CRIMINAL AND JUVENILE JUSTICE BEST PRACTICE GUIDE: INFORMATION AND TOOLS FOR STATE BRAIN INJURY PROGRAMS

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TBI SPP
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Table of Contents

Introduction to this guide

The U.S. Department of Health and Human Services' Administration for Community Living's (ACL) Traumatic Brain Injury State Partnership Program awarded grants to States in 2018 in two categories: Mentors and Partners. These grantees were then assigned to workgroups established in accordance with topics relating to states' goals. The Mentor grantees, which have expertise in the topic, are to work with Partner states to help develop, implement and/or expand activities relating to the topic. Colorado, Indiana, and Pennsylvania were awarded Mentor Grants and lead the Workgroup on Criminal and Juvenile Justice, working with Alaska and Vermont, which are Partner Grantees. In addition, the workgroup opened an invitation to any state, both grantee and non-grantees, interested in this topic. Additional states in this work group include Alabama, Arizona, Iowa, Nebraska, and Washington.

Product development is one of the requirements by ACL for the workgroups. As a result, the Criminal and Juvenile Justice workgroup determined state brain injury programs would benefit from a best practice guide that incorporates tools and practical strategies for state agencies to create an infrastructure to support justice-involved individuals with brain injury and improve outcomes for that population. This guide seeks to accomplish that aim.

Note: The term state brain injury program is referenced throughout this manual. This term refers to the state agency designated as the lead state agency on brain injury via the state's governor or the agency that the lead agency designates to implement this work. State brain injury agencies are the target audience of this guide.

The guide will provide the following:

- ✓ Overview of criminal and juvenile justice systems and strategies for identifying target settings
- ✓ Overview of how brain injury is a unique risk factor for criminal justice involvement
- ✓ Components of best practice brain injury screening, support, and referral protocols for use in criminal and juvenile justice settings
- ✓ Strategies for identifying strategic partnerships and developing statewide infrastructure
- ✓ Considerations for data collection and evaluating outcomes
- ✓ Sustainability and funding strategies

This guide is intended to not only provide information but to be a practical tool for states who are considering working with justice-involved individuals with brain injury. This guide includes the following tools:

- ✓ Sample training materials for criminal justice personnel
- ✓ Sample psychoeducational tools for justice involved individuals with brain injury
- ✓ Evidence-based screening tools
- ✓ Sample memorandums of understanding between state brain injury programs and criminal justice agencies
- ✓ Sample consent/release of information forms

Overview of the Criminal and Juvenile Justice System

The criminal and juvenile justice systems are complicated and vary from state to state and district to district, however there are key components that are consistent across states. It is important for state brain injury programs to have a basic understanding of what these components are so they can determine which points of access within the juvenile and adult criminal justice system to target for implementation of a brain injury screening, support, and referral protocol. There are a few factors to consider when determining at what point along the criminal justice continuum to implement training and/or a screening protocol. The Substance Abuse Mental Health Services Administration's Sequential Intercept Model (SIM) provides states with a framework for identifying points along the system where a training and a screening protocol can be administered. The SIM will be described later in this manual.

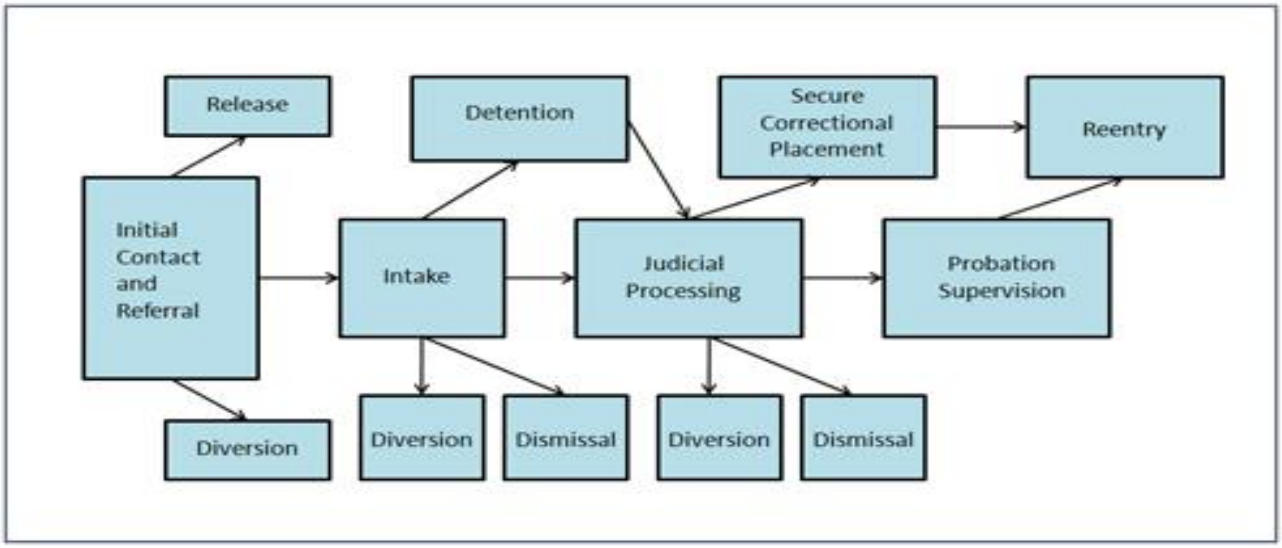
The descriptions below are a basic overview of the components that broadly comprise both the juvenile and criminal justice system.

Juvenile Justice System

Youth under the age of 18 who are accused of committing a crime are typically processed through a juvenile justice system. While similar to the adult criminal justice system in terms of the process (e.g. arrest, detainment, petitions, hearings, adjudications, dispositions, placement, probation, and re-entry), the juvenile justice process operates under the premise that youth are fundamentally different from adults, both in terms of level of responsibility and potential for rehabilitation. The primary goals of the juvenile justice system, in addition to maintaining public safety, are skill development, habilitation, rehabilitation, addressing treatment needs, and successful reintegration of youth into the community (retrieved on 4/12/20, https://youth.gov/youth-topics/juvenile-justice).

There are a variety of points in the juvenile justice process where youth with history of brain injury could be identified and connected to appropriate resources. The following figure outlines the process by which youth move through the juvenile justice system. Each component presents an opportunity for intervention. A framework is provided later in this guide to help states identify the points of access where various elements of the protocol could be implemented.

Juvenile Justice System Intervention Points (www.youth.gov)



The following are descriptions of each point of access within the juvenile justice system. These descriptions were obtained from www.youth.gov

Initial contact and referral: When a youth is suspected of committing an offense, the police are often the first to intervene. When responding to a call, law enforcement officers typically have discretion about how best to respond. Common responses include:

- informal adjustment (occurs when the crime is minor and basically means they are not going to arrest the youth but rather request them to not commit further crimes), either on site or at the police station;
- diversion of youth from formal processing based on certain conditions; or
- filing of a formal complaint or charges

Intake: "Intake" generally refers to the process after a formal referral by law enforcement (or, in some cases, from a parent or family member), during which an assessment process determines whether a case should be dismissed, handled informally, or referred to juvenile court for formal intervention. While the general function of intake is consistent, its structure varies significantly across jurisdictions. Intake may be the responsibility of;

- probation officers,
- the juvenile court,
- the prosecutor's office,
- a state juvenile justice agency, or
- a centralized intake center.

The discretionary decisions made during intake represent a significant opportunity to identify and engage community-based alternatives to detention. By working with intake units to provide assessment services and diversion opportunities, communities and agencies can ensure that the needs of youth are identified early and that youth are diverted (when appropriate) before they and their families experience the negative effects of system contact.

Diversion: One process that can happen at any point in a youth's involvement with the juvenile justice system is diversion. Diversion is an attempt to channel youth offenders away from the juvenile justice system. The concept of diversion is based on;

- the theory that processing certain youth through the juvenile justice system may do more harm than good;
- the idea of reducing stigmatization for youth who have committed relatively minor acts might best be handled outside the formal system; and
- a method to address overburdened juvenile courts and overcrowded juvenile justice institutions, so that courts and institutions can focus on more serious offenders.

Judicial processing: Judicial processing includes adjudication and disposition. *Adjudication* refers to the process of conducting a hearing, considering evidence, and making a delinquency determination. If a youth is found delinquent during the adjudicatory process, a *disposition* plan is developed. The disposition plan is like sentencing within the adult system. This plan details the consequences of the youth's offense (e.g., probation, placement in a juvenile correctional facility, restitution). Development of the plan is based on a detailed history of the youth and assessment of available support systems and programs. It can include psychological evaluations and diagnostic testing.

There are many opportunities within judicial processing for communities and agencies to work with the courts. These entities can provide diagnostic and evaluation services, collaborate with the justice system to establish diversion options for youth, and establish community-based programs and services that can be incorporated into a dispositional plan.

Note: funding for diagnostic and evaluation services varies across states. Some states have dedicated funding for this at the point of judicial processing. Other states may have funding for this at earlier points such as intake.

