Airborne Hazards and Burn Pits Center of Excellence

Airborne Hazards and Open Burn Pit Registry Efforts

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Disclosures

- Contents of this presentation do not represent the views of the U.S. Department of Veterans Affairs or the United States Government

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  - VA ORD:
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  - DoD CDMRP:
    - W81XWH-19-2-0059, W81XWH-17-1-0575, W81XWH-16-1-0663

- The **Airborne Hazards and Burn Pits Center of Excellence** (AHBPCE) was designated by Congress and the President in Public Law 115-929 as a VA Center of Excellence (VHA Directive 1215).

- In meeting VHA Directive 1215, the AHBPCE has 4 priority areas:

Airborne Hazards and Open Burn Pit Registry

Burn Pit Registry

Clinical Care

Research

Education

Clinical Exam

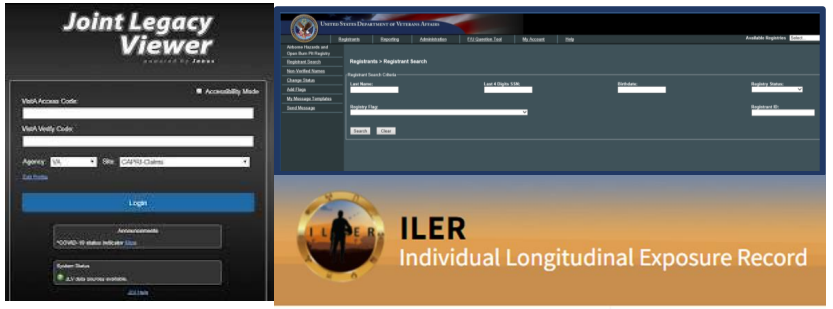
Self-Reported Data

Research Findings

Key Collaborations

Active Research

Future Efforts


Joint Legacy Viewer
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Individual Longitudinal Exposure Record


