

**2026
DEFENSE HEALTH INFORMATION
TECHNOLOGY SYMPOSIUM**

AUGUST 11-13, 2026
HYATT REGENCY NEW ORLEANS
NEW ORLEANS, LA

From Point of Exposure to Actionable Insight: Standardizing and Modernizing Exposure Data Through the ILER

Mr. John Short, Chief Data Interoperability Officer

Mr. Steve Jones, Director, Comprehensive Health and Exposure Monitoring Policy

CDR Raben Talvo, Officer in Charge Navy Medicine Readiness and Training Unit

Mr. Larry Vandergrift, Project Controller



Agenda

- 1** Current Challenges in Military Exposure Data
- 2** Standardizing Exposure Terminology
- 3** Exposure Data Collection and Surveillance
- 4** Integration Through ILER
- 5** The Future of Exposure Intelligence

Speaker Introductions



John Short

Chief Data
Interoperability Officer
Federal Electronic
Health Record
Modernization (FEHRM)
Office



Steve Jones

Director,
Comprehensive Health
and Exposure Monitoring Policy
Office of the Assistant
Secretary of War
(OASW) for Health Affairs (HA)



CDR Raben Talvo

Officer in Charge,
Navy Medicine Readiness
and Training Unit (NMRTU)
and Navy Nurse Corps
Assistant Specialty Leader
Healthcare and Business
Analytics (HBA)



Larry Vandergrift

Project Controller
Individual Longitudinal
Exposure Record (ILER)
PEO MS DHA

Learning Objectives

1. Discuss current challenges in the documentation and exchange of military service-related exposure information due to lack of standardized terminology and coding.
2. Outline current efforts of the Federal Electronic Health Record Modernization Office (FEHRM) to standardize exposure terminology within the Systematized Nomenclature for Medicine-Clinical Terms (SNOMED-CT) and International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM).
3. Demonstrate the capabilities used by Industrial Hygiene, Environmental Public Health, Public Health Sanitation, Radiation Health professionals to collect and analyze biological, chemical, radiological and physical hazards
4. Describe how fragmented exposure data has limited visibility and decision-making.
5. Explain how modernization efforts are creating a longitudinal, usable view of exposure data.

Evolution of the Mission

Original Focus (1990 – 2014)

- Impact of occupational and environmental exposures to mission success
- Deployment-related occupational and environmental exposures

Current Mission (2014 – 2026)

- Full-Service Lifecycle Comprehensive Exposure Monitoring (CEM)
 - Deployment
 - Training
 - Installation (CONUS/OCONUS)
 - Operational environments

