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Gulf War Research Program Update

Office of Research and Development

Department of Veterans Affairs

August 4, 2021



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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.

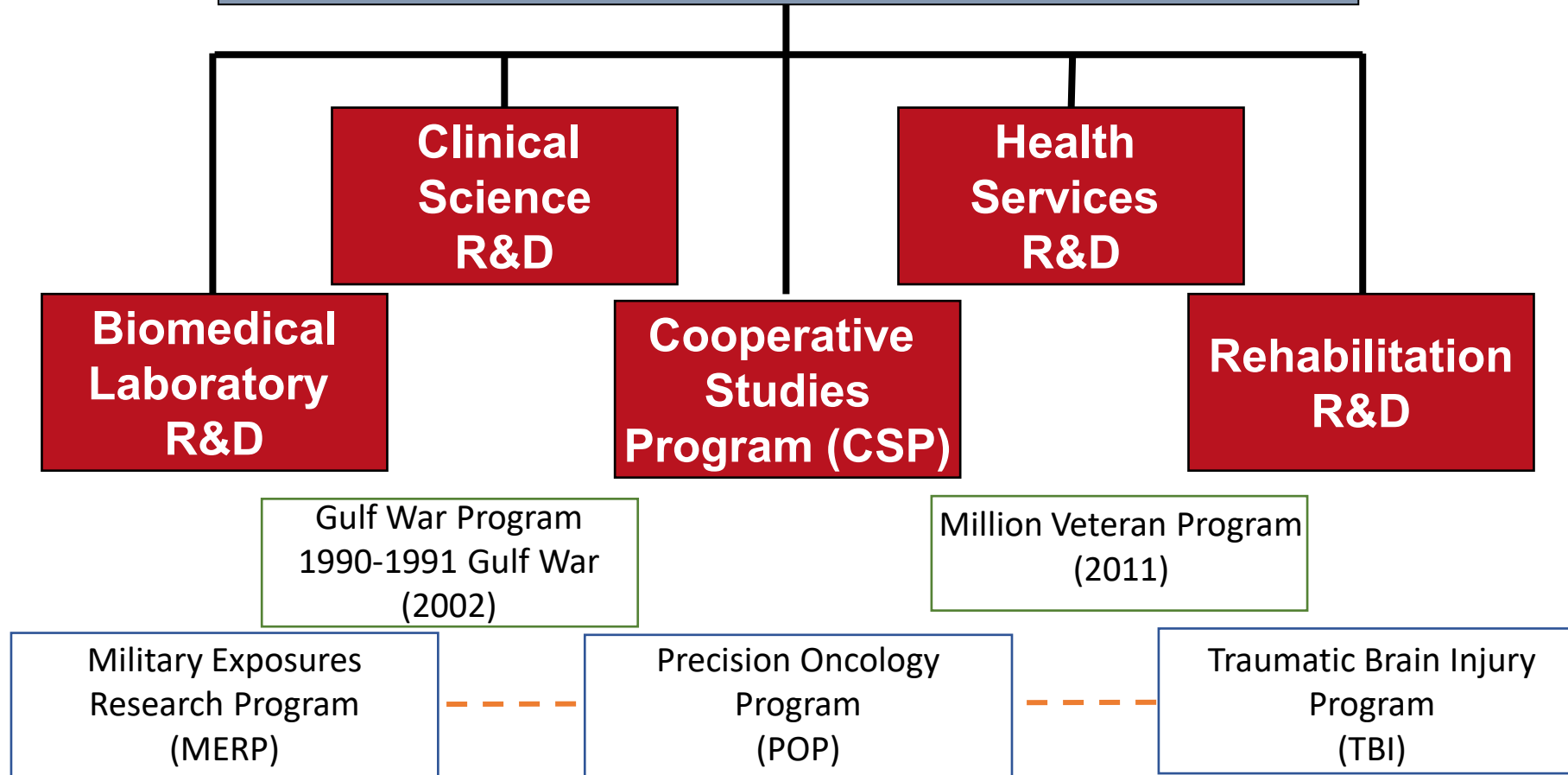


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VETERANS HEALTH ADMINISTRATION Office of Research & Development