Secure correctional placement: Placement in a secure juvenile correctional facility, which can be public or private, is the most restrictive disposition that a youth in the juvenile justice system can receive. Facilities are responsible for providing a range of comprehensive, individualized, and sustained services such as educational, recreational, medical, assessment, and counseling.

It is important to note that juvenile corrections (or services as it is called in some states) include mental health and educational component. If considering implementation at this site it is important to involve both entities as they tend to be siloed therefore, it cannot be assumed that they will automatically coordinate efforts.

Note: This section is not referring to residential placement. Youth are placed into juvenile justice residential settings for many legal reasons, but primarily as either a disposition after being adjudicated delinquent in juvenile court or while awaiting juvenile court decisions such as

arraignment, adjudication, disposition, or placement (Office of Juvenile Justice and Delinquency Prevention)

Probation supervision: Probation supervision is the most common disposition within the juvenile justice system. Probation supervision is frequently accompanied by other court-imposed conditions, such as community service, restitution, or participation in community treatment services.

Re-entry: Re-entry is the final point in the juvenile justice processing continuum, and incorporates programs and services that assist youth to transition from juvenile justice placement back into the community. An effective re-entry program involves collaboration between (in addition to the juvenile and the family/guardian) the juvenile justice facility staff, probation/parole officers, and case managers with other child-serving systems and community partners, agencies, and family/guardian. This process begins well in advance of a youth's release and ensures that the youth is linked with effective community-based services, which can be critical to his or her long-term success.

Juveniles tried and sentenced to adult systems: According to an article by Barry C. Feld published in *Crime and Justice*, within the past decade, nearly every state has amended its juvenile code in response to perceived increases in serious, persistent, and violent youth crime. These changes diminish the jurisdiction of juvenile courts as judicial decisions and statutory changes transfer more youths from juvenile courts to criminal courts so that young offenders can be sentenced as adults. This movement is not without debate. There are some articles that suggest that just being a youth should be a mitigating factor as the brain, specifically related to executive function, is not fully developed. There could be an argument that screening these youth for brain injury is of importance given the compounding affect brain injury has on the developing brain.

Criminal Justice System (Adults)

As with the juvenile justice system, the adult criminal justice system can vary from state to state. That said, there are three core components to the adult criminal justice system: law enforcement, courts, and corrections.

Law Enforcement:
Law enforcement serves the public by promoting safety and order. The three main levels of law enforcement include federal, state, and local (e.g., county and municipal) policing. Each level tends to work independently within its own jurisdiction. Most states operate law enforcement initiatives through agencies and departments that extend from a few central government entities. Generally, a state's department of public safety includes the services and duties of state police and highway patrol.

Courts:
The United States criminal justice system consists of courts at the federal and state levels. Though each level follows similar procedures within the criminal justice process, federal and state courts remain independent of one another and differ in several key areas; these are mainly defined by their jurisdiction and the types of cases they hear. State courts receive a broad jurisdiction that allows them to hear cases regarding family disputes, broken contracts, traffic violations, and criminal activities, such as assaults or robberies.

Corrections:
While law enforcement and the courts work to identify and intercept individuals involved in criminal activity, Correctional system serves a variety of functions including punishment and rehabilitation. The corrections systems utilize incarceration, community service, parole, and probation to punish and/or rehabilitate justice involved individuals. Corrections is a broad term which includes prisons, community corrections placements (Halfway Houses), and Parole.

There are a variety of points within each of these components where brain injury screening, support, and referral protocol could be implemented. As indicated previously, the process for how adults move through the criminal justice system is like that of youth described above. Each of these access points offer an opportunity for implementing a brain injury screening, support, and referral model.
These components include:

- ✓ Entry into the system (law enforcement)
- ✓ Prosecution and pretrial services
- ✓ Adjudication
- ✓ Sentencing and sanctioning
- ✓ Corrections

The following link presents a diagram for how individuals move through the adult criminal justice system: https://www.bjs.gov/content/justsys.cfm.

Criminal and Juvenile Justice Framework

It is important to understand the culture of the setting and the frameworks they work within. The predominant framework for working within the criminal justice system is the risk-need-responsivity model.

Risk-Need-Responsivity Model, Criminal justice framework:

The Risk-Need-Responsivity (RNR) model was formalized in 1990 by Andrews, Bonta & Hoge. It has since been revised and updated to be contextualized within a general personality and cognitive social learning theory of criminal conduct.

The core principles of the RNR model are as follows:

- ***Risk principle*:** Match the level of service to the offender's risk to re-offend.
- ***Need principle*:** Assess criminogenic needs (characteristics, traits, problems, or issues of an individual that directly relate to the individual's likelihood to re-offend and commit another crime) and target them in treatment.
- ***Responsivity principle*:** Maximize the offender's ability to learn from a rehabilitative intervention by providing cognitive behavioral treatment and tailoring the intervention to the learning style, motivation, abilities, and strengths of the offender.

Risk in this context refers to the risk of general recidivism, technical violations, and/or failure on community supervision. The developers of the RNR principles identified what they deem the "central eight" risk and needs factors. These risks and needs factors include the "big four," which they believe to be the "major predictor variables and the major causal variable in the analysis of criminal behavior in individuals." The remaining four risk and needs factors are referred to as the "moderate four." The "central eight" risk and needs factors are as follows:

Note: the term "antisocial" in the context of the Risk, Need, and Responsivity model is not the same as the diagnosis of antisocial in the Diagnostic Statistical Manual. Antisocial in this model is referring to socialization behavior. The criminal justice system works to promote prosocial behavior and minimize antisocial behavior as described below.

Major Risk and Needs Factors: The "Central Eight"

Risk/Need Factor	Indicator	Target for Intervention
	The Big Four	
History of Antisocial Behavior	This includes early involvement in any number of antisocial activities. Major indicators include being arrested at a young age, many prior offenses, and rule violations while on conditional release.	History cannot be changed, but targets for change include developing new noncriminal behavior in high-risk situation and building self-efficacy beliefs supportive of prosocial behavior
Antisocial Personality Pattern	People with this factor are impulsive, adventurous, pleasure-seeking, involved in generalized trouble, restlessly aggressive, and show a callous disregard for others.	Building skills to address weak self-control, anger management, and poor problem-solving.
Antisocial Cognition	People with this factor hold attitudes, beliefs, values, rationalizations, and personal identity that is favorable to crime. Specific indicators include identifying with criminals, negative attitudes	Reducing antisocial thinking and feelings through building and practicing less risky thoughts and feelings.

	towards the law and justice system, beliefs that crime will yield rewards, and rationalizations that justify criminal behavior (e.g. the "victim deserved it").	
Antisocial Associates	This factor includes both association with pro-criminal others and isolation from anticriminal others.	Reducing association with pro-criminal others an increasing association with anticriminal others
	The Moderate Four	
Family/Marital Circumstances	Poor-quality relationships between the child and the parent (in the case of juvenile offenders) or spouses (in the case of adult offenders) in combination with either neutral or pro-criminal expectations	Reducing conflict, building positive relationships, and enhancing monitoring and supervision.
School/Work	Low levels of performance and involvement and low levels of rewards and satisfaction.	Enhancing performance, involvement, rewards, and satisfaction.
Leisure/Recreation	Low levels of involvement in and satisfaction from noncriminal leisure pursuits.	Enhancing involvement in satisfaction from noncriminal leisure activities.
Substance Abuse	Problems with abusing alcohol and/or other drugs (excluding tobacco). Current problems with substance abuse indicate a higher risk than past substance abuse problems.	Reducing substance abuse, reducing the personal and interpersonal supports for substance-oriented behavior, and enhancing alternatives to substance abuse.

Source: Adapted from Table 2.5 in D.A. Andrews and James Bonta, *The Psychology of Criminal Conduct.* 5th ed. (New Providence, NJ: Anderson Publishing 2010).

RNR Model in the Context of Brain Injury:

The RNR model provides a nice framework for conceptualizing how brain injury fits into the principals of criminology. This is important for building the case for why criminal justice sites should be screening for brain injury (risk/need) and providing supports to accommodate the brain injury (responsivity) within the justice involved population. It is critical to recognize brain injury is common and crucial variable in terms of both risk and responsivity to treatment. It is important to understand and convey that it is not being suggested that criminal justice or mental health personnel to "treat" the brain injury, rather it is indicated that they compensate for the effects of brain injury in the context of what is already being done.