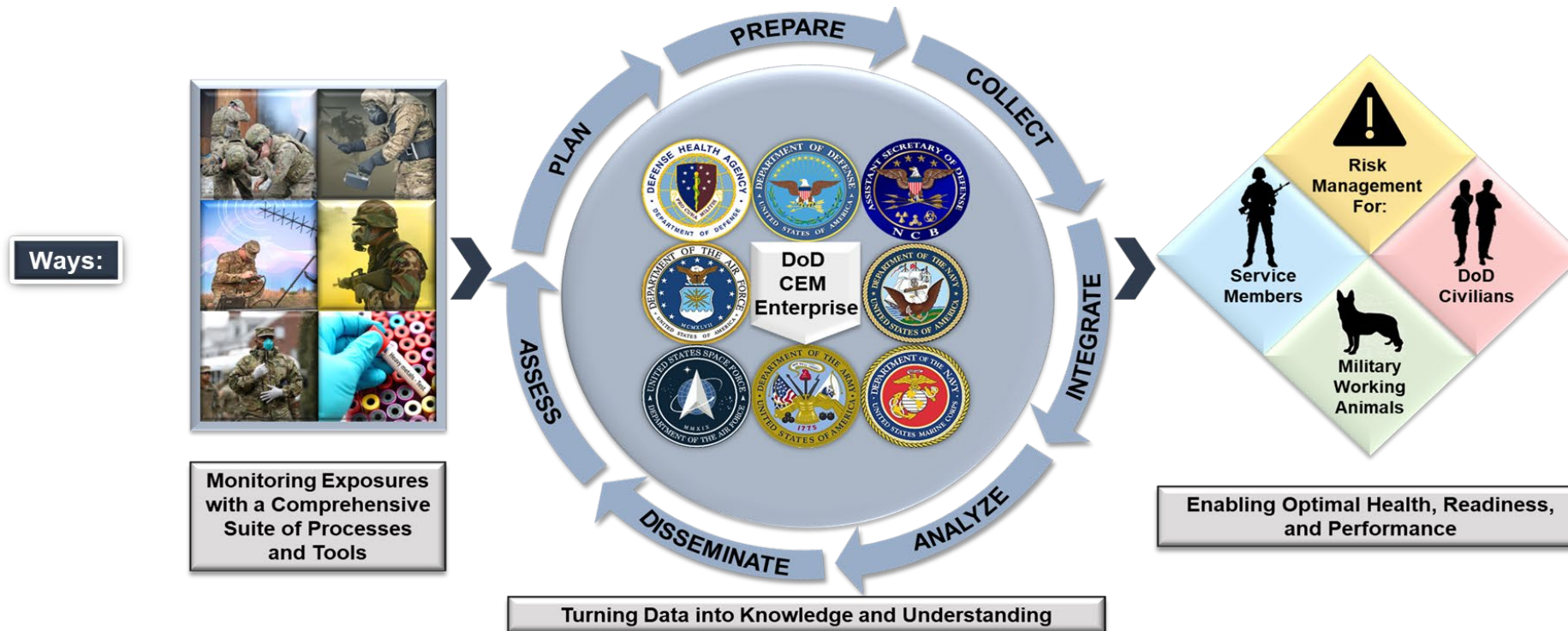
Future

- Moving from documentation → to exposure intelligence

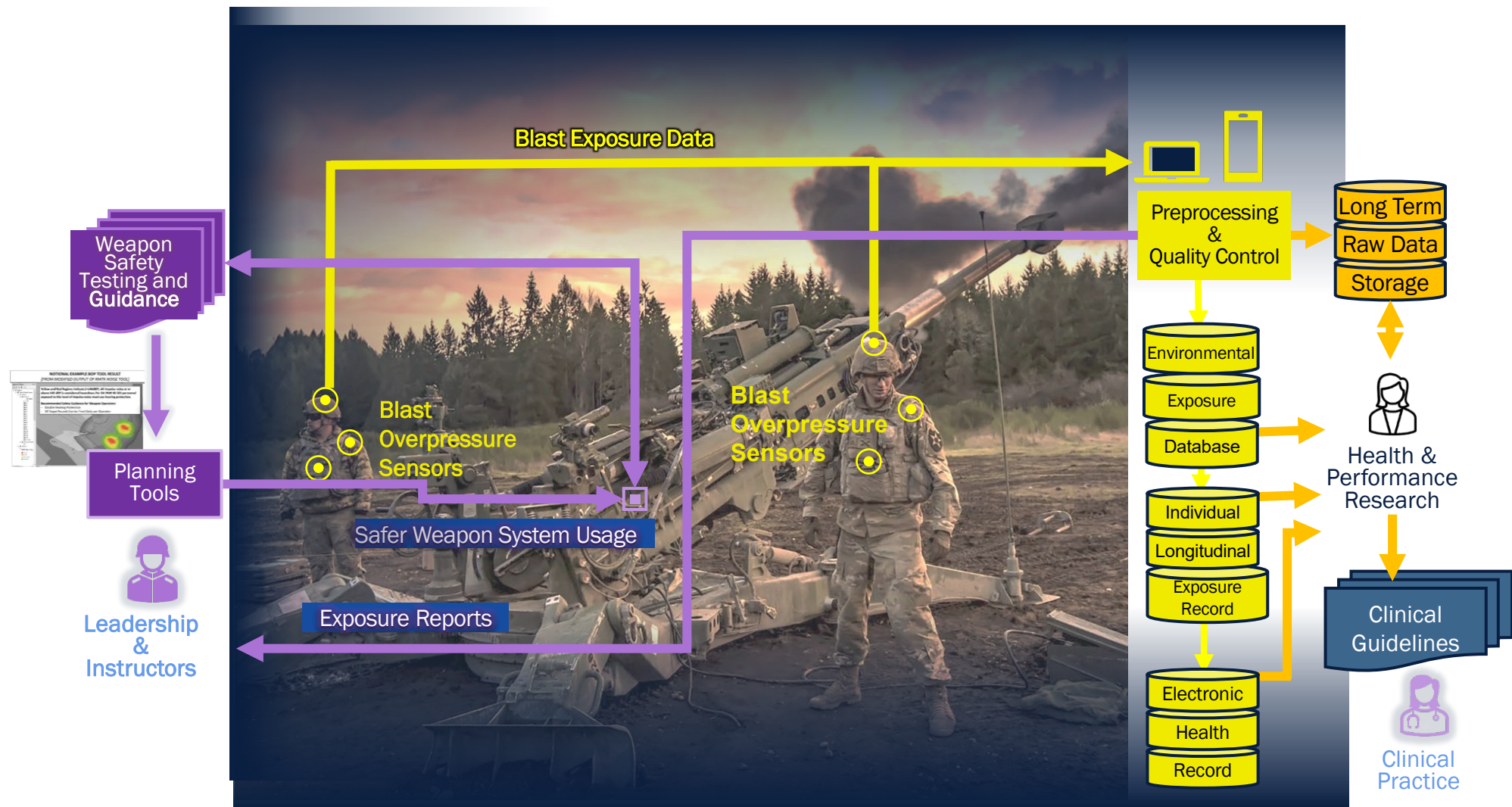


Comprehensive Exposure Monitoring Capabilities

Challenge: Given a current and expected future security environment characterized by known and unknown exposure to a variety of hazards across garrison, training, and operational environments, how can the Department of War effectively and efficiently monitor and assess the full spectrum of exposures to DOW personnel and better understand risks to health, readiness, operational capability, and missions?



Exposure Ecosystem: From Data Capture to Actionable Insight



The Problem, Solution, and Call to Action



The Problem: Fragmented legacy tracking systems, inconsistent terminology, and a lack of standardized data hinder the effective capture, exchange, and analysis of occupational and environmental exposures. This fragmentation limits visibility of exposure risk, complicates readiness and clinical decision-making, and reduces the ability to leverage exposure information across the continuum of care for 12 million service members and Veterans.



The Solution: Establish an end-to-end, standardized exposure data ecosystem. This session demonstrates how the Defense Occupational and Health Readiness System – Industrial Hygiene (DOEHRS-IH) captures emerging occupational and environmental exposures, how FEHRM applies standardized terminology (SNOMED-CT/ICD-10-CM) to enable interoperability, and how the Individual Longitudinal Exposure Record (ILER) integrates these data supporting exposure-informed decisions, providing a unified, actionable view for readiness, clinical care, research, and long-term health surveillance.



Call to Action: Challenge attendees to advance standardized exposure data practices—from participating in interoperability working groups to utilizing the latest DOEHRS-IH capabilities—and to leverage ILER’s integrated exposure views to support proactive clinical care, reduce administrative burden, and inform warfighter readiness decisions.

DOEHRS-IH – Exposure Collection

Provides continuous (24/7) global support to the DW Occupational and Environmental (OEH) enterprise, enabling Industrial Hygiene professionals, Environmental Public Health professionals, Public Health Sanitation professionals, Radiation Health professionals, and Military Medical Treatment Facility (MTF) Commanders to capture and manage OEH information. The system facilitates data collection and analysis across a broad spectrum of health hazards – including biological, chemical, radiological, and physical hazards – spanning both garrison and deployed locations. As a key component of the presidentially mandated Force Health Protection Plan, DOEHRS-IH plays a critical role in sustaining military readiness and protecting the health of the DOW workforce.

