



PERSONNEL AND
READINESS

UNDER SECRETARY OF DEFENSE
4000 DEFENSE PENTAGON
WASHINGTON, D.C. 20301-4000

OCT - 6 2020

The Honorable William M. "Mac" Thornberry
Ranking Member
Committee on Armed Services
U.S. House of Representatives
Washington, DC 20515

Dear Representative Thornberry:

The Department's response to House Report 116-120, pages 328-329, accompanying H.R. 2500, the National Defense Authorization Act for Fiscal Year 2020, "Report on Integration of Information Regarding Environmental Health Hazards into Defense Occupational and Environmental Health Readiness System (DOEHRs)," is enclosed.

The report addresses the Department's tracking and monitoring of occupational and environmental health exposures, and highlights efforts to improve data system capabilities and interoperability.

Thank you for your continued strong support for health and well-being of our Service members, veterans, and families.

Sincerely,

A handwritten signature in black ink, appearing to read "Matthew P. Donovan".

Matthew P. Donovan

Enclosure:
As stated



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The Honorable Adam Smith
Chairman
Committee on Armed Services
U.S. House of Representatives
Washington, DC 20515

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Report to Congress



House Report 116-120, Pages 328-329, Accompanying H.R. 2500, the National Defense Authorization Act for Fiscal Year 2020 “Report on Integration of Information Regarding Environmental Health Hazards into Defense Occupational and Environmental Health Readiness System

September 2020

The estimated cost of this report or study for the Department of Defense (DoD) is approximately \$3,800 for the 2020 Fiscal Year. This includes \$0 in expenses and \$3,800 in DoD labor.

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Executive Summary

This report is in response to House Report 116-120, pages 328-329, accompanying H.R. 2500, the National Defense Authorization Act (NDAA) for Fiscal Year (FY) 2020 “Report on Integration of Information Regarding Environmental Health Hazards into Defense Occupational and Environmental Health Readiness System (DOEHRS).” In collaboration with the Service Components (Army, Navy, and Air Force) and the Defense Health Agency (DHA), the Department of Defense (DoD) acknowledges the Committee’s concerns. The details within this response also support other NDAA housing and blast provisions.

The DoD uses multiple systems to capture and track occupational and environmental health (OEH) exposure data and information. The data and information supports DoD safety, health, and readiness efforts and complementing information technology (IT) tracking systems. While some system interoperability exists between DoD systems, such as DOEHRS and the Individual Longitudinal Exposure Record (ILER), an enterprise-wide system interoperability is a goal. Until then, Component and Agency coordination serves to ensure awareness and collaboration on exposure hazards information. The DoD’s current processes and systems allow for OEH type information capture and tracking within four key systems that include DOEHRS, enterprise Military Housing (eMH), the Military Health System (MHS) Electronic Health Record (EHR), and ILER. The details of each system are summarized below:

DOEHRS: DOEHRS is a DoD system managed by the Defense Health Services Systems for entering, assessing, managing, and reporting occupational and environmental exposures. DOEHRS consists of multiple business areas, including hearing conservation, industrial hygiene (IH), environmental health, radiation, and incident reporting. It is used for both garrison and deployed operations, mandated by various DoD policies and public laws, and is a system of record for the DoD ILER. DOEHRS-IH is the DoD’s authoritative information management system used for capturing IH and environmental health information. It manages information collected by DoD OEH personnel associated with the elements of the DoD exposure assessment model—from hazard recognition to exposure control. Its purpose is to record exposure characterization and assessment information associated with exposures encountered by DoD personnel during the performance of their work activities, to include exposures encountered during operational deployments. It has the capability to store and manage blast overpressure information. It is used by VA Claims adjudicators to validate a Service member’s exposure history. Its use is mandated by DoD Instruction 6055.05, “Occupational and Environmental Health” and it supports the DoD’s compliance with Title 5 Code of Federal Regulations Part 293.

eMH: The eMH is the DoD enterprise information technology system for the operation and inventory management of DoD-owned, DoD-leased, and unaccompanied housing. It allows for the storage of housing unit information such as residents’ reported issues, maintenance status, occupancy details, and inspection results. It has no functionality for managing personal health-related information. Its functionality is in the process of expansion with the addition of a module for managing environment, health, and safety information for housing units (e.g. radon testing results, presence of lead-based paint, fire protection). eMH is only used for DoD-owned, DoD-leased, and unaccompanied housing

units. Military Housing Privatization Initiative (MHPI) landlords are responsible for maintaining housing records of privatized housing units.

