



## VA-ORD GULF WAR RESEARCH : Research Program Overview

Presented to:

Research Advisory Committee on Gulf War Veterans' Illnesses

VHA OFFICE OF RESEARCH AND DEVELOPMENT / Victor Kalasinsky and Robert Jaeger

September 22-23, 2014

Washington, DC; Arlington, VA



## Office of Research and Development Organizational Chart



## VA/ORD-Based FACA Committees (Federal Advisory Committee Act) (<http://www.va.gov/advisory/>)

- **National Research Advisory Council (NRAC)**
  - To provide advice to the Under Secretary for Health and the Secretary of Veterans Affairs on research and development sponsored and/or conducted by the Veterans Health Administration, to include policies and programs of the Research and Development Office
- **Research Advisory Committee on Gulf War Veterans' Illnesses (RACGWVI)**
  - To provide advice and make recommendations to the Secretary of Veterans Affairs on proposed research plans and strategies related to understanding and treating the health consequences of military service in the Southwest Asia theater of operations during the 1990 - 1991 Gulf War
  - Mandated by Congress in 1998; first chartered in January, 2002
- **Genomic Medicine Program Advisory Committee (GMPAC)**
  - To provide advice to the Secretary on the scientific and ethical issues related to the establishment, development, and operation of the Program in order to further VA's medical research in providing Veterans with Medical care and treatment.

VETERANS HEALTH ADMINISTRATION

3

## VA Office of Research and Development

- **VA research is driven by improving health care for all Veterans**
  - Investigator-initiated research (Clinician Researchers)
    - Pilot projects
    - Merit review
    - Clinical Trials
    - Career Development Awards
  - Service-directed research
  - Cooperative Studies Program (CSP)
- **Public Access to Information about VA/ORD funded research**
  - <http://clinicaltrials.gov> Information on current and past clinical trials
  - <http://projectreporter.nih.gov/> Information on current and previously funded research projects
  - <http://www.ncbi.nlm.nih.gov/pubmed> Published results of research studies
  - <http://www.rehab.research.va.gov/jour/jourindx.html> Official Journal of ORD

VETERANS HEALTH ADMINISTRATION

4

## Gulf War Research – Requests for Applications (RFAs)

### **Biomedical Laboratory Research & Development (BLR&D):**

BX-14-011

Award for Research on Gulf War Veterans' Illnesses (GWVI)

BX-14-012

Pilot Projects for Research on Gulf War Veterans' Illnesses (GWVI)

### **Clinical Science Research & Development (CSR&D):**

CX-14-011

Award for Research on Gulf War Veterans' Illnesses (GWVI)

CX-14-012

Pilot Projects for Research on Gulf War Veterans' Illnesses (GWVI)

CX-14-013

Award for Research on Treatments for Gulf War Veterans' Illnesses (GWVI) – (clinical trial)

### **Health Services Research & Development (HSR&D):**

HX-14-011

Targeted Solicitation for Service-Directed Research Award on Health Services Research on the Care of Gulf War Veterans

## Gulf War Research Strategic Plan (2013-2017) Eight Focus Areas

(<http://www.research.va.gov/pubs/docs/GWResearch-StrategicPlan.pdf>)

- **5.1 Symptomatic and Specific Treatments**
- **5.2 Databases and Continued Surveillance**
- **5.3 Establish an Evidence-Based Case Definition of Chronic Multisymptom Illness in Gulf War Veterans**
- **5.4 Genetic, Genomic, and Systems Biology**
- **5.5 Biomarkers**
- **5.6 Animal Models**
- **5.7 Improve Coordination and Communication**
- **5.8 Translate Research Findings into Practice**

## Response Statistics for VA-ORD Gulf War Research Requests for Applications (RFAs)

	Proposals Received	Projects Funded	Funds Approved
Spring 2011	10	1	\$ 4.0 M
Fall 2011	16	2	
Spring 2012	15	4	\$ 11.4 M
Fall 2012	17	3	
Spring 2013	22	5	\$ 12.6 M
Fall 2013	13	2	
Spring 2014	18	2	\$ 2.3 M
Fall 2014	Sep 2014	Dec & Jan	

