



May 2024

MILITARY HEALTH CARE

DOD and VA Could Benefit from More Information on Staff Use of Military Toxic Exposure Records

Why GAO Did This Study

Military service members and veterans may experience adverse health outcomes associated with toxic exposures experienced during military service. For example, service members have reported health concerns from smoke and harmful emissions produced by open-air burn pits. In 2019, DOD and VA launched ILER as a tool to compile information on individuals' service-related toxic exposures. Staff can use ILER to provide health care, process disability claims, and conduct research.

Congress included a provision in statute for GAO to review ILER. This report, among other issues, (1) describes what available DOD data show about ILER's use among DOD and VA staff, (2) describes benefits and challenges selected DOD and VA staff have encountered while using ILER, and (3) examines DOD and VA efforts to monitor the extent of ILER use among staff.

GAO analyzed data on ILER use among staff as of November 2023; interviewed officials overseeing ILER; reviewed related documents; and interviewed DOD and VA officials at 12 facilities selected for variation in geographic location and number of ILER accounts.

What GAO Recommends

GAO is making two recommendations each to DOD and VA, to 1) develop goals with performance measures on ILER use by staff type and purpose and, (2) use such data to inform staff outreach and other efforts supporting ILER's use. DOD and VA concurred with the recommendations, and VA identified steps the two agencies will take to implement them.

View [GAO-24-106423](#). For more information, contact Alyssa M. Hundrup at (202) 512-7114 or hundrupa@gao.gov.

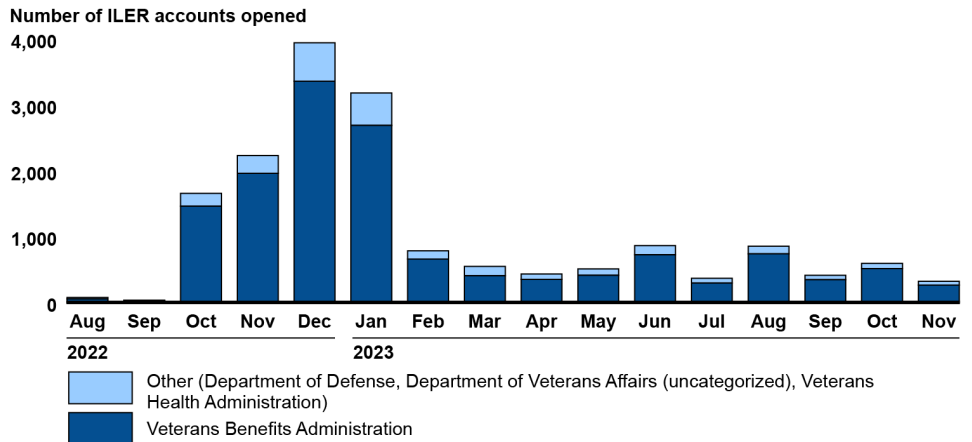
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DOD and VA Could Benefit from More Information on Staff Use of Military Toxic Exposure Records

What GAO Found

The Individual Longitudinal Exposure Record (ILER) web application links service members' and veterans' military toxic exposure and health information from Department of Defense (DOD) and Department of Veterans Affairs (VA) databases. DOD manages data on ILER. It shows most ILER account holders are Veterans Benefits Administration (VBA) staff processing veterans' disability claims. As of November 2023, VBA staff held about 83 percent of the 17,321 ILER accounts opened across DOD and VA. The largest increases in VBA staff with ILER accounts occurred after the Sergeant First Class Heath Robinson Honoring our Promise to Address Comprehensive Toxics Act of 2022 was enacted in August 2022. In response to the act, VBA requires claims benefits staff to use ILER in processing veterans' disability claims.

Individual Longitudinal Exposure Record Accounts Opened, by Agency, August 2022 through November 2023



Source: GAO analysis of Department of Defense data. | GAO-24-106423

Selected ILER users GAO interviewed—such as DOD and VA health care clinicians and VBA staff—described efficiencies and challenges with using ILER. For example, users appreciate that ILER presents exposure and deployment information in one place, eliminating the need to review records from multiple sources. Users also identified some challenges, including difficulties in finding relevant information. DOD and VA have taken steps to address challenges GAO identified, such as implementing ways to streamline and filter ILER records.

GAO found that DOD and VA have tracked the use of ILER to varying degrees. For example, through the joint Deployment Health Work Group, the agencies previously tracked use as part of a goal to increase overall ILER use. However, as of fiscal year 2024, the work group is not monitoring ILER use across DOD and VA by staff type or purpose. By monitoring such information through goals and performance measures, DOD and VA would know how ILER is being used for clinical care, processing claims, and research. This, in turn, would better position the agencies to determine if actions—such as additional outreach to staff—are needed to increase awareness about ILER and ensure it is fully used for all of its intended purposes.

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Abbreviations

DOD	Department of Defense
ILER	Individual Longitudinal Exposure Record
ILER team	Individual Longitudinal Exposure Record Project Management Team
PACT Act	Sergeant First Class Heath Robinson Honoring our Promise to Address Comprehensive Toxics Act of 2022
VA	Department of Veterans Affairs
VBA	Veterans Benefits Administration
VHA	Veterans Health Administration

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May 23, 2024

Congressional Committees

Military service members and veterans may experience adverse health outcomes such as cancer and respiratory diseases that are associated with toxic exposures during military service. For example, following the end of the 1991 Gulf War, service members and veterans attributed symptoms and illnesses to toxic exposures such as smoke from oil-well fires. Service members and veterans who deployed after September 11th to Afghanistan and Iraq have also reported health concerns from toxic exposures, particularly to smoke and harmful emissions produced by open-air burn pits.¹ Military toxic exposures also may occur domestically, such as service members' exposure to contaminants in the water at Camp Lejeune, North Carolina, in the 1980s. In 2023, the Department of Veterans Affairs (VA) estimated that 43 percent of the veterans who have been screened since late 2022 were found to have had potential toxic exposures during military service.²

The Department of Defense (DOD) and VA provide health care to, and conduct research for, over 9 million beneficiaries (i.e., service members and their families) and over 9 million veterans, respectively. For decades, DOD and VA did not have a centralized system to provide individual and population-level exposure-related information. According to DOD, this made acquiring such information by clinicians and other staff to assess the effects of exposures for health care and other purposes time-consuming and often resulted in incomplete information. It also burdened service members and veterans with providing proof of their exposures.

In 2019, DOD and VA jointly launched the Individual Longitudinal Exposure Record (ILER) web application to provide one source for information on service members' and veterans' potential toxic exposures.

¹In this report, references to "September 11th" are specific to terrorist attacks that took place on September 11, 2001, on the World Trade Center, the Pentagon, and over Shanksville, Pennsylvania, in the United States. The U.S. military often used burn pits to dispose of solid waste—including plastics, electronics, and appliances—near or on military bases in Afghanistan and Iraq. Toxins in the smoke may affect the skin, eyes, respiratory and cardiovascular systems, gastrointestinal tract, and internal organs.

²VA. "VA has screened 5 million Veterans for toxic exposures, paving the way for early detection and treatment of health conditions." VA press release, December 12, 2023. On the VA website. <https://news.va.gov/press-room/va-screens-5-million-veterans-toxic-exposures/>, accessed January 3, 2024.

Specifically, ILER compiles and presents information from a variety of data sources to link deployment histories and the medical information of service members and veterans to military toxic exposures at specific dates, locations, and events. According to DOD and VA, ILER captures such information for about 12 million service members and veterans.

DOD and two agencies within VA—the Veterans Health Administration (VHA) and Veterans Benefits Administration (VBA)—make ILER available to staff who support efforts related to health care, disability benefits, and research. For example, VBA staff can access and use information in ILER when processing disability claims related to toxic exposures. Since 2019, the agencies have continued planning and implementing additional capabilities and enhancements to ILER with the aim of continuously increasing its utility, such as expanding its research tools and data sources.

The Sergeant First Class Heath Robinson Honoring our Promise to Address Comprehensive Toxics Act (PACT Act)—enacted in August 2022—expanded eligibility for VA health care and disability benefits for veterans. For example, the PACT Act expanded VA’s list of conditions for which veterans may be awarded disability benefits if there is documentation of deployment to an area where toxic exposure events occurred. The act also included provisions related to military toxic exposure research, including calling on VA to conduct studies on the health effects of veterans’ exposure to certain environmental hazards.³

The National Defense Authorization Act for Fiscal Year 2022 includes a provision for us to review ILER, including its development and implementation by DOD and VA.⁴ In this report, we

1. describe what available DOD data show about ILER’s use among DOD and VA staff;
2. describe benefits and challenges staff at selected DOD and VA facilities have encountered while using ILER;
3. examine DOD and VA efforts to monitor the extent of ILER use among staff; and

³Sergeant First Class Heath Robinson Honoring our Promise to Address Comprehensive Toxins Act of 2022/Honoring our PACT Act of 2022, Pub. L. No. 117-168, tit. V, 136 Stat. 1759-92 (2022).

⁴Pub. L. No. 117-81, § 741, 135 Stat. 1541,1803 (2021).

4. describe DOD and VA efforts to identify illnesses related to toxic exposures.

