


DOD Congressionally Directed Medical Research Programs



Congressionally Directed Medical Research Programs (CDMRP)

Overview of the Gulf War Illness Research Program (GWIRP)

Presented to
Research Advisory Committee on Gulf War Veterans' Illnesses
Department of Veterans Affairs

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Director, CDMRP

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Introduction


- ◆ Overview of the CDMRP
- ◆ GWIRP Funding History
- ◆ FY06-FY10 CDMRP Management Summary

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3 *The views expressed in this presentation are those of the author and do not reflect the official policy of the Department of the Army, Department of Defense, or U.S. Government.*




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Partnerships


Advocates

- ◆ Demonstrate need
- ◆ Participate at all levels
- ◆ Passion and perspective
- ◆ GWIRP Consumers are ill Gulf War veterans
- ◆ In touch with a network of other GW veterans




Congress

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




IMPROVE HEALTH (CURE)



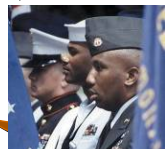
Researchers

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




DOD

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




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CDMRP Unique Features


- ◆ Funds added to the Department of Defense budget by Congress – not part of the POM*
- ◆ Two-tier formal review of proposals – IOM model
- ◆ Consumer advocates involved throughout process
- ◆ Vision is adapted yearly: Facilitates rapid change to address research gaps, develop new award mechanisms, and devise investment strategy
- ◆ Fund highly innovative research
- ◆ Funding flexibility
 - ✓ No “pay line”
 - ✓ Second level review based on impact, relevance, and portfolio balance
 - ✓ No out-year budget commitments




*Program Objectives Memorandum

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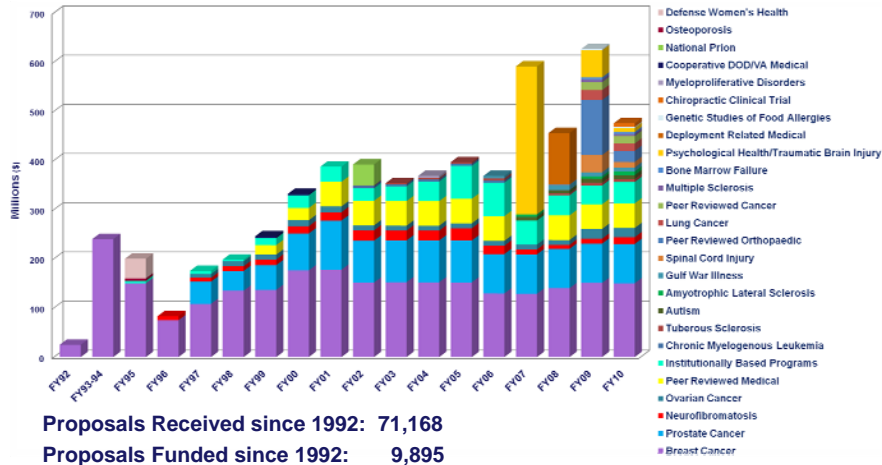
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Scope of CDMRP Funds and Awards