Serves as the authoritative repository for deployment OEH surveillance information and data, as mandated by Department of Defense Instruction 6490.03. The platform supports DHA Public Health by mitigating workplace health risks, safeguarding DOW personnel from environmental hazards, reducing operational costs, and enhancing overall force readiness.



ILER - Integration and Correlation

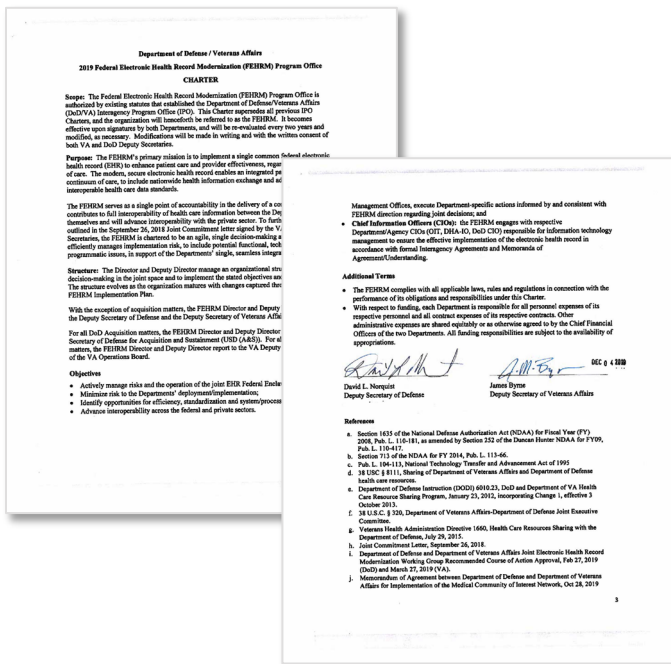
- Represents the complete and authoritative data source for all OEH Surveillance data to include hazardous OEH exposures to service members in theater and garrison.
- Is more than an application.
- A tool that connects individuals to occupational hazards ambient environmental monitoring data, and medical encounter information (e.g., diagnosis, treatment, and laboratory data) by date, time, place, and event(s) to:
 - *Create a longitudinal (historic) record of service-related exposures*
 - *Improve the medical care for those who have exposure-related health outcomes*
 - *Create cohorts based on location, date, time, and exposure*
 - *Support research and epidemiology studies of service-related exposures*
 - *Improve medical surveillance and occupational environmental health surveillance by detecting emerging (latent) health conditions on personnel returning from deployment*
 - *Assist Veteran disability evaluations and benefits determination*



FEHRM (Standardization and Terminology)

The National Defense Authorization Act for Fiscal Year 2008 (NDAA FY2008), as amended by the NDAA FY2020, gives the FEHRM delegated decision-making authority within the joint space¹, and mandates multiple FEHRM requirements and responsibilities.

The FEHRM Charter states the FEHRM's mission and objectives in more detail.



MISSION

The FEHRM's primary mission is to implement a single, common Federal Electronic Health Record (EHR) to enhance patient care and provider effectiveness, wherever care is provided.

OBJECTIVES

- Actively manage risks and the operation of the joint Federal Enclave.
- Minimize risk to EHR deployment and implementation.
- Identify opportunities for efficiency, standardization, and optimization of systems and processes.
- Advance interoperability across the federal and private sectors.

