



Congressionally Directed Medical Research Programs (CDMRP)

Overview of CDMRP and the Gulf War Illness Research Program (GWIRP)

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CDMRP Partnerships

Consumers

- ◆ Demonstrate need
- ◆ Participate at all levels
- ◆ Passion and perspective
- ◆ In touch with a network of other consumers



Congress

- ◆ Add funds to budget
- ◆ Targeted guidance
- ◆ Opportunity to leverage



IMPROVE HEALTH (CURE)

Researchers

- ◆ Innovation and gaps
- ◆ Risk/Benefit
- ◆ Product-oriented



DOD

- ◆ Program management
- ◆ Regulatory and budget requirements
- ◆ Institute of Medicine model

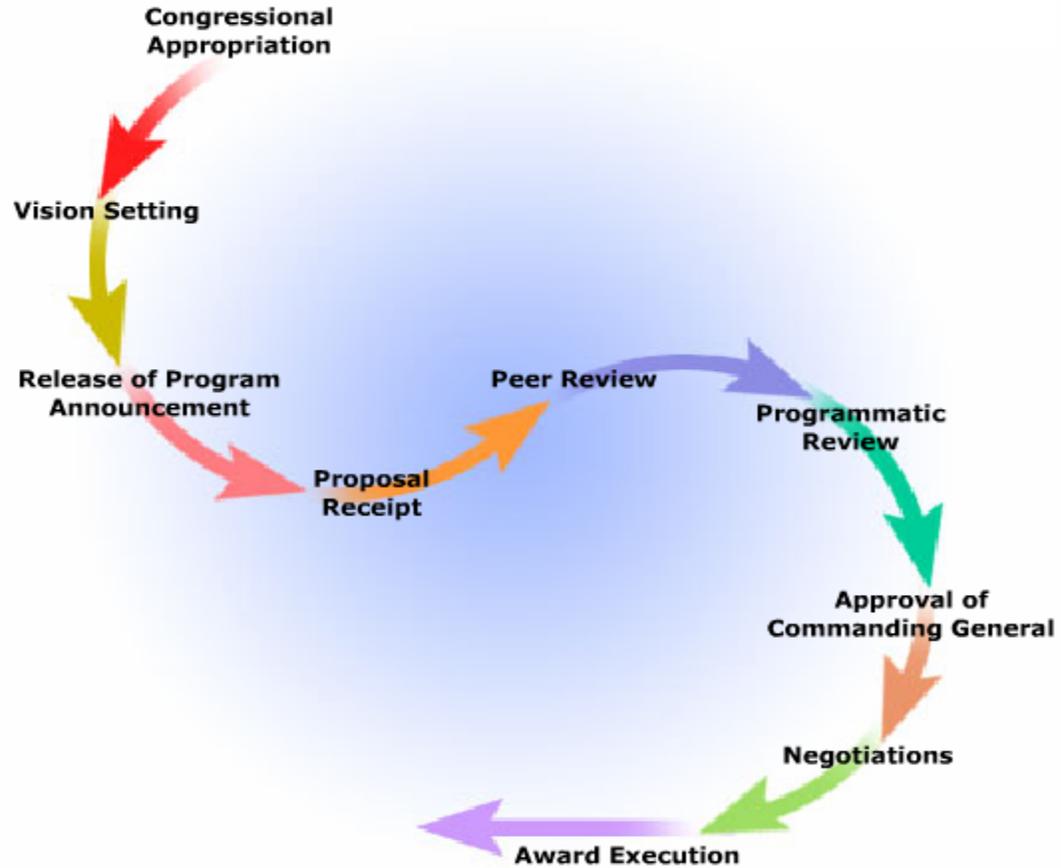


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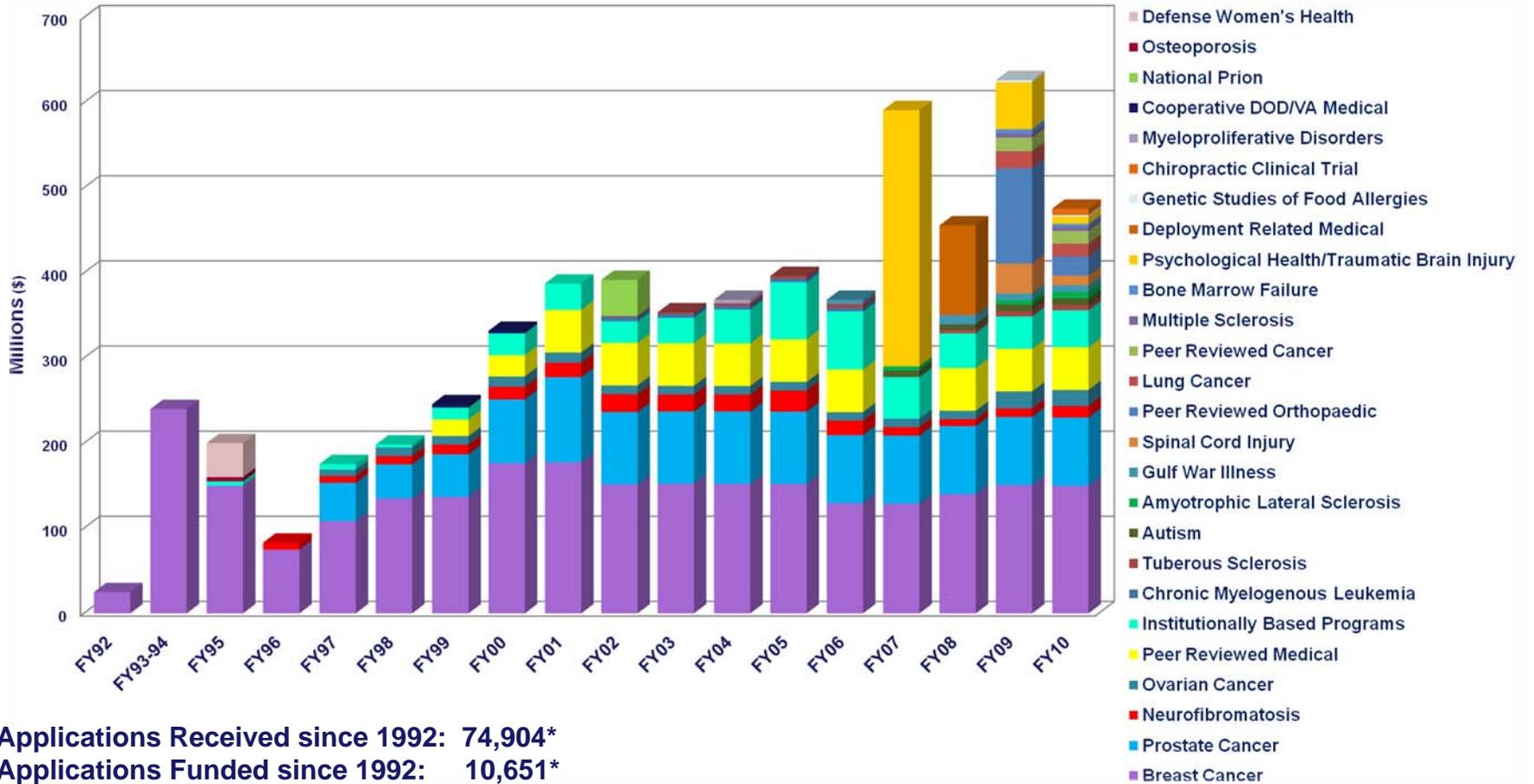


CDMRP Program Cycle





Scope of CDMRP Funds and Awards



Applications Received since 1992: 74,904*
 Applications Funded since 1992: 10,651*

