

# **PAIN AND EMOTIONAL COMORBIDITIES AMONG OEF/OIF SERVICE MEMBERS: IMPLICATIONS FOR CARE**

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# Objectives

- Briefly **review** some of our most recent data concerning the prevalence of pain and emotional comorbidities among service members who have returned from deployment.
- **Describe** the characteristics of Post-deployment Multi-symptom Disorder (PMD) and the empirical and pragmatic rationale for this conceptualization.
- **Present** a new model of integrated physical and emotional health care for returning service members with PMD.



# OEF/OIF Pain Facts

- Among polytrauma patients, up to **96%** report **pain issues** (Clark, Bair, Buckenmaier III, Girona, & Walker, 2007)
- **65%** of polytrauma patients have identified **emotional comorbidities** (Walker & Clark, 2006)
- Approximately **40-45%** of OEF/OIF personnel **registering for VA care report pain** (Clark, 2004; Girona, Clark, Massengale, & Walker, 2006)
- OEF/OIF patients tend to report **multiple symptoms and emotional comorbidities** (Lew, Otis, Tun, Kerns, Clark, & Cifu, 2009; Walker, Clark, & Sanders, 2010).
- **Headaches** predominate in both cohorts (Clark, Scholten, Walker, & Girona, 2009; Girona, Clark, Ruff, Chait, Craine, Walker, & Scholten, 2009).

# Latest Comorbidity Data

- VA-funded two-site study examining polytrauma pain and emotional issues (SDR#-07-047 Department of Veterans Affairs)
- Participants recruited either from the polytrauma network of care or local OEF/OIF registries
- Follow all participants for 12 months
- Use validated structured clinical interview (M.I.N.I.) to establish DSM-IV diagnoses
- Following data represent a “first look” at some results for 239 participants



# Pain

- **Persistent pain present in 87%, average pain 4.1**
  - Significant pain (4 or >) 50.6%
- **Headache prevalence 63.2%**
  - Days/week with headaches 3.6
- **Most common primary pain locations:**

Location	Percent
Head	19.7%
Shoulder	11.2%
<b>Knee</b>	<b>7.5%</b>
Neck	5.6%
Hand/wrist	4.7%
Ankle/foot	3.8%
Leg/Hip	2.8%
Arm/elbow	1.9%

# DSM-IV Mental Health Diagnoses

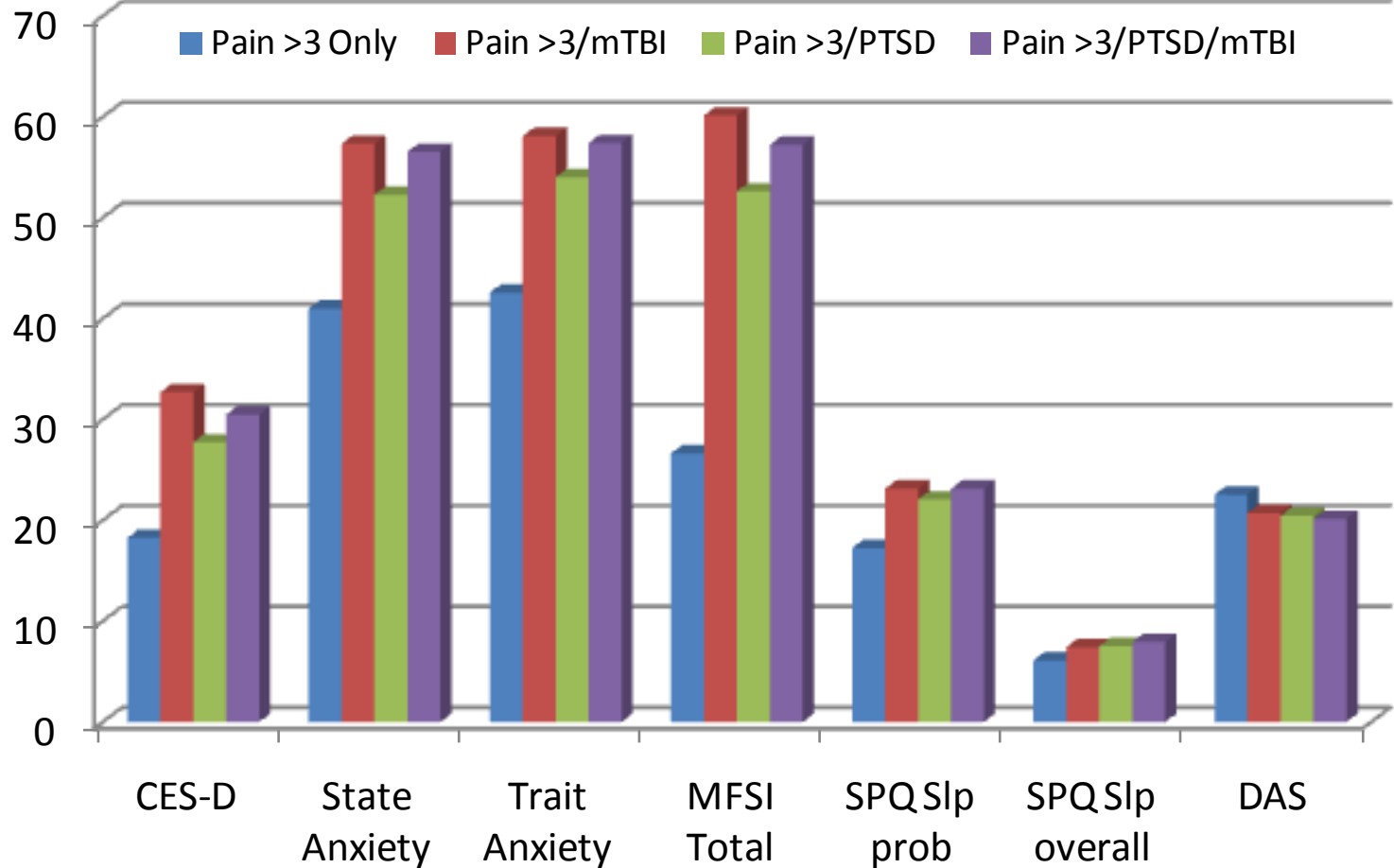
At least 1 M.I.N.I. Dx	58.6%	PTSD	29.3%
Depression		Mood disorder with psychotic features	3.1%
Major Depression	30.30%	Antisocial Personality Disorder	4.0%
Dysthymia	1.60%	Substance Use Disorders	
<b>1 or more depressive disorders</b>	<b>36.9%</b>	ETOH dependence	13.8%
Hypomania	24.9%	ETOH Abuse	9.80
Anxiety		Opioid Dependence	2.2%
Panic disorder	20.4%	Opioid Abuse	0.9%
Agoraphobia	27.6%	Other Substance Dependence	1.8%
Social Phobia	9.80%	Other Substance Abuse	2.3%
Obsessive-compulsive disorder	16.4%	Polysubstance Abuse	0.5%
Generalized Anxiety Disorder	14.70%	<b>1 or more substance use disorders</b>	<b>24.3%</b>
<b>1 or more anxiety disorders (except PTSD)</b>	<b>49.4%</b>		



