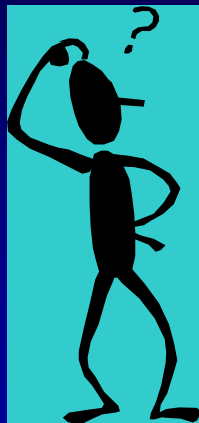


**A Research Priority**  
**Standardizing and Enhancing**  
**Point of VA Service for DSDS (GWI) Veterans**  
***Connecting Combat Veterans with Their VA***

**Stephen C Hunt MD MPH**  
Research Advisory Committee on Gulf War Veterans Illnesses  
June 23, 2015

1

## Researcher's and Clinician's Beliefs about Gulf War symptoms

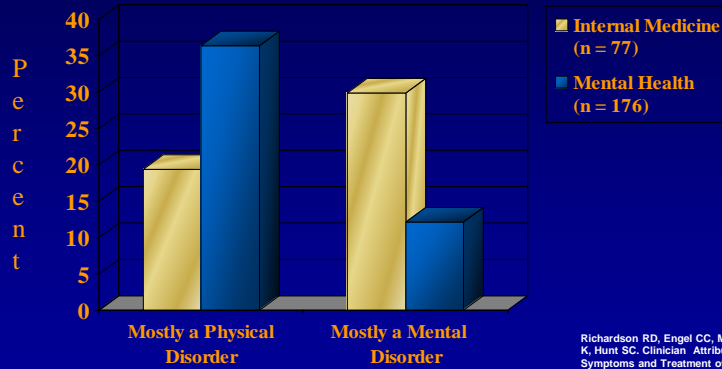


What is it?

What caused it?

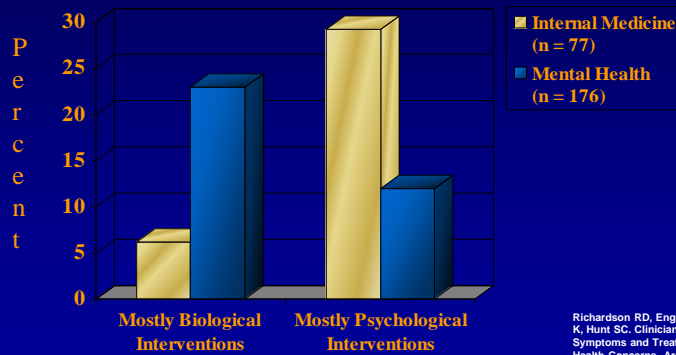
What can be done  
to help?

## Rate the degree to which you believe “Persian Gulf Illness” is:



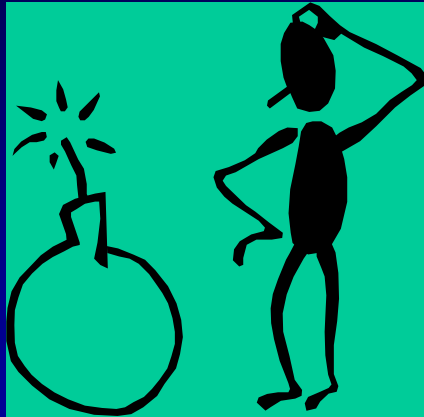
Richardson RD, Engel CC, McFall, M, McKnight K, Hunt SC. Clinician Attributions for Symptoms and Treatment of Gulf War-Related Health Concerns. Archives of Internal Medicine 2001; 161: 1289-1294.

## Rate the degree to which you believe “Persian Gulf Illness,” in general, is most effectively treated by:



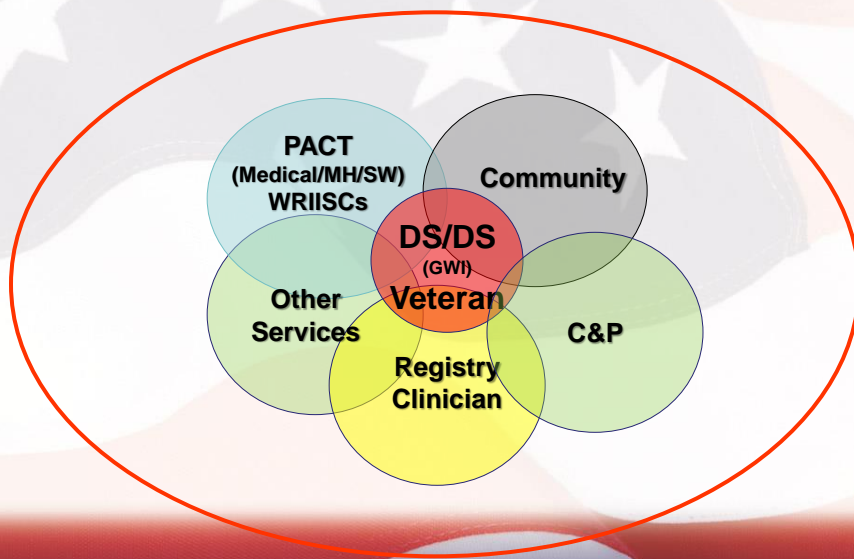
Richardson RD, Engel CC, McFall, M, McKnight K, Hunt SC. Clinician Attributions for Symptoms and Treatment of Gulf War-Related Health Concerns. Archives of Internal Medicine 2001; 161: 1289-1294.

