



TBI-BH ECHO

Traumatic Brain Injury - Behavioral Health ECHO
UW Medicine | Psychiatry and Behavioral Sciences

Traumatic Brain Injury and Posttraumatic Stress Disorder in Military-Connected Populations: A Holistic Phenomena that Responds to Holistic Treatment?

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TBI and PTSD in Military Connected Populations: A Holistic Phenomena that Responds to Holistic Treatment?

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CREATIVE FORCES

Creative Forces®: NEA Military Healing Arts Network is an initiative of the National Endowment for the Arts in partnership with the U.S. Departments of Defense and Veterans Affairs that seeks to improve the health, well-being, and quality of life for military and veteran populations exposed to trauma, as well as their families and caregivers.

The program places creative arts therapies at the core of patient-centered care at clinical sites throughout the country, including telehealth services, and increases access to community arts activities to promote health, well-being and quality of life for military service members, veterans, and their families and caregivers.

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Who We Are



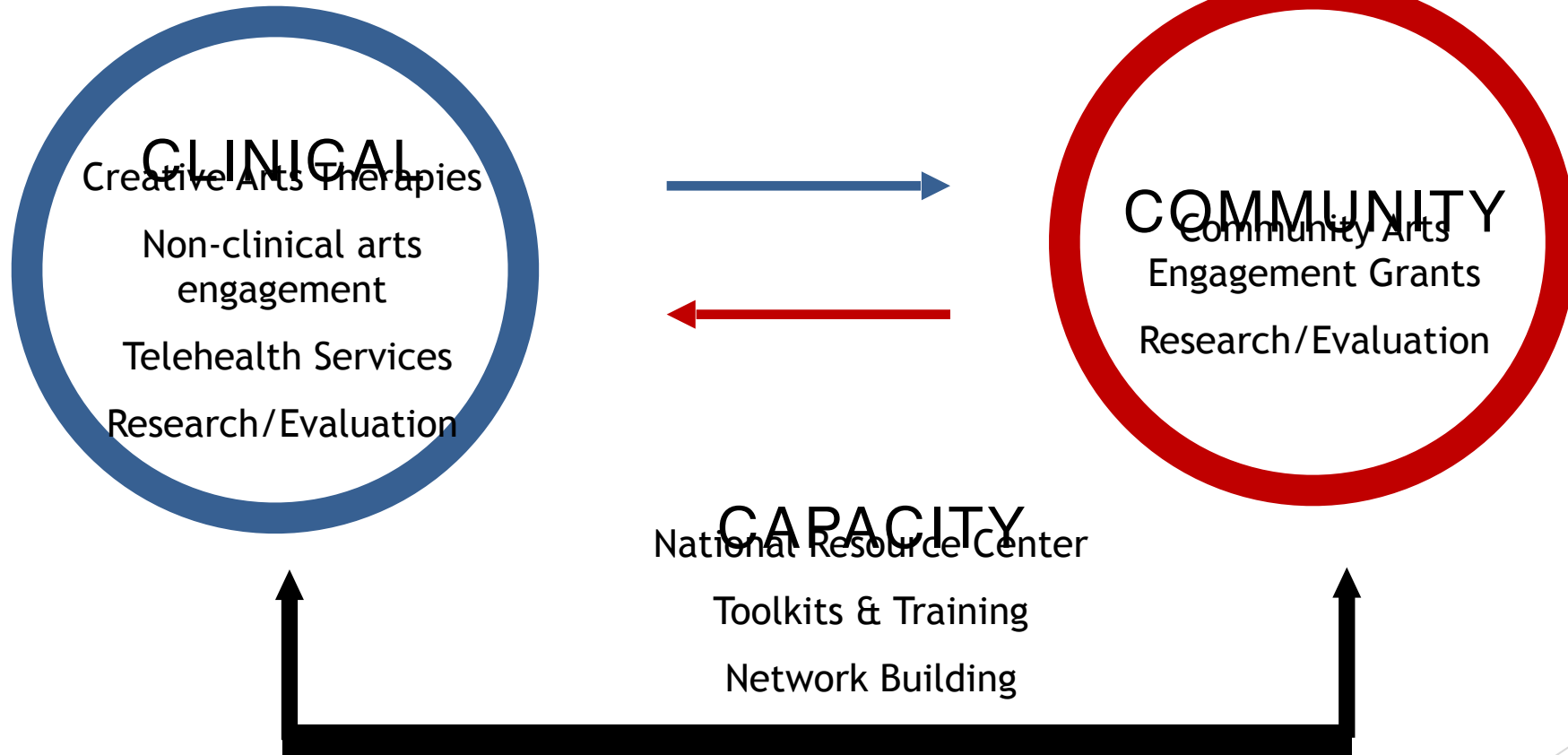
We are creative arts therapists, musicians, painters, potters, writers, woodworkers, dancers and doctors, military service members and veterans, community leaders, and policymakers.

We work at military bases, hospitals, community art centers.

Our mission: To help military personnel and veterans return to their homes, their missions and their families whole, mentally fit, and emotionally ready for whatever comes next.

