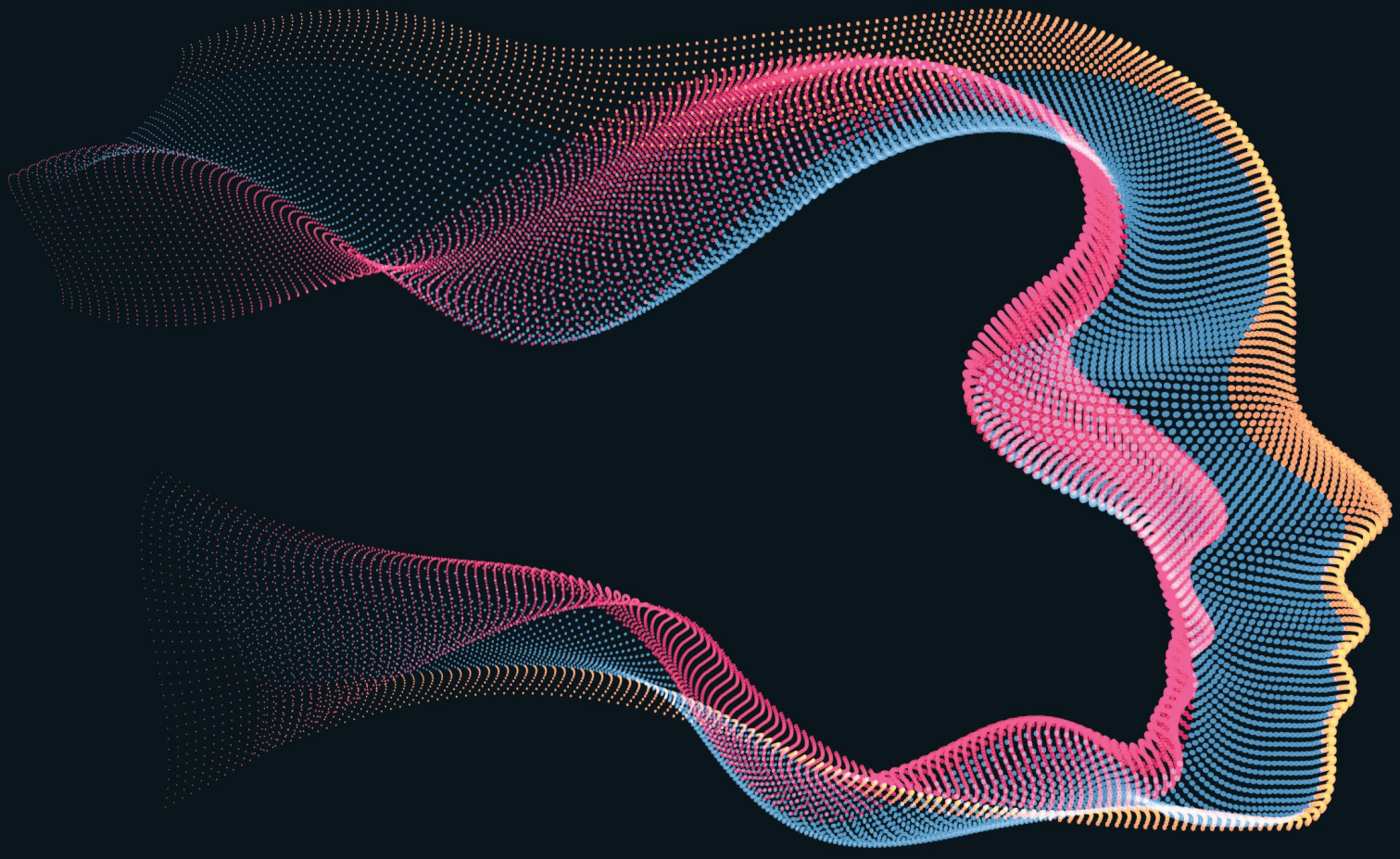
Megan Davidson, PhD; Kate Reed, LPC

Mind Matters: Building a Justice System That Is Inclusive and Responsive to Brain Injury



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Writing: Megan Davidson and Kate Reed, *CSG Justice Center*
Research: Megan Davidson, Kate Reed, Shontelle Ramsay, and Ethan Kelly, *CSG Justice Center*
Advising: Brain Injury and Justice System Workgroup
Editing: Alice Oh, *CSG Justice Center*
Design: Michael Bierman
Web Development: Yewande Ojo, *CSG Justice Center*
Public Affairs: Aisha Jamil, *CSG Justice Center*

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Introduction

It is estimated that over half of individuals encountering the criminal justice system have experienced at least one brain injury, yet many of these individuals are undiagnosed or misdiagnosed and left without proper care and supports across the criminal justice continuum.

Brain injury advocates have lobbied extensively for legislative and funding support to address this issue. Recently, they won a legislative victory with the Traumatic Brain Injury and Post-Traumatic Stress Disorder Law Enforcement Training Act (H.R. 2992), which was signed into law in August 2022 and requires the Bureau of Justice Assistance (BJA) to develop training tools and resources for first responders focused on brain injuries and post-traumatic stress disorder.

As a key step toward fulfilling these responsibilities, BJA requested that The Council of State Governments (CSG) Justice Center conduct a landscape review of this topic to lay the foundation for future work in this area.

This report synthesizes findings derived from this review, including interviews and focus groups, and provides key recommendations to inform programming, funding, training, and technical assistance at the intersection of brain injury and the criminal justice system.

About the Project

The goal of this project was to gather important information on the fieldwide status of brain injury and the criminal justice system and elevate key resources and best practices to guide the development of training materials, resources, and technical assistance at this intersection.

While this review focused mostly on gathering insights pertinent to the adult justice system, many of the findings are also applicable to the juvenile justice system. Policy experts at the CSG Justice Center reviewed existing literature, best practices, and policies on brain injury and conducted a series of interviews and focus groups with criminal justice professionals, brain injury service providers, advocacy organizations, and subject matter experts. Insights from the literature scan, interviews, and focus groups were integrated into this report, which outlines key findings and recommendations to advance the field in addressing the issue of brain injury within the criminal justice system. To further contextualize and refine these findings, a workgroup consisting of subject matter experts representing both the criminal justice and brain injury fields convened in October 2023 to review a draft of this report. Their feedback was integrated into the final iteration of this report.