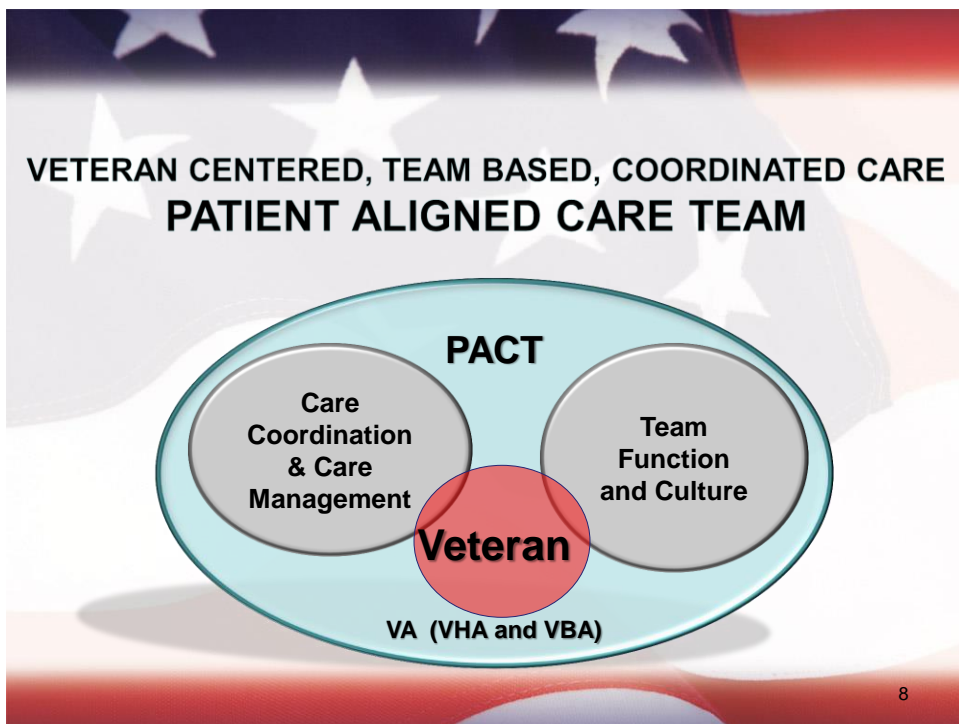
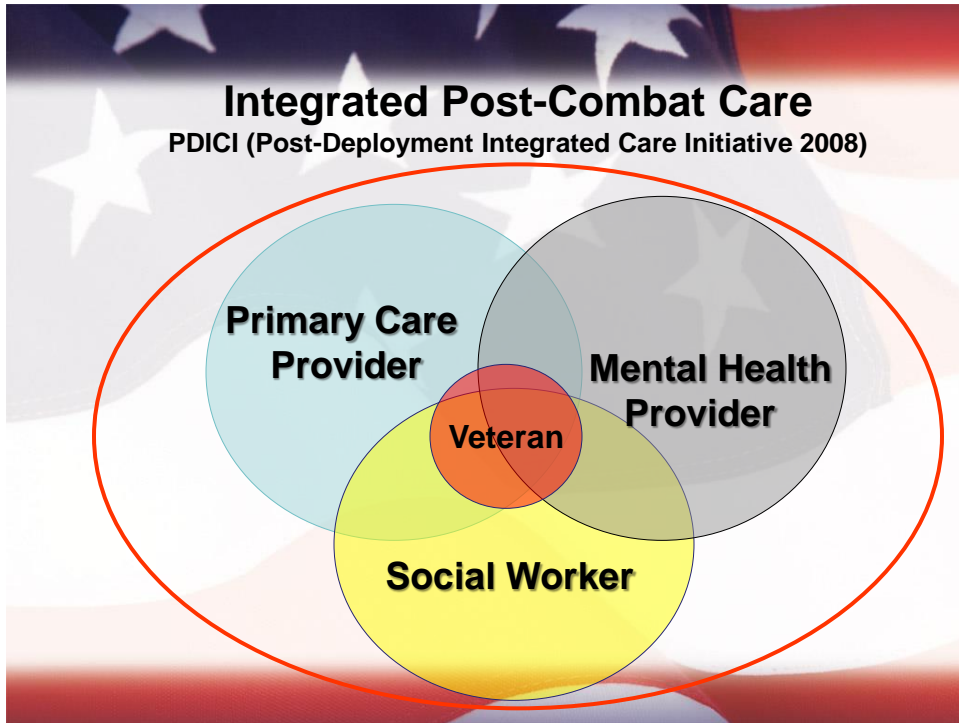
## Gulf War Veterans' Beliefs about their Symptoms



What is it?  
What caused it?  
What can I do  
about it?  
Who or what  
might help?  
What is going to  
happen?

## DS/DS (GWI) Veterans





## Veterans' Complex Chronic Illness Requires Personalized Care, Says IOM

Rebecca Voelker, MS

**C**HRONIC MULTISYMPTOM ILLNESS (CMI), a constellation of complex health problems that affects hundreds of thousands of US military veterans, requires personalized care that is most effective when provided by a team of health professionals, according to a recent report.

In the latest of its congressionally mandated reports on veterans' health following their service in the 1991 Persian Gulf War, the Institute of Medicine (IOM) defined CMI as having symptoms lasting 6 months or longer in at least 2 of 6 categories: fatigue, mood and cognition, musculoskeletal, gastrointestinal, respiratory, and neurologic (<http://tinyurl.com/6kmt64f>).

Because symptoms can vary greatly, the IOM committee said it couldn't recommend a single therapy or universal treatment program for veterans with CMI. "We reject a one-size-fits-all treatment approach," said committee chair Bernard M. Rosof, MD, chair of the board of directors of Huntington Hospital, Huntington, NY. "Instead, we endorse individualized health care management plans as the best approach for treating this very real, highly diverse condition."

According to the report, between 175 000 and 230 000 Gulf War veterans have CMI and many of the esti-

mated 2.6 million troops deployed to Iraq and Afghanistan have reported CMI symptoms of headache, chronic pain, disrupted sleep, fatigue, and attention and memory problems. The specific cause or causes of CMI probably will never be determined, the report noted.