Photo courtesy of the NEA

The Network



Where We Are

NEA Creative Forces Sites (2021)



★ Department of Veterans Affairs Creative Forces sites

★ Department of Defense Creative Forces sites

Speaker Disclosures

✓ Jay Uomoto, PhD has no conflicts of interest

The following series planners have no conflicts of interest:

✓ Jennifer Erickson DO

✓ Jess Fann MD

✓ Cherry Junn MD

✓ Chuck Bombardier PhD

✓ Cara Towle MSN RN MA

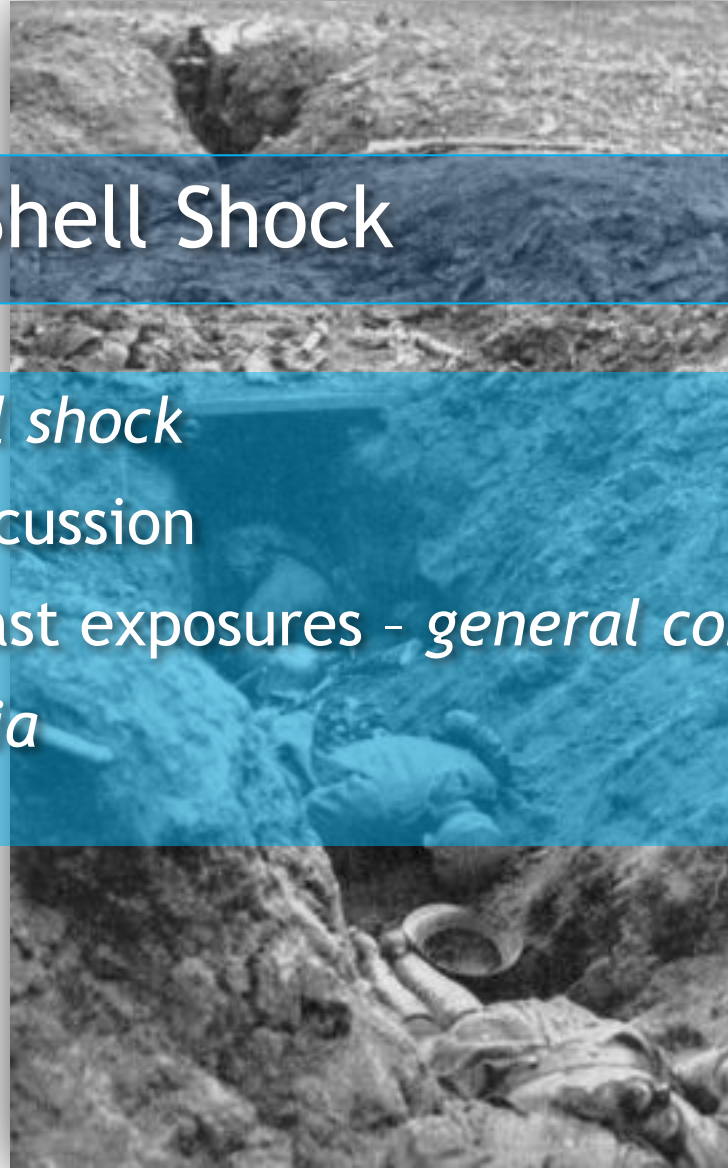
Objectives

1. Discuss the holistic descriptions of concussion and PTSD symptoms in the military historical record
2. Describe the overlap of military TBI, PTSD, and other co-occurring symptoms in the modern literature
3. Delineate principles of holistic treatment approaches for co-occurring disorders for military connected populations

War Neuroses and Shell Shock

- ▶ Myers (1915) documented case of *shell shock*
 - ▶ British soldier - shell exploded, concussion
- ▶ Initial phenomena not restricted to blast exposures - *general combat exposure*
- ▶ *Hysteria - Psychasthenia - Neurasthenia*

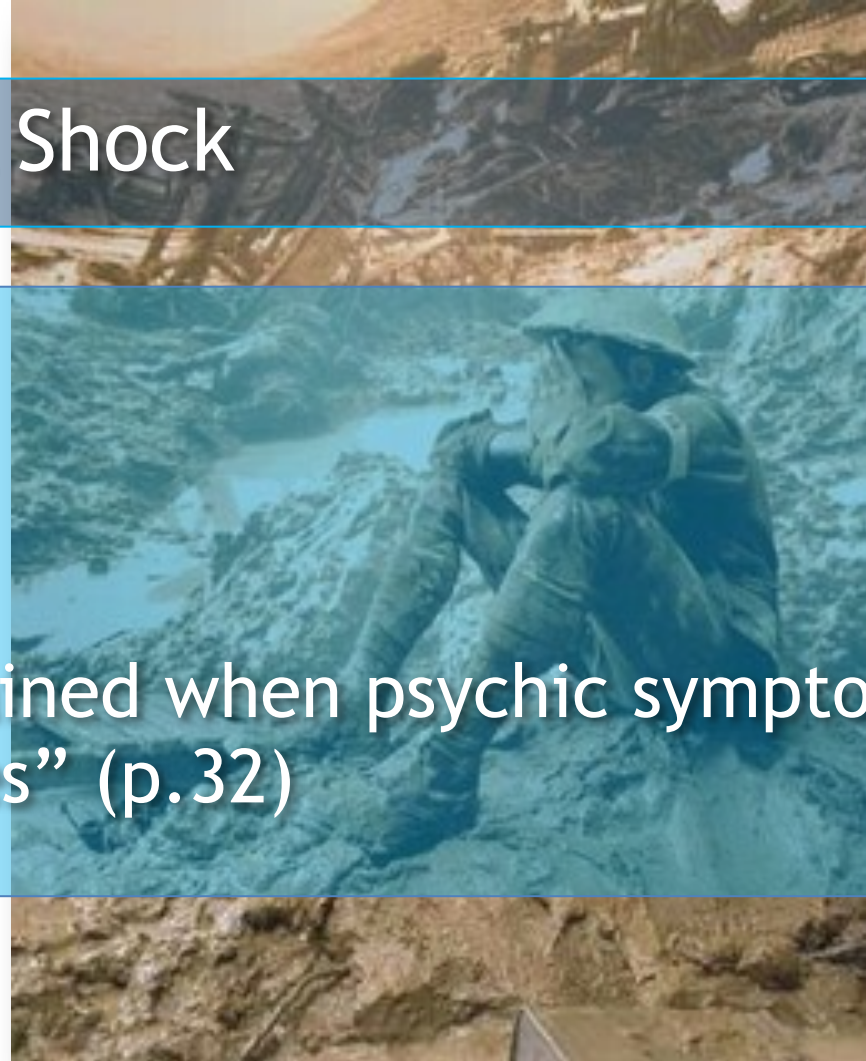
Lancet, 1, 316-320.



