

**Appendix C**

**Document 1 – Overview of FY2005 VA Funding for Gulf War Research**

**Overview of FY2005 VA Funding for Gulf War Research**  
*(summarized from information provided by Dr. Kupersmith 9/13/05)*

VA's Office of Research and Development has provided information to the Committee indicating that just over 9 million dollars was allocated for Gulf War Research projects in FY2005. The two major questions addressed below are: 1) When were these projects initially funded? and 2) What types of projects were funded? Additional information is provided on funding provided for ALS and lung cancer research in FY2005.

**When were FY2005 Gulf War Research projects initially funded?**

<b>Total FY2005 Gulf War Research Funding/ By Funding Period</b>		
Total Funding for Gulf War Research in FY2005	\$ 9,125,736	(100%)
Projects funded prior to FY2005	\$5,336,188	(58%)
Projects funded in response to FY2004 RFA	\$2,074,741	(23%)
Additional projects funded in FY2005	\$1,714,807	(19%)

The majority of the FY2005 Gulf War Research funding (58%) was for projects funded prior to FY2005, as indicated above. About \$3.8 million was allocated in FY2005 for previously unfunded research, of which over half was for projects submitted in response to the special April, 2004, Gulf War Illness RFA. Thus, only \$1.7 million (19%) of the \$9.1 million funding identified as being allocated for Gulf War Research in FY2005 was for projects newly-approved and funded in FY2005.

**What types of projects were funded? Research Newly-Approved and Funded in FY2005**

<b>Gulf War Research Projects Newly-Approved and Funded in FY2005/ By Research Topic</b>		
Total Funding for Newly-Approved and Funded Gulf War Research in FY2005	\$1,714,807	(100%)
ALS research (not Gulf War-specific)	\$ 819,216	(48%)
Projects with no clear relevance to the health of Gulf War veterans	\$ 476,620	(28%)
Projects related to multisymptom illnesses, Gulf War exposures	\$ 418,971	(24%)

As shown, of the \$1.7 million allocated for Gulf War Research projects that were newly-approved and funded in FY2005, nearly half (48%) was for ALS research and 28% was for projects unrelated to the health of Gulf War veterans. The remainder (\$418,971, or 24%) was allocated for projects related to Gulf War veterans' multisymptom illnesses or the effects of Gulf War-related exposures. However, review of specific projects in this category indicates that most of this "new" funding (\$322,532) was provided to Dr. Weiner's group at the San Francisco VAMC, for continuation of ongoing neuroimaging studies of Gulf War veterans. The remainder (\$96,439) was provided for secondary analysis of data collected in VA's earlier clinical study of Gulf War-era veterans. This means that, depending on interpretation, either \$96,439, or no funding has been provided for new research projects specific to Gulf War veterans in FY2005.

**What types of projects were funded? Total FY2005 Research Funded in FY2005**

<b>Total FY2005 Gulf War Research Funding /By Research Topic</b>		
Total Funding for Gulf War Research in FY2005	\$ 9,125,736	(100%)
Projects related to multisymptom illnesses, Gulf War exposures	\$2,313,107	(25%)
Other projects specific to health of Gulf War veterans	\$ 209,897	(2%)
ALS research (not Gulf War-specific)	\$2,965,541	(32%)
Projects related to effects of psychological stress and psych illness	\$1,620,683	(18%)
Projects with no clear relevance to the health of Gulf War veterans	\$2,016,508	(22%)

The table above provides summary information on total funds allocated for GWI research in FY2005—including new and ongoing projects. Overall, about 2.3 million of the 9.1 million dollar total (25%) allocated for Gulf War Research in FY2005 was for projects that focused on the multisymptom illnesses affecting Gulf War veterans, or on effects of Gulf War-related exposures. Additional FY2005 funding included \$209,897 (2%) provided for other projects specifically relevant to the health of Gulf War veterans, nearly \$3 million (32%) for ALS research not specific to Gulf War veterans, about \$1.6 million (18%) for studies related to effects of psychological stress, and over \$2 million (22%) for projects that have no clear relevance to Gulf War veterans or Gulf War illnesses.