MHS EHR: The DoD's EHR is an enterprise-wide clinical information management (IM) system that provides secure online access to the health care records of active duty Service members, beneficiaries, and civilian employees of the military services receiving occupational medical surveillance. The military's medical community uses the EHR to capture, manage, and share data on care provided in garrison/installation and on the battlefield, as well as share pertinent health information with the VA. The development of the military's EHR is directly related to a Presidential Directive issued in 1997 that focused on and reinforced the need for a centralized, longitudinal patient record. This prompted the deployment of the theater environment IM solution, the Theater Medical Information Program, in 2003 followed by the worldwide implementation of the global system, the Armed Forces Health Longitudinal Technology Application in 2004. In response to 2008 and 2014 congressional mandates for an interoperable EHR, the DoD acquired a commercial EHR product to replace its legacy EHR systems; this system would be called MHS GENESIS. MHS GENESIS is an interoperable EHR that provides enhanced, secure technology to manage health information accessible to the VA. MHS GENESIS integrates inpatient and outpatient solutions that will connect medical and dental information across the continuum of care, from point of injury to the military treatment facility. This includes garrison/installation, operational, and in route care, increasing efficiencies for beneficiaries and health care professionals. When fully deployed, MHS GENESIS will provide a single health record for Service members, veterans, and their families.

ILER: ILER creates a record of a Service member's OEH exposure history over the course of his or her career by linking individuals and their health record to known exposure events and incidents and compiling the exposure history to distill and report the relevant data and information. ILER is under development. At full operating capability, ILER will be used by DoD and VA clinicians, claims adjudicators, and benefits advisors to improve care and document exposures encountered by the Service member over their career lifetime. This effort will provide epidemiologists, researchers, and policy makers greater awareness and insight into exposure events and give them the ability to develop cohorts more efficiently by reducing the number of external IM/IT systems they need to access or assess exposure impacts.

While these systems are in place, the DoD is actively implementing research and development to improve IT system capabilities for information capture, integration, and interoperability. Such developments will further improve OEH individual level exposure risk assessments across the DoD and VA populations. For example, DoD is expanding functionality within DOEHRS, such as blast/overpressures exposures by developing a blast related module. Further development of ILER towards full operating capability (estimated 2023) will include integration with multiple IT systems and registries. This allows ILER to better assess for longitudinal and individual level exposure pathways and better determine risk exposures and impacts on health. The new MHS GENESIS provides a single health record for Service members, veterans, and their families, and further development will include public health

information and OEH exposure functionality. The eMH stakeholders are working to include a new Environmental Health Safety (EHS) module to collect, maintain, and track some environmental health and safety related items, including but not limited to, mold, lead-based paint, asbestos, radon, pest management, HVAC, building safety and security, and fire safety.

Introduction

The DoD report in response to House Report 116-120, pages 328-329, accompanying H.R. 2500, the NDAA for FY 2020 addresses the committee's interests in DoD improving data and information for tracking and monitoring OEH exposures and the concern that existing DoD data systems are not interoperable with the MHS EHR.

The committee's language in the report is as follows:

The committee believes the Department of Defense needs better data and information related to the tracking and monitoring of environmental health and occupational health exposures. However, the committee is concerned that existing data systems may not provide either the capability required or interoperability with the Military Health System (MHS) GENESIS electronic health record. Therefore, the committee directs the Secretary of Defense to provide a report to the Committee on Armed Services of the House of Representatives not later than February 1, 2020, on the following:

(1) an analysis of how the Defense Occupational and Environmental Health Readiness System (DOEHRS) may be used to record information with respect to environmental health hazards in housing under the jurisdiction of the Department of Defense (including privatized housing and blast pressure exposure);

(2) the identification of potential environmental risk categories to be included in DOEHRS as a result of information received pursuant to housing inspections, reports, surveys, audits, or occupant complaints with respect to environmental health hazards;

(3) a discussion of any data system or repository (other than DOEHRS) under consideration by the Secretary of Defense to collect, maintain, and track environmental health hazards in housing under the jurisdiction of the Department of Defense (including privatized housing and blast pressure exposure);

(4) a description of the current status of interoperability between DOEHRS and the MHS GENESIS electronic health record system, and the necessary steps to ensure full interoperability;

(5) a description of the desired end state with respect to interoperability between DOEHRS and an individual longitudinal exposure record; and

(6) the feasibility and advisability of allowing personnel of the Department of Defense and the Department of Veterans Affairs to have access to DOEHRS or a similar system.