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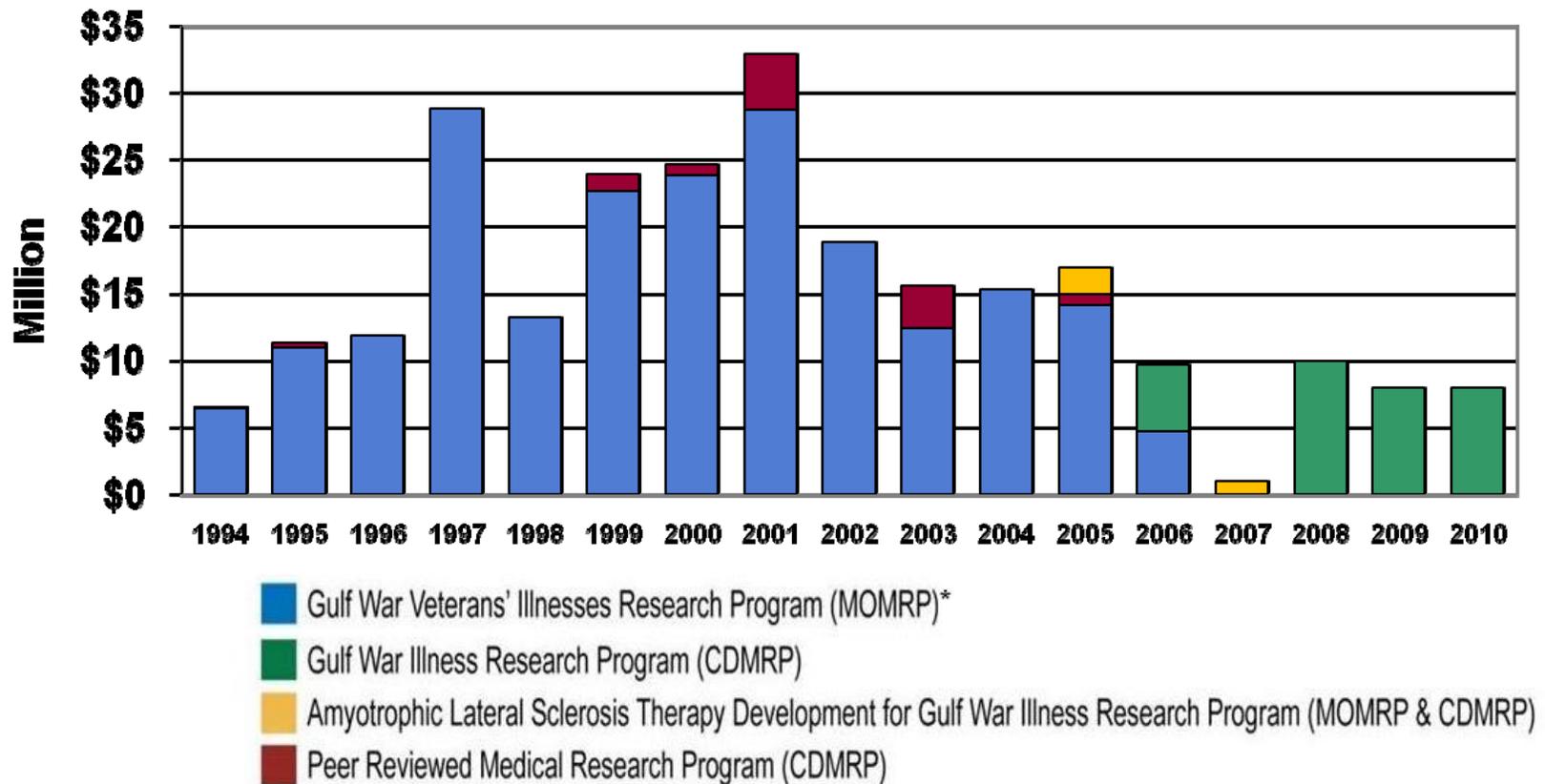