For each of our objectives, we reviewed relevant federal laws, regulations, and government and non-governmental reports related to ILER's development and use. Specifically, we reviewed provisions in the William M. (Mac) Thornberry National Defense Authorization Act for Fiscal Year 2021 and the PACT Act, as well as DOD and VA guidance documents, related to military toxic exposures and ILER use.⁵ We reviewed DOD and VA documents describing ILER development, oversight processes, and intended uses. In addition, we interviewed or obtained written responses from DOD and VA officials responsible for ILER oversight and interviewed or collected written responses from six military and veterans service organizations.⁶

To describe what available DOD data show about ILER's use among DOD and VA staff, we obtained and analyzed data from DOD, which is the agency responsible for maintaining ILER data. Specifically, we analyzed data from DOD's Solution Delivery Division to determine the total number and types of ILER accounts opened for DOD and VA staff for each month from October 2019 (when ILER was first available for staff use) through November 2023, the most recent data available for our review. We analyzed data on the total number of ILER account logins during this time to determine the number and type of staff accessing information through the web application. We also analyzed data on ILER queries requested through the Joint Longitudinal Viewer. This is a separate web application from ILER that provides DOD and VA staff (e.g., clinicians, claims benefits staff) a read-only display of a service member's or veteran's health data summarized from multiple integrated sources. Staff can also access ILER summary information through this application.⁷ To assess the reliability of DOD data we analyzed, we

⁵The William M. (Mac) Thornberry National Defense Authorization Act for Fiscal Year 2021 includes a provision that veterans be provided read-only access to ILER. Pub. L. No. 116-283, § 9105, 134 Stat. 3388, 4783 (2021).

⁶We obtained information from two military service organizations, the Air Force Sergeants Association and the Military Officers Association of America, and the following four veterans service organizations: Burn Pits 360; the Disabled American Veterans; the Iraq and Afghanistan Veterans of America; and the Wounded Warrior Project. We selected these organizations because they are national organizations that represent service members or veterans and have knowledge or expertise related to military toxic exposures.

⁷For data from the Joint Longitudinal Viewer, we analyzed ILER queries from July 2021 through November 2023, as July 2021 was the first month one could request an ILER summary through the Joint Longitudinal Viewer.

obtained information from knowledgeable DOD officials regarding the accuracy of the data and how the data have been used, and we performed checks to identify missing or incorrect data. Based on these steps, we determined that the data were sufficiently reliable for the purposes of our reporting objectives.

To describe benefits and challenges DOD and VA staff at selected facilities have encountered while using ILER, we interviewed 164 staff across four VBA regional offices, five VA medical centers and their associated regional Veterans Integrated Service Networks, and three DOD installations to obtain examples of how ILER use resulted in any benefits or challenges in their work. We selected facilities primarily to achieve variation across geographic region and the number of staff with ILER accounts.⁸ We obtained relevant documentation for corroboration with our interviews when possible. Information obtained from these interviews cannot be generalized to other DOD and VA facilities, but rather provides illustrative examples of experiences of staff at these selected locations.

To examine DOD and VA efforts to monitor the extent of ILER use among staff, we reviewed documents that establish oversight roles and responsibilities for ILER. These documents included charters, memoranda, and other documents from joint DOD and VA entities that coordinate agency health care efforts and are responsible for overseeing ILER development and use, such as the VA-DOD Health Executive Committee and the Deployment Health Work Group. We interviewed officials from the work group and other DOD and VA offices about ILER feedback collection efforts and steps taken to address ILER user feedback. We also interviewed DOD and VA officials about goals related to ILER use that were developed by the work group and monitoring the progress toward such goals. We evaluated these monitoring efforts

⁸The four VBA regional offices we selected were Boise, Des Moines, Montgomery, and Pittsburgh. We selected the following five VA medical centers: Battle Creek, Roseburg, Huntington, Sioux Falls, and Tampa and their corresponding Veterans Integrated Services Network (5, 8, 10, 20, and 23). We selected the following three DOD installations: Aberdeen Proving Ground, Naval Base Point Loma, and Wright Patterson Air Force Base.

against practices for performance management identified in our prior work.⁹

To describe DOD and VA efforts to identify illnesses related to military toxic exposures, we reviewed relevant congressional testimonies of DOD and VA officials and information published on the two agencies' public websites. We interviewed DOD and VA officials, including epidemiologists and other researchers, and representatives of military and veterans service organizations to obtain information on relevant military toxic exposure research conducted or funded by DOD or VA.¹⁰ Our review of DOD and VA research efforts included those that were conducted or funded by DOD and VA and were completed within the last 3 years or were still ongoing as of February 2024.¹¹ In addition, we received written responses from DOD and VA officials on their recently completed and ongoing research efforts, including status updates, and on efforts to address PACT Act toxic exposure research requirements.

We conducted this performance audit from November 2022 to May 2024 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Background

ILER is a web application that electronically compiles and presents information from various DOD and VA data sources. In these data sources, DOD and VA collect and store information on toxic exposures that may have occurred in military deployment locations, health risks associated with those exposures, and individuals' health assessments. Before ILER, DOD and VA staff involved in providing health care, processing disability benefits, or researching health effects from toxic exposures searched separately within the various data sources to gather

⁹GAO, *Executive Guide: Effectively Implementing the Government Performance and Results Act*, [GAO/GGD-96-118](#) (Washington, D.C.: June 1996); and *VA Health Care: Office of the Medical Inspector Should Strengthen Oversight of Recommendations and Assess Performance*, [GAO-23-105634](#) (Washington, D.C.: July 27, 2023).

¹⁰In this document, "researchers" refers to VA or DOD epidemiologists and other staff who conduct military toxic exposure research, which may include those who already have ILER accounts (e.g., clinicians) and are using ILER for non-research purposes (e.g., to provide clinical care).

¹¹The oldest completed study included in our review was completed in 2021.

needed information about an individual’s toxic exposures. In creating ILER, DOD and VA aimed to develop a system that would compile complete records of service-related exposures and serve as an authoritative data source for all occupational and environmental health surveillance data.

According to DOD and VA officials, DOD and VA first began developing ILER in 2013, upon approval from the VA-DOD Joint Executive Committee.¹² This committee facilitates coordination and sharing efforts between the two agencies. From fiscal years 2014 through 2023, ILER received about \$38 million in total funding (see table 1).

Table 1: Funding for the Department of Defense (DOD) and Department of Veterans Affairs (VA) Individual Longitudinal Exposure Record (ILER) Web Application, Fiscal Years 2014 through 2023

Amount dollars in millions

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Total
Funding	1.15	0.28	2.89	4.26	4.59	4.69	3.37	7.28	5.45	4.11	38.07

Source: GAO analysis of DOD and VA ILER program management office funding data. | GAO-24-106423

Note: The data in this table include funding for ILER from the Joint Incentive Fund through fiscal year 2022, as well as funding allocated by DOD from fiscal years 2019 through 2023 and by VA in fiscal year 2023. Congress created the Joint Incentive Fund to encourage DOD and VA to develop and share initiatives that mutually benefit both agencies. ILER expenditures during this period totaled \$36.18 million.

DOD and VA released an initial version of ILER (version 1.0) for staff use in October 2019. DOD and VA have subsequently released updated versions with expanded functionalities and data sources accessible through ILER.¹³ For example, version 1.1 expanded the number of data

¹²Presidential Review Directive 5, released in 1998, contained a recommendation that directed DOD and VA to improve tracking military personnel health information, including through longitudinal records of a service member’s occupational and environmental exposures and events.

¹³In addition, in November 2023, DOD integrated ILER into its new electronic health record system (known as MHS GENESIS at DOD), according to DOD officials. The integration provides an abbreviated summary of exposure information from a patient’s ILER screen when DOD staff access the patient’s electronic health record. DOD staff also have the option to access the ILER web application for additional information. According to VA officials, VA plans to complete a similar integration with its new electronic health record system, known as Oracle Health. VA paused the rollout of Oracle Health in its medical facilities in April 2023 and as of September 2023, did not have a planned date to resume rollout. DOD and VA officials told us that in Fall 2024, ILER’s integration with Oracle Health will be available to the VA medical facilities that already adopted Oracle Health prior to the pause in rollout. Additionally, the departments are in the process of working toward electronic health record interoperability, as of this report.

sources feeding into ILER, and version 1.2 added further data sources and allowed for read-only access to individuals' ILER exposure summaries through the Joint Longitudinal Viewer. With Version 2.3, released in July 2023, ILER included all functionalities that the agencies had initially planned, which included tools for research, according to DOD and VA officials. Following this release, DOD and VA officials said they planned to continue to make enhancements to ILER and address new legislative requirements in future versions of the web application.¹⁴ As of January 2024, staff were using version 2.4 (released in October 2023), which added some of DOD's blast overpressure data.¹⁵ Version 2.5 will be available to staff in April 2024, according to DOD officials.

Data Compiled by ILER

ILER connects toxic exposure, operational, and health information collected and stored through numerous separate DOD and VA data systems. Specifically, DOD collects occupational and environmental exposure data across operations (both in deployed and non-deployed environments) to assess hazards at the individual, population, and ambient environment levels. DOD also collects operational data related to individuals, including military service locations and time frames. Operational data also includes information that describes work activities and incidents that result in occupational and environmental exposures. ILER combines these separate data to link individuals to documented exposures. ILER further pulls in health information associated with those individuals from other databases, including those that contain VA medical assessments.

