

## Opioids and TBI Grantees Brief

The Administration for Community Living's National Institute on Disability, Independent Living, and Rehabilitation Research (NIDILRR) [Summary of Responses from a Request for Information: People with Disabilities and Opioid Use Disorder](#) found that people with Traumatic Brain Injuries (TBIs) have significantly greater risk for opioid misuse and overdose. People with TBIs often experience chronic headaches and musculoskeletal injuries for which physicians prescribe opioids. In addition, people with TBIs often have difficulty managing these prescriptions due to memory lapses and reduced impulse control.<sup>i</sup> Analyses of 14,398 subjects in the [NIDILRR Traumatic Brain Injury Model Systems database](#) revealed that people with traumatic brain injury were 11 times more likely to die of overdose than the non-brain injured population.<sup>ii</sup> Not only is having a TBI a risk factor for opioid misuse, but opioid misuse can be a risk factor for an acquired brain injury resulting from a lack of oxygen to the brain.<sup>iii</sup>

Because of the increased risks for someone with a TBI who may require opioids coupled with other pain management interventions, ACL's [TBI State Partnership Program](#) has established a three-pronged approach to improve outcomes for people with TBIs.

### TBI State Level Activities

ACL asked TBI grantee state agencies how they would incorporate opioid interventions within their three-year state plans. The following programs feature promising practices.

The **Massachusetts Rehabilitation Commission** is working towards raising brain injury awareness within the state's existing opioid initiatives. The program's goal is to build connections between TBI and Substance Use Disorder (SUD) treatment communities, strengthen services for families and individuals with TBI and SUD, train program staff, and connect SUD program graduates with TBIs to brain injury programs through the following activities:

- A "Train the Trainer" workforce development model for over 500 clinical professionals as well as paraprofessionals, including [Aging and Disability Resource Consortium](#) staff and first responders on how to: 1) screen for TBI; 2) perform SUD risk assessments; 3) respond to a positive brain-injury screen; 4) implement accommodations for survivors and, 5) support TBI and SUD service providers;
- An Enhanced Resource Facilitation Pilot to demonstrate the effectiveness of providing support to people with TBI-SUD co-occurring conditions as they discharge from SUD programs, and to support them in connecting with services including targeted referrals and short-term intensive case management; and
- A collaborative effort with public health and SUD programs to determine the best evidence-based brain injury screening tool(s) for different levels of SUD services and to create appropriate resources for distribution.

The **West Virginia University Research Corporation**, which also serves as the state's [University Center on Excellence in Developmental Disabilities \(UCEDD\)](#), is increasing the state's capacity to provide services to people with TBI with regard to their long-term health, community integration, and independent living. This is critical work as West Virginia had the highest rate of drug overdose mortality in the U.S. with more than 880 deaths in 2016<sup>iv</sup>. The UCEDD will spearhead the following activities:

- Creation of two needs assessments that will focus on the needs of people with TBI as they relate to employment, job services, opioid treatment options, domestic violence services and supports, co-occurring TBI and serious mental illness;

- Collaborating with two major universities to provide simulation lab exercises to health professionals on TBI and concussion, opioid addiction, serious co-occurring mental illness, and domestic violence; and
- Hosting three TBI conferences with sessions on opioids and co-occurring serious mental illness.

The **Virginia Department for Aging and Rehabilitative Services (DARS)** is improving access to appropriate services and supports for persons with co-occurring TBI and behavioral health disorders including opioid use disorder. TBI is the number one reported cause of injury death in Virginia<sup>v</sup> but little is currently known about the nature and scope of opioid use and misuse among people with brain injuries in Virginia. DARS has undertaken the following activities to explore this issue:

- Development and administration of training and materials on the intersection of behavioral health and TBI including a pharmacology webinar and online curricula highlighting the geographic access issues that are often barriers to participation for providers in more rural areas; and
- In collaboration with [Virginia Commonwealth University's TBI Model Systems program](#) and other brain injury data sources, creation of an inventory of TBI data sources about the link between opioid use and brain injury.

In Kentucky, over half of opioid overdose hospitalizations resulted in people receiving a brain injury diagnosis.<sup>vi</sup> Therefore, the **Kentucky Cabinet for Health and Family Services** is working to increase the state's capacity to strengthen and provide access to comprehensive and coordinated services for individuals with TBIs, their family members, and support networks. As a newer ACL Partner State Grantee, Kentucky is receiving mentorship from states with more established infrastructure. Through these partnerships Kentucky is:

- Seeking guidance on treatment for co-occurring brain injury and substance misuse;
- Determining which models are promising, as there are currently no specific evidence-based models for these co-occurring diagnoses; and
- Including opioid misuse within the annual state plan and needs assessment.