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CHALLENGES OF MILITARY EXPOSURE RESEARCH



Depleted Uranium



Oil Well Fires



Pesticides, solvents, fuels



Airborne Hazards

**psychological and
physical Stress**



Burn Pits



Vaccinations



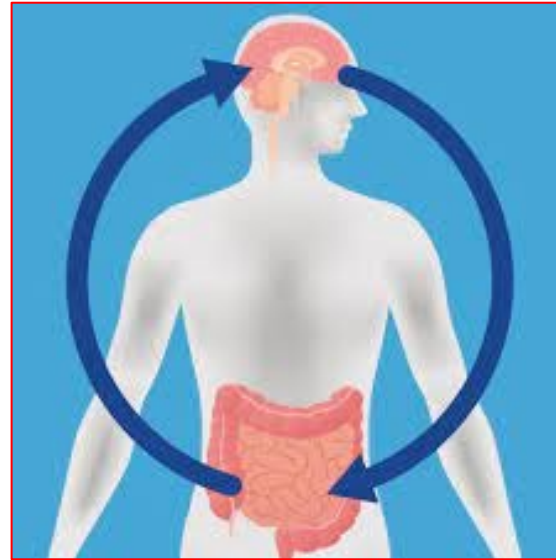
Chemical & Biological Weapons



**Pyridostigmine Bromide
(PB)**

- ❖ 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

Gulf War Chronic Multi-Symptom Illness



**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



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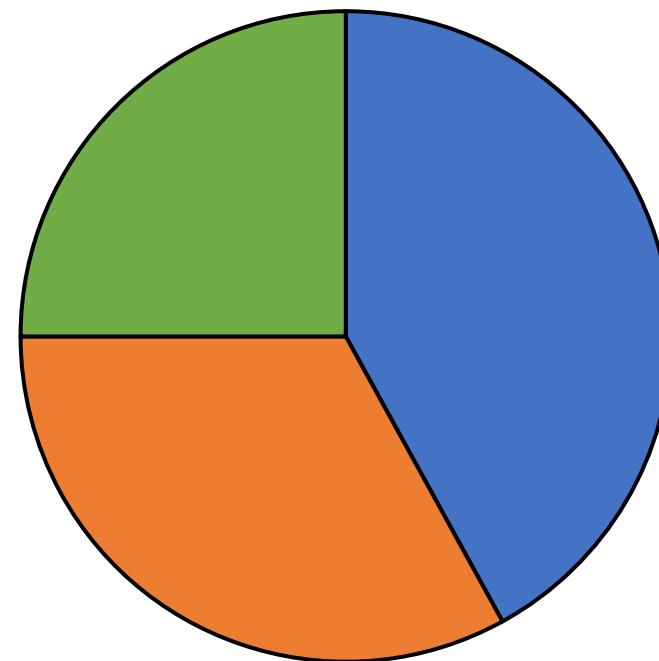
Gulf War Research

Major Funders

Fiscal Year	VA-ORD	DOD-GWIRP
2006	\$ 13.01M	\$ 4.11M
2007	\$ 7.06M	-
2008	\$ 6.93M	\$ 7.95M
2009	\$ 9.63M	\$ 7.14M
2010	\$ 11.57M	\$ 7.07M
2011	\$ 5.54M	\$ 5.88M
2012	\$ 6.72M	\$ 8.04M
2013	\$ 7.94 M	\$ 16.21 M
2014	\$ 9.73 M	\$ 18.69 M
2015	\$ 11.63 M	\$ 16.99 M
2016	\$ 12.34 M	\$ 19.87 M
2017	\$ 13.56 M	\$ 18.49M
2018	\$ 13.30M	\$ 17.10M
2019	\$ 14.60M	\$ 18.18M
2020	\$ 14.30M	\$ 16.98M
TOTAL 2006-2020	\$ 157.86M	\$ 182.70M

- Clinical Trials
- Biomarkers/Mechanisms
- Pre-Clinical/Model Systems

Gulf War Portfolio Balance, 2021



S21: 1 I01 CX002372-01A1 Chatterjee, Saurabh
 Microbiome targeted oral butyrate therapy in Gulf War multisymptom illness.

Military Exposures Research Program (MERP)



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)

Military Exposures Research Program (MERP)

Veterans seeking the benefits must prove that their injuries and illnesses are directly connected to their military service....

CONGRESS

VSOs

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

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.