The overlay of brain injury can look as follows:

Overlay of Brain Injury within the RNR Model

Risk/Need Factor	Indicator	Target for Intervention
	The Big Four	
History of Antisocial Behavior	Children and teenagers who have been convicted of a crime are more likely to have had a pre-crime TBI and/or some other kind of physical abuse. Individuals with TBI experience increased utilization of services while incarcerated, lower treatment completion rates and higher disciplinary incidents, lower ability to maintain rule-abiding behavior during incarceration, more prior incarcerations and higher rates of recidivism (Piccolino & Solberg, 2014).	Screening for brain injury is an important step to building self-awareness.
Antisocial Personality Pattern	TBI is associated with higher impulsivity, aggressive behavior and negative emotion ratings (Farrer, Frost, & Hodges, 2013). Individuals with brain injury often have damage to their frontal lobe which causes executive dysfunction such as poor impulse control and emotional dysregulation. (Mesulam, M.M. (2000). Brain injury causes a lack of self -awareness and can lead to ego-centric thinking (general lack of regard for others) and reduced ability to	Screening for impairment allows for the identification of skill deficits resulting from the brain injury. Once identified, build compensatory strategies to address poor self-control, anger management, poor problem-solving and other skill deficits resulting from the brain injury. Strategies to enhance social/interpersonal awareness and skills/empathy training.

	observe, understand, respond to emotional expressions of others.	Adapt expectations of individual and family.
Antisocial Associates	Individuals with brain injury tend to be followers. Following brain injury, individuals often experience isolation and can become vulnerable to negative influences. Brain injury can cause cognitive impairments in generating alternative problem-solving strategies, and hence a dependence on previously learned patterns of behavior.	Implement a psychoeducational curriculum to increase self-awareness and teach pro-social skills.
	The Moderate Four	
Family/Marital Circumstances	Individuals with brain injury report loss of relationships, including friendships, is one of the most devastating effects of brain injury (www.brainline.org).	Individuals with brain injury can benefit from a cognitive behavioral approach to therapy to reduce conflict, build positive relationships and build pro-social relationships.
School/Work	Studies have shown up to 66% unstable employment or unemployment rate following brain injury (Kreutzer, Marwitz, Walker, Sander, Sherer, Bogner, Fraser, & Bushnik, 2003). After four years of high school, more than 50 percent of students with brain injury either dropped out or remained in school without graduating (Barrat, V. X., Berliner, B., Voight, A., Tran, L., Huang, C., Yu, A., & Chen-Gaddini, M. (2014).	Helping the individual understand their deficits and providing strategies for compensation will lead to enhanced performance, involvement, rewards, and satisfaction. Connecting to school and vocational supports.

Leisure/Recreation	A study of persons 3 to 5 years after complicated mild to severe TBI found 60% had difficulties performing leisure activities. (Dikmen SS, Machamer JE, Powell JM, Temkin NR. Outcome 3 to 5 years after moderate to severe traumatic brain injury. Arch Phys Med Rehabilitation 2003;84:1449–57)	Conduct leisure/recreation inventory to help individuals identify what activities they can be involved in following TBI.
Substance Abuse	Individuals with brain injury experience higher levels of alcohol and drug use preceding their current incarceration.	Reduce substance abuse, reduce the personal and interpersonal supports for substance-oriented behavior, and enhance alternatives to substance abuse. Note, substance abuse treatment must accommodate the neurocognitive deficits to ensure success.

Key Take Away Points:

As previously indicated, these systems are complex and can vary across states. These factors make it a challenge to be able to simply point state brain injury programs to where to implement a protocol to identify justice-involved individuals with brain injury and connect them to appropriate resources. Implementing the following steps will help increase your chances for successful implementation:

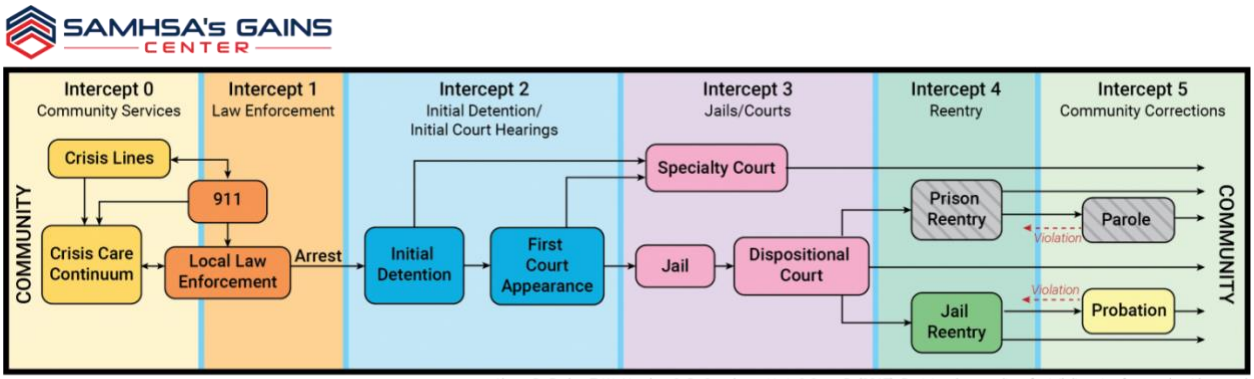
- ✓ Research: learn how your state's juvenile and criminal justice system is designed, who are the key players, what agencies are responsible for overseeing these activities?
- ✓ Infrastructures: find out if your state has special initiatives where brain injury could be embedded, e.g. specialty courts, mental health, and substance abuse initiatives.
- ✓ Accommodations: Avoid asking criminal justice systems to "treat" brain injury, rather provide simple accommodations so the individual can compensate for their brain injury deficits.
- ✓ Engage: take the time to meet with potential partners. Find out from them what their culture is and what frameworks they work under and what their priorities are, and ensure that the protocol you develop considers all of the above including methods to insert BI screening and intervention paradigms into the existing training programs, working within the culture/framework of the system. Develop meaningful relationships with key people in your state's youth and adult criminal justice systems.

Identifying Target Populations and Points of Intercept

As described previously, the criminal justice system is large and complicated. It can be a challenge identify the most practical points in the system(s) to embed brain injury training, screening, and support protocol. Additionally, the system is overtaxed with not enough resources to implement the needed interventions and supports. Because of this, it is important that State lead agency brain injury programs be able to effectively express that brain injury needs to be a priority consideration for the criminal and juvenile justice system. Recognizing that resources are limited, brain injury programs also need to be informed of how the system works and to select target sites where they can have the greatest effect and likelihood of success. The Substance Abuse Mental Health Services Administration (SAMHSA) Sequential Intercept Model (SIM) can act as a framework to help the state brain injury program select the point of access into the criminal justice system that might be the most advantageous to target. Additionally, described below are the unique vulnerabilities of brain injury within the context of criminal justice. These identified vulnerabilities can help state brain injury programs farther fine-tune a target population to prioritize when resources are limited.

Sequential Intercept Model:

The SIM was developed as a conceptual model to inform community-based responses to the involvement of people with mental and substance use disorders in the criminal justice system. SIM was developed for use in treatment to lessen the criminalization of people with mental illness and to emphasize a collaboration between the behavioral health and criminal justice systems. The model identifies six key points for "intercepting" individuals with behavioral health issues, linking them to appropriate services in efforts to prevent further advancement into the criminal justice system. (Retrieved on 4/23/20, https://smiadviser.org/knowledge_post/what-is-the-sequential-intercept-model). While developed for intervention for those with behavioral health concerns, it is a framework that can work well as a state determines the best place within the criminal justice system to intervene for individuals with brain injury.



Abreu, D., Parker, T. W., Noether, C. D., Steadman, H. J., & Case, B. (2017). Revising the paradigm for jail diversion for people with mental and substance use disorders: Intercept 0. *Behavioral Sciences & the Law, 35*(5-6), 380-395. https://doi.org/10.1002/bsl.2300

Key Issues at Each Intercept

Intercept 0:

Mobile crisis outreach teams and co-responders: Behavioral health practitioners who can respond to people experiencing a mental or substance use crisis or co-respond to a police encounter. *Emergency department diversion:* Emergency departments (EDs) can provide triage with behavioral health providers, embedded mobile crisis staff, and/or peer specialist staff to provide support to people in crisis.

Police-behavioral health collaborations: Police officers can build partnerships with behavioral health agencies along with the community and learn how to interact with individuals experiencing a crisis.

There is an opportunity at this intercept to provide training on recognizing brain injury, de-escalation techniques, and brain injury resources.

Intercept 1:

Dispatcher training: Dispatchers can identify mental or substance use crisis situations and pass that information along so that Crisis Intervention Team officers can respond to the call.

Specialized police responses: Police officers can learn how to interact with individuals experiencing a crisis in ways that promote engagement in treatment and build partnerships between law enforcement and the community.

Intervening with frequent utilizers and providing follow-up after the crisis: Police officers, crisis services, and hospitals can reduce frequent utilizers of 911 and ED services through specialized responses.

There is an opportunity at this intercept to provide training on recognizing brain injury and brain injury resources. Screening for brain injury may be implemented when addressing "frequent utilizers".

Intercept 2:

Screening for mental and substance use disorders: Brief screens (this can include brain injury screens) can be administered universally by non-clinical staff at jail booking, police holding cells, court lock ups, and prior to the first court appearance.

Data-matching initiatives between the jail and community-based behavioral health providers.

Pretrial supervision and diversion services to reduce episodes of incarceration: Risk-based pre-trial services can reduce incarceration of defendants with low risk of criminal behavior or failure to appear in court.