Gulf War Illness Research Program



GWIRP Funding History



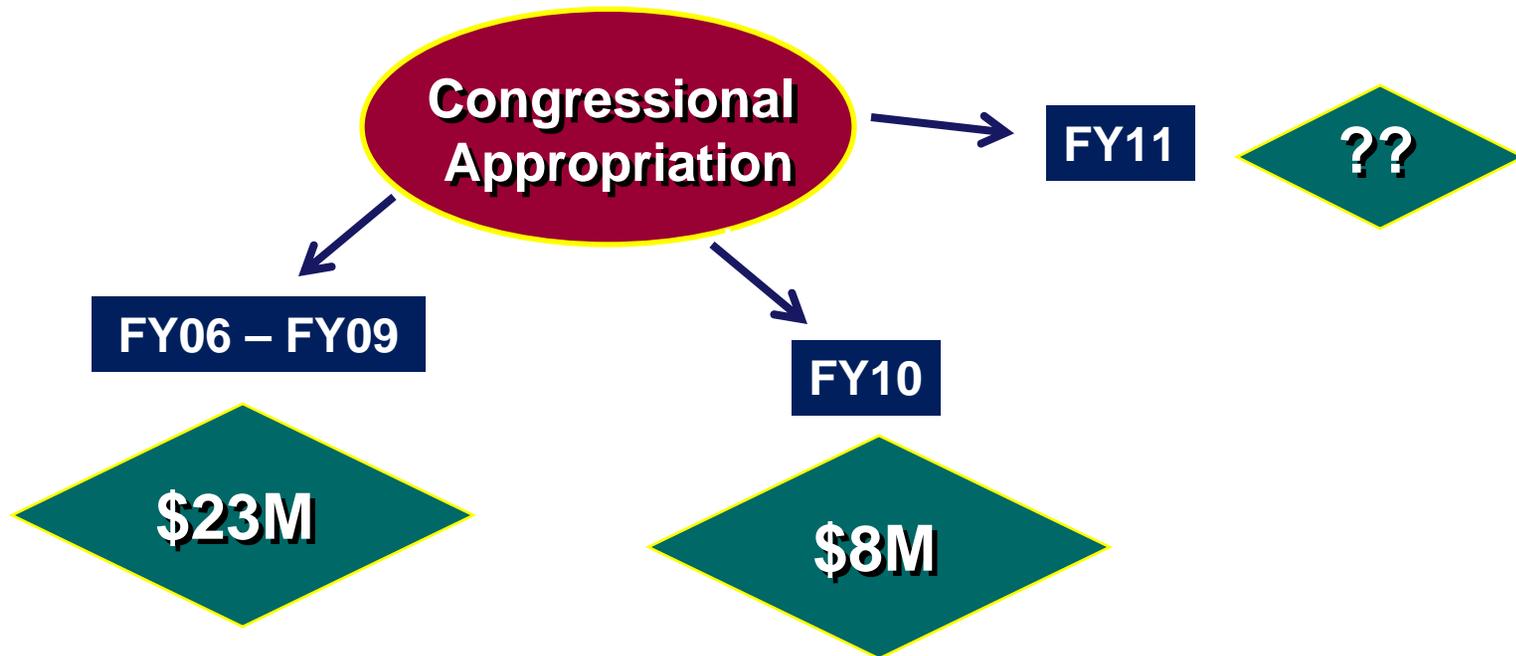
*Military Operational Medicine Research Program, USAMRMC

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GWIRP Funding Synopsis



- ◆ 241 Pre-Applications Received
- ◆ 115 Full Submissions
- ◆ 30 Awards

- ◆ 84 Pre-Applications Received
- ◆ 34 Full Submissions
- ◆ 12 Awards Recommended for Funding

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FY08 National Defense Authorization Act

HR 1585 Conferees directed the Secretary of the Army to utilize the authorized funding ... to undertake research on Gulf War Illnesses. Conferees also directed that activities under the Gulf War Illnesses program include:

- ◆ **Studies of treatments for the complex of symptoms known as “Gulf War Illness”**
- ◆ **No studies based on psychiatric illness and psychological stress as the central cause**
- ◆ **Competitive selection and peer review to identify research with the highest technical merit and military value**

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GWIRP Clinical Trials

Studies that test **treatments** in GWI patients to alleviate various symptoms of GWI and address possible underlying causes of these symptoms.

