Helping our Veterans with mTBI: A model for successful transition

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ABI Post Acute OT Manager
SHARE Military Initiative
SHARE INITIATIVE
OBJECTIVES

• Identify mTBI symptoms in the OEF/ OIF veteran population.

• Understand barriers of mTBI and co-occurring behavioral health conditions on life participation for OEF/OIF veterans.

• Identify strategies and resources to provide a productive transition into community.
WHO ARE OEF/OEI VETERANS?

OEF: Operation Enduring Freedom
• Afghanistan
• 10/7/2001-12/28/2014

OIF: Operation Iraqi Freedom
• Iraq
• 3/20/2003-12/18/2011

* current known as Operation Freedom’s Sentinel
  (combat & non-combat)
WHAT IS A TBI?

A traumatic brain injury (TBI) is a blow or jolt to the head that disrupts the normal function of the brain.

• Severity of the TBI is determined at the time of the injury
• Classified as: mild, moderate or severe
• Injuries to the head, neck or face may be associated
TBI AND MILITARY

- TBI is a signature injury among active duty military and veteran populations
- Approximately 80% are mTBI
- Remaining 20% moderate to severe, penetrating
- TBI is complicated by multiple co-morbidities
WIDESPREAD

DoD Numbers for Traumatic Brain Injury Worldwide — Totals

2019 Q1-Q3

- Penetrating: 31
- Severe: 15
- Moderate: 1,451
- Mild: 13,765

Total - All Severities: 15,262

Source: 2000 to 2018 Q1 data provided by the Armed Forces Health Surveillance Branch (AFHSB) using the Defense Medical Surveillance System (DMSS) and Theater Medical Data Store (TMDS); data starting 2018 Q2 provided by the Defense and Veterans Brain Injury Center (D/VBIC) using the NHS Data Repository (MDR).

Prepared by the Defense and Veterans Brain Injury Center (D/VBIC) 2019 Q1-Q3, as of November 08, 2019

*Percentage may not add to 100% due to rounding.
LEADING CAUSES OF TBI IN MILITARY

- 35.2% - Falls
- 17.3% - Motor vehicle collisions
- 16.5% - Struck by or against an object
- 10% - Assaults
- 21% - Unknown or other
March 13, 2020

MILD TBI

- Loss of consciousness < 30 minutes
- Initial Glasgow Coma Scale (GCS) of 13–15
- Posttraumatic amnesia (PTA) not greater than 24 hours
EFFECTS OF MILD BRAIN INJURY

- Physical
- Cognitive
- Emotional
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PHYSICAL

- Weakness
- Fatigue
- Headache
- Muscle spasm
- Dizziness
- Loss of balance
- Vestibular issues

- Nausea or vomiting
- Seizures
- Sleep disturbances
- Vision changes
- Hearing changes
- Sensory processing changes
- Motor coordination
COGNITIVE

- Poor attention & concentration
- Memory loss
- Slowed thinking
- Difficulty with verbal expression
- Difficulty with perceptual skills

- Difficulty with planning or decision-making
- Difficulty in organizing
- Decreased initiative
- Difficulty with problem-solving
- Decreased judgment
- Difficulty finding words

March 13, 2020
EMOTIONAL

- Depression
- Anxiety
- Irritability
- Mood swings

- Fear
- Mistrust
- Stress
- Frustration
- Paranoia
- Aggression
Daily Living
CO-OCCURRING CONDITION

PTSD describes a group of symptoms that may develop after you are exposed to actual or threatened death, serious injury or sexual violence. Events can include:

• Combat exposure
• Domestic violence
• Sexual, mental or physical abuse
• Motor vehicle crash
• Terrorist attack
• Natural disaster
**POSSIBLE SYMPTOMS OF TRAUMATIC BRAIN INJURY**
- Headaches
- Dizziness/Balance Problems
- Nausea
- Sensitivity to Light and Sound
- Vision Changes
- Impulsivity

**OVERLAPPING SYMPTOMS**
- Fatigue
- Sleep Problems
- Trouble with Memory and Attention
- Feeling Depressed
- Feeling Anxious
- Irritability

**POSSIBLE SYMPTOMS OF POST-TRAUMATIC STRESS**
- On High Alert
- Startled Easily
- Fearfulness
- Flashbacks
- Nightmares
- Guilty Feelings
- Avoidance
- Numbness
- Self-Destructive Behavior