¹⁴For example, Section 9105 of the William M. (Mac) Thornberry National Defense Authorization Act for Fiscal Year 2021 and Section 803 of the PACT Act require DOD and VA to provide veterans with read-only access to ILER and the means to correct their individual records in ILER. DOD and VA officials said they are working on these capabilities (including for service members) and anticipate service members and veterans to have ILER access in September 2024. As of January 2024, they do not have a date for implementation of a means to submit corrections to ILER.

¹⁵Blast overpressure is the sudden onset of a pressure wave from explosions, such as from artillery and explosive devices, that may occur during training and deployed settings. Overpressure may affect brain health and air-filled organs including ears and lungs.

As of January 2024, a total of 14 DOD and VA databases and registries fed into ILER, totaling about 60 million records.¹⁶ According to DOD officials, nearly 12 million service members and veterans have records that can be accessed through ILER as of January 2024. Most of the records capture data collected after 2001, though some records capture data from decades earlier (see table 2).¹⁷

Table 2: Department of Defense (DOD) and Department of Veterans Affairs (VA) Databases and Registries Constituting the Individual Longitudinal Exposure Record (ILER) Web Application, as of January 2024

Database or registry	Description	Dates of data available in ILER	Number of records
DOD Defense Manpower Data Center	Personnel data on military service dates and locations.	January 2001 - present	25,514,179
DOD Military Health System Data Repository	Medical encounter data and health assessments for medical conditions commonly associated with occupational, environmental, and industrial exposures.	October 2012 - present	14,391,552
DOD Defense Medical Surveillance System	Pre-deployment, post-deployment, and annual health assessment data.	September 2012 - present	13,668,640
DOD Defense Occupational and Environmental Health Readiness System - Industrial Hygiene	Occupational and environmental monitoring reports and health risk data.	January 2006 - present	3,097,474
DOD Chemical Biological Warfare Exposure System	Information on the testing, transporting, or storing of chemical and biological weapons agents from 1942 to 2018.	January 1942 – December 2018	16,719
DOD Chemical Warfare Agents Operation Iraqi Freedom and Operation New Dawn Registry ^a	Clinical assessments of individuals with confirmed exposures to warfare agents in Iraq during Operation Iraqi Freedom or Operation New Dawn.	March 2003 - December 2011	405

¹⁶A database is a collection of information that is organized to be easily accessible (e.g., through an electronic platform), managed, and updated. A registry is a collection of information with common characteristics that is related to a specific purpose. For example, VA registries collect information from veterans about their toxic exposures to track and monitor their health and alert veterans to possible long-term health problems that may be related to their specific exposure.

¹⁷According to DOD officials, the following databases and registries include pre-September 11th data: Defense Occupation and Environmental Health Readiness System – Hearing Conservation; the Agent Orange Registry; the Gulf War Registry; the Gulf War Oil Well Fire and Smoke Registry, the Defense Manpower Data Center, the Ionizing Radiation Registry; the Airborne Hazards and Open Burn Pits Registry; and the Chemical Biological Exposure System, which is housed in the Defense Occupation and Environmental Health Readiness System – Industrial Hygiene database.

Database or registry	Description	Dates of data available in ILER	Number of records
DOD Depleted Uranium Registry ^a	Assessment and clinical evaluations for individuals exposed to depleted uranium during the 1991 Gulf War and Operation Iraqi Freedom.	June 2003 - present	4,239
DOD Oahu Military Water Contamination (Red Hill) Registry ^a	Information on the health risks associated with jet fuel released from the Red Hill Bulk Fuel Storage Facility.	November 2021 - March 2022	55,720
DOD Gulf War Oil Well Fire Smoke Registry ^a	Potential hazards, exposures, and risk estimates to those deployed to the Gulf War who were exposed to oil well fire smoke.	August 1990 - October 1991	758,738
DOD Defense Occupational and Environmental Health Readiness System – Hearing Conservation	Audiogram reports, hearing performance, and hearing readiness information for DOD staff	2000 - to present	681,723
VA Agent Orange Registry ^a	Registry data, health assessments on veterans with suspected Agent Orange exposure during military service between 1962 and 1975.	1975 - to present	708,440
VA Airborne Hazards and Open Burn Pit Registry ^a	Self-reported health assessment data for those who deployed to recent conflicts.	June 1990 - present	457,984
VA Gulf War Registry ^a	Self-reported health assessment data for those deployed to Operations Desert Shield and Desert Storm who may have been exposed to an environmental and chemical hazard.	August 1990 - present	246,684
VA Ionizing Radiation Registry ^a	Veterans' health exams and information on possible long-term health problems that may be related to ionizing radiation exposure during military service.	August 1945 - February 1992	7,791

Source: GAO analysis of DOD and VA information. | GAO-24-106423

Note: The data for number of records reflect counts of records from each data source that feed into ILER. An individual service member or veteran may have multiple records within a given data source. Further, an individual may have a record in multiple data sources shown in the table. Thus, the counts shown in the table cannot be added to determine the total number of individuals with records in ILER.

^aA registry is a collection of information with common characteristics that is related to a specific purpose. For example, VA registries collect information from veterans about their toxic exposures to track and monitor their health and alert veterans to possible long-term health problems that may be related to their specific exposure.

Intended Uses for ILER

According to DOD and VA documents, the agencies developed ILER for a variety of purposes:

- **Adjudication for disability claims.** ILER can help provide additional evidence in support of VBA's adjudication process for disability claims, conducted by VBA's claims benefits staff. Veterans may submit claims with supporting documentation to VBA for compensation for injuries and illnesses incurred or aggravated during active-duty military service. VBA claims benefits staff review the claim

and gather any additional evidence needed to support the claim, including exposure information found through ILER.

- **Clinical care and medical surveillance.** ILER can help DOD clinicians (e.g., occupational medicine staff) and VHA clinicians (e.g., primary care providers, environmental health staff) consider exposure information when assessing patients' health and providing treatment. In addition, clinicians may consider this information to conduct medical surveillance to monitor for adverse health effects from exposures.¹⁸
- **Research.** ILER is intended to help epidemiologists and other researchers analyze trends and relationships between service-related exposures and post-deployment health outcomes. Research includes studying cohorts of exposed individuals using a capability that was released in March 2022.¹⁹

DOD and VA staff can also perform different types of searches in ILER, depending on the exposure information they want to assess, to provide care, conduct research, or process claims. For example, one function within ILER allows staff to search specific individuals (e.g., by name and date of birth) to view all documented exposures connected to that individual at specific times and locations. The exposure summary information screen within the web application includes information specific to the searched individual such as identifying information (e.g., date of birth), exposure history, health assessments, and deployment history (e.g., locations and time frames). Another function allows staff to search within ILER by a specific location (e.g., country, military base) to view documented exposure information based on the location where an

¹⁸DOD occupational medicine staff perform medical exams, such as surveillance exams, following a duty-related exposure. VHA environmental health staff—including clinicians and support coordinators—administer registry exams, such as for the Airborne Hazards and Open Burn Pit Registry. Coordinators verify that veterans meet exam qualifications and schedule exams with environmental health clinicians.

¹⁹The capability released in March 2022 allows staff to aggregate individuals or groups of individuals to form research cohorts for further study and analysis. Cohort studies recruit research study participants who share a common characteristic—such as a particular toxic exposure or illness—and follow the participants over the duration of the study.

exposure event occurred and the names of individuals potentially exposed.²⁰

Through the various search options, ILER compiles and organizes records into sections by type of exposure information (e.g., occupational and environmental monitoring summaries, health assessments, registry data). Each section is labeled with the data source that provided the information and the amount of available data from that source. (See Appendix I for examples of how information is displayed in ILER.)

DOD and VA staff may access ILER records in two ways:

- **ILER web application.** Logging into the ILER web application with a validated ILER account enables staff to access and view exposure summary information, as well as use any of ILER's other functionalities. For example, staff can search for and access an individual's full exposure record, filter and refine available information to view certain information, and download an ILER summary.
- **Joint Longitudinal Viewer.** Using the Joint Longitudinal Viewer (a DOD and VA system that provides read-only access to electronic health record data), DOD and VA staff can only download an individual's ILER summary. However, the Joint Longitudinal Viewer allows staff without an ILER account to access a document that lists all of the information ILER has about an individual's toxic exposures during military service.

According to officials from DOD and VA, the agencies generally aim to maximize ILER use among all relevant staff. However, the degree to which DOD and VA require staff to use ILER varies by agency.

- **VBA.** In January 2023, VBA issued a standard operating procedure that required its claims benefits staff to use ILER when processing toxic exposure disability claims for conditions that are not on VA's

²⁰The location exposure summary information screen in ILER includes a count of reported exposures at the searched location and information such as the location's environmental monitoring data and names of individuals associated with that location.

