Trends in Criminal & Juvenile Justice

Maria Crowley, Director
Head Injury Program
AL Dept. of Rehabilitation Services
Ofc: 205.290.4590
Cell: 205.517.1881
maria.crowley@rehab.alabama.gov

Judy L. Dettmer, Director
MINDSOURCE – Brain Injury Network
CO Dept. of Human Services
Ofc: 303.866.4085
Cell: 303.854.4144
judy.dettmer@state.co.us
Brain Injury in Criminal Justice

- Williams, Mewse, Tonks, Mills, Burgess, and Cordan (2010) found the incidence of TBI in correctional settings to be 65%.
  - With 2 million incarcerated offenders, we have 1.2 million people living with brain injury in our prisons.
  - Prevalence in the population on the whole is 4.5% which would predict 90,000 in prisons.
# Prevalence of Traumatic Brain Injury in an Offender Population: A Meta-Analysis

*Eric J. Shiroma, MS¹,²; Pamela L. Ferguson, PhD¹; E. Elisabeth Pickelsimer, DA¹*

<table>
<thead>
<tr>
<th>Screening Method</th>
<th>Any TBI</th>
<th>TBI with LOC</th>
</tr>
</thead>
<tbody>
<tr>
<td>All screening methods</td>
<td>60.3%</td>
<td>50.2%</td>
</tr>
<tr>
<td>In-depth interview</td>
<td>66.9%</td>
<td>52.3%</td>
</tr>
</tbody>
</table>

Based on 20 studies published between 1983-2009; Estimates are weighted for gender and offender type.
### TBI and In-Prison Behavior
Piccolino & Solberg, 2014

<table>
<thead>
<tr>
<th>Likelihood Affected by Previous TBI:</th>
<th>Low (no TBI)</th>
<th>Possible</th>
<th>Probable</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Did not complete SUD Tx</td>
<td>19.5%</td>
<td>29.3%</td>
<td>37.3%</td>
<td>ns</td>
</tr>
<tr>
<td>Required Crisis Intervention</td>
<td>2.9%</td>
<td>5.7%</td>
<td>11.5%</td>
<td>.001</td>
</tr>
<tr>
<td>Major Disciplinary Infraction</td>
<td>16.4%</td>
<td>23.1%</td>
<td>22.2%</td>
<td>ns</td>
</tr>
<tr>
<td>Minor Disciplinary Infraction</td>
<td>45.6%</td>
<td>50.3%</td>
<td>55.6%</td>
<td>ns</td>
</tr>
<tr>
<td>Recidivism After Release</td>
<td>33.3%</td>
<td>43.3%</td>
<td>51.1%</td>
<td>.011</td>
</tr>
</tbody>
</table>
Behavioral Health Symptoms in Kentucky Prisoners
Walker, Hiller, Staton, & Leukefeld, 2003

<table>
<thead>
<tr>
<th>Symptom</th>
<th>No head injury</th>
<th>1 head injury</th>
<th>&gt;1 head injury</th>
</tr>
</thead>
<tbody>
<tr>
<td>Depression</td>
<td>30</td>
<td>45</td>
<td>58</td>
</tr>
<tr>
<td>Anxiety</td>
<td>29</td>
<td>37</td>
<td>53</td>
</tr>
<tr>
<td>Hallucinations</td>
<td>6</td>
<td>9</td>
<td>15</td>
</tr>
<tr>
<td>Cognition px's</td>
<td>20</td>
<td>31</td>
<td>44</td>
</tr>
<tr>
<td>Violent thoughts</td>
<td>35</td>
<td>42</td>
<td>54</td>
</tr>
<tr>
<td>Suicidal ideation</td>
<td>16</td>
<td>27</td>
<td>34</td>
</tr>
<tr>
<td>Suicide attempts</td>
<td>11</td>
<td>20</td>
<td>28</td>
</tr>
</tbody>
</table>
Why Screen for TBI Among Justice-Involved Individuals?
Federal Recommendations

- The **Commission on Safety and Abuse in America’s Prisons** was established in 2005 to identify and recommend solutions to the most serious challenges facing America’s jails and prisons.