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Increased Risks of…

- substance abuse
- gambling disorders
- post-concussive syndrome
- family and social conflicts
- premature death
- lost productivity
- depression
- suicide
- neurodegenerative diseases

after TBI
IMPACT ON DAILY PARTICIPATION & ENGAGEMENT

- Medications
- Sleep disturbances
- Nutrition
- Weight gain
- Chronic pain conditions
- Social isolation
- Poor social interaction

- Lack of emotional regulation
- Substance use and abuse
- Stress increase
- Financial strains
- Family life
- Role changes
THE TEAM

Client/support system

Program Tech/Resident Assistants
Admissions Coordinator
Case Manager
Peer Support
Physical Therapist
Occupational Therapist
Speech Therapist
Recreation Therapist
Clinical Social Worker
Clinical Psychologist
Physician
Nurse
Chaplain
Vocational Specialist
Transition Specialist
Peer Support

The Team

Client/support system

Program Tech/Resident Assistants
Admissions Coordinator
Case Manager
Peer Support
Physical Therapist
Occupational Therapist
Speech Therapist
Recreation Therapist
Clinical Social Worker
Clinical Psychologist
Physician
Nurse
Chaplain
Vocational Specialist
Transition Specialist
Peer Support
## SHARE Menu of Services

<table>
<thead>
<tr>
<th>Service Description</th>
<th>Assessment and Evaluation</th>
<th>Therapy and Treatment</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Single Service Eval</td>
<td>3-Day Eval</td>
</tr>
<tr>
<td><strong>Length of Stay</strong></td>
<td>1 – 2 hours</td>
<td>3 Days</td>
</tr>
<tr>
<td><strong>Frequency of therapy</strong></td>
<td>1 – 2 visits</td>
<td>3 days</td>
</tr>
<tr>
<td><strong>Core treatment providers</strong></td>
<td>MD appt + one of the following: OT; PT; ST</td>
<td>MD appt + 3 of the following: CM; OT; PT; ST; Psych</td>
</tr>
<tr>
<td><strong>Core services provided</strong></td>
<td>Assessment of identified concerns: Balance, pain, strength, dexterity, memory, problem-solving, vision, light sensitivity, headaches, concentration, dizziness, coordination, communication, mental focus, medication management, social isolation, coping skills, depression, decision making</td>
<td>Individual sessions</td>
</tr>
<tr>
<td><strong>Additional Services Available</strong></td>
<td>Recommendations determined by assessment results</td>
<td>Recommendations determined by assessment results</td>
</tr>
</tbody>
</table>
SHARE DAY PROGRAM TIMELINE

Intake Process
1 – 3 weeks

Assessment/ Eval Phase
2 weeks

Treatment Phase
8 – 12 weeks

Transition Phase
1 year

Shepherd Center, Atlanta

Transition to Home/Community
# THERAPEUTIC GROUPS

<table>
<thead>
<tr>
<th>Groups:</th>
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<tbody>
<tr>
<td>Emotion Regulation Group (psych)</td>
</tr>
<tr>
<td>Trauma Recovery Group (psych)</td>
</tr>
<tr>
<td>Grocery Group (OT)</td>
</tr>
<tr>
<td>Exercise Group (PT)</td>
</tr>
<tr>
<td>Visual Fitness Group (OT)</td>
</tr>
<tr>
<td>Substance Use Group (psych)</td>
</tr>
<tr>
<td>Cognitive Group (ST)</td>
</tr>
<tr>
<td>Relaxation Group (RT)</td>
</tr>
<tr>
<td>Family Support Group (psych)</td>
</tr>
<tr>
<td>Goal Setting Group (ST)</td>
</tr>
<tr>
<td>Transition Community Re-entry Group (RT)</td>
</tr>
<tr>
<td>Functional Living Skills (OT/PT)</td>
</tr>
<tr>
<td>Aquatics Group (PT)</td>
</tr>
<tr>
<td>Ai Chi (PT/RT)</td>
</tr>
<tr>
<td>Yoga (PT)</td>
</tr>
<tr>
<td>Music Group (RT)</td>
</tr>
<tr>
<td>Horticulture Group (RT)</td>
</tr>
<tr>
<td>Art Group (RT)</td>
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</table>
## DAY PROGRAM SCHEDULE - SAMPLE