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

EXPOSED VETERANS

Advocates

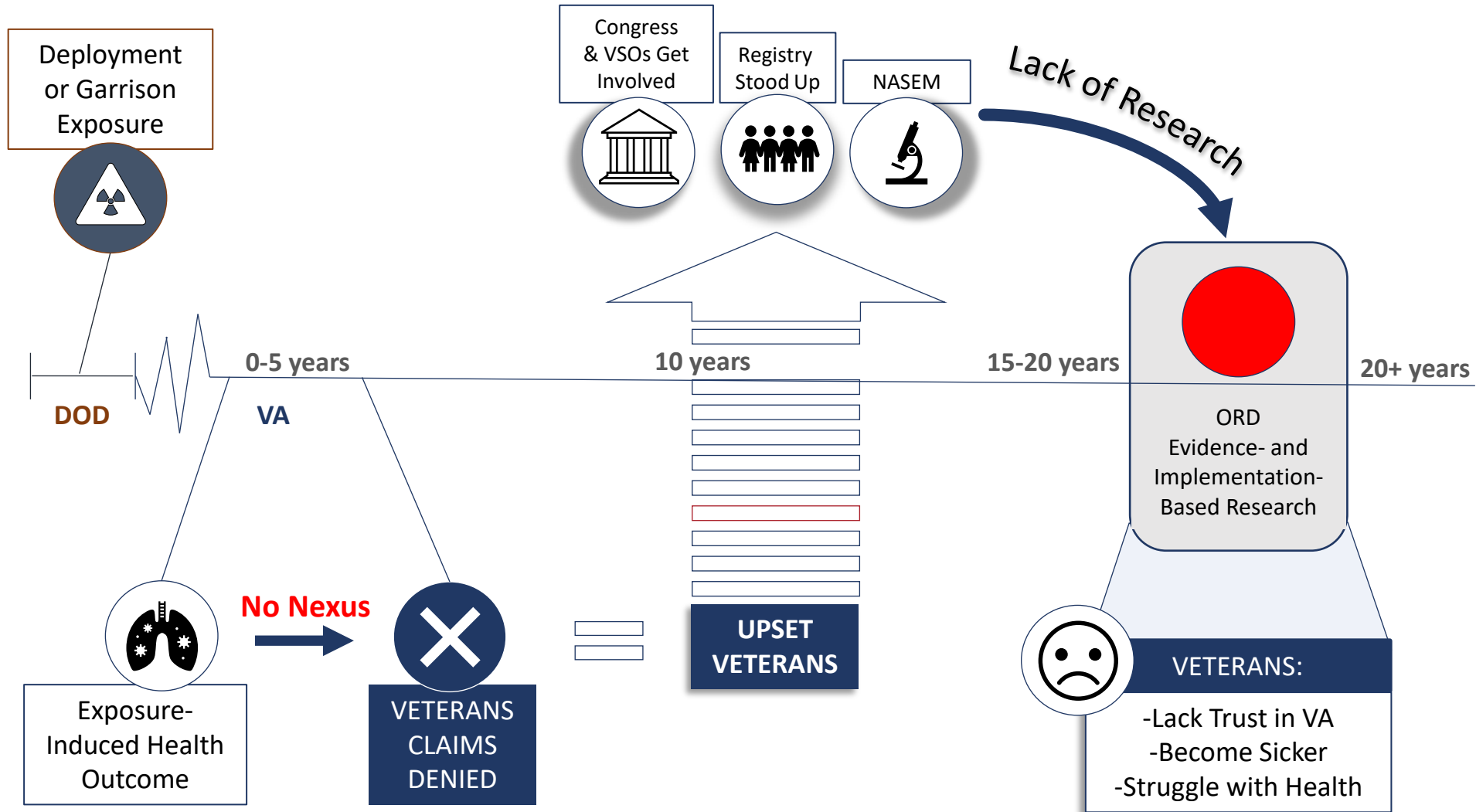
‘They’re trying to deny us until we die’