The IOM committee evaluated evidence for a number of treatment options, including prescription medications and alternative therapies. Their review indicated that some veterans benefit from cognitive behavioral therapy and from medications, including selective serotonin reuptake inhibitors and serotonin norepinephrine reuptake inhibitors. Aerobic exercise, biofeedback, acupuncture, and St John's wort (a

herbal extract widely used in some countries to treat depression) may be promising approaches, but the committee didn't find convincing evidence of their effectiveness.

Veterans should undergo a comprehensive health examination immediately after leaving active duty, and the results should be available to clinicians within and outside of the Department of Veterans Affairs (VA), the report noted. The IOM also recommended that the VA use its recently developed postdeployment patient-aligned care teams to improve care for CMI. The teams include a project manager, primary care clinicians, nurses, mental health professionals, social workers, and other specialists if needed. □



Personalized care is needed to treat chronic multisymptom illness, an array of health problems that affects hundreds of thousands of US military veterans, according to a recent report.

646 JAMA, February 20, 2013—Vol 309, No. 7

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## Cognitive Behavioral Therapy and Aerobic Exercise for Gulf War Veterans' Illnesses: A Randomized Controlled Trial

Sam T. Donta, MD; Daniel J. Claus, MD; Charles C. Engel, Jr, MD, MPH; Peter Guarino, MPH; Peter Peduzzi, PhD; David A. Williams, PhD; James S. Skinner, PhD; André Barkhaizen, MD; Thomas Taylor, MD; Lewis E. Kazis, S-D; Stephanie Sogge, PhD; Stephen C. Hunt, MD; Cynthia M. Dougherty, PhD; Ralph D. Richardson, PhD; Charles Kunkel, MD; William Rodriguez, MD; Edwin Alica, MD; Philippe Chialade, MD; Margaret Ryan, MD, MPH; Gregory C. Gray, MD, MPH; Larry Lutwick, MD; Dorothy Norwood, MD; Samantha Smith, PhD; Michael Everson, PhD; Warren Blackburn, MD; Wade Martin, MD; J. McLeod Griffiss, MD; Robert Cooper, MD; Ed Bensen, PhD, MPH; James Schmitt, MD; Cynthia McMurtry, MD; Manisha Thakore, MD; Deanna Mori, PhD; Robert Kerns, PhD; Maryann Park, MD; Sally Pullman-Moore, MD; Jack Bernstein, MD; Paul Hershberger, PhD; Don C. Salisbury, DO; John R. Feussner, MD, MPH; for the VA Cooperative Study #470 Study Group

**I**n 1990 AND 1991, 700 000 US troops were deployed to the Persian Gulf in what became known as the Gulf War. Upon their return, many Gulf War veterans from both the US and other allied forces began to report chronic, unexplained fatigue, pain,

**Context** Gulf War veterans' illnesses (GWVI), multisymptom illnesses characterized by persistent pain, fatigue, and cognitive symptoms, have been reported by many Gulf War veterans. There are currently no effective therapies available to treat GWVI.

**Objective** To compare the effectiveness of cognitive behavioral therapy (CBT), exercise, and the combination of both for improving physical functioning and reducing the symptoms of GWVI.

**Design, Setting, and Patients** Randomized controlled 2 × 2 factorial trial conducted from April 1999 to September 2001 among 1092 Gulf War veterans who reported at least 2 of 3 symptom types (fatigue, pain, and cognitive) for more than 6 months and at the time of screening. Treatment assignment was unmasked except for a masked assessor of study outcomes at each clinical site (18 Department of Veterans Affairs [VA] and 2 Department of Defense [DOD] medical centers).

**Interventions** Veterans were randomly assigned to receive usual care (n=271), consisting of any and all care received from inside or outside the VA or DOD health care systems; CBT plus usual care (n=286); exercise plus usual care (n=269); or CBT plus exercise plus usual care (n=266). Exercise sessions were 60 minutes and CBT sessions were 60 to 90 minutes, both met weekly for 12 weeks.

**Main Outcome Measures** The primary end point was a 7-point or greater increase (improvement) on the Physical Component Summary scale of the Veterans Short Form 36-Item Health Survey at 12 months. Secondary outcomes were standardized measures of pain, fatigue, cognitive symptoms, distress, and mental health functioning. Participants were evaluated at baseline and at 3, 6, and 12 months.

**Results** The percentage of veterans with improvement in physical function at 1 year was 11.5% for usual care, 11.7% for exercise alone, 18.4% for CBT plus exercise, and 18.5% for CBT alone. The adjusted odds ratios (OR) for improvement in exercise, CBT, and exercise plus CBT vs usual care were 1.07 (95% confidence interval [CI], 0.63-1.82), 1.72 (95% CI, 0.91-3.23), and 1.84 (95% CI, 0.95-3.55), respectively. The OR for the overall (marginal) effect of receiving CBT (n=552) vs no CBT (n=535) was 1.71 (95% CI, 1.15-2.53) and for exercise (n=531) vs no exercise (n=556) was 1.07 (95% CI, 0.76-1.50). For secondary outcomes, exercise alone or in combination with CBT significantly improved fatigue, distress, cognitive symptoms, and mental health functioning. Neither treatment significantly improved cognitive symptoms and mental health functioning. Neither treatment had a significant impact on pain.

**Conclusion** Our results suggest that CBT and/or exercise can provide modest relief for some of the symptoms of chronic multisymptom illnesses such as GWVI.

DOI: 10.1001/2013.jama.1404

**Author Affiliations** are listed at the end of this article. **Members of the VA Cooperative Study #470 Study Group** and the data and safety monitoring board are listed in reference 14 of this article.