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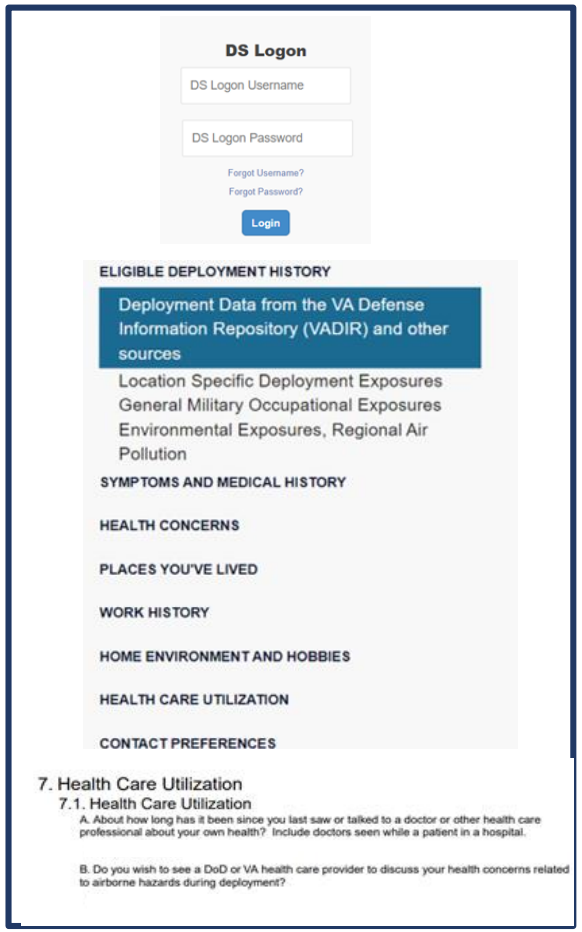
Home: About the Registry
About Airborne Hazard Exposures
How to Get Care
Frequently Asked Questions
Help
Home: About the Registry
Is this for me?
What does the registry involve?
How do I get started?
Learn More
Get Started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Forgot Password?
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Deployment Data from the VA Defense Information Repository (VADIR) and other sources
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General Military Occupational Exposures
Environmental Exposures, Regional Air Pollution
SYMPTOMS AND MEDICAL HISTORY
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HOME ENVIRONMENT AND HOBBIES
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CONTACT PREFERENCES