In addition to searching by individual and location, staff may also search ILER in two other ways: (1) by an environmental hazard (e.g., lead, asbestos), which presents information on locations where specific environmental hazard exposures occurred and the names of individuals potentially exposed; and (2) by health effect (e.g., pulmonary conditions), which presents locations and time frames about exposures that potentially caused a specific health effect and the names of individuals potentially exposed.

presumptive list.²¹ Conditions on the presumptive list are presumed by VA to be related to toxic exposure and are the basis for granting disability benefits to veterans who have a covered condition and can show they had a specific toxic exposure.²² Conditions not on the presumptive list require additional documentation. The PACT Act states VBA may consider any record of the veteran in an exposure tracking records system, such as ILER, in processing claims for these other conditions.²³

- **VHA.** In July 2020, VHA issued a memo requiring that each VA medical center ensure that at least one clinician or support staff with an environmental health background have an ILER account by January 1, 2021.²⁴ According to VHA officials, the memo targets environmental staff because these staff administer both environmental registry exams and non-registry exams related to toxic exposures, and these exams are important opportunities to discuss information in ILER with patients.

²¹Department of Veterans Affairs, *Public Law (PL) 117-168 Sergeant First Class Heath Robinson Honoring our Promise to Address Comprehensive Toxics Act of 2022, or the Honoring our PACT Act of 2022 (PACT Act) Implementation Standard Operating Procedure* (January 1, 2023).

²²According to VA and prior GAO analysis, health conditions are added to the VA presumptive list through legislation or regulation. As part of this process, legislation and regulation may provide for the relationship between a specific toxic exposure and resulting health conditions to be examined through a scientific research study prior to VA adding conditions to the presumptive list. According to VBA officials, VA's presumptive list contains over 100 conditions, including conditions presumed to be caused by military toxic exposures that were added by the PACT Act. See 38 U.S.C. § 1120 and Title 38 of the Code of Federal Regulations, ch. 1, pt. 3, subpart A.

²³38 U.S.C. § 1119 defines an exposure records tracking system as “any system, program, or pilot program used by the Secretary of Veterans Affairs or the Secretary of Defense to track how veterans or members of the Armed Forces have been exposed to various occupational or environmental hazards,” which includes ILER or a successor system.

²⁴VHA Directive 1308, issued in March 2022, reiterates the requirement from the VHA's July 2020 memo that each VA medical center have at least one environmental health staff member with an ILER account. VHA maintains 172 VA medical centers as part of its health care system. All medical centers provide traditional hospital-based services, such as surgery and critical care. Most centers also provide some medical and surgical specialty services, such as oncology and geriatrics.

Department of Veterans Affairs, *Memorandum from the Assistant Under Secretary for Health for Operations on the Individual Longitudinal Exposure Record (ILER) Training and Account Creation* (July 28, 2020) and Department of Veterans Affairs Veterans Health Administration, *VHA Directive 1308 Health Outcomes Military Exposures Registry Programs* (Washington, DC: March 25, 2022).

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- **DOD.** DOD announced the availability of ILER to relevant clinical staff to its components—including the Army, Navy, Marines, Air Force, Coast Guard, and National Guard—and the Defense Health Agency in a December 2021 memo.²⁵ The memo directs the services and the Defense Health Agency to notify appropriate staff—including medical providers, epidemiologists, researchers, claims benefits, and support staff—to use ILER as part of medical reviews and clinical assessments as appropriate.²⁶

According to DOD and VHA officials, it may be more beneficial for certain types of clinicians to use ILER than others (e.g., clinicians with certain specialties such as environmental health, occupational health, or pulmonology).²⁷ However, they noted that any DOD and VA clinical staff could have a need to use ILER and ILER is available to those staff. Data from DOD’s Health Manpower Personnel Data System show that there were a total of 44,511 clinicians employed by DOD at the end of fiscal year 2022; data from the Office of Personnel Management show that there were 112,359 clinicians employed by VHA and 15,265 VBA claims benefits staff, as of September 2022.²⁸

ILER Oversight

Multiple joint DOD and VA entities have responsibilities related to overseeing ILER’s planned enhancements and use. According to a Health Executive Committee memorandum, the Deployment Health Work

²⁵The Defense Health Agency, an agency within DOD’s Military Health System, supports the delivery of health care to service members and their families at military treatment facilities.

²⁶Department of Defense, *Memorandum from the Assistant Secretary of Defense for Health Affairs on the Implementation of the Individual Longitudinal Exposure Record Automated Information System* (December 1, 2021).

²⁷DOD and VHA officials said they anticipate that medical specialists (such as occupational health and environmental health clinicians, pulmonologists, cardiologists, endocrinologists, and dermatologists) will use ILER more often than other staff, because, according to DOD and VA officials, they engage more regularly with service members and veterans on exposure concerns. However, they could not discount certain providers (such as pediatricians, or gynecologists), mental health providers, or non-clinical staff (such as social workers) from ever needing ILER access. One VHA official said that pediatricians, for example, may use ILER to investigate the intergenerational effects of exposures.

²⁸Data we used for DOD clinicians reflect a total count of DOD’s active duty and reserve Medical and Nurse Corps and civilian Medical Officers and General Nurses in the fiscal year 2022 Health Manpower Personnel Data System report. Assistant Secretary of Defense for Health Affairs, *HMPDS Health Manpower Personnel Data System, Fiscal Year Statistics 2022*. Data we analyzed for VA clinicians reflect a total count of physicians and nurses employed by VHA. Not all clinicians employed by VA and DOD provide direct care to patients.

Group is the joint entity generally responsible for overseeing ILER use. See table 3 for descriptions of the joint DOD and VA entities with responsibilities related to ILER.

Table 3: Department of Defense (DOD) and Department of Veterans Affairs (VA) Entities Involved with Overseeing Individual Longitudinal Exposure Record (ILER), as of January 2024

Joint DOD-VA Entity	Description and ILER role
Joint Executive Committee	<ul style="list-style-type: none"> Serves as a DOD-VA interagency committee to oversee coordination and sharing activities Oversees completion of committee priorities (such as ILER development) by subcommittees to meet strategic goals
Health Executive Committee ^a	<ul style="list-style-type: none"> Leads interagency sharing and collaboration efforts related to health as a subcommittee of the Joint Executive Committee Oversees completion of committee initiatives and assigned Joint Executive Committee priorities by subcommittees (such as for clinical care) and subgroups (such as the Deployment Health Work Group)
Deployment Health Work Group	<ul style="list-style-type: none"> Coordinates agency responses to hazardous deployment exposures, which includes facilitating the sharing of environmental health surveillance information between the agencies and tracking agency research initiatives on deployment health issues Responsible for overseeing ILER development and use Collaborates with the ILER Steering Group and ILER Project Management Team (ILER team) to report on ILER development progress to the Health Executive Committee and Joint Executive Committee
ILER Steering Group	<ul style="list-style-type: none"> Represents DOD and VA staff who are using ILER and serves as a functional subject matter group to provide recommendations on ILER development Guides ILER project activities, such as the development and delivery of training material, participates in the evaluation of new ILER functionalities, and reviews and prioritizes requests for ILER changes
ILER Team	<ul style="list-style-type: none"> Comprises ILER project management staff and technical staff Responsible for developing and implementing ILER's information technology capabilities

Source: GAO analysis of DOD and VA information. | GAO-24-106423

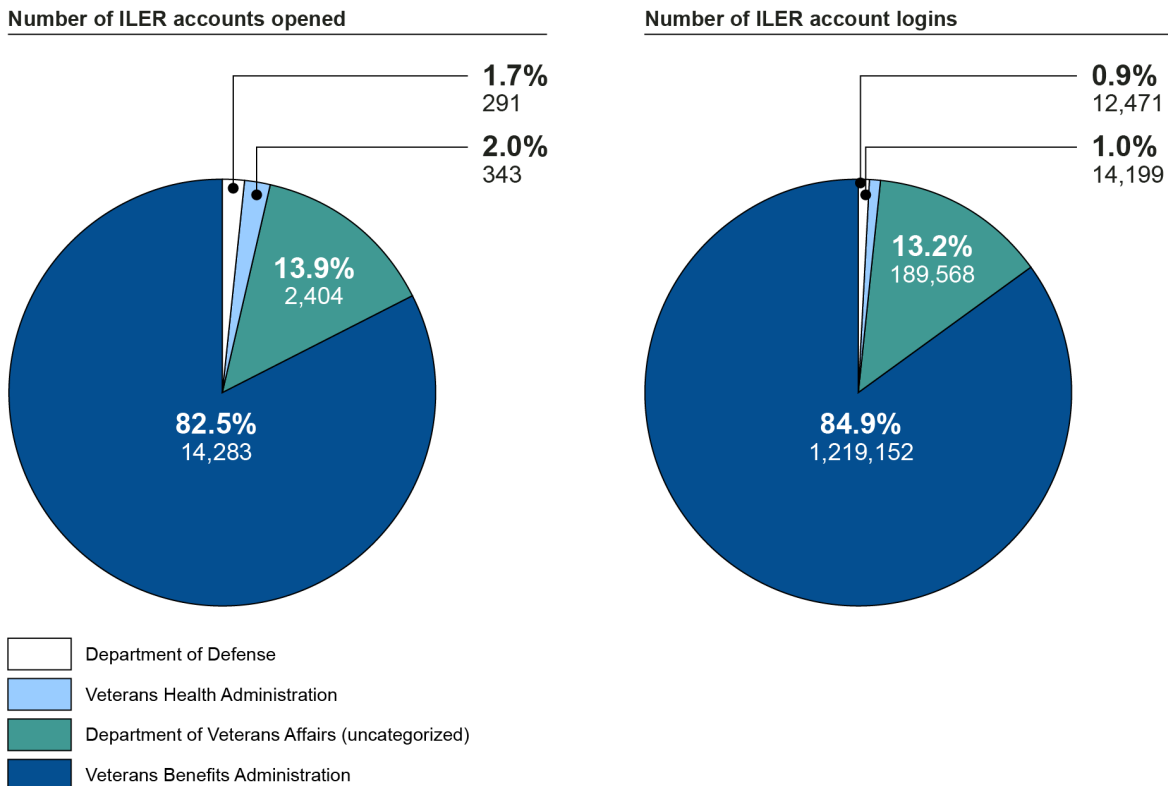
^aPrior to March 2024, the VA-DOD Health Executive Committee did not have a subcommittee or subgroup dedicated solely to ILER. The Deployment Health Work Group, as part of the Health Executive Committee's research or clinical care subcommittees, reported on ILER to the Health Executive Committee. In March 2024, after the drafting of this report, the Health Executive Committee created a new subcommittee solely for ILER that will report directly to the Health Executive Committee.