**Corresponding Author and Reprints:** Peter Peduzzi, PhD, Cooperative Studies Program Coordinating Center (111A), VA Connecticut Healthcare System, 950 Campbell Ave, West Haven, CT 06516 (e-mail: peterp5@mindspring.com).

**For editorial comment see p 1436.**

1396 JAMA, March 19, 2003—Vol 289, No. 11

## A Mindfulness Intervention for Gulf War Syndrome

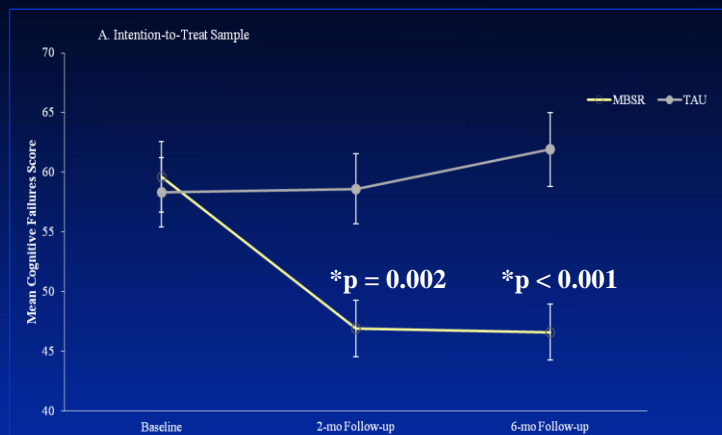
(in review)

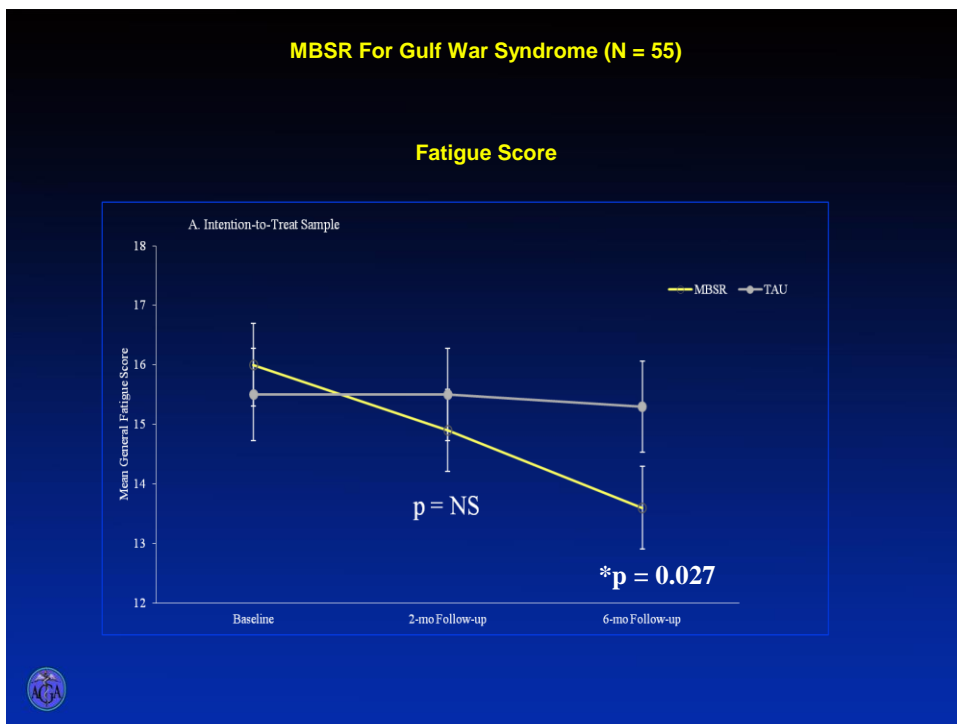
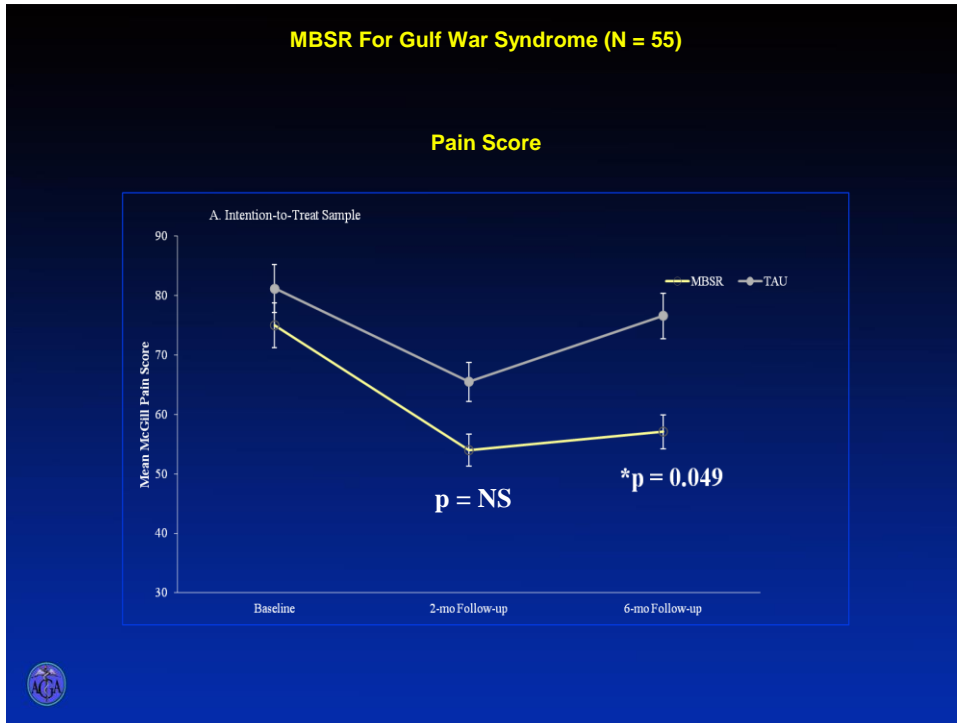
- Rationale: Prior studies have shown effects of mindfulness-based interventions for:
  - Pain / pain functionality
  - Fatigue
  - Memory / attention
- Hypothesis: Teaching mindfulness would improve multi-symptoms illness
  - A pilot study
  - 55 Veterans were randomized to MBSR or Treatment as Usual (TAU)