<table>
<thead>
<tr>
<th>Time</th>
<th>Hudson</th>
<th>Jarrad</th>
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<tbody>
<tr>
<td>8:00-9:00</td>
<td>Goal Setting Group</td>
<td>Goal Setting Group</td>
</tr>
<tr>
<td>9:00-10:00</td>
<td>Recreation Therapy</td>
<td>Counseling</td>
</tr>
<tr>
<td>10:00-11:00</td>
<td>Emotion Regulation Group</td>
<td>Exercise Group</td>
</tr>
<tr>
<td>11:00-12:00</td>
<td>Physical Therapy</td>
<td>Speech/Cognitive Therapy</td>
</tr>
<tr>
<td>12:00 – 1:00</td>
<td>Lunch</td>
<td>Lunch</td>
</tr>
<tr>
<td>1:00 – 2:00</td>
<td>Occupational Therapy</td>
<td>Physical Therapy</td>
</tr>
<tr>
<td>2:00 – 3:00</td>
<td>Psychology</td>
<td>Visual Fitness Group</td>
</tr>
<tr>
<td>3:00 – 3:30</td>
<td>Family Conference</td>
<td>Break</td>
</tr>
<tr>
<td>4:00-6:00</td>
<td>Fly Tying/Rod building</td>
<td>Fly Tying/Rod building</td>
</tr>
<tr>
<td>6:00-7:00</td>
<td>Dinner Group</td>
<td>Dinner Group</td>
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</tbody>
</table>
KEY TO SUCCESS
GOAL ATTAINMENT SCALING (GAS)

Standardized method to record, score, and analyze results obtained from changes over time in measures that are individualized to factors that are important to those being measured.

(James Malec)

• Provides a method to quantify accomplishment of individual goals
• Directly represent valued goals of the person served
• Quantitative methodology allows summing of outcome results with and across clients for program evaluation
GOAL ATTAINMENT SCALING CLINICAL PROTOCOL: PURPOSE

• To increase client/caregiver’s ability to identify functional areas of decline that they want to address in treatment

• To increase clinician and client/family’s knowledge of critical factors impacting function and realistic expectation within treatment

• To assist therapists and client/family in identifying developing and prioritizing realistic long and short term goals that maximize the impact on function and participation in everyday life
CLIENT/FAMILY-CENTERED GOALS

1) Goals are identified by client to target what is important to him/her
2) Scale is created collaboratively by client and clinicians
3) Barriers to achieving goal are identified by client and clinicians based on assessment findings
4) Each client’s goals (and barriers) are the focal point of team approach
5) Goal attainment levels are rated at admission and discharge from treatment phase
6) Goals are carried forward into transition phase, and rated at months 1, 2, 3, 6, 9, 12 months after discharge from treatment
APPLICATIONS OF GAS

- Monitor progress
- Guide Delivery of social reinforcement
- Encourage more accurate self-awareness and develop goal-setting capacity
- Support concise, relevant communication with clients
- Structure team conference discussion
- Treatment plan and decision-making
- Program evaluation
GAS ATTAINMENT LEVELS

+2 Much more than expected outcome
+1 More than expected outcome
0 Expected outcome
-1 Baseline
-2 Less than expected outcome

(Lynne Turner-Stokes)
"BE ACTIVE AT HOME SO I CAN BE ACTIVE WITH MY KIDS"

**Much More than Expected:** Participates in at least 6 hours of activity at home and in the community daily on most days.

**More than Expected:** Participates in at least 5 hours of activity at home and in the community daily on most days.

**Expected:** Participates in at least 4 hours of activity at home and in the community daily on most days.

**Baseline:** Participates in up to 6 hours of activity at home and in the community 1-2 days per week with little to no activity 4-5 days per week.

**Less than Expected:** Decreased participation at home and in the community.
# BARRIERS INTERFERING WITH GOAL ACHIEVEMENT

<table>
<thead>
<tr>
<th>Issues</th>
<th>Action Plan Lead Therapist</th>
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<tbody>
<tr>
<td>Pain</td>
<td>PT, psych, and MD addressing</td>
</tr>
<tr>
<td>PTSD</td>
<td>psych</td>
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<tr>
<td>Cognition/Communication</td>
<td>ST</td>
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<tr>
<td>Balance</td>
<td>PT</td>
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<tr>
<td>Lack of Resources</td>
<td>RT</td>
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</table>
# Therapeutic Support Skills for Increased Participation