NEWS

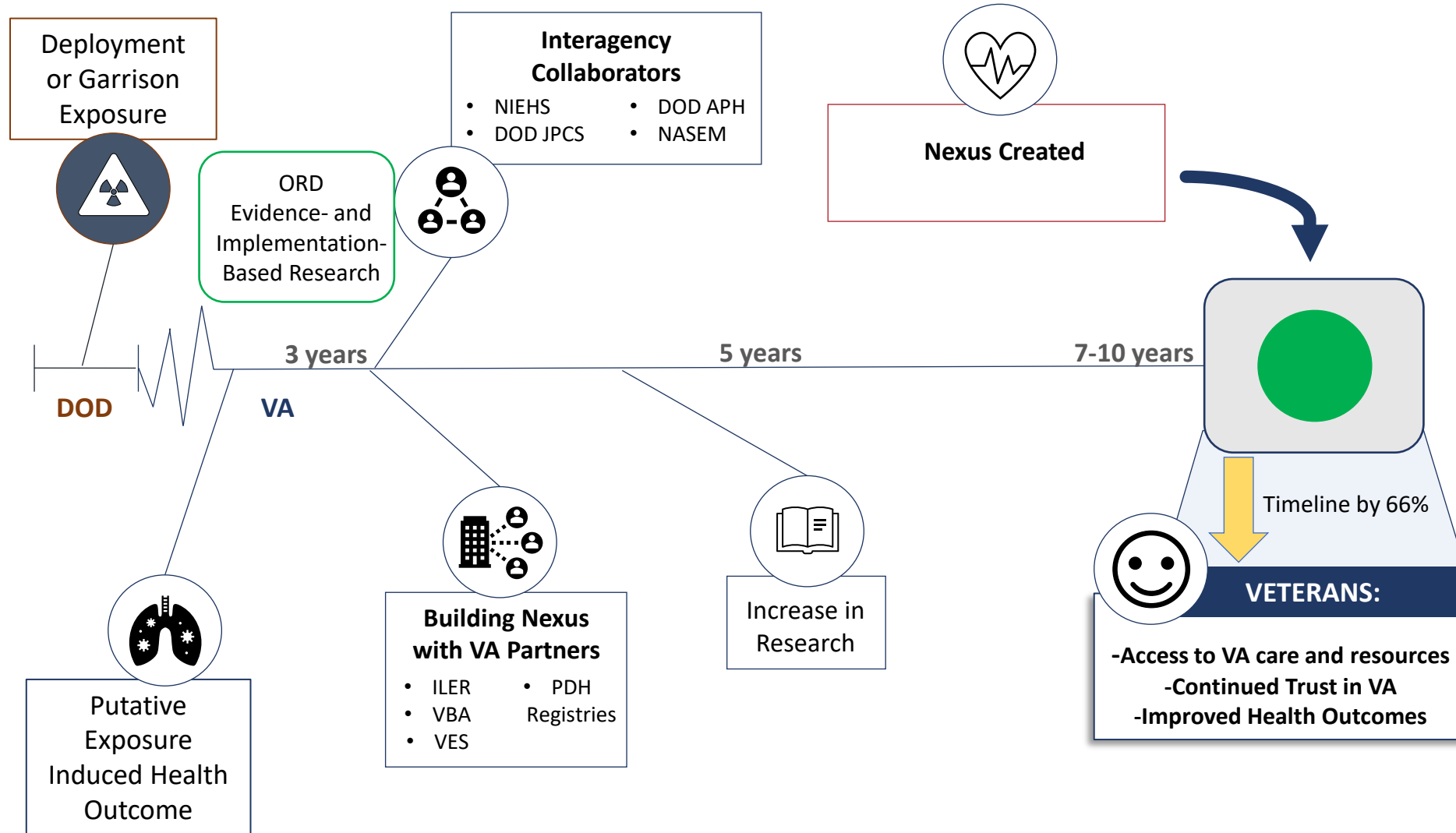
Lack of a nexus between exposure and health outcome has been a barrier for Veterans to become eligible for VA care and disability benefits.

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.”

Exposed Veterans' Current Journey: Reactive



Vision: Veterans' Journey with MERP: Proactive



Military Exposures Research Program (MERP) – *Building Nexus*

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.



