrated that programs using cognitive-behavioral/relapse prevention therapy were effective in reducing recidivism.

Several studies concerning sex offender treatment have recently been conducted by the WSIPP. One study (Barnoski, 2006) examined the effectiveness of Washington's Specialized Sex Offender Sentencing Alternative (SSOSA). Under SSOSA, certain felony sex offenders are granted in lieu of imprisonment a special sentence that involves some jail time, community supervision and outpatient treatment.⁷³ The evaluation found that the five-year sexual and violent crime recidivism rates for offenders granted a SSOSA were consistently lower than the rates for the other types of sex offenders. Barnoski (2006) also examined the effectiveness of a prison-based Sex Offender Treatment Program (SOTP) in Washington that uses a combination of treatment techniques including group therapy, psycho-educational classes, behavioral treatment, and family involvement. The study found that the SOTP did not reduce the recidivism rates of program participants. Finally, Aos (2006) and his colleagues at the Institute conducted a meta-analysis of six rigorous studies of adult sex offender treatment with aftercare and found that these programs reduced recidivism, on average, by 7%. A meta-analysis of five studies focusing on juvenile sex offender treatment found an average reduction in recidivism of 10%.

Two other recent reviews have focused specifically on sex offender treatment for juveniles. Reitzel and Carbonell (2006) examined 33 studies and found that treated adolescents had a sexual recidivism rate 12 percentage points lower than untreated adolescents. And Winocur et al.'s (2006) meta-analysis based on seven studies that reported recidivism outcomes found that treatment had a small to

moderate positive effect on the recidivism rates of juvenile sex offenders. Specifically, juveniles who complete a cognitive-behavioral program are less likely to commit sexual or any reoffenses than are juveniles “who do not receive treatment, receive an alternative treatment, or do not complete treatment.”⁷⁴

Overall, the most recent scientific evidence suggests that certain types of sex offender treatment can reduce recidivism. Cognitive-behavioral approaches were identified as being effective in several of the studies highlighted above. Therapeutic communities for sex offenders are briefly discussed below.

An Evaluation of the Colorado Department of Corrections' Therapeutic Community for Sex Offenders

In 2003, the Colorado Division of Criminal Justice conducted an evaluation of the sex offender therapeutic community (TC) at the Colorado Department of Corrections (DOC) (Lowden, et al., 2003). DCJ researchers reviewed the literature, examined 578 offender files, interviewed therapeutic staff and offenders, attended and quantitatively rated 67 treatment groups, conducted focus groups with inmates, and analyzed new arrests, court filings, and prison incarcerations on over 3,000 sex offenders released from DOC.

Brief overview

The Colorado Sex Offender Treatment and Management Program (SOTMP) TC was designed to be a cognitive behavioral program that operates within a therapeutic environment. In TCs, inmates are housed together in a therapeutic milieu where they live and work with others who are working on similar treatment issues. Colorado's SOTMP TC model was modified from the traditional substance abuse format to accommodate specific treatment issues unique to sex offenders.

Successful participation in the SOTMP involves progress in treatment and completing specific treatment tasks. The number of tasks that each offender must complete to receive a community placement recommendation is based on (1) the length of the offender's minimum prison sentence, and (2) lifetime supervision standards set by the Colorado Sex Offender Management Board.

Evaluation findings

Over 3,000 sex offenders released from the Colorado DOC between April 1993 and July 30, 2002 were included in the outcome analysis (Lowden et al., 2003). Three groups of offenders were studied based on treatment participation:

1. No treatment, which included all of those who participated in less than 30 calendar days of Phase I treatment.
2. Phase I, which included those with more than 30 days in Phase I and no Phase II treatment.
3. Phase II (TC), which included those who completed Phase I and participated in Phase II treatment for more than 30 days.

The treatment groups in this study contained everyone who participated in that phase of treatment for at least 30 days whether or not they dropped out or were terminated after 30 days. This method makes the findings more significant because the problem inmates were not excluded from the analysis.

The following key findings emerged from the study:

- Participation in treatment was significantly associated with success on parole. An analysis of the parole completion/revocation rates of 1,585 sex offenders released to parole between 1993 and 2002 indicated that nearly half of the offenders who did not receive treatment were revoked back to prison. This rate was three times higher

- **Participation in treatment was significantly associated with success on parole.**
- **The length of time that an offender participates in treatment was significantly related to positive outcomes after release from prison. Each additional month spent in the TC increased the likelihood of success upon release by 1% (12% per year).**
- **The Colorado DOC's program for sex offenders, as it was implemented in 2003, was found to effectively reduce recidivism.**



What Works

than the group that received both Phase I and Phase II treatment and two times higher than the group that only received Phase I treatment.

- The length of time that an offender participates in treatment was significantly related to positive outcomes after release from prison. Each additional month spent in the TC increased the likelihood of success upon release by 1% (12% per year).
- Sex offenders who did NOT have treatment and who were released on parole were at least eight times as likely to get arrested for a violent crime during the first year out than those who participated in TC treatment.
- The Colorado DOC's program for sex offenders, as it was implemented in 2003, was found to effectively reduce recidivism.

The Containment Approach for Managing Sex Offenders

The “containment approach”⁷⁵ combines specialized cognitive-behavioral treatment and supervision with polygraph surveillance and specific lifestyle restrictions that work to contain the offender both in the community and in prison. Treatment is intended to teach offenders to exert internal control over their dangerous pre-assaultive behaviors, while the criminal justice system provides external control.

The containment approach emerged in the 1980s when traditional methods of managing adult sex offenders were replaced with creative strategies that emphasized individualized case management and multidisciplinary teams. Jurisdictions across the country began using variations of this approach which was first documented by researchers at the Colorado Division of Criminal Justice in *Managing Adult Sex Offenders: A Containment Approach*, a final product in a federally-funded research study and published by the American Probation and Parole Association (English, Pullen and Jones, 1996). Some jurisdictions in Colorado have been using this approach since the mid-1980s, and the approach has been used statewide for at least ten years. The containment model was adopted formally by Colorado in the form of the *Standards and Guidelines* of the Sex Offender Management Board (SOMB), and by many state and local jurisdictions across the nation.

The containment approach is a very specific case management tactic, a five-part “model process” that captured the consistent program elements found by researchers during an extensive field study in multiple states. It can be conceptualized as follows:

The containment model was adopted formally by Colorado in the form of the Standards and Guidelines of the Sex Offender Management Board (SOMB), and by many state and local jurisdictions across the nation.

1. A philosophy that values public safety, victim protection, and reparation for victims as the paramount objectives of sex offender management;
2. Implementation strategies that rely on agency coordination, multidisciplinary partnerships, and job specialization;
3. Multiple, interrelated strategies that hold sex offenders accountable through the combined use of both the offenders' internal controls (learned through intense treatment), external criminal justice controls (probation, parole, law enforcement registration, etc.) and the use of the polygraph to monitor internal controls and compliance with external controls;
4. Development and implementation of informed public policies to create and support consistent practices; and
5. Quality control mechanisms, including program monitoring and evaluation, that ensure prescribed policies and practices are delivered as planned.

Within this framework multiple agencies cooperate and collaborate to develop and implement policies and protocols that focus on community safety. Such efforts have been underway in Colorado for many years.

Effectiveness of the Containment Model

Several studies around the nation have been conducted examining the effectiveness of containment approach practices. They are summarized below.

A 2004 study of the living arrangements of 130 sex offenders in Colorado was conducted by Amy Dethlefsen for the Sex Offender Management Board. She analyzed data on the first 15 months of probation supervision.⁷⁶ Note that this sample consisted of serious offenders: 60% of the offenders in this study were high-risk, and another 32% were medium-risk. Thirteen offenders in this study (10%) self-reported new hands-off sex crimes (voyeurism, indecent exposure) in the 15 months of study; only one crime was

detected by law enforcement. No hands-on sex offenses were detected during the study. Close monitoring of these offenders resulted in obtaining information that would otherwise remain unknown.

Other outcome studies conducted in Framingham, Massachusetts,⁷⁷ Jackson County, Oregon,⁷⁸ and multiple jurisdictions in Illinois have found significant reductions in new sex crimes among offenders participating in the containment approach. Researchers for the Illinois study concluded the following:

...all specialized probation programs should be based on the containment approach and should include (a) at least three unannounced random field visits per offender every month, (b) a full-disclosure polygraph and a maintenance polygraph exam every six months, and (c) a tight partnership between probation officers and

treatment providers that includes probation officers appearing at random times at the treatment site to check on offenders' attendance.⁷⁹

In sum, the containment approach is a victim-safety focused, multi-agency, collaborative approach to managing offenders. Team members (supervising officers, treatment providers, and polygraph examiners, at a minimum) often go beyond the boundaries of their job descriptions for the sake of public safety. And early evidence suggests that it works.

In sum, the containment approach is a victim-safety focused, multi-agency, collaborative approach to managing sex offenders. And early evidence suggests that it works.

What Works Program Areas Mental Health Programs

Many offenders suffer from mental illness

A large number of offenders in the criminal justice system suffer from mental illness. The Los Angeles County Jail, Cook County Jail in Chicago and Riker's Island Jail in New York City each have more residents with mental illness than any hospital in the United States.⁸⁰ In the *Special Report, Mental Health Problems of Prison and Jail Inmates*, the Bureau of Justice Statistics (BJS) estimated that at midyear 2005, more than half of all prison and jail inmates in the U.S. had a mental health problem.⁸¹ Among state prisoners, more than four in 10 reported symptoms that met the criteria for mania, about 1 in 4 reported symptoms that met the criteria for major depression, and an estimated 15% reported symptoms that met the criteria for a psychotic disorder.

The Bureau's research also found that state prison inmates with a mental condition were more likely than other inmates to have a violent criminal record (61% compared to 56%), and more likely than other inmates to have been under the influence of alcohol or drugs at the time of the current offense (53% compared to 43%). Inmates with mental illness also were more likely than other inmates to have a prior criminal history. Over three-quarters of inmates with mental illness had been sentenced to time in prison or jail or on

probation at least once prior to their current sentence; 47% reported three or more prior sentences to probation or incarceration. Inmates with mental health problems were also more likely than other inmates to be homeless and unemployed before their incarceration.

CDOC offenders

A recent study by the Colorado Department of Corrections (CDOC) reported that, as of June 30, 2005, 25% of Colorado inmates were found to have mental health needs.⁸² Sixteen percent of the prison and parole population met the diagnostic criteria for "serious and persistent mental illness" and another 9% were assessed with "moderately severe" to "severe" mental health needs.⁸³ The CDOC study also found that:

- Within the prison population, the percentage of offenders with mental illness increased from 20% in FY 2001 to 25% in FY 2005.
- Female offenders are three times as likely as males to be classified as having a serious mental illness.
- Offenders with mental illness commit a disproportionately high rate of disciplinary infractions.



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- Offenders with mental illness have greater needs in a variety of areas, including substance abuse, academic, vocational, sex offense-specific, anger management and medical.
- Offenders with mental illness were less likely than other inmates to have a transitional community corrections placement following their release from prison: 28% were placed in community corrections during their incarceration as compared to 36% of inmates without mental illness.
- Technical returns (i.e., parole violations) rather than new crimes are increasingly responsible for prison admissions among this population.
- Inmates with mental illness had higher-than-average recidivism rates. At three years post-release, return rates to CDOC were 49% for offenders with a serious mental illness, 58% for offenders with moderately severe to severe mental illness, and 47% for those without a mental illness.⁸⁴

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The challenge for corrections

Offenders with mental illness present significant challenges for the criminal justice system. Detecting mental illness can be difficult, and meeting the treatment and housing needs of the mentally ill is often complicated and costly. As the CDOC study shows, offenders with mental illness also have more trouble adapting to prison than other inmates, and they tend to have more disciplinary infractions. Also, many offenders with mental illness have co-occurring substance abuse disorders.

Successful reentry is a major challenge too. Many offenders with mental illness have difficulty accessing treatment in the community. Unemployment and homelessness are common, as is recidivism, which often is related to technical violations or, when the behavior is criminal, to low-level economic

Mental health treatment works. The National Alliance for the Mentally Ill reported in 2007 that treatments for serious mental illnesses are highly effective with early intervention success rates of 60-80%. In fact, treatment outcomes for people with even the most serious mental illnesses are comparable to outcomes for well-established medical or surgical treatments for other chronic diseases.

(e.g., petty theft) or public order crimes. In fact, research has found that people with mental illness are 64% more likely to be arrested than those without a mental illness committing the same crime (Olson, 2001).⁸⁵ Studies of parolees as well as probationers have found that those with mental illness are more likely to fail than parolees and probationers without mental illness.⁸⁶ Cycling through the mental health, substance abuse, and criminal justice systems is not uncommon for offenders with mental illness.⁸⁷

The subcommittee on criminal justice of the President's New Freedom Commission on Mental Health (2004) recently suggested that three major responses are needed:

1. Diversion programs that keep people with serious mental illnesses out of the criminal justice system.
2. Institutional services for people with serious mental illnesses in who do need to be in correctional facilities.
3. Transition programs that facilitate the successful reentry of people with serious mental illnesses to the community.⁸⁸

Studies also show that the diversion of persons with mental illness accused of minor crimes into community-based treatment reduces recidivism. In any correctional setting, early diagnosis and discharge planning are key components of treatment success.

What do we know about the effectiveness of programs in these areas?

Two broad conclusions can be drawn from the scientific evidence. First, mental health treatment works. The National Alliance for the Mentally Ill (2007) reports that treatments for serious mental illnesses are highly effective with early intervention success rates of 60-80%. In fact, treatment outcomes for people with even the most serious mental illnesses are comparable to outcomes for well-established medical or surgical treatments for other chronic diseases.⁸⁹

Second, a number of promising practices and programs that serve justice-involved individuals with mental illness have been identified in recent years, but more research on the effectiveness of many of these interventions is needed. Some of these interventions are clearly effective with the mentally ill overall, but evidence regarding their effectiveness with criminal justice populations is only now beginning to emerge. Given the impact that offenders with mental illness are having on the criminal justice system, several effective and promising programs are briefly discussed below.

Diversion

Research on jail diversion programs suggests that they can reduce arrests, time spent in jail, and recidivism.⁹⁰ These programs generally divert appropriate people with mental illness away from the criminal justice system and into community treatment. Diversion programs may occur at the point of police contact (pre-booking) or after arrest (post-booking). In a recent review of diversion programs, Steadman and Naples (2005) were able to find only seven published empirical studies that examined program outcomes, but results were positive overall.⁹¹ Their analysis of six jail diversion programs found that jail diversion reduces time spent in jail without compromising public safety. The researchers concluded that there is “mounting evidence that jail diversion results in positive outcomes for individuals, systems, and communities.”⁹²

The Crisis Intervention Team model

One diversion approach that merits noting is the Crisis Intervention Team (CIT) model, which is designed to improve the outcomes of police interactions with people with mental illnesses. CIT has been studied more than other diversion programs and it also has been implemented widely in Colorado.

The CIT model was originally developed by the Memphis, Tennessee police department in 1988. It involves law

enforcement training, community collaboration, and a strategic systematic response from law enforcement, mental health agencies, and others. The overall goal is to divert individuals with mental illnesses at the point of first contact with the police. Police officers are trained in the use of crisis intervention and de-escalation techniques when encountering the individuals with mental illness and community treatment and other resources are mobilized to accept and serve those individuals who are diverted from the criminal justice system. The Memphis CIT Model has been used in more than 35 states.

Colorado's CIT Efforts

Colorado adopted the CIT model in 2002 with the support of the Colorado Legislative Interim Committee on the Study of the Treatment of Persons with Mental Illness in the Criminal Justice System.⁹³ The state's CIT initiative was guided and initially administered by the Colorado Division of Criminal Justice, which staffs the Interim Committee. DCJ's Colorado Regional Community Policing Institute (CRCPI) is responsible for program implementation. As such, it responds to local requests for CIT and coordinates the community-driven effort, oversees the delivery of the training course, and provides on-going technical support. To date, the Colorado CIT initiative has trained more than 2,500 officers from 73 law enforcement agencies across the state.⁹⁴

The DCJ has also been assessing the CIT initiative since it began in 2002. Data collected from CIT officers indicate that the most likely outcome from a police contact is the voluntary transport of individuals to appropriate mental

Data collected and analyzed in 2006 on more than 3,400 law enforcement contacts in Colorado indicates that 3 out of every 4 CIT calls resulted in transportation to treatment. Only 4% of mental health calls involving a CIT officer resulted in an arrest. Almost one in five calls resulted in de-escalation of the individual's emotional state so that no transportation to services was required. When this occurred officers often provided referrals to community resources.



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The core component of CIT is the development of cooperative relationships among community agencies. The DCJ study found that many essential partnerships have been established that led to substantial changes in the traditional ways of responding to the issues presented by this population.

An additional outgrowth of CIT training is an innovative three-day program unique to Colorado called Children in Crisis that is designed to educate both law enforcement (school resource officers) and school administrators on youth with mental illness. In addition, the Denver Police Department has developed a 16-hour training program for dispatchers to assist them in identifying individuals who may be struggling with severe emotional distress. Finally, Jefferson County has developed a management program, with funding from the Colorado Health Foundation, designed to respond to referrals from probation, diversion, pretrial and jail staff as well as those from CIT officers.

Assertive Community Treatment (ACT)

The Assertive Community Treatment (ACT) model (also known as the Program of Assertive Community Treatment, or PACT) combines treatment, rehabilitation and support services in a multi-disciplinary, self-contained team. The ACT team typically is made up of professionals from a variety of relevant disciplines, including psychiatry, nursing and addiction counseling. The ACT team is mobile and it operates 24 hours a day, seven days a week, to provide services in the community and in homes to those suffering from severe mental illness, including those in contact with the criminal justice system. Program staff often helps clients find housing and employment, as well as meet their legal obligations. An extensive body of research has demonstrated that ACT is effective with populations of individuals with serious mental illness, particularly at reducing hospitalization.⁹⁶ Organizations such as the Dartmouth Psychiatric Research Center have identified ACT as an evidence-based practice.

The effectiveness of ACT in reducing hospitalizations has lead to an interest in extending and adapting the model to criminal justice settings. The basic idea is to use the ACT model to keep people with serious mental illness out of

jail and prison. In a recent paper, Morrissey and Meyer (2006) reported that ACT was most effective at reducing hospitalizations, but not consistently effective in reducing arrests and jail time.⁹⁷ They pointed out, however, that methodological problems with research to date makes it difficult to draw clear conclusions. Morrissey and Meyer also noted that a number of forensic ACT (FACT) programs have emerged in recent years, and that pre-post studies in Chicago and Rochester, New York, have produced highly favorable results. These FACT programs typically receive most referrals from criminal justice agencies and they focus on keeping individuals with mental illness out of jail and prison. In Rochester, FACT clients had significant reductions in arrests, jail days and hospitalizations. In Chicago, FACT clients also spent fewer days in jail. Morrissey and Meyer (2006) concluded that “with their criminal justice savvy,” FACT teams “can be expected to reduce recidivism and maintain certain clients in the community.”⁹⁸

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ACT in Colorado

The Colorado Division of Mental Health has adopted the ACT model for use in Colorado with a specific focus on individuals with serious and persistent mental illness who are also at risk for involvement with the criminal justice system. ACT teams are operating out of the San Luis Valley Comprehensive Community Mental Health Center, Mental Health Center of Boulder County and the Mental Health Center of Denver. Consumers involved in ACT are often at

risk for hospitalization or incarceration, and most have substance abuse problems.⁹⁹

According to the Division of Mental Health, outcome data from local programs indicates that the ACT program is highly successful (Lee, 2004). Compared to the year prior to program enrollment, ACT clients demonstrated a variety of positive post-enrollment outcomes, including increased functioning, reduced substance abuse and fewer days incarcerated and hospitalized. The Division of Mental Health also reports that reductions in the number of incarceration days and inpatient hospitalization days resulted in considerable avoidance of costs.¹⁰⁰

The Boulder County PACE Program

Partnership for Active Community Engagement (PACE) is an integrated treatment and diversion program operating in Boulder County, Colorado, that is based on the ACT model.¹⁰¹ PACE employs a multi-disciplinary, co-located team that provides services and structure to a target population of adult offenders with mental illness who have a history of incarceration. Collaboration with a variety of agencies ensures that clients receive complementary services that address individual needs. The goal of PACE is to increase client functioning and reduce jail use by the target population.

An evaluation conducted by Silvern et al. (2006) found that PACE was highly successful. The study examined the average rates (days per month) that 57 PACE clients stayed in the Boulder County jail prior to program enrollment, during participation in PACE, and following termination from the program.¹⁰² Overall, the study found that participation in PACE produced statistically significant reductions in the rates of incarceration and in the rates of new criminal charges. Relative to pre-program incarceration rates, PACE clients spent fewer days per month incarcerated both during and after program participation. For example, PACE clients in Boulder County spent an average of 3.4 days per year in jail after entering the program compared to 56 days per year in jail before PACE entry.

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Integrated Mental Health and Substance Abuse Treatment

Many offenders with mental illness also have a co-occurring substance abuse disorder. In fact, research has shown that co-occurring disorders (COD) are far more prevalent among criminal justice populations than among the general public.¹⁰³ Research has also shown that integrated treatment services are effective with COD. Integrated treatment addresses both sets of conditions simultaneously in the same setting, with a single clinician or treatment team trained in both substance abuse and mental health services. Integrated treatment has been identified as an evidence-based practice by the Dartmouth Psychiatric Research Center. In a recent review of integrated treatment programs for justice-involved persons with COD, Osher and Steadman (2007) identified the modified therapeutic community as an approach that can reduce recidivism.¹⁰⁴

The CDOC Modified Therapeutic Community for Offenders with Mental Illness and Chemical Abuse Disorders

The Colorado DOC has been a national leader in programming for inmates with co-occurring mental illness and substance abuse disorders. In 1995, the CDOC implemented a therapeutic community (TC) for inmates with COD at its newly opened facility for mentally ill inmates, the San Carlos Correctional Facility in Pueblo, Colorado. Working with staff from the National Development & Research Institutes (NDRI) as part of a National Institute on Drug Abuse funded research project, the TC program was modified over the next few years and a community-based aftercare component was also developed.

