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COLORADO EVALUATION
AND ACTION LAB

Reducing Recidivism for Justice-Involved Individuals with Traumatic Brain Injury

Report Highlights

Colorado probationers with a traumatic brain injury (TBI) have higher rates of prior felony conviction, lower rates of successful probation completion, and are significantly more likely to re-offend than their peers. Female probationers with TBI, who tend to have a history of multiple TBIs from violent circumstances, appear especially vulnerable to poor outcomes. Risk assessments conducted on probationers with TBI show they are more likely to be high risk, requiring intensive supervision rather than regular probation. Although this study focused on probationers, it is reasonable to expect that inmates and parolees experience similar or even higher rates of TBI and the associated behavioral consequences. Four strategies are presented to support those in the criminal justice system with TBI in successfully completing incarceration and/or supervision, re-entering the community, and avoiding re-offense.

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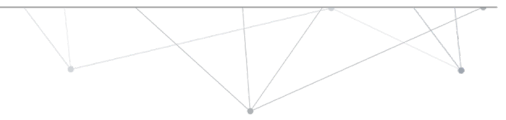
Abstract

Reducing Colorado's high rate of recidivism (50%) and technical violations is critical to relieving the state's overburdened corrections systems. This requires a better understanding of the populations most at risk for supervision failure and re-offense, including the almost half of probationers with traumatic brain injury (TBI). Colorado probationers with TBI have higher rates of prior felony conviction, lower rates of successful probation completion, and are significantly more likely to re-offend than their peers. Female probationers with TBI, who tend to have a history of multiple TBIs from violent circumstances, appear especially vulnerable to poor outcomes. Risk assessments conducted on probationers with TBI show they are more likely to be high risk, requiring intensive supervision rather than regular probation. Although this study focuses on probationers, it is reasonable to expect that inmates and parolees experience similar or even higher rates of TBI and the associated behavioral consequences. Thus, the findings here suggest that four key steps can be taken to support individuals with TBI in the criminal justice system in successfully completing incarceration and/or supervision, re-entering the community, and avoiding re-offense. These include training criminal justice staff about the prevalence and consequences of TBI, ensuring the criminal justice population is screened for TBI and that those identified are also screened for impairment, tailoring the approach to management of individuals with TBI and providing specific strategies to mitigate the effects of the identified impairment, and educating individuals with TBI so they can better understand how their TBI affects them and learn how to compensate for their deficits.



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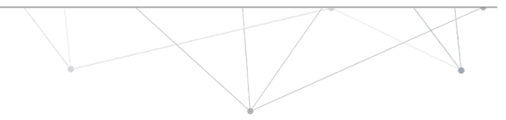
This report does not reflect the priorities of the Colorado Department of Human Services or the State Court Administrator's Office for allocating funding or other resources. Any requests for funding or statutory changes will be developed in collaboration with the governor's office and communicated to the legislature through the regular budget and legislative processes.

Data Sources

Data were gathered from probationers in six problem-solving courts and probation programs along the Front Range region of Colorado. Judicial outcomes and comparison data were retrieved from the Colorado Division of Probation Services database.

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Introduction

The Centers for Disease Control (CDC) considers traumatic brain injury (TBI) to be a serious public health issue. Each year, approximately 1.5 million Americans sustain a TBI and an estimated 5.3 million Americans are living with the effects of TBI.¹

TBI, defined as “an alteration in brain function, or other evidence of brain pathology, caused by an external force,”² is a leading cause of death and disability among children and young adults in the US.³ TBI can affect a person’s capacity for self-regulation, planning, organizing, judgment, reasoning, and problem-solving. Additionally, there are a host of emotional and behavioral changes after injury, including increased agitation, depression, and irritability.⁴ These risky behaviors then are related to a greater risk for involvement in the criminal justice system. In fact, the consequences of TBI are often “linked to violence, infractions in prison, poorer treatment gains, and reconviction” as well as “ongoing mental health and drug and alcohol problems.”⁵

Nationally, well over four million people are currently in the criminal justice system (incarcerated in jails and prisons or under supervision through probation and parole), and 95% of these individuals will eventually be released. It is estimated that 41% to 82% of individuals in this population have a history of TBI and are therefore at greater risk for recidivism and other poor community outcomes.

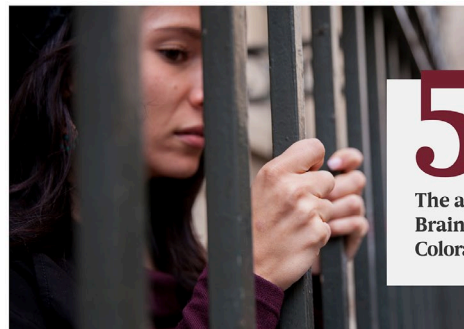
The consequences of TBI are often “linked to violence, infractions in prison, poorer treatment gains, and reconviction.”