War Neuroses and Shell Shock

- ▶ Loughran (2008)
 - ▶ Neurasthenia as combat syndrome
 - ▶ Largely a somatic condition
 - ▶ “the nervous weakness which remained when psychic symptoms were parceled out among other diagnoses” (p.32)

History of Psychiatry, 19, 25-46.



War Neuroses and Shell Shock

- ▶ Schwab (1919). The mechanism of the war neuroses. *The Journal of Abnormal Psychology*, 14, 1-8.
- ▶ < 2% with evidence of nervous system change due to concussion
- ▶ Healthy premorbid status - under certain conditions could “...become the subject of war neuroses.”
- ▶ Those with “neuropathic” comorbidity will “...develop war neuroses more readily and recovery from it less readily than the strictly normal individual.”

War Shock

- ▶ Eder (1917). *War-shock: The psycho-neuroses in war psychology and treatment*. London: William Heinemann Ltd.
- ▶ 100 consecutive patients admitted to surgical hospital/medical wards - Gallipoli campaign
- ▶ 70 of 100 considered having “war shock”
- ▶ Freud’s hysteria nosology:
 - ▶ Conversion Hysteria 77
 - ▶ Anxiety Hysteria 17
 - ▶ Psychasthenia 6
- ▶ Shell shock, gas poisoning, and other physical injuries not considered a cause of war shock

Syndrome of “Operational Fatigue”

Grinker, R. R. & Spiegel, J. P. (1945). Men under stress. Philadelphia: Blakiston.

- ▶ Euphemism for war neuroses; related to “flying fatigue” (peacetime aviation medicine)

Symptoms of Operational Fatigue in Order of Frequency:

- Restlessness
- Irritability and aggressive behavior
- Fatigue on arising and lethargy
- Difficulty in falling asleep
- Subjective anxiety
- Easy fatigue
- Startle reaction
- Feeling of tension
- Depression
- Personality changes and memory disturbances

- Tremor and evidences of sympathetic overactivity
- Difficulty in concentrating and mental confusion
- Increased alcoholism
- Preoccupation with combat experiences
- Decreased appetite
- Nightmares and battle dreams
- Psychosomatic symptoms
- Irrational fears (phobias)
- Suspiciousness

Base Hospital 43 – Emory Unit. U.S. American National Red Cross Hospital, Blois, France Patients recovering from neurosis or "shell shock" relax in the quiet of the forest.



National Library of Medicine Link: <http://resource.nlm.nih.gov/101405123>

Base Hospital 43 – Emory Unit - U.S. American National Red Cross Hospital, Blois, France Patients recovering from neurosis or "shell shock" relax by fishing and swimming in the quiet of the forest.



National Library of Medicine Link: <http://resource.nlm.nih.gov/101405121>

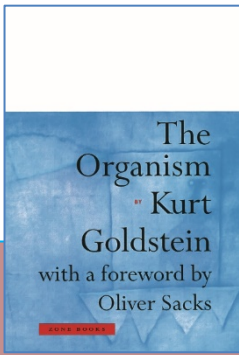


- ▶ Kurt Goldstein, M.D.
 - ▶ German Neurologist (1878-1965)
 - ▶ *After Effects of Brain Injuries in War*
 - ▶ (1943). On So-Called War Neuroses, *Psychosomatic Medicine*, 5, 376-383.

1. The acute condition of breakdown in the form of an anxiety state.
2. The condition characterized by conversional symptoms
3. The modification of previously existent neuroses of various forms by the war situation

- Both “war neurosis” and in brain injury:
 - “...nervous breakdowns of the war period were largely an expression of the simple fact that many persons cannot cope with the dangerous situations presented by war events; the ordeals bring them to a state of ‘catastrophe’
 - The impairment of the capacity to cope with ‘normal’ tasks (owing to the brain defect) brings the organism again and again into what may be called the condition of catastrophe” (p.376).

Goldstein, K. (1943). On So-Called War Neuroses, *Psychosomatic Medicine*, 5, 376-383.



Holistic Conceptualization to Health and Disease

Goldstein (German version 1934; English version 1939/1995). *The organism: A holistic approach to biology derived from pathological data in man*. New York: Zone Books

“It has been found that, even in cases of circumscribed cortical damage, the disturbances are scarcely ever confined to a single field of performance” (p.33).