Both the prison and community-based modified therapeutic communities (MTCs) retain the community structure of a traditional TC, but they incorporate increased flexibility, decreased intensity, and greater individualization. They also integrate mental health and substance abuse therapeutic approaches and resources.¹⁰⁵ The prison-based MTC at San Carlos employs a cognitive behavioral curriculum within a foundation of TC principles. Planned program duration is 12 months, but variation can occur depending on each offender's progress in treatment or other factors. Inmates participate in program activities 4-5 hours per day, five days per week. The community-based aftercare MTC, Independence House, is a 20-bed program located within a Community Corrections facility in Denver. Mental health counseling and other services are provided by a local mental health center. MTC program participants are involved in program activities 3-5 hours per day, three to seven days



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per week. Activities typically focus on relapse prevention, medication and symptom management, and basic life skills. Length of stay is about six months.¹⁰⁶

Evaluation of the CDOC MTC

Both the San Carlos and Independence House MTC programs have been the focus of a highly rigorous evaluation conducted by researchers at NDRI (Sacks et al., 2003). Inmates with COD were randomly assigned to either the prison-based MTC or usual mental health services. The latter group of inmates served as the study’s control group. Inmates who completed the MTC program in prison could enter the MTC aftercare program upon release. Those not participating in the aftercare MTC, as well members of the control group, were eligible to receive a variety of services in the community. Baseline and 12-month post-release follow-up data were collected and analyzed using two main crime-related outcomes, reincarceration and criminal activity.¹⁰⁷

The study found significant positive effects for MTC program participants. Inmates who participated in the prison-based MTC program had significantly lower reincarceration rates than their control group counterparts: 9% compared to 33%. Moreover, inmates who participated in both the prison and community-based aftercare MTCs had significantly lower reincarceration rates (5% compared to 33%), rates of criminal activity (42% compared to 67%), and rates of criminal activity related to alcohol and drug use (30% compared to 58%), than members of the control group.¹⁰⁸

Inmates who participated in the Colorado DOC’s modified therapeutic community (MTC) program had significantly lower reincarceration rates than their control group counterparts: 9% compared to 33%. Moreover, inmates who participated in both the prison and community-based aftercare MTCs had significantly lower reincarceration rates (5% compared to 33%), rates of criminal activity (42% compared to 67%), and rates of criminal activity related to alcohol and drug use (30% compared to 58%), than members of the control group.

Sacks et al. (2003) also reported that the longer an offender remained in treatment the greater their success was at 12 months post-release. They estimated that if an inmate had two additional months of treatment, the likelihood of reincarceration would drop by 17%; five additional months of treatment would reduce the likelihood of incarceration by 38%. Overall, the researchers concluded the following:

[This study] provides initial evidence that combining prison and aftercare modified TC treatment improves crime outcomes, which confirms the benefits that accrue from such integrated programs. These results should encourage criminal justice program developers and policy makers to consider developing modified TC aftercare programs in conjunction with prison modified TC treatment.¹⁰⁹

Supported employment and supportive housing

Two programs that are particularly relevant in the context of offender reentry are supported employment and supported housing for offenders with mental illness. Supported employment is an evidence-based practice that helps people with serious mental disabilities find and keep meaningful work. Supportive housing is also an evidence-based program: it is designed to provide individuals with serious mental illness either transitional or long-term housing. A large body of highly rigorous research has demonstrated the effectiveness of both of these programs in increasing employment rates and the housing stability, respectively, of persons with serious mental illness.¹¹⁰ Given the important role that work and housing stability play in the successful community reintegration of offenders released from prison and jail, both programs hold considerable potential as recidivism reduction interventions of offenders with mental illness.

Unfortunately, little is known about the capacity of either program to work with criminal justice involved populations. In a recent review, Anthony (2005) reported that no known published studies have addressed the effectiveness of supported employment interventions with populations of justice involved people with mental illness.¹¹¹ Moreover, there appears to be minimal expansion of the supportive employment model to criminal justice settings.

There is some evidence, however, that supported employment can work with justice involved clients based on the Employment Intervention Demonstration Program (EIDP) study conducted by Judith Cook and her colleagues.¹¹² The research employed an experimental design to study the effects of an integrated psychiatric and vocational service

intervention at seven sites nationwide. Clients who received the program were more than twice as likely to be meaningfully employed as their control group counterparts two years after participating in the program. While neither the program nor the study focused on criminal justice involved clients per se, positive outcomes were found for the small percentage of program participants who had been arrested in the three month period prior to program enrollment.

The evidence on supportive housing programs is only slightly better. In a recent paper on supportive housing for offenders with mental illness, Roman and her colleagues (2006) reported that, while rigorous evaluations of supportive housing reentry programs are scarce, outcome data from a small number of individual and statewide programs are showing positive results.¹¹³ For example, St. Leonard's Ministries (SLM) provides transitional and long-term housing to parolees and other offenders returning from prison to the community in Chicago. About one-third of the program participants are mentally ill. Residents are referred to the program by parole officers or the Department of Corrections. Three-year recidivism rates for program partici-

pants are consistently around 20%; which is well below the average rate of 52% for inmates in Illinois.¹¹⁴

According to Roman et al. (2006), the statewide Shelter Plus Care program in Maryland, which provides rental assistance to persons with serious mental illness upon release from jail, reports jail recidivism rates of less than 7%. In California, supportive housing for justice involved clients with mental illness has been shown to increase residential stability for those returning to the community from prison.

Roman and her colleagues also reported that supportive housing reentry programs are typically designed as transitional programs with a focus on treatment and a supportive peer community. Services are integrated into the program and participation is typically required under a housing ready approach.¹¹⁵ In housing ready models, clients typically participate in treatment and progress through a series of less-intensive services with the goal of final permanent housing placement when the client is ready. Housing ready models stand in contrast to a housing first approach that offers direct housing placements without required participation in services.

What Works Program Areas

Cognitive-Behavioral Programs

Reviews examining the effectiveness of correctional interventions consistently report that cognitive-behavioral programs are effective at reducing recidivism. As the name implies, cognitive-behavioral therapy (CBT) integrates the principles of cognitive theory and behavioral theory. In practice, CBT attempts to change both unwanted behaviors and the internal thought processes that lead to them.

According to the National Association of Cognitive-Behavioral Therapists (NACBT), cognitive-behavioral therapy refers to "a classification of therapies with similarities" more so than a "distinct therapeutic technique."¹¹⁶ The following characteristics are among those found in most CBT programs:

- Treatment is based on the premise that thoughts cause feelings and external behaviors. Thought processes can be changed, and therefore behavior can be changed, too.
- Treatment is time-limited and relatively brief, not an open-ended process.

- Treatment is highly structured. Each therapy session has a specific agenda and focus.
- Treatment is educational. It is designed to help clients learn new ways of thinking and acting. It helps clients uncover distortions in thinking and irrational assumptions about situations that can lead to inappropriate behavior.
- Clients are required to do homework as a way to practice newly learned skills and techniques.

Over the past few decades, cognitive-behavioral therapy has been used to treat a wide variety of problems and disorders, including substance abuse and criminal conduct. In a recent review of CBT programs for criminal offenders, Lipsey and his colleagues (2007) found that CBT programs have been used with juvenile and adult offenders, delivered in institutional and community settings, and administered independently or as part of a multi-component intervention.¹¹⁷ Cognitive-behavioral programs used with criminal offenders are designed to change criminal thinking and

Cognitive-behavioral programs used with criminal offenders are designed to change criminal thinking and behavior while also providing the offender with problem solving, interpersonal and social skills that facilitate long-term pro-social behavior.

behavior while also providing the offender with problem solving, interpersonal and social skills that facilitate long-term pro-social behavior.

Studies consistently show that CBT programs work. Pearson et al. (2002) conducted a meta-analysis of 69 studies that examined both CBT and behavioral interventions and found that the CBT programs were effective at reducing recidivism. Wilson et al.'s (2005) meta-analysis of 20 studies and Aos et al.'s (2006) meta-analysis of 25 studies of CBT programs both found positive program effects. Lipsey and his colleagues (2007) reported that "several well conducted meta-analyses have identified cognitive-behavioral therapy (CBT) as a particularly effective intervention for reducing the recidivism of juvenile and adult offenders."¹¹⁸ Their own meta-analysis of 58 studies found that CBT programs on average cut one-year recidivism rates by 25%. Consistent with the principles of effective intervention, effects were greater for high-risk offenders.

Several manualized CBT programs that employ a specialized treatment curriculum have been used with offenders across the country. Manualized programs are advantageous because their content and approach are standardized, thereby helping to ensure that a theoretically grounded and empirically tested treatment protocol is properly and consistently delivered. In a recent report on cognitive-behavioral interventions, the National Institute of Corrections (NIC) identified the following programs as being widely used in the criminal justice system:¹¹⁹

- Aggression Replacement Training®
- Moral Reconation Therapy®
- Reasoning and Rehabilitation
- Relapse Prevention Therapy
- Thinking for a Change, and

- Criminal Conduct and Substance Abuse Treatment: Strategies for Self-Improvement and Change (SSC)

In the following pages, each of these approaches is briefly described and the evidence on program effectiveness is summarized. It is important to note that some of these programs are proprietary and disseminated through a designated licensing or certification organization. These organizations tend to be affiliated with the original program developers or their parent institutions, and they typically provide training and technical assistance designed to ensure program integrity and implementation fidelity. It is also important to keep in mind that cognitive-behavioral approaches are used in a variety of substance abuse, sex offender, mental health and other offender treatment programs that may or may not use one of these specific program models.

Specific CBT Program Models

Aggression Replacement Training® (ART®) is a multi-modal, cognitive-behavioral intervention designed to teach individuals to replace aggression and antisocial behavior with positive alternatives. Developed by Arnold Goldstein and Barry Glick at the Syracuse University Center for Research on Aggression, ART® provides program participants with impulse control, anger management and other pro-social skills that can be used to reduce anger and violence and increase more appropriate behaviors. ART® was originally designed for use with aggressive youth 10-17 years of age, but today it is also used with adult offenders.

ART® consists of a 10-week, 30-hour intervention administered to groups of 8 to 12 offenders. Participants typically attend three 1-hour sessions per week. The program's three main components are anger control, skillstreaming, and moral reasoning. The anger control component teaches program participants a variety of self-control skills, including how to recognize triggers for aggressive behavior. The skillstreaming component teaches pro-social interpersonal skills, including how to deal with group pressure. The moral reasoning component is focused on changing cognitive distortions and building concern for others.

ART® is a trademarked and copyrighted program disseminated through G&G Consultants, LLC in Glenville, New York. G&G provides training and other services regarding ART® implementation and certification, including the licensing of ART® training centers. According to G&G, ART® has been used in at least 45 states and several foreign countries.¹²⁰

Moral Reconation Therapy® (MRT®) is a workbook based cognitive-behavioral treatment program with a focus

on moral reasoning. Developed by Greg Little and Ken Robinson in the early 1980s, the program was originally used with substance abusing offenders in a prison-based TC. Today, MRT® is used with a wide range of adult and juvenile offenders in institutional and community settings. MRT® is designed to raise moral reasoning so that concern for social rules and others is an important part of an individual's decision-making process.¹²¹

The MRT® curriculum works in a step-by-step fashion, moving the offender through progressive stages of behavioral change and growth. The program typically has 12 to 16 steps depending on the population being served. It is delivered by an MRT®-trained facilitator in a group setting (12-15 participants is typical) with participants meeting once or twice per week. Program duration varies depending on the setting, but most offenders complete treatment in 20-30 sessions.

MRT® is a trademarked program and its materials are copyrighted. Program materials are distributed to criminal justice agencies by Correctional Counseling Incorporated (CCI), in Memphis, Tennessee. MRT® training is also delivered by CCI or agencies with a formal CCI agreement. MRT® programs are operating in 45 states, and programs for offenders can be found in prisons, jails and community settings. Versions of MRT® are available for use with a variety of offender populations, including general adult offenders, perpetrators of domestic violence, sex offenders, misdemeanants, and juvenile delinquents.¹²²

Reasoning and Rehabilitation is a cognitive behavioral program that teaches pro-social cognitive and problem solving skills to offenders. Developed by Ross and Fabiano in 1985, R&R is based on the premise that many offenders have cognitive and social competency deficits that play a major role in their criminal behavior. R&R attempts to alter impulsive, anti-social thinking and behavior by enhancing critical reasoning, self-control, problem solving skills, and pro-social values. It also is specifically designed to capture and sustain the participation and motivation of offenders.¹²³

The R&R program consists of ten modules that are delivered in sequential sessions, typically to a group of 6 to 10 offenders. Program delivery usually takes place in a classroom-like setting over a period of 8 to 12 weeks. The program works in a progressive manner, moving offenders through stages of change. Each session teaches a new sub-skill that builds upon skills learned in prior sessions. The modules cover the following areas: problem solving, social skills, negotiation skills, management of emotions, creative thinking, values enhancement, critical reasoning and cognitive exercises.¹²⁴

R&R typically targets medium-to-high risk adult and adolescent offenders. R&R training and materials are copyrighted and available through T3 Associates in Ottawa, Ontario. According to T3, R&R is used in institutional and community correctional settings throughout the United States, Canada, and several other countries.¹²⁵

Relapse Prevention Therapy (RPT) is a cognitive-behavioral approach designed to teach individuals how to anticipate and prevent inappropriate behavior. Although it was originally developed for use with substance abusers, RPT is being used today with a variety of populations and problem behaviors, including substance abuse, violence, sex offending and other types of criminal conduct. The RPT model developed by George Parks and G. Alan Marlatt (2000) is based on research that shows that most relapses are due to certain types of high-risk situations, including negative emotional states, interpersonal conflict, and social pressure.¹²⁶ RPT attempts to prevent relapse and promote abstinence by teaching individuals how to anticipate and deal with these situations.

According to Parks and Marlatt, RPT intervention strategies can be grouped into three categories: coping skills training, cognitive therapy, and lifestyle modification.¹²⁷ Offenders are taught behavioral awareness and more effective coping and self-management strategies that can help them identify and manage situations that can lead to relapse.¹²⁸ Both specific and global intervention strategies are used to address the triggers and risks that precede relapse as well as the cognitive distortions and lifestyle imbalances that lead to high-risk situations.

Guidelines for implementing RPT have been published by the Addictive Behaviors Research Center (ABRC) at the University of Washington in Seattle (Marlatt, Parks, and Witkiewitz, 2002). RPT training and technical assistance are also available through ABRC. Publications on RPT program models are also available through the National Institute on Drug Abuse.¹²⁹

Thinking for a Change (T4C) is a cognitive-behavioral program for offenders developed by the National Institute of Corrections (NIC) in 1997. It is designed to provide offenders with the motivation and skills needed to change their thinking patterns and behaviors. T4C integrates cognitive restructuring, social skills and problem solving instruction to raise an individual's awareness and build interpersonal problem solving skills.¹³⁰ The program is used with adult as well as juvenile offenders in both institutional and community settings.

The T4C curriculum consists of 22 sequential lessons that are delivered to 8-12 participants over the course of about



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1-3 months. While T4C can be customized to meet the needs of a specific participant group, instruction, role-play and homework are typical program features. The program was specifically designed to be meaningful to a broad range of offenders, including prison and jail inmates, probationers and parolees.¹³¹

According to the NIC, T4C programs have been implemented in at least 40 states. The NIC provides the program to correctional agencies free of charge, and training materials are available on the NIC website.¹³²

Criminal Conduct and Substance Abuse Treatment: Strategies for Self-Improvement and Change (SSC) is a cognitive-behavioral treatment program for adult substance-abusing offenders involved in criminal conduct. Developed by Kenneth Wanberg and Harvey Milkman, SSC employs a phased, multi-modal approach, with screening and assessment serving as important program components. Clients participate in the assessment process to facilitate self-awareness and change.

SSC is long-term, lasting up to one year. It can be delivered in the community as well as in a correctional institution. Phase I is designed to develop the offender's self-awareness and motivation to change. It concludes with the development of a relapse and recidivism prevention plan.¹³³ Phase II focuses on skill-building for changing thought processes and behavior. Phase III focuses on the stabilization and maintenance of change. According to its developers, Phase I of SSC "can serve as a stand-alone program that may be followed by Phases II and III either in aftercare settings or while monitored by correctional supervisory personnel."¹³⁴

SSC is used extensively by substance abuse treatment providers in Colorado.¹³⁵ A Provider's Guide and a Participant's Workbook have been published by Sage Publications, Inc. Training sessions for the delivery of SSC are available through the Center for Interdisciplinary Services in Denver, Colorado.

Effectiveness

Several of the programs described above have been subject to extensive evaluation. Both single studies and systematic reviews of these programs have generally produced positive results. A brief summary of the evidence on each program's effectiveness in reducing recidivism is provided below.

ART® Effectiveness

Several evaluations of ART® have been conducted by program developers Goldstein and Glick. Overall, these single studies have consistently found positive treatment effects. In

New York, for example, Goldstein et al. (1989) examined the effectiveness of ART® delivered to delinquent youth in a community setting. For some program participants, ART® was also provided to family members. The study found that both groups receiving ART® had significantly fewer post-program arrests than control group youth who did not participate in ART®.¹³⁶

Researchers at the WSIPP have also conducted evaluations of ART®. Between 1999 and 2001, 20 of Washington's 34 juvenile courts implemented ART®, and about 1,500 juvenile offenders participated in these programs. Barnoski's (2004) evaluation based on an 18-month follow-up period found felony recidivism rates of 21% for ART®-treated youth compared to 25% for control group youth (Barnoski, 2004). A cost-benefit analysis estimated that the ART® program generated \$6.71 in taxpayer benefits for every \$1 spent on the program. For courts where ART® was competently delivered, the return on investment was \$11.66 in benefits for every \$1 of cost. A separate meta-analysis of four ART® evaluations conducted by the Institute in 2006 also found positive treatment effects (Aos et al., 2006).

For courts where ART® was competently delivered, the return on investment was \$11.66 in benefits for every \$1 of cost. A separate meta-analysis of four ART® evaluations conducted by the Institute in 2006 also found positive treatment effects (Aos et al., 2006).

MRT® Effectiveness

Several evaluations of MRT® have been conducted by Little, one of MRT's® original developers. Some of that research has tracked MRT® clients for 10 years or more after treatment, and virtually all of the studies that have examined recidivism have found positive effects. A meta-analysis of 9 studies examining the effectiveness of MRT® with probationers and parolees, for example, found that MRT® cut recidivism on average by nearly two-thirds (Little, 2005). Another meta-analysis of 32 studies focusing on prison-based MRT® programs found an average three-year recidivism rate of 27% for MRT®-treated felons compared to an average recidivism rate of 40% for control subjects (Little, 2006).

MacKenzie concluded that the research provides strong evidence that MRT® reduces recidivism.

Reviews conducted by researchers unaffiliated with MRT® have also found positive results. Wilson et al. (2005) examined the effectiveness of MRT® as part of a larger review of CBT programs and found that MRT® programs reduced recidivism, on average, by 16 percentage points. MacKenzie's (2006) meta-analysis of seven rigorous MRT® studies also found significantly lower recidivism rates for MRT® treated offenders. She concluded that "the research provides strong evidence that MRT® programs are effective in reducing the recidivism of offenders."¹³⁷ A cost-benefit analysis conducted by Aos and his colleagues (2001) estimated that MRT® programs produced a return on investment to taxpayers alone of nearly \$9 for every \$1 of program cost.

R&R Effectiveness

Evaluations of the effectiveness of R&R have also produced favorable results. Several single studies by Poporino and Robinson, for example, have found that R&R reduces recidivism. One study examining R&R's use with high-risk offenders found prison readmission rates of 37% for R&R program participants compared to 70% for comparison subjects.¹³⁸

R&R's effectiveness has also been demonstrated in several systematic reviews. Allen et al. (2001), Aos et al. (2001) and Pearson et al. (2002) all found positive R&R effects on recidivism in their reviews. Pearson et al. also found that R&R was effective in both institutional and community settings. Wilson et al.'s (2005) meta-analysis of seven studies found mixed results overall, but R&R program participants recidivated at a slightly lower rate than non program participants in the three experiments that were part of the analysis. Tong and Farrington (2006) reviewed 16 studies and found positive R&R treatment effects on recidivism, as did MacKenzie (2006) in a meta-analysis of eight R&R evaluations. Finally, Aos and his colleagues (2001) estimated that R&R programs produced more than \$8 in benefits to taxpayers for every \$1 of program cost. Overall, the evaluation evidence supports the conclusion that R&R is effective in reducing recidivism. An R&R evaluation conducted in Colorado by the Division of Criminal Justice, however, underscores the importance of quality implementation.

R&R program evaluations in Colorado

In 1991, the Colorado Judicial Department incorporated the R&R program into a pilot project for adult substance abusing offenders called the Specialized Drug Offender Program (SDOP). The R&R program was evaluated as part of a larger SDOP study and found to enhance program success among certain program participants (Hunter and Johnson, 1992). Based on this research, the Office of Probation Services incorporated the R&R program into a Juvenile Intensive Supervision Probation (JISP). In 1996, the Colorado Division of Criminal Justice conducted an evaluation of the R&R program as it was implemented in JISP.¹³⁹

The DCJ study included both a process evaluation that examined program implementation and delivery and an outcome evaluation that used an experimental design. Several outcome measures were examined, including the acquisition of cognitive skills and post-program arrest recidivism. DCJ's outcome evaluation found that R&R program participants and non-participants were equally likely to be rearrested for a new crime during the 12-month follow-up period. The study also found limited evidence to suggest that offenders who received the R&R program had improved pro-social attitudes or increased cognitive skills. None of this was surprising, however, because the process evaluation demonstrated that the R&R program was not properly implemented.