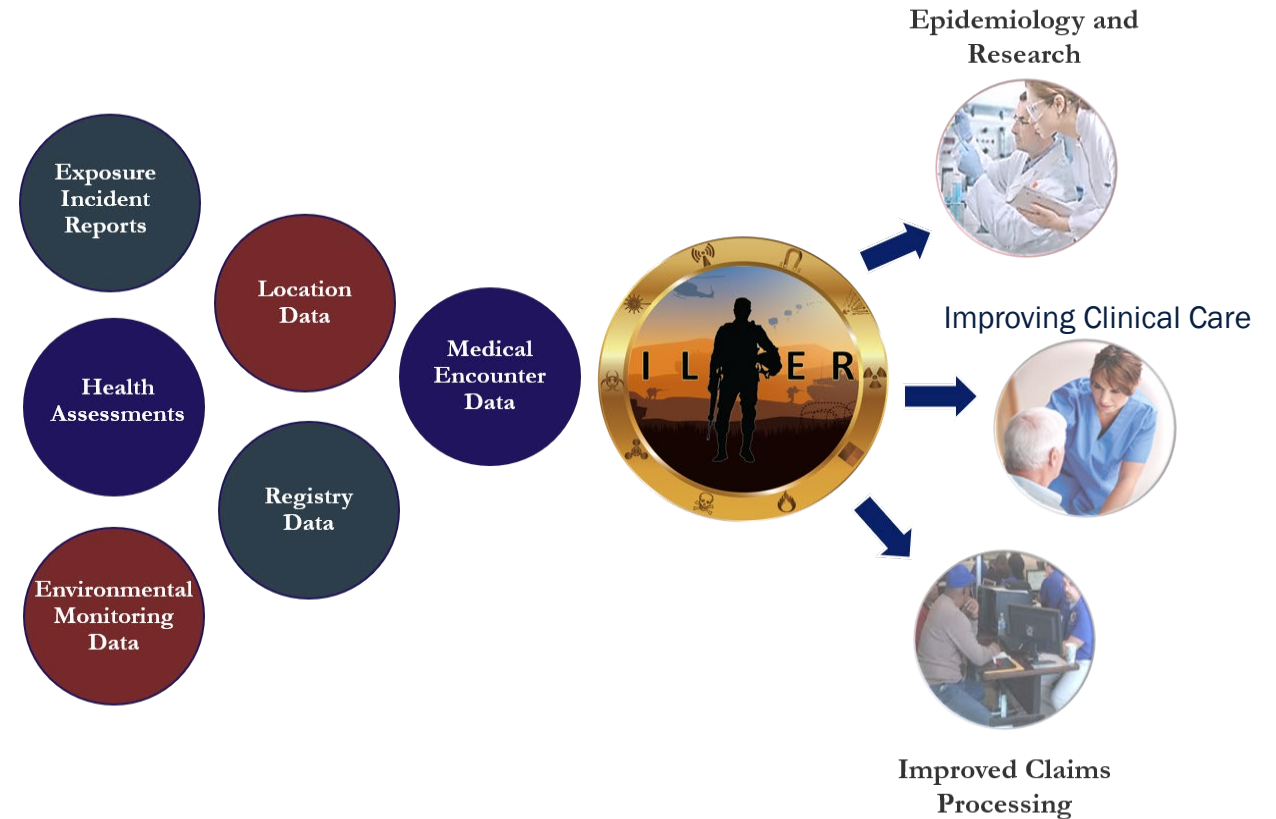
¹The NDAA FY2020 specifies that “the Office shall carry out decision making authority delegated to the Office by the Secretary of Defense and the Secretary of Veterans Affairs with respect to the definition, coordination, and management of functional, technical, and programmatic activities that are jointly used, carried out, and shared by the Departments” and that the FEHRM Director should “report directly to the Deputy Secretary of Defense and Deputy Secretary of Veterans Affairs.”

Challenges: Transforming Data to Information

How to identify and present relevant information when there is so much data?

How to connect individuals to a location when the sources use different formats?

How to make data in different formats presentable and easily accessible to the user?



Why ILER Matters Now More Than Ever

- **Codified in Legislation**
 - National Defense Authorization Act (NDAA) Fiscal Year (FY) 2018 - Present
 - Honoring our Promise to Address Comprehensive Toxics (PACT) Act of 2022
- **Service expands beyond deployments**
 - Depending on deployment OPTEMPO, a majority of occupational and environmental exposures occur in non-deployment settings (e.g., training, garrison, etc.)
Increased Service Member and Veteran expectations
- **Stronger DOW–VA collaboration and requirements**
- **Growing public and Congressional demand for transparency**



Service-related exposure transparency is no longer optional — it is statutory, operational, and impacts daily clinical care.