# Diagnostic Overlap

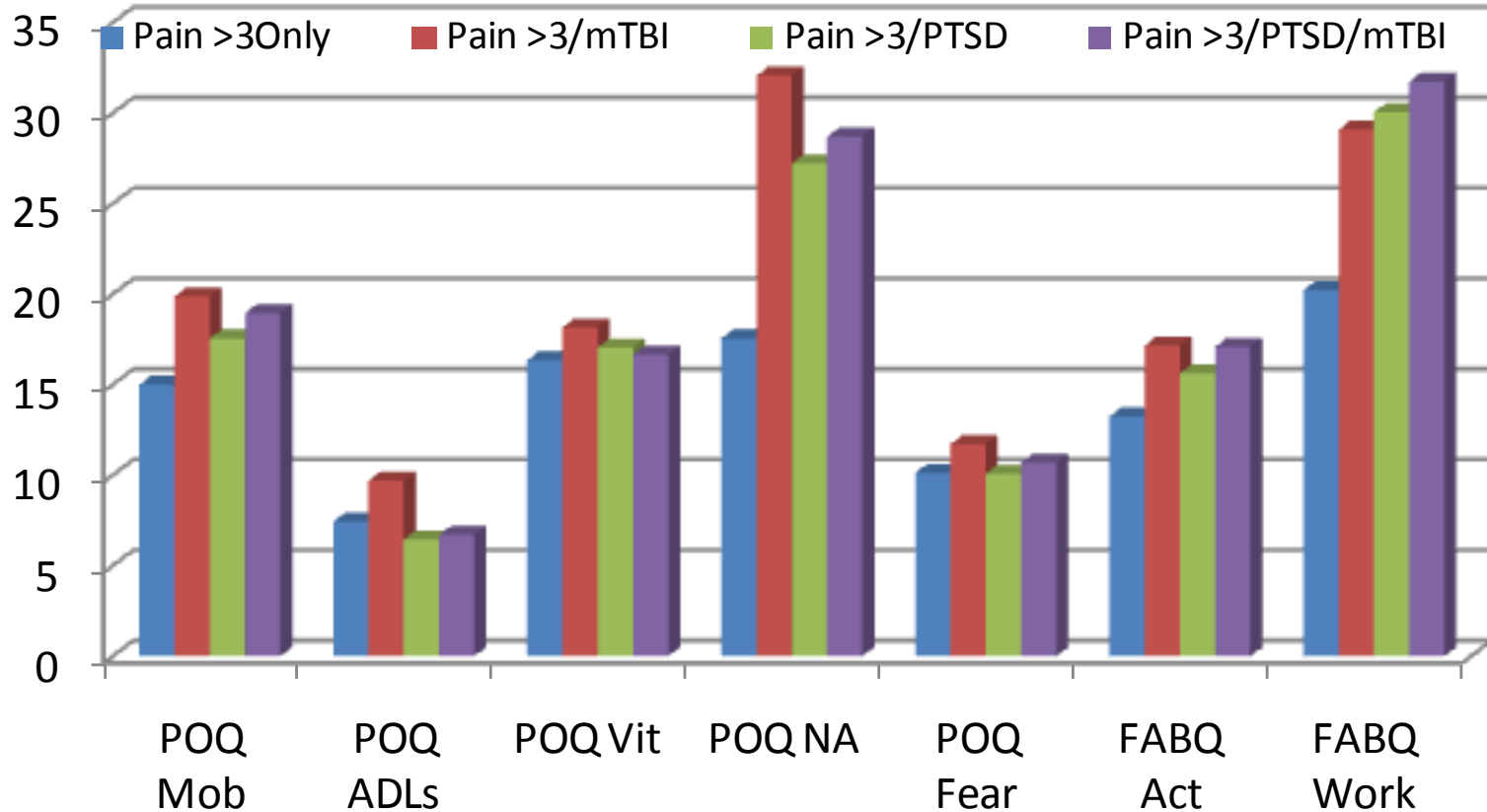
Pain prevalence	87.0%	Comorbidities for Pain $\geq 4$	
Significant pain (NRS $\geq 4$ )	53.8%	Pain and PTSD only	43.8%
PTSD Dx	29.3%	Pain and mTBI only	26.4%
mTBI Dx (based on LOC)	18.4%	<b>PTSD and mTBI only</b>	<b>0.0%</b>
<b>mTBI only (no pain or PTSD)</b>	<b>2.4%</b>	Pain, PTSD, and mTBI	16.5%
<b>PTSD only (no pain or mTBI)</b>	<b>0.8%</b>		
<b>Pain only (no PTSD or mTBI)</b>	<b>44.6 %</b>	<b>Pain and Substance Abuse</b>	<b>28.1%</b>

