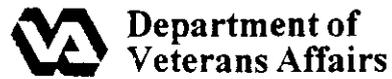


APPENDIX HH

DEPARTMENT OF VETERANS AFFAIRS ANNUAL REPORT TO
CONGRESS ON FEDERALLY SPONSORED RESEARCH ON GULF WAR
VETERANS' ILLNESSES FOR 1997—APPENDICES



ANNUAL REPORT TO CONGRESS

Federally Sponsored Research on
Gulf War Veterans' Illnesses for 1997

March 1998

APPENDICES



The Research Working Group of the Persian Gulf Veterans Coordinating Board

List of Persian Gulf Veterans' Illnesses Research Projects by Research Areas

<i>Research type</i>	<i>Research Focus Area</i>		<i>Project No.</i>	<i>Project Title</i>
	<i>Secondary</i>	<i>Tertiary</i>		
<u>Brain & Nervous System</u>				
Basic Research	<i>Treatment</i>		DoD-6A	Combat Stress Pharmacotherapy
Clinical Research			VA-12	Psychological Assessment of Operation Desert Storm Returnees
Clinical Research			VA-13	Neurobehavioral Aspects of Persian Gulf Experiences: A Pilot Study
Clinical Research			VA-20	Psychological Adjustment in Operation Desert Shield/Storm Veterans
Clinical Research			VA-21	A Comparison of PTSD Symptomatology among Three Army Medical Units Involved in ODS
Clinical Research			VA-50	Neuropsychological findings in a sample of Operation Desert Storm veterans
Clinical Research	<i>Chemical Weapons</i>		DoD-63	PGW Veterans: Epidemiological and Clinical Evidence for Residual Organophosphate Neurotoxicity
Clinical Research	<i>Symptoms/ General Health</i>	<i>Diagnosis</i>	DoD-67	Antibacterial Treatment method based upon the excretion of dead and decaying spherical bacteria
Clinical Research		<i>Diagnosis</i>	DoD-32	Neuropsychological Functioning in Persian Gulf Era Veterans
Clinical Research		<i>Diagnosis</i>	VA-4F	Validity of Computerized Tests
Clinical Research		<i>Diagnosis Prevention</i>	DoD-6B	Combat Stress Diagnosis, PTSD Prevention
Clinical Research	<i>Symptoms/ General Health</i>	<i>Diagnosis</i>	DoD-31	Dysregulation of the Stress Response in the Persian Gulf Syndrome
Clinical Research	<i>Symptoms/ General Health</i>		DoD-36	Fatigue in Persian Gulf Syndrome-Physiologic Mechanisms
Clinical Research	<i>Symptoms/ General Health</i>		DoD-40	Psychological and Neurobiological Consequences of the Gulf War Experience
Clinical Research	<i>Symptoms/ General Health</i>		DoD-41	Evaluation of Muscle Function in Persian Gulf Veterans
Clinical Research	<i>Symptoms/ General Health</i>		HHS-5	Cognitive Function and Symptom Patterns in Persian Gulf Veterans
Clinical Research	<i>Symptoms/ General Health</i>		VA-4A	Evaluation of Cognitive Functioning of Persian Gulf Veterans
Clinical Research	<i>Symptoms/ General Health</i>		VA-4B	Evaluation of Neurological Functioning in Persian Gulf Veterans
Clinical Research	<i>Symptoms/ General Health</i>		VA-6A	Psychosocial, Neuropsychological and Neurobehavioral Assessment (Project I)
Clinical Research	<i>Symptoms/ General Health</i>		VA-7	Desert Storm Reunion Survey

<i>Research type</i>	<i>Research Focus Area</i>		<i>Project No.</i>	<i>Project Title</i>
	<i>Secondary</i>	<i>Tertiary</i>		

Brain & Nervous System (cont.)