VBA Staff Processing Benefit Claims Are the Primary Users of ILER as of November 2023

According to our analysis of DOD data, VBA claims benefits staff have opened the most ILER accounts. VBA staff also had most of the ILER logins—that is, the number of times an account holder enters their user information into the ILER website to access information, which generally indicates how often staff with accounts are using ILER. DOD data showed that from October 2019 (when ILER first became available) through November 2023, about 83 percent of all ILER accounts opened (14,283

of 17,321) were by VBA staff. Similarly, about 85 percent of all ILER account logins (1,219,152 of 1,435,390) were by VBA staff (see fig. 1).²⁹

Figure 1: Percentages of Individual Longitudinal Exposure Record (ILER) Accounts Opened and Logins, by Agency, from October 2019 through November 2023



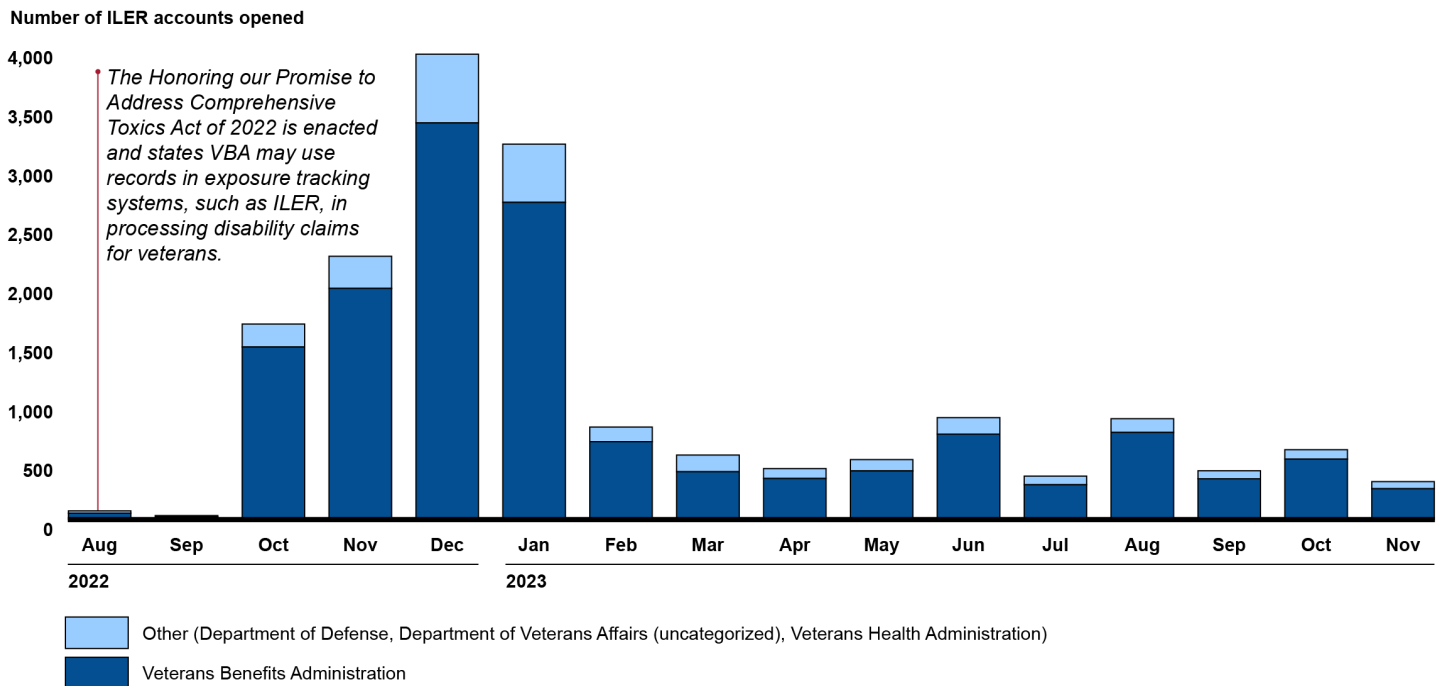
Source: GAO analysis of Department of Defense (DOD) data. | GAO-24-106423

Note: The figure represents the cumulative number of ILER accounts opened and ILER logins from October 2019 through November 2023. Staff represented in the Department of Veterans Affairs (VA) uncategorized group selected VA as their agency when setting up their ILER account, without specifying whether they work for VA's Veterans Benefits Administration (VBA) or Veterans Health Administration (VHA). Therefore, the VBA and VHA percentages shown in the figure may understate the actual number of ILER account holders and logins for those agencies. From October 2019 through November 2023, staff opened a total of 17,321 ILER accounts and had a total of 1,435,390 logins. Percentages may not total 100 due to rounding.

²⁹Our analysis of ILER queries through the Joint Longitudinal Viewer showed 180,879 queries occurred in November 2023. According to DOD officials, the structure of the Joint Longitudinal Viewer does not allow them to track the number of ILER queries made through the system by agency or type of staff.

The number of ILER accounts opened by VBA staff between October 2019 and October 2022 was small (an average of three per month). However, user accounts—in particular accounts opened by VBA staff—started increasing after the PACT Act’s enactment in August 2022, which states that VBA may use tools such as ILER in processing veterans’ disability claims (see figures 2 and 3). In contrast, the number of new accounts opened by DOD and VHA staff has remained relatively consistent since October 2022.³⁰

Figure 2: Individual Longitudinal Exposure Record (ILER) Accounts Opened, by Agency, August 2022 through November 2023



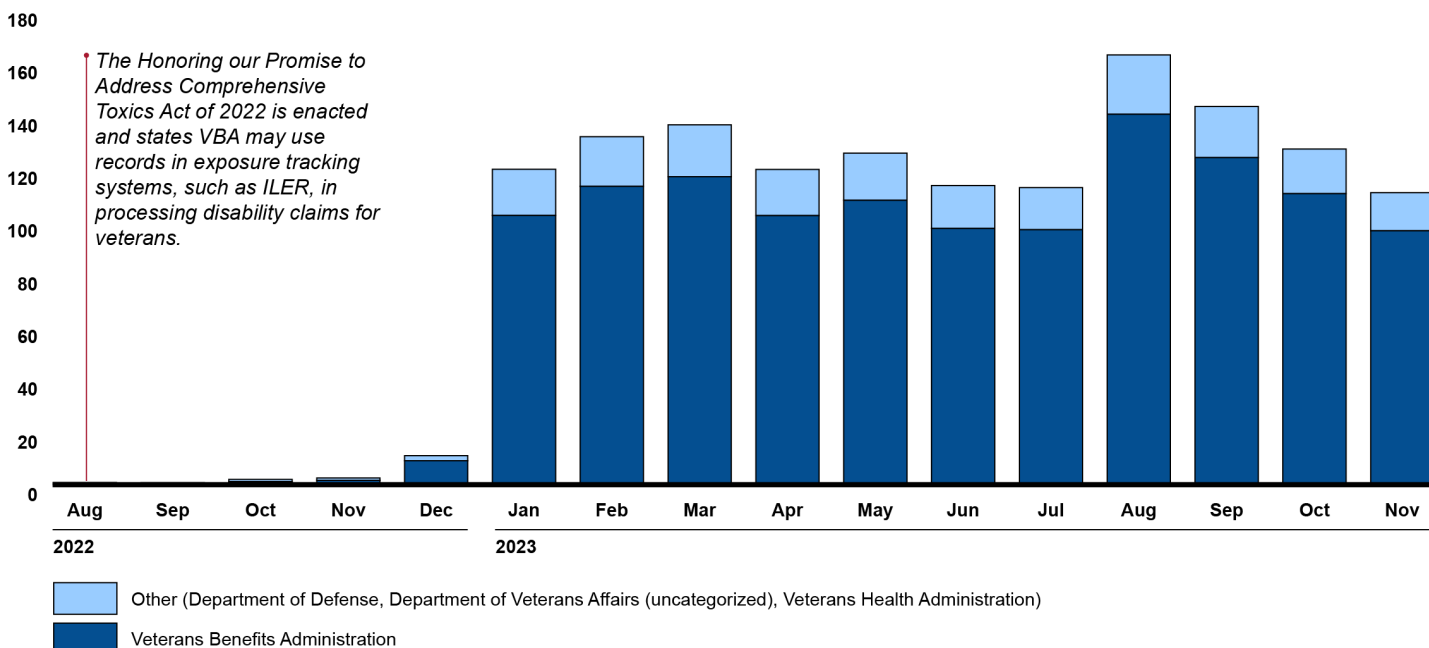
Source: GAO analysis of Department of Defense data. | GAO-24-106423