# Symptom Burden 1

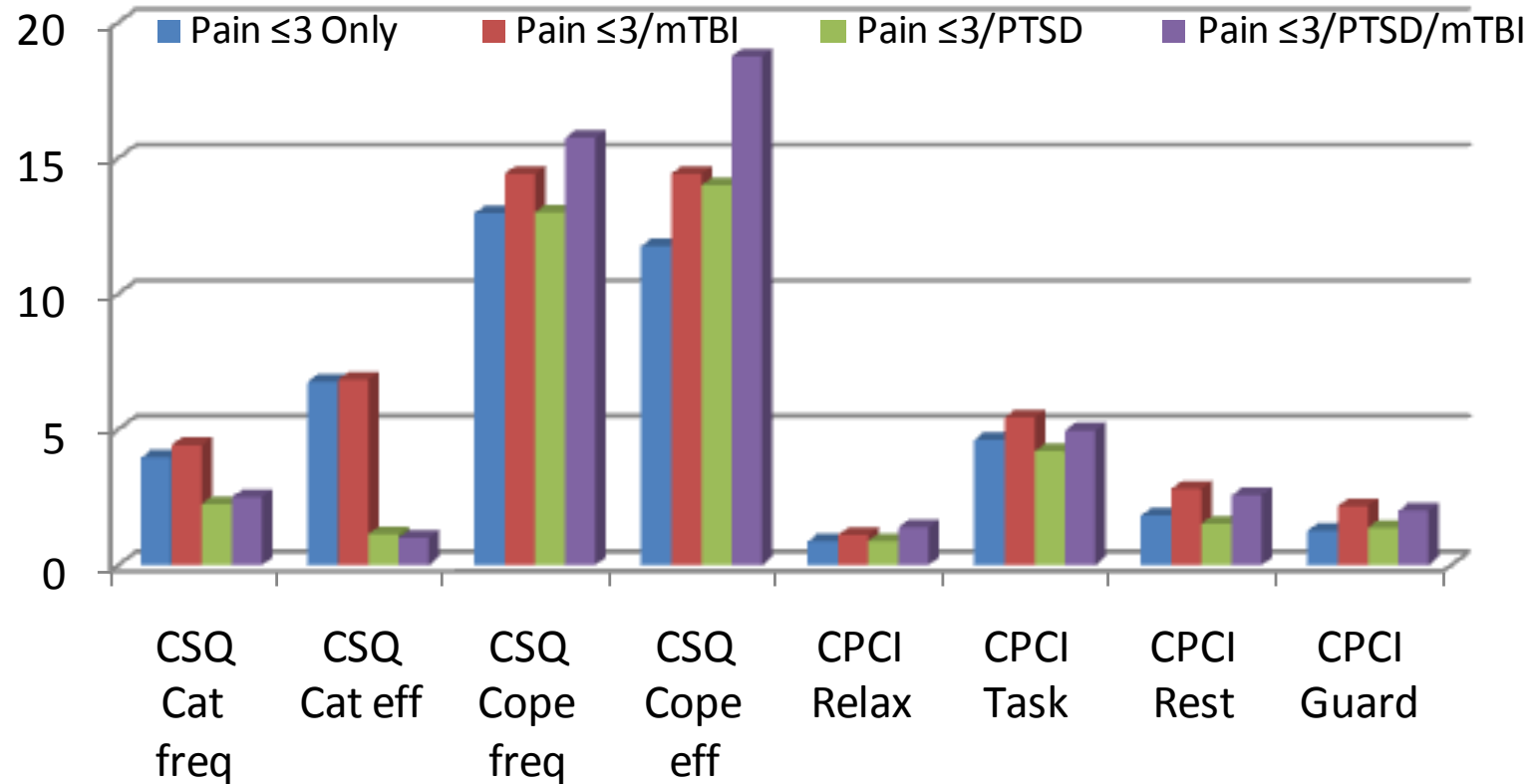




# Symptom Burden 2



# Symptom Burden 3



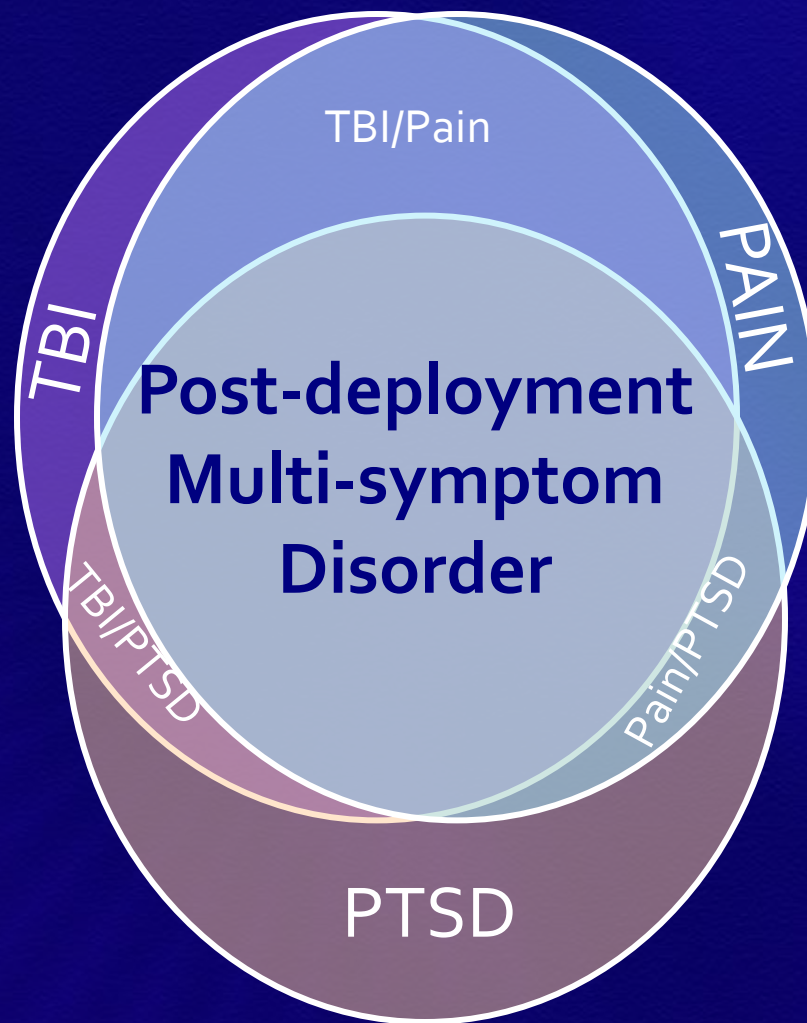


# Post-deployment Multi-symptom Disorder (PMD)

- Originally called **P3** or the **Polytrauma Triad**
- Refers to a constellation of overlapping physical and emotional symptoms common among OEF/OIF service members that negatively impact QOL, daily functioning, and transition to life as a civilian.
- Most common problem areas are **pain, PTSD, mTBI, SUD,** and **sleep** problems
- Tend to be more frequent and/or severe in those exposed to multiple blasts

Gironda, Clark, Ruff, Chait, Craine, Walker, & Scholten, 2009  
Walker, Clark, & Sanders, 2010