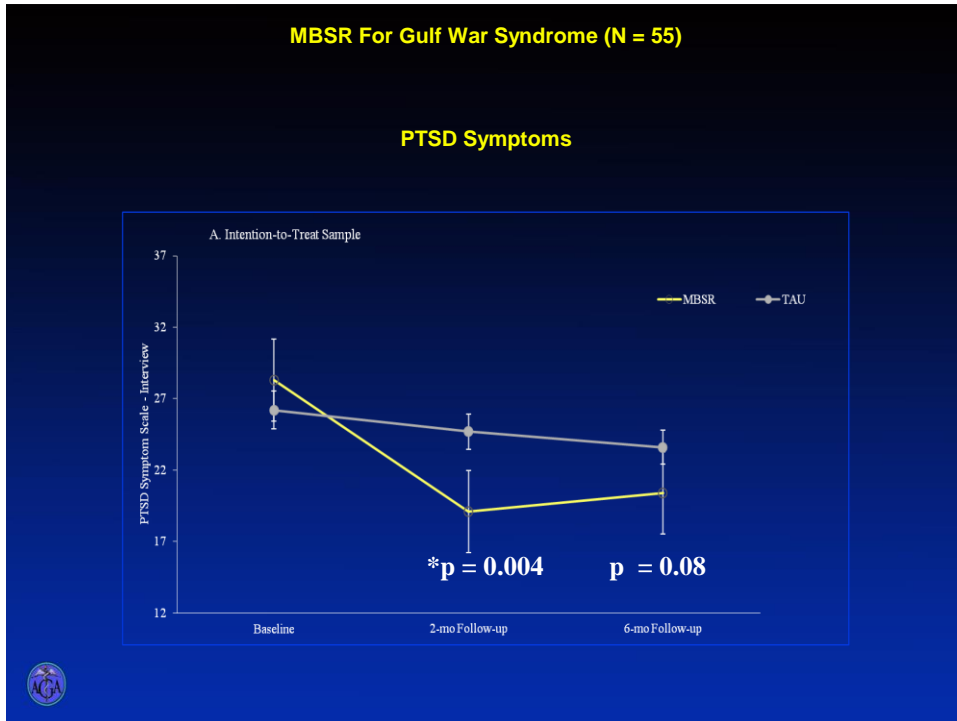


### MBSR For Gulf War Syndrome (N = 55)

#### Cognitive Failures (Self-report)







**MBSR For Gulf War Syndrome: Summary / Conclusions**

- At 6-month follow-up, there were significant improvements in the primary outcome measures: pain, fatigue, cognitive failures
  - Depression (PHQ-9) also improved.
  - PTSD symptoms improved post-MBSR; there was a trend at 6-months
  - Sleep disturbances improved post-MBSR but not at 6-months
  - Mindfulness skills improved significantly at both time points.
- MBSR appears to hold promise as an intervention for GWS / CMI





**A Research Priority  
Enhancing VA Point of Service  
for DS/DS Veterans**

- **Partnerships**
- **Benefits**
- **Clinical Team Education/Training**
- **Population-Based Management**
- **Medical Surveillance**
- **Research and Development**
- **Outreach**

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**A Research Priority  
Enhancing VA Point of Service  
for DS/DS Veterans**

- **Partnerships**  
*The relationship between the Veteran and the VA staff, the quality of the partnership they create, is the strongest predictor of good outcome*
- **Benefits**
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- **Research and Development**
- **Outreach**

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**A research priority**  
**Enhancing VA Point of Service**  
**for DS/DS Veterans**

**Partnerships**

*The relationship between the Veteran and the VA staff, the quality of the partnership they create, is the strongest predictor of good outcome*

- **Between Veteran and Point of Service:**
  - **For GWI Veteran:**
    - PACT
    - Registry Program
    - Clinical Practice Guideline
    - Benefits/SC for undiagnosed illnesses
  - **For current conflicts:**
    - OEF/OIF Program Manager Program
    - Post-Deployment Integrated Care Clinics/PACTs/WRIISCs
    - Polytrauma Programs
- **Between clinicians/team members**
- **Between programs:**
  - Stepped care model for post-deployment care/deployment health
- **Between VHA and VBA**
- **Between VA and DoD**
- **Between VA and other agencies/services**
  - Vet Centers
  - State Department of Veterans Affairs
  - Other providers

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**A research priority**  
**Enhancing VA Point of Service**  
**for DS/DS Veterans**

- **Partnerships**  
*The relationship between the Veteran and the VA staff, the quality of the partnership they create, is the strongest predictor of good outcome*
- **Benefits**  
*The key to effective benefits utilization is benefits counseling and access*
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**A research priority  
Enhancing VA Point of Service  
for DS/DS Veterans**