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<thead>
<tr>
<th>PT</th>
<th>OT</th>
<th>ST</th>
<th>Psych</th>
<th>Nurse/MD</th>
<th>CM</th>
<th>TR</th>
<th>Transition Coach</th>
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<tbody>
<tr>
<td></td>
<td>Balance</td>
<td>Schedule Training</td>
<td>Anxiety Scales</td>
<td>Med Mgmt</td>
<td>Resource-Circle of Support</td>
<td>Leisure Resources</td>
<td>Home Eval</td>
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<td></td>
<td>Strength-Training</td>
<td>Budget Training</td>
<td>Attention Training-Strategy</td>
<td>Coping Strategy</td>
<td>Pain mgmt</td>
<td>Community Engagement</td>
<td>Family Ed</td>
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<td></td>
<td>Pain Mgmt</td>
<td>Driving Assess/Train</td>
<td>Working Memory/Executive Skills</td>
<td>Family Support</td>
<td>Neur-psych testing</td>
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<td></td>
<td>Vestibular Training</td>
<td>Meal planning</td>
<td>Decision making training w/family</td>
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<td></td>
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<td>Grocery Shopping</td>
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INTERDISCIPLINARY MODEL: PROTOCOL STAGES

• STAGE I: Evaluation Phase
  Meet to identify goal, design scale and establish agreement for both Client/Family Centered Goal (and Health and Safety goals at a later date)

• STAGE II: Interim Treatment Phase
  Evaluate progress (on-target, revisions, clarification)

• STAGE III: Discharge- Transition Phase
  Review goal status, develop transition plan, what’s next
HEALTH AND SAFETY GOALS

1) Goals identified by clinicians during assessments to target areas which may result in hospitalization if not addressed
2) Scale is created by clinician who focuses on area of concern
3) Barriers to achieving goal are identified by client and clinician based on assessment findings
4) Each client’s goals (and barriers) are the focal point of team approach
5) Goal attainment levels are rated at discharge from treatment phase
6) Goals are carried forward into transition phase, and rated at months 1, 2, 3, 6, 9, 12 months after discharge from treatment
HEALTHY COPING

Much More than Expected: Experiences suicidal ideation without method, plan or intent and can redirect himself by identifying and using more than three appropriate coping tools.

More than Expected: Experiences suicidal ideation without method, plan or intent and can redirect himself by identifying and using two to three appropriate coping tools.

Expected: Experiences suicidal ideation without method, plan or intent and can redirect himself by identifying and using at least one appropriate coping tool.

Baseline: Experiences some suicidal ideation without method, plan or intent and has difficulty coping by finding a soothing behavior.

Less than expected: Experiences suicidal ideation with method, has intense urge to carry it out and requires hospitalization.
FALL PREVENTION

**Much More than Expected:** No falls. Walking and transferring independently without reminders or physical assistance from caregivers.

**More than Expected:** Falling one to two times per month. Requires no reminders to transfer slowly. Caregiver present to assist with falling safely.

**Expected:** Upon returning home, falls one to two times per month. Caregiver always present when practicing walking to provide verbal reminders to move slowly and to provide physical assistance for falling safely.

**Baseline:** Falling 1x per week but without injury requiring hospitalization. Does not consistently practice walking in a safe environment or with recommended equipment.

**Less than Expected:** Falling more than 1x per week or with injury requiring hospitalization.
MEDICATION MANAGEMENT

**Much More than Expected:** Takes prescribed medication routinely with 0 missed or late doses and use of pillbox.

**More than Expected:** Takes prescribed medication routinely with 1-2 missed or late doses and use of pillbox.

**Expected:** Takes prescribed medications weekly with 3 late or missed doses and use of pillbox.

**Baseline:** Takes prescribed medications weekly with 4 or more missed or late doses and pillbox use.

**Less than expected:** Does not take medication at all and may require hospitalization
GOAL ATTAINMENT SCALING REFERENCES


VETERAN CLIENT CASE EXAMPLE

• 34 yo male
• former Army Infantry
• H/O of IED Blast exposure in 2008
• +brief LOC, not evacuated.
• Medically discharge in 2009

Social History:
• Lives alone,
• poor social support,
• disabled,
• +tobacco,
• +Etoh overuse
VETERAN CLIENT CASE EXAMPLE

Comorbid conditions:
1. PTSD
2. Depression
3. Hypertension
4. Migraine headache
5. Obstructive Sleep Apnea
6. Chronic Shoulder Pain

Symptom Presentation:
• Depression
• Headaches
• Dizziness
• Hypervigilance
• Insomnia
• Cognitive complaints
• Pain medication overuse
• Active suicidal ideation
• Single aborted suicide attempt (firearm)
• Poor compliance with VA treatment
VETERAN CLIENT CASE EXAMPLE