# PMD

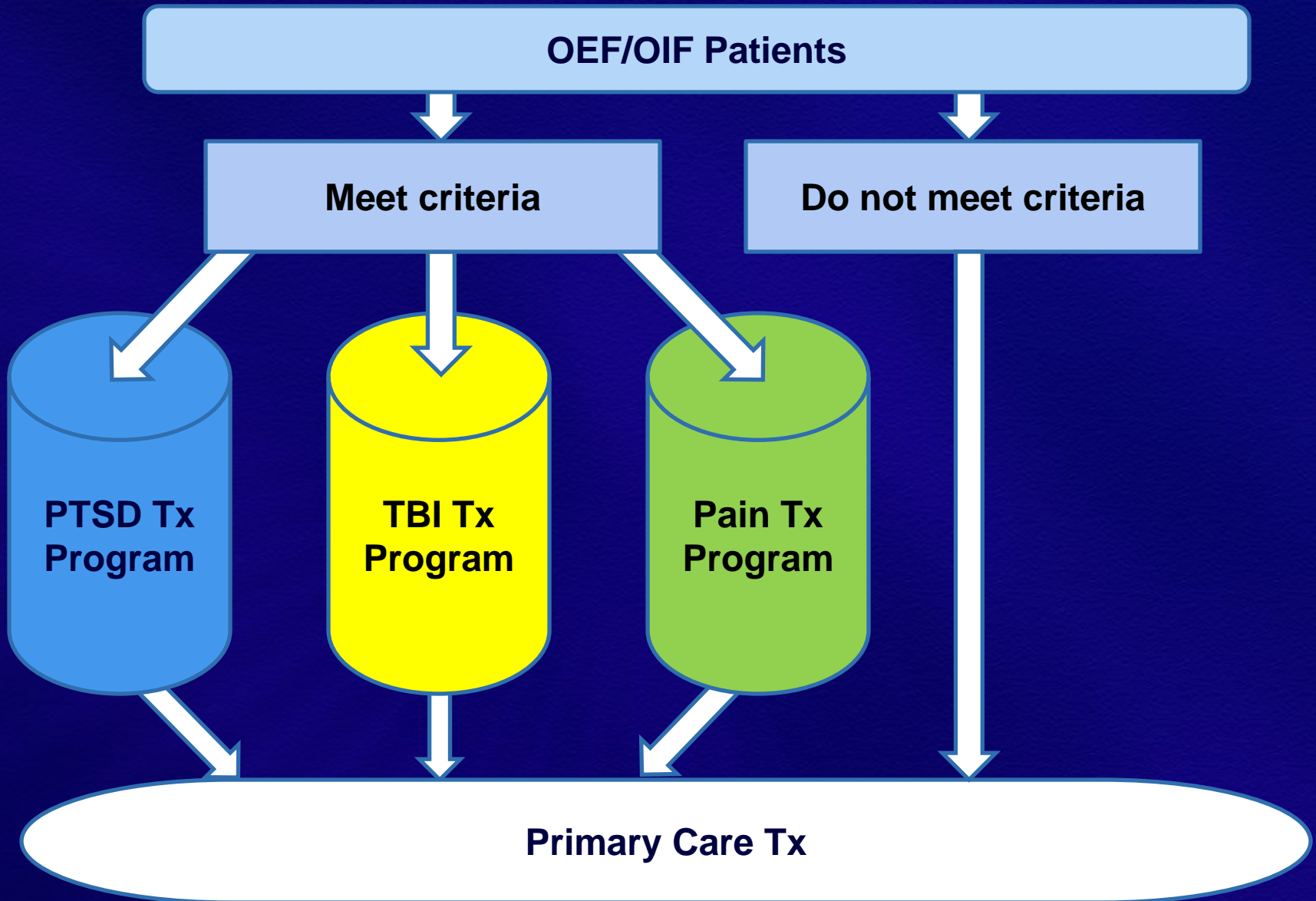




# PMD Symptoms

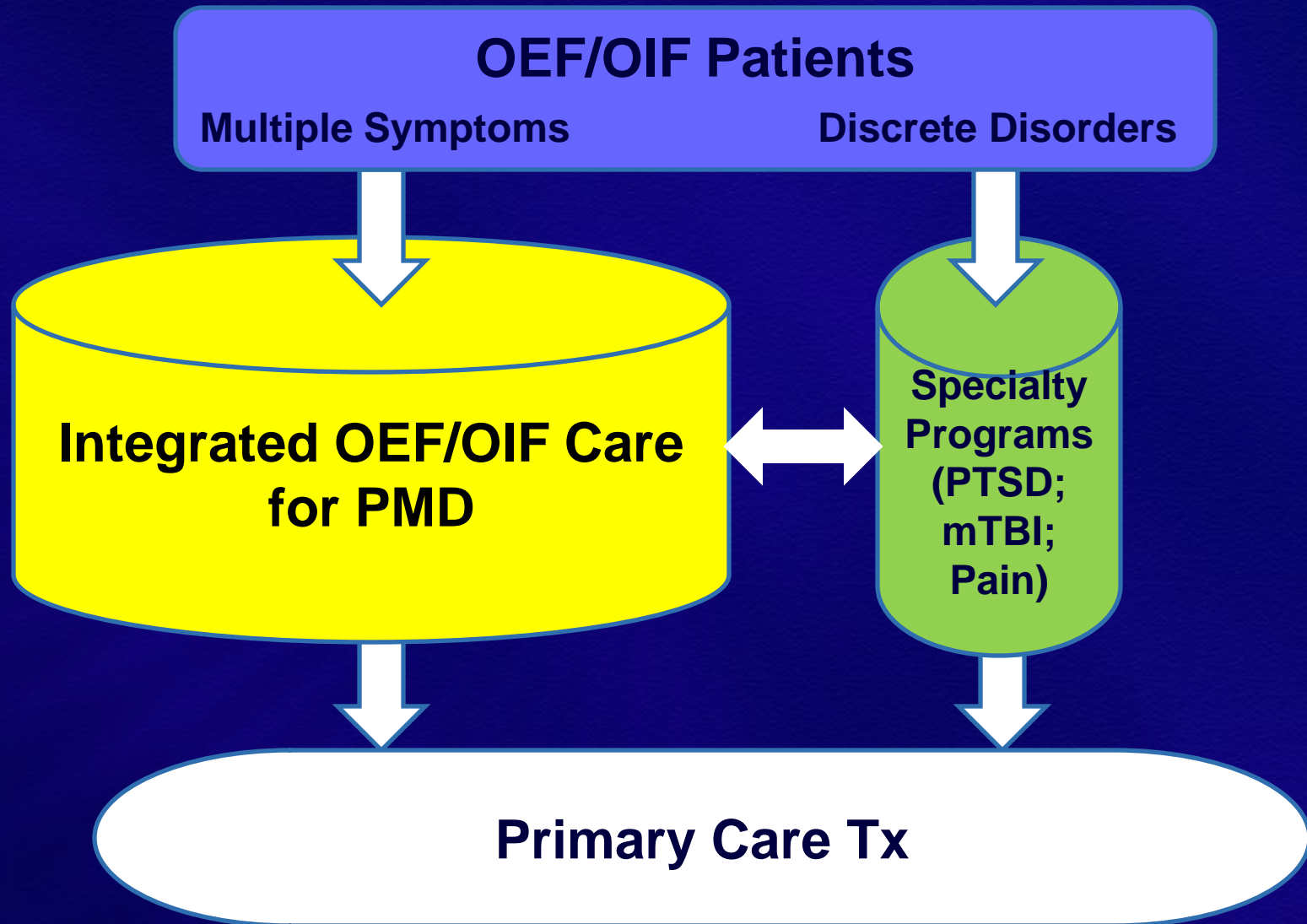
- Sleep Disturbance
- Low Frustration Tolerance/Irritability
- Concentration/Attention /Memory Problems
- Fatigue
- Headaches
- Musculoskeletal Disorders (i.e. chronic pain)
- Affective Disturbance
- Apathy
- Personality Change
- Substance Misuse (including opioid misuse)
- Activity Avoidance or Kinesiophobia
- Employment or school difficulties
- Relationship conflict
- Hypervigilance

# Traditional VA Specialty Care





# Alternative Model of Specialty Care



# Stepped PMD Care at Tampa VA

- **Step 1: Post-Deployment Clinic PMD Screening**
  - Primary Care medical examination
  - MH orientation and brief screening (all patients)
  - Full screening and brief Tx for mild symptoms
  - Referral for moderate or severe problems
- **Step 2: Integrated PMD Care Program**
  - Treatment focuses on maximizing QOL