Toxic Exposure Interoperability | Overview

The Exposure Interoperability Team aims to enhance the Federal EHR by expanding SNOMED-CT and ICD-10-CM code sets to include the highest-priority health concepts for DOW and VA stakeholders

- *SNOMED-CT (Systematized Nomenclature of Medicine – Clinical Terms)*: A comprehensive, standardized clinical vocabulary used to capture detailed information about patient conditions, symptoms, procedures, and treatments in electronic health records.
- *ICD-10-CM (International Classification of Diseases)*: A globally used coding system maintained by the World Health Organization for classifying diseases, health conditions, and causes of death, primarily for billing, reporting, and epidemiology.

Value to the following stakeholders of the Federal EHR...



Patients

- Improved **accuracy and consistency of diagnoses** and treatment plans across agencies.
- **Enhanced care coordination** through standardized health data, especially for mobile populations like service members and veterans.



Providers

- Easier **access to relevant exposure-related clinical terms**, improving documentation and decision-making.
- **Reduced administrative burden** from clearer, standardized coding for complex conditions.



Business

- **Reduces long-term costs** by minimizing duplicate data entry, custom interfaces, and manual reconciliation.
- **Enhances ROI on EHR** through standardized, scalable solutions that support VA/DOW operations.

Process Details | Submission to ICD-10-CM

1

Prioritization



VA/DOW stakeholders share priorities, from PACT Act, NDAA legislation, existing studies, and/or Toxic Exposure Research Working Group topics

Consult with experts in NIEHS and VA HOME

FEHRM finalizes prioritized list of candidate exposure concepts

2

Research



FEHRM researches and prepares justification for prioritized list of concepts

FEHRM iterates and consults with VA, DOW, and NIEHS

EI team completes NCHS proposal draft and internal QC

Review and QC from DHA Public Health Clinical Informaticist

3

Submission & Approval



FEHRM completes proposal & submits to NCHS

NCHS provides feedback and approves/rejects proposal for presentation

Proposal is presented and goes to a 6-week public comment period

4

Publish & Download



NCHS publishes downloadable files (PDF & XML format) with ICD-10-CM library updates ([link](#))

Files are downloaded and updates are available for use by providers

Acronyms: Federal Electronic Health Record Modernization Office (FEHRM) Exposure Interoperability (EI) Team, National Center for Health Statistics (NCHS), National Institute of Environmental Health Sciences (NIEHS) VA Health Outcomes Military Exposures (HOME), Individual Longitudinal Exposure Record (ILER)

DOEHRS-IH – Enhancements and Modernization

- Blast Overpressure and Impulse Noise – Multi-Sensor /Bulk Upload
- Defense Logistics Agency (DLA) Safety Data Sheet (SDS) & Usage Metrics Interface
- Facility Design Review Surveys
- Occupied Facility Surveys



ILER Infrastructure Modernization Objectives 2027-2028

- Enable DevOps toolchain
- Adopt cloud-native services (DBaaS, containerization)
- Eliminate platform dependency

Cloud Migration
(Modern Cloud
Hosting)



- Single standardized payload
- Reduced network strain
- Automated asynchronous data retrieval

Standardized Data
Exchange
(Interoperable Data
Architecture)



- 508 & USWDS 3.0 compliant
- Decoupled, independently deployable layers
- Enhanced multi-parameter search capability

Modernized Code
Stack (ILER 3.0)
(Containerized &
Modular Platform)



