Karen Block, Ph.D.

Gulf War Research Program Update

Office of Research and Development

Department of Veterans Affairs

August 4, 2021
VHA Office of Research & Development (ORD)

• VA Research is the only research program focused entirely on Veterans' needs.

• Over 100 VA Medical Centers have the capacity for research.

• More than 60 percent of VA researchers are also clinicians who provide direct patient care.

• For the past 75 years, the VA has partnered with U.S. academic institutions for education, training, and research.

• VA-funded investigators have dual appointments at academic affiliates.
Gulf War service members were exposed to single/combination toxicants of unknown quantities.

- Exposure assessment is a challenge.
- Basic understanding of toxic effects under military conditions is limited
Military Toxic Exposure

- Connections and complex relationships between brain and Gut Axis
- Systemic Inflammatory and oxidative state *in vivo*
- Abnormal lipid metabolism

Systemic Inflammation
Cognitive Dysfunction
Joint Pain/Fibromyalgia
Irritable Bowel Syndrome

Gulf War Chronic Multi-Symptom Illness
## Gulf War Research

### Major Funders

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>VA-ORD</th>
<th>DOD-GWIRP</th>
</tr>
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<tbody>
<tr>
<td>2006</td>
<td>$13.01M</td>
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<td>2007</td>
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<td>2014</td>
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<td>2015</td>
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<td>2018</td>
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<td>$17.10M</td>
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<td>2019</td>
<td>$14.60M</td>
<td>$18.18M</td>
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<td>2020</td>
<td>$14.30M</td>
<td>$16.98M</td>
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<td>TOTAL 2006-2020</td>
<td>$157.86M</td>
<td>$182.70M</td>
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</table>

### Gulf War Portfolio Balance, 2021

- **Clinical Trials**: 30.0%
- **Biomarkers/Mechanisms**: 30.0%
- **Pre-Clinical/Model Systems**: 40.0%

**S21: 1 I01 CX002372-01A1 Chatterjee, Saurabh**

Microbiome targeted oral butyrate therapy in Gulf War multisymptom illness.
Disciplinary team:

- CO-CHAIRS: Karen Block and Vicky Davey (ORD), Joel Culpepper (PDH)
- Members:
  - Intra-VA ORD (cross-cutting services, comm, non-profit, MVP, Veterans)
  - Inter-VA (PDH, OEI, Field SMEs, GW Veterans)
  - Inter-Agency (DOD)
Veterans seeking the benefits must prove that their injuries and illnesses are directly connected to their military service.

The TEAM Act puts the burden of proof on the VA and the National Academy of Sciences to determine if there’s a connection between a condition and a toxic exposure.

Congress

“Veterans face uphill battle to receive treatment for ‘burn pit’ exposure”

80% of burn pit claims are being denied by the VA. It’s the same pattern in every war,” he said. “They go over, and then there’s a toxic exposure issue, and those soldiers come home, and they spend the next 20 to 30 years, sometimes 40 or sometimes 50, fighting with their own government. First to prove that they’re sick, second to get it tied to the exposures that they suffered in the military.”

Advocates

It’s time to solve the puzzle for veterans exposed to toxic hazards... What is taking so long!

Exposed Veterans

They’re trying to deny us until we die.

Lack of a nexus between exposure and health outcome has been a barrier for Veterans to become eligible for VA care and disability benefits.

Choose VA
Exposed Veterans’ Current Journey: Reactive

Deployment or Garrison Exposure

0-5 years

DOD

Exposure-Induced Health Outcome

No Nexus

VA

VETERANS CLAIMS DENIED

Lack of Research

Congress & VSOs Get Involved

Registry Stood Up

NASEM

ORD Evidence- and Implementation-Based Research

15-20 years

10 years

20+ years

VETERANS:
- Lack Trust in VA
- Become Sicker
- Struggle with Health

UPSET VETERANS
Vision: Veterans’ Journey with MERP: Proactive

Deployment or Garrison Exposure

ORD Evidence- and Implementation-Based Research

Building Nexus with VA Partners
- ILER
- VBA Registries
- VES

Interagency Collaborators
- NIEHS
- DOD APH
- DOD JPCS

Nexus Created

3 years

5 years

7-10 years

omp

- Access to VA care and resources
- Continued Trust in VA
- Improved Health Outcomes

Increase in Research

VETERANS:
MISSION STATEMENT: The VA Military Exposures Research Program seeks to advance military exposure assessments and to understand the effects of military exposures on Veterans’ health outcomes to inform care and policy.

Military Exposures: Military Exposures are toxic agents, singly or in combination, incurred through military service (Deployment, Occupation, or Garrison).