Note: The figure shows the monthly number of staff from the Department of Defense (DOD), Department of Veterans Affairs (VA), Veterans Health Administration (VHA), and Veterans Benefits Administration (VBA) who opened ILER accounts from August 2022 through November 2023. Staff represented in the VA uncategorized group selected VA as their agency when setting up their ILER account without specifying whether they work for VBA or VHA. Therefore, the VBA and VHA amounts shown in the figure may understate the actual number of ILER accounts opened for those agencies. The Sergeant First Class Heath Robinson Honoring our Promise to Address Comprehensive Toxics

³⁰DOD data from October 2019 through November 2023 showed the highest increase in DOD and VHA ILER logins (135 percent and 267 percent, respectively) occurred between April and May 2020. DOD monthly ILER logins increased from 65 to 153 from April to May 2020, and VHA increased from 9 to 33 monthly logins during the same time. Joint Longitudinal Viewer query data show increases after the PACT Act’s enactment—from 83,006 queries in August 2022 to 180,879 queries in November 2023.

Act of 2022 (PACT Act) was enacted in August 2022 and states that VBA may consider exposure tracking systems, such as ILER, in processing disability claims for veterans. In January 2023, VBA issued a standard operating procedure requiring VBA staff to use ILER for processing veterans' disability claims. Between October 2019 to August 2022, the median number of ILER accounts opened per month was 11 ILER accounts.

Figure 3: Individual Longitudinal Exposure Record (ILER) Account Logins, by Agency, August 2022 through November 2023



Source: GAO analysis of Department of Defense data. | GAO-24-106423

Note: The figure shows the number of ILER account logins from staff from the Department of Defense (DOD), Veterans Health Administration (VHA), and Veterans Benefits Administration (VBA) made in August 2022 through November 2023. Staff represented in the VA uncategorized group selected the Department of Veterans Affairs (VA) as their agency when setting up their ILER account without specifying whether they work for VBA or VHA. Therefore, the VBA and VHA amounts shown in the figure may understate the actual number of ILER logins for those agencies. The Sergeant First Class Heath Robinson Honoring our Promise to Address Comprehensive Toxics Act of 2022 (PACT Act) was enacted in August 2022 and states that VBA may consider exposure tracking systems, such as ILER, in processing disability claims for veterans. Between October 2019 to August 2022, the median number of ILER account logins was 498. In January 2023, VBA issued a standard operating procedure that required its claims benefits staff to use ILER when processing toxic exposure disability claims for conditions that are not on VA's presumptive list.

DOD data showed since ILER was released in 2019, its use within each agency was driven by claims benefits staff for VBA and clinicians for VHA and DOD.

- **VBA.** Almost all (99.9 percent) VBA staff who opened ILER accounts since ILER's release (14,277 of 14,283) were claims benefits staff responsible for reviewing veterans' disability claims.³¹
- **VHA.** About 78 percent of VHA staff who opened an ILER account (268 of 343) were VA clinicians.³² According to VHA, VA clinicians with an ILER account are likely from its Environmental Health Division. These clinicians examine veterans who may have been exposed to environmental hazards during their active duty so they may be included in relevant VA registries that could alert them to potential long-term health problems. Some of these registries, such as the VA Airborne Hazards and Open Burn Pit Registry, feed into ILER. Other types of staff with ILER accounts included, for example, epidemiologists and administrators.³³
- **DOD.** About 63 percent of DOD staff who opened an ILER account (182 of 291) were clinicians.³⁴ According to DOD officials, primary care providers would use ILER to conduct post-deployment health assessments for service members. Other types of staff with ILER accounts included epidemiologists and claims benefits staff.³⁵

³¹As of September 2022, there were 15,265 total VBA claims benefits staff, according to the Office of Personnel Management. This was the most recent data available.

³²As of September 2022, over 112,000 physicians and nurses were employed by VHA, according to the Office of Personnel Management. This was the most recent data available. Beyond environmental health clinicians and coordinators, VHA has not provided a full list of which types of clinicians would be appropriate for ILER use.

³³An ILER administrator is a data source administrator, a user role that identifies and reviews data sources and selects specific data elements to be linked to or integrated into ILER.

³⁴Beyond suggesting that appropriate medical providers, epidemiologists/researchers, and claims administrators should use ILER, DOD has not provided a full list of which types of clinicians would be appropriate for ILER use.

³⁵According to DOD officials, ten of DOD's ILER account holders are identified as claims benefits staff. According to DOD officials, half of these staff are from DOD's Warrior Care and Transition Program—a program that assists service members in transitioning out of military service and into the veteran health care system. DOD officials said other claims benefits staff are or likely working to support DOD's Disability Evaluation System and determine a service member's fitness for returning to active duty service.

Regarding research, DOD and VA officials told us that they included capabilities within ILER to assist researchers beginning with the release of version 2.2 in April 2023. As of July 2023, epidemiologists and other research staff within DOD and VA had not begun using ILER to conduct military toxic exposure research, according to DOD and VA officials, given the recent timing of the release.

When asked about efforts to encourage ILER use among researchers, DOD officials said they depend on those that attend their in-person ILER demonstrations across DOD and VA to spread the word about using ILER for research. This includes any in-person demonstrations done for joint DOD and VA committees, such as the Health Executive Committee. DOD and VA officials said they also have access to all DOD and VA research program leads and plan to bring them together to demonstrate ILER's capability to conduct toxic exposure related research. A Deployment Health Work Group official said the work group could foresee working with DOD research programs to insert information about ILER and its functionalities in research funding announcements and marketing materials. DOD officials had not yet targeted a date for developing and implementing these efforts.

The DOD and VA researchers we interviewed expressed an interest in using ILER or were considering ways to use it in their ongoing military toxic exposure research. Specifically, one DOD researcher that studies potential health effects of deployments following the Vietnam and Gulf War conflicts indicated an interest in using ILER. The researcher said the program conducting these studies would like to use ILER to access information for declassified locations to conduct more granular, retrospective exposure assessments. Researchers from one VA research program told us they started a task force to explore incorporating ILER into research conducted by its program. VA's Million Veteran Program conducts genetic analyses on veterans so VA researchers can learn about conditions affecting veterans such as cancer, cardiovascular disease, diabetes, Gulf War Illness, and posttraumatic stress disorder.

To develop an approach to provide service members and veterans access to their records within ILER and a means to correct information shown in ILER, which they do not currently have, DOD and VA established the ILER Access and Update Action Group in February

2023.³⁶ Officials from five of the six military and veteran service organizations we interviewed said that service members and veterans would want to use ILER to verify the information DOD has regarding their active duty service given this information is used by VBA to determine disability benefits.³⁷ DOD and VA officials briefed the Health Executive Committee in November 2023 on related plans of actions and development milestones. These plans include determining the requirements for providing this capability as well as an outreach and education approach for service members and veterans about ILER access. They said they expect this functionality to be in place by September 2024.

DOD and VA Staff Described Efficiencies from Having Access to Exposure and Deployment Information through ILER as Well as Challenges Finding Records

The selected DOD and VA staff we interviewed described several benefits related to using ILER. These included efficiencies from having deployment, exposure, and other relevant information conveniently in one place and the ability to access the information in multiple ways. For example:

- **Having access to deployment and exposure information in one place.** VBA claims benefits staff at three of the four VBA regional offices we sampled said they appreciate that ILER presents the deployment and exposure information they need to process disability claims in one place. Such information was previously only found in separate DOD and VA data sources. One VBA claims benefits staff said that without ILER, staff would have to review many pages of personnel records to document toxic exposures, which is inconvenient and less efficient and adds time for processing veterans' disability claims. DOD and VA officials noted they are planning for ILER to include additional sources of data beginning in 2024 (see text box).

VHA environmental health staff at the five VA medical centers we interviewed said they use ILER to access VA registries related to toxic exposures, such as the Airborne Hazard and Open Burn Pits Registry, and determine if a veteran should be recommended for a registry's examination. A DOD occupational medicine clinician said he was informed of an event in Hawaii where jet fuel contaminated a drinking water supply, and he used ILER to access the jet fuel registry and

³⁶The William M. (Mac) Thornberry National Defense Authorization Act for Fiscal Year 2021 and the PACT Act require veterans receive ILER access.

³⁷ILER is one source of information for VBA staff to use to process veterans' disability claims but not the sole source.

ensure the data presented to DOD clinicians for the registry was accurate.