Intercept 3:

Treatment courts for high-risk/high need individuals: Treatment courts or specialized dockets can be developed, examples of which include adult drug courts, mental health courts, and Veterans treatment courts. Many individuals with brain injury are already being supported through these courts. It is important to implement brain injury screening to determine this.

Jail-based programming and health care services: Jail health care providers are constitutionally required to provide behavioral health and medical services to detainees needing treatment, including providing access to medication-assisted treatment (MAT) for individuals with substance use disorders.
Veterans Justice Outreach (VJO) specialist from the Veterans Health Administration: VJO specialists operate in the community and often are found working in local courts and jails. According to the VA, VJO specialists are "responsible for direct outreach, assessment, and case management for justice-involved veterans in local courts and jails and liaison with local justice system partners."

Again, the co-occurrence between behavioral health and brain injury is extremely high. Therefore, interventions at this intercept should include screening for brain injury and adapting treatment accordingly.

Intercept 4:
Transition planning by the jail or in-reach providers: Transition planning improves re-entry outcomes by organizing services around an individual's needs in advance of release.
Medication and prescription access upon release from jail or prison: Inmates should be provided with a minimum of 30 days' medication at release and have prescriptions in hand upon release, including MAT medications prescribed for substance use disorders.
Warm hand-offs from corrections to providers increase engagement in services: Case managers that pick an individual up and transport them directly to services will increase positive outcomes.

Intercept 5:
Specialized community supervision caseloads of people with mental disorders: Specialized community caseloads has become an emerging best practice within probation and has demonstrated to improve outcomes for individuals with mental illness under community supervision.
MAT for substance use disorders: MAT approaches can reduce relapse episodes and overdoses among individuals returning from detention.
Access to recovery supports, benefits, housing, and competitive employment: Housing and employment are as important to justice-involved individuals as access to mental and substance use treatment services. Removing criminal justice-specific barriers to access is critical.

There is an opportunity at intercepts 4 & 5 to provide training on screening for brain injury and brain injury impairment as well as compensatory strategies, and brain injury resources.

According to the GAINS Center, the Sequential Intercept Model is most effective when used as a community strategic planning tool to assess available resources, determine gaps in services, and plan for community change. The suggestion is that it is best to engage a diverse team of stakeholders that cross over multiple systems, including mental health, substance use, law enforcement, pretrial services, courts, jails, community corrections, housing, health, social services, people with lived experiences, family members, and many others. The thought is that

when this is employed as a strategic planning tool, communities can use the Sequential Intercept Model to: develop a comprehensive picture of how people with mental and substance use disorders flow through the criminal justice system along the six intercept points and identify gaps, resources, and opportunities at each intercept. Once those gaps are identified, priorities for action can be developed to improve system and service-level responses. While the original intent of the SIM was to focus on behavioral health, it can easily be adapted to fit brain injury. Overlaying the unique vulnerabilities of justice involved individuals with brain injury and using the Sequential Intercept Model states can begin to narrow down who they are prioritizing and what point of intercept to target to implement a TBI screening, support, and referral protocol. More information on SIM can be found at this link: https://www.prainc.com/wp-content/uploads/2015/10/SIMBrochure.pdf

Note: early points of the intercept model (0-2) provide states opportunities for an educational and training approach to intervention, for example, integrating into the Crisis Intervention Teams training within states. Later intercepts (3-5) lend themselves more readily for implementation of a brain injury screening, support, and referral protocol which is the focus of this guide.

Once a state brain injury program identifies which point(s) of intercept to implement the protocol they can begin to prioritize specific populations within the point of intercept. This is important if resources are limited or if a program would like to first pilot this intervention. The following section outlines the unique vulnerabilities of brain injury which will help the state prioritize specific populations for screening.

Unique Vulnerabilities of Brain Injury within the Context of Criminal Justice

It is becoming more recognized that the prevalence of brain injury within the juvenile and criminal justice system is of significance. Understanding this and being able to articulate this to the juvenile and criminal justice system is paramount to get buy-in and ensure sustainability of these initiatives. The first barrier is that brain injury is often not on the radar of the criminal justice system, and/or its impact is largely misunderstood. Mental illness is much more understood and as a result, there are screening protocols and targeted interventions, programing, and funding for treatment within these systems. Ironically, the prevalence of mental illness within the juvenile and criminal justice system are like that of individuals with brain injury. A press release by the National Alliance of Mental Health indicated a study by the U.S. Department of Justice's Bureau of Justice Statistics (BJS) showed 64 percent of local jail inmates, 56 percent of state prisoners and 45 percent of federal prisoners have symptoms of serious mental illnesses (retrieved 4/17/20 (https://www.nami.org/Press-Media/Press-Releases/2006/Department-of-Justice-Study-Mental-Illness-of-Pris). The challenge for the brain injury community is to raise awareness of the significance of brain injury within the criminal and juvenile justice system state by state and on a national level. Additionally, it is important for the criminal justice system to understand that brain injury can be misdiagnosed as a behavioral health condition. Understanding the etiology underneath the mental health concern can play a significant role in treatment and support for the individual with brain injury.

The prevalence of brain injury in the general population is approximately 8.5%. At this level, the CDC considers TBI to be a public health crisis; however, research indicates that the prevalence rate in justice-involved populations is significantly higher. A meta-analysis found the prevalence of brain injury in the juvenile justice system to be an average of 44% (Dijkers & Seger, submitted). The incidence of TBI history in adult, incarcerated populations is reported to range from 41-51% (Farrer & Hedges; 2011) to 60.25% (Shiroma, Ferguson, & Pickelsimer, 2010) to as high as 82% (Schofield et al., 2006). Individuals with a TBI report a greater number of incarcerations than individuals without a TBI (Piccolino & Solberg, 2014).

Individuals with brain injury tend to struggle while incarcerated. Inmates with a TBI have a higher rate of disciplinary actions while incarcerated (Merbitz, Jain, Good, & Jain, 1995; Morrell, Merbitz, & Jain, 1998). This can be causally related to the sequelae of brain for example, reduced comprehension, recall, attention, ability to manage behavior, and poor impulse control to name a few. There is evidence that TBI increases the risk for recidivism after release from correctional settings (Ray & Richardson, 2017). Piccolino and Solberg (2014) also reported that offenders with a history of TBI have higher recidivism rates than inmates with no history of TBI, with rates ranging from 33% to 51%. Individuals with TBI also present with a greater risk of mental health problems and a higher likelihood of substance abuse. In one study of inmates, 84% of persons with a reported TBI had one or more psychiatric disorders, compared to 60% of inmates without TBI (Slaughter, et al., 2003). Ray, et al. (2014) reported that inmates with a history of TBI were twice as likely to have a psychiatric disorder than their peers without TBI. TBI has been linked to poor treatment engagement and increased risk of violence to self and others (Clasby, 2019; O'Sullivan et al., 2019; Williams et al., 2018). Williams et al. (2010) reported that people with TBI were much more likely to report substance misuse and they were 2.5 times more likely to have a drug abuse problem.

People with TBI also report more childhood trauma than their non-injured peers. In one study, 38% of people with TBI reported physical abuse by an adult and 28% reported sexual abuse by an adult vs. 29% and 24% (respectively) of people without a TBI history (Felde et al., 2006). In one longitudinal study, 61.6% of persons with TBI's sustained during childhood had three or more adverse early life events (Kennedy, et al., 2017). Exposure to childhood trauma is also associated with poor behavioral health outcomes including a greater risk for substance abuse and mental illness (Nöthling, et al., 2019; Schilling et al., 2007). Additionally, sustaining TBI during childhood and adolescence increases the risk of any criminality 6-8 fold, conduct disorder 5-7 fold, and concomitant criminality and conduct disorder 18.7 fold (Luukkainen, S., Riala, K., Laukkanen, M. et.al. (2012), Association of traumatic brain injury with criminality in adolescent psychiatric inpatients from Northern Finland, *Psychiatric Research, 200, 767-772).*

There has been little research on this to date, but it appears that women who are incarcerated experience extremely high prevalence rates of brain injury. Additionally, a high number of these women have experienced intimate partner violence. A study conducted by Wall, K., Gorgens, K, Dettmer, J., Davis, T., Gafford, J. (2018) found gender was significantly associated with multiple TBIs and multiple violence-related TBIs in a justice-involved sample. History of violence related TBI in women was associated with physical health problems and incarceration history (Wall, Kristi & Gorgens, Kim & Dettmer, Judy & Davis, Terri & Gafford, Jennifer. (2018). Violence-Related Traumatic Brain Injury in Justice-Involved Women. Criminal Justice and Behavior.

009385481877808. 10.1177/0093854818778082). Furthermore, 95% of female offenders screened positive for lifetime history of brain injury in a female probation sample in CO.

Research being conducted by Dr. Kim Gorgens at the University of Denver suggests that there are unique vulnerabilities for individuals with brain injury who are incarcerated. Her work suggests that, in addition to the vulnerabilities listed above, mental health, substance abuse disorders, psychiatric disorders, and gender, individuals with brain injury tend to fall into the higher risk category in terms of criminogenic behavior.