Findings from the process evaluation indicated that program staff did not routinely invest the suggested amount of time in lesson preparation. Most officers reported that the demands of their regular job duties did not permit adequate

DCJ's outcome evaluation found that R&R program participants and non-participants were equally likely to be rearrested for a new crime during the 12-month follow-up period. The study also found limited evidence to suggest that offenders who received the R&R program had improved pro-social attitudes or increased cognitive skills. None of this was surprising, however, because the process evaluation demonstrated that the R&R program was not properly implemented.



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time for the task. In addition, an excessive amount of time elapsed between training and program delivery: 3.2 months on average, whereas 60 days or less was recommended by the program's designers. A review of videotaped program sessions also revealed that program delivery barely met R&R program standards. These findings led the evaluators to conclude that the program was not implemented as planned and to recommend that resources be directed toward training, monitoring and ongoing quality control for the explicit purpose of building and maintaining program integrity.¹⁴⁰

The DCJ evaluation underscores the importance of program implementation and delivery. Even proven program models can fail to yield results when design specifications are not faithfully followed. A quality control mechanism that can identify problems and deviations from design in a timely manner should be a staple of every programming effort.

The DCJ evaluation underscores the importance of program implementation and delivery. Even proven program models can fail to yield results when design specifications are not faithfully followed.

RPT Effectiveness.

Several studies have found that RPT is effective in reducing substance abuse. Carroll (1996) and Irvin et al. (1999) both conducted systematic reviews of RPT studies and found that RPT is an effective substance abuse treatment intervention.¹⁴¹ Neither of these reviews, however, directly addressed the impact of RPT on criminal recidivism. One recent meta-analysis that did was conducted by Dowden et al. (2003). They consolidated the findings of correctional interventions that targeted relapse prevention and found that RPT programs decreased recidivism on average by 15%.¹⁴² The analysis also found that programs adhering to the principles of effective correctional intervention yielded the strongest reductions in recidivism.

T4C Effectiveness

Our review of the research found only two studies that examined the effect of T4C on recidivism. The first examined a T4C program used with probationers in Dallas County, Texas.¹⁴³ The study compared a small number of T4C program participants with a matched group of pro-

bationers who met the admission criteria but were not yet assigned to the program.¹⁴⁴ Probationers who completed the T4C program were found to have a lower rate of recidivism for a new offense (13%) compared to the comparison group (20%) and program drop-outs (18%). Offenders who dropped out of the program received technical violations, however, at a far higher rate than even the non-treated offenders.

The second study examined the effects of a T4C program used with probationers in Tippecanoe County, Indiana. Lowenkamp and Latessa (2006) compared the rearrest outcomes of 136 offenders who participated in T4C with those of 97 comparable probationers who did not participate in the program. T4C-treated offenders were found to have a significantly lower rearrest rate than their non-treated counterparts; 23% compared to 35%. The 90 offenders who completed the T4C program successfully had a rearrest rate of 18%.¹⁴⁵

While single studies like these do not provide conclusive evidence about the effectiveness of T4C, their positive findings are consistent with the larger body of evidence concerning cognitive-behavioral approaches overall. Given the widespread implementation of the T4C approach, there is both a need and opportunity for additional rigorous outcome research.

SSC Effectiveness

In this review of the research, we did not find any systematic reviews that addressed SSC specifically, nor did we find any single studies that examined the program's impact on recidivism in a rigorous manner.¹⁴⁶ Nevertheless, we have highlighted SSC because of its widespread use in Colorado and the well-established scientific evidence concerning the effectiveness of cognitive-behavioral programs in general.

In this review of the research, no systematic reviews were found that addressed SSC specifically, nor were single studies that examined the program's impact on recidivism in a rigorous manner. Nevertheless, SSC is highlighted here because of its widespread use in Colorado. Its widespread use underscores a need for the program to be evaluated.

What Works Program Areas

Juvenile Offender Programs

Since the first juvenile court in the United States was created in Illinois in 1899, juvenile offenders have historically been viewed as a distinct population from offending adults.¹⁴⁷ The juvenile justice system is largely independent from the adult criminal system and the procedures and methods that are used with juvenile offenders tend to emphasize their protection and rehabilitation rather than their punishment.

Juvenile justice systems throughout the country were established under and have largely been guided by the doctrine of *parens patriae*. This means that the state acts as the guardian or responsible authority for a minor to protect the youth from harmful conduct or environments.¹⁴⁸ While many states passed laws in the 1990s stressing punishment and accountability for juvenile offenders, most juvenile courts and other segments of the juvenile justice system continue to view treatment and guidance for young offenders as an important part of their mission.

An extensive body of research on the effectiveness of rehabilitation programs for juvenile offenders has been assembled over the past 20 years. Overall, these studies indicate that several types of interventions for juvenile offenders can and do work.

An extensive body of research on the effectiveness of rehabilitation programs for juvenile offenders has been assembled over the past 20 years. Overall, these studies indicate that several types of interventions for juvenile offenders can and do work.

Lipsey and Wilson (1998) conducted a meta-analysis of 200 studies and found that correctional interventions for juvenile offenders were effective at reducing recidivism

overall. The most effective programs reduced recidivism by an average of about 20 percentage points. Interventions for non-institutionalized juveniles were more effective with serious offenders than with non-serious offenders. Two types of treatment were found to be most effective with institutionalized offenders: interpersonal skills training and community-based, family style group homes.

More recently, MacKenzie (2006) conducted a systematic review of several types of recidivism reduction programs for juvenile delinquents and found mixed results for both residential (primarily wilderness) and intensive community supervision programs. Her meta-analysis of seven rigorous evaluations of multi-systemic therapy (MST) programs, however, found strong evidence that MST worked. Garrido and Morales (2007) conducted a systematic review of 30 studies focused on interventions for institutionalized chronic or violent juvenile offenders. They found that interventions with a cognitive or cognitive-behavioral emphasis were most effective. The researchers also noted that multi-focused interventions had a significant effect on recidivism, and that services are likely to have a greater impact when they intervene in multiple spheres of a juvenile's life.

Several reviewers have examined the effectiveness of family-based programs for juvenile offenders. Family-based interventions work with multiple family members to address a variety of factors that may be contributing to a child's delinquency, including family conflict, ineffective parenting, and poor communication. Family-related factors such as poor parenting, parental conflict and anti-social parents have consistently been found to be risk factors for criminal offending.¹⁴⁹ Reviews conducted by Woolfenden et al. (2002), Greenwood (2006), Aos et al. (2006) and Farrington and Welsh (2007), have all found that family-based programs are effective at reducing recidivism. Three family-based programs that target adjudicated delinquents and effectively reduce recidivism are highlighted below.

Functional Family Therapy

Functional Family Therapy (FFT) is a short-term, family-based program for at-risk and juvenile justice involved



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youth. Originally developed in 1969 by James Alexander and Bruce Parsons at the University of Utah, FFT focuses on the multiple systems within which adolescents and their families live.¹⁵⁰ The overarching goal is to prevent anti-social behavior and other problems by engaging the family, developing family strengths and counteracting risk factors for problem behavior.

FFT was designed to help diverse populations of at-risk youth, many of which are underserved and labeled as treatment resistant. The program specifically targets 11-18 year-olds and their families, including youth engaging in delinquency, violence or substance abuse.

The FFT model has three distinct phases: engagement and motivation, behavior change, and generalization. Each phase has distinct goals and objectives, and each addresses different risk and protective factors. Engagement and motivation is designed to break down barriers and prepare youth and families for positive change. Behavior change focuses on skill building and the development and implementation of appropriate short- and long-term behavior change plans. Generalization is aimed at relapse prevention and helping families to sustain change by applying what has been learned to future situations.

FFT has been applied in a variety of contexts. It can be delivered as a home, clinic or school-based intervention, and it has been used in diversion, probation and reentry settings.¹⁵¹ On average, participating youth and families attend 8 to 12 one hour sessions over a 3 month period, but up to 30 hours of service may be involved. FFT sessions are delivered by one or two highly trained therapists, with therapists' caseloads averaging 12-16 families.

FFT programs are currently operating in more than 20 states and at least two foreign countries. Dissemination, training and technical assistance are provided by FFT Inc., in Seattle, Washington. FFT is recognized as a model program by the Center for the Study and Prevention of Violence at the University of Colorado.

Multidimensional Treatment Foster Care

Multidimensional Treatment Foster Care (MTFC) is a program for youth displaying serious and chronic anti-social behavior or emotional disturbance who are in need of out-of-home placement. It serves as an alternative to group or residential treatment, incarceration or hospitalization. Developed by Patricia Chamberlain at the Oregon Social Learning Center (OSLC) in 1983, the MTFC model is based on the principles of social learning theory and research conducted by Gerald Patterson and John Reid at the OSLC in the 1970s.

MTFC provides short-term (6-9 months), highly structured care and supervision in the foster family setting. Foster parents are recruited, trained, and supported by the program, and they provide youth with close supervision, a supportive relationship, and reduced contact with antisocial peers. Adolescents under MTFC typically engage in social and academic skills-building, as well as other therapeutic activities that are matched to the individual's age and need. MTFC also provides family therapy to biological parents and/or other aftercare resources. Academic support, psychiatric consultation and medication management are also provided when needed.

Foster parents receive 12 -14 hours of training and a variety of support services, including access to MTFC staff 24 hours a day/7 days a week. The MTFC treatment team, which meets weekly, includes a supervisor, a family therapist, an individual therapist, a child skills trainer, and a daily telephone contact person. The program supervisor provides intensive support to the foster parents and oversees interventions delivered by MTFC team members and others in home, school and other settings.

The MTFC adolescent program has been implemented in at least 35 locations throughout the country and in several foreign countries. Youth are referred from a variety of sources, including probation and the juvenile courts. Most referrals have been involved in numerous prior treatment efforts and have failed at least one prior out-of-home placement. Since the early 1980's, the MTFC model has been expanded to serve youth in other age groups as well. Today, there is a version of MTFC for children 3-5 years of age as well as the one for adolescents. A version of MTFC for children 6-11 years of age is in development.

The MTFC program is disseminated through TFC Consultants, Inc. in Eugene, Oregon. TFC provides complete implementation services, including training and technical assistance. TFC also has a MTFC certification process to help ensure that programs are implemented with fidelity and integrity. At least one provider in Colorado was receiving MTFC implementation services from TFC as of January, 2008. MTFC is recognized as a model program by the Center for the Study and Prevention of Violence at the University of Colorado.

Multi-Systemic Therapy

Multisystemic Therapy (MST) is a community-based intervention for serious and chronic juvenile offenders who are at risk of out-of-home placement. It was developed in the late 1970s based on the premise that individual, family and environmental factors all play a role in shaping anti-social

behavior.¹⁵² MST works within multiple systems (i.e., individual, family, school, neighborhood) to address the various causes of a child's delinquency.¹⁵³ The overarching goal of the program is to improve family functioning, reduce anti-social behavior and prevent the need for out of home placement.

MST is comprehensive, goal-oriented and highly individualized program that emphasizes youth and family strengths. Improving parental discipline and family interaction, replacing deviant peers with pro-social relationships, and improving the child's school performance are often focal points of intervention efforts. Parents are taught effective parenting skills and assisted in developing a support network of family, friends and community resources that can help promote and sustain pro-social behavior in the child. Barriers to effective parenting are also identified and addressed. Youth are empowered to deal with problems in appropriate pro-social ways.

MST services are typically home-based but sometimes delivered in a community setting such as a school or neighborhood center. The program targets offenders 12 to 17 years of age, and services are delivered by a trained MST therapist. A typical intervention involves about 60 hours of therapist-family contact over a four month period, with therapists available 24 hours a day, seven days a week. Therapist caseloads are small, typically ranging from four to six families.

MST programs are currently operating in more than 30 states and several foreign countries. The program is disseminated through MST Services, located in Mt. Pleasant, South Carolina. MST Services is affiliated with the Medical University of South Carolina and the Family Services Research Center where MST was originally developed. MST Services grants license agreements for MST and provides a variety of program development and training services. Orientation trainings for new MST therapists employed by licensed providers are also provided through the Center for Effective Interventions (CEI) at the Metropolitan State College of Denver. Several licensed providers are delivering MST in Colorado. MST is recognized as a model program by the Center for the Study and Prevention of Violence at the University of Colorado.

Evidence of Program Effectiveness

Each of the programs described above have been subject to extensive evaluation. A brief summary of the evidence on each program's effectiveness in reducing recidivism is provided below.

FFT Effectiveness

Both single studies and systematic reviews have shown that FFT works. In Las Vegas, for example, Sexton and Alexander (2000) found that only 20% of the youth who completed FFT committed an offense during the year after treatment compared with 36% of their treatment-as-usual counterparts. In Washington, Barnoski's (2004) evaluation of FFT programs implemented in 14 sites across the state found that when FFT was delivered competently, the program reduced felony recidivism by 38%. A cost-benefit analysis estimated that FFT produced \$2.77 in taxpayer savings for every \$1 spent on the program. FFT programs delivered by competent therapists produced a far greater return on investment; \$10.69 in benefits for each taxpayer dollar spent.

Aos and his colleagues (2006) at the WSIPP also conducted a meta-analysis of seven rigorous FFT evaluations and found that the average FFT program with quality control reduced recidivism by 16%. They reported that without the program, a youth has a 70% chance of recidivating for another felony or misdemeanor conviction after a 13-year follow-up; if the youth participates in FFT, the recidivism rate drops to 59%. Their cost-benefit analysis estimated that the average FFT program produces \$6.29 in taxpayer benefits for every \$1 of program cost.

MTFC Effectiveness

Research on the effectiveness of MTFC has consistently demonstrated that the program reduces recidivism. Fisher and Chamberlain (2002), for example, randomly assigned a small sample of boys to either MTFC or group care. They found that in the first year after treatment, MTFC program participants had less than half the number of arrests, and spent fewer days incarcerated than the boys who were in the comparison group.¹⁵⁴ A follow-up analysis found that MTFC youth had fewer violent offenses and less self-reported criminal activity than their comparison group counterparts two years after program completion (Eddy et al. 2004).¹⁵⁵

In 2006, Aos and his colleagues conducted a systematic review of 571 rigorous evaluations of adult corrections, juvenile corrections, and prevention programs for the Washington state legislature. The researchers also estimated the benefits and costs of many of the programs. Three rigorous evaluations of MTFC programs were included in the analysis. Compared to regular group care, the MTFC programs reduced recidivism by an average of 22%. The average MTFC program cost per participant was \$6,945. Benefits to taxpayers alone due to the reduction in crime were \$32,915



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per participant. This equates to a taxpayer return on investment of \$4.74 for every \$1 invested in the program.

MST Effectiveness

Over the past 20 years, MST's effectiveness has been examined in numerous individual studies as well as in several systematic reviews. Overall, these studies have shown that MST improves family functioning, decreases recidivism and reduces out-of-home placements. Several MST studies focusing on different types of juvenile offenders have been conducted by Henggeler, one of MST's early developers. In the Simpsonville, South Carolina project, for example, Henggeler and his colleagues (1997) evaluated MST's use with violent and chronic juvenile offenders. They found that youth receiving MST services had fewer rearrests and spent less time incarcerated than youth receiving services as usual. In Charleston, South Carolina, an evaluation of MST used with substance abusers found similar positive results.¹⁵⁶

Over the past 20 years, MST's effectiveness has been examined in numerous individual studies as well as in several systematic reviews. Overall, these studies have shown that MST improves family functioning, decreases recidivism and reduces out-of-home placements.

Schaeffer et al.'s (2005) study that compared the effects of MST with individual out-patient counseling is also worth noting because of its long-term follow-up. Recidivism effects were compared 14 years after program participation, when the individuals in the study were about 28 years of age. Schaeffer and her colleagues found that the individuals who received MST services as youth had on average 54% fewer arrests and 57% fewer days in adult confinement than their comparison group counterparts who only received out-patient counseling.¹⁵⁷

Systematic reviews conducted by independent researchers such as Farrington and Welsh (2007), Curtis et al. (2004), and MacKenzie (2006) have also found positive MST effects. MacKenzie (2006) concluded that the results of her meta-analysis "provide strong evidence for the effectiveness of MST."¹⁵⁸

MacKenzie also cited Littell's (2005) meta-analysis which produced results that differed from those of other reviews. Littell et. al's study was undertaken jointly for the Campbell and Cochrane Collaborations and it found inconsistent results, leading the researchers to suggest that "it is premature to draw conclusions about the effectiveness of MST compared with other services."¹⁵⁹ Ogden and Hagen, however, have suggested that the review was based on too few studies to warrant solid conclusions.¹⁶⁰

Finally, Aos and his colleagues (2006) conducted a meta-analysis of 10 rigorous studies and found that MST programs reduced recidivism, on average, by 11%. Moreover, MST programs were found to produce a substantial return on investment. While program costs were about \$4,200 per participant, the program produced more than \$9,600 in crime reduction benefits to taxpayers and another \$12,855 in reduced victimization benefits for every program participant. On average, MST produced \$2.26 in benefits to taxpayers alone for every \$1 invested in the program.

The Colorado MST Outcomes Tracking Project

The Center for Effective Interventions (CEI) and several partner organizations have been involved in an ongoing evaluation of MST programs delivered in Colorado as part of the Colorado MST Outcomes Tracking Project.¹⁶¹ An analysis of outcome data for more than 400 juvenile offenders receiving MST treatment from Colorado providers between June 2005 and December 2006 found that youth who completed MST treatment had significantly less substance abuse, less

An analysis of outcome data for more than 400 juvenile offenders receiving MST treatment from Colorado providers between June 2005 and December 2006 found that youth who completed MST treatment had significantly less substance abuse, less legal involvement, fewer arrests and fewer out-of-home placements during treatment compared to the year before.

legal involvement, fewer arrests and fewer out-of-home placements during treatment compared to the year before.¹⁶² Each of these positive outcomes was sustained 6 months after discharge from the MST program.¹⁶³ The Focus Research/CEI report (2007) also noted that youth who did not complete treatment were more likely to have been arrested or have had any legal issue during their enrollment in MST than youth who successfully completed treatment.

The Colorado Youthful Offender System

In 1994, the Colorado Department of Corrections implemented a specialized program for violent juvenile offenders who were charged and convicted as adult felons. This program, called the Youthful Offender System (YOS), was the result of a Special Session of the state General Assembly held in the fall of 1993. YOS essentially provided Colorado's courts with a new sentencing option that serves as a middle-tier between traditional adult and juvenile corrections for certain violent juvenile felons. YOS programs participants receive a suspended adult prison sentence and a sentence to YOS ranging from 2 to 6 years, followed by a period of community supervision. Offenders convicted of a class 2 felony may be sentenced to YOS for up to 7 years. Failure to complete YOS results in reinstatement of the adult prison sentence and transfer to the adult prison system.

YOS is located in Pueblo, Colorado on the grounds of the Colorado State Hospital. The mission of the program is to provide a controlled and regimented environment that affirms dignity of self and others, promotes value of work and self-discipline, and develops useful skills and abilities through comprehensive, needs-based programming, including community reintegration and aftercare. A variety of services are provided to YOS offenders, including substance abuse treatment, mental health services, sex offender treatment, anger management, cognitive skill-building and a variety of female-specific activities. YOS has the following distinct phases:

- An intake, diagnostic and orientation phase.
- Phase I, which provides offenders with a range of programming, educational and vocational services, and other activities.
- Phase II, which prepares program participants for community reentry.
- Phase III, which involves a period of community supervision used to gradually reintegrate the offender into society.¹⁶⁴

The Colorado legislature also directed DCJ to conduct an evaluation of YOS and specifically to examine the recidivism of YOS program participants.¹⁶⁵ In 2002, DCJ released the results of their study.

Recidivism was defined as new felony court filing and examined for periods of one year, 2 years and 5 years following discharge from the YOS program. Of the 670 offenders sentenced to YOS from the program's inception through June 30, 2001, only those offenders discharged from YOS at the time of the study were included in the recidivism analysis. The sample sizes available for analysis were smaller as the "time at risk" period grew. There were 269 offenders in the one-year analysis, 184 in the 2-year, and only 17 YOS offenders in the 5 year post-discharge analysis. It is important to note that at the time of study, 102 YOS offenders had failed the program, 98 of them for committing a new crime.¹⁶⁶

Overall, DCJ's analysis found that 78% of the youth at risk to reoffend for one year received no new felony filings, a one-year recidivism rate of 22% percent. As time goes on the successful group gets smaller: 65% of those at risk for two years received no new felony filings, and 35% of those at risk to reoffend for five years received no new felony filings.¹⁶⁷ DCJ also reported that most YOS offenders who recidivated did so in the first year following discharge from the program.

DCJ evaluated the YOS program again in 2004 (Rosky et al., 2004). Recidivism was defined as new court filing following transition to the community. Much like the 2002 study findings, recidivism rates for one year and two years were 22% and 33% percent, respectively.

Moreover, the study included a special analysis of YOS offenders who furthered their education while incarcerated. Only 10% of those admitted to YOS had a high school diploma or a General Equivalency Degree (GED). The 2004 study found that YOS residents who discharged to community supervision with a secondary education were significantly more likely to succeed during community transition. This group was also more likely to succeed following completion of their sentence.

Specifically, those who did not obtain a GED or diploma while in YOS were found to be:

- 3.8 times more likely to be revoked from YOS to prison;
- 1.6 times more likely to have a felony filing within 2 years of discharge; and
- 2.7 times more likely to return to prison with a new conviction following discharge.



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The 2004 study found that YOS was targeting a unique and serious population of young offenders, as was intended by the program originators, and that many of those sentenced to YOS benefited significantly from the educational component of the program (Rosky et al., 2004).

