The Intersection between Traumatic Brain Injury and Mental Health: An Introduction
Housekeeping Items

• We have made every attempt to make today’s presentation secure. If we need to end today’s presentation unexpectedly, we will follow-up with you using your registration information.

• All attendees are muted, and attendees cannot share video during this session.

• Remember to ask questions using the Q&A feature. Only the answers will be seen by all attendees.

• The chat feature is public, and comments can be seen by all attendees.

• Follow us on social media:

  🎥 @MPMHTTC   🌐 @MountainPlainsMHTTC
Who We Are

The Mountain Plains Mental Health Technology Transfer Center provides training and technical assistance on evidence-based practices to the mental health providers of Region 8 (Colorado, Montana, North Dakota, South Dakota, and Utah).

We belong to the Technology Transfer Center (TTC) Network, a national network of training and technical assistance centers serving the needs of mental health, substance use and prevention providers. The work of the TTC Network is under a cooperative agreement by the Substance Abuse and Mental Health Service Administration (SAMHSA).

Co-hosted by:

The University of North Dakota

and

The Western Interstate Commission for Higher Education (WICHE)
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The Mountain Plains MHTTC is funded through SAMHSA to provide this training. As part of receiving this funding we are required to submit data related to the quality of this event.

At the end of today’s training please take a moment to complete a brief survey about today’s training. Here is the link for the survey:

https://ttc-gpra.org/P?s=317313
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At the time of this presentation, Elinore F. McCance-Katz served as SAMHSA Assistant Secretary. The opinions expressed herein are the views of Rebeccah Wolfkiel, Judy Dettmer, and Charles Smith and do not reflect the official position of the Department of Health and Human Services (DHHS), or SAMHSA. No official support or endorsement of DHHS, SAMHSA, for the opinions described in this presentation is intended or should be inferred.
The Intersection between Traumatic Brain Injury and Mental Health: An Introduction
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Today’s Presenters

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NASHIA’s Mission

NASHIA is a nonprofit organization created to assist State government in promoting partnerships and building systems to meet the needs of individuals with brain injury and their families.
NASHIA Provides

- Resources and Information
- Advocacy
- Training and Professional Development
- State and National Trends
- Connections
Objectives

1. Gain an understanding of brain injury

2. Learn about the prevalence of brain injury in the context of behavioral health

3. Gain an understanding of a basic framework for supporting individuals with brain injury and co-occurring behavioral health
Why Knowing about Brain Injury Matters

• A history of TBI is often hidden among individuals with cognitive/intellectual disabilities, spinal cord injury, and behavioral health challenges (mental health and addiction).

• If provider knows/suspects history of TBI, they can engage from the start of the relationship and make the right referrals.
Why Knowing about Brain Injury Matters

- Provider can make simple accommodations to better support the individual’s deficits

- Provide psychoeducation for the individual so that they may be better equipped to advocate for themselves
Brain Injury Defined

Acquired Brain Injury

- Traumatic Brain Injury
  - External Forces: assault, fall, blast injury, motor vehicle accident

- Non Traumatic Brain Injury
  - Internal Event: stroke, tumor, lack of oxygen, infection
Classification of Severity

• **Mild** > Loss of consciousness 0-30 minutes (Concussion)

• **Moderate** > Loss of consciousness 30 minutes to 24hrs

• **Severe** > Loss of consciousness for over 24 hours
Mild TBI – Complications

>75% of TBIs are mild. MTBI symptoms may appear mild, but can lead to significant, life-long impairment affecting an individual’s ability to function physically, cognitively, and psychologically.

Symptoms may be subtle
- 90% of concussions are not associated with a loss of consciousness
- Concussive symptoms may develop over days or even months later

Treated in non-hospital setting, not in ED, or not treated at all
- 90% of mTBI may go unreported
- Often not visible on CT scan or MRI

Brain Injury can mirror other disabilities or conditions
## Possible Physical Changes

<table>
<thead>
<tr>
<th>Injury-related problem</th>
<th>How it may affect a person functionally</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coordination</td>
<td>Unsteady gait, poor eye-hand coordination, slow or slurred speech, tremors, paralysis</td>
</tr>
<tr>
<td>Visual Deficits</td>
<td>Staring or poor eye contact, blurred or double vision, inability to follow an object with their eyes</td>
</tr>
<tr>
<td>Additional Physical Challenges</td>
<td>Seizures, deaf or hard of hearing, fatigue</td>
</tr>
</tbody>
</table>
### Possible Cognitive Changes