VETERANS HEALTH ADMINISTRATION

7

## VA-ORD Gulf War Research Funding (2004 – 2014)

Fiscal Year (FY)	VA Merit Review	UTSW Contract	FY Total
2004	\$ 7.64 M		\$ 7.64 M
2005	\$ 9.48 M		\$ 9.48 M
2006	\$ 13.01 M		\$ 13.01 M
2007	\$ 7.06 M	\$ 15.00 M	\$ 22.06 M
2008	\$ 6.93 M	\$ 15.00 M	\$ 21.93 M
2009	\$ 9.63 M	\$ 6.97 M	\$ 16.60 M
2010	\$ 11.57 M	\$ 2.29 M	\$ 13.86 M
2011	\$ 5.54 M	\$ 0.03 M	\$ 5.57 M
2012	\$ 6.72 M		\$ 6.72 M
2013	\$ 7.94 M		\$ 7.94 M
2014	\$ 9.2 M*		\$ 9.2 M*
<b>Total 2004-2014</b>	<b>\$ 94.72 M</b>	<b>\$ 39.29 M</b>	<b>\$ 134.01 M</b>

\* Estimated

VETERANS HEALTH ADMINISTRATION

8

## Gulf War Research Projects Active in 2014 (slide 1 of 2)

- Bacterial Overgrowth Associated with Chronic Multi-Symptom Illness Complex (5.1)
- Impact of exercise training on pain and brain function in Gulf War Veterans (5.1)
- rTMS for the Treatment of Chronic Pain in GW1 Veterans (5.1)
- Transcranial, Light-Emitting Diode (LED) Therapy to Improve Cognition in GWVI (5.1)
- Complementary Neurosteroid Intervention in Gulf War Veterans' Illnesses (5.1)
- Cognitive Rehabilitation Therapy for Gulf War Veterans (5.1)
- Complementary and Alternative Medicine in Veterans with Gulf War Illnesses (5.1)
  
- MEG Synchronous Neural Interactions (SNI) in Gulf War Veterans (5.5)
- Diagnostic Utility of mtDNA Content and Exercise Challenge in Vets with GWI (5.1, 5.4)
- Examination of Cognitive Fatigue in Gulf War Illness Using fMRI (5.5)
- Longitudinal assessment of Gulf War veterans with suspected Sarin exposure (5.4, 5.5)
- Somatic hypersensitivity in Veterans with IBS (5.1)
- Vascular and Skeletal Muscle Function in Gulf War Veterans Illness (5.1, 5.4)
- Women vs. Men with GWI: Differences in Computational Models and Therapeutic Targets (5.1, 5.4)

VETERANS HEALTH ADMINISTRATION

9

## Gulf War Research Projects Active in 2014 (slide 2 of 2)

- Central Mechanisms Modulating Visceral Sensitivity (5.4, 5.6)
- Immunoregulation of Myelin Specific T Lymphocytes (5.4, 5.6)
- Multiple Antigenic Peptides to Alter the Course of Autoimmune Disease (5.4, 5.6)
- Host Defense Mechanisms in Polyaromatic Hydrocarbon Carcinogenesis (5.5, 5.6)
- Neuroprotection and Myelin Repair Mechanisms in Multiple Sclerosis (5.4, 5.6)
- Sleep Neurobiology and Circuitry (5.4, 5.6)
- Prevention of Hippocampal Neurodegeneration Due to Age and Apnea (5.6)
- Epigenetic Mechanisms Relevant to the Pathogenesis of ALS (5.4, 5.6)
- Nanoparticle Coupled Antioxidants for Respiratory Illness in Veterans (5.1, 5.6)
- Understanding Pain of Gastrointestinal Origin in Women that Serve in OEF/OIF (5.5, 5.6)
- Memory and Mood Enhancing Therapies for Gulf War Illness (5.1, 5.6)
- Identification of Plasma Biomarkers of Gulf War Illness Using "omic" Technology (5.5, 5.6)
- Gulf War Exposures and the Molecular Mechanisms of Paternal Reproductive Risk (5.6)
- Novel neurotrophic therapies in an optimized mouse model of GWVI (5.1, 5.6)
- Neuroinflammation, Oxidative Stress, and Hippocampal Defects in Gulf War Illness (5.5, 5.6)