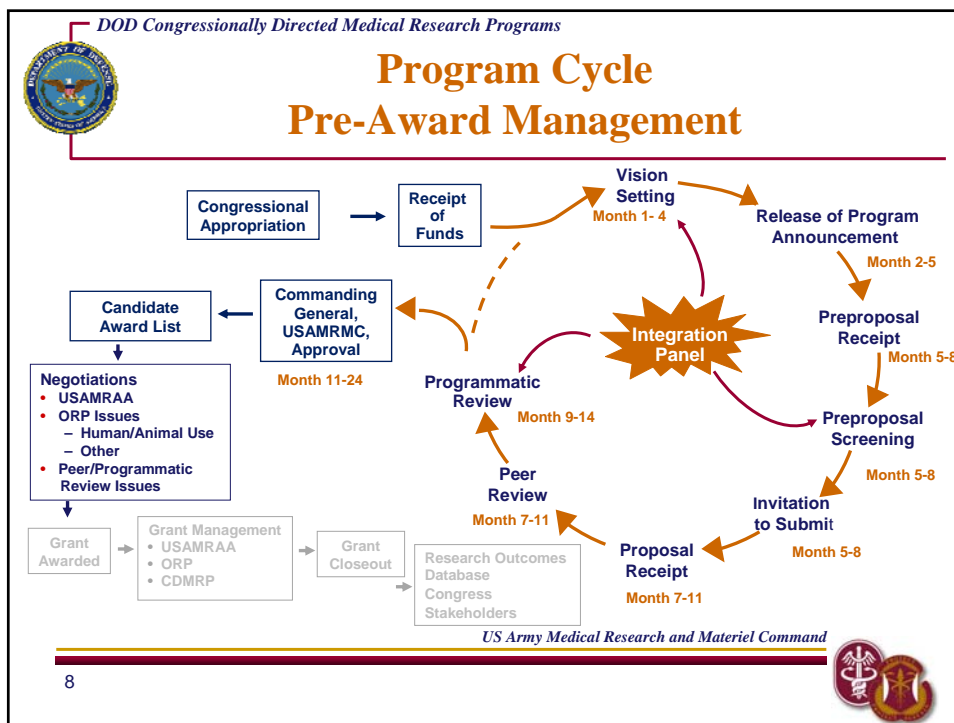
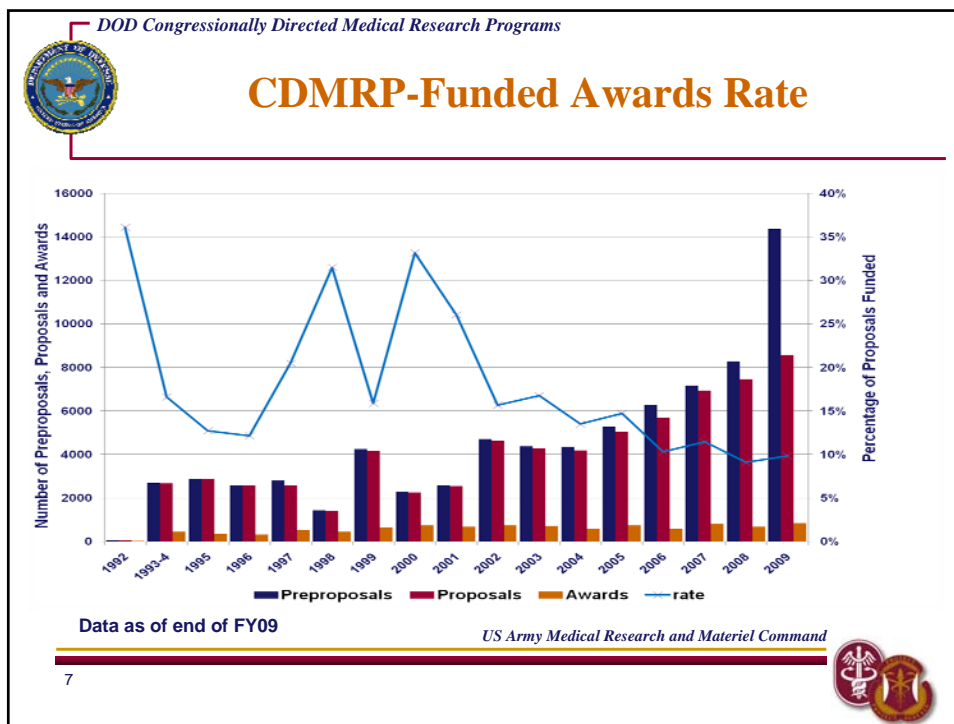
Proposals Received since 1992: 71,168