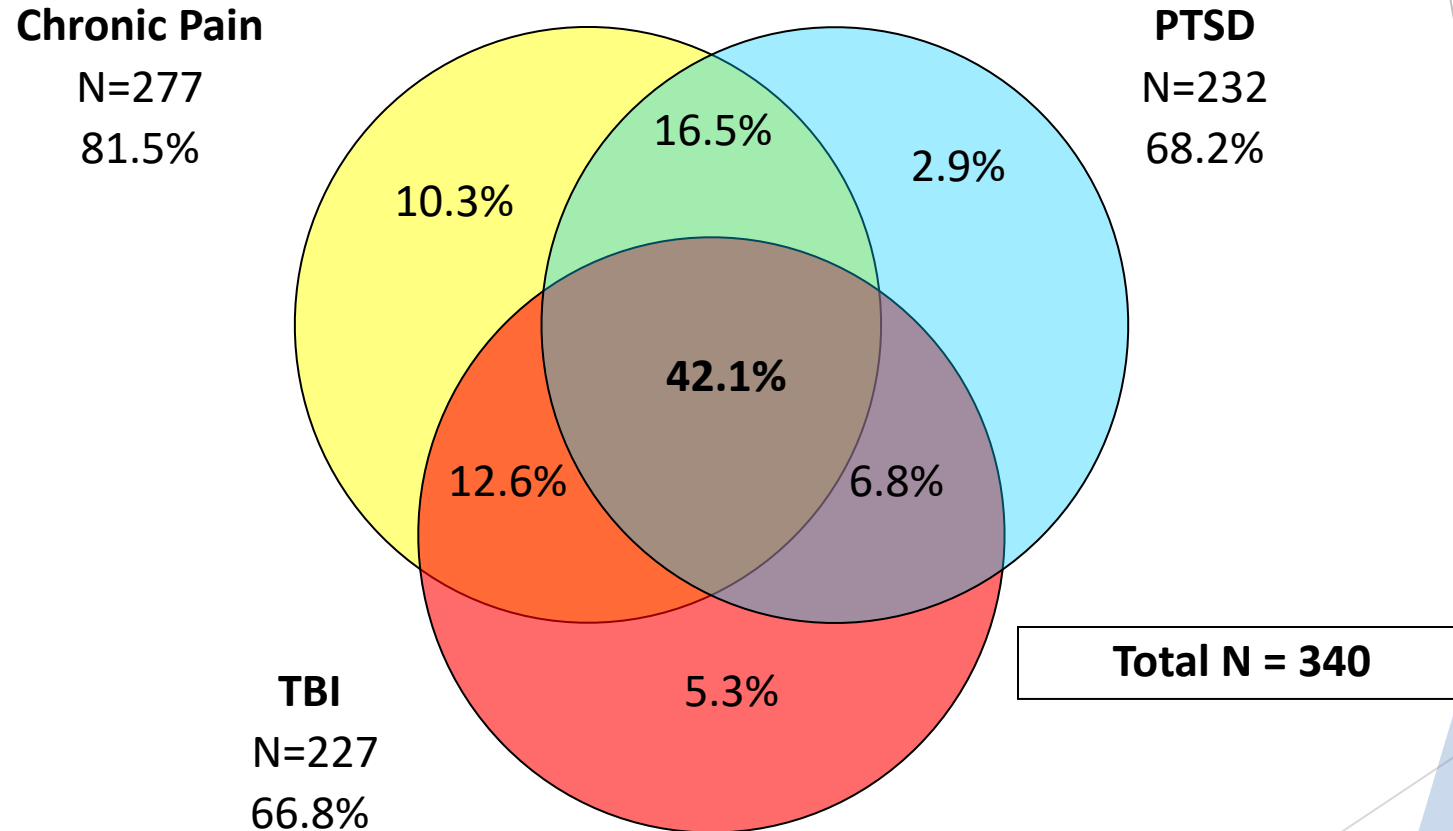
“Any change in one locality is accompanied by a change in other localities. We have seen that the reaction to a given stimulus can vary, and also that no process ever completes itself in a circumscribed reaction. We have seen...the whole organism always participate in any reaction. Thus, it follows that, with any change in one locality in the organism, simultaneous changes occur in other localities” (p.173).

Holistic Conceptualization of Recovery from Disorder

Goldstein (German version 1934; English version 1939/1995). *The organism: A holistic approach to biology derived from pathological data in man*. New York: Zone Books

“Recovery is a newly achieved state of ordered functioning...hinging on a specifically formed relation between preserved and impaired performances. This new relation operates in the direction of a new individual norm, of a new constancy and adequacy...” (p.334).

Prevalence of Chronic Pain, PTSD and TBI in a Clinic Sample



Lew et al., (2009). Prevalence of Chronic Pain, Posttraumatic Stress Disorder and Post-concussive Symptoms in OEF/OIF Veterans: The Polytrauma Clinical Triad. *Journal of Rehabilitation Research and Development*, 46, 697-702.

TBI | PTSD | Chronic Pain

- ▶ Clark, Walker, Girona & Scholten (2009)
- ▶ Pain - frequent component of combat injuries
- ▶ Potential for widespread tissue damage secondary to combat-related injuries
- ▶ Traumatic injuries can be associated with emotional problems

Results. Service members injured via blast demonstrated a broader spectrum of physical injuries, higher levels of admission and discharge opioid analgesic use, reduced improvement in pain intensity following treatment, and much higher rates of posttraumatic stress disorder and other psychiatric diagnoses than those injured via other means.

Conclusions. Blast injury may be associated with differential physical, emotional, and pain-related symptoms that pose increased challenges for successful treatment.

Pain Medicine, 10 (3), 447-455

Commonality of Co-Occurring Symptoms

BRAIN INJURY

2022, VOL. 36, NO. 5, 598–606

<https://doi.org/10.1080/02699052.2022.2033847>



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Demographic, military, and health comorbidity variables by mild TBI and PTSD status in the LIMBIC-CENC cohort

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ABSTRACT

Objective: To describe associations of demographic, military, and health comorbidity variables between mild traumatic brain injury (mTBI) history and posttraumatic stress disorder (PTSD) status in a sample of Former and current military personnel.

Setting: Participants recruited and tested at seven VA sites and one military training facility in the LIMBIC-CENC prospective longitudinal study (PLS), which examines the long-term mental health, neurologic, and cognitive outcomes among previously combat-deployed U.S. Service Members and Veterans (SM/Vs).

Participants: A total of 1,540 SM/Vs with a history of combat exposure. Data were collected between 1/1/2015 through 3/31/2019.

Design: Cross-sectional analysis using data collected at enrollment into the longitudinal study cohort examining demographic, military, and health comorbidity variables across PTSD and mTBI subgroups.