**Information on Funding for ALS, Lung Cancer, and Restoring Function after Limb Loss**

All ALS research funded after July, 2004, is identified as “Gulf War Research”. None of the funded ALS projects identified appear to be Gulf War-specific, or studies limited to Gulf War veterans. ALS research represents the largest category of “Gulf War” research funded in FY2005.

In addition, the FY2005 “Gulf War Research” category includes two previously-funded lung cancer research projects totaling \$462,746. Rates of respiratory illness and cancer have both been evaluated in Gulf War veterans, and there has been no indication that lung cancer disproportionately affects this group. Therefore, the lung cancer studies identified can not reasonably be considered Gulf War research.

The single “Gulf War” research study receiving the largest amount of funding (\$1.3 million) in FY2005 is a project that will focus on restoration of function after limb loss. Although this issue has been a problem in Operations Iraqi Freedom and Enduring Freedom, it is not relevant to the health issues associated with the 1990-1991 Gulf War.

**FY2005 ORD Support for Gulf War Research**

**Document 2 – Gulf War Research Projects FY2005 – by Topic and Period Funded**

VAMC	Full Name	Title	Start	Total FY 2005*	Period Funded		Relevance to Gulf War Illnesses, Exposures								
					Prior to FY04 RFA	Funded in FY04 GWRFA	Funded in 05, other	Gulf War multisym illness, effects of exposures	ALS, Gulf War	ALS, General	Other, relevant to health of Gulf Vets	Stress and Psych illness	No clear relevance to Gulf War illnesses		
Baltimore, MD	Fishman, Paul S. (M.D., Ph.D.)	Mechanisms of Neuronal Degeneration	07/01/99	\$ 56,200	X				\$ 56,200						
Boston, MA	White, Roberta F. (Ph.D.)	Boston DVAMC Environmental Hazards Center, Behavioral Neurotoxicology	04/01/00	\$ 337,200	X			\$ 337,200							
Durham, NC	Oddone, Eugene Z. (M.D.) Lavori, Philip (Ph.D.) Kasarskis, Edward J. (M.D., Ph.D.)	National Registry of Veterans with ALS	07/01/02	\$ 682,187	X				\$ 682,187						
East Orange, NJ	Servatius, Richard J. (Ph.D.)	Neurochemical and Neurobehavioral impact of Pyridostigmine Bromide Treatment and Stress	10/01/02	\$ 248,458	X								\$ 248,458		
New Orleans, LA	Vasterling, Jennifer J. (Ph.D.)	Prospective Assessment of Neurocognition in Future Gulf-deployed and Gulf-nondeployed Military Personnel	01/01/03	\$125,428	X							\$125,428			
Durham, NC	Madison, Roger (Ph.D.)	Differential Gene Expression in Pathologies Associated with Neuronal Hyperexcitability: Links to Gulf War Illness	04/01/03	\$ 281,000	X			\$ 281,000							
Bronx, NY	Golier, Julia (M.D.)	HPA-Axis Alterations in PTSD: A Comparison of Gulf War and Vietnam Veterans	10/01/03	\$ 163,205	X								\$ 163,205		
East Orange, NJ	Huang, Hosea F.S. (Ph.D.) Ottenweller, John E. (Ph.D.)	Pituitary Adrenal Function in People with Fatiguing illness	10/01/03	\$ 276,112	X			\$ 276,112							