Dr. Gorgens' work, and the growing body of literature presented above, provides states with justification for implementing a screening, support, and referral protocol and a framework for prioritizing who to screen, if resources do not allow for universal screening within a given juvenile or criminal justice system.

Based on the literature and current research, the following individuals have been identified as having higher prevalence of brain injury:

Individuals to prioritize

- ✓ Incarcerated juveniles
- ✓ Individuals with co-occurring behavioral health conditions
- ✓ Female offenders
- ✓ Offenders with childhood trauma history
- ✓ Offenders with high criminogenic risks

Target Sites

- ✓ Juvenile corrections and behavioral health units within adult jails/prisons (intercept 3)
- ✓ Specialty Courts, e.g. veteran, mental health, and recovery courts (intercept 3)
- ✓ Re-entry programs (intercept 4)
- ✓ Parole & Probation (intercept 5)

Key Take Away Points:

- ✓ The criminal and juvenile justice systems are complex and vary from state to state
- ✓ There are clear justifications for why criminal and juvenile justice systems should be invested in supporting individuals with brain injury
- ✓ It is most effective to fit brain injury screening, support, and referral protocol into existing criminal and juvenile justice frameworks
- ✓ There is potential to leverage frameworks previously developed for other conditions, e.g. behavioral health
- ✓ The SIM and unique vulnerabilities of brain injury in the context of the criminal justice system can act as a guide for prioritizing where to implement a brain injury screening, support, and referral protocol.

Components of a brain injury screening, support, and referral protocol

Increasingly, justice service providers recognize the importance of better addressing brain injury within their systems. In 2018, the National Partnership for Juvenile Services adopted a National Position Statement on Brain Injury. This statement recognizes the need for juvenile justice service providers to recognize brain injury and respond appropriately. This position statement specifically acknowledges the need for screening and staff training across the juvenile justice system. Additionally, the National Council on State Legislators has issued a policy brief on this topic. Finally, there have been several states that have implemented brain injury screening, support, and referral models within the criminal justice system. Details of the position statement, policy brief, and of these models can be found in three documents:

1. National Position Statement on Brain Injury – National Partnership for Juvenile Services (NPJS), Identifying and Responding to Youth with Brain Injuries within the Juvenile Justice System (Adopted by NPJS Board of Directors ~ September 21, 2018). *http://npjs.org/wp-content/uploads/2018/10/NPJS-Brain-Injury-PS-FINAL.pdf*
2. Policy Brief – National Conference of State Legislators, Traumatic Brain Injuries Report (Anne Teigen & Kristine Goodwin, August 2019). *https://www.nashia.org/resources-list/ultvlaoicnk14l0k1f0prgqvhlt04f?rq=ncsl*
3. Manuscript - Opportunity Lost or Found? Reducing Crime and Recidivism in Youth with Traumatic Brain Injury (Mount Sinai Injury Control Research Center, Susan L. Vaughn, M.Ed. Margaret Brown, Ph.D. Wayne A. Gordon, Ph.D. March 2020). *https://www.nashia.org/resources-list/hgi3leoyfz1or263kdaxbgorg31ak5?rq=opportunity%20lost%20or%20found*
4. Report – Traumatic Brain injury and Juvenile Justice (Prepared by National Association of State Head Injury Administrators, Susan L. Vaughn, October 2016) https://www.nashia.org/resources-list?category=Criminal%20and%20Juvenile%20Justice
5. Report - Traumatic Brain Injury and Criminal Justice/Juvenile Justice Systems (Prepared by the National Association of State Head Injury Administrators, Maria Crowley, 2017) *https://www.nashia.org/resources-list/x6cp9ic89wa8qq16emqq9x0gtkogrf?rq=report*

While brain injury screening, support, and referral models vary slightly from state to state, there are key components that are widely accepted and included. These components include:

- ✓ Training and education for criminal justice personnel
- ✓ Screening for history of, and assessing for impairment from, brain injury
- ✓ Psychoeducation for justice involved individuals with brain injury
- ✓ Modifying programming/accommodating for impairment
- ✓ Referral to community-based service coordination/resource facilitation
- ✓ Data collection & outcomes evaluation

Screening for lifetime history of brain injury is important, but states need to move beyond just screening. Even if states cannot implement the full protocol outlined above, there is an ethical responsibility to, at minimum, follow screening by providing criminal justice personnel with

tools to support individuals with brain injury and justice involved individuals with education about how brain injury might affect their abilities. Each component is described in more detail below.

Training and education for criminal justice personnel

Training and education on brain injury within the criminal justice system can be a stand-alone intervention that could serve to support individuals with brain injury. As discussed previously, it would be difficult to implement a comprehensive screening within the first three (0-2) point of intercepts outlined in the Sequential Intercept Model. However, these are the points where a training and education program could be effective.

This manual is focused on the more comprehensive intervention of implementation of a screening, support, and referral protocol of which training is an integral component. Most criminal and juvenile justice personnel will have had little to no training on brain injury. This training will be essential for the protocol to be successful. Ideally, training should be conducted prior to the protocol being implemented at a site. It will be most effective if this training is embedded within existing training infrastructures such as new employee orientation, academy, or the site in-service training process.

Anyone working within the justice system should be trained on the basics of brain injury including; judges/magistrates, attorneys, line staff, officers and guards, mental health teams, medical staff, educational teams (in juvenile justice settings), specialized community supervision/re-entry staff, ADA coordinators, and probation/parole officers. That said, not everyone needs an in-depth training, for that reason, state bran injury programs should consider a tiered approach to training. The following are suggested levels of training. Each level builds on the last:

Level 1: (geared for all criminal and juvenile justice personnel)
Goal of the training – gain a basic understanding of brain injury, how it affects an individual, and learn basic strategies for supporting an individual with brain injury.

- ✓ Definition of brain injury
- ✓ Mechanisms of brain injury
- ✓ Prevalence of brain injury
- ✓ What brain injury looks like
- ✓ Behavior and brain injury (can't vs. won't)
- ✓ Simple compensatory strategies

Level 2: (geared for anyone who will be involved with the implementing the protocol)
Overview of each component of the protocol

- ✓ Overview and practice with the lifetime history screening tool being used
- ✓ Case studies and practice identifying compensatory strategies
- ✓ Introduction to psycho-educational curriculum (if applicable)
- ✓ Overview of community-based resources

- ✓ Overview of referral protocol to community provider (e.g. community-based brain injury service coordination)

Level 3: (geared for those states that want to implement a train-the-trainer approach)
To help ensure sustainability state brain injury programs might consider implementing a train-the-trainer approach. This involves teaching criminal justice personnel to conduct the training elements of level 1 and 2 and to provide case consultation for their probation officer peers.

As indicated previously, it is most effective to conduct training prior to the implementation of the protocol. That said, it is important to note that it is important to follow up with sites/personnel who are implementing the protocol and provide consultation as they implement the protocol. One-time training on the protocol is not enough. Staff benefit from ongoing education and consultation to identify and understand needs, and to trial and tailor accommodations to fit an individual's unique needs. Sites need guidance as they start implementation, and refresher trainings on the protocol are often required. Additionally, criminal justice settings tend to have high staff turnover rates, and new staff will require training.

Training Resources
These training resources can be found at the National Association of State Head Injury Administrators website:
https://www.nashia.org/resources-list?category=Criminal%20and%20Juvenile%20Justice

- AZ – Reimagining Juvenile Justice Initiative
- CO – CO Judicial Training 2.20.20
- IN – (6 Power Point Series, Neuropsychology of Criminal Behavior, Epidemiology of Bran Injury in Department of Corrections)
- PA – (Brain Injury in Juvenile Justice: Information and Implications for Professionals, Brain Injury in Justice-Involved Youth: A hidden disability, Why Isn't this Working: different approaches for individuals with cognitive impairment, Brain Injury populations poster)

In addition, the following link has webinar training that relates to criminal justice:
https://www.resourcefacilitationrtc.com/webcast-seminar-information

Psychoeducation for justice involved individuals with brain injury
Knowledge is power and can be life-changing for an individual who has a history of brain injury and/or their family members. This is especially true for those who may not have previously understood that they had a brain injury or how their brain injury is affecting their abilities. This new awareness is often transformational and offers individuals a new way of understanding their behavior as well as new resources for improving their success in the community.

Once a person screens positive for a lifetime history of brain injury and associated impairments, it is important to provide that individual with education and tools so that they can begin to change the trajectory of failure they are finding themselves in currently, experience positive

change, adjust self-concept with increased sense of self-efficacy. It is important to convey the message is that a history of brain injury does not mean they are "broken". The message is that there are compensatory strategies they can learn to address the deficits they are experiencing so that they can be successful and there are resources that can help. Psychoeducation can range from tip sheets shared with the clients to the implementation of a psychoeducation group or curriculum.