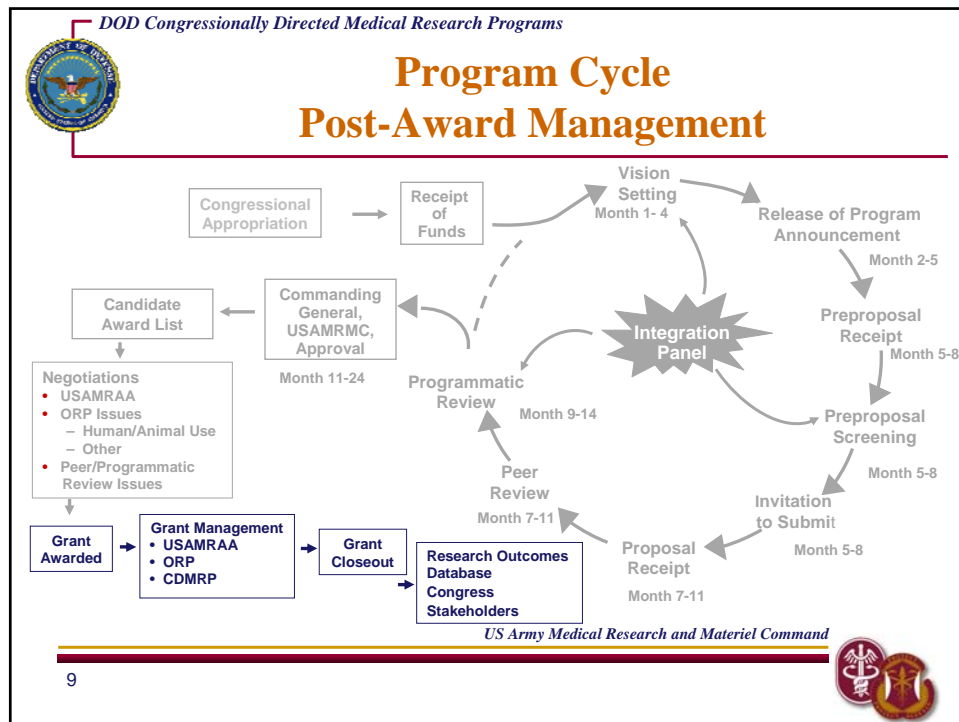
Proposals Funded since 1992: 9,895

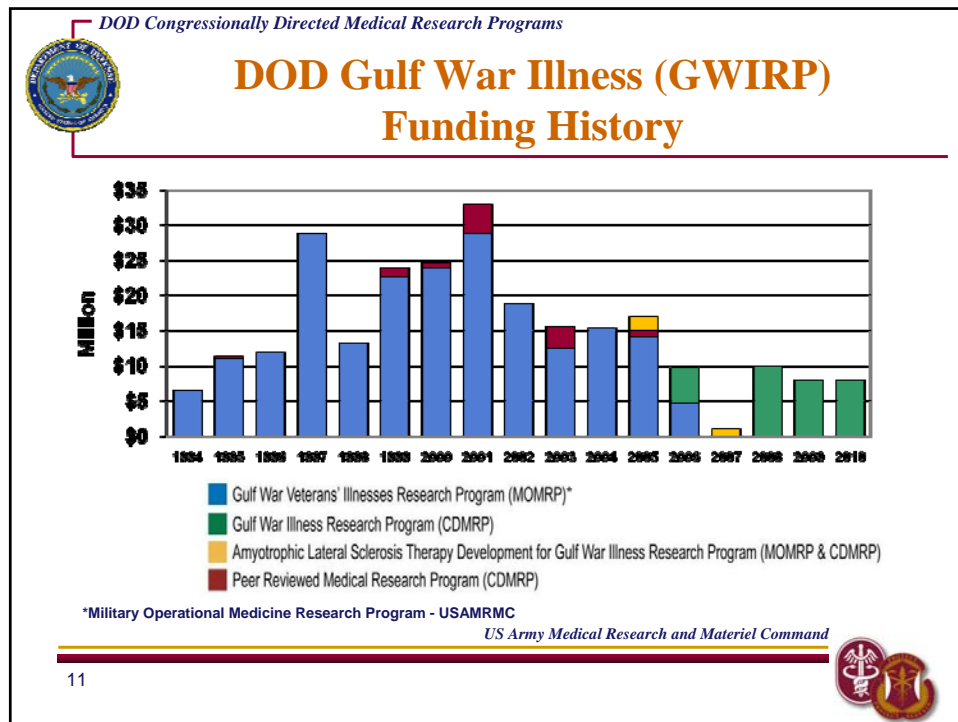
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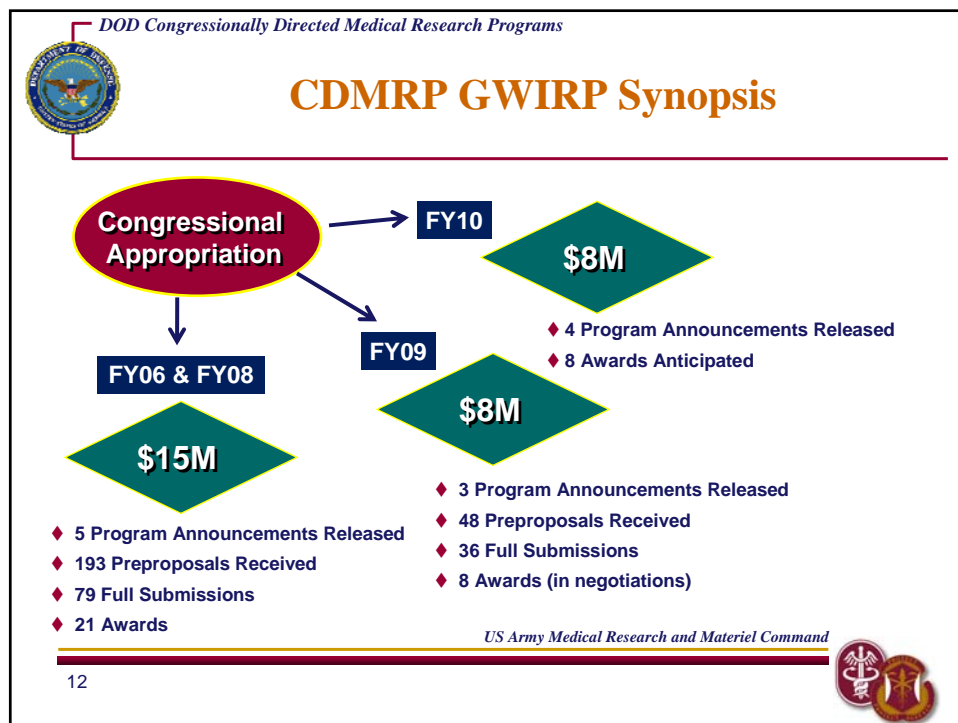









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FY08 National Defense Authorization Act

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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FY06 GWIRP Awards Highlights


Structural MRI and Cognitive Correlates in Pest-Control Personnel from Gulf War I

Dr. Kimberly Sullivan, Boston University School of Medicine

- ◆ **Examined brain volumetrics and cognitive functioning of high- and low-exposed pesticide control personnel from the Gulf War**
- ◆ **Results suggest decreased white matter volumes are significantly correlated with increased health symptom reports and decreased executive domain functioning**
- ◆ **Results suggest that DEET and pyridostigmine bromide (PB) exposures are associated with significantly lower hippocampal volumes and lower performance on visual memory testing**

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FY06 GWIRP Awards Highlights (cont.)


Coenzyme Q10 for Gulf War Veterans with Chronic Symptoms

Dr. Beatrice Golomb, University of California, San Diego

- ◆ Dr. Golomb is conducting a clinical trial of the efficacy of coenzyme Q10 (Q10) to improve chronic GWI symptoms such as muscle pain and fatigue, as well as overall quality of life for ill Gulf War veterans
- ◆ Q10 has anti-oxidant properties, boosts cell energy, and protects against apoptotic cell death
- ◆ Dr. Golomb's study has enrolled 46 Gulf War veterans to participate in this cross-over, multi-dose study. Participants are in various stages of progress through the study, with 33 having completed the dosing regimen
- ◆ Outcome measures will include responses to quality-of-life surveys by the participants

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FY06 GWIRP Awards Highlights (cont.)