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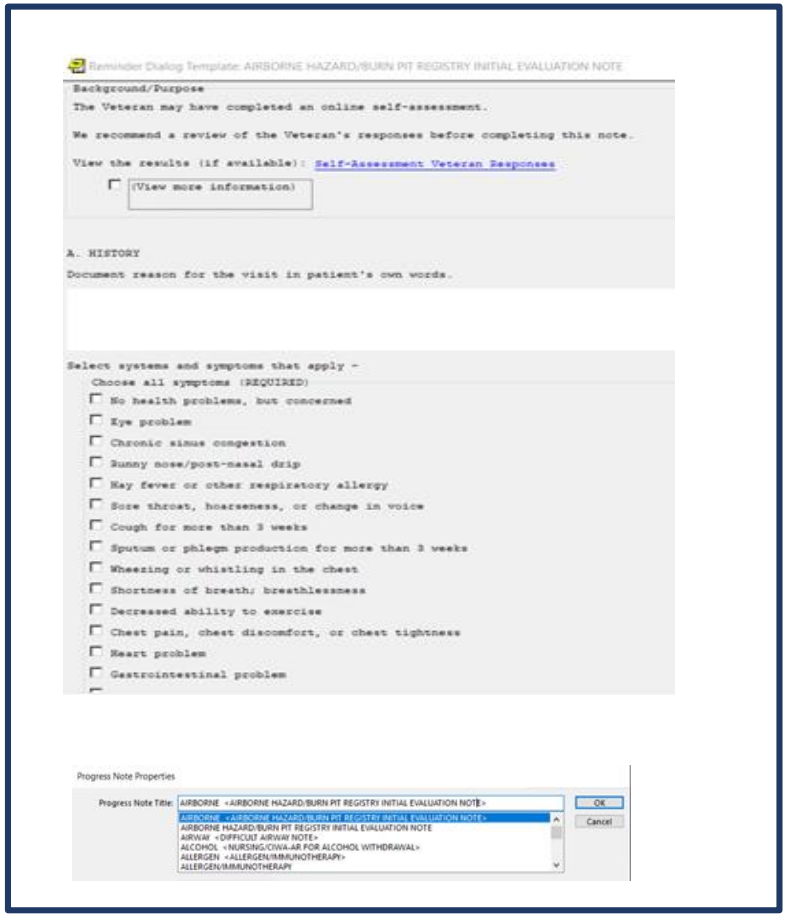
Reminder Dialog Template: AIRBORNE HAZARD/BURN PIT REGISTRY INITIAL EVALUATION NOTE
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(View more information)
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Decreased ability to exercise
Chest pain, chest discomfort, or chest tightness
Heart problem
Gastrointestinal problem
Progress Note Properties
Progress Note Title:
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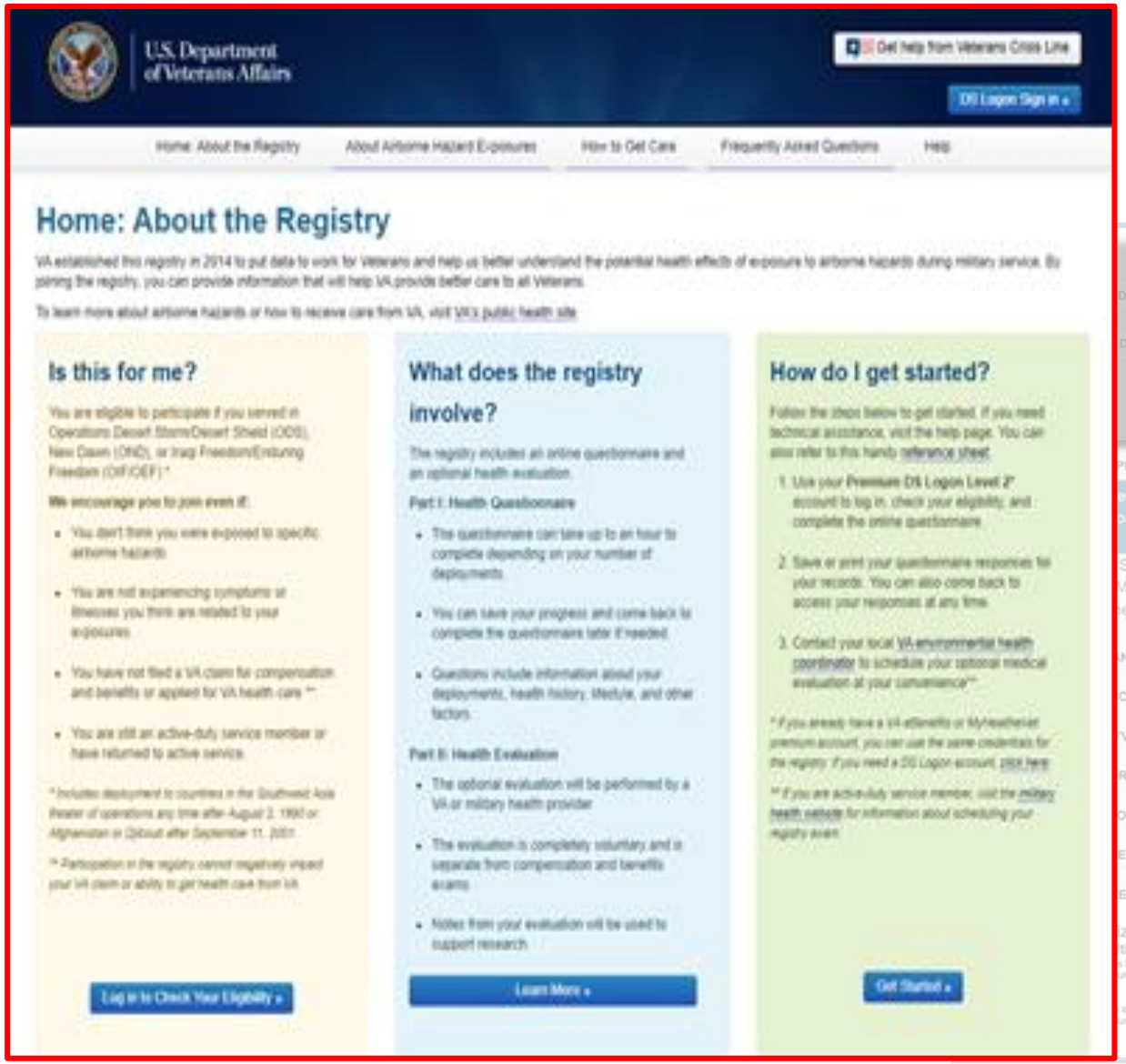
OK
Cancel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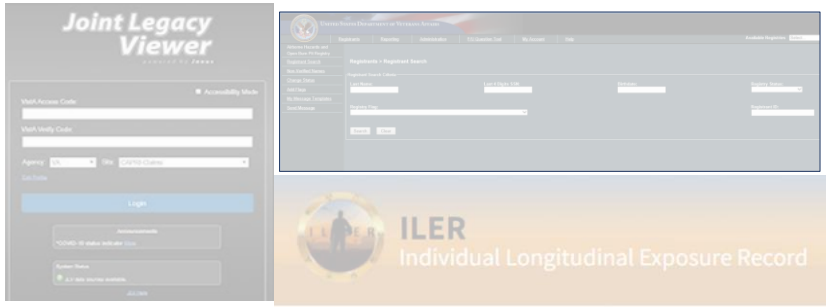
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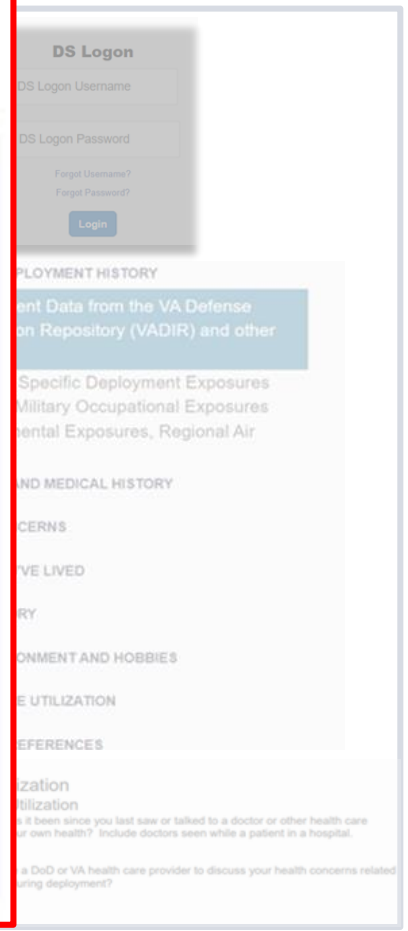
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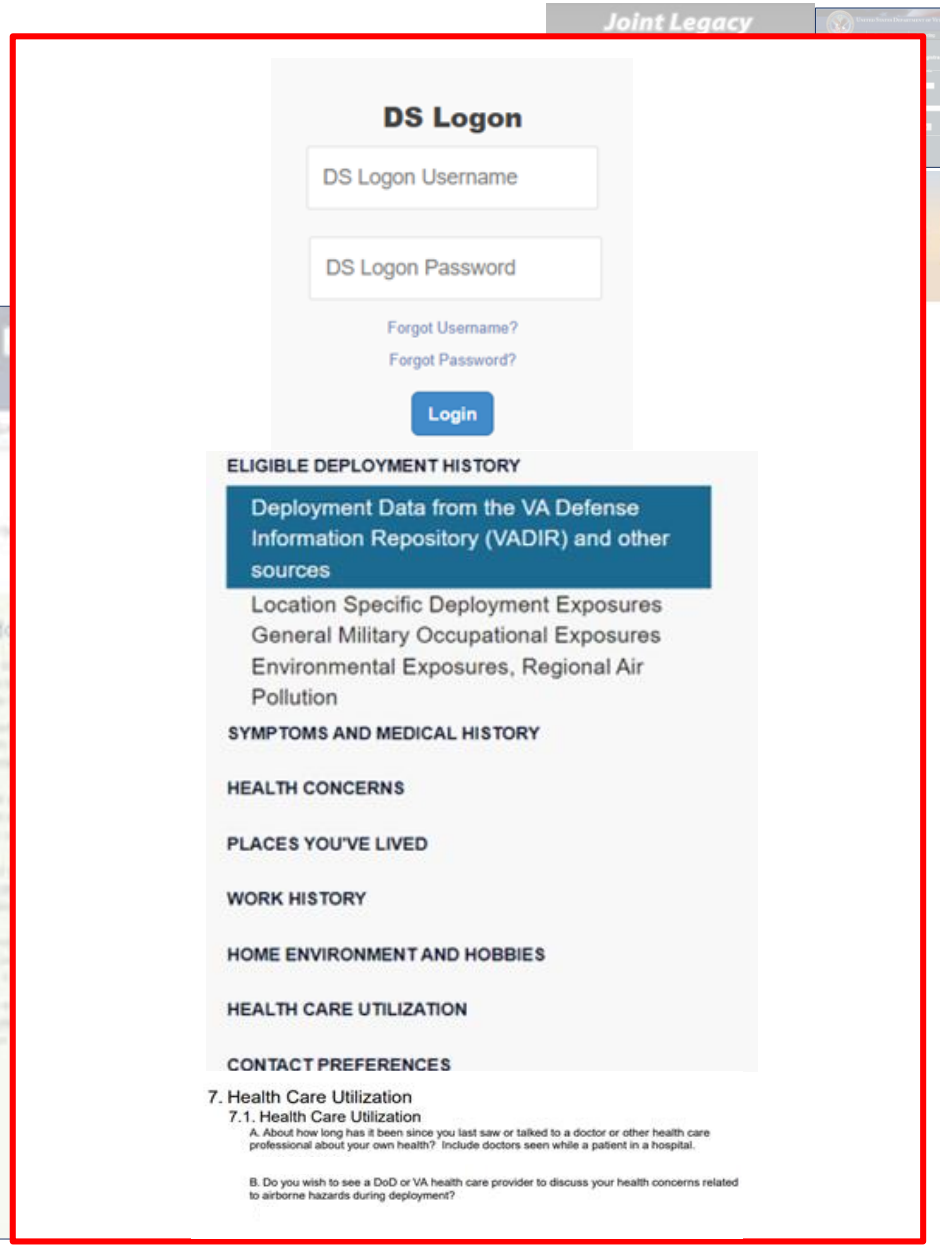