- ◆ The antioxidant **coenzyme Q10** is studied to improve chronic GWI symptoms such as muscle pain and fatigue, as well as the overall quality of life.
- ◆ An investigation with the supplement **carnosine** to improve sleep problems, pain, and other symptoms; functional MRI will be used to measure brain activity.
- ◆ A new use for **mifepristone** is investigated to determine if it can improve the health of Gulf War veterans with chronic multi-symptom illness.

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GWIRP Clinical Trials (cont.)

- ◆ A crossover clinical trial of **Naltrexone** and **Dextromethorphan** to treat neuroinflammation and relieve GWI symptoms.
- ◆ An investigation of **acupuncture** for its effectiveness in treating multi-symptom illness in GWI patients.
- ◆ Evaluation of an innovative **detoxification treatment** program using the Hubbard Regimen as a means of rehabilitative therapy.
- ◆ The **probiotic** Align® (Bifidobacterium infantis 35624) to improve global health and individual symptoms of irritable bowel syndrome.





GWIRP Clinical Studies

Studies in GWI patients to investigate biomarkers and the underlying causes of symptoms associated with GWI.

- ◆ **Structural MRI** and correlations with cognitive problems in pest-control personnel from the Gulf War.
- ◆ Exploring reduced **blood flow and coagulation** as an underlying cause of GWI and an avenue for therapeutic development.
- ◆ Extensive **molecular profiling** of gene expression and cytokine concentration before and after an exercise challenge to inform potential therapeutic options.
- ◆ Investigating **small intestinal bacterial overgrowth (SIBO)** as an underlying cause of GWI.

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GWIRP Clinical Studies (cont.)

- ◆ Capsaicin inhalation challenge to test airway sensitivity as a mechanism for **respiratory symptoms** associated with GWI.
- ◆ Finding markers of **lung inflammation** through samples of exhaled gas breath samples and frequency comb spectroscopy.
- ◆ An investigation to determine if **small-fiber polyneuropathy** is an underlying cause of symptoms associated with GWI.
- ◆ Examining homeostatic and circadian abnormalities associated with **sleep and arousal**.
- ◆ Exploring promising markers of **oxidative stress** that correlate well with severity of GWI symptoms.





GWIRP Basic Science (Mechanistic) Studies

Studies in animals and other models that explore treatments and the underlying causes of GWI and the associated symptoms.

- ◆ An investigation of the antioxidant analgesic drug **Flupirtine** in an animal model of GWI to treat cognition and sensorimotor deficits.
- ◆ A study of the pathophysiology underlying **depleted uranium (DU)** toxicity that examines glutamate concentration; this project will also examine the effectiveness of **memantine** and **riluzole** in an animal model of GWI.
- ◆ Using an animal model of sarin-induced GWI to examine **heart rate variability** and autonomic nervous system activity to identify potential biomarkers for GWI.

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GWIRP Basic Science (Mechanistic) Studies (cont.)