Clinical Research	<i>Symptoms/ General Health</i>		VA-8	Psychological Test Data of Gulf War Veterans Over Time
Clinical Research	<i>Symptoms/ General Health</i>		VA-9	Evaluation of Cognitive Functioning in Persian Gulf War Veterans Reporting War-related Health Problems
Clinical Research	<i>Symptoms/ General Health</i>		VA-10	Memory and Attention in PTSD
Clinical Research	<i>Symptoms/ General Health</i>		VA-11	Neuropsychological Functioning in Veterans
Clinical Research	<i>Symptoms/ General Health</i>		VA-51	Psychobiological Assessment of Desert Storm Veterans
Epidemiology Research			VA-36	Stress Symptoms and Their Causal Attribution in Desert Storm Veterans on the Physical and Mental Health of Soldiers and their Families
Epidemiology Research	<i>Symptoms/ General Health</i>		DoD-23	Acute and Long-Term Impact of Deployment to Southwest Asia
Epidemiology Research	<i>Symptoms/ General Health</i>		DoD-52	Female Gender and Other Potential Predictors of Functional Health Status Among Persian Gulf War Veterans

Chemical Weapons

Applied Research	<i>Diagnosis</i>		DoD-49	Diagnosis and Dosemetry of Exposure to Sulfur Mustard: Development of Standard Operating Procedures and Exploratory Research on Protein Adducts
Basic Research			DoD-50	Toxicokinetics of O-Ethyl S-(2-Diisopropylaminoethyl) Methylphosphonothioate [(+)-VX] in Rats, Hairless Guinea Pigs and Marmosets - Identification of Metabolic Pathways
Basic Research	<i>Brain & Nervous System</i>		DoD-53	Long-Term Effects of Subclinical Exposures to Sarin
Basic Research	<i>Diagnosis</i>		VA-6D	DNA Damage from Chemical Agents and Its Repair (Project IV)
Basic Research	<i>Prevention</i>		DoD-51	Transgenic Engineering of Cholinesterases: Tools for Exploring Cholinergic Responses
Clinical Research	<i>Diagnosis</i>		VA-47	Retrospective Verification of Mustard Gas Exposure
Clinical Research	<i>Pyridostigmine Bromide</i>	<i>Prevention</i>	DoD-60	Butyrylcholinesterase Genetic Variants in Persons with Gulf War Illness
Epidemiology Research	<i>Symptoms/ General Health</i>		DoD-69	Five Year Follow-Up of arm Personnel Exposed to Chemical Warfare Agents
Epidemiology Research			VA/DoD- 2VA/DA	Follow-Up investigation of troops exposed to nerve agents at Aberdeen Proving Ground

<i>Research type</i>	<i>Research Focus Area</i>		<i>Project No.</i>	<i>Project Title</i>
	<i>Secondary</i>	<i>Tertiary</i>		

Depleted Uranium

Basic Research	<i>Environmental Toxicology</i>		DoD-7A	Health Risk Assessment of Embedded Depleted Uranium: Behavior, Physiology, Histology, and Biokinetic Modeling
Basic Research	<i>Environmental Toxicology</i>		DoD-7B	Carcinogenicity of Depleted Uranium Fragments

Diagnosis

Applied Research			DoD-12	Forward Deployable Diagnostics for Infectious Diseases
Applied Research			DoD-66	Testing for mycoplasmal infection replicability of nucleoprotein gene tracking and forensic polymerase chain reaction
Clinical Research			DoD-47	Study of Mycoplasmal Infections in Gulf War Veterans
Clinical Research	<i>Symptoms/ General Health</i>		HHS-6	Defining Gulf War Illness

Environmental Toxicology

Applied Research			DoD-16	Kuwait Oil Fire Health Risk Assessment
Applied Research			DoD-18	Kuwait Oil Fires Troop Exposure Assessment Model (TEAM)
Applied Research			DoD-19	Persian Gulf Veterans Health Tracking System
Applied Research	<i>Interactions</i>		DoD-34	Characterization of Emissions from Heaters Burning Leaded Diesel Fuel in Unvented Tents
Basic Research	<i>Brain & Nervous System</i>	<i>Chemical Weapons</i>	DoD-22	Chronic Organophosphorus Exposure and Cognition
Basic Research	<i>Prevention</i>		HHS-3	Biomarkers of Susceptibility and Polycyclic Aromatic Hydrocarbon (PAH) Exposure in Urine and blood Cell DNA from U.S. Army Soldiers Exposed to Kuwaiti Oil Well Fires
Basic Research	<i>Prevention</i>		VA-4E	The Aromatic Hydrocarbon Receptor (AhR) as a Biomarker of Susceptibility
Clinical Research	<i>Brain & Nervous System</i>	<i>Interactions</i>	VA-48	Cross-Sensitization as a CNS Model for Gulf War Chemical Intolerance
Clinical Research	<i>Symptoms/ General Health</i>		VA-4D	Evaluation of Respiratory Dysfunction Among Gulf War Veterans
Epidemiology Research			DoD-13	Effects of Persian Gulf War Service on Military Working Dogs
Epidemiology Research			VA-4C	Gulf War And Vietnam Veterans Cancer Incidence Surveillance

