

# IMAP\*/TBI Model Systems Newsletter

*An interagency collaboration between the  
Departments of Veterans Affairs, Defense, and Health and Human Services*

*\*Improved Understanding of Medical and Psychological Needs in Veterans and Service Members with TBI*

**Newsletter Editors: Courtney Lynn, M.A. and Marc Silva, Ph.D.**



## Inside this Issue

- What is Community Reintegration? ..... pg 1
- Why is Community Integration Important? ..... pg 1
- Research Spotlight..... pg 2
- How to Increase Community Integration.....pg 2
- Resources for Psychological Difficulties ..... pg 2
- Research Spotlight..... pg 3
- Returning to Work: Americans with Disabilities Act..... pg 3
- Going back to School? ..... pg 3
- What are we Publishing and Presenting ..... pg 4
- New Research Opportunity ..... pg 4
- Who's Who in VA PRC TBIMS? pg 4
- Contact Us..... pg 4

## What is Community Reintegration?

In later stages of recovery from brain injury, a focus of rehabilitation is to improve community reintegration. This includes rehabilitation treatment to help people achieve higher levels of functioning in the home, workplace, school, or volunteer placement with services to accommodate changes in physical, thinking, and psychological problems after injury. Numerous professionals are trained and specialty programs exist that help individuals with community reintegration.

## Why is Community Reintegration Important?

*A letter from the Principal Investigator, Risa Nakase-Richardson, Ph.D.*

I would like to thank you for completing telephone calls and information packets from our TBI Model System and IMAP research teams. The information you and your family share as part of this research project will help us better understand how TBI has affected you and your family. Your time and participation is important to us, and this issue highlights how we have used the information you provide to publish scientific publications and presentations about rehabilitation needs in the area of community reintegration. These studies will help highlight the kind of needs that Veterans and Service Members with TBI have and how the VA, DOD, and community partners can work together to improve your care needs. We hope you enjoy a quick overview of these articles with more coming your way soon.

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## A Comparison on Community Reintegration Problems among Veterans and Active Duty Service Members with Mild and Moderate to Severe Traumatic Brain Injury

By: Suzanne McGarity, Ph.D., Scott Barnett, Ph.D., Greg Lamberty, Ph.D.,  
Tracy Kretzmer, Ph.D., Gail Powell-Cope, Ph.D., Risa Nakase-Richardson, Ph.D.

DR. MCGARITY and colleagues recently presented a study at a meeting of the American Congress of Rehabilitation Medicine that examined community reintegration problems among veterans and active duty service members with mild and moderate to severe traumatic brain injury enrolled in the VA TBI Model System and IMAP Study. Problems with independent driving in the community, employment potential, and social participation were studied at one-year post-injury.

**MILD TBI GROUP.** For those with history of mild TBI, 27% relied on other forms of transportation for getting around the community and 83% experienced an emotional, thinking, or physical symptom impacting their employment potential. A majority (69%) had the potential for paid employment but were restricted in job duties due to ongoing personal challenges. In general, the study found that high levels of post-traumatic stress disorder (PTSD) and depressive symptoms at one-year post-injury were associated with the lower levels of community reintegration.

**MODERATE/SEVERE TBI GROUP.** For those with moderate to severe TBI, 57% relied on other forms of transportation for getting around the community and 83% experienced a challenge impacting potential for paid work. In contrast to the mild TBI group, for this group, a majority (56%) were not capable of paid work. In general, lower levels of thinking (cognitive) and physical abilities were associated with lower levels of community reintegration for the moderate to severe TBI group. Social participation scores across both TBI groups were equally low and consistent with other severely disabled groups. Associations that predicted social participation were similar to other outcomes studied.

**WHAT DOES THIS MEAN?** These findings highlight the ongoing rehabilitation needs of persons with TBI. Community reintegration treatment is a key focus of rehabilitation in later stages of recovery. This study found ongoing community reintegration needs and unique predictors of these problems across TBI severity groups. As such, community reintegration rehabilitation care should consider integration of services that address the unique challenges that military and Veteran TBI severity groups face. Effective treatments exist to address the psychological challenges faced by mild TBI survivors and their implementation in rehabilitation care may improve community reintegration outcomes. For persons with thinking and physical challenges, compensatory strategies and adapted environments can help survivors function at a higher level to achieve better outcome. As the VA TBIMS database continues to grow and expand, the findings of this study point toward the potential for future studies that may re-examine outcomes at 2 and 5 years post-injury to study how these problems change over time (Journal of Head Trauma and Rehabilitation, in press).