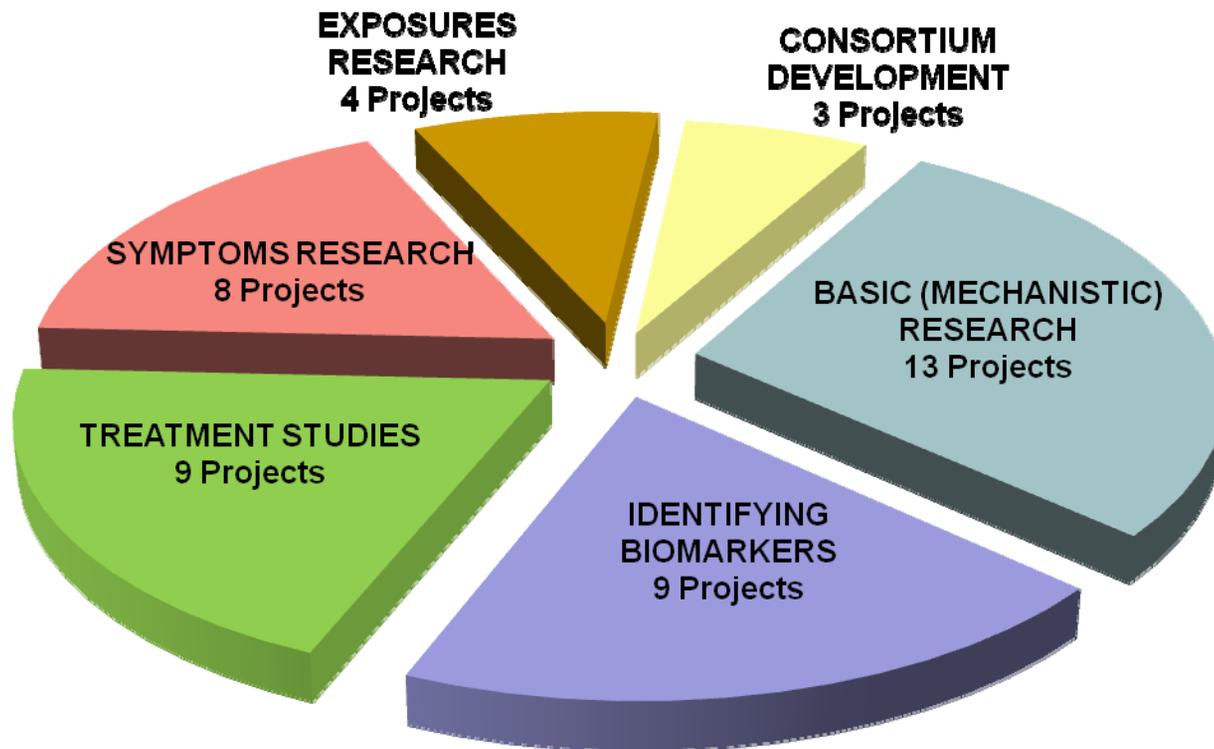
- ◆ Functional indices of neuroinflammation in an animal model of GWI-chemical exposure along with stress followed with **minocycline** treatment as a potential therapy.
- ◆ Identifying **neuropathological and cognitive** changes in animals exposed to Gulf War agents.
- ◆ Investigating theory-driven models to correct “**fight or flight**” **imbalance** in GWI that concern the hypothalamic-pituitary-adrenal (HPA) axis.





GWIRP Research Portfolio

GWIRP-FUNDED PORTFOLIO BY RESEARCH TOPIC, FY06 – FY10 (n=46 Projects*)



* 5 Projects fit Into 2 different Research Topics

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GWIRP FY10 Award Mechanisms

◆ Clinical Trial Award (CTA)

- ❖ Supports substantive clinical trials focusing on treatments for GWI

◆ Consortium Development Award (CDA)

- ❖ Supports initial development of infrastructure and collaborations for a multi-institutional consortium for GWI research

◆ Innovative Treatment Evaluation Award (ITEA)

- ❖ Supports exploratory or small-scale studies evaluating treatments not previously studied in GWI

◆ Investigator-Initiated Research Award (IIRA)

- ❖ Supports new ideas in basic and clinical developmental research

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FY10 GWIRP Awardees – ITEAs & CDAs **(Recommended for Funding)**



Yoshio Nakamura, Ph.D. (ITEA)
University of Utah

David Rabago, M.D. (ITEA)
University of Wisconsin, Madison

Mariana Morris, Ph.D. (CDA)
Wright State University

Jorge Serrador, Ph.D. (CDA)
Veterans Bio-Medical Research Institute, Inc.

Kimberly Sullivan, Ph.D. (CDA)
Boston University School of Public Health

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FY10 GWIRP Awardees – IIRAs (Recommended for Funding)

Ghania Ait-Ghezala, Ph.D.

Roskamp Institute

Brian Cooper, Ph.D.

University of Florida

Julia Golier, Ph.D.

Bronx Veterans Medical Research Foundation, Inc.

Maxine Krengel, Ph.D.

Boston VA Research Institute, Inc.

Judy Mikovits, Ph.D.