CDOC's YOS Recidivism Analysis

In 2006, the CDOC released a comprehensive report on the YOS which also examined recidivism rates for successful YOS discharges (Liepold and Williams, 2006). Recidivism was defined as return to CDOC for either new criminal activity or a technical violation of parole, probation or non-department community placement. Recidivism was examined for multiple release cohorts using one, 3 and 5 year follow-up periods. Across all release cohorts, the average recidivism rate for YOS discharges was 7% at one year, 20% at three years, and 33% at five years following program completion. These rates are considerably lower than those found for adults. Adults had a one-year recidivism rate of 36%, a 3-year rate of 49% and a 5-year rate of 57%, based on the most recent data available at the time of the study.¹⁶⁸

The Colorado Division of Youth Corrections Continuum of Care Initiative

In 2005, the Colorado Division of Youth Corrections (DYC) implemented its Continuum of Care Initiative (CCI) which is designed to improve services for juvenile offenders from detention through commitment and parole. The initiative integrates assessment, treatment and transitional services in a comprehensive and coordinated manner to ensure that each youth's unique criminogenic needs are identified and addressed, thereby reducing the likelihood of recidivism. Risk assessment, individualized case management and a comprehensive continuum of services are cornerstones of the effort.

The CCI attempts to provide the most appropriate placements and the most effective services for the optimal duration of time as youth progress from detention through commitment and parole. Treatment, specialized supervision (including drug testing and electronic monitoring), and a variety of support services are provided through the program. Treatment services represent the bulk of program expenditures, and they include substance abuse treatment, individual and group therapy, family therapy, job/skills training, mentoring and a variety of other services.

When the Colorado General Assembly authorized funding for the Continuum of Care Initiative it also requested the

DYC to study and report on the program's effectiveness. An evaluation report by Triwest Group was issued in 2007 in response to the legislative request. The Triwest study examined a number of issues to meet the legislature's evaluation requirements, but only a preliminary analysis of recidivism was possible. Recidivism was defined as a new offense filing while under DYC jurisdiction. Given the short time the program had been operating at the time of the study, program participants had not been discharged from DYC long enough to allow for a post-discharge recidivism analysis. Nevertheless, pre-discharge recidivism was found to be significantly lower for CCI youth relative to an equivalent comparison group. Thirty percent of the CCI youth who were discharged from DYC during FY 2007 received a new filing while under DYC supervision, compared to 39% for the comparison group of youth who were discharged during FY 2005, before CCI was implemented.

Denver Juvenile Justice Integrated Treatment Network

An evaluation of the Denver Juvenile Justice Integrated Treatment Network which serves juvenile offenders with substance abuse problems is also worth noting. The program provides an integrated therapeutic and correctional approach to the treatment and monitoring of juvenile offenders to reduce recidivism and relapse. Juveniles with substance abuse treatment needs that are referred to the program receive assessment and case management services through TASC (Treatment Alternatives for Safe Communities), a well established case management model that serves as a link between the justice system and treatment providers. Comprehensive treatment services that meet each client's needs are delivered by providers participating in the Network. An evaluation conducted by Erickson et al. (2001) reported favorable outcomes for Network clients, including lower rates of recidivism than are found for other juvenile offender populations.

Restorative Justice

In 2007, the Colorado legislature passed HB 1129 which encourages the development of restorative justice programs for juveniles in Colorado. Restorative justice programs are based on the premise that crime is a violation of people and relationships and therefore it is important to repair the harm caused by a wrongful act.¹⁶⁹ To be fully accountable, offenders need to acknowledge that their behavior was harmful to others and take action to repair that harm to the fullest extent possible. Restorative justice programs provide a mechanism for doing so through processes such as

victim-offender mediation, family group conferencing, and peacemaking circles.

Research suggests that restorative justice programs can have a positive impact on recidivism. For example, Nugent et al. (1999) reviewed and analyzed the results of four studies of victim-offender mediation (VOM) programs for juveniles and found that participation in VOM reduced recidivism. Youth participating in VOM recidivated at a rate of 19% compared to 28% for their comparison group counterparts. Latimer et al. (2001) conducted a meta-analysis of 22 stud-

ies involving 35 restorative justice programs and found that restorative justice programs are a more effective method of improving victim/offender satisfaction, increasing compliance with restitution, and decreasing recidivism compared to non-restorative approaches. While more rigorous research is needed, particularly for family group conferencing and peacemaking circles, restorative justice programs overall do appear to have a positive impact on recidivism.

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- ¹²⁹ See for example Gorski's CENAPS® Model of Relapse Prevention Therapy at <http://drugabuse.gov/PDF/ADAC/ApproachestoDACounseling.pdf>.
- ¹³⁰ Milkman and Wanberg (2007). Page 30.
- ¹³¹ Ibid. Page 31.
- ¹³² <http://www.nicic.org/>.
- ¹³³ Milkman and Wanberg (2007). Page 18.
- ¹³⁴ Ibid.



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- ¹³⁵ Milkman and Wanberg (2007) reported that “as of December 2001, 72 different agencies in Colorado were documented as presenting SSC, with a cumulative client enrollment in excess of 3,000.” Page 40.
- ¹³⁶ See Goldstein, A.P. and B. Glick. (2001). *Aggression Replacement Training: Application and Evaluation Management*. In G. Bernfeld, D. Farrington, and A. Leschied (eds.), *Offender Rehabilitation and Practice: Implementing and Evaluating Effective Programs*. Wiley, New York, NY.
- ¹³⁷ MacKenzie (2006). Page 120.
- ¹³⁸ Porporino, F.J., and Robinson, D. (1995). An evaluation of the Reasoning and Rehabilitation Program with Canadian federal offenders. In R.R. Ross and B. Ross (eds.), *Thinking straight*. Cognitive Centre, Ottawa, Canada.
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- ¹⁴⁰ Pullen (1996).
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- ¹⁴³ Golden, L., Gatchel, R., and Cahill, M. (2006). Evaluating the Effectiveness of the National Institute of Corrections’ “Thinking for a Change” Program Among Probationers. *Journal of Offender Rehabilitation*, 43, 55-73.
- ¹⁴⁴ A total of 142 probationers were included in the study. The recidivism analysis focused on 120 probationers who were followed for a minimum of 3 months and up to 1 year after the treatment group exited the program.
- ¹⁴⁵ Lowenkamp and Latessa (2006). *What Works and What Doesn’t in Reducing Recidivism: The Principles of Effective Intervention*. Presented by: Edward J. Latessa, Center for Criminal Justice Research, Division of Criminal Justice, University of Cincinnati at www.uc.edu/criminaljustice.
- ¹⁴⁶ In the aforementioned NIC report on cognitive-behavioral programs, Milkman and Wanberg (2007) reported a series of favorable findings from an SSC study they previously conducted using client and provider self-reports (Wanberg and Milkman, 2001).
- ¹⁴⁷ Illinois Criminal Justice Information Authority. (1997). *Trends and Issues 1997*. Author, 120 South Riverside Plaza, Chicago, IL. Page 152.
- ¹⁴⁸ Ibid.
- ¹⁴⁹ See Garrido, V. and Morales, L.A. (March 2007). *Serious (Violent or Chronic) Juvenile Offenders: A Systematic Review of Treatment Effectiveness in Secure Corrections*. Final Report Submitted to the Campbell Collaboration, Crime and Justice Group. Available at http://www.campbellcollaboration.org/doc-pdf/Garrido_seriousjuv_review.pdf; Mihalic, S., Fagan, A., Irwin, K., Ballard, D., and Elliott, D. (2004). *Blueprints for Violence Prevention*. Center for the Study and Prevention of Violence University of Colorado, Boulder. Office of Juvenile Justice and Delinquency Prevention, Office of Justice Programs, U. S. Department of Justice, Washington, DC; and Farrington, D.P., and Welsh, B. (2007). *Saving Children From a Life of Crime, Early Risk Factors and Effective Interventions*. Oxford University Press, New York, NY.
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- ¹⁵¹ Ibid.
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- ¹⁵⁹ Littell J.H., Popa, M., and Forsythe, B. (2005). *Multisystemic Therapy for social, emotional, and behavioral problems in youth aged 10-17*. Available at <http://www.cochrane.org/reviews/en/ab004797.html>.
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- ¹⁶¹ The "Tracking Project" is a joint initiative of several organizations, including: the Center for Effective Interventions at Metropolitan State College of Denver, Focus Research and Evaluation, the MST Institute, the New Mexico MST Outcomes Tracking Project, and seven Colorado MST provider agencies.
- ¹⁶² The report noted that 300 of the youth who were admitted and discharged from treatment during the study period completed the program successfully.
- ¹⁶³ The 6-month follow-up analysis was based on data for 66 youth.
- ¹⁶⁴ See Di Trolio, E., Rodriguez, J.M., English, K. and Patrick, D. (2002). *Evaluation of the Youthful Offender System (YOS) in Colorado: A Report of Findings Per C.R.S. 18-1.3-407*. Division of Criminal Justice, Colorado Department of Public Safety, Denver, CO, and Rosky, J., Pasini-Hill, D., Lowden, K., Harrison, L., and English, K. (2004). *Evaluation of the Youthful Offender System (YOS) in Colorado: A Report of Findings Per C.R.S. 18-1.3-407*. Division of Criminal Justice, Colorado Department of Public Safety, Denver, CO; and
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What Works

Section 6: Effective Early Prevention Programs

The focus of Section 6 is early prevention programs that work. These programs prevent the onset of law-breaking behavior by counteracting risk factors and enhancing protective factors for delinquent and criminal conduct later in life.

This section begins with a discussion of risk and protective factors, and then describes programs that have been identified through rigorous research as preventing delinquency and criminal conduct.

Risk factors

Forty years of research on conduct disorder has identified many of the risk factors associated with problem behavior, including those for crime, violence and substance abuse. Risk factors exist within communities, schools and peer groups, as well as within families and individuals. Risk factors increase the likelihood that a young person will engage in problem behavior later in life, and they help explain why young people differ in their long-term criminal potential.¹ Children are often resilient in the face of one or two risk factors, but research has shown that exposure to a greater number of risk factors increases the risk of crime, violence and substance abuse significantly.

The National Program of Research on the Causes and Correlates of Delinquency has studied large samples of high-risk, inner city youth in Denver, Pittsburgh and Rochester, New York. Sponsored by the U.S. Department of Justice, Office of Juvenile Justice and Delinquency Prevention (OJJDP), this research has shown that chronic offenders have multiple risks in their backgrounds, including deficits in such areas as family and school.² Similarly, the Cambridge Study in Delinquent Development (Farrington, 1997) found that the percentage of youth convicted for violent crimes was only 3% for those with no risk factors in their background but ten times greater, at 31%, for those with four (Hawkins, et al. 2000). Research conducted by Todd Herrenkohl and his colleagues (2000) as part of the Seattle Social Development Project found that a 10-year-old exposed to 6 or more risk

factors is 10 times as likely to be violent by age 18 as a 10-year-old exposed to only one risk factor.

The research on risk factors for crime, violence and substance abuse has been summarized by a many organizations, including the Institute of Medicine of the National Academies of Sciences, the Surgeon General of the United States, and OJJDP. A summary list of risk factors is presented in Figure 6.1.

Protective factors

Protective factors that can mediate the impact of risk factors also have been identified. Protective factors exist at the individual, family and community levels, too. While protective factors have not been studied as extensively or rigorously as risk factors, the interaction of risk factors and protective factors can help explain why some youth engage in delinquency and others do not. As risk factors are decreased and protective factors enhanced, the likelihood of delinquency is reduced. A summary list of protective factors is also presented in Figure 6.1.

Risk-focused crime prevention

Our increased knowledge about risk factors for criminal conduct has led to a growing interest in risk-focused crime prevention. Pioneered by J. David Hawkins and Richard Catalano in Seattle, Washington, risk-focused crime prevention has been embraced by numerous organizations, such

The idea is to use risk-focused approaches to prevent crime, much like they have been used to prevent heart attack, stroke and traffic fatalities.



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Figure 6.1. Risk and Protective Factors, by Domain

Domain	Risk Factor		Protective Factor*
	Early Onset (age 6-11)	Late Onset (age 12-14)	
Individual	General offenses Substance use Being male Aggression** Hyperactivity Problem (antisocial) behavior Exposure to television violence Medical, physical problems Low IQ Antisocial attitudes, beliefs Dishonesty**	General offenses Psychological Condition Restlessness Difficulty concentrating** Risk taking Aggression** Being male Physical violence Antisocial attitudes, beliefs Crimes against persons Problem (antisocial) behavior Low IQ Substance use	Intolerant attitude toward deviance High IQ Being female Positive social orientation Perceived sanctions for transgressions
Family	Low socioeconomic status/poverty Antisocial parents Poor parent-child relationship Harsh, lax, or inconsistent discipline Broken home Separation from parents Other conditions Abusive parents Neglect	Poor parent-child relationship Harsh or lax discipline Poor monitoring, supervision Low parental involvement Antisocial parents Broken home Low socioeconomic status/poverty Abusive parents Family conflict**	Warm, supportive relationships with parents or other adults Parents' positive evaluation of peers Parental monitoring
School	Poor attitude, performance	Poor attitude, performance Academic failure	Commitment to school Recognition for involvement in conventional activities
Peer Group	Weak social ties Antisocial peers	Weak social ties Antisocial, delinquent peers Gang membership	Friends who engage in conventional behavior
Community		Neighborhood crime, drugs Neighborhood disorganization	

*Age of onset not known. ** Males only.

Source: Adapted from Office of the Surgeon General, 2001.

as OJJDP, the Pennsylvania Commission on Crime and Delinquency, and Fight Crime: Invest in Kids, a bipartisan, anti-crime organization led by more than 3,000 police chiefs, prosecutors, sheriffs, other law enforcement leaders, and violence survivors. The idea is to use risk-focused approaches to prevent crime, much like they have been used to prevent heart attack, stroke and traffic fatalities.

In practice, risk focused prevention programs employ various strategies to reduce the influence of risk factors that are associated with criminal conduct. Risk factors help identify

who is most likely to benefit from prevention efforts and the specific prevention strategy that ought to be employed.³

It is important to recognize that risk factors cannot be used to identify which particular children will grow up to be offenders.

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To be effective, prevention programs need to be tailored to the age range of the target population and the risk factors that occur during that particular period of youth development. As the Surgeon General's 2001 report on youth violence explains:

Violence prevention and intervention efforts hinge on identifying risk and protective factors and determining when in the course of development they emerge. To be effective, such efforts must be appropriate to a youth's stage of development. A program that is effective in childhood may be ineffective in adolescence and vice versa.⁴

The remainder of this section identifies risk-focused crime prevention programs that work. These programs are specifically designed to counteract risk factors for later offending, and they have been found through rigorous scientific research to effectively prevent delinquency and criminal behavior. Some of these programs are universal prevention programs, meaning they are made available to an entire community, school or other population. Others are selective prevention programs, meaning they target a specific group of children or families deemed to be at higher-risk than others due to the presence of one or more risk factors.⁵ In either case, the prevention programs identified here are delivered early in life, when children are most impressionable, but also most vulnerable to a variety of influences that have been shown to shape their development and later behavior.⁶ In some cases, such as Nurse-Family Partnerships, program delivery actually begins during the prenatal period in order to address health, parenting and others factors that place a child at risk for behavior and delinquency problems later in life.

In reviewing these programs, it is important to keep in mind that the focus here is primarily on each program's effectiveness in preventing future criminal conduct. Programs that have not been evaluated using delinquent or criminal behavior outcomes are not discussed in detail in this report.

This compendium of effective prevention programs draws heavily on the work of several researchers, including David Farrington and Brandon Welsh, Peter Greenwood, and Del Elliott, Sharon Mihalic and their colleagues at the University of Colorado's Blueprints for Violence Prevention project.

The programs identified are organized around the following main categories:

- Home visits during infancy,
- preschool programs,
- parent management training,
- child social skills training,
- school-based programs,
- truancy programs,
- community-based programs, and
- peer programs.

We conclude with a brief overview of prevention programs identified as model programs by the Blueprints for Violence Prevention project at the University of Colorado-Boulder.

Home Visits during Infancy

Risk factors found during the earliest years of life can have a profound impact on a child's later behavior. Greenwood and his colleagues at the Rand Corporation (1996) have reported that early childbearing, low birth weight, and other types of birth complications are associated with higher rates of delinquency later in a child's life. Parental rejection of a child and other forms of poor parenting are associated with higher rates of delinquency, too.⁷ Fagan and Najman (2003) found that low levels of maternal affect increased children's aggression at age five and delinquency at age 14.⁸ And Cathy Spatz Widom, a researcher in the Department of Psychiatry at the New Jersey Medical School, has demonstrated that childhood abuse and neglect substantially increases the odds of future delinquency and adult criminality. In one of the most detailed studies ever undertaken on the issue, Widom and Maxfield (2001) found that being abused or neglected as a child increased the likelihood of arrest as a juvenile by 59%, as an adult by 28%, and for a violent crime by 30%.⁹

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Home Visitation Parent Education Programs

Home visits with new parents are one of the most common prevention programs delivered during the early years of a child's life. These programs focus on parent education designed to improve the pre- and post-natal care of the child. Nurses or other health professionals typically conduct home visits, and they often begin at birth or during the later months of pregnancy when many of the factors occur that can place a child at risk, such as a mother using alcohol or drugs, or maintaining poor diet and health behaviors. Home visitation programs are typically selective prevention programs in that they target young, first-time mothers who are economically disadvantaged.¹⁰

Although some reviews of home visitation programs have produced mixed results, a rigorous meta-analysis conducted by Farrington and Welsh (2003) found that well-implemented programs are effective: they reduced delinquency, on average, by 12 percentage points. Earlier reviews by Greenwood et al. (1996) and Karoly et al. (1998) reached the same overall conclusion: home visits can reduce problem behaviors from occurring later in life.

The Nurse Family Partnership Program

One of the best known and most rigorously evaluated home visitation programs is the Nurse Family Partnership (NFP) program developed by David Olds and his colleagues.¹¹ The program is designed to help low-income, first time parents (often teens and often unmarried) improve pregnancy outcomes, child health and development, and economic self-sufficiency. Problems targeted for prevention include preterm delivery and low birth weight, developmental impairment, abuse and neglect, school failure, conduct disorder, and crime and delinquency.

Registered nurses conduct regular home visits during the prenatal period and for up to two years after birth. During pregnancy, home visits typically occur once per week for the first four weeks of the program and then every other week until delivery. During the postnatal period, home visits occur once per week for 6 weeks after birth, then every other week until the child reaches 12 months of age. After that, visits occur every other week until the child is 20 months. The final visits occur once per month until the child is two years of age.

Nurses help women and their families improve their health behaviors, care for children, plan future pregnancies, and become self-sufficient. They teach parents about health and nutrition, how to nurture and raise a child, and how to obtain necessary services such as childcare, income and

nutritional assistance, and pediatric primary care. They may also guide parents to resources that allow them to complete their education and find meaningful work.

According to the Nurse-Family Partnership National Service Office in Denver, the NFP program is currently operating in 23 states. Most programs are implemented through local, county or state health departments, although some are implemented through independent nonprofits and hospitals. The NFP is recognized as a model program by the Center for the Study and Prevention of Violence at the University of Colorado-Boulder.

NFP Effectiveness

The NFP program has been the focus of extensive research over the last three decades. Highly rigorous evaluations using experimental designs have been conducted in three different program implementations sites. The first site was semi-rural Elmira, New York, where program participants were primarily low-income, white families. The second site was Memphis, Tennessee, an urban setting where program participants were primarily low-income, African American families. The final site was Denver, Colorado, where a large percentage of the program participants studied were Hispanic.

Overall, these studies have shown that the NFP program is capable of producing a variety of positive outcomes across highly diverse settings. Positive short- and long-term effects were found for both children and their families. For example, program participants had fewer verified reports of child abuse or neglect, fewer maternal behavioral problems due to alcohol and drug abuse, and fewer maternal and child arrests

Fifteen-year follow-up data from the Elmira study showed that mothers who received nurse home visits had 61% fewer arrests, 72% fewer convictions, and 98% fewer days in jail than mothers who did not participate in the program. Children who were part of the program grew up to have 59% fewer arrests and 90% fewer juvenile court adjudications as a person in need of supervision than control group children.

than non-program participants. Fifteen-year follow-up data from the Elmira study showed that mothers who received nurse home visits had 61% fewer arrests, 72% fewer convictions, and 98% fewer days in jail than mothers who did not participate in the program. Children who were part of the program grew up to have 59% fewer arrests and 90% fewer juvenile court adjudications as a person in need of supervision than control group children. In addition, child abuse or neglect during the first two years of life was far less prevalent among families receiving home visits (4%) than among families who did not (19%).

Economic evaluations have shown that the NFP program produces a sound return on investment. Karoly et al. (1998) estimated that a positive return on taxpayer investment was realized by the time a high-risk child served by the program turned four years of age. By the time children from a high-risk families reach age 15, the cost savings to taxpayers are four times the original investment in the program. Aos et al. (2004) estimated that the average NFP program produces \$2.88 in benefits for every \$1 of costs.¹²

The Colorado NFP Initiative

Colorado has been at the forefront of efforts to implement the NFP program on a statewide basis. In 1998, a group of attorneys and other community leaders, with the support of the Colorado Trust, created Invest in Kids (IIK), a non-profit organization dedicated to improving the lives of Colorado's children and their families. IIK partners with communities to improve the health and well being of Colorado's children by facilitating the implementation and promoting the sustainability of programs that work. NFP was the first program the organization advocated throughout Colorado.¹³

Invest In Kids worked with the Colorado legislature to create a sustainable source of funding to bring the NFP program to as many eligible Colorado families as possible, eventually leading to the passing of the Nurse Home Visitor Program Act in 2000 (25-31-101, C.R.S.). The Act allocated 3% (or roughly \$2.3 million) of the tobacco settlement proceeds in FY 2001 to local communities to fund the implementation of the NFP program. Additional funding is made available each subsequent year until NFP implementation receives 19% of the settlement proceeds (roughly \$19 million) in FY 2012.¹⁴

NFP implementation funds are administered by the Colorado Department of Public Health and Environment (CDPHE). Local communities must compete for funds to implement the program. According to the CDPHE, NFP programs were operating in 53 Colorado counties as of September 2007.¹⁵

Preschool Programs

Low intelligence and educational attainment are among the most important individual risk factors for criminal offending later in life.¹⁶ Several studies, such as those conducted by Schweinhart et al. (1993) and McCord and Ensminger (1997), have found that low IQ at ages as early as 4 and 6 predict arrests for crime and violence well into adulthood.¹⁷ This link between low intelligence at an early age and problems later in life has led to the development of prevention programs that are delivered to children at a very early age for the purpose of improving their learning and social competencies. Farrington and Welsh (2007:106) refer to these programs as “pre-school intellectual enrichment programs.”¹⁸

This link between low intelligence at an early age and problems later in life has led to the development of prevention programs that are delivered to children at a very early age for the purpose of improving their learning and social competencies.