Tip sheets will be most effective if they are customized to the deficits that the individual is experiencing, e.g. short-term memory loss, problem solving, speed of processing. Psychoeducational groups should include the following:

- ✓ Overview of brain injury
- ✓ Overview of effects of brain injury
- ✓ Tools and strategies for compensating for effects of brain injury
- ✓ Opportunities to put strategies into practice

Psychoeducation key points:

- ✓ Message needs to be positive highlighting that individuals with brain injury can learn to compensate for deficits
- ✓ Written materials need to be written at no higher than a 5th grade level
- ✓ Materials should be available in Spanish in addition to English
- ✓ If implementing a group curriculum, it should be a curriculum that criminal justice staff can facilitate to ensure sustainability

Psychoeducation Resources/Materials

These training resources can be found at the National Association of State Head Injury Administrators website:
https://www.nashia.org/resources-list?category=Criminal%20and%20Juvenile%20Justice

- Brain Injury Alliance of Colorado - Criminal Justice and Brain Injury
- Brain Injury Alliance of Colorado - Incarceration and Brain Injury Pamphlets
- Indiana's Brain Injury Wallet Card

More resources can be found at the following links:

- MINDSOURCE developed the Achieving Healing through Education, Awareness, and Determination (AHEAD) psychoeducational group facilitator guide: https://mindsourcecolorado.org/ahead/
- PA Brain Injury Wallet Card: https://www.health.pa.gov/topics/Documents/Programs/Brain%20Injury%20Wallet%20Card.%20v%204.pdf.

Screening for history of, and screening/assessing for impairment from, brain injury

A report from the Commission on Safety and Abuse in America's Prisons recommends increased health screenings, evaluations, and treatment for inmates. In addition, TBI experts and some prison officials have suggested: routine screening of jail and prison inmates to identify a history

of TBI, screening inmates with TBI for possible alcohol and/or substance abuse and appropriate treatment for these co-occurring conditions, and additional evaluations to identify specific TBI-related problems and determine how they should be managed (retrieved on 4/24/20, https://www.cdc.gov/traumaticbraininjury/pdf/Prisoner_TBI_Prof-a.pdf).

The first critical step in this process is identifying those with history of brain injury. Understanding that a person has a history of brain injury, however, does not mean that the person has related neurocognitive impairment Therefore, a secondary screen or assessment for impairment is an important addition to the protocol.

It is important to note that in these protocols, screening for brain injury and impairment is not meant to be diagnostic.

Determining which screening and assessment tools to use can be challenging. Ideally, everyone in the criminal justice system would be screened for a history of brain injury using a validated screening tool. If an individual screens positive, he or she will then receive a neuropsychological screen/assessment to determine impairment. However, this would be resource intensive both in the terms of staff time and financial resources for assessment when there is a potential of 30-50% of the criminal justice population who would screen positive. Because of this, state brain injury programs will have a stronger likelihood of sustaining these efforts if they work with the sites to implement lifetime history screening and a secondary screening for impairment that is brief and cost effective.

MINDSOURCE – Brain Injury Network, within the Colorado Department of Human Services (Colorado's lead state brain injury program), developed a protocol process that can be a model for states to consider. This protocol can be modified pending each state's unique needs. This protocol includes the implementation of a screening tool to assess for lifetime history of brain injury. The protocol also implements a tool for screening for impairment. Finally, the model's automated portal generates customized compensatory strategies based on the identified impairments. If these strategies improve the outcomes (e.g. individual begins to successfully meet conditions of probation, jail, corrections etc.) of the individual, then there is no need for neuropsychological screening or assessment. If the individual continues to fail despite the implementation of strategies, referral to neuropsychological screen or assessment is warranted.

In Pennsylvania, similar protocols were developed an implemented in adult and juvenile settings. Both protocols included the implementation of a screening tool to assess for lifetime history of brain injury followed by a brief battery to assess for neurocognitive impairment. The final component of the protocol involved NeuroResource Facilitation for those who were identified as having history of brain injury and impairment. The screening tools used for adults and youth were different as were the batteries. All elements of these projects were initially implemented by the Brain Injury Association of PA team, then, when possible, were transitioned to personnel within each justice setting. Following demonstration of the efficacy of these approaches, the PA

team has focused on providing technical assistance to existing juvenile service providers so that they can embed similar protocols within their structures.

Screening tools for history of brain injury should be brief, low-cost and validated for the population. The following are screening tools that fit these criteria:

- ✓ Brain Check Survey – Colorado State University, appropriate for ages 5-21 *https://www.chhs.colostate.edu/ot/research/life-outcomes-after-brain-injury-research-program/*
- ✓ Brain Injury Screening Questionnaire (BISQ)*, appropriate for school age-adult
- ✓ Ohio State University – Identification Method (OSU TBI-ID), appropriate for ages 13 and above.
  https://wexnermedical.osu.edu/neurological-institute/departments-and-centers/research-centers/ohio-valley-center-for-brain-injury-prevention-and-rehabilitation/for-professionals/screening-for-tbi
  (Colorado modified this instrument with support and permission from the author for this population and can be found here:
  https://www.nashia.org/resources-list?category=Criminal%20and%20Juvenile%20Justice
- ✓ Traumatic Brain Injury Questionnaire (TBIQ), no specific age range provided however, the individual needs to be able to read at 4th grade reading level.

* *There are costs for this tool.*

Protocol Model Examples:
These training resources can be found at the National Association of State Head Injury Administrators website at nashia.org.

- Colorado's Criminal and Juvenile Justice Brain Injury Screening and Support Protocol
- Pennsylvania's Criminal Justice Brain Injury Protocol – Adults
- Pennsylvania's Juvenile Justice Brain Injury Protocol – Youth
- PA Juvenile Justice Initiative Summary
- PA Brain Injury Over-Representation and Resources document
- PA Technical Assistance in Juvenile Justice description

Once an individual screens positive for a history of brain injury it is important to follow up with a screening for impairment. Screening/assessing for impairment can range from self-report to neuropsychological screening. What is implemented is dependent on need and resources.

Self-report:
Self-report, while clearly the most cost and time effective, has shortcomings. Specifically, individuals with brain injury are not typically the best self-reporters. They can over or under-identify impairment. This can be because the brain injury has caused a lack of ability to self-assess. Additionally, criminal justice settings express concerns that individuals may under report symptoms for fear of appearing vulnerable or over-report because they perceive they will obtain privileges. That said, self-report can still offer insight as to where the individual is at in terms of

understanding their impairment and their readiness for change. In this way, self-report lends itself to a person-centered framework. Self-report is a good option, especially when resources are not available to implement a neuropsychological screening battery. Both self-report and neuropsychological screening are good steps prior to referral for a full neuropsychological evaluation.

The TBIQ noted above, offers a symptom checklist with an associated severity scale as part of the brain injury screening. Additionally, the Brain Check Survey, *https://www.chhs.colostate.edu/ot/research/life-outcomes-after-brain-injury-research-program/,* offers a symptom checklist along with screening for history of brain injury.

MINDSOURCE – Brain Injury Network has developed a self-report symptoms questionnaire which is implemented when a person screens positive for brain injury. This tool is completed by the individual and then the criminal justice personnel inputs the person's answers into an on-line portal. Once done, the criminal justice personnel receive a set of customized tip sheets with strategies which they can share with the justice involved individual. It is important to note that this tool was developed based on literature but has not yet been validated.

There are other self-report tools designed to gain an understanding of an individual's perception of impairment however, these tools have been used in a non-justice-involved population of individuals with brain injury. Therefore, the questions may not be as relevant for those who are incarcerated. These tools could be considered for those under community supervision such as probation. Two of these tools are the PROMIS SF_v2.0_Ability to Participate scale, and the Quality of Life after Brain Injury (QOLIBRI).

Self-Report of Impairment Tools:
These training resources can be found at the National Association of State Head Injury Administrators website:
https://www.nashia.org/resources-list?category=Criminal%20and%20Juvenile%20Justice

- CO – Adult & Juvenile Symptoms Questionnaire
- CO - Tip Sheets
- CO - Criminal Justice Guidebook
- CO – Mental Health Guidebook

Neuropsychological Screening:
According to a 2014 Working Group on Screening and Assessment (WGSA), a collaboration of the American Psychological Association's Board of Professional Affairs and the Committee for the Advancement of Professional Practice of the American Psychological Association (2014), screening tests: (a) can be used for the early identification of individuals at potentially high risk for a specific condition or disorder; (b) can indicate a need for further evaluation or preliminary intervention; (c) are generally brief and narrow in scope; (d) may be administered as part of a routine clinical visit; (e) may be used to monitor treatment progress, outcome, or change in

symptoms over time; (f) may be administered by clinicians, support staff with appropriate training, an electronic device (such as a computer), or self-administered; (g) can be used by support staff who follow an established protocol for scoring with a pre-established cut-off score and guidelines for individuals with positive scores; and (h) are neither definitively diagnostic nor a conclusive indication of a specific condition or disorder (Tresa M. Roebuck-Spencer, Tannahill Glen, Antonio E. Puente, Robert L. Denney, Ronald M. Ruff, Gayle Hostetter, Kevin J. Bianchini, Archives of Clinical Neuropsychology, Volume 32, Issue 4, June 2017, Pages 491–498, https://doi.org/10.1093/arclin/acx021, March 2017).