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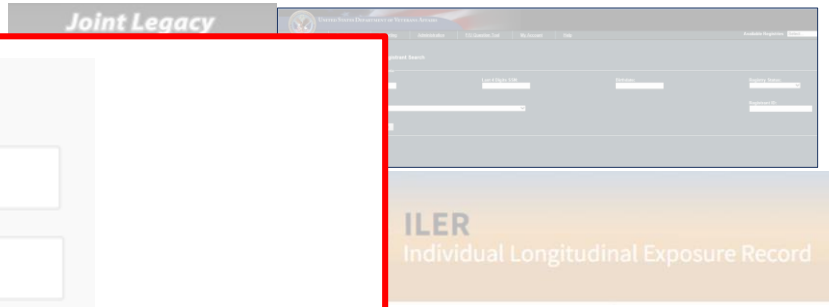
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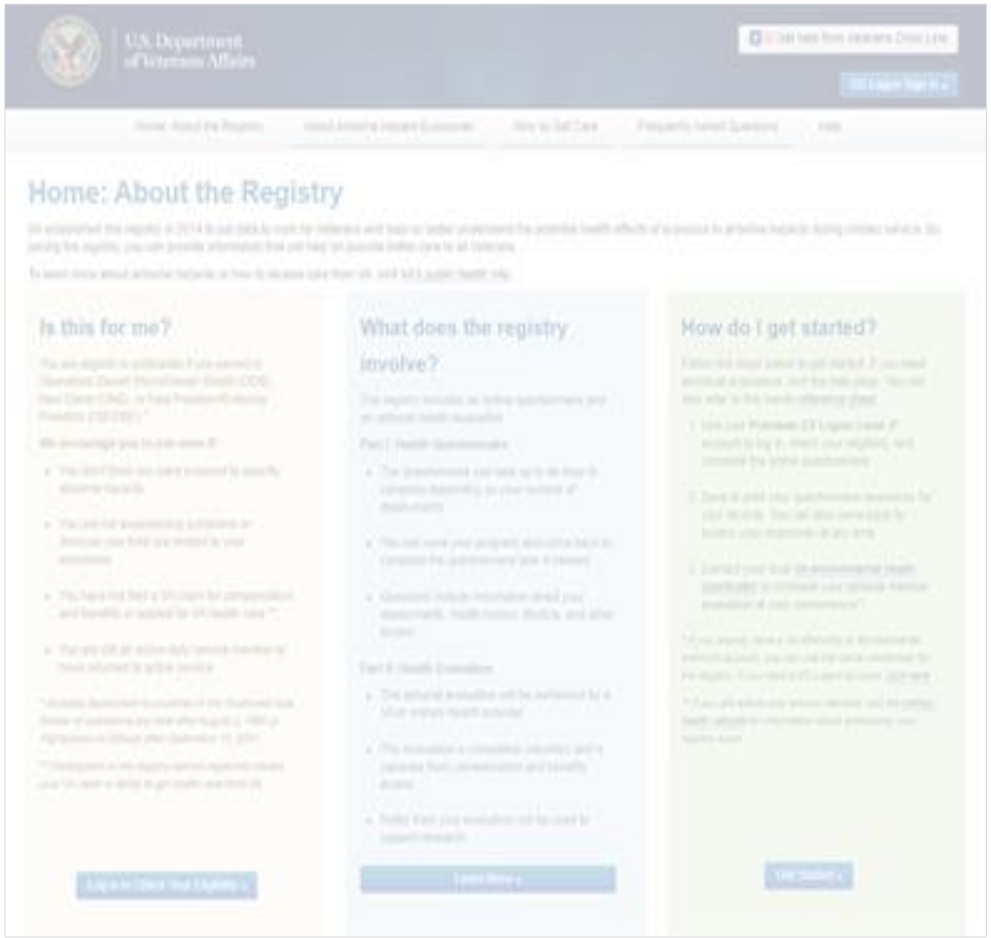
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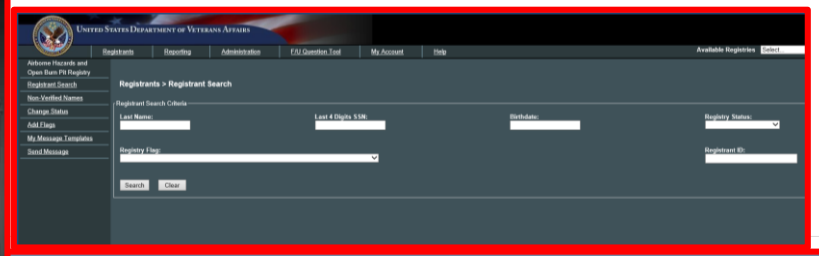
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Administration
FAI Question Tool
My Account
Help
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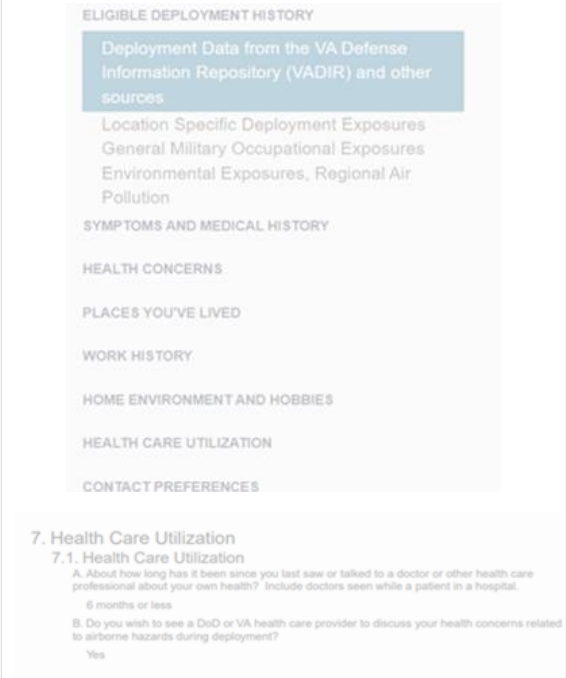
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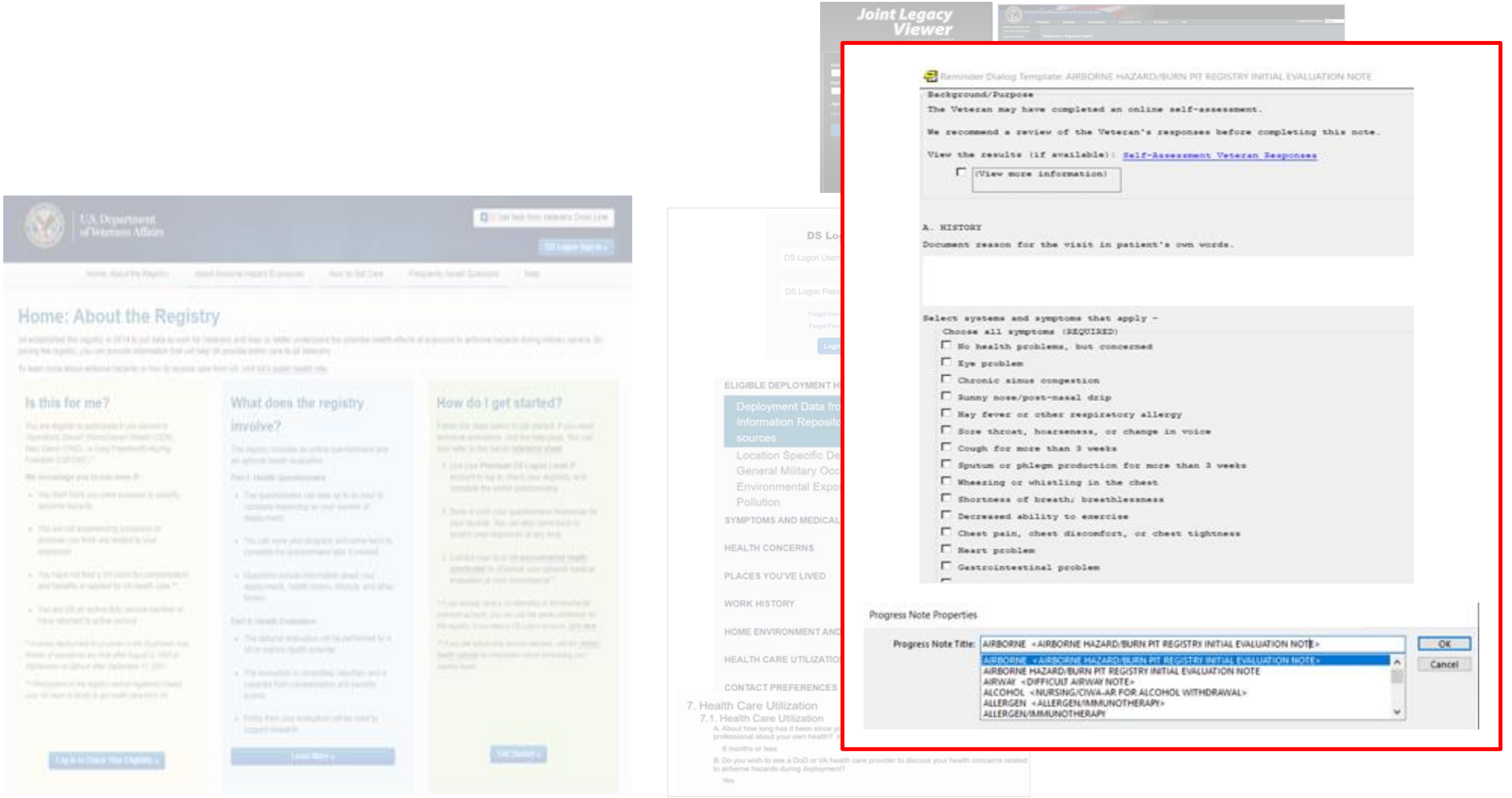
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AIRWAY <DIFFICULT AIRWAY NOTE>
ALCOHOL <NURSING/CIWA-AR FOR ALCOHOL WITHDRAWAL>
ALLERGEN <ALLERGEN/IMMUNOTHERAPY>
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Airborne Hazard Clinical Exam