In their review of early prevention programs, Farrington and Welsh concluded that pre-school intellectual enrichment programs work. They prevent delinquency and criminal offending in an effective manner. Several systematic reviews provide supporting evidence. Yoshikawa (1995) reviewed 40 programs and found that early childhood education and family support programs can have long-term positive effects on the prevention of delinquency. As part of a meta-analysis of a larger range of programs, Farrington and Welsh (2003) found that a group of programs that included pre-school and daycare were highly effective, reducing offending by 13 percentage points. A review of preschool education programs conducted by Duncan and Magnuson (2004) found similar results. They concluded that preschool intellectual

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achievement programs have long-term beneficial effects on children’s criminal behavior and other outcomes. Yoshikowa (1995) reported that the most effective early education programs had well trained staff, low child-to-teacher ratios, and family support components.¹⁹

Two preschool programs that have been rigorously evaluated and shown to be effective are the High/Scope Perry Preschool project that was implemented in Ypsilanti, Michigan, and the Child Parent Center (CPC) program currently operating in Chicago, Illinois. Each program is briefly described below.

High/Scope Perry Preschool project

The High/Scope Perry Preschool project began in Ypsilanti, Michigan in 1962. It was designed as a curriculum development and research project that coupled an innovative preschool program for low-income, at-risk children with a highly rigorous evaluation. The preschool curriculum was based on a participatory learning model developed by David Weikart and his colleagues, who created the High/Scope Educational Research Foundation in 1970. The curriculum was designed to develop cognitive, language, social and other competencies, and it emphasized initiative, creativity and problem solving in a cooperative and highly interactive environment.

Children attended the preschool 2.5 hours per day, five days per week, over a 2-year period. The staff-to-child ratio was about one adult for every five or six children. Teachers were trained in early childhood development and education, and they conducted home visits with each child’s family every week. Parents also participated in teacher- facilitated meetings with other parents on a monthly basis.

From its beginning, the Perry Preschool project was the focus of an intensive and highly rigorous evaluation. Between 1962 and 1967, 123 high risk 3- and 4- year old children were randomly assigned to either the preschool program or a control group of children that did not go through

the program.²⁰ These children in the Perry Preschool study have been tracked for more than 35 years, with the latest round of follow-up data collection occurring in 2005, when study participants were approximately 40 years of age.²¹

Overall, the evaluation found that the Perry Preschool program produced a variety of long-lasting benefits. Program participation had positive effects on a variety of outcomes, including educational attainment, employment, commitment to marriage and crime. Perhaps what is most striking is that, at age 40, Perry Preschool program participants had significantly fewer arrests than non-program participants. Only 14% of the program participants had ever been arrested for a drug crime compared to 34% of the non-program participants. Program participants had lower lifetime arrest rates for violent crimes (32% compared to 48%) and property crimes (36% compared to 58%), too. Moreover, program participants were sentenced to significantly less time in prison or jail. By age 40, only 28% of the Perry preschool participants compared to 52% of the control group youth had been sentenced to prison or jail at least once.

Only 14% of the program participants had ever been arrested for a drug crime compared to 34% of the non-program participants.

Several cost-benefits studies show that the Perry Preschool program produced a substantial return on investment. Barnett (1996) estimated that the program produced about \$7 in savings for every \$1 in costs when program participants were age 27. Schweinhart’s (2007) estimates based on outcomes at age 40 are substantially higher; \$16.14 in benefits for every \$1 invested in the program.

The High/Scope Perry Preschool study demonstrates that early childhood education programs can prevent crime in a cost-beneficial manner. Although the original Perry Preschool no longer exists, the High/Scope Educational Research Foundation disseminates the High/Scope preschool curriculum worldwide. According to the Foundation, the curriculum is intended for use in Head Start programs, pre-kindergartens and kindergartens, and day care centers and homes.²² Some 12,000 early childhood programs throughout the U.S. and in other countries now use the High/Scope model. According to a 2003 report by the TriWest Group, the High/Scope preschool program is being used in several sites in Colorado.

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Chicago Child-Parent Center

Another early childhood education model that works is the Chicago Child-Parent Center (CPC) program. The CPC program provides educational and family-support services to disadvantaged children during the preschool and early elementary school years. Initially implemented at four sites in Chicago, Illinois, in 1967, the CPC program currently operates in 24 centers throughout the Chicago Public School system. The program targets children in high-poverty neighborhoods, particularly those being served by other early childhood programs. The CPC program is specifically designed to promote success in school, but research has shown that it produces long-term benefits in a variety of other areas, including delinquency prevention.

The CPC program is based on the premise that a stable and rich learning environment during early childhood and parental involvement in a child's education both play an important role in a child's academic success.²³ Therefore, CPC emphasizes early engagement, low child-to-teacher ratios, parent participation and a seamless transition from preschool through early elementary school. While instructional activities are tailored to the needs of program participants, language-based instruction, health and nutritional services, and outreach activities that include home visits are all part of the program.

The CPC currently serves about 5,600 children ages 3-9 through 24 local centers. Some centers are located within an elementary school, while others are in nearby buildings.

Each center has a "Head Teacher" that coordinates all program activities, a "School-Community Representative" who conducts outreach activities, and a "Parent-Resource Teacher" responsible for the parent program, which is one of the CPC's defining features.

A high level of parent involvement is one of the features that sets CPC apart from other preschool programs. Parents must agree to actively participate in the program and a minimum of 1/2 day per week of direct parent participation in parent-room activities or as a classroom volunteer are required. Parent-room activities include parent-child interaction, par-

ent-parent interaction, and educational instruction in areas such as nutrition, health, safety and personal development.

CPC Effectiveness

Since 1985, Arthur Reynolds and his colleagues have been studying the effects of the CPC program as part of the Chicago Longitudinal Study (CLS). The study has been tracking 1,539 low income minority children who attended early childhood programs between 1985 and 1986, including 989 children who participated in the Chicago CPC.²⁴ Data have been collected continuously since 1985 on a variety of outcomes. Although the study is quasi-experimental in terms of its design, several features make the research exceptionally rigorous.²⁵

Study findings have shown that participation in the CPC program produces a variety of long-term benefits, including lower rates of dropout and delinquency. Fifteen years after leaving the program, children who participated in the CPC preschool program for 1 or 2 years had a higher rate of high school completion (49.7 % vs. 38.5%) and lower rates of juvenile (16.9% vs. 25.1%) and violent arrests (9.0% vs. 15.3%) than non-program participants (Reynolds et al., 2001).²⁶

Fifteen years after leaving the program, children who participated in the CPC preschool program for 1 or 2 years had a higher rate of high school completion (49.7 % vs. 38.5%) and lower rates of juvenile (16.9% vs. 25.1%) and violent arrests (9.0% vs. 15.3%) than non-program participants (Reynolds et al., 2001).

Reynolds and Robertson (2003) have also examined the impact of the CPC program on child maltreatment.²⁷ They found that by age 17, children who participated in the preschool program had half as many abuse or neglect referrals or court petitions as non-program participants.²⁸ The greatest difference occurred between the ages of 10 and 17, several years after program participation.

The latest findings from the CLS are based on a 19-year follow-up period when the average age of the CPC program



Table 6.1. Chicago Child-Parent Center 19-Year Post-Program Follow-up

Outcome Measure Adult Crime by age 24	CPC Preschool Participants	Comparison Group	Difference
Any incarceration	20.6%	25.6%	-5.0%
Any arrest	35.8%	40.0%	-4.2%
Felony arrest	16.5%	21.1%	-4.6%
Any violent arrest	16.3%	18.8%	-2.5%
Any conviction	20.3%	24.7%	-4.4%
Felony conviction	15.8%	19.9%	-4.1%
Violent crime conviction	5.1%	7.1%	-2.0%

Source: Reynolds, A.J., Temple, J.A., Ou, S., Robertson, D.L., Mersky, J.P., Topitzes, J.W., and Niles, M.D. (2007.) Effects of a School-Based, Early Childhood Intervention on Adult Health and Well-being: A 19-Year Follow-up of Low-Income Families. *Archive of Pediatrics and Adolescent Medicine*, 161, 730-739.

participants was 24 (Reynolds et al. 2007). Controlling for preprogram characteristics, participants in the CPC preschool had significantly higher rates of high-school completion and college attendance, and significantly lower rates of felony arrests, convictions and incarceration than their comparison group counterparts. For example, by age 24, 16.5% of the CPC program participants had been arrested for a felony offense compared to 21.1% of the comparison group members. About 1 in 5 CPC preschool participants had been in prison or jail compared to about 1 out of every 4 non-program participants. (See Table 6.1). The analysis also found that children who participated in the CPC program for four to 6 years (preschool and continuing until second or third grade) had even better outcomes than children who had 0-4 years of program participation.

Reynolds and his colleagues (2001) also conducted a cost-benefit analysis of the CPC program. They found that CPC produced a substantial return on investment. While the average cost of the preschool program was \$6,730 (1998 dollars) per child for 1.5 years of participation, the economic benefit to the public (taxpayers and crime victims) was \$25,771 per participant. The CPC preschool program produced \$3.83 in public benefits for every dollar invested in the program. The ratio of benefits to costs for government savings alone was \$2.88 per dollar invested. The

return on investment (benefit-cost ratio) of the elementary school component was also positive but less robust; \$1.42 in public benefits per dollar of program costs. Extended participation in the CPC program (4-6 years) provided an even greater return on investment; \$3.59 in public benefits per every dollar of program costs.

In the August, 2007 issue of the the American Medical Association’s Archives of Pediatrics and Adolescent Medicine, Reynolds and his colleagues identified the following four program elements as the cornerstones of CPC’s success:

- The intervention begins at age three and continues into early elementary school, promoting stability in the learning environment.
- All teachers have a college degree and certification in early childhood education.
- Instructional activities address all learning needs with a special emphasis on literacy and school readiness.
- Comprehensive family services are provided that promote positive learning experiences both in school and at home.²⁹

The authors also noted that CPC’s effects are most likely to be reproduced in urban contexts serving relatively high concentrations of low-income children.

Extended participation in the CPC program (4-6 years) provided an even greater return on investment; \$3.59 in public benefits per every dollar of program costs.

Parent Management Training

Family Risk Factors

Several risk factors related to the family are important predictors of criminal behavior. Criminal or anti-social parents, parental conflict, poor child-rearing practices, and large family size have all been found to increase the likelihood that a child will engage in delinquent or criminal conduct later in life.³⁰ A recent meta-analysis found that having anti-social parents, for example, was one of the strongest predictors of serious and violent offending during late adolescence and early adulthood.³¹ Similarly, Hawkins, et al. (2000) reported that exposure to high levels of family conflict appears to increase the risk of violence later in life. Poor parental supervision of children has been found to be a strong and reliable predictor of later offending too: it typically doubles the risk of delinquency, according to Farrington and Welsh (2007).

Criminal or anti-social parents, parental conflict, poor child-rearing practices, and large family size have all been found to increase the likelihood that a child will engage in delinquent or criminal conduct later in life.

Parent Management Training

The critical role that families play in shaping a child's behavior has led to the development of prevention programs that focus on effective parenting. Parent management training (PMT) programs target family risk factors such as poor child rearing practices and they have been found to be effective at preventing delinquency and criminal conduct. PMT programs are designed to teach parents how to change and effectively manage a child's behavior. They are based on the premise that poor parenting practices are an important cause of a child's inappropriate behavior, and that positive parenting is the key to behavior change on the part of the child.³²

PMT programs are largely based on the work of Gerald Patterson, John Reid and their colleagues at the Oregon Social Learning Center (OSLC). Their research demonstrated that inappropriate behaviors are taught and reinforced within the day-to-day interactions that take place between parents and their children. Moreover, children begin to learn and emulate behaviors at a very early age.

Patterson's research on anti-social behavior and parent-child interactions guides many childhood interventions in schools and mental health centers today. In fact, PMT was originally used in outpatient mental health settings, but it has been adapted for use in a variety of locations and for children across the development continuum.³³ The OSLC is even testing a prison-based program designed to impact the children of incarcerated parents.³⁴

PMT programs in use today share a common set of features, particularly a focus on parents rather than children. Parents are taught to identify and define the behaviors they want to increase or decrease in their child, and they learn positive reinforcement and discipline skills through a variety of interactive techniques.

Parents are taught to identify and define the behaviors they want to increase or decrease in their child, and they learn positive reinforcement and discipline skills through a variety of interactive techniques.

Parent training is typically provided by a trained professional in either an individual family or group environment. Parents are taught how to recognize appropriate and inappropriate behaviors, communicate behavioral expectations, reward positive behavior, and impose appropriate consequences for negative behaviors. The therapist typically models effective practices and coaches parents in their application. Parents complete homework assignments to help them learn new techniques, and frequent contact with the therapist between sessions helps the parents resolve problems.

PMT Effectiveness

Early studies of Patterson's PMT model found favorable results. Several studies conducted in the 1980s and 1990s demonstrated that PMT improved parenting and reduced problem behaviors in children, including delinquency. More recently, Eddy and Reid (2001) reviewed the interventions identified as best practices for the prevention and treatment of child problems by several federally-funded task forces. They found that PMT was one of only four programs consistently rated as a "best practice" across multiple lists. They reported that both RCTs and quasi-experiments have shown



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that PMT reduces a variety of problems, including police contacts.

Several reviews have shown that PMT programs are effective at preventing criminal conduct.³⁵ Duncan and Magnuson (2004:24) reviewed evaluations of PMT programs and concluded that PMT “can lead to meaningful reductions in children’s problem behaviors.”³⁶ Yale psychologist Alan Kazdin (2005:179) recently reported that the benefits of PMT have been established in highly rigorous studies, showing PMT to “reduce offense rates among delinquent adolescents.”³⁷ Farrington and Welsh (2007:136) recently concluded that parent management training is “effective in preventing delinquency and later offending.”³⁸ The authors cited their 2003 meta-analysis that found PMT programs produced an average reduction in antisocial behavior and delinquency of 20 percentage points compared to controls.³⁹

Three PMT programs that have been found to prevent delinquency are briefly described below.

Parent Management Training - Oregon Model (PMTO)

PMTO is a family-based intervention that teaches parents and caregivers effective strategies for managing a child’s behavior. It is directly based on OSLC research, and is designed to prevent and reduce behavior problems in children 4-12 years of age.

PMTO attempts to enhance effective parenting and diminish coercive family processes.⁴⁰ Trained professionals teach parents research-based techniques for shaping behavior and socializing the child and they coach parents in the application of effective parenting skills. Parents are taught to replace coercive processes with the following five effective parenting practices:

- Skill encouragement,
- Proper discipline,
- Behavior monitoring,
- Problem solving, and
- Positive involvement.

Support for positive behavior and appropriate consequences for negative behavior are core components of the model.

PMTO is currently being implemented statewide in Michigan and it has been implemented on a national scale in Norway.⁴¹ A non-profit affiliate of the OSLC,

PMTO is currently being implemented statewide in Michigan and it has been implemented on a national scale in Norway.

Implementation Sciences International Inc. (ISII) in Eugene, Oregon, is responsible for facilitating the implementation of PMTO worldwide.

Evaluations of PMTO have shown that the program has positive effects on parenting and children’s behavior. Patterson et al. (2004) examined the effects of a PMTO application with recently separated single mothers and their sons using an RCT design. The researchers found that over a 30-month follow-up period, there was an improvement in parenting practices and a reduction in child anti-social behavior (including measures of delinquency) among the PMT participants. Conversely, anti-social behavior increased for the boys in the control group.⁴² A follow-up analysis, when the boys in the study ranged from nine to almost 14 years of age, showed that the PMTO program continued to prevent delinquency and other problem behaviors 3 years after the program was delivered.⁴³

The Incredible Years Training Series

Another parent management training model that has been found to prevent delinquency is the Incredible Years Training Series (IYS) developed by Carolyn Webster-Stratton at the University of Washington. The program is designed to prevent delinquency and behavior problems in children by promoting parental and teacher competence and strengthening families. The IYS emphasizes the importance of the child’s socialization process and its development was strongly influenced by OSLC research. The IYS is a community-based, universal prevention program that is delivered in homes, schools and other settings, too.

The IYS is a comprehensive set of curricula - parent training, teacher training and child training - designed to prevent and reduce problem behaviors and increase the social competence of children up to 12 years of age.⁴⁴ The parent training program is made up of three series: Basic, Advance, and School. The Basic series is the core element of the program. It teaches parents effective parenting skills, including behavior monitoring, proper discipline and reinforcement techniques, and problem-solving strategies. The Advance and School programs serve as supplements to the Basic program. The former addresses family risk factors such

as marital discord and poor anger management, while the latter focuses on ways to foster the child's academic competence. Group discussion, videotape modeling, and rehearsal intervention techniques are important elements of the IYS curriculums.

The IYS has two programs for teachers: a classroom management program and a classroom curriculum designed to promote problem solving and social competence for children 4-8 years of age. The IYS child training programs focus on strengthening the social and emotional competencies of children. These programs can be used in school classrooms or by counselors to treat difficult or aggressive children.

Evaluations of the parent training component employing experimental designs have shown that the program improves parenting interactions and reduces conduct problems in children. The BASIC program also promotes social competence, reduces parents' violent methods of discipline, and improves child management skills. The Office of Juvenile Justice and Delinquency Prevention (OJJDP) summarized the many studies of IYS in a 2000 research bulletin. Many studies of hundreds of children, parents and teachers have found significant positive outcomes, with the combined parent and child interventions producing sustained effects on child behaviors. The combined parent-child interventions found a 95% decrease in deviant behaviors compared to a 74% decrease for the child-only intervention, and a 60% decrease for the Basic plus Advance parent training alone.⁴⁵

Among the other outcomes are improvements in parental functioning that have long been understood to place children at risk of conduct disorder:⁴⁶

- Reductions in parental depression;
- Increases in positive family communication and problem-solving;
- Increased compliance by children to parental commands;
- Increases in parent use of effective limit-setting by replacing physical discipline with non-violent discipline techniques; and
- Increases parental in monitoring of children.⁴⁷

The IYS is recognized as a model program by the Center for the Study and Prevention of Violence at the University of Colorado. Program materials, training and leader certification is provided by the Incredible Years organization in Seattle, Washington. The IYS is being used in Canada, the United Kingdom and in at least 43 states, including Colorado.

IYS in Colorado

In 2002, the Incredible Years became the second program Colorado's Invest in Kids (IIK) organization chose to adopt for statewide implementation.⁴⁸ Working with community stakeholders across the state, IIK identified a need for child mental health and school readiness programming that helps bridge the transition from early childhood education to elementary school. The IYS program was chosen to help meet that need because of its approach, target population, and effectiveness. According to IIK, the IYS program is being used in 50 sites in 13 counties and two Native American reservations in Colorado.⁴⁹

The Preparing for the Drug Free Years program (PDFY)

Preparing for the Drug-Free Years (PDFY) is a parent training program designed to reduce the risks that a child will abuse drugs or develop other problem behaviors. Developed by David Hawkins and Richard Catalano at the University of Washington, PDFY teaches parents how to reduce critical risk factors and enhance protective factors for juvenile substance abuse that are present during the later elementary and middle school years.⁵⁰ The program targets parents of children ages 8-14.

PDFY is a universal prevention program that has been used with families from a range of socio-economic and cultural backgrounds. PDFY has been delivered to parents in a variety of settings, including homes, schools, hospitals and community centers.⁵¹ The program typically consists of five 2-hour workshop sessions, although it has been offered in other formats as well. Sessions include instruction on risk factors for substance abuse, setting clear expectations, managing family conflict, strengthening family bonds and avoiding trouble. Children attend one session with their parents in order to learn effective skills for resisting peer pressure.

PDFY sessions are typically delivered by community members who have received PDFY training. The PDFY program

Mason et al. (2003) found lower rates of substance use and lower rates of delinquency for children of PDFY-treated families compared to controls 3.5 years after program delivery.



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is commercially available through Developmental Research and Programs (DRP) in Seattle, Washington. DRP offers a 3-day training course that prepares community members to serve as a PDFY workshop leader.

Evaluations using RCTs have found that PDFY produces positive effects for both parents and children.⁵² Kosterman et al. (1997), for example, found that PDFY improved the child management skills of parents participating in the program. Mason et al. (2003) found lower rates of substance use and lower rates of delinquency for children of PDFY-treated families compared to controls 3.5 years after program delivery. A cost-benefit analysis conducted by Spoth et al. (2002) estimated that the PDFY program produced \$5.85 in benefits for every \$1 of cost.

Child Social Skills Training

Research has shown that certain characteristics such as impulsiveness and low empathy that are evident in childhood are risk factors for offending later in life. In the Pittsburgh Youth Study, for example, impulsive judgment and impulsive behavior in boys were both found to be related to delinquency.⁵³ Similarly, Wasserman et al. (2003) reported that several studies have shown that impulsive boys are more likely to commit delinquent acts at 12 to 13 years of age. Gottfredson and Hirschi (1990) have argued that low self control, which is evident by age 6-8, is a principle factor in delinquency and adult criminal conduct.⁵⁴ And Jolliffe and Farrington's (2004) review of 35 studies found that low cognitive empathy - the inability to understand or appreciate the feelings of others - was strongly related to offending.⁵⁵

Raising the empathy and self-control levels of offenders is a major aim of some of the cognitive-behavioral programs described in Section 5 of this report. Child social skills training programs are somewhat similar in their aims, but they are delivered to children at an early age for the purpose of improving their social and emotional competencies.