**Benefits**

*The key to effective benefits utilization is benefits counseling and access*

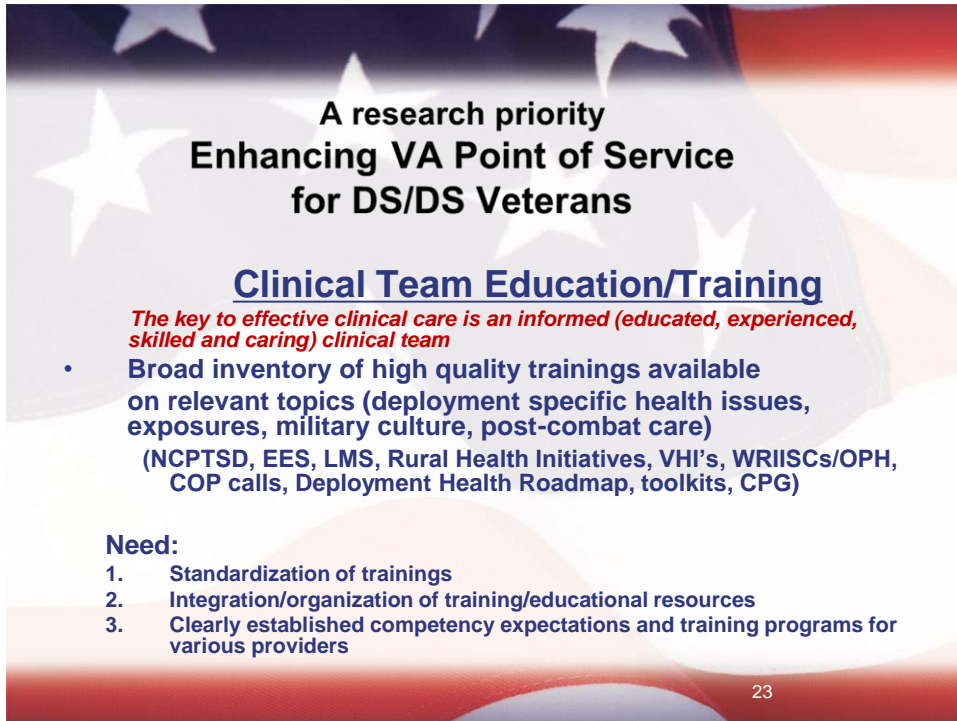
- **Benefits at discharge**
- **Benefits information at first VA contact**
  - Assistance with claim and benefits access if needed
- **Ongoing updated information and access**

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**A research priority  
Enhancing VA Point of Service  
for DS/DS Veterans**

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*The key to effective clinical care is an informed (educated, experienced, skilled and caring) clinical team*
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- **Outreach**

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**A research priority  
Enhancing VA Point of Service  
for DS/DS Veterans**

**Clinical Team Education/Training**

*The key to effective clinical care is an informed (educated, experienced, skilled and caring) clinical team*

- **Broad inventory of high quality trainings available on relevant topics (deployment specific health issues, exposures, military culture, post-combat care)**  
(NCPTSD, EES, LMS, Rural Health Initiatives, VHI's, WRIISCs/OPH, COP calls, Deployment Health Roadmap, toolkits, CPG)

**Need:**

1. Standardization of trainings
2. Integration/organization of training/educational resources
3. Clearly established competency expectations and training programs for various providers

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**A research priority  
Enhancing VA Point of Service  
for DS/DS Veterans**

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- **Population-Based Management**  
*The key to effective population based management is a strong and functional connection to the population being managed*
- **Medical Surveillance**  
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- **Research and Development**
- **Outreach**

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**A research priority**  
**Enhancing VA Point of Service**  
**for DS/DS Veterans**

**Population-Based Management**  
**and Medical Surveillance**

*The key to effective population based management and medical surveillance is a strong, functional connection to the population being managed/monitored*

- **Broaden post-discharge entry into VA; enroll all Veterans**
- **Standardize intake process with OEM focus:**
  - **Assess impact of military service/deployments on the Veteran's health**
    - For clinical purposes (clinical care and risk communication)
    - For determination of SC
    - Offers a platform for Registry exams/surveillance
    - Documentation for future reference in case of downstream health impacts of service/deployment/combat
- **Deployment Health Services VA wide (stepped care)**
  - Knowledgeable provider in each clinic
  - Point of Service Deployment Health in each Center/CBOC complex
  - WRISCs for tertiary consultation

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**A research priority**  
**Enhancing VA Point of Service**  
**for DS/DS Veterans**

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*The key to effective population based management is a strong and functional connection to the population being monitored*
- **Research and Development**  
*The key to effective R&D is a commitment to and success with shared mission*
- **Outreach**

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**A research priority**  
**Enhancing VA Point of Service**  
**for DS/DS Veterans**

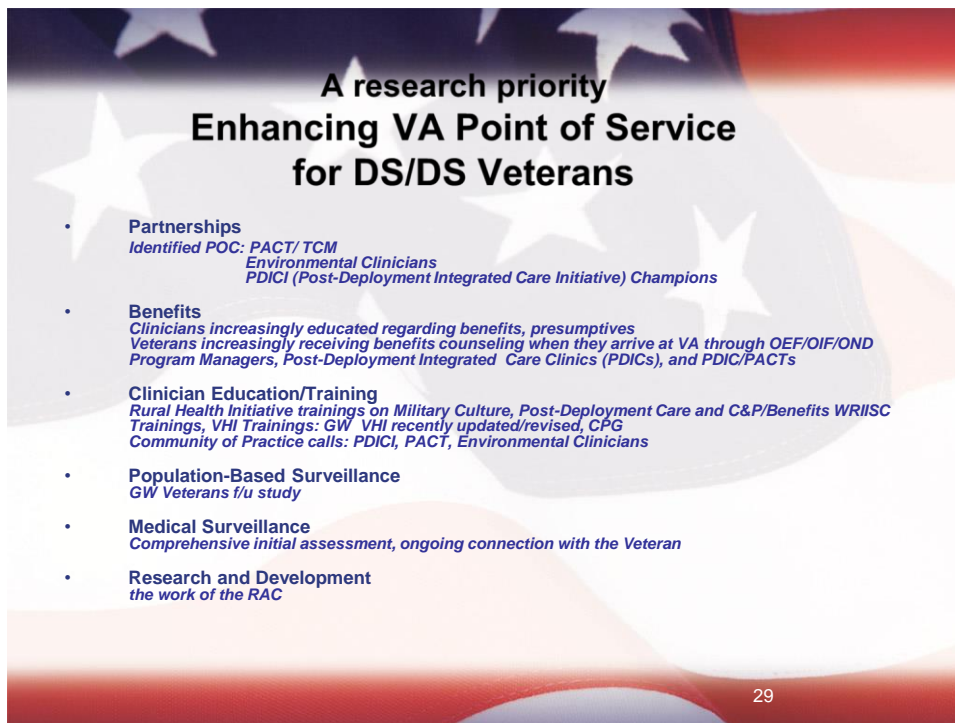
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*The key to effective R&D is a commitment to and success with shared mission*
- **Outreach**  
*The best way to market a product is to have the best product imaginable*