Neuropsychological screening is a good tool to use when criminal justice personnel need a more in-depth understanding of the cognitive impairments an individual is experiencing. Once these deficits are identified, targeted interventions can be applied. Additionally, appropriate screening can lead to eligibility of brain injury specific resources in some states. There are a variety of screening batteries that can be implemented. The qualifications required to implement neuropsychological screening varies depending on the battery/tools being administered. The Colorado Department of Education has developed a comprehensive matrix based on the building blocks of brain development. This matrix can be used as a guide to determine appropriate assessments for children/youth, *https://cokidswithbraininjury.com/educators-and-professionals/brain-injury-matrix-guide/.*

The University of Denver has developed an on-line course designed to train community-based mental health providers how to conduct neuropsychological screening. This course is offered through the University of Denver Center for Professional Development.

Neuropsychological Screening Tests for Mental Health Clinicians: An Intensive Short Course:

NASHIA collaborated with Dr. Kim Gorgens at the University of Denver to develop an on-demand; an on-line course designed to train community-based mental health providers how to conduct neuropsychological screening. This 3-hour, three-part course is designed for Masters-level professionals who are interested in learning about the use of neuropsychological screening batteries for clinical practice. This course is geared towards community providers, behavioral health workers, social workers, vocational rehabilitation counselors, community rehabilitation provider staff, addictions professionals, etc. To access information on this training please visit this link: Neuropsychological Screening Course.

This 3-hour, three-part course is designed for Masters-level professionals who are interested in learning about the use of neuropsychological screening batteries for clinical practice. This course is geared towards community providers, behavioral health workers, social workers, vocational rehabilitation counselors, community rehabilitation provider staff, addictions professionals, etc.

This **first module** will briefly review the incidence and physiology of acquired and traumatic brain injuries and the most common after-effects, including emotional and cognitive problems,

and the related accommodations for each. Best practices for screening for reported brain injury history will be reviewed.

A **second module** covers the important differences between full neuropsychological assessment batteries and neuropsychological screening batteries, including their indications for use and the benefits of each. Participants will be exposed to neuropsychological screening batteries and a cognitive screening test. That includes a computerized neurocognitive test [CNT] called the Automated Neuropsychological Assessment Metric [ANAM], a paper and pencil test called the Neuropsychological Assessment Battery, and a readily available single-page screening tool called the Montreal Cognitive Assessment [MoCA]).

In the **third module**, interpretation and report writing will be addressed in the context of the Colorado TBI screening model which will be covered in detail. Research on the Colorado TBI Model will be reviewed. Example reports and client summaries will be available to participants.

The following link provides an outline of neuropsychological screening batteries for consideration with this population:
https://www.nashia.org/resources-list?category=Criminal%20and%20Juvenile%20Justice

Modifying programming/accommodating for impairment

One of the main reasons to screen for history of and brain injury impairment is to guide targeted interventions to improve outcomes for justice-involved individuals. It is important to ensure the modifications/accommodations being recommended are feasible within the context of the criminal justice setting where the protocol is being implemented. An obvious example of this is recommending that an individual use a calendar on their phone. This may work if a person is not incarcerated but if they are, they will not have access to a phone. It is important to get input from criminal justice professionals about setting restrictions. It is also important to keep it contextually relevant and easy to employ.

There are existing resources that provide guidance on strategy development. MINDSOURCE – Brain Injury Network has developed guidebooks for criminal justice and mental health personnel and individualized tip sheets for individuals with brain injury. There are separate guidebooks and tip sheets for adults and juveniles, and all are available in Spanish.

Brain Injury Alliance of Colorado has a handout outlining basic strategies to consider: https://biacolorado.org/wp-content/uploads/2018/12/Criminal-Justice-and-Brain-Injury-Handout.pdf

LASH & Associates has Tip Sheets that may be helpful as well as blogs that could be useful: https://www.lapublishing.com/blog/2009/brain-injury-prison/

Model Systems Knowledge Translation Center has videos and fact sheets that could be useful: https://msktc.org/tbi

The Ohio Valley Center for Brain Injury Prevention and Rehabilitation, with contributions for the MN Department of Human Services, developed a booklet called, "Accommodating for the Symptoms of Brain Injury". https://heller.brandeis.edu/ibh/pdfs/accommodating-tbi-booklet-1-14.pdf. The Ohio Brain Injury Program has also developed an accompanying training that can be accessed at this link: http://about-tbi.org/accommodating-tbi.html

The Rehabilitation Hospital of Indiana has developed an extensive catalog of fact sheets that can be useful to share with criminal justice personnel. These fact sheets can be found at the following link: https://resourcefacilitationrtc.com/fact-sheet-catalog

As indicated under the training section, it is important to train criminal justice personnel how to adapt their expectations for individuals with brain injury, identify and implement compensatory strategies for their clients and, in addition, how to work with their clients to teach them how to implement the strategies. Strategies need to be site appropriate and easy to administer.

Referral to community-based service coordination/resource facilitation

There is evidence to show that service coordination/resource facilitation and specifically neuro-resource facilitation (NRF) can lead to improved outcomes and a decrease in recidivism rates for justice involved individuals with brain injury which ultimately leads to costs saving for the state. NRF is a method of identifying brain injury needs, assisting people in applying for the services they need, and then ensuring they get started with these services. It has been shown to increase both community participation and employment among individuals with brain injuries (Trexler, Parrott, & Malec, 2016; Trexler, Trexler, Malec, Klyce, & Parrott, 2010). Additionally, research conducted by Nagele, Vaccaro, Schmidt & Keating in 2018 shows preliminarily that identifying brain injury and connecting individuals to resources resulted in decreased recidivism and increased productive activity such as employment, education, volunteerism, etc. (Nagele D., Vaccaro, M., Schmidt, M.J., & Keating, D. (2018). Brain Injury in an Offender Population: Implications for reentry and community transition, *Journal of Offender Rehabilitation, 57(8), 562-585).*

Incorporating service coordination/NRF supports into the protocol is ideal. Some states may not have a robust service coordination/NRF system of supports but they may provide information and resources support which can be helpful as well. However, it is recognized that not every state has one or either of these supports. When that is the case, it will be important for state brain injury programs to work with the criminal justice system to ensure that clients leaving the criminal justice system have the compensatory strategies they will need when re-entering the community. Additionally, state brain injury programs should work with re-entry counselors to ensure they are familiar with and know how to connect clients to community-based brain injury supports as they leave the system. States should also determine if there are existing infrastructures that they could train so they can support brain injury, for example, Centers for Independent Living, Aging and Disability Resource Centers, and Vocational Rehabilitation. Finally, since juveniles exiting the juvenile justice system will often be returning to school, it is important to determine what supports are available within the school system which can help them achieve successful school outcomes.

When community-based service coordination/NRF services are available, it is important to ensure the providers of these services are trained on the unique nature of working with justice involved individuals with brain injury, this can include but is not limited to, understanding how individuals move through the system, understanding restrictions individuals on supervision face, and understand the specific restrictions that are imposed on sex offenders. It is best to engage the criminal justice personnel to provide this training.

Particularly important with this population is that the referral to the community-based supports include a “warm hand-off”. If referral is made only when the person is being released from the system, there is a good chance that they will not follow through with services and they will be lost to follow up. This occurs for various reasons, individuals often face challenges such as the need to establish basic, instrumental supports, such as food, stable shelter, and transportation. They often have limited access to communication devices. Comorbidities, and co-occurring conditions may exist. In addition, individuals face demands to secure employment to pay supervision fees. Employment may be ill suited to the individual’s strengths and weakness,

without accommodations and therefore, result in job loss and an employment revolving door. If a referral is made prior to release, it allows the community agency to establish a relationship with the individual and begin to build a community-based support network, which will lead to greater follow through, and reduce the likelihood the individual's needs will be left unaddressed.
The following link contains articles regarding the return on investment of resource facilitation: https://www.nashia.org/resources-list?category=Criminal%20and%20Juvenile%20Justice

- Indiana's final report – Reducing Recidivism and Improving Return to Work – 2018
- Indiana – Economic Impact of Resource Facilitation, 2017
- Oregon – Resource Facilitation Cost-Savings Report, 2020

Data collection & outcomes evaluation

State brain injury programs are skillful at ensuring that evaluation measures are in place regarding contract monitoring, specifically, looking at process evaluation. However, there are not always the resources, both time and money, to implement comprehensive outcomes evaluation. In the context of criminal justice there has been little work to date to examine if the brain injury screening, support, and referral to service coordination/NRF have a positive effect on intermediate outcomes such as; treatment completion, compliance, and successful completions within criminal justice. Additionally, there has been little work to evaluate the effect of this protocol on long-term outcomes such as reducing recidivism. To ensure sustainability and to scale up the protocol system wide, brain injury programs will have to develop data collection protocol and research methodologies to demonstrate effectiveness and improved outcomes. Outcomes can include, but are not limited to, compliance with treatment, compliance with conditions of parole or probation and reduced recidivism. It is important that the program work with the criminal justice system to define these outcomes.