CNDP1 Polymorphisms and Carnosine Therapy in GWI

Dr. James Baraniuk, Georgetown University

- ◆ This study uses a two-pronged approach of investigating CNDP1 status as a biomarker for GWI and testing carnosine as a potential treatment
- ◆ 100 GWI and healthy veterans will be evaluated for CNDP1 status (cheek swab) as well as pain sensitivity and muscle strength to further identify GWI parameters
- ◆ Pharmacologically replacing depleted carnosine in the brain of GWI veterans could improve sleep problems, pain, and other symptoms; functional MRI will be used to measure the impact of carnosine treatment
- ◆ Enrollment in the study is progressing; Dr. Baraniuk also reports finding a high rate of migraine headaches in GWI participants and proposes to investigate the finding further in future grant applications

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Other FY06 GWIRP Awards

- ◆ Investigating a new use for **mifepristone** in a clinical trial to determine if its properties can improve the health of Gulf War veterans with chronic multi-symptom illness
- ◆ Using an animal model of **sarin**-induced GWI to examine heart rate variability and autonomic nervous system activity to identify potential **biomarkers** for Gulf War Illness
- ◆ 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

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FY08 GWIRP Awards Highlights

- ◆ A cross-over clinical trial of **Naltrexone** and **Dextromethorphan** in ill Gulf War veterans to treat neuroinflammation and relieve GWI symptoms
- ◆ Investigating reduced blood flow and **coagulation** as an underlying cause of GWI and an avenue for therapeutic development
- ◆ Investigating **small intestinal bacterial overgrowth (SIBO)** as an underlying cause of GWI
- ◆ Extensive **molecular profiling** of GWI patients' gene expression and cytokine concentration before and after an exercise challenge to inform potential therapeutic options
- ◆ A clinical trial investigating the effectiveness of **acupuncture** in the treatment of GWI
- ◆ An investigation of the antioxidant analgesic drug **Flupirtine** in an animal model of GWI exposures

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GWIRP FY09 Awards

Award Mechanism	Preproposals Received	Proposals Received	Recommended for Funding	Funds Allocated
Clinical Trial Award	4	2	0	- -
Innovative Treatment Evaluation Award (ITEA)	4	3	2	\$1.1M
Investigator-Initiated Research Award (IIRA)	40	31	6	\$5.2M
Totals	48	36	8	\$6.3M

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FY09 GWIRP Awardees


Dr. David Carpenter (ITEA)
State University of New York, Albany
Gulf War Illness: Evaluation of an Innovative Detoxification Program


Dr. Ashok Tuteja (ITEA)
Western Institute for Biomedical Research
Probiotic (*Bifidobacterium infantis*) for Gulf War Illness

Dr. Henry Heng (IIRA)
Wayne State University
Genome Instability: A Common Link in Gulf War Illness Patients

Dr. Anne Louise Oaklander (IIRA)
Massachusetts General Hospital
Undiagnosed Small Fiber Polyneuropathy: Is It a Component of Gulf War Illness?

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FY09 GWIRP Awardees (cont.)


Dr. Mohan Sopori (IIRA)
Lovelace Biomedical & Environmental Research Institute
Neuroimmune Interactions, Low-Dose Sarin Inhalation, and Gulf War Syndrome


Dr. Gordon Broderick (IIRA)
University of Alberta
Theory-Driven Models for Correcting "Fight or Flight" Imbalance in Gulf War Illness

Dr. John Repine (IIRA)
University of Colorado, Denver
Exhaled Gas Frequency Comb Spectroscopy Distinguishing Biomarkers in Gulf War Illness Syndrome

Dr. Timothy Juergens (IIRA)
University of Wisconsin, Madison
Homeostatic and Circadian Abnormalities in Sleep and Arousal in Gulf War Syndrome


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GWIRP FY10 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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FY10 GWIRP Investment Strategy (Proposed)


Award Mechanism	Award Value (Direct Costs)	Award Duration	Anticipated Number of Awards
Clinical Trial Award	\$1,500,000	4 years	1
Innovative Treatment Evaluation Award	\$450,000	3 years	2
Investigator-Initiated Research Award	\$600,000	3 years	3
Consortium Development Award	\$200,000	1 year	2