Main Measures: PTSD Checklist for DSM-5 (PCL-5), mTBI diagnostic status, Patient Health Questionnaire 9-item (PHQ-9), Pittsburgh Sleep Quality Index (PSQI), AUDIT-C, and other self-reported demographic, military, and health comorbidity variables.

Results: Ten years following an index date of mTBI exposure or mid-point of military deployment, combat-exposed SM/Vs with both mTBI history and PTSD had the highest rates of depression symptoms, pain, and sleep apnea risk relative to SM/Vs without both of these conditions. SM/Vs with PTSD, irrespective of mTBI history, had high rates of obesity, sleep problems, and pain.

Conclusion: The long-term symptom reporting and health comorbidities among SM/Vs with mTBI history and PTSD suggest that ongoing monitoring and intervention is critical for addressing symptoms and improving quality of life.

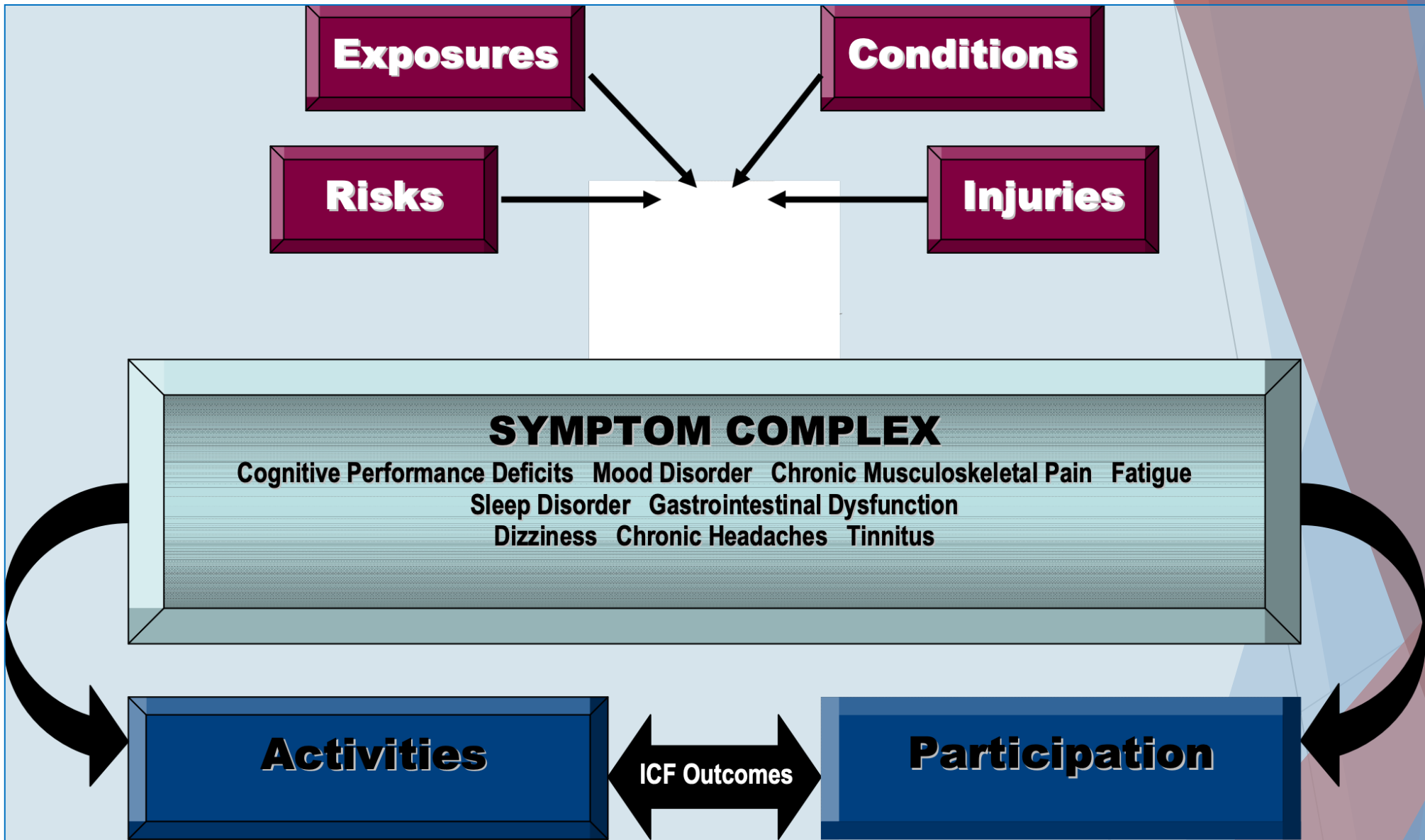
Post-Acute Polytrauma Rehabilitation and Integrated Care of Returning Veterans: Toward a Holistic Approach

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VA Puget Sound Health Care System