Exposures Assessment: Exposure assessment refers to identifying and quantifying toxic agent(s) to which a Veteran was exposed during military service.
Military Exposures Research Program (MERP) – Building Nexus

*ORD CRADO & Deputy CRADO

Executive Committee Governing Board

Administrative Core

MERP Program

- Building Federal, Affiliate & Stakeholder Partnerships
- Program Development
- Community Building through ME Research

- Military Exposure Innovative Centers
- Cross Cutting Initiatives (CCI)
- Workforce Development

Non-FACA Scientific Steering Committee

Scientific Data & Repository Core

Shared Resources & Exposure Assessment Core

*Office Research & Development (ORD)
Chief Research & Development Officer (CRADO)
Military Exposures Research Program (MERP) – Building Nexus

Military Exposure Research Innovation Centers (MERICs)

High impact, innovation

MERIC Exposure Assessment
MERIC Gulf War 1990-1991
MERIC Burn Pits
MERIC PFAS
MERIC Cardio-Pulmonary

MERIC Level 1: Discovery/Assessment
MERIC Level 2: Validation/Assessment
MERIC Level 3: Implementation

Request for Application Released
Competitively Reviewed
Renewable
Annual Reports
3yr- evaluation review

Principle Investigator (Director of MERIC)
Project Manager – Liaison with Cores
3-4 Scientific Projects

T0 (yr) T5 (yr)
1-mo LOI 3-mo review T0 (yr) T5 (yr)
2-mo planning start end

Expected 2-3 MERICs/year over next 5-years

ChooseVA

U.S. Department of Veterans Affairs
Military Exposures Research Program – *Building Nexus*

- **MERP Partnerships & Roles**

  **Federal Partnerships**
  - VA intra – (ORD Services and Programs, VA Non-Profit Corporations, QUERI)
  - VA inter – (Post-Deployment Health, War Related Injury Illness Study Centers)
  - DOD (Army Public Health, Defense Health Agency, Millennium Cohort Group, DOD Biorepository, Individual Longitudinal Exposure Record (ILER))
  - National Institutes of Health (Environment Health Safety, Aging, Neurological Diseases, Nursing)
  - Centers for Disease Control and Prevention (CDC)
  - Agency for Toxic Substances and Disease Registry (ATSDR)
  - Environmental Protection Agency (EPA)

  **Non-Federal Affiliates and SMEs**
  - Academia
  - National Academy of Science, Engineering, and Medicine (Emerging Science for Environmental Health Decisions)
  - Military Exposure Exposome Development (Detection and Health Outcomes)

  **Community Stakeholders**
  - Veterans with Toxic Exposures
  - Veteran Service Organizations (VSO)
  - Private Foundations – Toxic Exposures

  **Roles**
  - Infrastructure, Implementation
  - Priorities, Veteran Communication, Epidemiology
  - Exposure Assessment/Data & Biological Specimens
  - Exposure Assessment, High Impact Collaboration
  - Data base, Subject Matter Expertise
  - Data base, Subject Matter Expertise
  - Data base, Subject Matter Expertise
  - Technology, Subject Matter Expertise
  - New model Development
  - Subject Matter Expertise
  - Subject Matter Expertise
  - Subject Matter Expertise

*MERP Partnerships & Roles*
Military Exposures Research Program (MERP) – Building Nexus

MERP Oversight: Executive and Scientific Advisory Committees

**Executive Committee Governing Board**
- CRADO and Deputy CRADO
- Program and Scientific MERP Directors
- Post-Deployment Health Representative
- DOD Representative
- Federal Partner Representative(s)
- Administration & Communications Expert

**Scientific Steering Committee**
- Program and Scientific MERP Directors
- Scientific Data & Biorepository Commons Expert
- Shared Resources & Exposure Assessment Expert
- WRIISC Subject Matter Experts
- Field Subject Matter Experts
- Toxic Exposure Veterans

**Tasks**
- Assess overall MERP functions
- Assess achievements of the MERP
- Evaluate the direction and partnerships
- Evaluate the return on investment

- Assess cross cutting initiatives and MERIC progress and needs
- Suggest directions for MERP program
- Assess Shared Resources & Exposure Core
- Assess Data and Biorepository Commons Core
- Identify and prioritize gaps and needs
# Military Exposures Research Program (MERP) – Building Nexus

## MERP Support Cores

### A. MERP Administration & Communications Core

- Schedule meetings and assist with communication
- Support Program Meetings, Military Exposure Research Innovation Center Reviews
- Catalogue of projects and results
- Program Analysis
- Synthesize Needs Assessment (internal CORES, MERICS)
- Generate and Track Office Research & Development, Objectives and Key Results
- Regulatory Assistance: Packages Contracts, Consents
- Strategic Planning
- Synthesize Annual Reports from all CORES
- Send out satisfaction surveys and compile data
- Complete Annual Report of FY efforts and next FY goals

### B. MERP Scientific Data & Biorepository Core

- Data Commons Core
  - Common Data Element adherence and (Findability, Accessibility, Interoperability, and Reusability (FAIR) data
  - Procure, Clean, & Manage Surveys & Data from all MERICs
  - Quality Management
  - MERP MVP Participants
- Collect and Catalog Biorepository Commons
- Support investigators with sound study design
- Complete Annual Report of FY efforts and next FY goals

### C. MERP Shared Resources & Exposure Assessment Core

- Identify and manage Shared Resources
- Identify subject matter experts (SMEs), technology, biospecimens, and data resources for military exposure assessment
- Determine cost and access to Shared Resource
- Complete Annual Report of FY efforts and next FY goals
In Memory
Dawn Tranchino Provenzale, MD
Professor of Medicine
Director of Cooperative Studies Program, Epidemiology Center
Durham Veterans Affairs Medical Center
Duke University
April 20, 2021
Questions?
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