  - Integrated, transdisciplinary care
  - Outcomes driven; eligibility based on adjustment issues rather than Dx
- **Step 3: Specialty Programs (e.g., PTSD, Pain; TBI)**



# Screening Instruments

<b>Problem Area</b>	<b>Screening Instrument</b>
<b>Anxiety</b>	<b>GAD 7</b>
<b>Depression</b>	<b>PHQ 9</b>
<b>Trauma Symptoms</b>	<b>PCL</b>
<b>Sleep</b>	<b>SPQ</b>
<b>Physical Health</b>	<b>PHQ 15</b>
<b>Pain Problems</b>	<b>Pain usual &gt; 3</b>
<b>SUD</b>	
<b>ETOH</b>	<b>Use over NIDA cuts</b>
<b>Street Drugs</b>	<b>Y/N</b>
<b>Rx Abuse</b>	<b>Y/N</b>

**Sample = 200 consecutive PDC patients**

# PDC Screening Results

<b>Problem Area</b>	<b>% Above Cutoff Score</b>
<b>Anxiety</b>	<b>35.5%</b>
<b>Depression</b>	<b>47.5%</b>
<b>Trauma Symptoms</b>	<b>30.0%</b>
<b>Sleep</b>	<b>48.5%</b>
<b>Physical Health</b>	<b>43.0%</b>
<b>Pain Problems</b>	<b>42.0%</b>
<b>SUD</b>	
<b>ETOH</b>	<b>15.0%</b>
<b>Street Drugs</b>	<b>5.0%</b>
<b>Rx Abuse</b>	<b>2.0%</b>