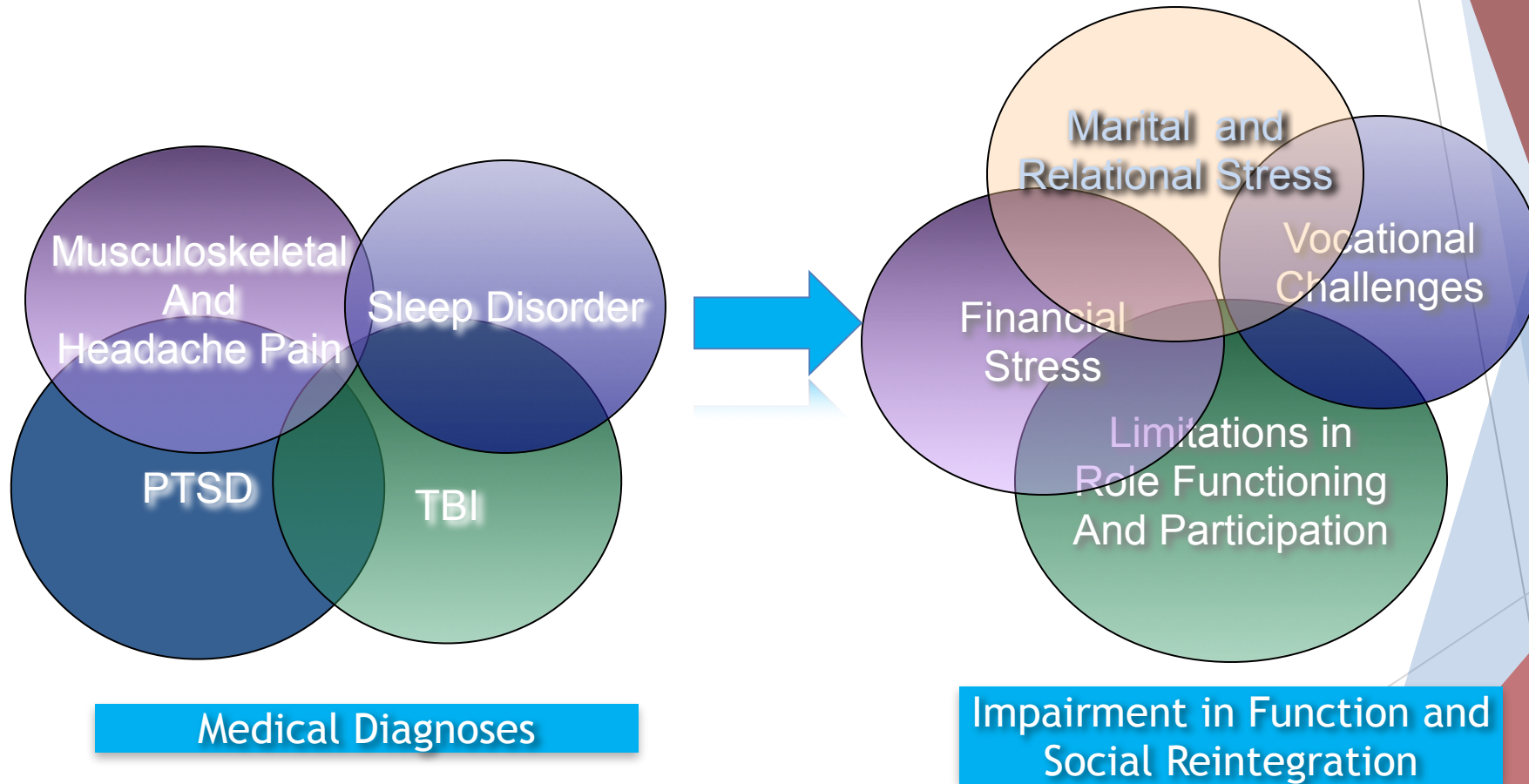
Rhonda M. Williams
University of Washington School of Medicine

Throughout the history of war, exposure to combat has been associated with clusters of physical and psychological symptoms labeled in various ways, from “hysteria” to “shell shock” in World War I to “polytrauma” in Operations Enduring Freedom (OEF) and Iraqi Freedom (OIF). **Objective:** To describe the historical conceptualizations of combat injury and the ways they are relevant to developing current rehabilitation strategies, discuss the symptom complex presented by OEF/OIF veterans, and describe key elements and principles of holistic, integrated care for post-acute OEF/OIF veterans. **Conclusions:** A conceptualization of rehabilitation recognizing a final common pathway of functional disability and suffering is proposed, and both systematic and treatment-specific aspects at the core of a veteran-centered holistic approach are discussed.

Keywords: Operation Enduring Freedom, Operation Iraqi Freedom, war, rehabilitation, brain injuries, stress disorders



Clinical Presentation



Principles of Holistic Treatment

PRINCIPLE 1

**Delivery of Services in Care Settings
With Expertise with Military
Connected Populations**

▶ **Setting: Collaborative Care**

- ▶ Primary Care Mental Health Integration Setting - VA Medical Centers
- ▶ Behavioral Health Interdisciplinary Program - VA Medical Centers

▶ **Setting: Rehabilitation Care**

- ▶ Polytrauma System of Care - VA Medical Centers
 - ▶ Polytrauma Rehabilitation Centers
 - ▶ Polytrauma Transitional Rehabilitation Programs
 - ▶ Polytrauma Network Sites
 - ▶ Polytrauma Support Clinic Team
- ▶ DHA National Intrepid Center of Excellence at Walter Reed National Military Medical Center
- ▶ DHA Intrepid Spirit Centers

Principles of Holistic Treatment

PRINCIPLE 2

Emphasis Upon the Alignment of Expectations for the Delivery of Interdisciplinary Care at the Beginning of Treatment and Throughout Treatment Episodes Based on Patient-Oriented Evidence that Matters (POEMs)

- ▶ **Shared decision-making and goal setting**
 - ▶ Functional goal determination leads to care plan
 - ▶ Ascertaining sources of suffering as key to developing care plans
- ▶ **Alignment checks throughout the course of treatment**
 - ▶ Evidence-based measurement of change integrated with alignment efforts
 - ▶ Dose changes: Adding/subtracting/changing treatment
 - ▶ Consider augmenting self-report (Disease Oriented Evidence) with alternative measurement strategies
 - ▶ Collateral input; engagement in activities
 - ▶ Ecological Momentary Assessment

Tracking TBI Symptoms in Real-Time Using Smartwatch Technology: The C-STAR System