Prior to delving into the key findings and recommendations, it is important to first articulate the definition of brain injury and broader framework utilized for this project. While the language used when referring to "brain injury" in the context of the justice system is often focused on traumatic brain injury (TBI), this project relied on the broader umbrella term, "acquired brain injury," which includes both traumatic and nontraumatic brain injuries that an individual sustains during their lifetime.* In addition, the Sequential Intercept Model (SIM) served as the framework for gathering and organizing information for this project. The SIM is a widely used model for examining how an issue related to behavioral health (such as brain injury) intersects with criminal justice intercepts, which are viewed as possible points of intervention and potential off-ramps to appropriate services. The selection of focus group and interview participants was structured to ensure that each of the intercepts along the SIM would be represented, with a concentrated focus on gaining a deeper understanding of this issue at the front-end and back-end of the system.

*Traumatic brain injury is an injury sustained from an external force, such as an assault, fall, or motor vehicle accident. Nontraumatic brain injury is an injury sustained as the result of an internal event, including stroke, tumor, lack of oxygen, and infection.

Prevalence and Nature of Acquired Brain Injury in the Criminal Justice System

Existing research on the prevalence of brain injury among individuals encountering the criminal justice system varies with estimates ranging from as low as 41 percent to as high as 82 percent[1] depending upon who is included within the sample (e.g., individuals on probation, people who are arrested, jail or prison populations).

A meta-analysis found the prevalence of brain injury in the criminal justice population to be around 60 percent[2] compared to 8.5 percent in the general population.[3] Individuals with brain injury have also reported a greater number of incarcerations than individuals without brain injury.[4] Focus group discussions as well as a more recent meta-analysis from 2023 revealed that nearly half of all individuals involved in the criminal justice system have sustained a brain injury at some point in their lifetime, and about a third have sustained a brain injury that is classified as moderate to severe.[5]

Brain injuries are also highly prevalent among youth in the juvenile justice system. Research indicates that approximately one-third of youth who are detained have a brain injury. In one study, one in four youth in the juvenile justice system met criteria for traumatic brain injury, and most injuries occurred prior to their commission of a crime. A history of brain injury was also related to the commission of more violent crimes and mental health diagnoses.[6] Interview and focus group participants echoed research findings by suggesting that about one-third of adjudicated youth have sustained at least one previous brain injury.[7]

The interviews and focus groups noted racial and ethnic disparities in the identification and treatment of brain injury, similar to the nature and prevalence of disparities found in the behavioral health and criminal justice systems.[8] Information from one focus group specifically noted that people with brain injury who are White tend to have more education about their brain injury than people with brain injury of other races. White individuals with brain injury also tend to be connected to treatment more often than Black, Indigenous, and People of Color (BIPOC) individuals.[9]

Understanding Ranges in Brain Injury Prevalence Rates

The variety of estimates and ranges of brain injury prevalence rates highlighted in this report reflects the current state of the field and the need for further progress. To date, it has been difficult to narrow down these figures to a more concrete estimate due to a number of methodological factors. For example, prevalence studies use different definitions of brain injury (e.g., some include loss of consciousness in the definition, which is a less common occurrence than brain injuries without loss of consciousness). In addition, how brain injury is detected and identified varies from study to study (e.g., jails and prisons that routinely screen for brain injury tend to report higher prevalence rates than studies that rely solely on medical record reviews). Finally, prevalence rates are impacted by the sampling method employed and composition of study participants. These factors impact the reliability and generalizability of prevalence estimates and provide important context to be taken into consideration when interpreting these figures.[10]

Pathways to Justice System Involvement

The link between brain injury and justice system involvement is well-documented in research, though complex in terms of causation and directionality. For example, brain injury can lead to impaired decision-making, impulsivity, and executive functioning deficits, such as in assessing risk and connecting consequences to actions, any of which may increase the risk of offending behavior and incarceration. Additionally, being involved in violence, as a victim or perpetrator, is often a precursor to both a brain injury and justice system involvement.[11] This is especially true for women involved in the justice system, who research has shown often have sustained repeat brain injuries through physical abuse, specifically domestic/intimate partner violence.[12] Focus group and interview participants shared that some people may first encounter the justice system with a brain injury, while others may acquire a brain injury during or following their justice system involvement.

Another important consideration when examining the intersection of brain injury and the justice system is the connection between mental health, substance use, and brain injury. Several focus groups noted that brain injury is prevalent in people who have a serious mental illness, trauma, and co-occurring substance use disorders. Research supports this assertion with statistics indicating that people who are incarcerated and have a history of TBI are twice as likely to have a psychiatric disorder than their peers without TBI.[13] Anxiety and mood disorders are most common and often present together. Individuals with TBI also present with a higher likelihood of substance abuse; while substance use disorders (SUD) affect approximately 11 percent of the general population, at least 37 percent of individuals with TBI have a SUD.[14] Studies also reveal that people with brain injury self-report significantly higher levels of alcohol and/or drug use.[15] This intersectionality not only contextualizes the pathway to justice system involvement for persons with brain injury, but also sheds light on the challenges associated with addressing these issues interdependently in the justice setting.

Brain Injury and the Criminal Justice System Experience

The focus group and interview participants shared a consistent picture of how brain injury can manifest in criminal justice settings and conveyed the importance of understanding that brain injury can be misdiagnosed as a behavioral health condition or misunderstood as oppositional behavior. Brain injury experts noted that understanding the etiology underneath the behavioral health concern plays a vital role in developing a treatment plan and providing support for the individual with brain injury. After a sustained brain injury, the short-term and long-term effects vary widely in type of deficit and severity. These effects can include memory problems, delayed processing of information, attention problems, impaired decision-making skills, impulsivity, executive functioning deficits, mental inflexibility, physical and sensorimotor problems, emotional and neurobehavioral dysregulation, and communication problems.[16] Additionally, there is a high prevalence of sleep-wake disorders among those with brain injury, and poor sleep can have a detrimental impact on overall functioning.[17]

These impairments can make it challenging for individuals with brain injury to navigate the criminal justice system and to successfully stay out of the system upon leaving. Overall, brain injury experts in the focus groups indicated that these individuals are often undiagnosed and untreated, which contributes to an increased likelihood of negative outcomes in comparison to those without brain injury. Many of the symptoms of brain injury, such as confusion, difficulty following directions, impaired thinking or memory, and agitation, can be mistaken for intoxication or noncompliance, potentially resulting in use of force, arrest, or injury during a law enforcement response. In the courtroom setting, slower speed of information processing and delayed or confusing responses can be mistaken as obstinance, leading to frustrated courtroom personnel and additional sanctions. Among people on probation, a study found that people with TBI were more likely to be determined high-risk by probation officers, had a higher rate of felony convictions, had lower rates of successful probation completion, and were more likely to re-offend.[18]

Brain injury symptoms can be exacerbated by conditions of confinement, making it challenging for individuals with brain injury to adapt to a correctional setting and comply with the restrictive rules, as indicated by the higher rate of disciplinary actions found among people with brain injury who are incarcerated.[19] In addition, research suggests that high rates of multiple, violence-related TBIs among women involved in the justice system were associated with increased lengths of stay in incarcerated settings.[20] Brain injury has also been linked to poor treatment engagement and an increased risk of violence to self and others, further complicating service provision and safe correctional supervision.[21] In addition, individuals with brain injury may develop new or worsening symptoms over time, further impacting their ability to successfully navigate life in a correctional setting or upon release. These factors contribute to an increased likelihood for recidivism among individuals with brain injury.[22]

Findings and Recommendations

The information gleaned from the literature review, interviews, and focus groups revealed a clear picture of where the criminal justice field stands today in terms of identifying and responding to persons living with brain injury.