<i>Research type</i>	<i>Research Focus Area</i>		<i>Project No.</i>	<i>Project Title</i>
	<i>Secondary</i>	<i>Tertiary</i>		
<u>Immunology</u>				
Clinical Research			DoD-48	Assessment of Genomic Instability via Chromosome 7 Inversion Frequency in a Gulf-War Syndrome Cohort vs Selected Control Groups
Clinical Research	<i>Symptoms/ General Health</i>		VA-17	Immunological Evaluation of Persian Gulf Veterans
Clinical Research	<i>Brain & Nervous System</i>		VA-5B	Physiological and Psychological Assessments of Persian Gulf Veterans
Clinical Research	<i>Symptoms/ General Health</i>		VA-6B	Clinical and Neuroendocrine Aspects of Fibromyalgia (Project II)
Clinical Research	<i>Symptoms/ General Health</i>	<i>Environmental Toxicology</i>	VA-5C	Effects of Exertion and Chemical Stress on Persian Gulf Veterans
<u>Interactions</u>				
Basic Research	<i>Brain & Nervous System</i>	<i>Chemical Weapons</i>	DoD-54	Assessment of Subchronic Neurobehavioral and Neuropathologic Effects in Rats
Basic Research	<i>Chemical Weapons</i>	<i>Pyridostigmine Bromide</i>	DoD-55	Low-Level Exposure to GB Vapor in Air: Diagnosis/Dosimetry, Lowest Observable Effect Levels, Performance-Incapacitation, and Possible Delayed Effects
Basic Research	<i>Chemical Weapons</i>	<i>Pyridostigmine Bromide</i>	DoD-56	Low-Level Sarin Neurotoxicity and Its Modulation by Pyridostigmine
Basic Research	<i>Chemical Weapons</i>	<i>Pyridostigmine Bromide</i>	DoD-61	Neurophysiologic and Neuropathologic Effects in Monkeys of Low Level Exposures to Sarin, Pyridostigmine, Pesticides, and Botulinum Toxoid
Basic Research	<i>Chemical Weapons</i>	<i>Pyridostigmine Bromide</i>	DoD-62	Sarin and Pyridostigmine Interaction under Physical Stress: Neurotoxic Effects in Mice
Basic Research	<i>Pyridostigmine Bromide</i>	<i>Brain & Nervous System</i>	DoD-2	Physiological and Neurobehavioral Effects in Rodents from Exposure to Pyridostigmine, Fuels, and DEET
Basic Research	<i>Pyridostigmine Bromide</i>	<i>Brain & Nervous System</i>	DoD-37	Neurobehavioral and Immunological Toxicity of Pyridostigmine, Permethrin, and DEET in Male and Female Rats
<u>Leishmaniasis</u>				
Applied Research	<i>Diagnosis</i>		DoD-8A	Serologic Diagnosis of Viscerotropic Leishmaniasis (VTL)
Applied Research	<i>Diagnosis</i>		DoD-8B	Development of a Leishmania Skin Test Antigen (LSTA)
Applied Research	<i>Diagnosis</i>		DoD-38	Diagnostic Antigens of Leishmania tropica
Basic Research	<i>Prevention</i>		VA-15	Vaccine-Mediated Immunity Against Leishmaniasis
Basic Research	<i>Prevention</i>		VA-16	Protective Immunity in Experimental Visceral Leishmaniasis

<i>Research type</i>	<i>Research Focus Area</i>		<i>Project No.</i>	<i>Project Title</i>
	<i>Secondary</i>	<i>Tertiary</i>		

Leishmaniasis (cont.)