**Maryland Department of Health's Behavioral Health Administration (BHA)** has implemented the STAR Model (Screening, Training professionals and paraprofessionals, Activating stakeholders, and Reducing risk of overdose) to better serve people with TBIs and their families and caregivers. Through this model, BHA is:

- Training behavioral health providers, harm reduction programs, and crisis response teams on how to screen for a history of brain injury and how to provide person-centered, cognitively accessible treatment accommodations to improve clinical and functional outcomes; and
- Training Overdose Fatality Review professionals how to identify a history of brain injury within the context of the "social autopsy," completed for everyone who experiences a fatal overdose. BHA will train staff to look for clues in the medical record and family reports that the individual may have had a history of brain injury. This data will then be used to determine prevalence of brain injury among those who have fatally overdosed and to track increases or decreases in prevalence over time.

BHA aims to reduce overdoses by 20% among Marylanders with a TBI during the next three years.

The **North Carolina Department of Health and Human Services** is focused on training activities to increase awareness of the risk of substance use, including the use of opioids among individuals with a TBI. The program is providing in-person trainings to people with TBIs, caregivers, and professionals and updating their online Substance Use and TBI training module to address the risk of addiction to opioids.

### **National Collaboration with NIDILRR and Craig Hospital**

In addition to efforts with TBI state agencies, the TBI State Partnership Program has also provided an administrative supplement to the NIDILRR project entitled *Characterization and Treatment of Chronic Pain after Moderate to Severe TBI*, housed at [Craig Hospital's Traumatic Brain Injury Model Systems National Data and Statistical Center](#). This supplement allows Craig Hospital to complete two additional activities during the first year of the grant:

- A scoping literature review on opioid use/misuse in people with TBI (civilian and military); and
- Development of an online tool that will allow live summary reporting on the data being gathered for the purposes of this study specifically on opioid use and pain management in the treatment of chronic pain. The dashboard will track live enrollments, data collection completion rates, and other summary information identified as key factors in the study.

### **TBI State Partnership Program Opioid Use Workgroup**

ACL formed the TBI State Partnership Program Opioid Use Workgroup in August 2018, led by grantee representatives from the Massachusetts Rehabilitation Commission and West Virginia University Research Corporation. In September, the workgroup convened all participating grantees at the National Association of State Head Injury Administrators 2018 State of the States meeting to develop the multi-step approach outlined below. The group will:

- 1) Audit available resources, products, trainings, and planned activities;
- 2) Identify gaps and overlapping initiatives to establish an efficient work plan for creating the resources needed by the community; and
- 3) Work collaboratively towards the creation of culturally competent and person-centered resources and trainings that address the needs of TBI survivors experiencing opioid use disorder.

ACL looks forward to continuing to update the disability and aging communities on these ongoing initiatives and we invite you to continue to provide relevant information to shape the ACL State Partnership Program's priorities.

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<sup>i</sup> Sellitto, M., Ciaramelli, E., & di Pellegrino, G. (2010). Myopic discounting of future rewards after medial orbitofrontal damage in humans. *The Journal of Neuroscience*, 30(49), 16429–16436.

<sup>ii</sup> Hammond, F. M., Dams-O'Connor, K, Ketchum J et al (2018). Mortality secondary to accidental poisoning after inpatient rehabilitation for traumatic brain injury study: A NIDILRR Traumatic Brain Injury Model Systems Study. Manuscript in Preparation

<sup>iii</sup> Dassanayake TL, Michie PT, Jones A, et al. Cognitive impairment in patients clinically recovered from central nervous system depressant drug overdose. *Journal of Clinical Pharmacology*. 32: 503- 510, 2012

<sup>iv</sup> Hedegaard H, Warner M, Miniño AM. Drug overdose deaths in the United States, 1999–2016. NCHS Data Brief, no 294. Hyattsville, MD: National Center for Health Statistics. 2017

<sup>v</sup> Division of Population Health Data. Resident hospital discharge data from Virginia Health Information database. Richmond, VA: Virginia

<sup>vi</sup> Hargrove, S.L., Bunn, T.L., Slavova, S., et al. (2018). Establishment of a Comprehensive Drug Overdose Fatality Surveillance System in Kentucky to Inform Drug Overdose Prevention Policies, Interventions, and Best Practices. *Inj Prev*. 2018 Feb;24(1):60-67