While there are committed advocates and researchers developing essential tools and resources for the field, many criminal justice agencies are not adequately equipped to support individuals with brain injury. Informed by the work of brain injury advocates and researchers as well as the insights of staff across criminal justice agencies, this report provides recommendations intended to guide criminal justice leaders, professionals, and key stakeholders on how to build a system that is more inclusive and responsive to brain injury and ultimately advance the field.

The findings of our landscape review align with those documented in the National Association of State Head Injury Administrators' (NASHIA) 2020 report, Criminal and Juvenile Justice Best Practice Guide: Information and Tools for State Brain Injury Programs. The recommendations presented here build upon and further contextualize those contained in the NASHIA report by not only incorporating various cross-system perspectives, but also elaborating upon broader infrastructure pieces that are necessary to support the implementation of proposed system improvement efforts. Five main themes of recommendations and findings emerged from the landscape review:

1 **Training and Education**

2 **Screening and Identification**

3 **Compensatory Strategies and Modifications**

4 **Referrals and Resource Coordination**

5 **Strategies for Advancing Recommendations**

Training and Education

Research indicated, and this project reiterated, the absence of widespread, specialized training on brain injury among criminal justice agencies. Many criminal justice professionals participating in this project identified this training gap based on their own experiences and expressed a desire for knowledge and skill-building on this topic area.

Some jurisdictions have adapted existing trainings, such as Crisis Intervention Team (CIT) training and Integrating Communications Assessment and Tactics (ICAT), to incorporate aspects of brain injury or have developed unique training modules on the topic. However, these homegrown training modules and adaptations have not been fully vetted by brain injury experts, and there is no consistency in terms of brain injury training requirements for the field. This lack of awareness and training among criminal justice and related professionals mirrors the limited support and educational resources made available to individuals with brain injury encountering the criminal justice system.

Recommendation:
Develop and implement a standardized brain injury training model that is easily accessible for criminal justice agencies.

During one of the focus groups, an expert stated, "The baseline is awareness—within survivors, systems, providers, healthcare, and criminal justice." Awareness is directly linked to training and education, which makes this recommendation foundational and, arguably, the most important. Many criminal justice entities do not know the scope and magnitude of the issue, nor do they understand how to identify the signs and symptoms of a brain injury. Consequently, brain injury is often overlooked or mistaken for a different physical or behavioral health condition, which means individuals are not receiving the interventions, accommodations, and referrals they need. It is recommended that criminal justice organizations partner with subject matter experts and brain injury advocates to develop, implement, test, and refine a standardized training curriculum around this topic. This should involve selecting sites to pilot and evaluate training effectiveness prior to disseminating the training fieldwide.

At the most basic level, the foundational brain injury curriculum for criminal justice professionals should focus on cognitive and neurobehavioral impairment and associated symptomology and does not need to be specialized by brain injury type (i.e., TBI vs. non-TBI). The emphasis should also be on skill development rather than just on enhancing knowledge of this topic. Since several subject matter experts suggested that there is a strong overlap between intellectual and developmental disabilities (IDD) and TBI in presenting symptoms and behaviors, it is worth exploring whether the newly developed IDD module in Crisis Response and Intervention Training (CRIT) could be expanded to incorporate aspects of brain injury. Alternatively, an additional brain injury-focused module could be added into the CRIT curriculum, as it is the most recently developed and empirically tested training model in the field. Like CIT, CRIT was primarily developed for law enforcement, so additional content should be developed for other criminal justice settings, such as courts, corrections, and community supervision, that not only articulate roles and expectations for the respective settings, but also teach strategies for managing interactions, needed accommodations and supports, and potential referral sources and opportunities along the SIM.

The workgroup involved in reviewing and finalizing these recommendations suggested that this training be considered a core component of academy training for criminal justice professionals when possible and embedded into existing training models rather than treated as a standalone training, given the existing training requirements and workforce constraints in the field. They also recommended building brain injury-specific content into less intensive training models, such as Mental Health First Aid, so that it becomes more widespread and accessible fieldwide. Beyond training frontline staff, it is essential to raise awareness among leadership about the importance of brain injury training. This can be accomplished through publications such as this, as well as presentations at leadership conferences. Agency leaders are encouraged to participate in these training efforts to ensure agencywide buy-in and uptake of knowledge and skills.

Recommendation: Leverage local partnerships to cultivate cross-training opportunities.

Since brain injury has both physical and behavioral health implications, it is important to partner with professionals in the medical and behavioral health fields in the community and within correctional facilities to cultivate opportunities to cross-train on this topic. Many of these professionals have also not been fully trained or educated in brain injury. Given the impact that brain injury can have on outcomes like medication compliance and therapeutic intervention effectiveness, professionals in these fields may find it helpful to learn some of the foundational principles shared in the standardized brain injury training curriculum for criminal justice professionals. For example, correctional agencies can implement trainings to be attended by custody, medical, and mental health staff so that all parties are fully informed about how brain injury may present in this setting and can collaboratively develop strategies to identify and address these complex needs among individuals within their facility. Additionally, since there is a high rate of substance use and mental health comorbidity with brain injury, bundling the topic of brain injury with these content areas could be very beneficial. Importantly, bringing professionals from these different systems together to cross-train creates opportunities to develop key partnerships and pathways for service referrals that can streamline and improve service access and delivery for persons living with brain injury in the criminal justice system.

Recommendation: Provide psychoeducational resources to individuals living with brain injury and their families/caregivers.

Beyond training criminal justice staff and their partners about brain injury, it is also crucial to help individuals living with brain injury understand common symptoms and impairments associated with this condition as well as strategies to manage these issues through psychoeducational programming. This is particularly important in the criminal justice setting, as this may represent the first time a person could potentially get screened for a brain injury. Psychoeducational resources should provide both a general understanding of brain injury, as well as individualized components that allow for the individual to identify the specific strategies and accommodations they might need to be successful in managing their injury and corresponding symptoms. These resources can range from written materials, such as brochures, to reviewing their screening results with them to full-fledged group education sessions, such as the AHEAD curriculum. Regardless of the format, psychoeducational programming is ideally accompanied by case coordination and therapeutic support.