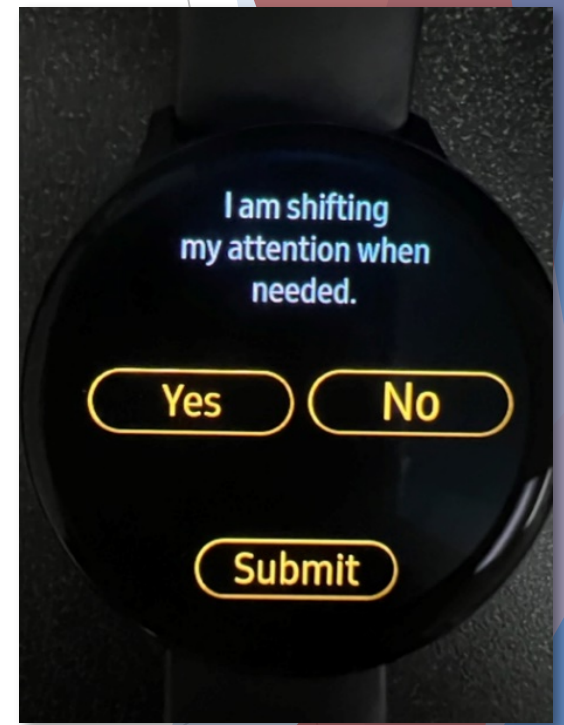
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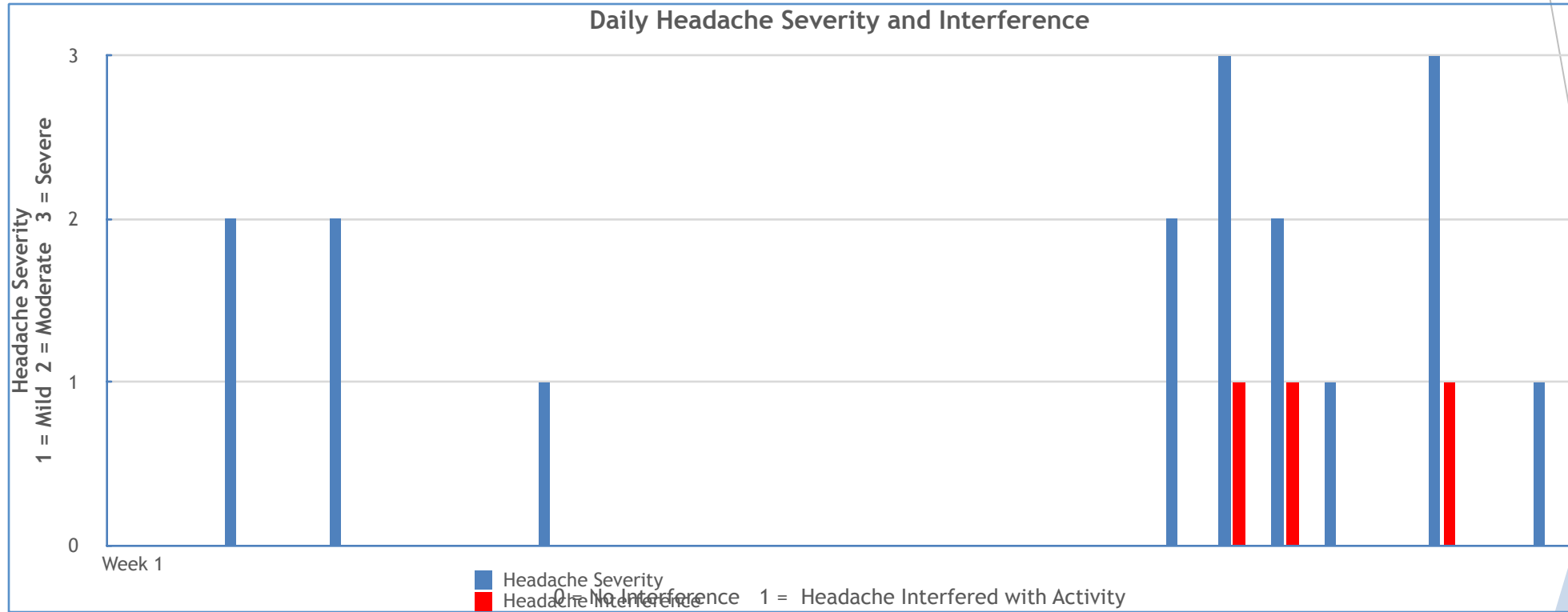
Sample Questions



Data Retrieval



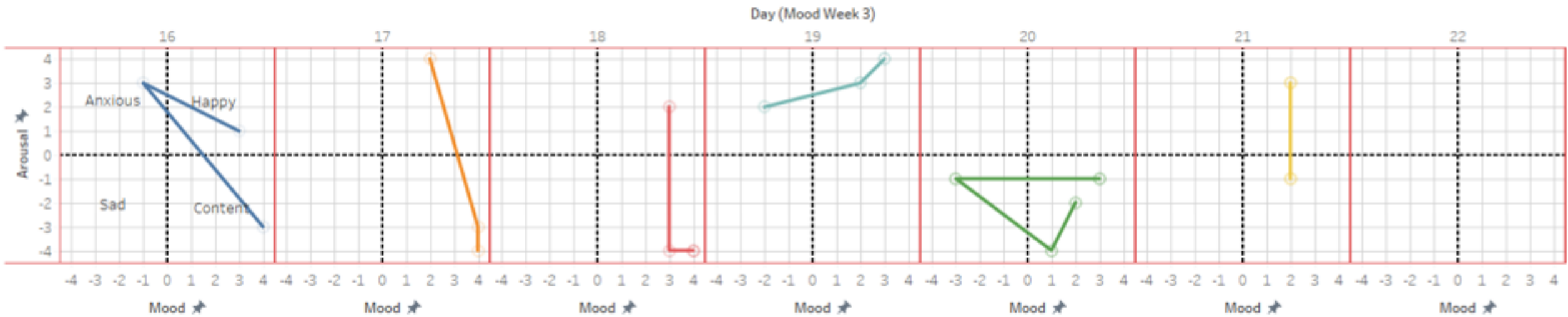
Feedback From Smartwatch Data



W = Window
Red Bar = Headache is interfering with activities
Blue Bar = headache severity