DoD current policies and guidance (Table 1) for all OEH information is to enter data into

DOEHRS. This includes both deployment related information and in garrison information.

DoD Responses to Committee Directives

The committee believes the Department of Defense needs better data and information related to the tracking and monitoring of environmental health and occupational health exposures. However, the committee is concerned that existing data systems may not provide either the capability required or interoperability with the Military Health System (MHS) GENESIS electronic health record. Therefore, the committee directs the Secretary of Defense to provide a report to the Committee on Armed Services of the House of Representatives not later than February 1, 2020, on the following:

Per the committee's directions, this report provides responses on the following:

(1) an analysis of how the Defense Occupational and Environmental Health Readiness System (DOEHRS) may be used to record information with respect to environmental health hazards in housing under the jurisdiction of the Department of Defense (including privatized housing and blast pressure exposure);

DOEHRS-IH is the DoD's authoritative electronic file management system for occupational and environmental health information. It manages information collected by DoD occupational and environmental health personnel as they characterize and assess potentially hazardous exposures to DoD personnel. Its purpose is to record exposure characterization and assessment information associated with exposures encountered by DoD personnel during the performance of their work activities—to include exposures encountered during operational deployments. It has the capability to store and manage blast overpressure information. It is used by VA Claims adjudicators to validate a SM's exposure history. Its use is mandated by DoD Instruction 6055.05, "Occupational and Environmental Health" and it supports the DoD's compliance with Title 5 CFR Part 293. The functionality of DOEHRS-IH is not well-suited to record health and safety hazards encountered by residents in their homes. This type of information is best managed by DoD-owned, DoD-leased, and unaccompanied housing offices and MHPI landlords as they manage the housing unit, residents' complaints, potential health and safety hazards in housing, and associated resolution since most often the resolution involves the repair and maintenance of the housing infrastructure.

DOERHS-IH records occupational health exposures for DoD Service members and DoD civilian employees and assigns them to a workplace and similar exposure group based on work processes and associated hazards (chemical, biological, physical, radiation). DOEHRS-IH does not have the capability to properly document environmental health hazards in DoD-owned, DoD-leased, and unaccompanied , or MHPI housing. There are various modules within DOEHRS-IH that can capture basic housing and health related information if a clinical investigation is initiated due to a housing related health concern. DOEHRS-IH could be modified to manage environmental health-related housing data, but it would require further assessment of the functionality of existing systems and additional resources for development and entry of

such information into the system. The inclusion of housing related health information in DOEHRS-IH may lead to duplication of efforts, resources, and potential for inconsistent data entry between two systems with redundant information. Efforts to develop a housing module in DOEHRS-IH are not underway at this time. eMH functionality is being enhanced for recording environmental health hazard information for each housing unit. eMH is anticipated to be the authoritative system to capture environmental health related hazards in DoD-owned, DoD-leased, and unaccompanied housing through the development of the EHS module and will be available to inform clinicians providing medical care to housing residents.

There is no housing category or module in DOEHRS-IH used to record information with respect to environmental health hazards in housing. DOEHRS-IH was designed to record health risk exposures for Service members and DoD civilian employees to populate the ILER according to Presidential Directive 5. It was not intended to record and associate hazards in housing to family member and other beneficiary populations. Information collected by the housing office through its eMH systems and its EHS functionality could complement the DOEHRS-IH health related information captured as a result of a clinical investigation due to a health concern reported by a Service member or their family member that may be related to DoD-owned, DoD-leased, unaccompanied, or MHPI housing.

OEH personnel routinely identify and assess exposures and characterize health risks to DoD personnel from exposures they encounter, typically, while performing assigned duties. This process is well defined within DoD Instruction 6055.05 and generally involves the assessment and characterization of exposures, development of exposure control recommendations, evaluation of exposure controls to reduce risk, and documentation of all elements of the process in DOEHRS-IH. Any type of information on potential harmful exposure associated with duties, like blast overpressure, can be managed within DOEHRS-IH. Information on health and safety hazards in DoD-owned, DoD-leased, and unaccompanied housing (e.g., mold, lead, radon) is better managed by eMH to support management and maintenance operations for the housing units.