Health Factors – Documented chief concerns

- Shortness of Breath
- Gastrointestinal Problems
- Chronic Sinus Infection
- Runny Nose
- Decreased Exercise Ability

Airborne Hazard Clinical Exam

Airborne Hazard Exams
22,560

74% (16,709/22,560)
requested in SAQ

99.6% (22,473/22,560)
were Eligible for VHA

Airborne Hazards Clinical Exam Data

Strengths

- Consistency
- Healthcare provider
- Obtain data not captured in SAQ

Limitations

- Self-selection bias
- Utilization of notes template
- Accessibility/Availability of data

Clinical Exam

Self-Reported Data

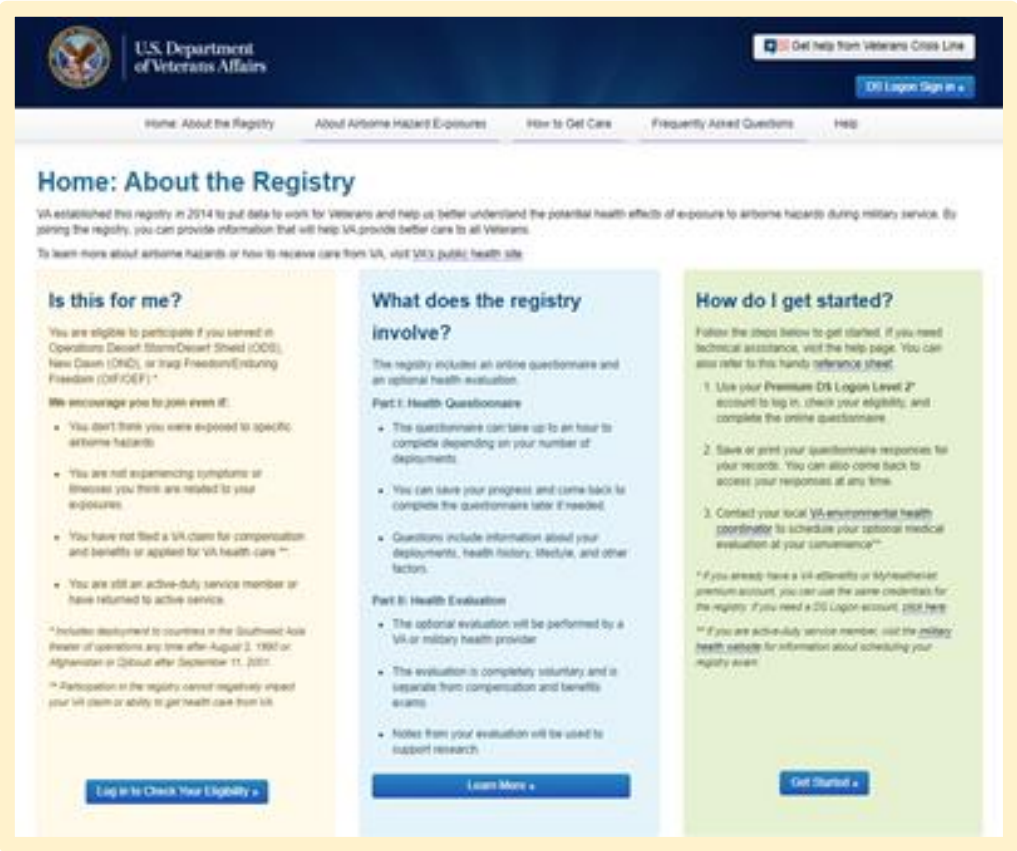
Research Findings

Key Collaborations

Active Research

Future Efforts

Self-assessment Questionnaire



- 245,801 Participants (June 1, 2021)

- Male 86%; Female 11%
- Service Branch (%)
  - Army: 59
  - Air force: 23
  - Marine: 11
  - Navy: 7.4
- Age
  - Range 19-96 years
  - Mean 43.3 years

Operational Data Analysis

- Routine Reporting
  - Weekly summary
  - Monthly clinical exam
  - Adhoc
  - Covid-19

- Data Quality
  - General: weekly and monthly
  - Variable specific

Primary Data Sources

Data Sources

- Self-assessment AHOBPR Questionnaire
- AH clinical exam
- VHA medical records

SAQ

- Deployment
- Exposure
- Self reported diagnosis
- Self reported symptoms

Clinical Exam

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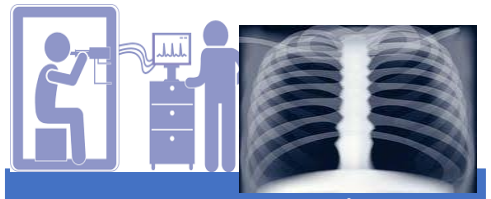
PULMONARY EVALS AMONG VETERANS WITH AN AH CLINICAL EXAM

AHOBPR Participants enrolled in VHA

n=126,220

Received an AH Exam at the VA

n=6,586



Recorded CXR and/or PFT

n=3,669

Before AH Exam

n=2,226

After AH Exam

n=1,443

Consult and/or CT Scan

n=1,380

Before AH Exam

n=793

After AH Exam

n=587

Jani et al. CHEST; 2019;156:A862

SELF-REPORTED MILITARY OCCUPATIONAL EXPOSURES AND CHRONIC RESPIRATORY DISEASE AMONG

Occupational Exposure

Were you in a convoy or other vehicle operations?

Performed refueling operations

Performed aircraft, generator/large engine maintenance

Performed construction activities

Respiratory

Asthma

Chronic Obstructive Pulmonary Disease (COPD)

Chronic Bronchitis

Emphysema

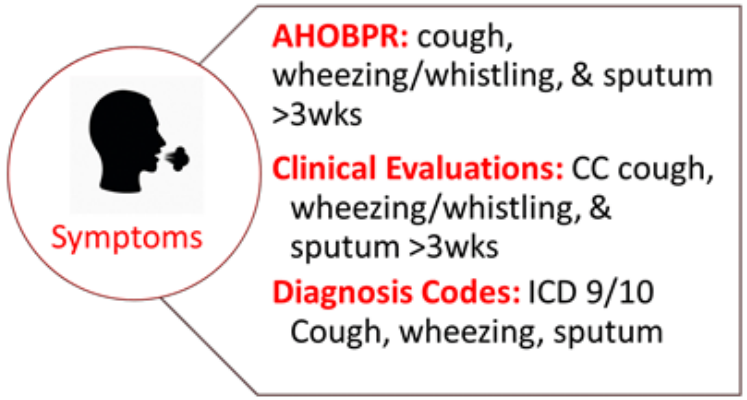
Jani et al. 2020, American Public Health Association Annual Meeting

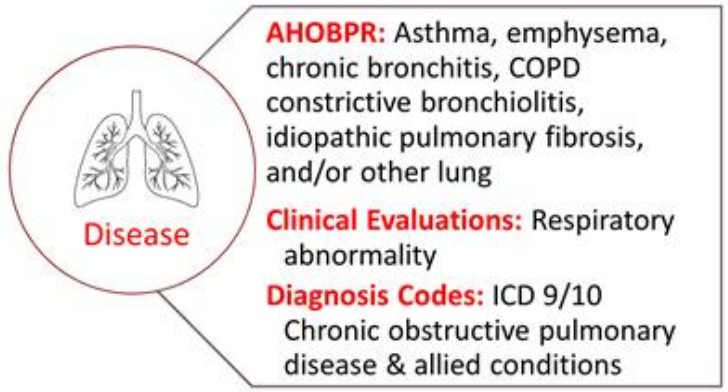
Sleep related disturbances

- Sleep-related disturbances in AHOBPR participants:
  - **78.1%** reported snoring
  - **40.5%** reported sleep-disordered breathing
  - **46.3%** reported chronic sleep-deprivation
  - **81.0%** reported insomnia or trouble-sleeping
- Self-reported sleep apnea in female AHOBPR participants:
  - **20.0%** of all female participants
    - Pre-menopausal = 41%
    - Post-menopausal = 56%