  - Routine screening for TBI
  - Screening individuals with TBI for substance abuse and co-occurring mental health diagnoses
  - Education for personnel about how to manage and support individuals with TBI (see also [http://www.cdc.gov/traumaticbraininjury/pdf/Prisoner_TBI_Prof-a.pdf](http://www.cdc.gov/traumaticbraininjury/pdf/Prisoner_TBI_Prof-a.pdf))
TBI can affect the delivery of correctional health services and offender management (Piccolino & Solberg, 2014)

- Increased utilization of services while incarcerated (health and psychological)
- Lower treatment completion rates and higher rates of disciplinary incidents
- Lower ability to maintain rule-abiding behavior during incarceration
- More prior incarcerations
- Higher rates of recidivism (17% higher than a “low TBI” group)
  - See also Williams, Mewse, Tonks, Mills, Burgess & Cordan, 2010
- Higher levels of alcohol and drug use preceding their current incarceration

These justice-involved individuals report a greater incidence of:

- Severe depression and anxiety
- Substance use disorders
- Problematic anger
- Suicidal ideation and/or attempts
Treatment

- Treat the Deficit **not** the BRAIN INJURY
- Psychotherapies can be adapted for neurocognitive deficits.
- Minimize environmental distractions.
- Written material/handouts where possible.
- Repetition of key points.
- Non-electronic devices might include checklists, pictures or icons, photograph cues, post-it-notes, calendars, planners, and journals.
- Therapies should be introduced with a simple rationale.
Alabama’s Program
ACL Grant

- Provide training for DYS system and community JJ stakeholders: GALs, JPOs, diversion program staff, judges
- Provide JJ/CJ training for all TBI staff
- Screen for history of brain injury – OSU TBI-ID
- Collect records and conduct interview by phone
- Abbreviated intake/summary/recommendations by neuropsychologist
- Refer to TBI system staff: NP, counselor, AHIF
- Community Reentry Services and Supports
ACL Grant Partners/Roles

AL Department of Rehabilitation Services, CRS/Title V:
- Lead Agency For TBI/Coordinate activities
- Conduct interview/intakes
- Community Reentry/Resources
- Provide Training

University of Alabama at Birmingham & NP partners:
- Assist with project guidance
- Conduct assessments

AL Department of Youth Services, AOC and JJ County Pilot Sites:
- Conduct Screening and Referral
- Assist with training
ACL Grant Partners/Roles

Alabama Head Injury Foundation
  - Assist with Community Reentry/Resources
  - Assist with training, outreach

Alabama Disabilities Advocacy Program
  - Identify stakeholders
  - Assist with training, outreach
  - Screen for TBI in associated facilities

Mt. Sinai TBI Model System/JJ El Paso Project
  - Provide YSTEP Training and Consult

Center for Essential Management Services
  - Project Evaluation
## Screening

### Sites: Total = 253

<table>
<thead>
<tr>
<th>Site</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jefferson</td>
<td>5%</td>
</tr>
<tr>
<td>Calhoun</td>
<td>95%</td>
</tr>
</tbody>
</table>

### Gender

<table>
<thead>
<tr>
<th>Gender</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>73%</td>
</tr>
<tr>
<td>Female</td>
<td>27%</td>
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</table>

### Age

<table>
<thead>
<tr>
<th>Year</th>
<th>Count</th>
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</thead>
<tbody>
<tr>
<td>11</td>
<td>3</td>
</tr>
<tr>
<td>12</td>
<td>5</td>
</tr>
<tr>
<td>13</td>
<td>14</td>
</tr>
<tr>
<td>14</td>
<td>32</td>
</tr>
<tr>
<td>15</td>
<td>56</td>
</tr>
<tr>
<td>16</td>
<td>66</td>
</tr>
<tr>
<td>17</td>
<td>54</td>
</tr>
<tr>
<td>18</td>
<td>5</td>
</tr>
</tbody>
</table>

### Race

<table>
<thead>
<tr>
<th>Race</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Black</td>
<td>35%</td>
</tr>
<tr>
<td>White</td>
<td>65%</td>
</tr>
<tr>
<td>American Indian/Alaska Native</td>
<td>0%</td>
</tr>
<tr>
<td>Asian</td>
<td>0%</td>
</tr>
<tr>
<td>Native Hawaiian/Other</td>
<td>0%</td>
</tr>
<tr>
<td>Pacific Islander</td>
<td>0%</td>
</tr>
</tbody>
</table>

### Ethnicity: Hispanic/Latino/Spanish

<table>
<thead>
<tr>
<th>Ethnicity</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>3%</td>
</tr>
<tr>
<td>No</td>
<td>97%</td>
</tr>
</tbody>
</table>

### Medicaid Recipient?

<table>
<thead>
<tr>
<th>Medicaid Recipient?</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>64%</td>
</tr>
<tr>
<td>No</td>
<td>36%</td>
</tr>
</tbody>
</table>

### OSU TBI ID

<table>
<thead>
<tr>
<th>Status</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positive - Lifetime hx</td>
<td>14%</td>
</tr>
<tr>
<td>Negative - Lifetime hx</td>
<td>87%</td>
</tr>
</tbody>
</table>
Community Resources

- Referral to ADRS: TBI Pediatric, Adult, Independent Living
- Referral to AHIF: Respite, Recreation, Support Groups
- **YSTEP**: All diversion program youth in Calhoun county
- **WIOA/Pre-Employment Transition Services**: All diversion program youth in Calhoun county
Training