<table>
<thead>
<tr>
<th>Injury-related problem</th>
<th>How it may affect a person functionally</th>
</tr>
</thead>
<tbody>
<tr>
<td>Memory</td>
<td>Trouble following directions, providing requested information, making appointments</td>
</tr>
<tr>
<td>Processing (receptive)</td>
<td>Understanding what is being said and reading</td>
</tr>
<tr>
<td>Processing (expressive)</td>
<td>Trouble putting thoughts into words — tip of the tongue syndrome</td>
</tr>
<tr>
<td>Problem solving (related to frontal lobe and temporal tip injury)</td>
<td>Impulsive, easily frustrated, sexually disinhibited, verbally/physically combative, interpersonally inflexible, poorly organized</td>
</tr>
</tbody>
</table>
# Possible Behavioral Changes

<table>
<thead>
<tr>
<th>Injury-related problem</th>
<th>How it may affect a person functionally</th>
</tr>
</thead>
<tbody>
<tr>
<td>Depression</td>
<td>Flat affect, lack of initiation, sadness, irritability</td>
</tr>
<tr>
<td>Unawareness</td>
<td>Unable to take social cues from others</td>
</tr>
<tr>
<td>Confabulation</td>
<td>“Making up stories”</td>
</tr>
<tr>
<td>Perservation</td>
<td>Gets “stuck” on a topic of conversation or physical action</td>
</tr>
<tr>
<td>Anxiety</td>
<td>Can exacerbate other cognitive/behavioral problems</td>
</tr>
</tbody>
</table>
Special Populations
## Behavioral Health and Brain Injury

<table>
<thead>
<tr>
<th>Suicide Attempts</th>
<th>Substance Abuse</th>
<th>Mental Health</th>
</tr>
</thead>
</table>
| • 28% with suicidal thoughts, 17% attempts  
• 4% in general population | • 43% alcohol abuse, 29% illicit drugs, 48% either  
• 7% general population (NSDC, Corrigan, 2003) | • 1/3 of TBI survivors experience mental health after TBI  
• 19% general population |
Justice Involved

• Meta-analytic review found the prevalence of TBI in the offender population to be 60.25% (Shiroma, Ferguson, & Pickelsimer, 2010)

• A meta-analysis found that approximately 30% of juvenile offenders have sustained a previous brain injury (Vaughn, Salas-Wright, Delisi, & Perron, 2014)

• TBI is associated with higher impulsivity, aggressive behavior and negative emotion ratings (Farrer, Frost, & Hedges, 2013)
Justice Involved with Traumatic Brain Injury

<table>
<thead>
<tr>
<th>Condition</th>
<th>Incarcerated Population</th>
<th>General Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>HISTORY OF SUBSTANCE USE</td>
<td>96</td>
<td></td>
</tr>
<tr>
<td>PSYCHOTROPIC MEDICATION USAGE</td>
<td>57.1</td>
<td></td>
</tr>
<tr>
<td>ATTEMPTED SUICIDE</td>
<td>41.6</td>
<td></td>
</tr>
<tr>
<td>VICTIM OF CHILDHOOD VIOLENCE</td>
<td>63.8</td>
<td></td>
</tr>
<tr>
<td>PSYCHOTIC DISORDER</td>
<td>17.3</td>
<td></td>
</tr>
<tr>
<td>MOOD DISORDER</td>
<td>73.1</td>
<td></td>
</tr>
<tr>
<td>ANXIETY DISORDER</td>
<td>43.2</td>
<td></td>
</tr>
<tr>
<td>DISSOCIATIVE DISORDER</td>
<td>3.1</td>
<td></td>
</tr>
<tr>
<td>HISTORY OF MENTAL ILLNESS</td>
<td>78.4</td>
<td></td>
</tr>
</tbody>
</table>
43% (n over 2,000) of respondents reported a history of TBI with the mean age of first injury being 15.

Individuals with TBI become homeless at a younger age and are more likely to report mental health diagnoses, substance use, suicidality, victimization, and difficulties with activities of daily living.

51% reported sustaining their first injury prior to becoming homeless or at the same age as their first homelessness episode. (Mackelprang, Harpin, Grubenhoff, & Rivara, 2014)
The Developing Brain
Pediatric TBI: Two Stages of Recovery
Veterans and Brain Injury

- During peacetime, over 7,000 annually admitted to military and veterans' hospitals with diagnosis of TBI (IOM, 2009)

- 80 percent of TBIs since Sept. 11, 2001 have been non-combat related

- More common among non-combat military personnel than in the general population:
  - High concentration of service members in the highest incidence age groups (18 – 44)
  - Greater risk for injury associated with non-combat military duties
  - Greater consumption of alcoholic beverages by military personnel
Screening for Brain Injury
Importance of Screening for Brain Injury