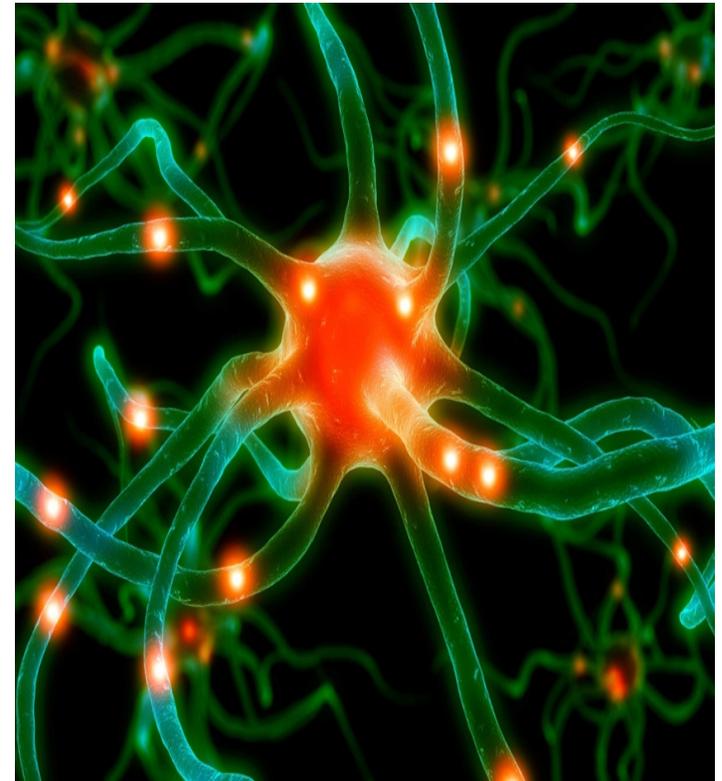
Whittemore Peterson Institute

Lea Steele, Ph.D.

Baylor University

Richard Sutton, M.D., Ph.D.

Yale University



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GWIRP FY11 Proposed Priority Areas

- ◆ **Identification of effective treatments for GWI**
- ◆ **Improved diagnostic testing for GWI**
- ◆ **Improved understanding of GWI pathobiology**
- ◆ **Incorporation of case definitions for GWI**



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FY11 GWIRP Investment Strategy (Proposed)

Mechanism	Award Value	Award Duration	Anticipated Number of Awards
Clinical Trial Development Award	\$100,000	1 year	4
Investigator-Initiated Research Award	\$600,000	3 years	2
Innovative Treatment Evaluation Award	\$450,000	3 years	2
Clinical Trial Award	\$1,500,000	4 years	1

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FY11 GWIRP

Integration Panel Members

◆ **Roberta F. White, Ph.D. (Chair)**
Boston University

◆ **Gudrun Lange, Ph.D.**
U.S. Department of Veterans Affairs

◆ **CAPT Braden Hale, M.D.**
Naval Health Research Center

◆ **Major Carlos Maldonado, Ph.D.**
David Grant U.S. Air Force Medical Center

◆ **Anthony Hardie**
Veterans of Modern Warfare

◆ **K. Jeffrey Myers, M.D.**
U.S. Department of Veterans Affairs

◆ **Chris Kornkven**
National Gulf War Resource Center

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CONSUMER INVOLVEMENT



As one of tens of thousands of Gulf War Veterans afflicted with constant intense muscle pain and very debilitating fatigue, I did not hesitate for one second when asked to participate in the CDMRP for Gulf War Illness Research. I am ill, but far better off than many of my fellow warriors. As a retired officer of Marines, I feel a strong moral obligation to do whatever I can to improve the quality of life for those afflicted by Gulf War-related illnesses. All members of the military are taught to leave no one behind in war. Everyone comes home. Sick Gulf War Veterans will not truly be "home" until solutions to their daily pain and suffering are identified.



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<http://cdmrp.army.mil>

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CDMRP Department of Defense

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Identification of Biological Pathways Implicated in Cognitive Impairment in Gulf War Illness

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Questions?



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and
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