According to the workgroup involved in reviewing these recommendations, psychoeducational programming should incorporate tools, resources, and strategies for self-advocacy. The Brain Injury Association of America notes that effective self-advocacy can include finding appropriate medical providers, being respectfully persistent about needs and support, and knowing one's rights. In addition to empowering individuals living with brain injury to advocate for themselves in the criminal justice setting (e.g., jails/prisons, courtrooms, probation

offices), it is equally important for the justice system to create environments that are conducive to self-advocacy, such as by creating accessible avenues to communicate needs and training staff to be responsive to individuals requesting assistance or support, while still prioritizing public safety. Psychoeducation and advocacy training is also important for caregivers and loved ones of persons living with brain injury as they play a critical role in ensuring both rehabilitative and justice goals are achieved.

PROMISING PRACTICES

The AHEAD curriculum (Achieving Healing through Education, Accountability, and Determination), developed by MINDSOURCE Brain Injury Network and Dr. Bradley McMillian from the Denver County Jail, is a psycho-educational curriculum for TBI that is designed to help participants understand TBI, its effects, and how to address the related deficits through symptom management and coping skills. Importantly, the curriculum was specifically created so that mental health and criminal justice staff can facilitate the group sessions.

Screening and Identification

The focus group and interview participants consistently mentioned the importance of specialized screening for brain injury and having protocols and processes to easily identify individuals with brain injury encountering the criminal justice system.

Many justice-involved individuals with brain injury are undiagnosed, so screening and detecting brain injury are essential to connect them with the proper supports and services to successfully move through the justice system and create opportunities for psychoeducation and self-advocacy. Screening may also allow individuals with brain injury to receive further assessment to identify comorbidities and symptomology. Lack of screening at any point may be setting up individuals to fail without the interventions or treatment they need. Screening is not only beneficial to the individual with a potential brain injury, but also necessary to capture prevalence, which can be used as leverage for funding services and needed supports. Unfortunately, many criminal justice entities do not screen for brain injury, and those that do screen rarely use validated tools. Instead, they embed one or two brain injury-related questions in their intake or screening process, which often gets lost in the shuffle with other information, resulting in missed opportunities for appropriate support, accommodations, and referrals.

Recommendation: Prioritize upstream efforts by focusing on screening youth.

One study showed that sustaining a brain injury during childhood or adolescence was associated with a four-fold increased risk of mental health issues and coexisting offending in adult males.[23] Evidence has also shown that children with brain injury have improved long-term outcomes when they receive active early treatment and rehabilitation, highlighting the importance of early intervention.[24] Brain injury advocates and researchers emphasized the importance of focusing on youth, pushing awareness and identification more upstream, and providing

education and implementing screening and assessment at juvenile justice facilities. Researchers from focus groups suggested that, given high rates of brain injury among youth in the justice system, screening should even begin in schools to address brain injury needs prior to justice system involvement.

Recommendation:
Conduct universal screening for lifetime history of brain injury using a validated tool at as many contact points along the criminal justice system as possible.

Throughout the criminal justice system, there are many touch points where brain injury screening can be conveniently conducted depending upon the capacity and workflow of a specific jurisdiction. This landscape review indicates that jail booking is one of the more accessible opportunities in the early stages of the criminal justice process to screen for brain injury because it is often when individuals are screened for other medical and behavioral health needs. Screening for brain injury should also be incorporated into existing risk/needs assessment processes and program (such as specialty court and diversion) intake processes, where possible and appropriate. Many of these screening tools can be administered by non-clinical staff and should be conducted in a calm, private space to minimize distractions and ensure accurate responses. Once an individual screens positive for brain injury, it is essential to have a system in place to not only clearly document this need, but also determine the specific symptoms and recommended accommodations, supports, and referrals.

Recommendation:
Conduct additional assessments to determine symptoms, identify barriers and level of impairment, and guide interventions when a history of brain injury is present.

When an individual screens positive for a brain injury, it is important to follow up with additional testing to operationalize how to support that person. Assessing for symptoms and specific impairments facilitates the identification of individualized and targeted modifications

Brain Injury History Screening Tools

The Ohio State University TBI Identification Method (OSU TBI-ID) is one of the most widely used screening tools for brain injury history. Proven reliable and valid, research on the OSU TBI-ID has demonstrated its usefulness in many settings, including medical, mental health, substance use, domestic violence, and corrections. It is also user-friendly and easy to implement in criminal justice settings. Recently, many states have modified the OSU TBI-ID to include questions that capture brain injury from nontraumatic causes. Similarly, the brief Acquired Brain Injury (ABI) Screen is often administered with the OSU TBI-ID to capture both traumatic and nontraumatic brain injuries.

PROMISING PRACTICES

The Brain Injury Screening Questionnaire (BISQ), developed and refined by the Brain Injury Research Center, has been widely used for both youth involved in the juvenile justice system and adults involved in the criminal justice system. The BISQ includes questions around brain injury incidents with no loss of consciousness and specifically asks about head trauma and other acquired brain injury sustained in the context of partner violence, sports, and the military.

NASHIA's Online Brain Injury Screening and Support System (OBISSS) program is a subscription-based service that offers online brain injury screening tools, specific supportive strategies, program information and referrals, and a place to store and analyze the collected data to be used as potential leverage for funding. OBISSS combines both a screen for lifetime history (incident of injury) as well as self-report screening of current symptoms using the symptoms questionnaires from MINDSOURCE (Adult Symptom Questionnaire and Juvenile Symptom Questionnaire).

or interventions. Brain injury experts in the focus groups recommended that the justice system considers using self-report to note symptoms, such as by using the Adult Symptom Questionnaire. Many of the symptom questionnaires lead to customized tip sheets with strategies to support the person living with brain injury. Neurocognitive assessments and full neuropsychological evaluations are more advanced, in-depth options that are designed to give a more objective picture of impairment and are typically administered by trained master's-level clinicians or neuropsychologists. It is important that criminal justice entities partner with behavioral health providers who are qualified to conduct a range of brain injury assessments, from screening to full neuropsychological evaluation, in order to meet the varying needs of justice-involved individuals with brain injury.

Recommendation:
Establish data tracking and information-sharing protocols to ensure case coordination for individuals and data-driven decision-making for policies and programs.