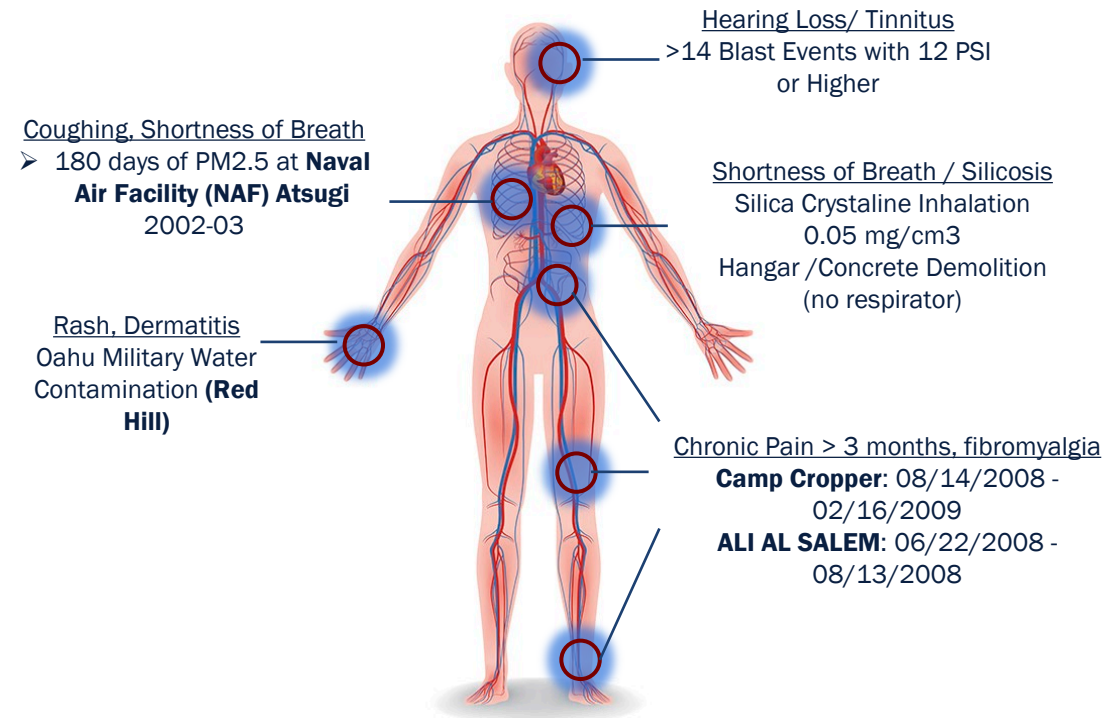
The Future Application of Artificial Intelligence and Machine Learning to Improve the Use of Exposure Data

Data Modernization

- *Optical Character Recognition (OCR) / Digitized Air Sample Reports*
- *Link Legacy Monitoring Data*
- *Foreign Language Translation of Allied OEH Monitoring Data*
- *Reconcile data from multiple disconnected data sources*

Data Enrichment

- *Public Environmental Datasets (e.g., Superfund sites)*
- *Regulatory and Scientific Data (e.g., EPA standards)*
- *Travel Health Notices*



Contact Information

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Thank You!



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Backup



FEHRM Submissions

SNOMED-CT and ICD-10-CM Status Overview

Completed Submissions

Prioritized based on:

- Legislation (PACT Act and NDAAs)
- Individual Longitudinal Exposure Record (ILER)
- VA Health Outcomes Military Exposures (HOME) Office
- Defense Health Agency (DHA)
- National Institute of Environmental Health Sciences (NIEHS)
- Toxic Exposure Research Working Group (TERWG)

Focused on:

- Occupational hazards (solvents, etc.)
- Burn pits
- Dioxins
- Perfluoroalkyl and polyfluoroalkyl (PFAS) substances
- Jet Fuel
- Agent Orange
- Geographic locations

Submitted to:

SNOMED-CT

- 55 total concepts
- 45 accepted
- 10 pending NLM approval

ICD-10-CM

- 29 total codes submitted
- 20 codes newly submitted

Upcoming Submissions

- Chemical weapons
- Biological weapons
- Radiation
- Additional PFAS related exposures
- Various locations of high-profile military toxic exposure events