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**A research priority**  
**Enhancing VA Point of Service**  
**for DS/DS Veterans**

- **Partnerships**  
*The relationship between the Veteran and the VA staff, the quality of the partnership they create, is the strongest predictor of good outcome*
- **Benefits**  
*The key to effective benefits utilization is benefits counseling and access*
- **Clinical Team Education/Training**  
*Relevant information for the relevant clinical team member at the relevant time*
- **Population-Based Management**  
*Depends upon connection with the population being monitored*
- **Medical Surveillance**  
*Comprehensive initial assessment, ongoing connection with the Veteran*
- **Research and Development**  
*Stakeholder input, research that is relevant to care*
- **Outreach**  
*Reconnecting Care, Services, Information, Databases*

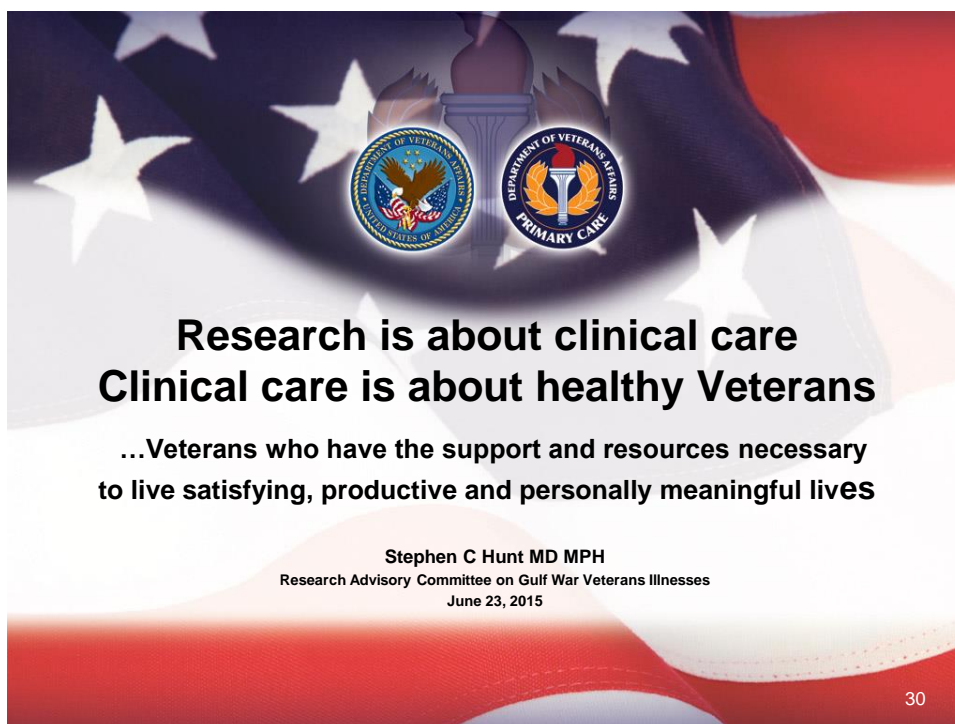
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## A research priority Enhancing VA Point of Service for DS/DS Veterans

- **Partnerships**  
*Identified POC: PACT/TCM  
Environmental Clinicians  
PDICI (Post-Deployment Integrated Care Initiative) Champions*
- **Benefits**  
*Clinicians increasingly educated regarding benefits, presumptives  
Veterans increasingly receiving benefits counseling when they arrive at VA through OEF/OIF/OND  
Program Managers, Post-Deployment Integrated Care Clinics (PDICs), and PDIC/PACTs*
- **Clinician Education/Training**  
*Rural Health Initiative trainings on Military Culture, Post-Deployment Care and C&P/Benefits WRIISC  
Trainings, VHI Trainings: GW VHI recently updated/revised, CPG  
Community of Practice calls: PDICI, PACT, Environmental Clinicians*
- **Population-Based Surveillance**  
*GW Veterans i/u study*
- **Medical Surveillance**  
*Comprehensive initial assessment, ongoing connection with the Veteran*
- **Research and Development**  
*the work of the RAC*

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## Research is about clinical care Clinical care is about healthy Veterans