The ability to track and share information about a person's history of brain injury, symptoms, and needed modifications among criminal justice, health care, and brain injury service providers is necessary for continuity of care and to ensure that person has the greatest chance of successfully moving through the justice system. The Health Insurance Portability and Accountability Act (HIPAA) and other information-sharing laws should be considered and agreements like memoranda of understanding (MOUs) should be established to enhance and streamline information sharing at the local level to inform individual case coordination and programming decisions.

Currently, when an individual screens positive for a brain injury, it is rarely documented in a meaningful way for individual- and aggregate-level decision-making. This limits the information available to successfully support individuals with brain injury as well as guide policy and funding decisions at the local, state, and federal levels. Without accurate brain injury screening data at an aggregate level, it is difficult to understand the full scope and magnitude of this issue, as demonstrated by the widely varying prevalence estimates that range anywhere from 41–82 percent.[25]

Resources should be allocated to support local, state, and national data collection efforts in this area to provide criminal justice, healthcare, brain injury organizations, and policymakers the information needed to partner on solutions in this area.

Brain Injury Screening	Symptom/Impairment Assessment	Neurocognitive Evaluation/ Neurological Examination
Administered to whole population (e.g., all individuals being booked into jail) Can be conducted by non-clinical personnel Typically uses a reliable, validated tool composed of a standardized list of questions that, depending on the individual's answers, indicates the person either has or does not have a history of brain injury/injuries	Conducted after an individual screens positive for brain injury Administered by clinical personnel and occasionally non-clinical personnel, depending on the instrument(s) being used Typically uses tools that identify an individual's specific symptoms, level of impairment, and strategies to support the individual	Conducted if an individual needs more advanced or in-depth assessment as determined by the screener or assessor Administered by trained master's-level clinicians, neuropsychologists, and/or neurologists Typically uses more advanced clinical tools and medical interventions or procedures (e.g., fMRI)

Recommendation:
Raise awareness and reduce stigma in the justice system to improve identification of individuals with brain injury.

One concern raised by several participants in this project is that individuals encountering the justice system may either be in denial of the presence of a brain injury or fear the stigma of having a brain injury, as it can be seen as a weakness and make them an easy target. Many would rather suppress their histories than disclose a brain injury, which may prevent proper screening and identification. Therefore, it is important to create a culture and climate within the criminal justice system that is inclusive of brain injury and normalizes this condition, especially given the high prevalence rates. This can be achieved through broad educational and awareness campaigns at the local, state, and national levels, as well as through facility-based or program-specific practices and communication approaches that ensure confidentiality and supportive responses when a brain injury is identified. The movement to advance the criminal justice field to be responsive to trauma more broadly and the development, promotion, and proliferation of trauma-informed practices serve as a clear roadmap to follow.

Compensatory Strategies and Modifications

Criminal justice agency representatives participating in the interviews and focus groups often shared that they lack guidance around what to do when a person screens "positive" for brain injury and how to adapt their programs, policies, and practices to be responsive.

According to brain injury advocates and experts in the field, the needed responses are less complicated than they may seem, and many of the strategies are easy to implement and inexpensive or free. Put simply, everything that makes it difficult for a person to move through the criminal justice system from arrest to reentry is much harder for a person with brain injury. For example, imagine an individual takes public transportation to meet with their probation officer. If the bus is late, thinking through alternative transportation options and managing the logistical pieces to make it to the meeting on time can be more challenging for someone with brain injury. The focus group and interview participants conveyed that, unfortunately, the criminal justice system does not typically take the needs of individuals with brain injury into account and rarely offers strategies to help them succeed.

Recommendation:
Program modifications should be made within criminal justice settings, where possible, to help an individual with brain injury successfully navigate and remain safe in the system.

A focus group participant stated, "Subtle changes could make a big difference in the health and life quality of people living with brain injury in prisons [and the justice system]." There are two broad approaches to incorporating modifications into justice system operations. One approach is to implement universal strategies so that communication, programs, policies, and processes are all structured so that an individual with brain injury, or any other condition, could be successful. Another approach relies heavily on screening to determine who these accommodations should be made for and, taken a step

further, can allow for the implementation of individualized strategies. For example, reducing distractions by meeting in a quiet room, keeping instructions brief and simple, and addressing one task at a time are potential strategies for individuals with impaired attention. For individuals with short-term memory deficits, repeating and summarizing instructions, providing written materials, and sticking to a routine can be helpful. There are additional adjustments to consider when thinking through residential or housing conditions, such as minimizing noise and bright lights and ensuring safe placement. For individuals receiving behavioral health treatment in a justice setting, existing treatment modalities and programs should be adapted to support those with brain injury. Ideally, both approaches should be adopted to best serve individuals with both diagnosed and undiagnosed brain injury. Criminal justice leaders should consult with brain injury experts when implementing these approaches within the context of their organization or facility.

Recommendation:
Partner with the individual living with brain injury to develop compensatory strategies to manage their symptoms.

Brain injury experts from the focus groups noted the importance of involving the person with a known brain injury in the process of developing strategies to "compensate" for cognitive and executive functioning limitations. This involves working with the individual to identify the symptoms that are most challenging for them personally and discussing options for addressing each of those symptoms within the specific context. The use of compensatory strategies should be monitored over time to determine whether they are having the intended effect and to discuss alternative options if not. The development and implementation of compensatory strategies is essential for the success of the individual at any intercept, given that a brain injury can have a prolonged and profound impact on a person that extends far beyond their justice system involvement. Mitigating and managing symptoms can ultimately improve the long-term outcomes of individuals living with brain injury and reduce their likelihood for future criminal justice system involvement.

Referrals and Resource Connection

Brain injury rehabilitation services vary widely from state to state and can be difficult to find when there is no direct communication between criminal justice entities and brain injury service provider organizations. There should be a clear pathway to get from screening to services, which requires criminal justice entities to be aware of what resources exist and how to best get connected to those resources.

However, many criminal justice entities are unaware of what resources exist in their area for persons living with brain injury, and their traditional referral outlets and service providers may not be equipped to support this population.

Recommendation:
Establish partnerships and referral mechanisms between criminal justice entities and brain injury service providers.

There are numerous national organizations, such as NASHIA, the Brain Injury Association of America, and the United States Brain Injury Alliance, that can help criminal justice entities connect with local brain injury service providers and advocates to build the partnership necessary for effective referral processes. Many states have also established state brain injury associations and alliances through which individuals living with brain injury, their caregivers, and partner organizations (such as criminal justice agencies) can connect with service providers and advocates within a given area. Shared understanding of available resources will serve individuals living with brain injury along every facet of the SIM, from law enforcement contact to reentry, where referrals can be made.