- **Being able to address veterans' questions about potential exposures.** DOD staff from the Defense Centers for Public Health said they use ILER to field requests from a veteran or VHA clinician, as part of a health evaluation for example, about specific military toxic exposures that a veteran may have experienced. They described ILER as a quicker way to find information about potential exposures. A VHA clinician cited a specific instance where the clinician used exposure information accessed through ILER to address a veteran's concern about prior radiation exposure. The clinician used ILER to show the veteran's record of him being exposed to radiation.
- **Having multiple ways to access deployment and exposure information.** VBA claims benefits staff and VHA clinicians said they appreciate that they can access ILER information through a couple of ways, including by logging into the ILER web application or by accessing the ILER summary through a Joint Longitudinal Viewer query. For example, if a clinician is already using the Joint Longitudinal Viewer during a clinical visit, the clinician would save time by not having to log into the ILER web application for the needed information. VA staff also appreciated that ILER has different search modalities for finding information. Though most use the search by individual modality, some VA staff appreciated having access to the search by location as well. VBA claims benefits staffs and VHA staff from the Environmental Health clinics said the location search feature helps them identify potential exposures for veterans who were in service prior to September 11th, as older exposure records are not as easily found by searching by individual.

Capacity for Adding Data to the Individual Longitudinal Exposure Record (ILER)

According to Department of Defense (DOD) and Department of Veterans Affairs (VA) officials, ILER has the capacity to include information for additional service members and veterans in multiple ways. For example:

Adding more data sources. DOD officials told us the following five data sources will be added to ILER by the end of calendar year 2024: (1) additional Blast Overpressure Exposure Data (e.g., service member exposure to pressure from an explosion); (2) the Veterans Integrated Registry Platform (a central platform for VA exposure and disease registries); (3) the Hazardous Materials Information Resource System (DOD repository for information on hazardous materials); (4) the Military Health System Data Repository through the Military Health System Information Platform (a DOD electronic medical records system); and (5) the Military Health System Genesis DOD Claims Data. Officials also noted that the agencies also plan to link 14 other data sources to ILER by the end of calendar year 2025. Examples of these data sources include the Defense Civilian Personnel Data System, the VA Clinical Data Repository, and the United States Air Force Weather Web Services.

Adding more registries. According to DOD and VA officials, they are working to add the following registries into ILER by the end of calendar year 2025: the Joint Hearing Loss and Auditory System Injury Registry (which houses audiograms, clinical, demographic, deployment, and other data from DOD and VA related to hearing loss) and the Joint Theater Trauma Registry (which collects DOD trauma related data including trauma-related hospital admissions and deaths).

Additional data collection: According to DOD officials, expanding ILER's capacity depends on its underlying data sources and those sources' data collection by the military services. DOD officials told us some deployments take place during times of conflict, so efforts related to recordkeeping and documenting toxic exposure events are not always the first priority and may take a long time to compile. Prior federal reports have commented on the lack of recordkeeping by DOD related to deployments and toxic exposures, particularly for the 1991 Gulf War and earlier conflicts. However, since then, DOD and VA have implemented efforts to increase and digitize their data collection. DOD and VA officials noted that one key way to increase their data collection about deployments is to include information provided by veterans through the course of providing care or processing claims. For example, a VA official said a veteran's record may not show a specific deployment, but the veteran may provide a picture at the deployment site to scan into a VA record.

Source: GAO summary of DOD and VA information. | GAO-24-106423

However, ILER account holders we interviewed also identified challenges with finding records and relevant information in the records they have located, which led to inefficiencies. For example:

- **Finding limited pre-September 11th deployment and exposure records.** VBA claims benefits staff we interviewed reported that ILER is effective for finding records on veterans' deployments after September 11th, but generally not as good for finding records on veterans' deployments before then. According to VBA staff, some records about toxic exposures that occurred during pre-September 11th deployments may be available through ILER (stemming through data sources such as the Agent Orange Registry). However, according to the staff at the VBA regional offices we interviewed, it is generally not as common as records for post-September 11th deployments. VBA staff are required to use ILER to process toxic exposure-related claims for all veterans, regardless of when they served. Claims benefits staff at one of the four VBA regional offices we interviewed said it is usually more time consuming to conduct and document ILER searches for individuals who served prior to September 11th, and it can result in inefficiencies in processing and

awarding disability benefits to veterans because they have to spend extra time documenting the lack of information.

- **Finding records using search functions.** VA staff we interviewed reported some confusion about the best way to successfully search for a service member's or veteran's records in ILER. Staff at one of the VA medical centers and the four VBA regional offices we interviewed said that, in some cases, they were unable to find a veteran's records using the individual search function by entering the person's name and date of birth, but then found the records after entering the veteran's DOD identification number instead. Staff at two of the four VBA regional offices we interviewed were not aware or were just recently made aware that using the DOD identification number was an option, or that it might be a more reliable way to search for a record when searching for the individual. The staff at one of the VBA regional offices explained that this confusion may result in, for example, inefficiencies in processing VBA claims and delays in providing disability benefits to veterans. For instance, claims benefits staff may need to correct claim decisions after a supervising reviewer finds and assesses ILER records that claims benefits staff did not initially access due to an unsuccessful search. The ILER training guide covers the different ways to search for an individual, including using the DOD identification number. Further, VBA released training materials in December 2022 that inform staff that searching by an individual's DOD identification number yields the most accurate results. It also describes where staff can locate the identification number within a veteran's file in the Veteran Benefits Management System.
- **Finding relevant information within an individual's record.** Staff at two of the five VA medical centers and all four VBA regional offices we interviewed told us that after they access ILER and find a veteran's record, it can sometimes be difficult to find relevant information within the record. VBA claims benefits staff at the four regional offices we interviewed said much of the information in ILER does not appear to be relevant to approving claims benefits, and information accessed through ILER does not clearly indicate which exposures were over normal limits or occurred during a veteran's active duty service. As a result, the staff explained, they cannot always easily identify the relevant exposure information to determine if a veteran's prior toxic exposure would qualify for VA disability benefits. According to these staff, this creates inefficiency and could result in missing relevant information or misinterpreting information relevant to evaluating a disability claim. DOD staff told us that

exposures over permissible limits for health are highlighted in red in ILER.

Similarly, some VHA clinicians told us they are not always able to easily find relevant information in ILER records. They said they do not always have enough time in their clinical visits to sift through ILER's extensive exposure information, which, for some veterans, could be hundreds of pages. DOD staff said they have implemented solutions to reduce the volume of data by removing duplicate reports and providing the ability to filter results based on exposure type, data type, and or health risks.

DOD and VA are taking actions to address some of these issues, as discussed below.

DOD and VA Collect Feedback from Users and Monitor Overall ILER Use but Do Not Monitor by Type of Staff or Specific Purpose

DOD and VA Collect Feedback from Staff on Experiences Using ILER and Have Taken Steps to Address Reported Challenges

We found DOD and VA—through the ILER Project Management Team (ILER team) and ILER Steering Group—collect feedback through various methods to understand staff experiences with using ILER and have made changes to address the feedback as follows:

ILER team and ILER Steering Group meetings. The ILER team meets monthly with the ILER Steering Group (both of which have representatives from DOD and VA) to discuss ILER development and use. According to DOD and VA officials, during these meetings, ILER Steering Group members may provide feedback to the ILER team on their experiences with using ILER for their work. For example, in February 2023, steering group members requested that the display of registry information in an individual's ILER report be updated, so that registry data can be viewed more easily. The ILER team then updated the web application in line with the recommendation and presented the updates to steering group members for review and approval at a subsequent meeting in August 2023.

VA staff communication channels. VHA and VBA officials report to the ILER team and ILER Steering Group feedback that staff in facilities and regional offices provide through ongoing opportunities for informal communication between staff and management. For example, according to VHA officials, staff experiences using ILER are sometimes a topic of discussion at the meetings VHA holds monthly with environmental health staff and weekly with Veterans Integrated Service Network environmental health leads. Based on feedback collected through these meetings, in August 2023, VHA officials requested that the ILER team add a “clinical support” user role to select when setting up an ILER account that is specific to staff who are environmental health coordinators. According to a VHA official, they requested this user role be added because they did not think the current user roles (e.g., clinician, epidemiologist, claims benefit) adequately reflected their position. In response to this feedback, the ILER team added this user role in October 2023.

Additionally, VBA officials told us that they receive and pass along to the ILER team and ILER Steering Group any staff feedback on ILER received through the agency’s PACT Act Inquiry Tool.³⁸ For example, in February 2023, VBA staff reported difficulty differentiating values above the permissible limit for health in an individual’s ILER results due to the shade of red used to highlight those values in the application. In response, also in February 2023, the ILER team modified the color to improve visibility.

Study of ILER usefulness. The PACT Act requires DOD, in consultation with VA, to examine the usefulness of ILER in supporting service members and veterans in receiving health care and benefits. To address this requirement, VA initiated a study in 2023 that will examine how VHA clinicians and others use ILER and any variability in how staff have adopted ILER over time.³⁹ The study intends to collect information to include how DOD and VA can improve ILER as well as examples of how the web application has supported the care of veterans and presented barriers or challenges to providing care. VA officials told us that findings will be shared with DOD and the ILER team to inform any needed changes to ILER. The PACT Act requires the initial report be provided to

³⁸VBA officials told us that the PACT Act Inquiry Tool—which went live in January 2023, according to the officials— allows regional office staff to communicate directly with the agency’s central office to ask questions or share suggestions. Feedback received through the tool helps VBA identify areas where additional clarification or guidance is needed, including related to use of ILER.