Basic Research	<i>Treatment</i>		DoD-9	Identification of the Genetic Factors Which Control Tropism in Leishmania
Clinical Research	<i>Diagnosis</i>	<i>Treatment</i>	VA-6E	Clinical and Epidemiology Leishmania Research

Mortality

Epidemiology Research			DoD-15	Comparative Mortality Among US Military Personnel Worldwide During Operations Desert Shield and Desert Storm
Epidemiology Research			VA-1	Mortality Follow-up Study of Persian Gulf Veterans, First Update

Pyridostigmine Bromide

Basic Research			VA-49	Sensitivity to Pyridostigmine Bromide: Persistent Neural Dysfunction
Basic Research	<i>Brain & Nervous System</i>		DoD-59	Pyridostigmine-induced Neurodegeneration: Role of neuronal Apoptosis
Basic Research	<i>Environmental Toxicology</i>		VA-6C	Neurotoxicity of Environmental Pollutants and Warfare Agents (Project III)
Basic Research	<i>Interactions</i>		DoD-10	Pyridostigmine Synergistic Toxicity Study
Basic Research	<i>Interactions</i>		VA-5D	Effects of Genetics and Stress on Responses to Environmental Toxins
Basic Research	<i>Prevention</i>		DoD-33	Effects of Pyridostigmine in Flinders Line Rats Differing in Cholinergic Sensitivity
Clinical Research			DoD-11	Male/Female Differential Tolerances to Pyridostigmine Bromide
Clinical Research	<i>Brain & Nervous System</i>	<i>Prevention</i>	DoD-64	Individual Differences in Neurobehavioral Effects of Pyridostigmine
Epidemiology Research			DoD-17	Retrospective Studies Involving Military Use of Pyridostigmine as a Pretreatment for Nerve Agent Poisoning
Epidemiology Research	<i>Prevention</i>		DoD-21	Study of Variability In Pyridostigmine Inhibition of Blood Cholinesterases in Healthy Adults and Individuals With Symptoms Following Participation in Operation Desert Storm

Reproductive Health

Clinical Research	<i>Symptoms/ General Health</i>	<i>Immunology</i>	DoD-44	Investigation of Seminal Plasma Hypersensitivity Reactions
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<i>Research Focus Area</i>	<i>Secondary</i>	<i>Tertiary</i>	<i>Project No.</i>	<i>Project Title</i>
<u>Reproductive Health (cont.)</u>				
Epidemiology Research			DoD-1C	Epidemiologic Studies of Morbidity Among Gulf War Veterans: A Search for Etiologic Agents and Risk Factors; Study 3: A comparative study of pregnancy outcomes among Gulf War veterans and other active-duty personnel.
Epidemiology Research			DoD-1D	Epidemiologic Studies of Morbidity Among Gulf War Veterans: A Search for Etiologic Agents and Risk Factors; Study 4: Infertility and Miscarriage in Gulf War Veterans
Epidemiology Research			DoD-1G	Epidemiologic Studies of Morbidity Among Gulf War Veterans: A Search for Etiologic Agents and Risk Factors; Study 7: Prevalence of Congenital Anomalies Among Children of Persian Gulf War Veterans.
Epidemiology Research			DoD-35	Feasibility of Investigating Whether There is a Relationship Between Birth Defects and Service in the Gulf War.
Epidemiology Research			HHS-4	Suspected Increase of Birth Defects and health Problems Among Children Born to Persian Gulf War Veterans In Mississippi
<u>Symptoms/General Health</u>				
Clinical Research			DoD-1A	Epidemiologic Studies of Morbidity Among Gulf War Veterans: A Search for Etiologic Agents and Risk Factors; Study 1: A Study of Symptoms Among 1500 Seabees
Clinical Research			VA-4	Boston Environmental Hazards Research Center Program
Clinical Research			VA-5	East Orange Environmental Hazards Research Center Program
Clinical Research			VA-18	Chronic Gastrointestinal Illness in Persian Gulf Veterans
Clinical Research			VA-40	Musculoskeletal Symptoms in Gulf War Syndrome
Clinical Research	<i>Brain & Nervous System</i>		DoD-57	Physiologic Effects of Stress in Gulf War Veterans
Clinical Research	<i>Brain & Nervous System</i>		DoD-58	Illness Among Persian Gulf War Veterans: Case Validation Studies
Clinical Research	<i>Brain & Nervous System</i>		VA-4Core	Boston Environmental Hazards Research Center Core Program
Clinical Research	<i>Brain & Nervous System</i>		VA-5Core	East Orange Environmental Hazards Research Center Core Program
Clinical Research	<i>Brain & Nervous System</i>	<i>Reproductive Health</i>	DoD-45	Physical and Emotional Health of Gulf War Veterans Women
Clinical Research	<i>Immunology</i>	<i>Brain & Nervous System</i>	DoD-42	The Symptomatic Persian Gulf Veterans Protocol: An Analysis of Risk Factors with an Immunologic and Neuropsychiatric Assessment

Research type	Research Focus Area		Project No.	Project Title
	Secondary	Tertiary		

Symptoms/General Health (cont.)