# PMD Results

<b>No problems above cutoff</b>	<b>27.5%</b>
<b>1 problem above cutoff</b>	<b>19.5%</b>
<b>2 problems above cutoff</b>	<b>8.0%</b>
<b>3 problems above cutoff</b>	<b>8.5%</b>
<b>4 problems above cutoff</b>	<b>5.5%</b>
<b>5 problems above cutoff</b>	<b>12.0%</b>
<b>6 problems above cutoff</b>	<b>15.0%</b>
<b>7 problems above cutoff</b>	<b>4.0%</b>
<b>Disposition</b>	
<b>No additional Tx indicated</b>	<b>41.5%</b>
<b>Declined recommended Tx</b>	<b>19.0%</b>
<b>Referred for Tx</b>	<b>39.5%</b>

## Step 2: Integrated PMD Care Program

- *Center for Post-deployment Health and Education (CPHE) at Tampa VA*
- **CPHE** was designed to more efficiently deliver symptomatic and preventive care to an expanded range of returning service members that experience functional impairment in multiple life roles due to PMD



# CPHE Program Overview

- **Focus**
  - Focus on **function** and **QOL** rather than symptoms and diagnoses
- **Objectives**
  - **Maximize function** and life adjustment
  - **Prevent** impairment or disability and symptom development or exacerbation
- **Treatment**
  - Intensive **outpatient** program
  - New **integrated care** approaches
  - Established and modified **CBT** models of brief intervention
  - **Transdisciplinary** team approach
  - **Time-limited (1 – 3 months)**

# Advantages of Integrated Care

- Provides **comprehensive, multi-symptom care** within a single program at a single location by a group of providers who share a common philosophy of treatment.
- **Integrated** evaluations may provide a more complete picture of an individual's functioning than specialty focused evaluations.
- Facilitates a ***continuum*** of care rather than episodic care.
- Addresses the specific problem symptoms as well as their ***interactions***.



# CPHE Team

- **Staff with specialties in**
  - Behavioral Medicine
  - Pain
  - PTSD
  - TBI
  - Substance Abuse
  - Rehabilitation therapies



# Assessment Instruments

- **Structured Post-deployment interview**
- **MMPI-2**      **Personality measure used to plan Tx**
- **PCL-C**      **Stress symptoms**
- **SPQ**      **Sleep Problems Questionnaire**
- **MFSI**      **Fatigue measure**
- **STAI-T**      **Trait Anxiety**
- **CES-D**      **Depression measure**
- **POQ-SF**      **Pain and impairment measure**
- **NSI**      **Cognitive and behavioral problems**
- **SWL**      **Life satisfaction measure**
- **M2CQ**      **Problems in transition to civilian life**
- **SA5**      **SUD screen from NIDA**