- General TBI Training: AOC, JPOs, GAL, Judges, DYS Programs Statewide
- Targeted Training: Pilot Sites and TBI Staff
  - Screening
  - Mental Health/Substance Use
  - Suicide Prevention
  - YSTEP
- Return to Think/Get Schooled on Concussion
Next Steps

- Sustainability:
  - Continued Referrals to ADRS and AHIF Programs
  - YSTEP for pilot sites for ALL youth
  - PreETS services through VR
  - Screening for other programs: DHR, MH
Products/Publications

- Alabamatbi.org: Online Learning
- YSTEP Training Manual
- Get Schooled on Concussion Educators Manual
- Reports from both TBI and JJ/CJ Summits hosted by Alabama
Colorado’s Program
ACL Grant

- Screen for lifetime history of brain injury – modified OSU TBI-ID
- Screen for neuropsychological impairment
- Refer to community based case management services
- Ensure a well trained criminal justice workforce
- Provide psycho-educational training for inmate/probationer
ACL Grant Partners/Roles

University of Denver:
- Coordinate and supervise student clinicians
- Conduct secondary screens
- Assist with psycho-social curriculum development

University of Colorado:
- Modify web based toolkit best practices for screening, assessment, intervention support

CO Department of Judicial:
- Assist with training and professional development
ACL Grant Partners/Roles

Brain Injury Alliance of Colorado:
- Outreach to criminal justice sites
- Provide case management services & education consultation
- Partner in training and capacity building

CO Department of Education:
- Assist with training and professional development for youth

LM Enterprises, Dr. Laura Meyer:
- Coordinate program evaluation of the grant
Screening & Identification Protocol

1. Screen for lifetime history of brain injury
2. Screen for neuropsychological impairment
3. Refer for community based case management support
Target Sites

1. County Jail settings
2. Problem Solving Courts (Drug/Veteran)
3. Probation settings (adult sex offender, adult female population, adult persistent mental illness, and juvenile probation)
4. State operated Division of Youth Corrections sites
Screen for Lifetime History

- Ohio State University Traumatic Brain injury Identification Method (OSU TBI-ID) modified
- Sites administered
- MINDSOURCE and BIAC train to administer
Screen for Lifetime History

Determined positive if one or more of the following criteria are met:

- Worst = experienced unconsciousness for greater than 30 minutes (moderate/severe)
- First = first TBI with loss of consciousness before the age of 15
- Multiple = 3 or more with altered mental status or 2 injuries within a 3 month period
Screen for Neuropsychological Impairment

- Student Clinicians supervised by Clinical Psychologist
- Three effort tests, structured interview
- Automated Neuropsychological Assessment Measure (ANAM) Core Battery
- Positive screen when scores are more than 2 standard deviations below the mean (“Clearly Below Average”)
- Report and feedback
Division of Youth Services