### How to Increase Community Reintegration: VA Polytrauma Specialty Programs

Polytrauma Rehabilitation Centers (PRCs) provide acute, comprehensive, inpatient rehabilitation. They maintain a full team of dedicated rehabilitation professionals and consultants from other specialties related to polytrauma. The Centers serve as consultants to other facilities in the Polytrauma System of Care. There are 5 PRCs located across the country in Richmond, VA; Tampa, FL; Minneapolis, MN; Palo Alto, CA; and San Antonio, TX.

\*\*For more information about Polytrauma Special Programs visit [http://www.polytrauma.va.gov/about/Special\\_Programs.asp](http://www.polytrauma.va.gov/about/Special_Programs.asp)

**Polytrauma Transitional Rehabilitation Programs (PTRP)** are residential rehabilitation programs that partners with Veteran and Service member participants to improve their physical, cognitive, communicative, behavioral, psychological, and social functioning. The overarching goal of the PTRPs is to help participants return to the most appropriate, least restrictive community setting, by targeting skills necessary for return to home, school, work, or military service, as feasible.

**Assistive Technology (AT) Labs** are responsible for evaluation, development and implementation of appropriate assistive technology services, strategies, devices and/or practices to improve the functional challenges faced by Veterans and Service Members in their daily life roles. The areas of AT evaluations and training may include powered mobility and seating, adaptive driving vehicles, specialized computer access, electronic cognitive devices.

**Education and Career Counseling Program** assists Service Members and Veterans with career choice, benefits coaching, and personalized support. They will help you understand the best career options for you based on your interests and capabilities, provide guidance on the effective use of VA benefits and/or other resources to achieve your education and career goals, and give academic or adjustment counseling and personalized support to help you remove any barriers to your success.

**Contact your state Brain Injury Association Injury of America for local resources.** [www.biausa.org](http://www.biausa.org)

### Resources for Psychological Difficulties

**Cognitive Behavioral Therapy (CBT)** is a type of counseling that is useful for treating depression and anxiety. Individuals work with a counselor for a limited number of sessions. During these sessions the therapist works with the patient to identify inaccurate or negative thinking, modify beliefs, and change behaviors.

*CBT is highly effective in the treatment of depression and has enduring effects that last beyond the end of treatment. CBT also helps to prevent depression relapse (Driessen & Hollon, 2011).*

To find a therapist that specializes in CBT in your area visit:  
<http://www.abctcentral.org/xFAT/>

**Prolonged Exposure Therapy** is a type of behavioral therapy used to treat post-traumatic stress disorder. This therapy works by helping you approach trauma-related thoughts, feelings, and situations that you have been avoiding due to the distress they cause. Repeated exposure to these thoughts, feelings, and situations helps reduce the power they have to cause distress.

*Prolonged exposure therapy is a well-validated treatment for PTSD. The average patient who receives PET did better than 86% of individuals who did not receive therapy (Powers et al., 2010).*

To find a therapist that specializes in trauma visit:  
<http://www.istss.org/find-a-clinician.aspx>

## Return to Competitive Employment Within Two Years: A VA TBI Model System Study

By: Christina Dillahunt-Aspillaga, Ph.D., Risa Nakase-Richardson, Ph.D., Blessen Eapen, M.D., Tessa Hart, Ph.D., Laura Dreer, Ph.D., Chris Pretz, Ph.D.

DR. DILLAHUNT-ASPILLAGA and colleagues presented a study at the American Congress of Rehabilitation Medicine meeting that examined the length of time to return-to-work (RTW) in Veterans and service members enrolled in the VA TBI Model System with mild, moderate, and severe traumatic brain injury (TBI). Factors that influence RTW were also identified. People with TBI consistently identify productive activity as an important need, and the negative health effects of unemployment following TBI are well known.