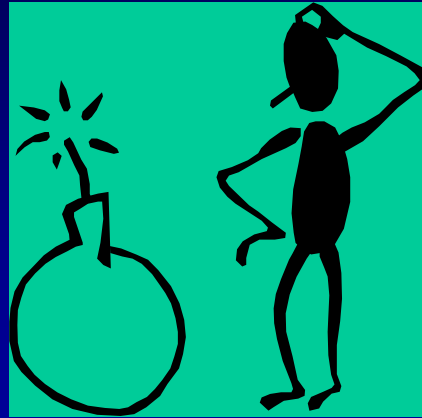
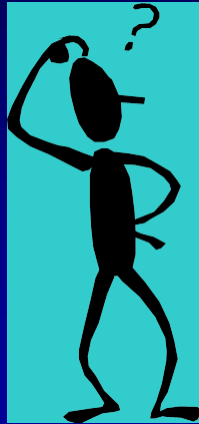
...Veterans who have the support and resources necessary  
to live satisfying, productive and personally meaningful lives

**Stephen C Hunt MD MPH**  
Research Advisory Committee on Gulf War Veterans Illnesses  
June 23, 2015

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## Beliefs

*What we believe to be true is true to us.*



### Gulf War Veterans' Illnesses: A Pilot Study of the Relationship of Illness Beliefs to Symptom Severity and Functional Health Status

Stephen C. Hunt, MD  
Ralph D. Richardson, PhD  
Charles C. Engel, Jr, MD, MPH  
David C. Atkins, PhD  
Miles McFall, PhD

*This investigation describes the illness beliefs of veterans regarding their Gulf War-related health concerns and investigates the relationship of these illness beliefs to physical and mental health functioning. Gulf War veterans (N = 583) presenting for evaluation at a Veteran's Affairs and Department of Defense facility completed self-report measures of symptom-related beliefs, psychosocial distress, and functional status. Hierarchical multiple regression analyses were performed to determine the extent that symptom-related beliefs impacted symptom-reporting and functional status independent of demographic factors and psychiatric illness. Several beliefs predicted physical symptom reporting and functional impairment in physical health and mental health domains after controlling for demographic variables and psychiatric illness. Gulf War veterans' illness beliefs may impact clinical outcomes. Discussing illness beliefs and providing accurate information is an important component of medical care for Gulf War veterans. (J Occup Environ Med. 2004; 46:818-827)*

**L**arge numbers of veterans in the United States, United Kingdom, Canada, and other countries have reported negative health effects of deployment to the Gulf War theater of operations, including unexplained physical symptoms.<sup>1-7</sup> Despite wide ranging speculation regarding the pathogenesis of Gulf War veterans' illnesses, no clear unifying mechanism has been identified.<sup>8,9</sup> The most contentious debate has centered on the relative etiological impact of psychological stressors versus various potentially toxic environmental exposures.<sup>10</sup>

Medically unexplained symptoms (MUS) are common in the community at large and in primary care settings.<sup>11-13</sup> Such symptoms have been found to be related to certain demographic factors,<sup>14</sup> mental disorders,<sup>15</sup> and other psychosocial and cognitive-behavioral variables.<sup>16-18</sup> In Gulf War veterans, MUS have been associated with mental disorders, particularly posttraumatic stress disorder (PTSD) and depression.<sup>19-23</sup> Two recent studies



## *What we do know about GW veterans health...*

- **GW veterans have more medically unexplained symptoms than veterans of other conflicts**
- **GW veterans have a particular constellation of symptoms (fatigue, muscle/joint pain and memory/concentration problems) more often than combat veterans from other conflicts**
- **GW veterans have more concerns about, and likely more exposure to, a wider variety of chemicals and environmental agents than combat veterans of other conflicts**
- **GW veterans have poorer general health and functioning than expected**
- **GW veterans had less exposure to traditional combat stressors but more exposure to chemical/biological stressors than combat veterans from other conflicts**

## *What we don't know about GW veterans health...*

- **The specific effects of many of the numerous combat related exposure on post-war health**
- **The specific cause(s) of the chronic multi-symptom illnesses so commonly see in GW veterans**
- **The relative contributions of the many combat related exposures and experiences to specific post-war health symptoms and concerns**
- **The long term health risks of many of the numerous combat related exposures and experiences**

*What we **do** know about individuals with unexplained symptoms...*

- **Unexplained symptoms are not unique to GW veterans**
- **Most individuals coming in to see their primary care doctors have symptoms for which a specific cause will not be found**
- **In many cases, we do not have to know the specific cause of a symptom to effectively treat the symptom**
- **Attributing a symptom to an incorrect cause may result in incorrect or ineffective management of the symptoms**
- **Living with medically unexplained symptoms or chronic multi-symptom illness can be more challenging than living with a diagnosed disease**

*To say that we do not know the cause of a symptom is **not** to say...*

- **We do not care**
- **We are not doing our best**
- **Your health concerns are not real**
- **Your symptoms do not matter**
- **These health concerns are not serious**
- **There is nothing we can do**

*To say that we do not know is to say...*

- **This is complex; to be simplistic is to dishonor the complexity of this reality...there are no “magic bullets”...treatment will take time and a team effort**
- **It is important not to guess or to act upon assumptions**
- **It matters a great deal that we are honest and straightforward**
- **It is more important than ever to pay attention, take care of one’s self, stay involved in care, support ongoing research**
- **Our goal is not to eradicate all symptoms related to disease; our goal is to mitigate symptoms, improve functioning and optimize quality of life for the Veteran and his/her family**

*What we do know about treating individuals with unexplained symptoms...*

- **To effectively manage unexplained symptoms:**
  - **Comprehensive initial assessment and testing**
  - **Effective communication and education of Veteran and teams**
  - **Validation of the patient’s experience and symptoms; acknowledgement that “it is real”**
  - **A willingness to acknowledge complexity and “not knowing”**
  - **Symptomatic treatment and comprehensive support**
  - **Patient centered: health maintenance, preventive medicine, health recovery; shift from medical to self-management approach**
  - **Ongoing monitoring of care and status; life long commitment**
  - **Ongoing research into the specific syndrome/condition involved**