# Treatment Components

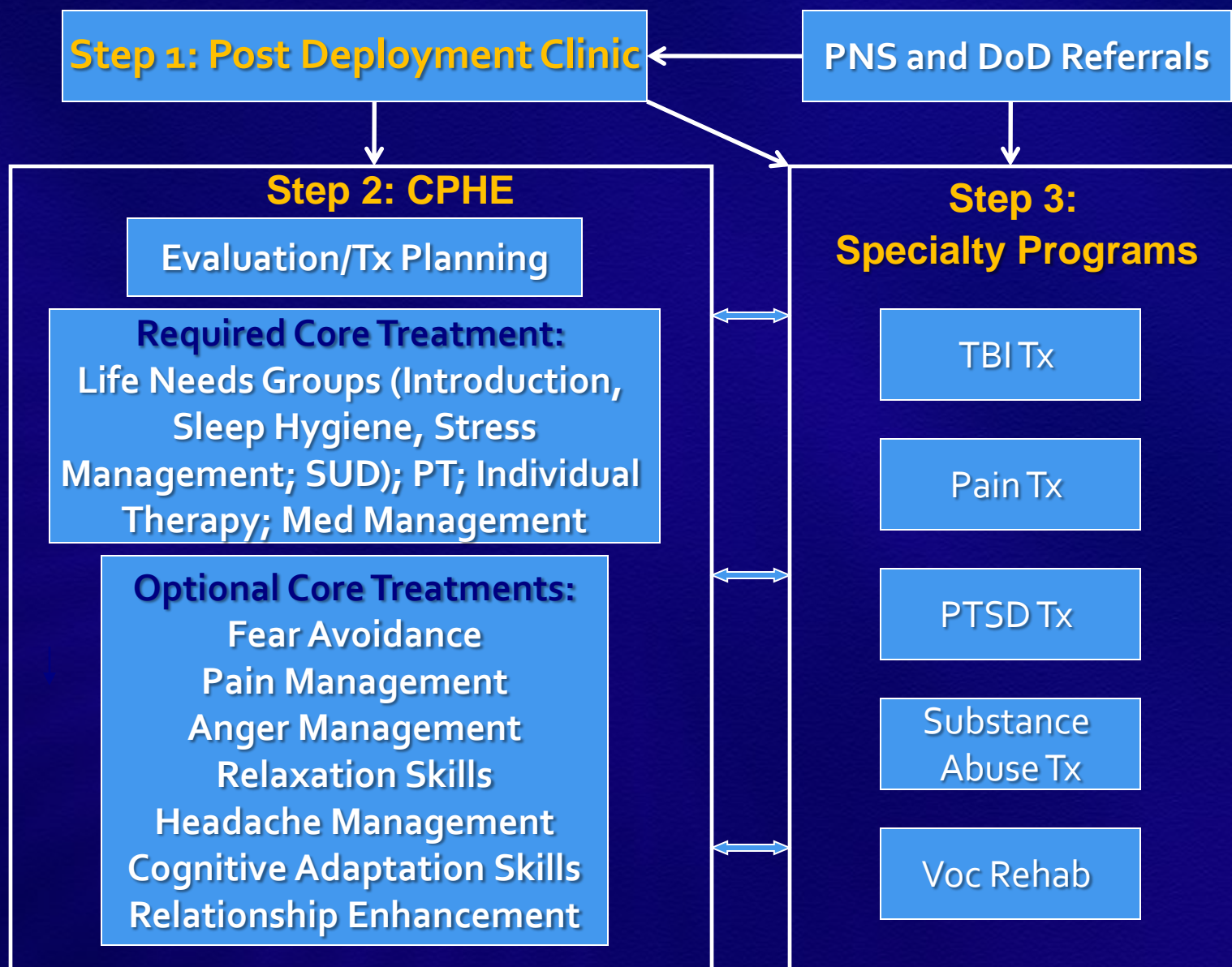
- **Core Components (all participants)**
  - **Psychoeducational groups**
    - **Single-session, 90-minute groups**
      - **Introduction/Rationale for Program**
      - **Sleep Hygiene**
      - **Stress Management**
      - **SUDS**
  - **Physical Therapy**
  - **Psychiatry/medication management**
  - **Individual psychology as needed**
  - **Family member participation encouraged**

# Treatment Components

- **Focused Components (based on needs)**
  - Occurs after core treatment
  - Psychoeducational groups of three, 90-minute sessions. Targeted problem areas include:
    - Pain Management
    - Anger Management
    - Advanced Relaxation Training/Stress Management
    - Fear/Avoidance
    - Headache Pain
    - Cognitive Adaptation
    - SUD
  - Ongoing individual psychology sessions, PT and medication management



# Stepped Integrated Care Flow



# Results

## Case Study

- **59 year old male (Mr. G) who served in the Air Force, Air Force National Guard, Army, and Army Reserves for a total of 41 years (E-6).**
- **Deployed X3 (Desert Storm, Kuwait, and OEF), and exposed to both combat and emotional trauma.**
- **Brief episodic Tx in past- limited compliance.**
- **Referred through our PDC, where he complained of LBP, headaches, depression, anxiety, sleep problems, and PTSD symptoms.**
- **Diagnoses: MDD; LBP; Headaches; Knee pain**
- **Accepted into CPHE where he completed the core program in 5 weeks (group; individual; PT).**



# Outcomes

Measure	Pre-Tx	Post-Tx
POQ-Pain Score	7	0
POQ-Mobility Interference	24	0
POQ-ADL Interference	16	0
POQ- Vitality (strength & endurance)	15	23*
POQ-Negative Affect (depression & anxiety)	24	0
M2CQ (military to civilian transition problems)	2	1
CES-D (depression)	42	9
NSI (TBI/behavioral symptoms)	63	12
STAI-T (Trait Anxiety)	65	21
SWL (Satisfaction with Life)	26	27*
PCL-C (PTSD checklist- civilian version)	80	18
SPQ (sleep problems questionnaire)	20	5
Alcohol use score (NIDA)	1	0

\*higher scores denote better functioning

# Future Directions

- **Extend and refine PMD treatment components**
  - Enhance efficiency of Tx:
    - Develop shared (PTSD and Pain) avoidance behavior inventory (underway)
    - Integrate PTSD, Sleep, and Pain treatment
    - Incorporate adaptive cognitive skills into Pain and PTSD Tx
- **Increase consumer focus**
  - Extended clinic hours (evenings & weekends)
  - Utilize technology and fitness (internet; Wii; gym)
- **Expand Stepped Care approaches for pain treatment**
  - Increase availability of a range of pain treatments
  - Implement equal access to pain treatment across all VA sites
  - Develop algorithms for more efficiently managing pain system-wide



# Future Directions

- **Research**
  - Identify how overlapping comorbidities interact
  - Determine the most effective treatments for PMD
  - Evaluate whether stepped care improves outcomes compared to standard care
  - Identify any increased health and adjustment risks associated with blast exposure

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