**FINDINGS.** At the time of their injury 92.2% of service members were employed. However, only 18.1% were employed 1-year after their injury. Veterans with mild TBI were 7.5 times more likely to RTW compared to those with severe TBI. Additionally, those with a vehicular injury were 3.3 times more likely to be employed 1-year post-injury compared to those with a cause of injury of “blast.” Age of injury influenced RTW such that those injured at younger ages tend to return to work sooner. Likewise, those with mild injuries tend to return to work in a timelier manner compared to those with severe injuries.

**WHAT DOES THIS MEAN?** Findings from this study help to facilitate an improved understanding of how the chronic condition of TBI affects employment outcomes in Veterans and service members. These findings point to the need for community reintegration programs to assist individuals in securing employment and remediating barriers to employment.

### Returning to Work: Americans with Disabilities Act

Employers must provide accommodations for employees with disabilities. These might include: making work areas accessible, allowing flexible work schedules, and re-assigning some tasks to others. Employers are not required to make accommodations that would require undue hardship or to hire people who are unable to perform the job requirements.

To help determine if a person with brain injury meets the Americans with Disabilities Act's definition of disability, visit “Definition of the Term Disability (EEOC Guidance)” at <http://www.eeoc.gov/policy/docs/902cm.html>

## VA TBIMS Study of Mental Health and Functional Characteristics of Military/Veterans Returning to School

By: Marc Silva, Ph.D., Courtney Lynn, M.A., Jeffrey Garofano, M.A., Christina Dillahunt-Aspillaga, Ph.D., Kristina Martinez, M.S., Margaret Schmitt, Ph.D., Risa Nakase-Richardson, Ph.D.

DR. SILVA and colleagues explored the mental health and functional independence in veterans and military personnel returning to school 1-2 years after TBI. Out of the 328 individuals enrolled in the VA TBIMS who were followed 1 or 2 years post-injury, 63 returned to school (17%).

**FINDINGS.** Among veterans who were in college 1 or 2 years after their TBI:

- 20% required assistance or supervision for cognitive tasks such as comprehension, memory, and problem solving, which are cognitive skills needed for academic success.
- 20-30% had posttraumatic stress disorder or other anxiety disorder
- 40% had depression.
- 9% had ongoing physical limitations, such as reduced mobility.

**WHAT DOES THIS MEAN?** These findings highlight that a sizeable minority of persons returning to college after TBI have ongoing cognitive deficits and mental health symptoms, which may present challenges to academic success. Depending on the extent of cognitive problems, academic accommodations may be needed. Importantly, mental health treatment for comorbid anxiety and depression may facilitate adjustment to college with respect to chronic physical, cognitive, emotional aspects of their TBI.

For veterans returning to college after TBI rehabilitation, they must adjust to different environmental demands such as deciding on a major, course selection, and reading college textbooks. Veterans have many options for receiving mental health treatment, including counseling services on site at their college, or their local VA Hospital or VA Community-Based Outpatient Clinic. As well, VA-based Vocational Rehabilitation services can assist veterans with planning for and returning to college. College campus disability service offices can be contacted to obtain accommodations appropriate for TBI-related deficits. Disability service offices often require a neuropsychology evaluation prior to provision of academic accommodations.

### Going back to School? Here is a list of common accommodations to assist with learning:

- Extra time for tests to compensate for slowed thinking or information processing
- Tests given privately in a distraction-free environment to accommodate for difficulties with attention, concentration and increased distractibility
- Tape recording lectures to compensate for attention, concentration, and memory problems
- Copies of class notes to compensate for difficulty in dividing attention between listening to a lecture and taking notes
- Assignments provided in writing to compensate for memory and concentration problems
- Providing a place to rest or take breaks to compensate for fatigue and increasing frustration

To download the “Back to School Guide to Academic Success After Traumatic Brain Injury” booklet please visit:  
<http://dvbic.dcoe.mil/back-school-guide-academic-success-after-traumatic-brain-injury>

### What are treatments for cognitive problems?

Cognitive rehabilitation is an intervention to improve thinking problems in areas such as memory, attention, concentration, and organization. To learn more visit:

<http://www.headinjury.com/rehabcognitive.html>  
<http://www.brainline.org/content/2012/06/what-about-cognitive-rehabilitation-therapy.html>  
<http://www.acrm.org/resources/consumer/>



## What are We Publishing and Presenting?

20 presentations, symposia, and grand rounds were presented at a number of conferences including Current Concepts in Sleep Medicine, American Congress of Rehabilitation Medicine, TBI State of the Art Meeting at the order of the VA Secretary, and Military Health Sciences Research Symposium. See the list of presentations below for some highlights!