One study found that 42% of persons who indicated they had incurred a TBI as defined by the CDC did not seek medical attention *(Corrigan & Bogner, 2007)*

- Clients may be eligible for case management support/services
- Psychotherapies can be adapted for neurocognitive deficits. Examples:
  - Minimize environmental distractions
  - Educational therapies (e.g. CBT, DBT) should emphasize pacing, provide frequent opportunities for clients to respond, generate feedback, and provide reinforcement to maintain client engagement
  - Written material/handouts where possible
  - Repetition of key points
Components of Screening

• **Education / awareness**
  • Training regarding the sequelae of brain injury
  • Important to have a foundational knowledge of brain injury
  • Training should be provided to anyone conducting intake/screening

• **Medical documentation**
  • Best practice
  • Important to note that medical documentation only indicates an injury not impact
  • Documentation should be from a clinician trained in diagnosing TBI

• **Establishing credible history**

• **Assessing impact**

• **Modifying/generating novel interventions**
Screening Tools

1. Ohio State Traumatic Brain Injury Identification Method (OSU TBI-ID)
   (Ages 13 plus)

2. Brain Check Survey
   (School aged children/youth)
   https://www.chhs.colostate.edu/ot/research/life-outcomes-after-brain-injury-research-program/
We are NOT treating the brain injury, we ARE treating the behavioral health concern in the context of brain injury:

Demystifies brain injury for non-brain injury professionals

Empowers individuals with brain injury and families to advocate for appropriate supports
Framework

Build capacity of the behavioral health system so providers can:

1. Ensure policies do not inadvertently exclude those with brain injury.
2. Screen for and recognize brain injury.
4. Provide basic accommodations and modifications to ensure treatment is more successful.
5. Provide referral to appropriate brain injury related resources.
Building Blocks of Brain Development

The Hierarchy of Neurocognitive Functioning © - created by Peter Thompson, Ph.D. 2015, adapted from the works of Miller 2007; Reitan and Wolfson 2004; Hale and Fiorello 2004.

The Building Blocks of Brain Development © – further adapted by the CO Brain Injury Steering Committee, 2016.
Skill Vs. Will

If think they have the skill but choose to not use it, likely to think punishment

If think they don’t have the skill, less likely to think punishment, more likely to think of teaching the skill
Helpful Tools
TBI Toolkit

Free Online Toolkit

http://www.mirecc.va.gov/visn19/tbi_toolkit/

Developed by researchers at the Department of Veterans Affairs, this toolkit is designed to assist providers in identifying TBI and associated co-occurring problems and determining potential need for further evaluation and/or mental health treatment modification.

Click here to access the toolkit. Click here and open the “Training Resources” menu for valuable slides from the initial training on this toolkit.

The goal is to offer providers working with clients who have a history TBI and mental health symptoms the following:

- Background information/Education
- Screening and Assessment Tools
- Interventions and Treatment Modification Suggestions
- Additional resources
Cokids with Brain Injury
www.cokidswithbraininjury.com
Accommodating the Symptoms of TBI
http://ohiovalley.org/informationeducation/accommodatingtbi/

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Ohio Valley Center for Brain Injury Prevention and Rehabilitation
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Additional Resources

Traumatic Brain Injury Model Systems Knowledge Translation Center:
https://msktc.org/tbi

https://msktc.org/lib/docs/Factsheets/TBI_Emotion Problems and TBI.pdf

https://msktc.org/lib/docs/Factsheets/TBI_Depression and TBI.pdf
Additional Resources

Brandies, Heller School, Institute for Behavioral Health: https://heller.brandeis.edu/ibh/research/inroads/publications-products.html

Brainline: https://www.brainline.org/

State Brain Injury Programs & Partnerships

https://www.nashia.org/state-program-directory
State Program Partnerships

- Veterans
- Aging
- Criminal Justice
- Domestic Violence
- Housing
- Medicaid
- Behavioral Health
ACL TBI State Partnership Program

ACL grantees

- **Mentor States**
- **Partner States**
Bridging Brain Injury & Behavioral Health Systems

Opioid & Brain Injury Webinar Series (www.nashia.org/webinars.asp)

Opioid & Brain Injury Fact Sheet

Partnership with NASMHPD

• 2018 Reciprocal Conference Participation
• 2019 SAMHSA funded paper “TBI and Behavioral Health Treatment”
• 2019 & 2020 Presentations Before State Mental Health Directors
Bridging Brain Injury & Behavioral Health Systems

“What If There’s a TBI?” Online Training Module w/ State Brain Injury Resources

2020 Annual Conference

Collaboration with Craig Hospital
THANK YOU!

Questions????

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