Jani et al. Amer J Resp Care Crit Med; 2020;201:A4342, A4339

Concordance of Lower Respiratory Symptoms and Conditions in Three Modalities of Assessment among Veteran Participants in the Airborne Hazards and Open Burn Pit Registry





Objective

To examine concordance among of three modalities of data

Data sources

Self-reported information from the AHOBPR (n=124,591)
Medical records from VHA (n=124,591)
AH Clinical exam (n=2,653)

Jani et al. 2019, American Thoracic Society Annual Meeting

COVID-19 Infection Among Airborne Hazards Open Burn Pit Registry Participants Utilizing the VA

Examination of cases of COVID-19 and patient characteristics among deployed Veterans who have participated in the AHOBPR and utilize VHA care

Data Sources

- AHOBPR Questionnaire
- VHA Medical Records

Data Elements

- Demographic
- Testing
- Hospitalization
- Comorbidities

Observations

- 13.8% of participants who received testing within VHA tested positive for COVID-19
- Characteristics of these cases reflect those of the broader VA

Jani N, Falvo MJ, Arjomandi M, Krefft SD, Osterholzer JJ, Hines SE, Shuping E, Sotolongo AM. COVID-19 Infection Among Airborne Hazards Open Burn Pit Registry Participants Utilizing the VA." pp. A3086-A3086. American Thoracic Society, 2021.

Clinical Exam

Self-Reported Data

Research Findings

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AHBPCE IQuESt Military Exposure Surveillance (AIMES) Collaboration

Purpose: Accelerate knowledge harvesting from the AHOBPR and related data to improve the care and health of Veterans with airborne hazards concerns.

VA | U.S. Department of Veterans Affairs
Veterans Health Administration
Airborne Hazards and Burn Pits Center of Excellence

IQuESt
CENTER FOR INNOVATIONS IN QUALITY, EFFECTIVENESS & SAFETY

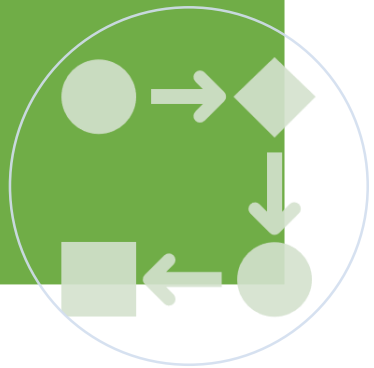
Baylor College of Medicine

- ***Organize***
  - Data documentation
  - Statistical analysis
  - Operations reports
- ***Innovate***
  - Integration of clinical and AHOBPR data
- ***Support***
  - Evaluating and improving analytical datasets
  - Provide support for data use and governance

Specific Aims: **Data**

- ***Identify***
  - Identify metrics and criteria to evaluate sites with best practices
- ***Implement***
  - Establish and apply toolkit of best practices
- ***Evaluate***
  - Baseline and post-implementation assessment

Specific Aims: **Implementation**

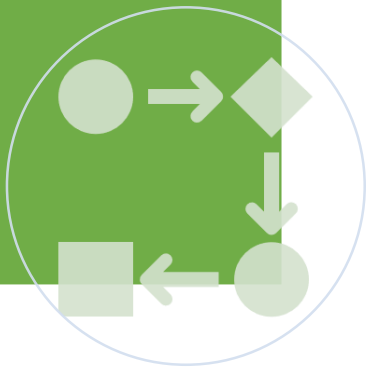


- Curated merged database of AHOBPR and Corporate Data Warehouse (clinical) data
- Creation of standard reports from merged database and regular production of these reports
- Completion of ad hoc report requests
- Policies and procedures for internal/external research analyses
- Up to 24 analytic datasets created

Products: **Data**

- Identification and evaluation of sites with best practices
- Written summary of best practices
- Tool Kit for implementation of best practices
- Dashboard of AHOBPR implementation and sustainment metrics for all VAMCs
- Facilitated implementation of AHOBPR exam at 45 VAMCs