\* Includes 12.4% administrative overhead

FY2005 ORD Support for Gulf War Research

VAMC	Full Name	Title	Start	Total FY 2005*	Period Funded			Relevance to Gulf War Illnesses, Exposures							
					Prior to 04 RFA	Funded under FY04 GWI RFA	Funded in 05, other	Gulf War multysym illness, effects of exposures	ALS, Gulf War	ALS, General	Other, relevant to health of Gulf Vets	Stress and Psych Illness	No clear relevance to Gulf War illnesses		
Durham, NC	Wilson, Wilkie A. (Ph.D.)	The Role of Dietary Choline in Neuroprotection	07/01/04	\$ 326,604	X			\$ 326,604							
East Orange, NJ	Cook, Dane B. (Ph.D.)	Functional Imaging of Pain in Veterans with Unexplained Muscle Pain	07/01/04	\$ 128,698	X			\$ 128,698							
West Los Angeles, CA	Reckamp, Karen L. (M.D.)	Translational Research of dendritic cell-based therapies in lung cancer	07/01/04	\$ 239,420	X									\$ 239,420	
Providence, RI	Aaron, Roy (M.D.)	Rebuilding, Regenerating and Restoring Function after Limb Loss	08/01/04	\$ 1,300,468	X									\$ 1,300,468	
Bedford, MA	Ferrante, Robert J. (Ph.D.)	National VA Amyotrophic Lateral Sclerosis Research Consortium	09/15/04	\$ 1,171,208	X					\$ 1,171,208					
Ann Arbor, MI	Fink, John K. (M.D.)	Novel Cause of Motor Neuron Disease	10/01/04	\$ 166,352			X			\$ 166,352					
Baltimore, MD	Yarowsky, Paul J. (Ph.D.)	MR Tracking of Stem Cells for Replacement Therapy in ALS	10/01/04	\$ 236,730		X				\$ 236,730					
Boston, MA	White, Roberta F. (Ph.D.)	Structural Magnetic Resonance Imaging in Gulf War-Era Veterans	10/01/04	\$ 159,552		X			\$ 159,552						
Bronx, NY	Yehuda, Rachel (Ph.D.)	Glucocorticoid Responsivity in Gulf War Veterans	10/01/04	\$ 168,600		X							\$ 168,600		
Denver, CO	Winn, Robert A. (M.D.)	Role of WNT signaling pathway in Lung Cancer	10/01/04	\$ 223,326			X							\$ 223,326	
East Orange, NJ	Beck, Kevin (Ph.D.)	Interceptive Stressor Conditioning: A Model for Gulf War Illness	10/01/04	\$ 193,440		X							\$ 193,440		
East Orange, NJ	Weaver, Shelley A. (Ph.D.)	Interactions Between Maternal Care, Stress and Pyrostigmine Bromide	10/01/04	\$ 60,134		X							\$ 60,134		

\* Includes 12.4% administrative overhead

FY2005 ORD Support for Gulf War Research

VAMC	Full Name	Title	Start	Total FY 2005*	Period Funded		Relevance to Gulf War Illnesses, Exposures						
					Prior to FY04 RFA	Funded in 05, other	Gulf War multysym illness, effects of exposures	ALS, Gulf War	ALS, General	Other, relevant to health of Gulf Vets	Stress and Psych Illness	No clear relevance to Gulf War illnesses	
East Orange, NJ	Weaver, Shelley A. (Ph.D.)	Early Life Determinants of Vulnerability to Pyridostigmine Bromide	10/01/04	\$ 213,110	X							\$ 213,110	
Hines, IL	Eisen, Seth A. (M.D.) Reda, Domenic J. (Ph.D.)	Pain Among Gulf War Veterans; Secondary Analysis of CSP#458 Data	10/01/04	\$ 96,439		X	\$ 96,439						
Miami, FL	Klimas, Nancy G. (M.D.)	Patterns of Microarray Gene Expression in Gulf War Illness	10/01/04	\$ 192,204	X		\$ 192,204						
Oklahoma City, OK	Greenwood, Beverley (Ph.D., FACC)	Autonomic System Changes Cause Intestinal Symptoms in Gulf War Veterans	10/01/04	\$ 275,623	X							\$ 275,623	
Richmond, VA	Chalfant, Charles E. (Ph.D.)	Regulation of Bcl-x pre-mRNA Processing	10/01/04	\$ 203,556		X							\$ 203,556
St. Louis, MO	Blanchard, Melvin (M.D.) Reda, Domenic J. (Ph.D.)	Evaluation of Stress Response Systems in Gulf War Veterans with CMI	10/01/04	\$ 192,766	X		\$ 192,766						
West Haven, CT	Enelow, Richard (M.D.)	T Cell Responses to Multiple Immunizations and Stress	10/01/04	\$ 112,399	X							\$ 112,399	
Baltimore, MD	Fishman, Paul S. (M.D., Ph.D.)	Strategies in Therapeutic Development of Neurodegenerative Diseases	01/01/05	\$ 210,750		X			\$ 210,750				
San Francisco, CA	Weiner, Michael W. (M.D.)	Effects of Gulf War Illness on Brain Structure, Function and Metabolism: MRS/MRS at 4 Tesla	01/01/05	\$ 322,532		X	\$ 322,532						
East Orange, NJ	Ciccone, Donald S. (Ph.D.)	Telemedicine Treatment for Veterans with Gulf War Illness	01/02/05	\$ 185,714	X							\$ 185,714	
Bedford, MA	Kowall, Neil W. (M.D.)	Arginase NO Synthase and Cell Death in Amyotrophic Lateral Sclerosis	04/01/05	\$ 90,988		X			\$ 90,988				