Epidemiology Research			DoD-1B	Epidemiologic Studies of Morbidity Among Gulf War Veterans: A Search for Etiologic Agents and Risk Factors; Study 2: A comparative study of hospitalizations among Active-duty personnel who participated in the Gulf War and similar personnel who did not.
Epidemiology Research			DoD-1E	Epidemiologic Studies of Morbidity Among Gulf War Veterans: A Search for Etiologic Agents and Risk Factors; Study 5: Seabee Health Study.
Epidemiology Research			DoD-1F	Epidemiologic Studies of Morbidity Among Gulf War Veterans: A Search for Etiologic Agents and Risk Factors; Study 6: A Comparison of Nonfederal Hospitalization Experience Among Veterans in California who have separated from active service: PGW vs. EV.
Epidemiology Research			DoD-4	The General Well-Being of Gulf War Era Service Personnel from the States of Pennsylvania and Hawaii: A Survey
Epidemiology Research			DoD-14	Risk Factors Among US Army Soldiers for Enrolling on the Department of Veterans Affairs Gulf War Registry
Epidemiology Research			DoD-20	A Statistical Study Correlating the Reported Cases of Gulf War Syndrome to Battlefield Locations of Afflicted US Army Personnel During the Iraq-Kuwait War; Part 1: Method to Related Troop Deployment and the Reported Cases of Gulf War Syndrome and Probable Incidence of Maladies Defined by ICD-9-CM
Epidemiology Research			DoD-39	A Controlled Epidemiological and Clinical Study into the Effect of Gulf War Service on Servicemen and Women of the United Kingdom Armed Forces
Epidemiology Research			DoD-46	Exploratory Data Analysis with the CCEP Database
Epidemiology Research			HHS-1	Health Assessment of Persian Gulf War Veterans from Iowa
Epidemiology Research			VA-2A	VA National Survey of Persian Gulf Veterans - Phase I
Epidemiology Research			VA-2B	VA National Survey of Persian Gulf Veterans -Phase II
Epidemiology Research			VA-3	Use of Roster of Veterans Who Served in Persian Gulf Area
Epidemiology Research			VA-5A	Health and Exposure Survey of Persian Gulf Veterans
Epidemiology Research			VA-6Core	Core Program: Portland Environmental Hazards Research Center: Environment, Veterans Health and the Gulf War Syndrome. Core Project for Clinical and Epidemiology Research
Epidemiology Research	<i>Reproductive Health</i>		DoD-30	Epidemiological Studies Persian Gulf War Illnesses, PG Women's Health Linkage Study

<i>Research Focus Area</i>	<i>Secondary</i>	<i>Tertiary</i>	<i>Project No.</i>	<i>Project Title</i>
<i>Research type</i>				

Symptoms/General Health (cont.)

Epidemiology Research			VA-46	Diarrhea in Persian Gulf Veterans: An Irritable Bowel-Like Disorder
Epidemiology Research			VA/DoD-2DB/VB	Patterns of Pre-Persian Gulf War Illness and Health Care Seeking
Epidemiology Research	<i>Diagnosis</i>		HHS-2	Disease Cluster in a Pennsylvania Air National Guard Unit, EPI-AID 95-18
Epidemiology Research		<i>Diagnosis</i>	VA-2C	VA National Survey of Persian Gulf Veterans-Phase III

Treatment

Clinical Research			DoD-65	Multi-disciplinary pathophysiologic studies of neurotoxic Gulf War related syndromes leading to diagnosis and treatment
Clinical Research	<i>Symptoms/General Health</i>		VA/DoD-1D/V	VA/DoD Multi-site treatment trial for Chronic Fatigue Syndrome and Fibromyalgia in Gulf War Veterans