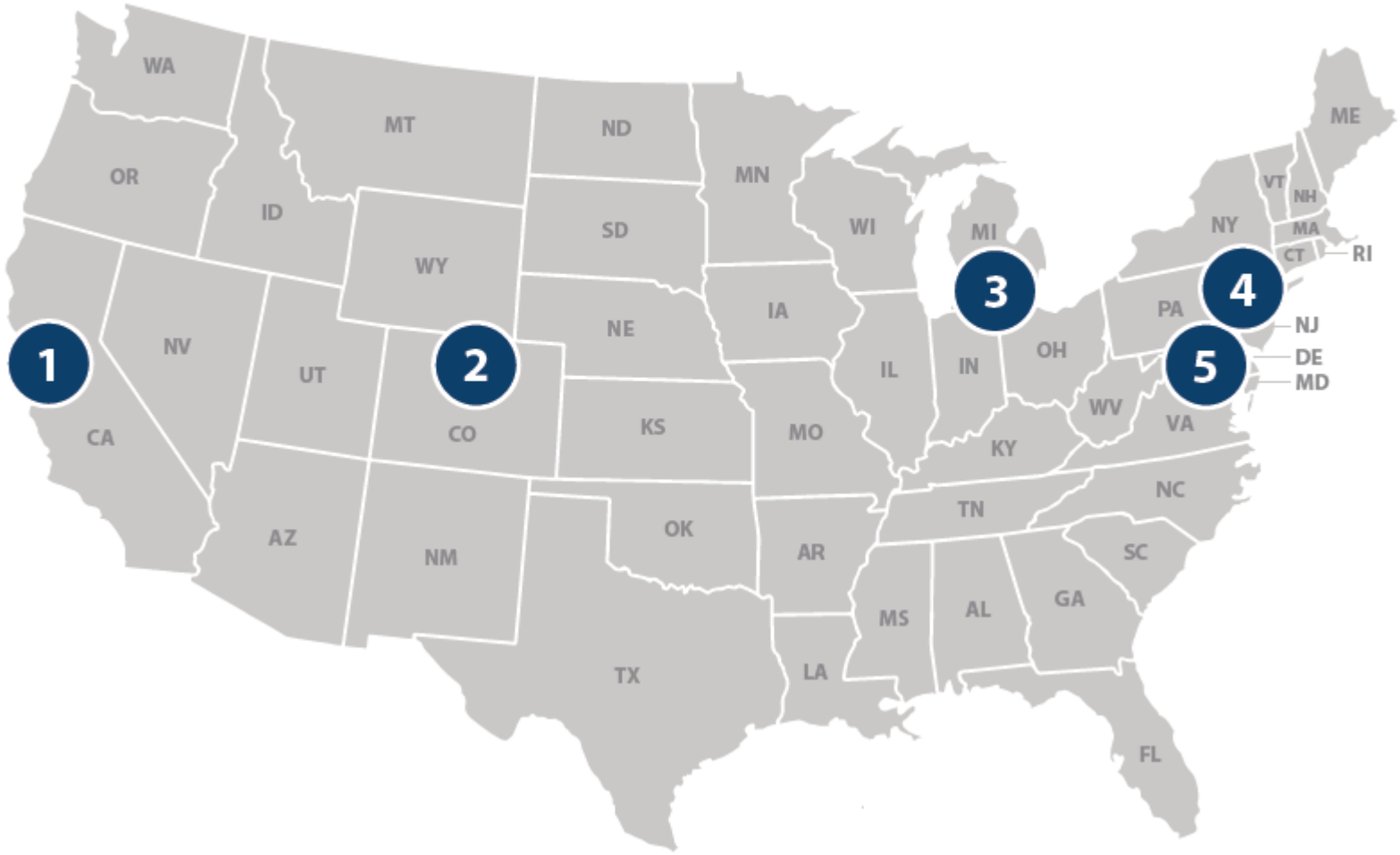
Products: **Implementation**



Post-Deployment Cardiopulmonary Exposure Network (PDCEN) Collaboration

Purpose: Provide in-depth clinical evaluations for Veterans with specific health concerns who have evaluated as part of the AHOBPR.

VA Post-Deployment Cardiopulmonary Evaluation Network



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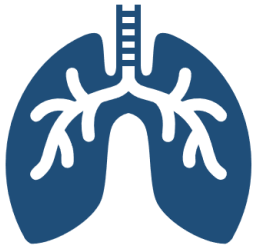
Rocky Mountain Regional VA Medical Center
University of Colorado
National Jewish Health

3 **John Osterholzer, M.D.**
VA Ann Arbor Health Care System
University of Michigan – Ann Arbor

4 **Anays Sotolongo, M.D.**
Michael Falvo, Ph.D.
VA New Jersey Health Care System
Rutgers New Jersey Medical School

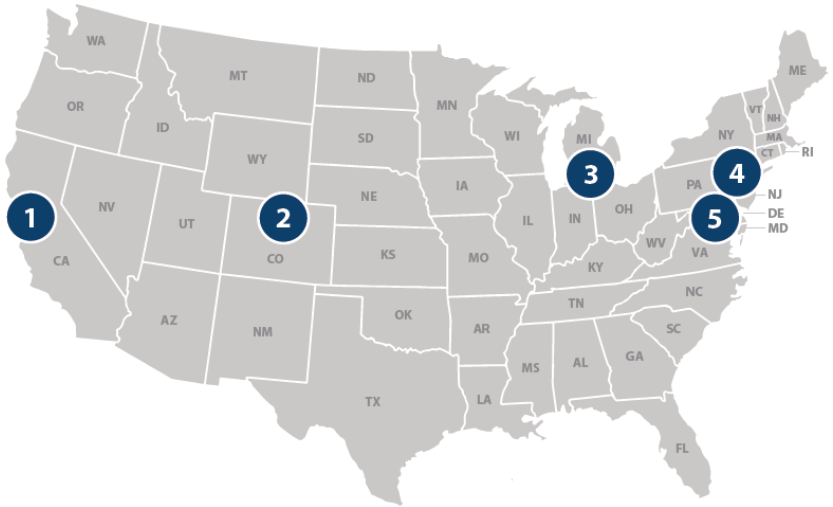
5 **Stella Hines, M.D., M.S.P.H.**
Baltimore VA Medical Center
University of Maryland School of Medicine

Airborne Hazards and Open Burn Pit Registry



Self-reported respiratory condition(s)

VA Post-Deployment Cardiopulmonary Evaluation Network



PDCEN Core Clinical Evaluation

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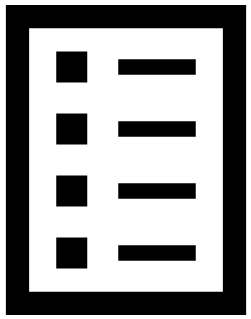
Challenges and Opportunities