The recidivism rate in Colorado is among the highest in the nation at 50%. Addressing TBI is critical to relieving the state’s overburdened corrections systems. This requires a better understanding of the populations most at risk for supervision failure and re-offense.

Study Description and Findings

This study explored the prevalence of reported TBI history in the Colorado criminal justice system and the consistent risk factors in the justice-involved individuals’ psychosocial histories. The study also examined differences in criminal history and probation outcomes between probationers with a reported history of TBI who participated in the Colorado TBI Model (described [in this section](#)) and an age- and site-matched sample of probationers that were not identified as having a TBI.

The study revealed that while the average prevalence of TBI history among adults in Colorado jails and problem-solving courts was 54%, it ranged from 27% to 97% depending on the setting.⁶ The prevalence rates are similar across rural, suburban, and urban settings. The rates tend to be higher in jail settings vs. probation; however, they were very high in the female and specialty probation settings such as mental health courts.



54%

The average prevalence of Traumatic Brain Injury history among adults in Colorado jails and problem-solving courts.



Probationers with TBI had a significantly greater frequency of prior felony convictions than probationers without TBI *and* had significantly more maximum risk level categorizations. Probationers also had lower rates of successful probation completion and were significantly more likely to reoffend than their peers. Female probationers with TBI, who tended to have a history of multiple TBIs from violent circumstances, appeared especially vulnerable to poor outcomes. Risk assessments conducted on probationers with TBI showed they were more likely to be high risk, requiring intensive supervision rather than regular probation.

Implications

Although this study focused on probationers, it is reasonable to expect that inmates and parolees experience similar or even higher rates of TBI and the associated behavioral consequences. Thus, the findings here suggest that four key steps can be taken to support individuals with TBI in the criminal justice system in successfully completing incarceration and/or supervision, re-entering the community, and avoiding re-offense.

Ways to Support Individuals with Traumatic Brain Injury in the Criminal Justice System

› **TRAIN** criminal justice staff about TBI and its effects

› **EDUCATE** identified individuals about TBI to strengthen self-care



› **SCREEN** all for TBI history, then those with TBI for impairments

› **TAILOR** supervision approaches to boost effectiveness.

These approaches are reflected in the Colorado TBI Model, which was designed to minimize demands on criminal justice staff with long-term sustainability and scalability in mind.



The Colorado TBI Model

Identifying TBI is the first step toward providing support, but there is a need to take this further to answer the “now what?” question which many criminal justice settings are struggling to answer. The Colorado brain injury program MINDSOURCE – Brain Injury Network (MINDSOURCE) has sought to answer this question through the development and implementation of a best practice screening, support, and referral protocol. The Colorado TBI Model has been tested in the probation environment and is applicable throughout the justice system.

Train criminal justice staff about the prevalence and consequences of TBI

Criminal justice staff throughout the system should be trained on the basics of TBI, brain injury-related supports and accommodations, screening and identification, and community resources. The Colorado TBI Model includes a [curriculum](#) for this purpose and a web-based tool for criminal justice and mental health personnel. The toolkit provides an overview of brain injury, screening, assessment, and support strategies.

Ensure individuals throughout the criminal justice system are screened for TBI and that those identified are also screened for impairment

Inmates, probationers, and parolees should be screened for a lifetime history of TBI using a validated self-reporting instrument like the modified version of the Ohio State University Traumatic Brain Injury Identification Method (OSU TBI-ID). TBI screening tools like the OSU TBI-ID were developed to meet the need for a retrospective, systematic method to identify reported TBI in populations at risk for TBI who are unable to complete a full neuropsychological examination or medical record review. Individuals who have a reported history of TBI should also participate in a cognitive screening battery to identify strengths and weakness so that recommendations can be tailored to their unique needs. The Colorado TBI Model designed a [virtual training](#) on cognitive screening batteries for behavioral health professionals.

Marchell Taylor, Sr. participated in the Colorado TBI Model in 2012 as he was entering the Department of Corrections for a robbery conviction. The evaluation highlighted his brain injury history, his cognitive weaknesses and his strengths, and changed his life. He has since been released and remained out of jail, helped start a returning-citizen-owned small business advertising agency, and launched the Rebuild Your Mind Challenge to battle the stigma of brain injury. You can see his story [on ABC](#).