The DoD housing office at the installation reports and captures housing data within the eMH system and has oversight of DoD-owned, DoD-leased, and unaccompanied housing and contract partners that manage all MHPI housing. The DoD housing office requests OEH staff consultative support as needed for health issues.

(2) the identification of potential environmental risk categories to be included in DOEHRS as a result of information received pursuant to housing inspections, reports, surveys, audits, or occupant complaints with respect to environmental health hazards;

The identification and use of environmental risk categories within DOEHRS-IH as a result of housing inspections, reports and surveys is not appropriate given the current functionality and scope of DOEHRS-IH. However, collaboration between DoD OEH and housing staff have resulted in a detailed review and analysis of data necessary for capture in a housing health and safety data module within eMH. eMH is being developed to include the following environmental hazards risk categories:

- Asbestos
- Carbon Monoxide
- Lead-based Paint
- Radon
- Mold/Water Infiltration/Moisture
- Pest Management
- Sick Home/Unknown Toxins
- Structural Problem
- Gas/Propane
- HVAC
- Plumbing

(3) a discussion of any data system or repository (other than DOEHRS) under consideration by the Secretary of Defense to collect, maintain, and track environmental health hazards in housing under the jurisdiction of the Department of Defense (including privatized housing and blast pressure exposure);

eMH is the DoD's authoritative technology system and data repository for all DoD-owned, DoD-leased, and unaccompanied housing assets. It is used to manage housing information such as maintenance history, inspection results, and resident's concern, but does not store private health information. An EHS module is currently in development to collect, maintain, and track EHS items in eMH. The EHS topics under discussion include lead-based paint, radon, mold, HVAC, indoor air quality, asbestos-containing materials, drinking water and plumbing, pest management, building safety, smoke alarms, sprinklers, carbon monoxide detectors, window safety, security, natural resources, cultural resources, and accessibility. It is anticipated that the eMH EHS module will be the authoritative system to capture environmental health related hazards in DoD-owned, DoD-leased, and unaccompanied housing, not DOEHRS-IH.

The eMH EHS module is expected to store housing assessment and investigation information for DoD-owned, DoD-leased, and unaccompanied housing. However, health information collected on specific residents presenting with health concerns related to issues in DoD-owned, DoD-leased, and unaccompanied housing will continue to only be recorded in the EHR by the primary care provider. Referrals or consultations to specialists or to public health and/or housing directorates are at the discretion of the primary care provider regarding what further actions need to be taken. The primary care provider will continue to document all data that comes back from referrals or consultations in the EHR.

Blast overpressure information can be maintained within DOEHRS-IH (as discussed in Section (2)), but clinical information related to health outcomes from blast overpressure will be stored within the Service member's EHR. In addition, this information will be maintained by the acquisition program office where other health and safety information associated with weapons system use is maintained.

(4) a description of the current status of interoperability between DOEHRS and the MHS GENESIS electronic health record system, and the necessary steps to ensure full interoperability;

Currently, there is no interoperability between eMH, DOEHRS-IH, and the EHR. The most efficient and appropriate data system or repository to collect, maintain, and track environmental health hazards in DoD-owned, DoD-leased, and unaccompanied housing is currently eMH. The eMH Environmental Health Safety Working Group is currently working to develop the EHS module. Additionally, the appropriate interoperability of the EHS module of eMH and health related information is under discussion.

There is no interoperability between DOEHRS-IH and MHS GENESIS, and currently no plans to have interoperability. However, the ILER, for which DOEHRS-IH is one of the health exposure data sources, is intended to interface with MHS GENESIS. Other ILER health exposure data sources include DOEHRS - Hearing Conservation, radiation dosimetry, and pre- and post-deployment health assessments, among others.

The Department expects that through ILER, OEH information will be available in the EHR through a Joint Legacy Viewer (JLV) application. The JLV displays information in the form of a PDF and ILER is being developed to utilize JLV.