In their recent review of prevention programs, Farrington and Welsh (2007) concluded that child social skills training programs are effective in preventing delinquency. They cited a recent meta-analysis of by Beelmann and Lösel (2006) as well as research by McCord and her colleagues (1994) demonstrating positive long-term impacts on delinquency.

The Montreal Preventive Treatment Program

One example of an effective social skills training program is the Preventive Treatment Program (PTP) developed by Richard Tremblay and his colleagues in Montreal, Canada.

The program combines child social skills training with parent training and it targets boys from low socio-economic backgrounds who display high levels of disruptive behavior at an early age.

The social skills training component of PTP provides 7-9 year old boys with school-based training designed to build self-control and other pro-social skills. Training is delivered to small groups of children that include both disruptive boys (the target population) and pro-social peers. The parent training component is designed to improve the parents' ability to manage and control their child's behavior. It is based on techniques developed by the OSLC. Parent training sessions are home-based and typically delivered every 2 weeks. They focus on behavior monitoring, positive reinforcement, effective discipline, crisis management and other parenting skills. Parent training is typically spread over 17 sessions while child-social skills training averages 19 sessions.

PTP has been the focus of a rigorous evaluation conducted by Richard Tremblay and his colleagues as part of the Montreal Longitudinal-Experimental Study. More than 300 boys who were randomly assigned to PTP-treatment and control groups have been tracked for nearly 10 years. By age 15, boys who participated in the PTP program were less likely than untreated boys to report delinquent behavior, have a juvenile court record, be in a gang, or have friends who had been arrested. Treated boys were also less likely to use alcohol or drugs or have serious difficulties in school.

School-Based Programs

In each of the programs described below, schools are not only the locus of delivery; they are an essential element of the program's design. Elementary, middle or junior high school students are the primary program targets, and interventions tend to focus on the school environment or self-control or social competency using cognitive behavioral methods. In the case of CASASTART, the school serves as the hub of an initiative that involves the entire community. In the following pages we describe several school-based programs that are effective at preventing delinquency.

School-based prevention programs

School-based prevention programs have become quite prevalent over the past 20 years. The use of metal detectors, school-resource officers and other approaches that prevent crimes from occurring are particularly popular. So too are substance abuse prevention programs, such as the Drug Abuse Resistance Education (DARE) program. This review is not concerned with these types of prevention efforts,

per se. Rather, the focus here is specifically on risk-focused, early prevention programs empirically shown to prevent the onset of criminal behavior.

Research on the Effectiveness of School-based Programs

A considerable body of research has examined the effectiveness of school-based programs in preventing future crime and delinquency. Wilson et al. (2001) conducted a meta-analysis of 165 studies and found that school-based prevention practices are effective for reducing alcohol and drug use, drop-out and non-attendance, and other conduct problems.⁵⁶ Program effects on drop-out and non-attendance were roughly three times greater than for delinquency, but cognitive behavioral and environmentally focused programs were found to be particularly effective for reducing delinquency and drug use. The researchers also noted that many popular school-based programs have not been adequately studied.

Many popular school-based programs have not been adequately studied.

Wilson and Lipsey (2005) conducted a meta-analysis of more than 200 research studies examining the effectiveness of school-based programs for preventing or reducing aggressive behavior. They found that school violence prevention programs were generally effective at reducing fighting, intimidation, and other negative behaviors, especially among higher risk students. Carefully and successfully implemented programs tended to produce greater reductions in aggressive behavior.

Farrington and Welsh (2007:156) cited both of these studies in their review of school-based prevention programs, and concluded that “only a handful of school-based intervention modalities are effective” at preventing delinquency.⁵⁷ Based on Wilson et al.’s findings, Farrington and Welsh identified the following four types of programs that are effective in school-based prevention:

- School and discipline management,
- Classroom or instructional management,
- Reorganization of grades or classes, and
- Self-control or social competency programs using cognitive behavioral methods.⁵⁸

All but the last are environmentally focused interventions. Reorganization of grades or classes was identified as the most effective approach, reducing delinquency on average by 17%. Reorganization generally involves substantive changes to grade or class structures or curriculums to make the school environment more relevant, to better meet student needs, and to counteract the negative effects of large class sizes. Mihalic et al. (2004) also reported that school and discipline management programs, interventions to establish norms and expectations for behavior, and instructional programs that teach social competency skills using cognitive-behavioral methods are effective.⁵⁹

Farrington and Welsh highlighted four specific programs as case studies of effective school-based prevention efforts: Positive Action Through Holistic Education (PATHE), Student Training Through Urban Strategies (STATUS), the Seattle Social Development Project (SSDP), and Responding in Peaceful and Positive Ways (RiPP). PATHE and STATUS are no longer available for dissemination. SSDP, RiPP and three other effective school-based interventions are briefly described below.

The Seattle Social Development Project

The Seattle Social Development Project (SSDP) is a multi-year, school-based intervention designed to reduce risk factors and increase protective factors in multiple domains. The program is based on the work of J. David Hawkins and Richard Catalano at the Social Development Research Group at the University of Washington, Seattle. SSDP uses teacher training, parent training and skills training for children to enhance a child’s bonds with school and family. The program is used in grades 1 through 6 with both general student populations and high-risk youth.

Classroom behavior management is one the core SSDP components. Teachers are trained in proactive classroom management, interactive teaching, and cooperative learning. In first grade, children receive instruction on problem solving and conflict resolution. In 6th grade, training on refusal skills is provided. Optional training in developmentally appropriate child behavior management is also offered to parents as their children progress from first through sixth grade.

The Social Development Research Group at the University of Washington has been studying the effects of the SSDP intervention since its initial implementation in the 1980s. Their work is part of a larger ongoing longitudinal study of students in 18 public schools serving high crime areas of Seattle. This study has followed a sample of children since they entered the fifth grade in 1985. In 1996, when participants were 21 years of age, 605 students from the sample



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were successfully interviewed. Program effects were assessed using a variety of outcome measures including positive functioning in school or work and decreases in crime and substance abuse.

The study design allowed researchers to compare students who received the full SSDP intervention with two other groups of students: one that received only about two years of SSDP and another that received no SSDP programming at all. Researchers found that at age 21, students who received the full SSDP intervention demonstrated significantly better functioning in school and at work (Hawkins et al., 2005). Compared with controls, full-intervention participants were significantly more likely to have graduated high-school (91% vs. 81%) and be currently employed. Students who received the full SSDP program also were significantly less likely than their control group counterparts to be involved in crime, to have sold illegal drugs in the past year, and to have had a court record at the age of 21.⁶⁰ An economic analysis conducted by the WSIPP estimated that the SSDP produced an 18.6% reduction in crime and \$4,341 in crime reduction benefits to taxpayers for every program participant (Aos et al., 2006).

An economic analysis conducted by the WSIPP estimated that the SSDP produced an 18.6% reduction in crime and \$4,341 in crime reduction benefits to taxpayers for every program participant (Aos et al., 2006).

While the Social Development Research Group has always been involved in SSDP research, an independent company took over the distribution of the intervention for a short period of time, renaming the program SOAR (Skills, Opportunities and Recognition). That company is no longer involved with SSDP. Currently, program materials are being re-tooled by the Social Development Research Group and pilot tested in Pennsylvania under a new program name: Raising Healthy Children.⁶¹

Responding in Peaceful and Positive Ways (RiPP)

Responding in Peaceful and Positive Ways is a school-based violence prevention program designed to provide students with conflict resolution strategies and skills. The program

was developed in the early 1990s by researchers at Virginia Commonwealth University working in collaboration with public schools in Richmond, Virginia. RiPP is based on social cognitive learning theory and it combines classroom instruction with real world skill building opportunities such as peer mediation. The overall goal of RiPP is to reduce risk factors and increase protective factors related to violence and problem behavior.

RiPP targets children 11-14 years of age in middle and junior high schools. The 3-year program employs a standardized curriculum with specific activities and focal points for each of the 6th, 7th, and 8th grades. Sixteen RiPP sessions are delivered each year, typically during social studies, health or science classes. Sessions build upon each other in a cumulative fashion. They include a variety of developmentally appropriate activities, including team building and problem solving activities, role play, rehearsal and peer mediation.

RiPP is delivered by a prevention facilitator who is specifically hired and trained for the program. The facilitator serves as an adult role model, teaching skills that promote non-violence and modeling pro-social behaviors. An intensive training program is provided through Virginia Commonwealth University (VCU).

RiPP is disseminated through VCU and Prevention Opportunities, LLC in Ashland, Virginia. Prevention Opportunities works with VCU to deliver RiPP training and other implementation services. According to Prevention Opportunities, RiPP is currently being used in schools in five states.⁶²

RiPP has been the focus of several evaluations that have found favorable program effects on aggressive and delinquent behavior. In Richmond, Farrell et al. (2001) evaluated the RiPP curriculum for 6th graders at 3 middle schools by randomly assigning classrooms to treatment (RiPP) and control conditions (no RiPP). Their analysis found that RiPP participants had fewer disciplinary violations for violent offenses and in-school suspensions compared with youth in the control group. RiPP participants also reported fewer fight-related injuries.⁶³ Valois et al. (1999) evaluated a pilot application of RiPP in a single school in rural Florida. Students who participated in RiPP reported significantly smaller increases in physical aggression and frequency of drug use compared to students who did not receive the program. Farrell et al. (2003) examined RiPP's effectiveness based on a larger number of implementation sites in Florida. Students in the study's four intervention schools received the RiPP curriculum in 6th and 7th grades, while students in the four comparison schools received other or no program-

ming at all. Students who participated in RiPP reported less aggression over time than their comparison group counterparts. Moreover, students in the comparison schools that did not use RiPP were more likely to report carrying a weapon to school and using it to threaten someone than were students in the intervention schools.⁶⁴

Students in the comparison schools that did not use RiPP were more likely to report carrying a weapon to school and using it to threaten someone than were students in the intervention schools.

The Olweus Bullying Prevention Program

In recent years, there has been increasing recognition that bullying is a problem requiring intervention. Numerous studies have documented the short- and long-term impacts that bullying has on victims, and Fox and his colleagues (2003:4) recently reported that “nearly 60% of boys who researchers classified as bullies in grades six through nine were convicted of at least one crime by the age of 24. Even more dramatic, 40% of them had three or more convictions by age 24.”⁶⁵

In the 2003 report *Bullying Prevention is Crime Prevention*, the organization Fight Crime: Invest in Kids suggested that as much as half of all bullying can be prevented.⁶⁶ They called on local, state and national policy makers “to invest in proven anti-bullying measures for every school in America.” One of the proven interventions identified in the report is the Olweus Bullying Prevention Program (BPP).

The BPP is a multi-component, school-based program designed to prevent and reduce bullying problems. It was developed at the University of Bergen in Norway and is based on the research of Dan Olweus, one of the world’s leading experts on bullying. BPP attempts to restructure the existing school environment to reduce opportunities and rewards for bullying. The goal is to mobilize the entire school in a way that makes bullying unacceptable.

The BPP has school level, classroom level, and individual level components. The school-level component includes the distribution of a student questionnaire designed to assess the bullying problem. It also involves training for school staff on

prevention measures, the creation of a committee to coordinate bullying prevention activities, and the development of anti-bullying rules and policies. Increased monitoring of areas where bullying is likely to occur also takes place. Classroom components include regular discussions about bullying and reinforcement of anti-bullying rules and policies. Individual level components are designed to stop any ongoing bullying and provide support to victims.

The BPP is designed for use in elementary, middle, and junior high schools. School staff is responsible for program implementation and all students participate in the program. Parents are actively involved as well. Implementation is typically launched at the start of the school year, and full implementation occurs over the course of two years.

Several evaluations of BPP have demonstrated that the program reduces bullying, other problem behaviors, and delinquency. The first evaluation of BPP in Norway, for example, found a 50% reduction in bullying incidents and reductions in antisocial behavior such as vandalism, fighting, and theft.⁶⁷ Evaluations in the U.S. have reported similar results. In South Carolina, for example, students participating in the BPP program had lower levels of school misbehavior, vandalism, and general delinquency than students who did not participate in the program.⁶⁸

Several evaluations of BPP have demonstrated that the program reduces bullying, other problem behaviors, and delinquency.

BPP has been implemented in several hundred schools in the United States and several foreign countries. Program materials, training and other implementation services are available in the U.S. through the Olweus Bullying Prevention Program at Clemson University. The BPP is recognized as a model program by the Center for the Study and Prevention of Violence at the University of Colorado.

The Life Skills Training (LST) program

The Life Skills Training (LST) program was developed by Gilbert Botvin, a professor of public health and psychiatry at Cornell University’s Weill Medical College. The LST program was designed to influence individual risk factors associated with substance abuse but has recently been found to reduce delinquency and violent behavior in the months immediately following the program.



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The LST program is a classroom-based intervention that can be delivered by teachers, counselors, health professionals and others. The elementary school curriculum consists of 24 sessions delivered over a 3 year period beginning in either the 3rd or 4th grade. The middle school curriculum consists of 30 sessions delivered over 3 years beginning in either the 6th or 7th grades.⁶⁹ Both curriculums are designed to provide students with self-management, social and drug resistance skills. Developmentally appropriate teaching strategies are employed, including lecture, discussion, coaching, and practice.

While numerous evaluations have demonstrated that the LST program effectively reduces substance use, recent research has also shown that the program has a positive effect on delinquency and violence. Botvin et al. (2006) randomly assigned 41 New York City schools to either intervention or control conditions. Participants in the 20 intervention schools received the Life Skills Training program that was modified to include material that focused on violence, anger management, and conflict resolution skills. The study participants self-reported high frequencies of aggressive behavior and delinquency prior to LST: over half reported engaging in fights and delinquency in the year prior to the program⁷⁰ whereas a national sample of students found 36% reported fighting behavior.⁷¹

To determine effectiveness, survey data were collected from 4,858 sixth grade students prior to the intervention and three months after the intervention. Findings showed significant reductions in violence and delinquency for intervention participants relative to controls in the three months following the program. Also, the study found that program dose mattered: youth who attended more than half of the program sessions had better outcomes than those with less exposure to the program.⁷²

The researchers also estimated the extent to which program delivery was consistent with the model LST program, and found fidelity to be lower in the New York study than in previous studies. It is possible that, with greater fidelity, program outcomes could be even better.

Another recent study of the LST program implemented in rural schools found significant reductions in methamphetamine use among adolescents compared to controls.⁷³

The LST program is recognized as a model program by the Center for the Study and Prevention of Violence at the University of Colorado. Training services are available through National Health Promotion Associates, Inc. (NHPA), in White Plains, New York.

CASASTART (Striving Together to Achieve Rewarding Tomorrows)

CASASTART (Striving Together to Achieve Rewarding Tomorrows) is a school-centered youth development program designed to prevent criminal conduct and other problem behaviors by high-risk 8 to 13 year olds. It was created in 1992 by the National Center on Addiction and Substance Abuse (CASA) at Columbia University.⁷⁴ The program draws on a wide variety of community resources to ensure program participants receive the support and services they need.

CASASTART is a flexible program that is primarily designed at the local level to address unique community needs. All local programs, however, share a core set of features, including the following:

- A committed lead agency,
- A defined target population,
- A defined geographic boundary for program operations,
- Regular meetings between program staff and partner organizations to build relationships and ensure services are available and delivered to program participants.⁷⁵

CASASTART serves children who attend schools in the designated operational area. Most program meetings and activities take place in the school. CASASTART case managers work with teachers, social service agencies, police officers and neighborhood residents to coordinate support and service delivery. Children participate in CASASTART on a voluntary basis for up to two years. In practice, CASASTART provides program participants with services, support and a safe place to go after regular school hours.

The CASASTART model is comprised of the following eight core services:

1. Case management,
2. Family support,
3. Education services,
4. Out-of-school activities,
5. Mentoring,
6. Incentives,
7. Community policing, and
8. Juvenile justice intervention.⁷⁶

An individual service plan featuring all eight of these components is developed for each child that is enrolled in the program. A case manager meets with the child several times per week and oversees the child's participation in all program activities. Case managers also meet with families at least once a month and make regular home visits.⁷⁷

The case management component ensures that the needs of participating youth and families are met. Small caseloads of 13 to 18 families ensure that program participants receive close attention. The family services component includes counseling services, parent programs, family advocacy and other organized activities. Education services include tutoring and homework assistance, as well as work preparation opportunities. After-school and summer activities offer opportunities for prosocial activities with peers. Activities include recreation, entertainment and social development programs focusing on self-esteem, cultural heritage, and social problems. The mentorship component fosters group or one-to-one relationships with mentors to promote positive behaviors.

CASASTART also works with local law enforcement to increase police presence, involvement in the community and involvement with program youth. Case managers also communicate with juvenile justice and probation departments to intervene if youth become involved with the courts.

CASASTART is operating in at least 34 cities and counties nationwide and one Native American reservation. At year-end 2007, CASASTART had been implemented in 10 schools in Colorado. CASASTART was first implemented in Colorado in 1999 with funding and other assistance provided by the The Colorado Foundation for Families and Children. The Foundation continues to provide training and technical assistance, as well as management and oversight, to CASASTART programs in Colorado.⁷⁸ Program materials and implementation resources are also available through the National Center on Addiction and Substance Abuse at Columbia University.

At year-end 2007, CASASTART had been implemented in 10 schools in Colorado.

Empirical Support

CASASTART was the focus of a highly rigorous evaluation conducted by the Urban Institute between 1992 and 1996. CASASTART youth reported lower levels of violent crimes

in the year following the program. Compared to the control group, CASASTART participants also were less likely to report drug use and lifetime drug sales.⁷⁹ A study of the Colorado CASASTART sites found that 98% of participants continued to the next grade, 75% increased their academic achievement, and 73% decreased their suspension rate. Additionally, parental involvement at the school increased by 50 percent.⁸⁰

Truancy Programs

In recent years there has been increasing recognition that truancy is a widespread problem. A recent report by the National Center for School Engagement (NCSE) estimated that 20% of Denver Public School (DPS) students and 30% of high school students specifically are chronically truant.⁸¹ Research has shown that truancy is related to a number of other problem behaviors, including dropping out and delinquency. For example, a lack of commitment to school is a well-established risk factor for drop-out, substance abuse and delinquency. And research conducted by NCSE has found that approximately 60% of students who left DPS for juvenile incarceration were chronically truant.⁸²

According to the NCSE, many different agencies provide programs or services designed to prevent or reduce truancy in Colorado.⁸³ Interventions range from a letter or phone call from the school to parents to hearings and possible punitive sanctions for certain truants in juvenile court. Court interventions often include mandated treatment and support service plans. Failure to comply with court ordered sanctions can lead to juvenile detention. However, most truants do not receive an intervention beyond a letter or phone call, according to NCSE.⁸⁴ Qualitative data based on interviews with a variety of stakeholders such as parents, school personnel and other professionals in Colorado, also indicates that interventions such as truancy officers, student attendance review boards (SARBs) and truancy petitions in juvenile court have all been cut in recent years.⁸⁵

Unfortunately, conclusive scientific evidence about the effectiveness of many truancy reduction initiatives is not yet available. While numerous single studies have been conducted, including some with rigorous designs, few systematic reviews or meta-analyses appear in the literature. This review was able to locate only one systematic review that examined research on the effectiveness of truancy prevention and intervention programs: a study conducted by the Wilder Research Center by Gerrard et al. (2003).

Gerrard and her colleagues reviewed evaluation studies on school-based interventions, community-based interventions, and law enforcement or court-based interventions.



What Works

They concluded that strong and clear attendance policies, strengths-based family counseling, relationship building, and intensive school interventions that include a team approach, mentors and individualized service plans were effective. Contacting parents and using incentives worked best with students in the 10th grade or younger. Ongoing rather than one-time or targeted programs and interventions that keep youth in the educational mainstream were also effective. Financial sanctions against TANF families were not effective. Other strategies were deemed of unknown effectiveness due to insufficient rigorous evaluation.⁸⁶

They concluded that strong and clear attendance policies, strengths-based family counseling, relationship building, and intensive school interventions that include a team approach, mentors and individualized service plans were effective.

Researchers at the Colorado Foundation for Families and Children recently estimated the costs and benefits of three truancy reductions projects in Colorado: The Adams county Truancy Reduction Project, the Denver Truancy Reduction Education Project, and Project Respect in Pueblo, County. Each program treats truancy as a family problem and each used an intensive case management approach with frequent referrals to service providers in the community.⁸⁷ The costs and benefits of all three programs were examined in comparison to both a court-centered approach and taking no action at all. All of the truancy programs in the study were found to be effective. Heilbrunn and Seeley (2003:16) concluded the following: “school failure is so costly that there need only be minor success with truancy reduction programs in order to achieve a positive payoff.”⁸⁸

In 2007, NCSE also developed a compendium of 18 truancy reduction programs deemed by the organization to be effective. Each program, along with its target population, setting and supporting evidence of effectiveness are briefly described in the organization’s published report.⁸⁹

Community-Based Programs

Community-based crime prevention can take many forms. Situational crime prevention (i.e., target hardening), community defense (such as neighborhood watch and citizen patrols),

community development (Weed and Seed Programs) and a variety of other approaches have all fallen under the heading of community-based prevention. This makes it difficult to reach definitive conclusions about the overall effectiveness of community-based approaches. As several researchers have pointed out, there is little agreement on the definition of community-based crime prevention or the specific programs that should be labeled as community-based.

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Community-based programs have also proven to be difficult to evaluate. The complexities of the community setting make it hard to isolate program effects and other methodological problems are common, too. Given the deficiencies that seem to characterize so many community-based studies, it’s reasonable to suspect that the lack of evidence demonstrating community-based program effectiveness may be a reflection of research rather than program quality. Indeed, several reviews of community-based programs have failed to find positive results. Hope (1995) and Bennett (1998) both concluded that there was little evidence that community-based approaches worked. More recently Greenwood (2006) reported that little is known about the long-term effects of community-focused interventions, primarily because appropriate research designs are hard to implement.