State brain injury programs can benefit from establishing relationships with universities to help implement outcomes-focused research. Often graduate or doctoral students need a research projects as requirements of their degrees. Additionally, faculty are seeking opportunities for their students and to be a part of research that can lead to publications. The following programs are well suited to support research involving brain injury and criminal justice programs; professional psychology, criminal justice, and social work programs to name a few. It is recommended that state brain injury programs, if they have not already, seek these partnerships prior to implementing a brain injury screening, support, and referral protocol.

Steps prior to implementation:

- ✓ If lacking time or skills to implement a research protocol, solicit a partnership with a University
- ✓ Develop research questions
- ✓ Identify data that will need to be collected
- ✓ Determine where data will be collected by sites
- ✓ Develop a consent/release of information form
- ✓ Obtain approval from the Institutional Review Board

- ✓ If the state agency does not have access to university support, at minimum, the state agency should develop a database to consistently collect data that the stakeholders define as meaningful and data that can be used with policy and lawmakers to help ensure on-going funding, these data are highlighted below.

There are many data elements that could be collected. It is recommended that the state brain injury program coordinate with the justice system to determine what outcomes they feel are important (and may already be collecting) as this will help ensure these efforts are sustained long-term. What is ultimately collected will depend on the research questions/outcomes being evaluated.

Some examples can include:

- ✓ Number of individuals who screen positive for history of brain injury
- ✓ Number of individuals who screen negative for history of brain injury
- ✓ Number screening positive for impairment
- ✓ Number screening negative for impairment
- ✓ Psycho-social vulnerabilities such as co-occurring substance abuse disorder and mental illness
- ✓ Demographic data
- ✓ Criminogenic risk
- ✓ Treatment completion
- ✓ Compliance with conditions of probation
- ✓ Successful completion of probation/parole
- ✓ Recidivism
- ✓ Connection to community-based service coordination/resource facilitation
- ✓ Goal achievement such as sustained employment, stable housing, independence with finances, stability in family or significant other domain, and stable health/medical status

Justice involved individuals are a protected class and therefore, state programs should plan for research well in advance of implementation. IRB approval can take a long time. Additionally, obtaining approval from the criminal justice system can also take a long time.

Consents/releases of information: In order to collect data for program and outcome evaluation, there will need to be an approved consent/release of information. This consent will need to be approved through IRB as well as through the criminal justice setting where the data will be collected. Often there will be a central entity that will be responsible for approval, e.g. state court administrator's office, department of youth services, county jails, etc.

Sample consent/releases of information:
These training resources can be found at the National Association of State Head Injury Administrators website:
https://www.nashia.org/resources-list?category=Criminal%20and%20Juvenile%20Justice

- CO – Consent for Probation, 2019

- PA – Consent for Adult Population
- PA – Consent for Youth Population

Dissemination Strategies
Publication: State brain injury program personnel do not traditionally think of publishing. However, the programs are often developing novel programming that would lend to increasing best practice development. It is critical that brain injury programs begin publishing the work they are engaged in. Again, partnering with a university will help increase the likelihood that the work being done, and the evaluation being completed, will result in publications that will advance the field of brain injury.

Presentation: State brain injury programs should focus dissemination efforts on *justice-related* conferences and meetings to increase their awareness of the needs and possibilities regarding brain injury within their systems. Dissemination by the PA project across many justice-related conferences ultimately led to a national work group that adopted the National Position Statement on Brain Injury referenced previously.

Key Take Away Points:

- ✓ Partnering with the leadership of justice systems and/or their professional organizations in your state is critical to developing and implementing these protocols, especially if sustainability s a goal.
- ✓ Training on brain injury is a critical component to a screening, support, and referral protocol.
- ✓ It is important to reassure individuals with brain injury that they are not "broken" people. Having knowledge of brain injury and their impairments can be important tools to ensure success in the future.
- ✓ Screening and assessment tools should be selected in partnership with the sites when possible, keeping in mind the importance of tool validation and considering target site resources.
- ✓ The results of screening/assessment need to be meaningfully communicated/documented to ensure that identified individuals have access to relevant resources post-release.
- ✓ Brain injury strategies need to be contextually relevant, tailored to the individual's needs, and easy to employ.
- ✓ Referral from the criminal justice setting to a community-based brain injury service coordination/NRF program will be most effective if made with a warm handoff and prior to release.
- ✓ Data collection and evaluation need to be thought out prior to implementation, and they need to be an integral part of the screening, support, and referral protocol. Coordinate with the criminal justice setting to determine what outcome measures are meaningful to them.
- ✓ Dissemination of information learned is also important to both establish need for continued support and promote the adoption of these practices in other justice settings/states.

- ✓ Partnering with universities can lead to stronger evaluation and publications that can advance the field.

Sustainability and funding strategies

Although the last section of this guide, plans for sustaining protocol efforts need to be developed from the beginning, even prior to implementation. Funding these initiatives can be challenging. Therefore, it is important to build a model that is cost effective and relatively easy to administer. Additionally, it is important to build the capacity of criminal justice personnel to ensure they have the skills necessary to support individuals with brain injury within their given criminal justice system. Finally, sustainability and generating funding is a strong argument for why it is critical to evaluate efficacy of the model and to determine if the implementation of the model improves intermediate and long-term outcomes for justice involved individuals.

Setting the stage for success:
As has been indicated throughout this guide, there are several steps states can take to set the stage for sustaining these efforts. The following are strategies for increasing the likelihood that these activities will be sustainable.

1. Establishing effective partnerships:
Developing and implementing a brain injury screening, support, and referral protocol requires many partners to be effective. The lead state agency on brain injury is a natural fit to oversee these activities, however, to be successful, partnerships are key. The following entities are important partners to have on board while developing, implementing, and evaluating these protocols:

- ✓ Criminal justice personnel – it will be important to engage the criminal justice system in identifying gaps, prioritizing a target population, and determining the best point of intercept to implement the protocol. Criminal justice personnel should also be engaged when choosing the screening tools and identifying the various points of the protocol.
- ✓ Justice-related organizations such as National Partnership for Justice Services, statewide organizations, and leadership groups—These groups can offer support and guidance, as well as access to critical players. They can also serve as "translators" and advisers.
- ✓ Justice involved individuals – if your state is committed to this work, it would be beneficial to gain insight from justice involved individuals with brain injury as these protocols are designed and implemented. This can be accomplished by inviting these individuals to be members of your advisory boards or organizing an advisory team specific to these initiatives.
- ✓ Universities – As indicated previously, partnering with universities can be beneficial to ensure effective evaluation design, implementation of research, and publishing results. All of this is important to justify funding for these initiatives long-term.
- ✓ Brain advocacy organizations – as indicated previously, service coordination/NRF is an important element to this protocol. As a result, it is important that state agencies engage the partnership of entities that provide these services, e.g. brain injury associations/alliances.
- ✓ State agency leadership – it is important to have the support of your state agency. It is helpful to demonstrate how this initiative fits within the department's broader goals.

- ✓ State policy makers/legislators – consider having legislators on your advisory board, work with your state advocacy organizations to ensure they are supportive of this initiative and so they can help advocate for funding and support on-going.

2. Formalizing partnerships through memorandums of understanding (MOU):
Developing MOUs which outline the expectations of the partnership ensures all players are on the same page. MOUs are particularly helpful when working with sites that will implement the model. MOUs should include:

- ✓ Background/justification for the work
- ✓ An outline of what is expected of the site
- ✓ An outline of what the state agency will provide
- ✓ Expected outcomes

Sample MOUs:
These training resources can be found at the National Association of State Head Injury Administrators website:
https://www.nashia.org/resources-list?category=Criminal%20and%20Juvenile%20Justice

- CO – Probation MOU, 2019
- PA – Access Policy
- PA – Office of Vocational Rehabilitation & Department of Corrections MOU

3. Produce a body of evidence:
As indicated previously, it is important to evaluate the efficacy of the brain injury screening, support, and referral protocol. It is also important to evaluate if the protocol leads to improved intermediate and long-term outcomes. Use the results to:

- ✓ Publish results in journals (brain injury and criminal justice journals)
- ✓ Develop policy statements
- ✓ Justify sustainability
- ✓ Justify funding

4. Communicating results:
This topic is of interest to many including the public, criminal justice systems, state agencies, policy makers, including legislators. It is important to get the information out to these audiences. Each audience is interested in this information for a variety of reasons. Messaging should include how the protocol:

- ✓ Improves criminal justice staff and public safety
- ✓ Has a positive return on investment
- ✓ Improves success within the criminal justice system
- ✓ Reduces recidivism
- ✓ Improves overall outcomes, e.g. school, employment, and prosocial engagement

4. Build the capacity of the criminal justice system

Two of the most important things a state brain injury program can do to help ensure sustainability are:

- ✓ Blend the protocol within the existing framework of the system in which the protocol will be implemented.
- ✓ Choose brain injury screening, support, and referral protocol that criminal justice personnel can administer
- ✓ Ensure the protocol is cost and time effective