\* Includes 12.4% administrative overhead

FY2005 ORD Support for Gulf War Research

VAMC	Full Name	Title	Start	Total FY 2005*	Period Funded		Relevance to Gulf War Illnesses, Exposures								
					Prior to FY04 RFA	Funded under FY04 GWI RFA	Funded in 05, other	Gulf War multysym illness, effects of exposures	ALS, Gulf War	ALS, General	Other, relevant to health of Gulf Vets	Stress and Psych Illness	No clear relevance to Gulf War illnesses		
San Antonio, TX	Richardson, Arlan G. (Ph.D.)	Genes, Environment, and Oxidative Stress in Neurodegenerative Disorders	04/01/05	\$ 295,938		X		\$ 295,938							
San Antonio, TX	Van Remmen, Holly (Ph.D.)	Role of Mitochondrial Oxidative Stress in ALS	04/01/05	\$ 55,188		X		\$ 55,188							
Tampa, FL	Patel, Niketa A. (Ph.D.)	Alternative Splicing in Human NT2 Cells	07/01/05	\$ 49,737		X								\$ 49,737	
Washington, DC	Kang, Han K. (Dr.P.H.)	Estimates of Cancer Prevalence in Gulf Veterans Using State Registries	07/01/05	\$ 42,206	X					\$ 42,206					
Washington, DC	Kang, Han K. (Dr.P.H.)	Post War Mortality from Neurologic Diseases in Gulf Veterans, 1991-2004	07/01/05	\$ 42,262	X					\$ 42,262					
<b>Total FY 2005 funding</b>				<b>\$ 9,125,736</b>				<b>\$ 2,313,107</b>	<b>\$ -</b>	<b>\$ 2,965,541</b>	<b>\$ 209,897</b>	<b>\$ 1,620,683</b>	<b>\$ 2,016,508</b>		
<b>Amount funded prior to FY2005</b>				<b>\$ 5,336,188</b>				<b>\$ 1,349,614</b>	<b>\$ 1,909,595</b>	<b>\$ 125,428</b>	<b>\$ 411,663</b>	<b>\$ 1,539,888</b>			
<b>Amount newly funded in FY2005</b>				<b>\$ 3,789,548</b>				<b>\$ 963,493</b>	<b>\$ -</b>	<b>\$ 1,055,946</b>	<b>\$ 84,469</b>	<b>\$ 1,209,020</b>	<b>\$ 476,620</b>		
<b>Funded in FY2005 under FY2004 RFA</b>				<b>\$ 2,074,741</b>				<b>\$ 544,522</b>	<b>\$ -</b>	<b>\$ 236,730</b>	<b>\$ 84,469</b>	<b>\$ 1,209,020</b>	<b>\$ -</b>		
<b>FY2005 funding other than FY04 RFA</b>				<b>\$ 1,714,807</b>				<b>\$ 418,971</b>	<b>\$ 819,216</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 476,620</b>	<b>\$ -</b>		

\* Includes 12.4% administrative overhead