Farrington and Welsh (2007:154) recently reported the following: “the state of evaluation research is somewhat better with respect to after-school and community-based mentoring programs.”⁹⁰ Welsh and Hoshi (2002), for example, identified three after school programs (ASPs) that had a positive impact on delinquency. Brown et al. (2002) reviewed ASP evaluations in California and reported that preliminary studies indicate that ASPs improve student performance and reduce juvenile crime. An analysis of 14 ASPs in Maryland by Gottfredson et al. (2004) found that ASP participation reduced delinquent behavior for youth in middle school, but not for youth in elementary school. After school programs that emphasized social skills and character development were most effective.⁹¹ Finally, Durlak and Weissberg (2007) conducted a meta-analysis of 73 ASPs and found that ASP

participation lead to multiple benefits, including a reduction in both externalizing behavior and drug use. They also calculated a “value added benefit” and estimated that having an effective ASP would result in 27% more youth with better grades, 25% with less drug use, and 30% with less problem behavior, including aggression and delinquent acts.⁹²

After school programs that emphasized social skills and character development were most effective.

William Brown and colleagues (2002) also conducted a cost-benefit analysis of ASPs in California, where \$433 million was invested in ASPs under the After School and Education Safety Act of 2002, often referred to as Proposition 49.⁹³ The study found that for each dollar invested, California could expect a return of between \$8.92 and \$12.90, with most of the benefit coming from reduced crime costs.⁹⁴

The study by Welsh and Hoshi (2002) reviewed seven community-based mentoring program evaluations that examined program impact on delinquency. The analysis produced mixed results overall but the researchers concluded that mentoring represents a promising delinquency prevention approach.⁹⁵ A meta-analysis of 55 programs conducted by DuBois et al. (2002) found that the typical youth received modest benefits but effectiveness varied widely across programs.

While ASPs and mentoring programs are designed to provide youth with a variety of benefits, each program model has an underlying delinquency prevention rationale. Given the higher rate of risky behavior and juvenile crime during after school hours when youth are less likely to have adult supervision, ASPs offer a safe environment where youth

Effective ASPs also provide youth with positive role models, pro-social peer associations, and a variety of constructive programs. Mentoring programs also decrease unsupervised time and increase exposure to positive role models and peer associations.

are supervised by adults. Effective ASPs also provide youth with positive role models, pro-social peer associations, and a variety of constructive programs. Mentoring programs also decrease unsupervised time and increase exposure to positive role models and peer associations. In fact, mentoring is often a component of quality ASPs. Both program models provide positive youth development opportunities that can enhance a child’s social and self-management skills.

In its 2004 report entitled *After School Programming: A Pressing Need-A Public Policy*, the Colorado Foundation for Children and Families (CFCF) emphasized the importance of incorporating comprehensive, research-based, youth development programs within ASPs. An exclusive focus on either childcare or an extension of the school day may limit ASP effectiveness. Five core elements of effective ASPs were identified in the CFCF report:⁹⁶

- Positive Youth Development
- Cultural Competency
- Partnerships
- Evaluation
- Sustainability

The Colorado Trust, a private grant-making foundation, has invested \$11 million to support 32 ASPs in 21 counties across the state.⁹⁷ According to CFCF, more quality programs are needed, as are comprehensive statewide ASP policies, a common set of quality standards and evaluation measures, and sustainable funding for ASPs.

Although more and higher quality evaluations of community-based programs are needed, well-implemented after school and mentoring programs hold promise in preventing delinquency. Farrington and Welsh highlighted the Boys and Girls Clubs of America and Big Brothers Big Sisters of America as case studies of promising after-school and mentoring programs, respectively. Both programs are described below.

Boys and Girls Clubs of America

Boys and Girls Clubs of America (BGCA) has been providing youth with a safe and pro-social place to spend time during non-school hours and the summer for more than 100 years. More than 4,000 chartered club locations are operating nationwide. Clubs are located in neighborhood buildings and led by professional staff. They provide after-school, weekend and summer programs to meet the needs of young people ages 6-18, and they serve as a safe and healthy

Boys and Girls Clubs of America (BGCA) has been providing youth with a safe and pro-social place to spend time during non-school hours and the summer for more than 100 years.

alternative to the streets or being home alone. Several clubs are currently operating in Colorado.

Over the past 25 years, many BGCA programs have focused on the prevention of delinquency and gang involvement. More recently, career preparation and academic support have been integrated into club activities. Targeted programs that focus on particular populations and service needs have also been implemented in recent years.

Over the past two decades, BGCA programs have been the focus of more than 20 evaluations. A review of these studies by Arbreton and her colleagues (2005) at Public/Private Ventures (P/PV) reported that BGCA prevention classes and targeted outreach models of delinquency prevention show evidence of reducing delinquent behaviors.⁹⁸ A 2002 study of BGCA gang prevention and intervention programs, for example, found positive behavioral outcomes for targeted youth, with more frequent club attendance producing more favorable outcomes, including fewer gang related behaviors, and less contact with the juvenile justice system.⁹⁹ Arbreton and her colleagues also cite Schinke et al.'s 1991 study that found that public housing areas with a Club that offered SMART Moves (an alcohol, drugs and pregnancy prevention program) had significantly lower rates of drug activity than areas without it.¹⁰⁰

Big Brothers Big Sisters of America Mentoring Program

Big Brothers Big Sisters (BBBS) is the largest youth mentoring program in the nation. BBBS operates in every state and several foreign countries. The program matches youth 6 through 18 years of age with mentors in professionally supported one-to-one relationships. Professional program staff administer and supervise every match, and they also provide training and ongoing support. Both community-based and school-based mentoring programs are offered through BBBS.

A rigorous evaluation of BBBS programs was conducted by Tierney and Grossman in the early 1990s.¹⁰¹ The researchers randomly assigned 959 10- to 16-year-olds who applied

to BBBS programs across 8 sites to a treatment group, for which BBBS matches were made or attempted, and a waiting list control group. Using an 18-month post-application follow-up period, mentored youth were 46% less likely to initiate drug use, and 32% less likely to have hit someone than their control group counterparts.

BBBS is recognized as a model program by the Center for the Study and Prevention of Violence at the University of Colorado.

Peer Programs

Peer-based prevention programs typically attempt to reduce the influence of antisocial and deviant peers while increasing the influence of peers who are pro-social and law-abiding.¹⁰² While there is evidence that peer-based programs can be effective at reducing substance abuse and some other negative behaviors, a conclusive body of evidence demonstrating that peer-based programs are effective in reducing delinquency or criminal conduct has not yet been developed.¹⁰³

In a 2001 report entitled *Juvenile Crime, Juvenile Justice*, the National Research Council (NRC) reviewed four studies that examined the effects of peer-based prevention programs on anti-social and delinquent behavior and found mixed results (McCord et al. 2001).¹⁰⁴ While grouping younger children in interventions was successful in reducing aggressive behavior, the results for older adolescents were mixed, with some interventions doing more harm than good.¹⁰⁵

A recent evaluation of a peer-based program conducted by Valente et al. (2007) found similar results. While the program was effective at preventing substance use and some students benefited from the positive influence of their friends, others were harmed by the negative influence of their substance using peers.¹⁰⁶ Students whose peers used drugs were more likely to use drugs if they took part in the peer-led intervention.

McCord and her colleagues at the NRC were concerned enough about the potential harm that deviant peer associations could produce in a program setting that they cautioned against grouping high-risk or deviant peers together, especially during adolescence.

McCord and her colleagues at the NRC were concerned enough about the potential harm that deviant peer associations could produce in a program setting that they cautioned against grouping high-risk or deviant peers together, especially during adolescence.

“Putting antisocial or at-risk juveniles together may provide them the opportunity to actively reinforce deviant behavior through laughter and social attention while talking about such behavior. In addition, high-risk adolescents may adjust their values as a result of associating with peers who approve of misbehavior and, as a consequence, be more likely to misbehave themselves.”¹⁰⁷

While there is ample evidence to conclude that anti-social or deviant peers should not be grouped together, the effectiveness of properly structured peer-based programs to prevent criminal conduct remains unknown. A 2002 review of peer-based program evaluations conducted by the Wisconsin Department of Public Instruction, for example, concluded that while peer programs can be effective at reducing certain risky health-related behaviors among adolescents, there is less empirical evidence about the benefits of the peer approach for preventing violent behaviors.¹⁰⁸

Similarly, in their 2007 review of early prevention programs, Farrington and Welsh reported that they were not be able to identify any meta-analyses or systematic reviews that examined the effectiveness of peer based programs in reducing delinquency or later offending. Due to that lack of rigorous evaluation and the absence of evidence-based reviews, the author’s concluded that, “at present, a peer based approach is of unknown effectiveness in preventing delinquency or later offending (2007:156).”¹⁰⁹

The Blueprints for Violence Prevention

Several of the programs identified in this report are considered to be “model” programs by the Blueprints for Violence Prevention project at the University of Colorado-Boulder. The Blueprints project is a national violence prevention initiative to identify violence prevention programs that are effective. It is operated by the Center for the Study and Prevention of Violence (CSPV).

The Blueprints project began in 1996 with initial funding from the Colorado Division of Criminal Justice, the Centers for Disease Control and Prevention, and the Pennsylvania Commission on Crime and Delinquency. The project was conceived as an effort to identify model violence prevention programs and implement them within the State of Colorado. With funding from the U.S. Department of Justice, Office

of Juvenile Justice and Delinquency Prevention (OJJDP), the project expanded into a much broader initiative, not only identifying effective programs, but also supporting their replication in sites across the country.

After reviewing more than 600 programs, the Blueprints initiative identified 11 model programs that effectively prevented violence and drug use (see Figure 6.2). While the Blueprints Advisory Board considers many criteria when reviewing program effectiveness, three factors are considered most important:

- Evidence of a deterrent effect with a strong research design,
- Demonstration of a sustained effect, and
- Multiple site replication.¹¹⁰

Programs meeting all three of these criteria are classified as “model” programs, whereas programs meeting at least the first criterion but not all three are considered “promising.”

Figure 6.2. Blueprints for Violence Prevention Model Programs

Big Brothers Big Sisters of America
Functional Family Therapy
The Incredible Years
Life Skills Training
Midwestern Prevention Project
Multidimensional Treatment Foster Care
Multisystemic Therapy
Nurse-Family Partnership
Olweus Bullying Prevention Program
Project Towards No Drug Abuse
Promoting Alternative Thinking Strategies

Of the 11 model Blueprints programs, 8 have been described in this report. Given the original conceptualization of the Blueprints project and the project’s location at the University of Colorado, the 3 other model Blueprints programs may be of interest to readers. Each is a school-based, universal prevention program. Although evaluations of these programs have not necessarily demonstrated that they prevent criminal behavior per se, they have been shown to reduce risk factors for delinquency such as substance abuse.

Therefore, each program is briefly described below using excerpts from CSPV’s *Blueprints Model Program Descriptions* Fact Sheet.¹¹¹



Midwestern Prevention Project

This community-based program targets adolescent drug use. The program uses five intervention strategies designed to combat the community influences on drug use: mass media, school, parent, community organization, and health policy change. The primary intervention channel is the school.

Project Towards No Drug Abuse (TND)

Project TND is a drug abuse prevention program that targets high school age youth at traditional and alternative high schools. The curriculum, taught by teachers or health educa-

tors, contains twelve 40-minute interactive sessions, and focuses on motivations to use drugs, social skills, and cognitive processing skills.

Promoting Alternative Thinking Strategies

Promoting Alternative Thinking Strategies (PATHS) is an elementary school-based intervention designed to promote emotional competence, including the expression, understanding and regulation of emotions.

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- ¹ McCord, J., Widom, C.S., and Crowell, N. (2001). *Juvenile Crime, Juvenile Justice*. National Research Council. National Academies Press, Washington, DC. Page 66. Farrington and Welsh (2007). Page 37.
 - ² Przybylski, R. (Summer 1996). With higher numbers of children entering their crime-prone years, more needs to be done to address increasing rates of juvenile violence. *The Compiler*. Illinois Criminal Justice Information Authority, Chicago, IL. Page 6.
 - ³ McCord, Widom, and Crowell (2001).
 - ⁴ Office of the Surgeon General. (2001). *Youth Violence: A Report of the Surgeon General*. Public Health Services, U.S. Department of Health and Human Services, Washington, DC. Chapter 4. Available at <http://www.surgeongeneral.gov/library/youthviolence/toc.html>.
 - ⁵ Farrington, D.P., and B. Welsh. (2007). *Saving Children From a Life of Crime, Early Risk Factors and Effective Interventions*. Oxford University Press: New York, NY. Page 7.
 - ⁶ Farrington and Welsh (2007). Page 105.
 - ⁷ Greenwood, P.W., Model, K.E., Rydell, C.P., and Chiesa, J. (1996). *Diverting Children from a Life of Crime, Measuring Costs and Benefits*. Rand Corporation, Santa Monica, CA. Page 6.
 - ⁸ Fagan, A., and Najman, J. (2003). *The Gendered and Long-Term Relationship Between Family Practices and Children's Aggression and Delinquency*. Commission for Children and Young People and Child Guardians, Issue Papers. Brisbane, Queensland, AU. Available at http://www.childcomm.qld.gov.au/pdf/publications/issues/issue_two_paper.pdf.
 - ⁹ Widom, C.S., and Maxfield, M.G. (February 2001). An Update on the "Cycle of Violence". *Research in Brief*. National Institute of Justice, Office of Justice Programs, U.S. Department of Justice, Washington, DC.
 - ¹⁰ Greenwood et al. (1996), for example, reported that women in poverty, single parenthood and youthful mothers are at higher risk of being an ineffective or abusive parent.
 - ¹¹ The NFP program was originally called the Prenatal and Early Childhood Nurse Home Visitation Program.
 - ¹² The benefit cost ratio differences between the Aos et al. and Karoly et al. estimates are due to differences in the types of programs analyzed. The Karoly et al. estimate is based on an NFP program delivered to high-risk families, whereas the Aos et al. estimate is based on NFP programs delivered to high-risk as well as low-risk families.
 - ¹³ See <http://www.iik.org>.
 - ¹⁴ Ibid.

- ¹⁵ See <http://www.cdph.state.co.us/ps/nursehome/NHVPfactsheet.pdf>.
- ¹⁶ Farrington and Welsh (2007).
- ¹⁷ In Chicago, McCord and Ensminger (1997) found that low IQ at age 6 predicted arrests for violent crimes up to age 32. Schweinhart et al. (1993) found that low intelligence at age 4 predicted arrests up to age 27. See Farrington and Welsh (2007).
- ¹⁸ Farrington and Welsh (2007). Page 106.
- ¹⁹ Yoshikawa, H. (Winter 1995). Long-term effects of early childhood programs on social outcomes and delinquency. *Future of Children*, 5, 51-75.
- ²⁰ Fifty-eight of the children were assigned to the Perry Preschool program, and 65 were assigned to a control group.
- ²¹ Of the original study participants, 97% of those who were still living were interviewed at age 40.
- ²² There also are versions of the High/Scope model for infants and toddlers, for elementary school students, and for adolescents.
- ²³ The program's child to teacher ratio is about 17 to 2 in preschool and 25 to 2 in kindergarten.
- ²⁴ Reynolds, A.J., Temple, J.A., Suh-Run, O., Robertson, D.L., Mersky, J.P., Topitzes, J.W., and Niles, M.D. (2007). Effects of a School-Based, Early Childhood Intervention on Adult Health and Well-being, A 19-Year Follow-up of Low-Income Families. *Archives of Pediatrics and Adolescent Medicine*, 161, 730-739.
- ²⁵ For example, the comparison group was chosen from randomly selected schools, and selection and attrition analyses using propensity score, econometric methods, and latent-variable structural modeling have consistently indicated that program estimates are robust to alternative analyses.
- ²⁶ Reynolds, A.J., Temple, J.A., Robertson, D.L. and Mann, E.A. (2001). Long-term Effects of an Early Childhood Intervention on Educational Achievement and Juvenile Arrest: A 15-Year Follow-up of Low-Income Children in Public Schools. *Journal of the American Medical Association*, 285, 2339 - 2346.
- ²⁷ Reynolds, A. J., and Robertson, D.L. (2003). School-Based Early Intervention and Later Child Maltreatment in the Chicago Longitudinal Study. *Child Development*, 74, 3-26.
- ²⁸ Abuse and neglect referrals are made to the Illinois Department of Children and Family Services. Petitions are made to the juvenile court.
- ²⁹ Reynolds et al. (2007).
- ³⁰ Farrington and Welsh (2007). Page 75.
- ³¹ Lipsey, M.W., and Derzon, J.H. (1998). Predictors of violent or serious delinquency in adolescence and early adulthood. In R. Loeber and D.P. Farrington (eds.), *Serious and Violent Juvenile Offenders: Risk Factors and Successful Interventions*. Sage Publications, Thousand Oaks, CA.
- ³² Webster-Stratton, C., and Hooven, C. (1998). *Parent Training for Child Conduct Problems*. University of Washington. Page 186. Available at http://www.incredibleyears.com/library/items/parent-training-for-child-conduct-problems_98.pdf.
- ³³ Eddy, J.M., and Reid, J.B. (2001). *The Antisocial Behavior of the Adolescent Children of Incarcerated Parents: A Developmental Perspective*. Oregon Social Learning Center. Eugene, OR.
- ³⁴ Ibid.
- ³⁵ Farrington and Welsh (2007). Page 122.
- ³⁶ Duncan, G., and Magnuson, K. (2004). *Individual and Parent-based Intervention Strategies for Promoting Human Capital and Positive Behavior*. Institute for Policy Research, Northwestern University, Evanston IL. Available at <http://www.northwestern.edu/ipr/publications/papers/2004/duncan/17jacobsconference.pdf>. Page 24.



What Works

- ³⁷ Kazdin, A.E. (2005). *Parent Management Training: Treatment for Oppositional, Aggressive, and Anti-Social Behavior in Children and Adolescents*. Oxford University Press, New York, NY. Page 179.
- ³⁸ Farrington and Welsh (2007). Page 136.
- ³⁹ Ibid. Page 127.
- ⁴⁰ Forgatch, M.S., Patterson, G.R., and DeGarmo, D.S. (2005). Evaluating Fidelity: Predictive Validity for a Measure of Competent Adherence to the Oregon Model of Parent Management Training. *Behavior Therapy*, 36, 3-13.
- ⁴¹ ISII also has been contracted to train professionals on the use of PMTO in the Netherlands and Iceland, and planning for the implementation of PMTO in Mexico is currently taking place.
- ⁴² Patterson, G.R., DeGarmo, D. and Forgatch, M.S. (2004). Systematic Changes in Families Following Prevention Trials. *Journal of Abnormal Child Psychology*, 32, 621-633.
- ⁴³ DeGarmo, D.S., and Forgatch, M.S. (2005). Early development of delinquency within divorced families: evaluating a randomized preventive intervention trial. *Developmental Science*, 8, 229-239.
- ⁴⁴ Webster-Stratton, C. (June 2000). The Incredible Years Training Series. *Juvenile Justice Bulletin*. Office of Juvenile Justice and Delinquency Prevention, Office of Justice Programs, U.S. Department of Justice, Washington, DC. Page 1.
- ⁴⁵ Ibid. Page 18.
- ⁴⁶ For an excellent review of the research pertaining to “our abilities to alter the destinies of vulnerable children,” see Lisbeth B. Schorr’s (1988) *Within Our Reach: Breaking the Cycle of Disadvantage*. Anchor Books, New York, NY. Page xvii.
- ⁴⁷ See summary at <http://www.incredibleyears.com>.
- ⁴⁸ See <http://www.iik.org>.
- ⁴⁹ Http://www.iik.org/incredible_years.
- ⁵⁰ Haggerty, K., Kosterman, R., Catalano, R.F., and Hawkins, J.D. (1999). *Preparing for the Drug Free Years*. U.S. Department of Justice, Office of Justice Programs, Office of Juvenile Justice and Delinquency Prevention, Washington, DC. Page 1.
- ⁵¹ Haggerty et al. (1999) reported that PDFY has even been delivered to parents in prison.
- ⁵² Kosterman, R., Hawkins, J. D., Spoth, R., Haggerty, K. P., and Zhu, K. (1997). Effects of a preventive parent-training intervention on observed family interactions: Proximal outcomes from Preparing for the Drug Free Years. *Journal of Community Psychology*, 25, 337-352; Mason, W. A, Kosterman, R., Hawkins, J. D., Haggerty, K. P., and Spoth, R. L. (2003). Reducing adolescents’ growth in substance use and delinquency: Randomized trial effects of a parent-training prevention intervention. *Prevention Science*, 4, 203-212.
- ⁵³ Browning, K. and Loeber, R. (1999). *Highlights of Findings From the Pittsburgh Youth Study*. Office of Juvenile Justice and Delinquency Prevention, Office of Justice Programs, U.S. Department of Justice, Washington, DC.
- ⁵⁴ A considerable body of research supports their thesis. See for example Pratt, T.C. and Cullen, F.T. (2000). The empirical status of Gottfredson and Hirschi’s general theory of crime: A meta-analysis. *Criminology*, 38, 931-964.
- ⁵⁵ In their recent review of early risk factors for delinquency, Farrington and Welsh (2007) concluded that both impulsiveness and low empathy are important predictors of offending.
- ⁵⁶ Wilson, D.B., Gottfredson, D.C., and Najaka, S.S. (2001). School-Based Prevention of Problem Behaviors: A Meta-Analysis. *Journal of Quantitative Criminology*, 17, 247-272.
- ⁵⁷ Farrington and Welsh (2007). Page 156.
- ⁵⁸ School and discipline management interventions typically involve a comprehensive, schoolwide effort to change the school climate with an emphasis on behavior management and school discipline practices. Classroom or instructional

management programs typically combine teacher training in effective instructional and disciplinary practices with student training. (Mihalic et al., 2004 at Note 59)