1. Screen for lifetime history: use tool they developed
   “Colorado Brain Injury Screening Questionnaire”
2. If screen positive, refer for neuropsych screen:
   WAIS/WISC, RBANS, SCT
3. If positive and complicated, refer for a full neuropsychological evaluation
4. Referred to BIAC when positive for lifetime history and when positive for deficits
<table>
<thead>
<tr>
<th>Criminal Justice Entity</th>
<th>Total OSU Screened</th>
<th>Positive Screens</th>
<th>Percent Positive</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arapahoe County Probation</td>
<td>51</td>
<td>28</td>
<td>544.9%</td>
</tr>
<tr>
<td>Boulder County Jail (JBBS &amp; JET Units)</td>
<td>369</td>
<td>215</td>
<td>58.2%</td>
</tr>
<tr>
<td>Denver County Jail (RISE unit)</td>
<td>1352</td>
<td>360</td>
<td>26.6%</td>
</tr>
<tr>
<td>Denver County Jail (Transition Unit)</td>
<td>732</td>
<td>449</td>
<td>61.3%</td>
</tr>
<tr>
<td>Larimer County Jail</td>
<td>480</td>
<td>287</td>
<td>59.7%</td>
</tr>
<tr>
<td>Adams County Probation (female offender)</td>
<td>31</td>
<td>30</td>
<td>96.7%</td>
</tr>
<tr>
<td>Adams County Probation (Veterans)</td>
<td>111</td>
<td>47</td>
<td>42.3%</td>
</tr>
<tr>
<td>Adams County Probation (sex offenders)</td>
<td>69</td>
<td>28</td>
<td>40.5%</td>
</tr>
<tr>
<td>Denver Drug Court</td>
<td>686</td>
<td>299</td>
<td>43.5%</td>
</tr>
<tr>
<td>Denver Juvenile Probation</td>
<td>445</td>
<td>82</td>
<td>18.4%</td>
</tr>
<tr>
<td>Jefferson County Recovery Court</td>
<td>81</td>
<td>49</td>
<td>60.4%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>4,407</strong></td>
<td><strong>1,854</strong></td>
<td><strong>42%</strong></td>
</tr>
<tr>
<td>Criminal Justice Entity</td>
<td>Total Neuropsych Screens</td>
<td>Positive Screens</td>
<td>Percent Positive</td>
</tr>
<tr>
<td>----------------------------------------------------</td>
<td>--------------------------</td>
<td>------------------</td>
<td>------------------</td>
</tr>
<tr>
<td>Arapahoe County Probation</td>
<td>47</td>
<td>37</td>
<td>78.7%</td>
</tr>
<tr>
<td>Boulder County Jail</td>
<td>107</td>
<td>89</td>
<td>83.2%</td>
</tr>
<tr>
<td>Denver County Jail (RISE unit)</td>
<td>191</td>
<td>133</td>
<td>69.6%</td>
</tr>
<tr>
<td>Denver County Jail (Transition Unit)</td>
<td>208</td>
<td>153</td>
<td>73.6%</td>
</tr>
<tr>
<td>Larimer County Jail</td>
<td>95</td>
<td>58</td>
<td>61.1%</td>
</tr>
<tr>
<td>Adams County Probation (female offender)</td>
<td>13</td>
<td>9</td>
<td>69.2%</td>
</tr>
<tr>
<td>Adams County Probation (Veterans)</td>
<td>62</td>
<td>46</td>
<td>74.2%</td>
</tr>
<tr>
<td>Adams County Probation (sex offenders)</td>
<td>17</td>
<td>14</td>
<td>82.4%</td>
</tr>
<tr>
<td>Denver Drug Court</td>
<td>104</td>
<td>78</td>
<td>75%</td>
</tr>
<tr>
<td>Denver Juvenile Probation</td>
<td>16</td>
<td>8</td>
<td>50%</td>
</tr>
<tr>
<td>Jefferson County Juvenile Probation</td>
<td>3</td>
<td>2</td>
<td>66.7%</td>
</tr>
<tr>
<td>Jefferson County Recovery Court</td>
<td>28</td>
<td>21</td>
<td>75%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>891</strong></td>
<td><strong>648</strong></td>
<td><strong>72.7%</strong></td>
</tr>
</tbody>
</table>
DYS Data

- On average 53% of youth screened were positive for risk factors of brain injury.
- Of those positive, approximately 25% are referred for secondary neuropsychological screen.
- Of those positive on the secondary screen, approximately 36% were referred for a full neuropsychological evaluation.
History

- 60% of individuals reported being a victim of childhood violence
  - 10% General population (Safe Horizons, 2014)
- 62% reported victimization in adulthood
  - 2% General population (Bureau of Justice Statistics, 2014)
- 39% reported at least one suicide attempt
  - 4% thoughts, 1% suicide plan in the general population (Emory University, 2014)
- 54% reported school suspension
  - 26% of young men, 15% of young women (National Center for Education Statistics, 2015)
- 93% reported a history of substance abuse/misuse
  - 7% general population (National Institute on Drug Abuse, 2013)
75% of individuals reported at least one mental health diagnosis
- 19% general population (NAMI, 2013)
  - 73% Mood Disorders
    - 7% general population (NAMI, 2013)
  - 44% Anxiety Disorders
    - 18% general population (NAMI, 2013)
  - 17% Psychotic Disorders
    - 1% general population (NAMI, 2013)

54% take psychiatric medication
- 26% of women, 15% of men (America’s State of Mind, 2010)
- 15% of Colorado residents (America’s State of Mind, 2010)
  - 54% antidepressants
    - 23% of women, 16% of men (America’s State of Mind, 2010)
  - 22% antipsychotics
- 13% taking antidepressant AND antipsychotic drug
Colorado’s Next Steps

- Leveraged ACL results for additional funding
- State general fund pilot
- Justice Assistance Grant
- Next ACL grant
Products

- AHEAD psycho-educational curriculum

- Toolkit for criminal justice personnel:
  https://www.mirecc.va.gov/visn19/tbi_toolkit/justice/index.asp

- Brain Injury Videos:
  https://biacolorado.org/education-for-professionals/
Publications


Media


- TED Talk: https://www.youtube.com/watch?v=j78G4Pr6C1o

National Initiatives

- Alabama Criminal & Juvenile Justice Summits
  - Summary of recommendations
  - Common data elements project
- National Association of State Head Injury Administrators
  - Forging partnerships with DOJ
  - IPV and Criminal Justice legislation
- Center for Disease Control and Injury Prevention
- National Collaborative on Children’s Brain Injury
- ACL Mentor/Partnership Initiative