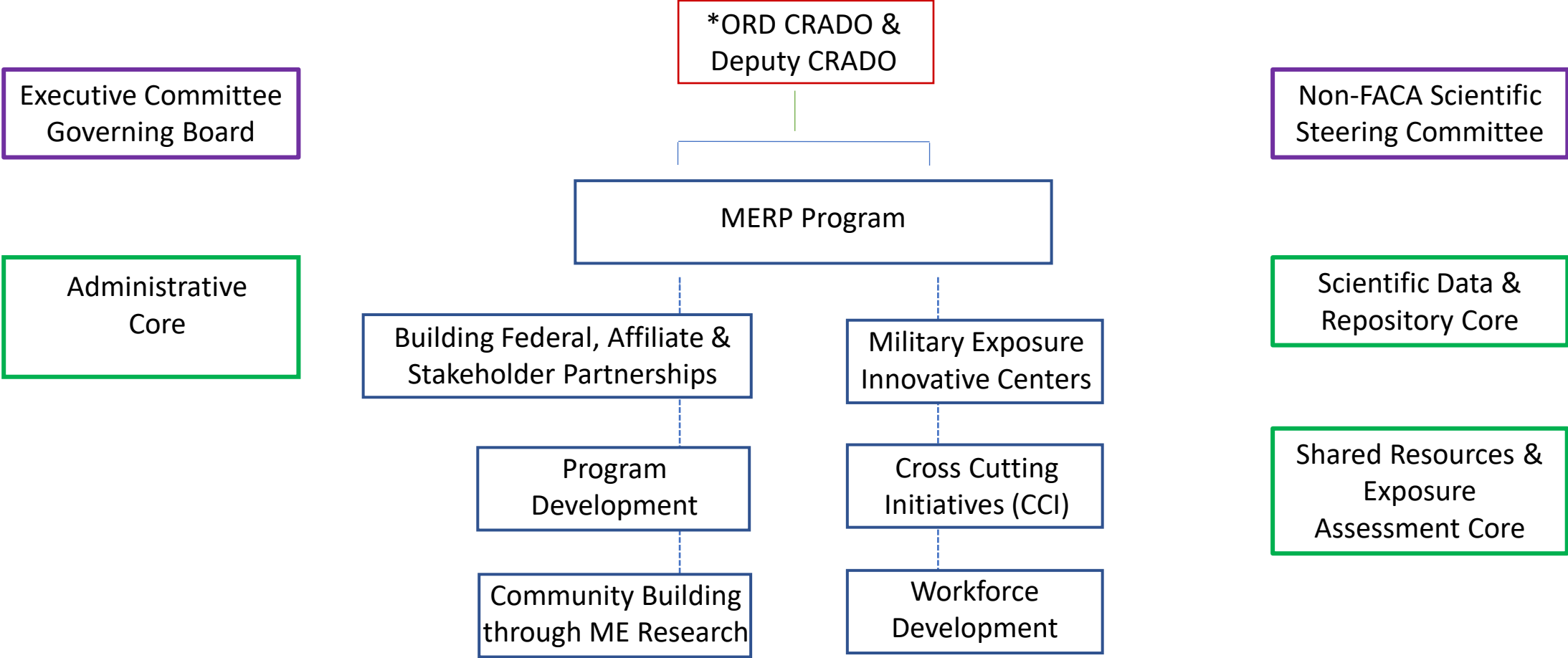
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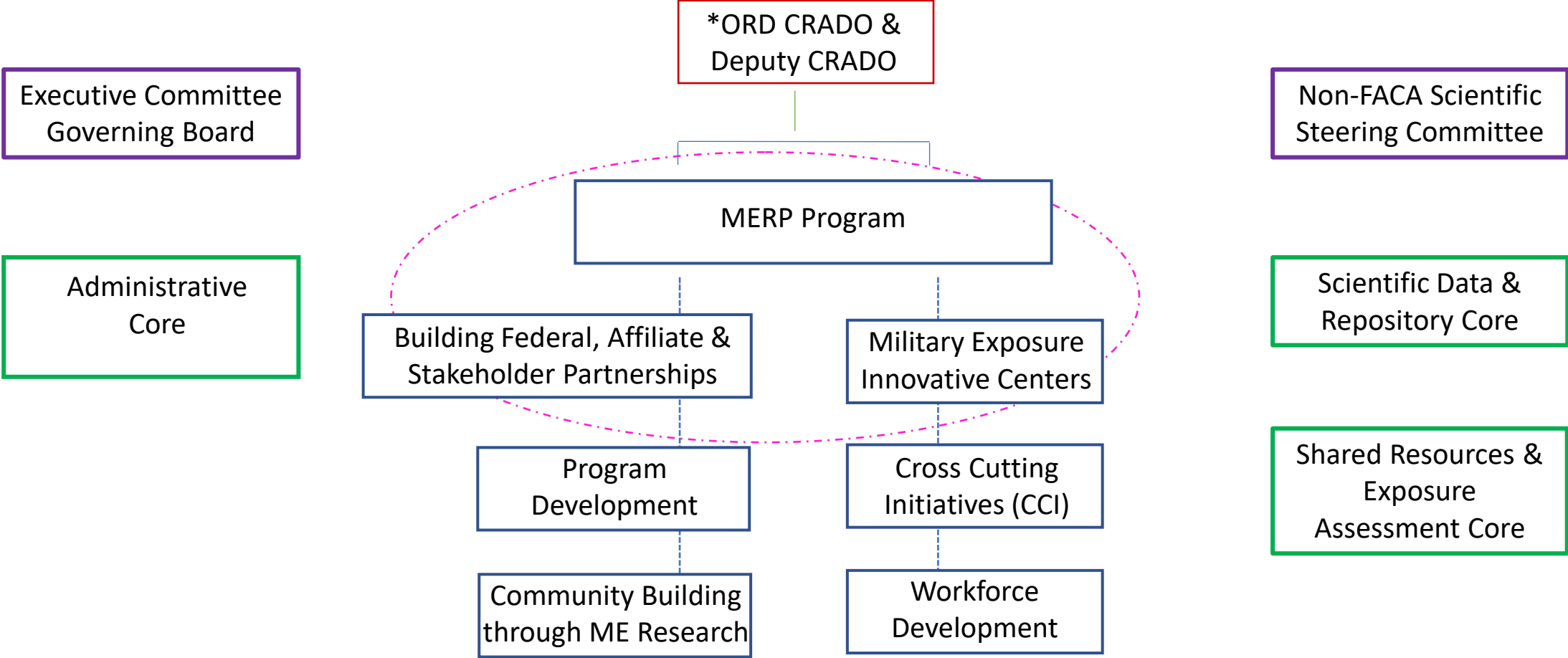
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Military Exposures Research Program (MERP) – Building Nexus