Self-Reported Exposures

Enhanced Exposure Metrics



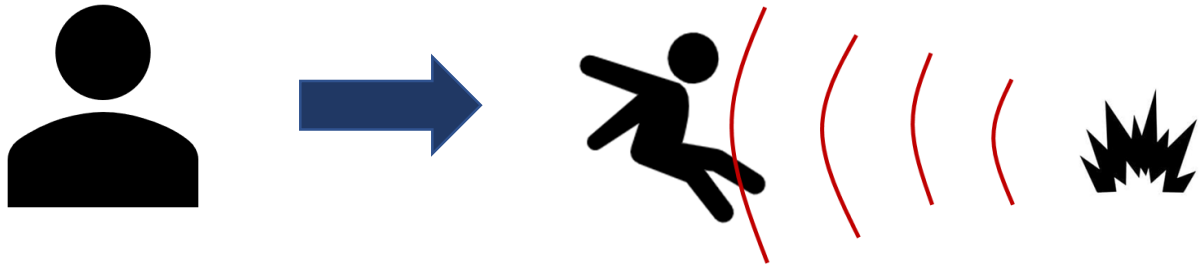
Survey Questions

Merging with Health Records

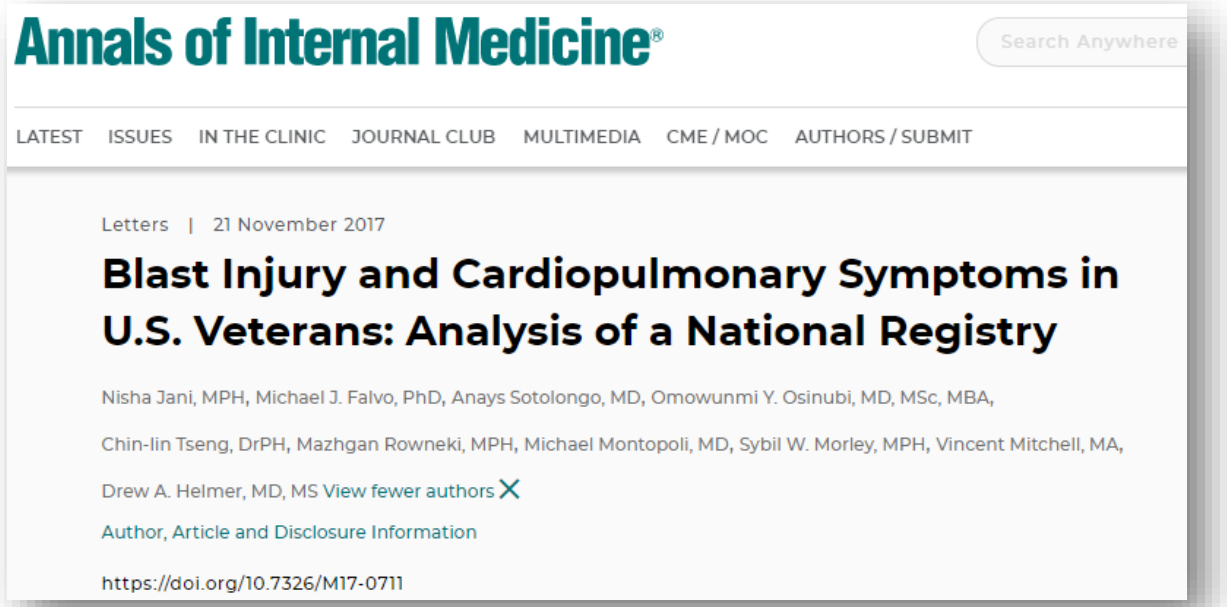
Participation Rate

Case-Control Studies

Hypothesis Generation



Airborne Hazards and Open Burn Pit Registry



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Letters | 21 November 2017

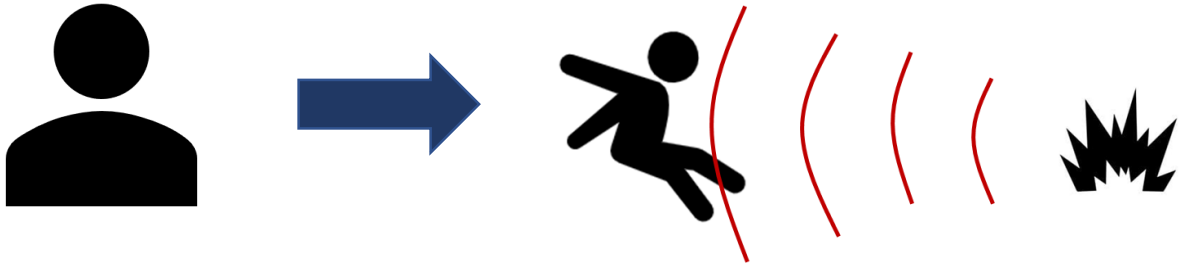
Blast Injury and Cardiopulmonary Symptoms in U.S. Veterans: Analysis of a National Registry

Nisha Jani, MPH, Michael J. Falvo, PhD, Anays Sotolongo, MD, Omowunmi Y. Osinubi, MD, MSc, MBA, Chin-lin Tseng, DrPH, Mazhgan Rowneki, MPH, Michael Montopoli, MD, Sybil W. Morley, MPH, Vincent Mitchell, MA, Drew A. Helmer, MD, MS View fewer authors

Author, Article and Disclosure Information

https://doi.org/10.7326/M17-0711

Clinical Suspicion → Focused Research



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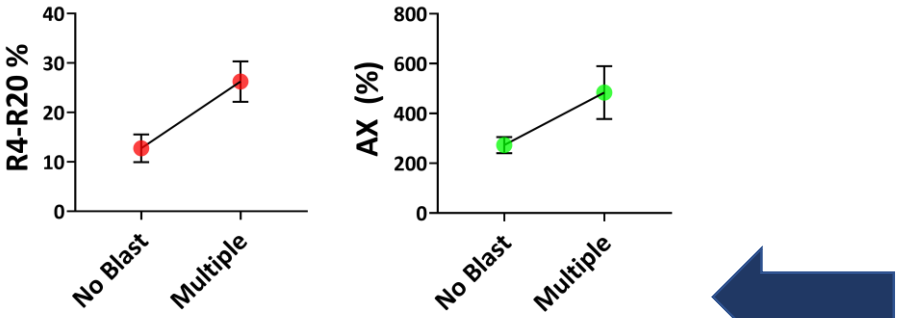
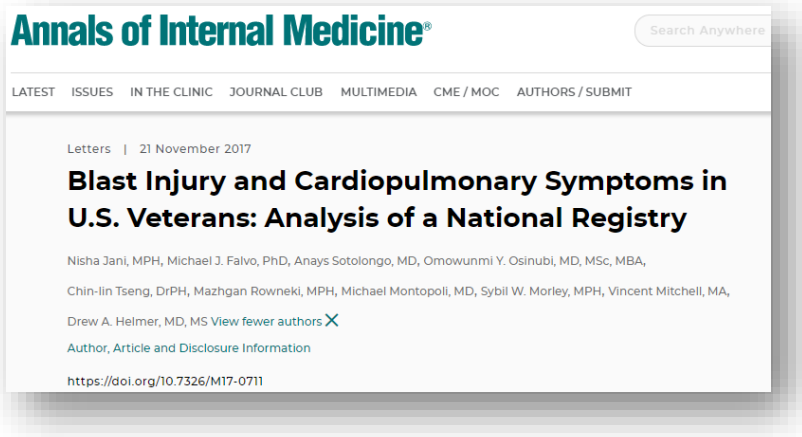


W81XWH-19-2-0059 (Helmer/Sajja)

WRIISC
War Related Illness & Injury Study Center

Falvo et al. 2018; ATS A6080;
Hu et al. 2020; ATS A4337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Letters | 21 November 2017

Blast Injury and Cardiopulmonary Symptoms in U.S. Veterans: Analysis of a National Registry

Nisha Jani, MPH, Michael J. Falvo, PhD, Anays Sotolongo, MD, Omowunmi Y. Osinubi, MD, MSc, MBA, Chin-lin Tseng, DrPH, Mazhgan Rowneki, MPH, Michael Montopoli, MD, Sybil W. Morley, MPH, Vincent Mitchell, MA, Drew A. Helmer, MD, MS View fewer authors

Author, Article and Disclosure Information

https://doi.org/10.7326/M17-0711

AHOBPR – Recruitment Resource

Airborne Hazards and Open Burn Pit Registry

- **Lung Injury Etiology, Risk Factors, and Morbidity of Single and Repeated Low-Level Blast Overpressure Injury** (W81XWH-19-2-0059)
- **COVID-19 in the Airborne Hazards and Open Burn Pit Registry**

Clinical Exam

Self-Reported Data

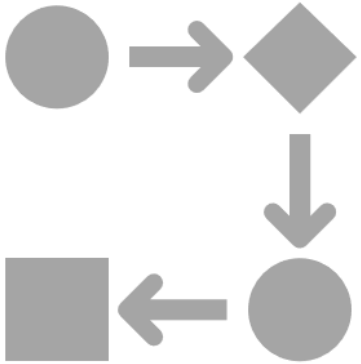
Research Findings

Key Collaborations

Active Research

Future Efforts

Looking Ahead

			
↑ Access to Specialty Care for Veterans	Best Practices and Tools for Providers	Conduct and Support Research	AHOBPR Enhancements

Registry Enhancements and Development

- Improving the **Veteran** user experience
  - AHOBPR homepage and associated websites
  - Clearer communication on eligibility

- Improving the **Provider** user experience
  - Based on feedback from the field, revising reports in clinical portal

- Active efforts
  - Adding new deployment segments
  - More accurate address/location matching
  - External contract for questionnaire item review

Airborne Hazards and Open Burn Pit Registry

Clinical Care

Research

Implementation and Education

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- Dr. Anays Sotolongo and the WRIISC-AHBPCE Team
- AIMES Collaboration
- Post-Deployment Cardiopulmonary Evaluation Network

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