(5) a description of the desired end state with respect to interoperability between DOEHRS and an individual longitudinal exposure record; and

DOEHRS is the system of record and a data source for the DoD's ILER. An ILER that is interoperable with DOEHRS and other data sources creates a record of a Service member's OEH exposures over the course of their career. The information within ILER links individuals to known exposure events and incidents and compiles the exposure history and relevant information into a distilled report. The ILER provides DoD and VA clinicians data required to improve care to Service members and veterans and to assist in the VA claims process. At full operating capability, the ILER will compile data from multiple external IT systems and registries to determine longitudinal, individual risk exposures.

The interoperability between DOEHRS and ILER provides adequate longitudinal exposure record for Service members by linking individual exposures to date, time, location and other data elements (i.e. unit, job type, operation name, etc.). The interoperability and the information provided in ILER achieves the following end states:

- tracks an individual exposure history;
- improves exposure-related health care, and disability and benefits determination;
- provides epidemiologists, researchers, and policy makers greater awareness and insight into exposure events;
- allows for a more efficiently developed cohorts used to create registries.

(6) the feasibility and advisability of allowing personnel of the Department of Defense and the Department of Veterans Affairs to have access to DOEHRS or a similar system.

DOEHRS-IH is accessible to both DoD and VA personnel. Since ILER incorporates DOEHRS data, it is more feasible that DoD and VA medical personnel access ILER as the more comprehensive source for OEH information. ILER allows for a true longitudinal record throughout an individual's lifetime as both a Service member and veteran, which is useful to DoD and VA medical and public health personnel.

ILER is a DoD-VA joint effort and in its current state is available to limited DoD and VA personnel. The initial operating capability of ILER has identified prerequisites for account eligibility and ILER web-based training to give clinicians and other eligible personnel authorization and user access. Access to additional VA and DoD medical personnel will be rolled out in a phased approach beginning with public health medical specialties, followed by specialty care professionals (rheumatology, pulmonology, allergy and other), and lastly primary care managers over a 12-24 month period.

There are specific requirements that DoD and VA medical personnel must meet in order to access ILER. Once medical personnel have completed a Systems Authorization Access Request and provided evidence of training requirements (i.e. ILER User Training, Cyber Security, Health Insurance Portability and Accountability Act, Rules of Behavior, etc.), they are provided access to ILER.

Conclusion

DOEHRS-IH is the DoD designated information system for recording OEH information for DoD Service members and DoD civilian employees and is intended to populate the ILER to create a record of OEH exposure information by linking individuals to known exposure events and incidents. eMH is the authoritative information system to store all housing data for DoD-owned, DoD-leased, and unaccompanied housing, to include data regarding housing assessments and investigations. Health information collected in relation to a potential housing-related health concern is documented in the EHR when, and if, a clinical evaluation takes place. The DoD OEH personnel, MHS, DoD housing, and MHPI housing landlords coordinate information exchange and responsibilities related to health and housing. At present, there is no interoperability between eMH and EHR or DOEHRS-IH and EHR. ILER is the linkage between DOEHRS-IH and MHS GENESIS. At full operating capability, ILER will create a record of an individual's exposure to known events and incidents and will be accessible to the appropriate DoD and VA personnel. More development is required for the eMH system to allow for adequate and robust storage and documentation of data related to environmental health hazards in housing. Until then DoD OEH personnel, DoD housing personnel, and the MHS organizations will continue to collaborate as environmental health challenges arise.

Acronyms, Terms, and References

Acronym	Term
DOEHRS	Defense Occupational and Environmental Health Readiness System
DHA	Deployment Health Assessment
DMSS	Defense Medical Surveillance System
DoD	Department of Defense
EHR	Electronic Health Record
EHS	Environmental Health Safety
eMH	enterprise Military Housing
FY	Fiscal Year
ILER	Individual Longitudinal Exposure Record
IM	Information Management
IT	Information Technology
MHPI	Military Housing Privatization Initiative
MHS	Military Health System
OEH	Occupational and Environmental Health
VA	Department of Veterans Affairs

Table 1: DoD Policies and Guidance on storage of OEH information into DOEHRS

Policy
DoD Instruction (DoDI) 6055.05, “Occupational and Environmental Health,” dated November 11, 2008, as amended
DoDI 6055.20, “Assessment of Significant Long-Term Health Risks from Past Environmental Exposures on Military Installations,” dated June 6, 2017, as amended
DoDI 6490.03, “Deployment Health,” dated July 19, 2019
DHA Procedural Instruction 6490.03, “Deployment Health Procedures,” dated December 17, 2019