*Office Research & Development (ORD)
Chief Research & Development Officer (CRADO)

Military Exposures Research Program (MERP) – Building Nexus



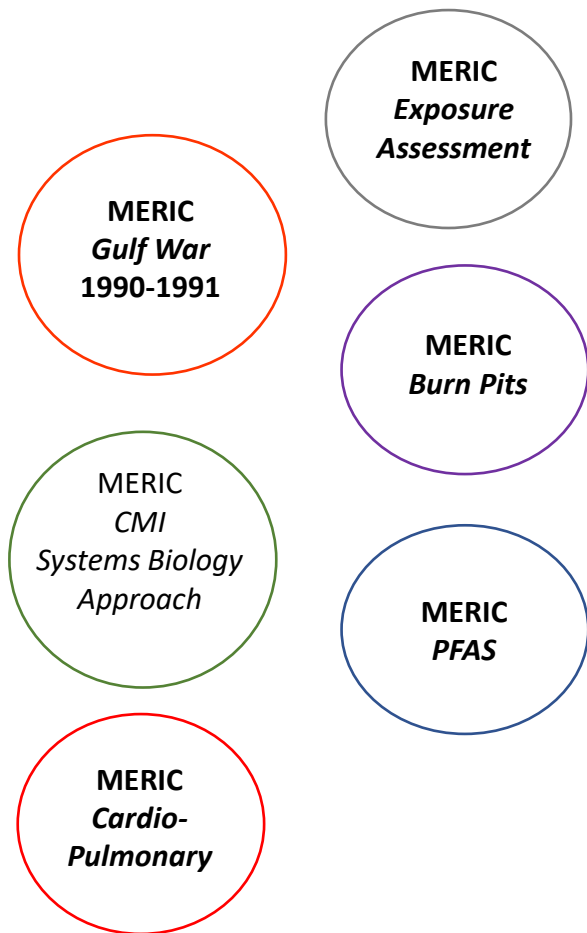
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Chief Research & Development Officer (CRADO)

Military Exposures Research Program (MERP) – *Building Nexus*

Military Exposure Research Innovation Centers (MERICs)

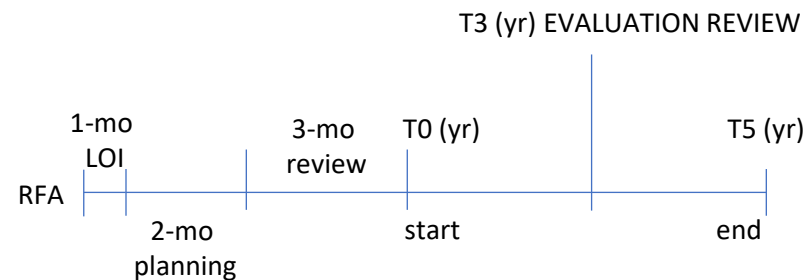
High impact, innovation

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



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



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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
Subject Matter Expertise



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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

Tasks

- 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

Tasks

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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