The unique needs of specialty populations should be taken into consideration when making referrals for individuals with brain injury. For example, given the connection between intimate partner violence and brain injuries among women in the justice system, it is essential to not only connect them to gender-responsive services that are easily accessible and flexible, especially for mothers, but also ensure access to victim advocacy services as needed. As noted by several focus group participants, services should also be culturally responsive to historically marginalized groups, such as the BIPOC and LGBTQIA+ communities who tend to be overrepresented in the criminal justice system.

Addressing the Needs of Specialty Populations: Veterans

Veterans are another unique population with experiences that require specialty services.

PROMISING PRACTICES

Veterans Treatment Court experts in the focus groups praised the robust support offered by the Veterans Affairs Polytrauma/TBI System of Care, which is a network of specialized rehabilitation programs dedicated to serving veterans and service members who have a brain injury. These programs provide evaluation, treatment, case management, education, and psychosocial support, among other services. In addition, each state has Veterans Justice Outreach Specialists who support veterans involved in the justice system with getting connected to services and resources to address their unique and complex needs, including those associated with brain injury.

Recommendation:
Build care coordination into the brain injury referral process.

Simply making a referral is often not sufficient to meet the needs of someone with brain injury. Brain injury can impact executive functioning and cognitive processing in a way that makes it incredibly difficult to navigate the complexities of various systems of care. According to focus group and interview participants, case management, or care coordination involving professionals with specific knowledge of and experience with brain injury needs and services, is essential to support a person living with brain injury to ensure they get appropriately connected to services. As brain injury often co-occurs with other conditions, such as mental illness or substance use disorders, and is frequently accompanied by difficulties with housing, employment, and other basic needs, it is essential to have a specialized case manager or care coordinator to ensure needs are being met while complying with required court orders or program conditions.

This is especially important for individuals who are incarcerated and returning to the community. For continuity, there should be linkages in place before they are released from jail or prison and transition back to the community. There is a need for committed resources, such as a specific staff person or liaison to lead the work. Ideally, this would include a warm hand-off to establish rapport and make an initial appointment with a service provider prior to release.

PROMISING PRACTICES

NeuroResource Facilitation (NRF) is a specialized service like intensive case management that helps individuals with brain injury access appropriate services. It involves directly assisting the individual with applications, appointments, problem-solving, and advocacy. NRF should be implemented in correctional settings and at other points along the criminal justice continuum based on the agency's need and available resources. Some examples include embedding NRF in crisis response teams and community correctional systems. Research has shown that NRF can lead to improved outcomes and a decrease in recidivism rates for individuals with brain injury.[26] Research also supports NRF's effectiveness in increasing community participation and employment among individuals with brain injury being released from jail.[27]

Strategies for Advancing Recommendations

To support the implementation of the recommendations outlined in this report, focus group and interview participants emphasized the importance of addressing broader systemic needs, such as building cross-system partnerships, shifting the criminal justice culture to be more inclusive and responsive to brain injury, and advancing racial equity.

These systemic changes, along with supportive policies, practices, and resource allocation to fund service provision and associated technical assistance and research efforts, will contribute to a stronger infrastructure necessary to improve outcomes for persons with brain injury encountering the justice system.

Recommendation:
Build collaborative partnerships at the national and state levels between criminal justice agencies, mental and public health authorities, and brain injury administrators and experts.

One of the greatest challenges at the intersection of brain injury and the justice system today is the lack of robust and collaborative partnerships across these fields. Focus group participants shared that this is partially attributable to the fact that brain injury does not fit neatly into the two budgets of health care found in the justice system: behavioral and physical needs. While some jurisdictions have incorporated brain injury into their cross-system, collaborative work either on the behavioral health or medical side, much work is yet to be done to further cultivate and leverage these partnerships at the national and state levels. These partnerships can serve to establish clear guidance and expectations for local systems of care and to identify and promote needed legislative change.

This project, with the interdisciplinary workgroup that came together to review these recommendations, represents a key step in this direction at the national level. It is recommended that a similar workgroup or task force be convened at the national level comprised of brain injury experts and representatives of leading criminal justice, behavioral health, and public health organizations to guide policy, funding, and programming decisions on an ongoing basis. Importantly, these workgroups can play an important role in examining how existing and proposed policies or practices comply with the American Disabilities Act (ADA). Similarly, states would be well-served to follow suit by either leveraging existing workgroups and incorporating brain injury as a recurring agenda item or creating a new workgroup for this topic to ensure that partners across these systems continue to collaborate. Persons with brain injury, caregivers, service providers, criminal justice partners, researchers, and state policymakers are key stakeholders to engage when forming cross-systems partnerships. Including voices of lived experience in these conversations is essential to guiding systems change over time.

Recommendation:
Promote a positive culture shift that is inclusive and responsive to brain injury.

There is a broader culture shift required to implement brain injury best practices in the criminal justice system. Many of the research findings and recommendations from the focus groups and interviews require a novel way of thinking

and behaving. One participant suggested, "Rather than assuming resistance or noncompliance, assume some sort of impairment," and respond accordingly. In addition to implementing policies and practices that are inclusive and responsive to brain injury, creating and promoting opportunities for family and/or caregiver engagement throughout the criminal justice process for individuals living with brain injury are concrete ways to see this culture shift take place.

Focus group participants also suggested that embedding brain injury professionals in justice spaces is the fastest way to change justice culture. The field is beginning to see pilot programs where brain injury specialists work inside jails and conduct NeuroResource Facilitation and reentry planning. Anecdotal information from several interviews indicated that correctional staff seem more empathic and open to accommodate individuals with brain injury when brain injury specialists are on site and viewed as a part of jail personnel. Leadership buy-in and commitment also play a key role in shifting the culture to be supportive of implementing these best practices.

Recommendation:
Apply a racial equity lens to ensure equitable access to screening and identification processes, accommodations, and referrals to resources and services.

As highlighted in the research and further reiterated among participants in this project, BIPOC individuals are more likely than their White counterparts to have a brain injury, among both people in the justice system and in the general population. These findings indicate a dual disproportionality for persons of color with brain injury involved in the justice system, heightening the potential impact of those disparities. To address these racial/ethnic disparities, criminal justice entities should apply a racial equity lens when implementing any new policy or program, including those focused on brain injury. This includes collecting accurate race and ethnicity data; analyzing the data for disparities and developing a baseline; using a racial equity tool to review programs, policies, and practices to ensure equitable access and outcomes; making appropriate programmatic or systemic changes to address equity; and measuring against the baseline to determine progress toward achieving racial equity.[28] These steps are outlined in a CSG Justice Center racial equity report on creating more racially equitable outcomes among individuals with serious mental illnesses in the criminal justice system and can easily be applied to brain injury polices, processes, and programs.

Recommendation:
Review and refine policies and legislation related to brain injury.