Client Centered Goals

- Helping Others
- Active at Home

Health and Safety Goals

- Medication Management
- Fall Prevention

Goal Attainment

- At Expected
  - Help with a volunteer effort
- Much more than Expected
  - Participate in at least 8 hours of activity at home on most days
- More than Expected
  - Takes medication routinely w/o missing doses/refill assistance
- Much more than Expected
  - No falls or near falls
VETERAN CLIENT CASE EXAMPLE

Client Centered Goals
• Helping Others
• Active at Home

Health and Safety Goals
• Medication Management
• Fall Prevention

Treatment Team Approach Examples
• Remove barriers to community participation
• Identify community interests/groups
• Improve communication at home
• Medication management
• Minimize sedating medications/replace with non-pharm strategies
VETERAN CLIENT CASE EXAMPLE

<table>
<thead>
<tr>
<th>Time Period</th>
<th>Helping Others</th>
<th>Active at Home</th>
<th>Medication Management</th>
</tr>
</thead>
<tbody>
<tr>
<td>Admission</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Discharge</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 month post</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 months post</td>
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<tr>
<td>3 months post</td>
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<tr>
<td>6 months post</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>12 months post</td>
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</tbody>
</table>

Legend:
- Blue: Helping Others
- Orange: Active at Home
- Gray: Medication Management
TRANSITION

• Provides support and education upon discharge for up to 1 year with transition specialist
• Community and home visits
• Facilitates coordination/utilization of community resources for client
• Assists client in increasing circle-of-support
• Facilitate client in sustaining/increasing gains
TRANSITION WORKFLOW

3 Weeks prior to a client’s discharge from SHARE:
Clinical Team identifies most appropriate Transition Tier
Transition specialist meets with client for formal session discussing transition (referencing transition plan and community resources)

2 Weeks prior to a client’s discharge from SHARE:
Transition specialist and client meet again to review updates to client’s Transition Plan

1 Week prior to a client’s discharge from SHARE:
Transition specialist and client meet to finalize Transition Plan, and set up first in-home appointment

72 Hours after d/c from SHARE:
Transition specialist calls client to follow up regarding initial days at home
TRANSITION DATA COLLECTION

- Minimum phone contact at 72 hrs; weekly for first 4 weeks, then months 1, 2, 3, 6, 9, 12
- GAS @ months 1, 2, 3, 6, 9, 12
- MPAI Participation @ months 6, 12
- Employment, Rehospitalization @ months 6, 12
- Circle of Support per updates/changes
- Community Referrals per updates/changes
RETROSPECTIVE COHORT 2016-2018

Transition Program - Life Coaching Services

Percent of goals met or exceeded after discharge from SHARE
SHARE Scorecard

2018

57
Persons seen in Day Program
Includes persons admitted in 2018 but not yet discharged in 2018.

14
Persons received outpatient services

Age Groups
- 18-25: 19%
- 26-35: 39%
- 36-45: 33%
- 46-55: 11%
- 56-65: 4%

Gender
- Male: 89%
- Female: 11%

Average weeks in SHARE Day Program
12

When asked if they would recommend Shepherd SHARE Program to their friends and family, clients rated their likelihood a 97 out of 100.

Outcomes

Improvement as determined by the Mayo-Portland Adaptability Inventory

- Admit
- Discharge
- Level of functioning

Goal Attainment

92%
Of person-centered goals were met by discharge

Employability at Discharge

- Employability as measured by items 29A and 29B of the Mayo-Portland Adaptability Inventory at the time of discharge.

If you have questions, please contact Katie Metzger, OTR, Director of Brain Injury Services by telephone at 404-352-1465 or by email at kmetzger@shepherd.org.

Source: Internal Shepherd Center database
SHARE Scorecard

Posttraumatic Stress Disorder
- PTSD is measured by the military version of the Posttraumatic Stress Disorder Checklist (PCL-M).

- Admit: 46
- Discharge: 34

Headache
- Headache is measured by the Headache Impact Test.

- Admit: 60
- Discharge: 56

Depression
- Depression is measured by the Beck Depression Inventory-II (BDI-II).

- Admit: 25
- Discharge: 18

Dizziness
- Dizziness is measured by the Dizziness Handicap Inventory (DHI).

- Admit: 46
- Discharge: 33

Sleep
- Sleep is measured by the Pittsburgh Sleep Quality Index (PSQI).

- Admit: 28
- Discharge: 27

Pain
- Pain is measured by the Pain Outcomes Questionnaire (POQ).

- Admit: 88
- Discharge: 65

Source: Internal Shepherd Center Database.