***“Community Reintegration of Veterans with TBI: Implications for Practice”***

Margaret Schmitt, Christina Dillahunt-Aspillaga, Lisa Ottomanelli, Gail Powell-Cope

***“VA TBIMS Study of Mental Health and Functional Characteristics of Military/Veterans Returning to School”***

Marc Silva, Courtney Lynn, Jeffrey Garofano, Christina Dillahunt-Aspillaga, Kristina Martinez, Margaret Schmitt, Risa Nakase-Richardson

***“Employment Stability in Veterans and Service Members with TBI: A VA Brain Injury Model Systems Study”***

Adam Haskin, Christina Dillahunt-Aspillaga, Marc Silva, Margaret Schmitt, Mary Jo Pugh, Risa Nakase-Richardson

***“Unexpected Improvement Following OSA Treatment during Post-Acute Recovery from Brain Injury and Minimally Conscious State”***

Marc Silva, Adam Haskin, Daniel Schwartz, Risa Nakase-Richardson

***“Measurement and Treatment of Sleep Disorders with Unexpected Outcomes in Veterans with Severe Brain Injury”***

Risa Nakase-Richardson, Erin Holcomb, Joel Kamper, Marc Silva

***“Self-reported Sleepiness and Relationship to Objective Sleep Quality Measures using Actigraphy in Acute TBI”***

Katherine Burns, Jeffrey Garofano, Daniel Schwartz, Marc Silva, Risa Nakase-Richardson

***“Rehospitalization following Brain Injury in Veterans: Perspectives from the VA and Private Sector”***

Jacob Kean, Risa Nakase-Richardson, Lisa Brenner, Nazanin Bahraini, Kristen Dams-O’Connor, Flora Hammond

***“Deployment-related Rehospitalizations following TBI: A VA TBI Model System Study”***

Johanna Tran, Risa Nakase-Richardson, Marissa McCarthy, Steven Scott, Blessen Eapen, Mary Jo Pugh

***“Building Capacity in the Assessment, Treatment, and Ethical Management in Severe TBI”***

Risa Nakase-Richardson, John Whyte, Joseph Giacino, Douglas Katz, Brian Greenwald, Mark Sherer, Alan Weintraub, Ross Zafonte

## New Research Opportunity!

**Patch Study in Veterans With Traumatic Brain Injury (CCTA #1)**

**Question:** Will the use of a Rivastigmine Patch be effective in the treatment of memory and attention problems?

**Who can participate:** Veterans with Mild Traumatic Brain Injury (TBI) and between the ages of 19-65. Ask your doctor if you are eligible for this study.

**Potential benefits:** You may have less problems with memory and attention if the medication works and help others with memory impairment by what we learn.

**Experience and length of study:** Participant will wear a patch and come to six clinic visits. Participation in this study will last 30 weeks (7 ½ months)

**Payment:** Payment is for participant’s time; \$40 for each visit to the clinic and \$10 for phone visits, up to \$270.

**Location:** The CCTA #1 study will be conducted at the James Haley VA by Dr. McGarity

**Contact:** For more information, please contact: Christine Melillo, BSN, MPH (813)972-2000 Ext. 5608

## Who’s Who in VA PRC TBI Model System?

**Minneapolis Polytrauma Rehabilitation Center**

Gregory Lamberty, Ph.D., Principal Investigator



**Palo Alto Polytrauma Rehabilitation Center**

Susan Ropacki, Ph.D. Principal Investigator

**Richmond Polytrauma Rehabilitation Center**

Lillian Stevens, Ph.D. Principal Investigator

**San Antonio Polytrauma Rehabilitation Center**  
Mary Jo Pugh, Ph.D. Principal Investigator

**Tampa Polytrauma Rehabilitation Center**  
Risa Nakase-Richardson, Ph.D. Principal Investigator

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**Veteran’s Crisis Hotline:**  
1-800-273-8255 (Press 1)

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