States are encouraged to review and revise their brain injury and criminal justice legislation to ensure it aligns with the recommendations contained in this report and the Americans with Disabilities Act (ADA). A focus group participant stated, "Brain injury must be worked into the state structure [...] and state legislators and policymakers must be involved in these conversations." This issue should be elevated to be a recurring legislative agenda item, to ensure that funding is allocated appropriately to support efforts to address this important issue, including exploring opportunities to leverage Medicaid funding accordingly. There already exists active legislation around training and support for law enforcement and first responders in this area that could be expanded upon to include other justice agencies (e.g., correctional staff and court personnel) to increase policy reach. Leaders in the criminal justice field should cultivate and leverage partnerships with the brain injury community to develop informed policy changes needed to implement and sustain the recommendations that emerged from this project.

Recommendation:
Increase funding to support additional research, training and technical assistance, and service provision.

One of the more salient challenges mentioned in the focus groups was the lack of specific funding to support brain injury programs. Several focus groups reported that many of the brain injury-focused programs in the criminal justice system are grant-funded and have no built-in sustainability. This makes it difficult to provide continuous care coordination and high-quality services. Funding is needed to support capacity building to ensure criminal justice professionals have the necessary skills to support individuals with brain injury. Several

focus group participants suggested building funding opportunities into federal funding solicitations (e.g., from BJA and the Substance Abuse and Mental Health Services Administration) and developing clear sustainability guides for jurisdictions that are awarded grants. One focus group participant also noted that "including brain injury as a 'behavioral health' condition [in funding opportunities] can be a helpful way to secure funding." Beyond programming, findings from this project have also highlighted the need for the further development of training, technical assistance, and supportive resources for the field, all of which require a more sustainable investment.

Additional funding is also needed to support research to advance the knowledge of the field at the intersection of brain injury and the criminal justice system. While researchers are making strides in studying brain injury in the criminal justice system, including mapping brain injury onto the SIM, expanding work on youth in the juvenile justice system, and conducting focused research on specific brain injury interventions with individuals who are incarcerated, there are still gaps in the literature and limitations within the existing literature, such as small or contained sample sizes and restricted data availability, that have hindered the generalizability of findings.

PROMISING PRACTICES

In one promising development, researchers from the Brain Injury Research Center at the Icahn School of Medicine at Mount Sinai are partnering with the Pennsylvania Department of Corrections and the Brain Injury Association of Pennsylvania to conduct a 5-year study on NRF and reducing recidivism. The study is funded by the National Institute of Justice and has been implemented in four Pennsylvania state correctional institutions. It is a randomized controlled trial that will evaluate NRF's effectiveness by comparing rates of recidivism and related outcomes (e.g., employment and housing) between a group of justice-involved individuals who screen positive for a brain injury and receive NRF before reentry and another similar group who will receive standard reentry services.

Summary and Call to Action

This report represents a Call to Action for criminal justice actors at the local, state, and federal levels to recognize the importance of identifying and appropriately addressing brain injury across the system. The findings reveal a clear picture of opportunities across the criminal justice system and the need for coordinated change. Individuals encountering the justice system often present with highly complex needs, and over half have a brain injury history. Implementing best practices and policy reform around brain injury improves the outcomes of individuals living with brain injury in the justice system. Even more, helping individuals effectively manage the consequences and symptoms of their brain injury enhances public safety.

To advance the field at the intersection of brain injury and the criminal justice system, this report provides key recommendations derived from existing empirical research, as well as the experiences and lessons learned of those at the cutting edge of the brain injury and justice fields. Many of the focus groups and interview participants have dedicated their careers to this work, some of whom have conducted the research that laid the foundation for systems reform. The recommendations focus on outlining a clear roadmap across the criminal justice system to implement best practices to improve responses to persons living with brain injury, in addition to highlighting the importance of supportive resources and infrastructure to advance these recommendations. Equipped with these findings and recommendations, criminal justice actors across the field can take action to create a justice system that is inclusive and responsive to individuals with brain injury.

Appendix A

Additional Resources

The National Association of State Head Injury Administrators (NASHIA) has been a leader in this work and continues to provide resources and guidance to state and local leaders. NASHIA's Leading Practices Academy on Criminal and Juvenile Justice and Brain Injury provides direct state technical assistance and consultation, peer-to-peer support, and access to their online resources and community forum.

NASHIA also released a Criminal & Juvenile Justice Best Practice Guide for state brain injury programs with access to supporting materials and resources.

The Brain Injury Alliance of Colorado and MINDSOURCE Brain Injury Network developed a handout detailing some easy-to-implement compensatory strategies and accommodation techniques for criminal justice professionals working with people with brain injury.

Developed by researchers at the Department of Veterans Affairs, this TBI Toolkit provides essential information to address the needs of individuals with a brain injury and co-occurring behavioral health conditions. The voices of community mental health clinicians, justice-involved professionals, and military/veteran experts were central in identifying areas of focus. The toolkit includes background information and education, screening and assessment tools, interventions and treatment modification suggestions, and additional resources for providers.

The Accommodating the Symptoms of TBI training was developed by Ohio Valley Center for Brain Injury Prevention and Rehabilitation with contributions from the Minnesota Department of Human Services State Operated Services. It was developed with support from a grant from the U.S. Department of Health and Human Services, Health Resources and Services Administration, the Ohio Rehabilitation Services Commission, and The Ohio State University.

The Model Systems Knowledge Translation Center (MSKTC) is a national center operated by the American Institutes for Research® that translates health information into easy-to-understand language and formats for patients with TBI and other injuries and their families and caregivers. MSKTC reviews and synthesizes current research, publishes articles and technical reports, develops knowledge translation tools, and creates patient and family resources to inform clinical practice, including TBI fact sheets.

BrainLine is a national multimedia project offering information and support to people with brain injuries, their family and friends, and professionals who work with them. BrainLine also provides military-specific information and resources on TBI and post-traumatic stress disorder to veterans, service members, and their families.

The National Partnership of Juvenile Services released a position statement on identifying and responding to youth with brain injuries within the juvenile justice system.

In this TED talk, neuropsychologist Kim Gorgens shares her research into the connection between brain trauma and the behaviors that keep people cycling through the criminal justice system and offers ways to make the system more effective.

National Advocacy Organizations:

The Brain Injury Association of America's mission is to advance awareness, research, treatment, and education and to improve the quality of life for all people affected by brain injury.

The United States Brain Injury Alliance's mission is to build state and national capacity to create a better future alongside individuals affected by brain injury.