Feedback From Smartwatch Data

Mood Week 3



Data visualization done in Tableau

Principles of Holistic Treatment

PRINCIPLE 3

Determine a Sequence of Care that Addresses Patient Goals, Maximizes Outcomes, and Allows for Flexibility of Care Delivery

PRINCIPLE 4

Consider Delivering Neurocognitive Rehabilitation Interventions in the TBI+PTSD+Other Co-Occurring Disorders Based on Functional Need, Not Solely on Neuropsychological Testing Results

▶ Treatment of TBI, PTSD, Co-Occurring Disorders...

- ▶ Simultaneously?
- ▶ PTSD first, then other co-occurring disorders?
- ▶ Takes into account patient's access to care

▶ Number of concussions does not affect efficacy of cognitive rehabilitation interventions following mTBI in military connected populations

▶ Clarify the purpose of conducting neuropsychological evaluations with emphasis on clarifying a patient's functional status

Principles of Holistic Treatment

PRINCIPLE 5

Consider Creative Arts Therapies for the Treatment of Trauma-Related Problems

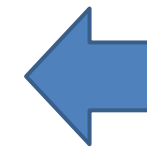
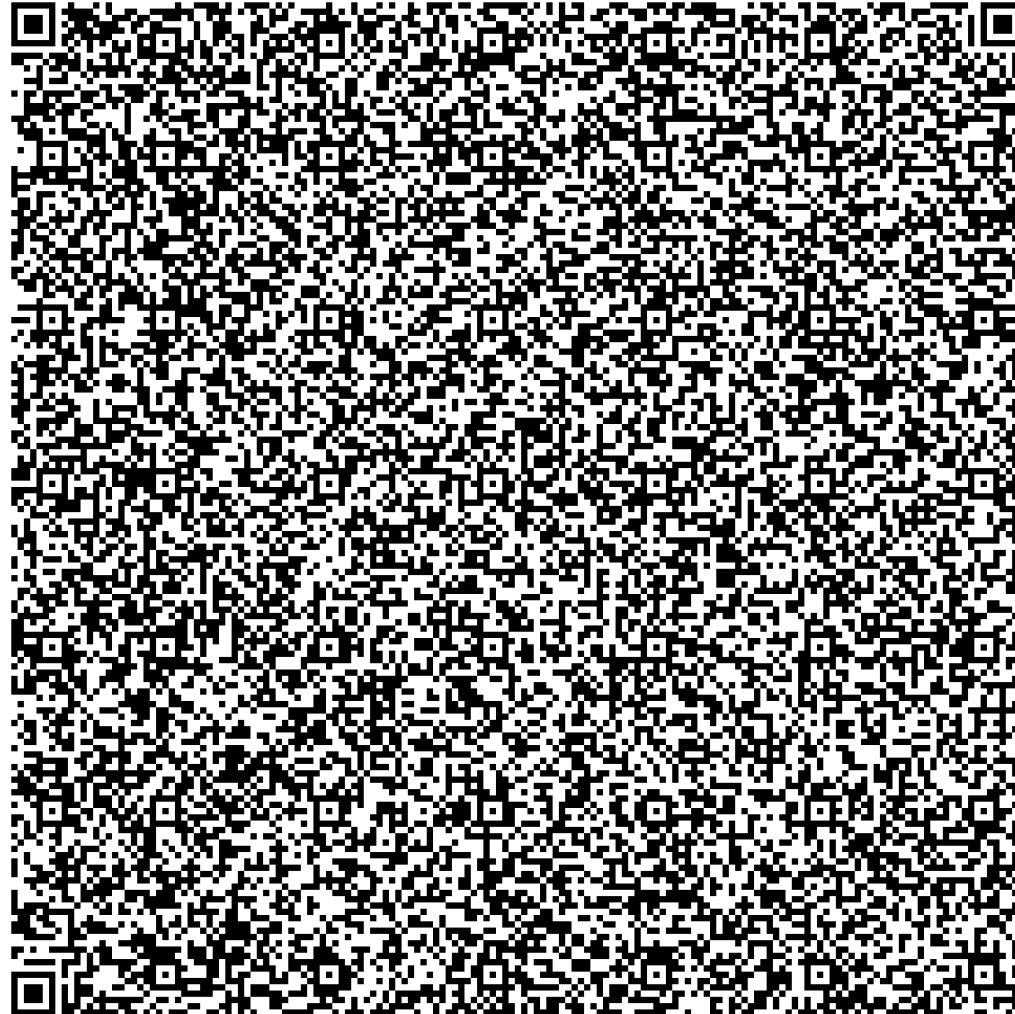
- ▶ Evidence for efficacy of CATs for emotion regulation and other co-occurring disorders (e.g., chronic pain)...
 - ▶ Music Therapy; Art Therapy; Dance/Movement Therapy
 - ▶ Emerging evidence base in military connected populations
 - ▶ Service members/Veterans often find these therapies as “doable” early in treatment versus some EBTs (e.g, PE)

PRINCIPLE 6

Consider Programming Care in a Manner that Facilitates Self-Efficacy Expectations

- ▶ Self-Efficacy for symptom management
- ▶ Structure treatment in such a way to promote self-efficacy expectations for specific activities, skills, functional behaviors, coping behaviors, etc. (e.g., PT quotas; cognitive quota strategies)

References



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