VETERANS HEALTH ADMINISTRATION

## Gulf War Research Projects Selected for funding

- Randomized-Controlled Trial of a Drug Treatment for ill Gulf War Veterans (5.1)
- Neuroimaging and Biomarkers in Gulf War Veterans (5.5)
- Hippocampal Changes in Pyridostigmine-treated Rats (5.6)
- Models of Care for Gulf War Veterans (5.1)

## Recently Completed Gulf War Research Projects (completed in FY 2013, publications will follow)

- Autonomic Functions of Gulf War Veterans with Unexplained Illnesses (5.1, 5.4)
- Motor Neuron Function of Gulf War Veterans with Excessive Fatigue (5.1, 5.4, 5.5)
- Diarrhea-Predominant Irritable Bowel Syndrome in Persian Gulf Veterans (5.1)
- Inspiratory Flow Dynamics During Sleep in GWS and the Effect of CPAP (5.1)
- Behavior of Neural Stem Cells in a Rat Model of GWS (5.6)
- Lipoic Acid Therapy for Experimental Autoimmune Encephalomyelitis (5.1, 5.6)
- Multiple Sclerosis in Gulf War Veterans (5.3)
- A Randomized Controlled Trial of a Mindfulness-Based Intervention for Gulf War Syndrome (5.1)

## Gulf War Research Biorepositories

- **CSP #585 Gulf War Era Cohort and Biorepository (5.2, 5.4, 5.5)**
  - Deployed and non-deployed Veterans
  - Users of VA health care and non-users
  - Surveys and blood collection
  - Began contacting Veterans September 2014
- **Gulf War Veterans' Illnesses Biorepository (5.2, 5.4, 5.5)**
  - Began operations – July, 2012
  - Enrolling Veterans to obtain medical records
  - Brain and spinal cord tissue to be collected post-mortem
  - Review of pilot project in November, 2014
- [http://www.research.va.gov/programs/tissue\\_banking/gwvib/default.cfm](http://www.research.va.gov/programs/tissue_banking/gwvib/default.cfm)

## Gulf War Research Activities

- **Case Definition of Chronic Multisymptom Illness in 1990-1991 Gulf War Veterans**
  - Institute of Medicine report (May 1, 2013 – April 30, 2014)
  - VA reviewing IOM recommendations
  - <http://www.iom.edu/reports/2014/chronic-multisymptom-illness-in-gulf-war-veterans-case-definitions-reexamined.aspx>
- **Mitochondrial Disease conference**
  - Held June 12, 2014
  - Topics included diabetes, cardiovascular disease, Gulf War Veterans, TBI, polytrauma, imaging
- **Gulf War Veterans Outreach**
  - Briefings to VSOs
  - Brochures, publications, and web presence
  - <http://www.research.va.gov/resources/pubs/docs/state-of-va-research2012.pdf>
  - <http://www.research.va.gov/resources/pubs/docs/gwi-brochure.pdf>

## Gulf War Research – VA-DoD Coordination

- **Regular briefings/updates between Gulf War Program Managers in VA/ORD and DoD/CDMRP (Aug 20)**
- **Periodic review of proposals submitted/funded between agencies**
- **DoD/CDMRP briefings to RACGWVI**
- **Annual Report to Congress (jointly with DoD)**
  - <http://www.research.va.gov/pubs/docs/GulfWarRpt13.pdf>
- **Special RFAs, coordinated between agencies**
- **Joint VA/DoD Working Groups (Deployment Health and Medical)**

VETERANS HEALTH ADMINISTRATION

15

## Gulf War Research Activities

# QUESTIONS ?

VETERANS HEALTH ADMINISTRATION

16