- ⁵⁹ Mihalic, S., Fagan, A., Irwin, K., Ballard, D. and Elliott, D. (2004). *Blueprints for Violence Prevention*, prepared by the Center for the Study and Prevention of Violence University of Colorado, Boulder, for the Office of Juvenile Justice and Delinquency Prevention, Office of Justice Programs, U. S. Department of Justice, Washington, DC. Page 14.
- ⁶⁰ Hawkins, D.J., Kosterman, R., Catalano, R.F., Hill, K.G., and Abbott, R.D. (2005) Promoting Positive Adult Functioning Through Social Development Intervention in Childhood: Long-term Effects From the Seattle Social Development Project, *Archives of Pediatric and Adolescent Medicine*, 159, 25-31.
- ⁶¹ See <http://depts.washington.edu/ssdp/intervention.shtml>.
- ⁶² See <http://www.preventionopportunities.com>.
- ⁶³ Farrell, A.D., Meyer, A.L. and White, K. (2001). Evaluation of Responding in Peaceful and Positive Ways (RIPP): A School-Based Prevention Program for Reducing Violence Among Urban Adolescents. *Journal of Clinical Child Psychology*, 30, 4, 451-463.
- ⁶⁴ Farrell, A.D., Valois, R.F., Meyer, A.L., and Tidwell, R.P. (2003). Impact of the RIPP violence-prevention program on rural middle school students: A between-school study. *Journal of Primary Prevention*, 24, 143-167.
- ⁶⁵ Fox, J.A., Elliott, D.S., Kerlikowske, R.G., Newman, S.A. and Christeson., W. (2003.) *Bullying Prevention is Crime Prevention*. Fight Crime: Invest in Kids: Washington, DC. Page 4.
- ⁶⁶ Ibid. Page 4.
- ⁶⁷ Olweus, D., Limber, S. P., and Mihalic, S. (1999). *The Bullying Prevention Program: Blueprints for Violence Prevention, Vol. 10*. Center for the Study and Prevention of Violence, University of Colorado, Boulder, CO.
- ⁶⁸ Fox et al. (2003). Page 25.
- ⁶⁹ <http://www.lifeskillstraining.com/structure.php>.
- ⁷⁰ Botvin, G.J., Griffin, K.W., Nichols, T.R.. (2006). Preventing Youth Violence and Delinquency through a Universal School-based Prevention Approach. *Prevention Science*, 7, 403-408. Page 405.
- ⁷¹ Centers for Disease Control and Prevention. (2006). *Youth Risk Behavior Surveillance-United States, 2005*. Surveillance Summaries, June 9, 2006, as cited by Botvin et al. (2006).
- ⁷² Botvin, G.J., Griffin, K.W., Nichols, T.R. (2006). Preventing Youth Violence and Delinquency through a Universal School-based Prevention Approach. *Prevention Science*, 7, 403-408.
- ⁷³ Spoth, R.L., Clair, S., Shin, C., Redmond, C. (2006). Long-Term Effects of Universal Preventative Interventions on Methamphetamine Use Among Adolescents. *Archives of Pediatric & Adolescent Medicine*, 160, 876-882.
- ⁷⁴ See <http://www.casacolumbia.org/absolutenm/templates/Home.aspx>.
- ⁷⁵ These include case conferences to review an individual's progress in the program and administrative meetings to resolve problems among partner agencies.
- ⁷⁶ See <http://www.coloradofoundation.org/template.asp?intPageId=102>.
- ⁷⁷ See <http://www.casacolumbia.org/absolutenm/templates/Home.aspx>.
- ⁷⁸ See <http://www.coloradofoundation.org/template.asp?intPageId=91>.
- ⁷⁹ Blueprint Promising Programs Fact Sheet, available at: <http://www.Colorado.edu/cspv>.
- ⁸⁰ See <http://www.coloradofoundation.org/template.asp?intPageId=102>.



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- ⁸¹ The National Center for School Engagement. (2006). *Truancy in Denver: Prevalence, Effects and Interventions*. Colorado Foundation for School and Families, Denver, CO.
- ⁸² Ibid. Page 23.
- ⁸³ The National Center for School Engagement. 2006. *Truancy in Denver: Prevalence, Effects and Interventions, Executive Summary*. Colorado Foundation for School and Families, Denver, CO. Page 2.
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- ⁸⁸ Ibid. Page 16.
- ⁸⁹ National Center for School Engagement (2007).
- ⁹⁰ Farrington and Welsh. (2007). Page 154.
- ⁹¹ Gottfredson, D., Gerstenblith, S., Soul'e, D., Womer, S., and Lu, S. (December 2004). Do After School Programs Reduce Delinquency? *Prevention Science*, 5, 4.
- ⁹² Durlak, J.A., and Weissberg, R.P. (2007). *The Impact of After-School Programs that Promote Personal and Social Skills*. Collaborative for Academic, Social, and Emotional Learning. Chicago, IL.
- ⁹³ See http://www.afterschoolalliance.org/prop_49.cfm.
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- ⁹⁶ Colorado Foundation for Families and Children. (2004). *After School Programming: A pressing Need, A Public Policy*. Author, Denver, CO. Page 15.
- ⁹⁷ See <http://www.coloradotrust.org/index>.
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- ¹⁰¹ Tierney, J.P. and Grossman, J.B. (2000). *Making a Difference: An Impact Study of Big Brothers Big Sisters*. Public/Private Ventures, Philadelphia, PA.
- ¹⁰² Farrington and Welsh (2007). Page 138.
- ¹⁰³ For example, Valente et al. found that peer-led prevention efforts aimed at reducing adolescent alcohol and other drug use are about 15 percent more effective than other programs. See Valente, T.W., Ritt-Olson, A., Alan, S., Unger, J.B.,

Okamoto, J., and Sussman, S. (2007). Peer acceleration: Effects of a social network tailored substance abuse prevention program among high-risk adolescents. *Addiction*, 102, 1804-1815.

¹⁰⁴ McCord et al. (2001).

¹⁰⁵ See for example, Feldman (1992) who “found that putting one or two at-risk juveniles in groups of pro-social juveniles reduced antisocial behaviors, whereas groups of at-risk juveniles receiving the same interventions increased their misbehavior.” In McCord et al. (2001). Page 138.

¹⁰⁶ Valente et al. (2007).

¹⁰⁷ McCord et al. (2001). Page 138.

¹⁰⁸ Wisconsin Department of Public Instruction. (December 2002). *Youth to Youth: A review of peer program theoretical underpinnings, forms, functions, and process- and outcome-related findings*. Wisconsin Department of Public Instruction and the Center on Education and Work. University of Wisconsin, Madison, WI.

¹⁰⁹ Farrington and Welsh (2007). Page 156.

¹¹⁰ According to CSPV, two additional factors are considered in the selection of Blueprints programs: whether a program conducted an analysis of mediating factors and whether a program is cost effective. These criteria, however, had to be dropped in most cases because few programs had conducted either analysis. They remain required factors for school-based evaluations based on a small number of sites.

¹¹¹ See <http://www.colorado.edu/cspv/blueprints/model/overview.html>.



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Section 7: Implementation Issues

This section of the report deals with the critically important issue of program implementation.

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Sound implementation is essential for success

Evidence-based programs have to be implemented properly in order to be effective. Research has consistently shown that programs that have been implemented with a high degree of fidelity are far more likely to be successful than those that have not. Lipsey (1999) and Barnoski (2004), for example, have demonstrated that thorough implementation and competent program delivery results in larger reductions in recidivism, while partial implementation and poor delivery can degrade a program's recidivism effect.¹

The adaptation issue

While program integrity can certainly be compromised by a number of factors, the excessive adaptation of an intervention is one of the most common problems associated with program implementation and delivery. Thomas Backer (2002), a scientist affiliated with the National Center for the Advancement of Prevention, defines adaptation as the deliberate or accidental modification of the program, including the following:

- deletions or additions (enhancements) of program components;

- modifications in the nature of the components that are included;
- changes in the manner or intensity of administration of program components called for in the program manual, curriculum, or core components analysis; or
- cultural and other modifications required by local circumstances.²

Adaptation to meet local contingencies or achieve a sense of ownership is a common practice in many fields. While there is widespread consensus in the scientific community that implementation fidelity is an important goal, adaptation remains a somewhat controversial issue.

Research has consistently shown that programs that have been implemented with a high degree of fidelity are far more likely to be successful than those that have not.

Many researchers argue that adaptation of any kind is potentially problematic, because we know very little about which components of a program are responsible for its success. By changing or tampering with program elements, no matter how unwittingly, adaptation can degrade a program's effects or even cause a program to do more harm than good. Therefore, the argument goes, it is important to adhere to the program model as closely as possible in every situation. Some researchers and many practitioners, on the other hand, are concerned that rigid fidelity may not be the best approach. Adaptation, they argue, is sometimes necessary to reduce resistance to a new initiative or ensure that a program is relevant at the local level.³



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Backer (2002: 42) and others have suggested that arguments based on a fidelity/adaptation dichotomy are somewhat moot and need to be reframed. Research has demonstrated that absolute fidelity is rare, that adaptation will happen, and that fidelity and adaptation are needed for program success.⁴ Therefore, the best way to achieve intended effects in a real world setting is to strike an appropriate balance between fidelity and adaptation.⁵

Unfortunately, finding the ideal balance remains exceptionally difficult. Adaptation guidelines or thresholds that are empirically tested and that might be used to inform decision making are not yet available. Until better guidance becomes available, program planners and staff inclined on pursuing adaptation of proven program models are largely moving into uncharted territory and may be risking harm. The discussion about Project Greenlight in Section 5 of this report provides a good example. Adaptation in Project Greenlight did not just weaken the program's effects; it actually led to an increase in recidivism. Given the evidence regarding the overall importance of fidelity, adaptation is likely to be advantageous only when it is highly strategic, pursued with extreme caution and monitored to prevent harmful effects.

The discussion about Project Greenlight in Section 5 of this report provides a good example. Adaptation in Project Greenlight did not just weaken the program's effects; it actually led to an increase in recidivism. Given the evidence regarding the overall importance of fidelity, adaptation is likely to be advantageous only when it is highly strategic, pursued with extreme caution and monitored to prevent harmful effects.

Building support

Building a strong base of support is also essential for sound program implementation.⁶ It is not uncommon for a new program to be met with apprehension or even outright resistance that can undermine a program's delivery and effectiveness. Therefore, it is critical that time and effort be taken to cultivate commitment and buy-in among administrators, staff, partners and stakeholders. Education and training is almost always a prerequisite for change, and organizational

development is frequently necessary to facilitate and sustain new programming efforts.

Organizational development

Evidence-based principles provide a scientific basis for developing more effective services. Organizational development is required to successfully implement and maintain systemic change. Implementing evidence-based practices requires

Implementing evidence-based practices requires organizational administrators and leaders to redefine the organizational mission and develop explicit values that are consistent with the new direction. It is vital to expose staff to new ideas, and then to proactively build new knowledge and skills through a carefully planned training program.

organizational administrators and leaders to redefine the organizational mission and develop explicit values that are consistent with the new direction. It is vital to expose staff to new ideas, and then to proactively build new knowledge and skills through a carefully planned training program. It is usually necessary to modify the infrastructure to support this new way of doing business – that is, a portion of the organization must be identified as having the authority and responsibility to move the new plan forward. Transforming organizational culture requires a consistent message from the organization's leaders, followed by actions and resources that reinforce the message.⁷ Infrastructure changes in the form of revised hiring, personnel evaluation or other practices are sometimes needed, too.

Adequate resources for all aspects of program planning and implementation also have to be obtained. This includes ensuring that staff has the training, skills and experience that are needed for program delivery.⁸ Insufficient resources for manpower, training, equipment or financial support can cripple the best intentioned efforts.

The importance of ongoing evaluation

Finally, even when implementation looks like it is going well, managers and staff need to be concerned with program



An ongoing quality control mechanism is essential for success.

drift. As the weeks, months and even years go by, it is easy to lose sight of objectives, or perhaps abandon some essential element of the program. Hence, an ongoing quality control mechanism is essential for success.

While evaluation certainly can be used to discover and document program effects, it also can be used to identify problems and deviations from planned designs. Simply put, evaluation is an effective way to generate feedback about a program that can be used to improve performance and maximize program effectiveness. Feedback from evaluation is particularly important because policies and programs are rarely implemented or delivered precisely according to plan. What appears to be simple and straightforward in the implementation process often turns out to be more complex and difficult than anticipated.⁹

In a recent report on successful program implementation, Sharon Mihalic (2004:8) and her colleagues identified the following four issues as key considerations when evaluating implementation fidelity:

- **Adherence.** Is the program being delivered as it was designed, with all core components in place; the appropriate target population being served; staff trained appropriately; and the right protocols and materials used?

- **Exposure or dosage.** Do program participants receive the program content (i.e., number of treatment sessions and length of each treatment session) they are supposed to receive?
- **Quality of program delivery.** Do staff members deliver the program with skill, using the techniques or methods prescribed?
- **Participant responsiveness.** Are participants engaged by program activities?¹⁰

While evaluation certainly can be used to discover and document program effects, it also can be used to identify problems and deviations from planned designs. Evaluation is an effective way to generate feedback about a program that can be used to improve performance and maximize program effectiveness.

In sum, realistic efforts to reduce recidivism and prevent criminal behavior with evidence-based programs must include an ongoing evaluation component to guide implementation, ensure fidelity and maximize the program's potential.

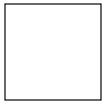
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⁵ Backer, T. (2002). Page 41.



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- ⁸ Mihalic et al. (2004). Page 5.
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- ¹⁰ Mihalic et al. (2004). Page 8.



Section 8: Summary

This report was developed to serve as a resource for the Colorado Criminal and Juvenile Justice Commission and other professionals. Its primary purpose is to provide Commission members with practical and trustworthy information about what works to reduce recidivism or prevent the onset of criminal behavior. To identify effective programs, a comprehensive review of the criminology literature was conducted with a specific emphasis on systematic reviews and meta-analyses that synthesized the evaluation results from many studies and programs. This review found that the following recidivism reduction and risk-focused prevention programs work:

What Works in Reducing Recidivism

- Education and vocational training
- Substance abuse treatment
- Drug courts
- Certain types of sex offender treatment, particularly cognitive-behavioral approaches and modified therapeutic communities
- Programs for offenders with mental illness, including treatment, diversion, and modified therapeutic communities for offenders with co-occurring disorders
- Cognitive-behavioral programs
- Certain types of juvenile rehabilitation programs, particularly multi-faceted, family-based programs such as Functional Family Therapy, Multidimensional treatment Foster Care and Multi-Systemic Therapy

What Works in Preventing the Onset of Criminal Behaviors

- Nurse home visits during infancy
- Preschool intellectual enrichment programs, such as

the High Scope preschool curriculum and the Chicago Child-Parent Center program

- Parent management training
- Child social skills training
- Certain types of school-based programs, particularly those that focus on the school environment and those that focus on self-control and social competency
- After school and mentoring programs that promote positive youth development, such as the Boys and Girls Clubs of America and Big Brothers Big Sisters.

These programs have been rigorously evaluated and found to be effective. Most have been shown to be cost-beneficial. Based on the latest and most rigorous research available, these programs are viable, evidence-based options for reducing recidivism and preventing crime in Colorado.

It is important to keep in mind that this list of effective programs is by no means exhaustive. Other effective programs may be operating that have not yet been evaluated, and some interventions that others view as effective or promising may not be among those identified in this report. Therefore, policymakers and practitioners are encouraged to keep abreast of new evidence as it emerges and to become familiar with other sources of information on evidence-based programs, such as SAMHSA's National Registry of Evidence-based Programs and Practices (NREPP) and the U.S. Department of Justice, Office of Juvenile Justice and Delinquency Prevention's Model Programs Guide.

Based solely on the list of programs identified in this report, there is reason to believe that recidivism can be reduced and more young people can be prevented from ever committing crimes in the first place. There are effective programs to counteract risk factors at every stage of a child's development.¹ And there effective programs for addressing the wide range of criminogenic needs that are



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found among offenders already in contact with the criminal and juvenile justice systems.

Investing in these evidence-based programs is the key to reducing victimization and increasing public safety while simultaneously curbing correctional costs.

But as was stated in the introduction to this report, reducing recidivism and preventing crime are not easy tasks. Even the most effective programs will not work for everyone. And research clearly demonstrates that programs have to be funded adequately and implemented properly to achieve their intended effects. Other key issues that policymakers and practitioners need to be concerned with include:

- **Properly matching** evidence-based programs with the risk-factors and target populations they were designed to address.
- **Ongoing monitoring** of program implementation and delivery to identify problems and deviations from program plans.
- A commitment to using **evaluation feedback** to guide program development and operations, resolve problems and make mid-course program corrections.
- Community-based **after-care and follow-up** services for programs delivered to incarcerated offenders.²
- **Ensuring that public policies promote rather than impede the successful reentry of prisoners** to society. Given the importance of stable employment and marriage to the desistance process, public policies that block employment, housing and other opportunities for ex-offenders are likely to perpetuate recidivism and high rates of reentry failure.

A fundamental premise of the evidence-based movement is that programs and policies are more likely to produce results when they are based on trustworthy scientific evidence. Rigorous scientific studies have a unique capacity to reduce bias, discover effects, and reliably identify what works. Years of study and practice in many fields have certainly borne this out. That said, there is a growing recognition that effective practice needs more than just scientific knowledge to guide it.

Tom Schwandt (2005), one of the nation's leading scholars on evaluation and practice, has pointed out that practice is a "complex affair" that is "local, contingent and contextual."³ Scientific knowledge is certainly important, but effective practice also requires judgment and the ability "to size up the situation" and know how scientific knowledge can best be applied. Practice is more than merely a "site or

location for the delivery of scientifically valid solutions."⁴ Practitioner experience and expertise are important components of sound program delivery, and a commitment to evidence-based programming should never result in the discounting of practitioner knowledge.⁵

A commitment to evidence-based programming should not prevent innovation either. Many of the programs identified in this report began as new, untested ideas. Policy makers and practitioners should have the latitude to develop and try new approaches, provided they are thoughtfully conceived, theoretically sound and subject to objective evaluation.

The negative consequences that can emerge from a poorly conceived program have been illustrated in recent reviews of the popular Scared Straight program. Scared Straight programs involve organized visits to prison facilities by juvenile delinquents or children at risk for becoming delinquent to deter participants from future offending by providing first-hand observations of prison life.⁶ These programs have been popular in several states and a recent Illinois law mandates the Chicago Public Schools to identify children at-risk for future criminal behavior and take them on tours of adult prison facilities.⁷ Petrosino (2003) and his colleagues conducted a meta-analysis of seven rigorous studies of Scared Straight or similar programs and found that not only do they fail to deter crime, they actually lead to more offending behavior.⁸ This underscores the need to evaluate every new program to ensure that harm or other unintended consequences are prevented.

In closing, one of the key lessons learned from both research and practice is that crime is a complex problem with many underlying causes. There are no simple solutions and no quick fixes. Reducing victimization and protecting the public requires a multi-disciplinary intervention and prevention effort involving a variety of institutions. Collaboration and cooperation are the keys to success. Strategies that span different agencies, different components of the justice system, and even different disciplines are likely to be the most successful.⁹

Reducing victimization and protecting the public requires a multi-disciplinary intervention and prevention effort involving a variety of institutions. Collaboration and cooperation are the keys to success.

- ¹ Greenwood, P. (2006). *Changing lives: delinquency prevention as crime-control policy*. University of Chicago Press, Chicago, IL. Page 49. Also, Greenwood, P. (N.D). *Changing lives: Delinquency prevention as crime-control policy: Executive Summary*. Adolescent Development and Legal Policy Monograph Series of the John D. and Catherine T. MacArthur Foundation, Research Network on Adolescent Development and Juvenile Justice. Temple University, Philadelphia, PA. Page 2.
- ² As the National Research Council points out: In-prison programs have larger effects on recidivism when coupled with post-release community-based programs. National Research Council. (2008). *Parole, Desistance from Crime, and Community Integration*. Committee on Community Supervision and Desistance from Crime. Committee on Law and Justice, Division of Behavioral and Social Sciences and Education. The National Academies Press, Washington, DC. Page 76.
- ³ Schwandt, T.A. (2005). The Centrality of Practice to Evaluation. *The American Journal of Evaluation*, 26. Sage Publications, Thousand Oaks, CA. Page 98.
- ⁴ Ibid. Page 97.
- ⁵ Some advocates of the evidence-based movement contrast scientific evidence with all other forms of knowledge. See for example Eddy (2005) and Kihlstrom (2005). Critics of this position, however, point out that definitions of effective outcomes are not always universally shared, and that some types of interventions are more amenable to research than others. See for example Reed (2005) and Messer (2005). Reed (2005) and Schwandt (2005) suggest that the dichotomy between science and everything else discounts important knowledge derived from practical experience. In 2001, the Institute of Medicine suggested a definition of evidence-based practice that breaks the false dichotomy between science and everything else and that reflects a sense of value for multiple evidence streams. According to the IOM, evidence-based practice is best defined as the integration of best research evidence with clinical expertise and patient values. While rigorous and relevant scientific research should receive the greatest weight, practitioner expertise and client values also need to be considered (SAMHSA, 2007:2).
- ⁶ Petrosino, A., Turpin-Petrosino, C., and Buehler, J. (2003). Scared Straight and other juvenile awareness programs for preventing juvenile delinquency (Updated C2 Review). In *The Campbell Collaboration Reviews of Intervention and Policy Evaluations (C2-RIPE)*. Campbell Collaboration, Philadelphia, PA. Petrosino and his colleagues concluded that government officials permitting this program need to adopt rigorous evaluation to ensure that they are not causing more harm to the very citizens they pledge to protect.
- ⁷ Ibid.
- ⁸ Ibid. Petrosino and his colleagues concluded that government officials permitting this program need to adopt rigorous evaluation to ensure that they are not causing more harm to the very citizens they pledge to protect.
- ⁹ Przybylski, R. (1995). Evaluation as important tool in criminal justice planning. *The Compiler*. Illinois Criminal Justice Information Authority, Chicago, IL. Page 6.



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