Appendix B

Focus Group and Interview Methods

Six separate focus group sessions were conducted with various organizations to learn more about the unique needs of people living with brain injury involved in the justice system and areas for the field to consider regarding identification of and response to brain injuries. The focus groups included meetings with the National Association of State Head Injury Administrators; the Brain Injury Association of Pennsylvania, Brain Injury Association of North Carolina, and Brain Injury Alliance of Colorado; the Los Angeles, CA, Police Department Mental Health Training Unit; the Harris County, TX, Sheriff's Department; the National Association of Drug Court Professionals and BJA; and a joint focus group with representatives from national law enforcement organizations, including the National Policing Institute, Major Cities Chiefs Association, International Association of Directors of Law Enforcement Standards and Training, and the International Association of Chiefs of Police.

BJA and the CSG Justice Center facilitated a listening session at the National Co-Responder Conference attended by approximately 30 representatives of co-responder teams throughout the country, who shared their experiences and challenges associated with responding to situations involving persons living with brain injuries, as well as their training exposure and needs.

BJA and the CSG Justice Center also hosted an in-person event entitled "Courts Leading Change through JMHCP: National Forecasting Meeting," where a small group of state and local stakeholders convened from across the country to discuss how the Justice and Mental Health Collaboration Program (JMHCP) can best support courts and court stakeholders in their work to safely reduce the number of people with behavioral health needs who enter courthouses. Brain injury was integrated into the sessions through posing brain injury-specific questions to the attendees. In addition, a representative from NASHIA attended the forecasting meeting as a brain injury expert and was available to answer attendees' questions regarding brain injury in the court system.

In addition to the focus groups, listening session, and forecasting meeting, BJA and the CSG Justice Center conducted several one-on-one and group interviews with leading researchers and subject matter experts in the field.

Focus Group and Interview Participants

Staff	*Organization*	*Role*	*Area of Expertise/Group*
Kelly Burke	International Association of Chiefs of Police (IACP)	Senior Program Manager	Law Enforcement Training
Kristen Dams-O'Connor*	Icahn School of Medicine at Mount Sinai	Professor and Vice Chair; Director of Brain Injury Research Center	Research
Anne DePrince	University of Denver	Professor; Associate Vice Provost for Public Good Strategy and Research	Domestic/Intimate Partner Violence; Research
Judy Dettmer*	National Association of State Head Injury Administrators (NASHIA)	Director of Technical Assistance and Special Projects	Brain Injury

**Denotes participants of the Brain Injury and Justice System Workgroup involved in reviewing the recommendations contained in this report.*

Special thanks to Maria Fryer and Brooke Mount from the Bureau of Justice Assistance for their insights and support with workgroup facilitation.

Note: Title and agency affiliations reflect those at the time of project participation.

Staff	*Organization*	*Role*	*Area of Expertise/Group*
Denice Enriquez*	Brain Injury Alliance of Colorado	Statewide Legal Systems Program Manager	State Brain Injury Network
Jose Gomez*	Harris County Sheriff's Office	Sergeant	Law Enforcement
Kim Gorgens*	University of Denver	Professor; Brain Injury Expert; Principal Investigator	Research
Jason Gould*	National Sheriffs' Association (NSA); Genesee County Sheriff's Office	Consultant and Subject Matter Expert (NSA); Major of Operations (Genesee County Sheriff's Office)	Corrections
Brian Grisham	International Association of Directors of Law Enforcement Standards and Training (IADLEST)	Deputy Director	Law Enforcement Training
Jaime Horsfall	Brain Injury Alliance of Colorado	Corrections Program Manager	State Brain Injury Network
Regi Huerter	Policy Research Associates (PRA)	Senior Project Associate II	Brain Injury and Justice
Casey LaDuke	Icahn School of Medicine at Mount Sinai; City University of New York (CUNY)	Assistant Clinical Professor (Icahn School of Medicine at Mount Sinai); Assistant Professor (CUNY)	Research
Julienne Long	City of Columbus, Ohio, Courts	Advocacy Coordinator	Domestic/Intimate Partner Violence
Fred Meyer	National Commission on Correctional Health Care (NCCHC) Resources	Managing Director	Corrections
Drew Nagele	Philadelphia College of Osteopathic Medicine (PCOM)	Clinical Professor	Research
Julianna Nemeth	Ohio State University	Assistant Professor	Domestic/Intimate Partner Violence; Research
Jason Olin	Major Cities Chiefs Association	Director of Government Affairs	Law Enforcement Training
Daniel Pietrzak	Brain Injury Association of North Carolina	Executive Director	State Brain Injury Network
Rachel Ramirez*	Ohio Domestic Violence Network	Director of Health and Disability Programs; Founder of the Center on Partner-Inflicted Brain Injury	Domestic/Intimate Partner Violence

**Denotes participants of the Brain Injury and Justice System Workgroup involved in reviewing the recommendations contained in this report. Special thanks to Maria Fryer and Brooke Mount from the Bureau of Justice Assistance for their insights and support with workgroup facilitation.*

Note: Title and agency affiliations reflect those at the time of project participation.

Staff	*Organization*	*Role*	*Area of Expertise/Group*
Elizabeth Reyes*	Los Angeles Police Department	Detective III; Officer-in-Charge; MEU Training Unit	Law Enforcement
Zaida Ricker	National Association of State Head Injury Administrators (NASHIA)	Director of Strategic Partnerships and Policy	Brain Injury
MJ Schmidt*	Brain Injury Association of Pennsylvania	Training and Outreach Coordinator	State Brain Injury Network
Amanda Shoulberg*	National Policing Institute (NPI)	Research Associate	Law Enforcement Training
Charles Smith*	Substance Abuse and Mental Health Services Administration (SAMHSA)	Regional Director (Region 8)	Veterans
Scott Tirocchi*	All Rise (formerly National Association of Drug Court Professionals)	Division Director, Justice for Vets Division	Treatment Courts
Gregory Torain*	Department of Justice/ BJA	Senior Policy Advisor	Treatment Courts
Monica Vaccaro	Brain Injury Association of Pennsylvania	Program Manager	State Brain Injury Network
Rebeccah Wolfkiel*	National Association of State Head Injury Administrators (NASHIA)	Executive Director	Brain Injury
30 participants	Multiple co-responder teams representing 15 organizations at the National Co-responder Conference	N/A	Co-Response
40 participants	Criminal justice/court personnel representing 15 organizations at the Courts Leading Change through JMHCP Meeting	N/A	State/National Courts

**Denotes participants of the Brain Injury and Justice System Workgroup involved in reviewing the recommendations contained in this report.*
Special thanks to Maria Fryer and Brooke Mount from the Bureau of Justice Assistance for their insights and support with workgroup facilitation.

Note: Title and agency affiliations reflect those at the time of project participation.

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