Trauma, Tragedy, and Triumph

Rebuild Your Mind Assistant Clinical Director, Dr. Ezzat Moghazy, Denver District Attorney Beth McCann, Markell Taylor (2020)



Where there is a shortage of behavioral health professionals, criminal justice officers can instead use the self-reporting [Symptoms Questionnaire](#) to identify any areas where an individual may be experiencing difficulties in daily functioning. If the individual screens positive in any of the impairment areas (attention, delayed processing, emotional, inflexibility, inhibition, language, memory, organization, physical, and sleep), the Symptoms Questionnaire website will email the officer a guidance booklet and tip sheets for the individual. The officer and the inmate, probationer, or parolee should work together to implement the strategies and accommodations recommended in these materials.

Tailor the approach to management of individuals with TBI and provide specific strategies to mitigate the effects of the identified impairment

The Colorado TBI Model provides the relevant institution (e.g., jail, court, parole office) with a two-page report outlining the results of the cognitive screening with special attention to the individual's cognitive strengths and weaknesses. This report includes specific recommendations for strategies or simple modifications for custody and/or therapy. Approaches to tailoring supervision can take many forms and should be tailored to the specific impairments of the individual. However, there are several high-level strategies that are generally appropriate for supporting those with TBI. The accommodation of cognitive and behavioral health problems can include basic changes to standard supervision meetings (i.e., repetition of key points, scaffolding skill-building with lists and practice, ensuring probationers keep lists and calendars with electronic reminders, and scheduling briefer and more frequent appointments) among other things.





Provide training for individuals with TBI so they can better understand how their TBI affects them and learn how to compensate for their deficits

In the Colorado TBI Model, individuals with a history of TBI are provided a summary report of the assessment during a feedback meeting; this report emphasizes self-advocacy. Inmates and probationers with TBI are also referred to a curriculum designed by the Colorado TBI Model, the Achieving Healing through Education, Accountability, and Determination program (A.H.E.A.D.).⁷ The A.H.E.A.D. program is a seven-module group curriculum designed to help inmates and probationers to understand TBI, its effects, and the best strategies for addressing related deficits. In the Colorado TBI Model, the A.H.E.A.D. group is facilitated by criminal justice staff or by mental health professionals depending on the setting.⁸ MINDSOURCE has developed a facilitator guide for this group that can be found [here](#).

Conclusion

Aligning supervision strategies with the unique needs of individuals with TBI in the criminal justice system sets the stage for criminal justice staff and treatment providers to work collaboratively, increasing the likelihood of successful community re-entry and long-term behavior change. Simply screening for lifetime history of TBI can change the perspective of criminal justice staff from a default assumption that the individual is trying to get away with something to an understanding that there may be a skill deficit that is making compliance more difficult. When viewed from this lens, criminal justice staff are more likely to think about teaching a skill versus punishing the individual.

Identifying related cognitive and behavioral deficits provides both the criminal justice staff and the individual with TBI with a road map of strategies designed to help them work together to adjust/accommodate and compensate for the deficits to improve outcomes. The Colorado TBI Model does not excuse behavior; rather, it builds in accountability through skill development. Similarly, training curricula such as A.H.E.A.D. help individuals with TBI understand that their brain is injured and can reinforce the individual's belief that they can compensate for their injuries, self-advocate, and take control so as not to continue the cycle that resulted in entry into the criminal justice system.



Endnotes

- ¹ U.S. Department of Health and Human Services, Centers for Disease Control and Prevention. (1999). *Traumatic brain injury in the United States: A report to Congress*. Retrieved from https://www.cdc.gov/traumaticbraininjury/pdf/TBI_in_the_US.pdf
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- ⁴ León-Carrión, J., & Ramos, F. J. (2003). Blows to the head during development can predispose to violent criminal behaviour: Rehabilitation of consequences of head injury is a measure for crime prevention. *Brain Injury*, 17(3), 207-216. doi:10.1080/0269905021000010249
- ⁵ Williams, W. H., Chitsabesan, P., Fazel, S., Mcmillan, T., Hughes, N., Parsonage, M., & Tonks, J. (2018). Traumatic brain injury: A potential cause of violent crime? *The Lancet Psychiatry*, 5(10), 836-844. doi:10.1016/s2215-0366(18)30062-2
- ⁶ Sites include a variety of probation programs, including problem-solving courts, female offender units, and sex offender units.
- ⁷ Colorado Department of Human Services, MINDSOURCE Brain Injury Network. (2019). A.H.E.A.D. Retrieved from <https://mindsourc colorado.org/ahead/>.
- ⁸ Colorado Department of Human Services, MINDSOURCE Brain Injury Network. (2018). *A psycho-educational curriculum for traumatic brain injury: Facilitator's guide*. Retrieved from <https://mindsourc colorado.org/wp-content/uploads/2019/05/19-MINDSOURCE-A.H.E.A.D.-LR.pdf>