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FY10 GWIRP Clinical Trial Award

Intent:
Supports Phase II or III clinical trials focusing on treatments for GWI

Key Features:


- ◆ Preliminary/preclinical data are required
- ◆ Open to investigators at all academic levels
- ◆ Maximum period of performance is **4 years**
- ◆ Maximum allowable funding for the entire period of performance is **\$1.5M** in direct costs


Submission Deadlines:

- ◆ Preproposals due May 2010; 1 of 3 invited for full proposal
- ◆ Applications due 4 August 2010, by invitation only

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FY10 GWIRP

Innovative Treatment Evaluation Award

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


Key Features:


- ◆ Preliminary data are not required
- ◆ Pilot Phase II or Phase I/II trial combinations are permitted
- ◆ Open to investigators at all academic levels
- ◆ Maximum period of performance is **3 years**
- ◆ Maximum allowable funding for the entire period of performance is **\$450K** in direct costs

Submission Deadlines:

- ◆ Preproposals due May 2010; 8 of 13 invited for full proposals
- ◆ Applications due 4 August 2010, by invitation only

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FY10 GWIRP

Investigator-Initiated Research Award

Intent:
Supports new ideas in basic and clinical developmental research


Key Features:


- ◆ Preliminary data are not required
- ◆ Clinical trials are not allowed
- ◆ Open to investigators at all academic levels
- ◆ Maximum period of performance is **3 years**
- ◆ Maximum allowable funding for the entire period of performance is **\$600K** in direct costs

Submission Deadlines:

- ◆ Preproposals due May 2010; 32 of 68 invited for full proposals
- ◆ Applications due 4 August 2010, by invitation only

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FY10 GWIRP Consortium Development Award

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


Key Features:


- ◆ Awardees expected to apply for FY11 Consortium Award
- ◆ Award funds consortium development, not research costs
- ◆ Open to investigators at all academic levels
- ◆ Maximum period of performance is **1 year**
- ◆ Maximum allowable funding for the entire period of performance is **\$200K** in direct costs

Submission Deadlines:

- ◆ Letter of Intent due May 2010; 5 letters received
- ◆ Applications due 4 August 2010

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FY10 GWIRP Integration Panel Members

Roberta F. White, Ph.D. (Chair) Boston University	Gudrun Lange, Ph.D. VA New Jersey Health Care System
CAPT Braden Hale, M.D. Naval Health Research Center	COL Cornelius Maher, M.D., Ph.D. US Army Medical Command
Anthony Hardie Veterans of Modern Warfare	Maj David Watson, Ph.D. David Grant USAF Medical Center
Chris Kornkven National Gulf War Resource Center	

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<http://cdmrp.army.mil>



The screenshot shows the homepage of the Department of Defense's Congressionally Directed Medical Research Programs (CDMRP). The header includes the CDMRP logo, the text 'Department of Defense', and the tagline 'Finding and Funding the Best Research'. A navigation bar contains links for 'RESEARCH PROGRAMS', 'FUNDING OPPORTUNITIES', 'CONSUMER INVOLVEMENT', 'SEARCH AWARDS', 'MEDIA CENTER', and 'ABOUT US'. The main content area features a large American flag and the US Capitol dome. Text sections include 'About Us' (with links to Funding History, Funding Process, Our Team, Contact Us, Job Opportunities, and More...), 'Vision' (Find and fund the best research to eradicate diseases and support the warfighter for the benefit of the American public.), and 'Mission' (We provide hope by promoting innovative research, recognizing untapped opportunities, creating partnerships, and guarding the public trust.). A 'Media Center' section is also visible. The sidebar contains icons for 'Features', 'Research Programs', 'Funding Opportunities', 'Search Awards', 'Consumer Involvement', 'Government Liaison', 'Technology Working Group', and 'About Us'. The footer includes the text 'US Army Medical Research and Materiel Command' and two circular logos.

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