³⁹According to DOD and VA officials, insights learned from VHA clinicians about ILER use also may apply to DOD clinicians.

Congress no later than June 2024 and subsequent reports to be provided every 2 years. VA officials told us they have reviewed preliminary findings and that they expect to release the report in Spring 2024.

ILER team user acceptance testing. According to DOD officials, the ILER team at times conducts testing prior to the release of new functionalities and enhancements to ensure they work as intended and contain no deficiencies. DOD officials said they reserve user acceptance testing for “major” ILER functionality additions and enhancements, such as adding new search functions. For such testing, the ILER team emails a questionnaire to users and reviews and analyzes their responses. The questionnaire contains four questions asking staff the extent to which they agree with statements about ILER’s value and usability, as well as two open-ended questions asking for additional improvement suggestions and feedback.⁴⁰ DOD officials told us that they conducted user acceptance testing prior to the release of three early ILER versions in 2019, 2020 and 2021.⁴¹ To test minor enhancements, the ILER team conducts demonstrations with members of the ILER Steering Group and collects their feedback.

The ILER team said it reviews and analyzes the comments to determine their nature (e.g., identifies a glitch in the system, contains a request for an additional capability). The team also may categorize some comments as a communication issue that requires additional outreach and education. For comments that request additional capabilities or enhancements, the ILER team develops user stories.⁴² According to the ILER team, it collaborates with the ILER Steering Group to determine how it should address, prioritize, and incorporate solutions to the user stories into ILER’s development plan. The ILER team then adds the solutions to the list of ILER developmental priorities called the ILER product backlog,

⁴⁰Specifically, the questionnaire asks participants to indicate their opinion about whether (1) the information returned by ILER is relevant; (2) ILER will help them do their job more efficiently; (3) ILER’s screen layout is easy to read and understand; and (4) ILER warrants further investment. For the testing conducted in 2021 with the release of version 1.2, 40 of the 43 participants responded favorably on average across the four questions.

⁴¹Specifically, the ILER team conducted user testing prior ILER’s release of versions 1.0, 1.1, and 1.2.

⁴²According to DOD and VA officials, the ILER team applies Agile methodology to ILER development. This approach to managing software development projects that emphasizes continuous releases and incorporating user feedback with each iteration. User stories, a tool in this methodology, are small segments of work that comprise iterations and are intended to capture the description of a desired software functionality from the perspective of the end user.

along with a description of the user story and its source (e.g., steering group meeting, staff member). In December 2023, the backlog contained 63 user stories for ILER development.⁴³ According to the ILER team, it reports on progress addressing user feedback to the Deployment Health Work Group during bimonthly meetings on ILER development.

Based on our review of feedback documentation from user acceptance testing conducted in 2021 (the most recent testing conducted, as of this report) and the ILER product backlog as of December 2023, we found that the ILER team had identified several of the challenges we heard from DOD and VA staff we interviewed. DOD and VA have taken steps to address them, including the following examples:

- **Understanding the availability of pre-September 11th deployment records.** As discussed earlier in the report, some staff told us that they often were unable to find information on pre-September 11th deployments in ILER. The ILER team also received comments about this challenge through user acceptance testing conducted in 2021. In the ILER team’s analysis of the feedback, the team noted these comments reflected a communication issue—rather than a request for an enhancement or additional capability that may lead to a user story. The team also noted that it needs to provide education to better inform staff that ILER mostly captures post-September 11th exposures. To communicate this aspect of ILER use and help address these comments, the ILER team included the parameters of the data available in ILER in training materials. The ILER team also added to the home page of the web application a dashboard that identifies its available data sources and the range of dates supported by those data systems.

According to DOD officials, work is also under way—with an expected completion of late 2024—to automate the addition of ILER summaries into the Veteran Benefit Management System (the system used by claims benefits staff to process disability claims). This capability may potentially eliminate the need for VBA claims benefits staff to manually conduct ILER searches for all toxic exposure-related claims, including ones for veterans with deployments that may have minimal information in ILER.

⁴³DOD officials told us that the ILER team addresses about 9.4 user stories per month, on average. As part of Agile process, the ILER team tests the solutions made to address user stories with the ILER Steering Group to ensure adequacy prior to release to all users.

-
- **Finding records using the individual search function.** As discussed earlier in the report, staff from DOD and VA we interviewed described challenges with consistently finding a service member's or veteran's record in ILER based on the identifying information (e.g., DOD identification number) they entered in the individual search function. We found the ILER team has taken steps to improve the individual search function. For example, the ILER team developed a related user story at the request of an ILER team member. Specifically, the team member noted that ILER found only partial records for an individual when searching by Social Security number because all information in ILER for an individual is not tied to that identifier. To address the issue, the user story requested that the option to search by Social Security number be removed from the function to improve the success of ILER searches, which the ILER team completed in April 2023.
 - **Finding relevant information in records.** As noted above, VHA and VBA staff said that they sometimes have difficulty quickly identifying relevant information within ILER records. We found several examples of user stories in the product backlog that request additional capabilities or enhancements that would help address this challenge by streamlining information and providing the ability to filter results. For example, in May 2023, the ILER team developed a user story based on staff comments to streamline the amount of exposure data included in an individual's ILER summary. The solution the ILER team identified for this user story was to include only the summary of the data rather than list all samples associated with the individual's deployment locations. In addition, in response to a user story based on a request from ILER Steering Group members in April 2023, the ILER team developed the ability to search for specific incident reports within ILER to allow easier access to incident data in July 2023.

Cybersecurity and Data Privacy for the Individual Longitudinal Exposure Record Web Application (ILER)

According to the Department of Defense (DOD), ILER has taken steps to address cybersecurity and data privacy information technology standards required by the DOD Chief Information Officer. These standards include DOD Defense Information Systems Agency policies and the Risk Management Framework for DOD Systems.

DOD officials said the databases that feed into ILER—as well as information systems that provide access to ILER summary information (e.g., Joint Longitudinal Viewer)—contain protected patient identifiable information (e.g., name, address). They also said the databases that house this information take federal requirements into account.

According to DOD officials, these laws and regulations include the Privacy Act of 1974, the Health Insurance Portability and Accountability Act of 1996, and Department of Health and Human Services Standards for Privacy of Individually Identifiable Health Information, among others. (We did not assess agency compliance with these laws for the purposes of our work.)

DOD officials noted the following examples of protections:

- ILER and the databases feeding into ILER are C2-certified. This includes (1) documenting user and administrative access levels and security testing, (2) authenticating all users as unique individuals; (3) not allowing files to be reused or recovered once deleted; and (4) auditing all security events and the actions of individual users.
- The ILER team tests and verifies each ILER cybersecurity and data privacy control on an annual basis.
- The ILER team conducts a cybersecurity assessment prior to each ILER version's release to assess for weaknesses.

Source: GAO summary of DOD information. | GAO-24-106423

The ILER team is also taking additional actions to address concerns from researchers. DOD and VA staff we interviewed noted some concerns related to using ILER for research. For example, VA researchers noted concerns about data privacy, given the breadth of information readily available in ILER on service members and veterans. Specifically, a researcher expressed concerns that other researchers may use data for studies in a way that circumvents the research oversight processes intended to protect an individual's privacy (e.g., required review by an internal body, such as an institutional review board).

To address researchers' concerns, the ILER team recently created a specific user role to access a new research capability and is working with the other joint entities to develop policies regarding ILER access to align with this user role. In the meantime, the ILER team implemented a mechanism for researchers to request ILER data in an encrypted file specifically for those consenting to participate in their study, which prevents researchers from accessing ILER data for those that have not consented to their study.

Further, some DOD staff we interviewed reported concerns about the accuracy of data feeding into ILER. One DOD staff member said he searched ILER for his own record and it erroneously presented data indicating that he had served in places he had not served. Other DOD staff from the Defense Centers for Public Health office, which oversees one of the databases that feed ILER (the Defense Occupational and Environmental Health Readiness System) were concerned that ILER is presenting data from this database prior to it undergoing internal quality assurance procedures.

DOD officials told us that to address these concerns, DOD staff who maintain this database presented recommendations to the ILER team on how best to present data from this data source in September 2023, and are waiting to see how their recommendations are implemented. One DOD official we spoke to said allowing service members and veterans to have access to their ILER record and a mechanism for correcting their record would help improve the accuracy of data feeding into ILER. As we discussed earlier in the report, the agencies established a work group and are working to develop the infrastructure for service members and veterans to access ILER by September 2024.

DOD and VA Track ILER Use to Varying Degrees but Do Not Monitor the Extent of Use by Specific Type of Staff or Purpose

Based on interviews with DOD and VA officials and review of VHA data on staff use, we found DOD and VA track their respective staffs' use of ILER to varying degrees. In particular, within VA, VHA, and VBA track ILER use to help determine whether the agency is meeting its requirements for ILER use among staff. DOD directed its service branches and the Defense Health Agency to notify relevant staff to use ILER as appropriate, but DOD does not track the extent of its use within DOD.

In the case of VHA, at least monthly, officials receive an updated list of staff with ILER accounts from the ILER team and manually match staff to their VA medical centers to track VHA's requirement that each VA medical center have at least one environmental health staff with an ILER account.⁴⁴ VHA then asks each Veterans Integrated Service Network's environmental health lead clinician and coordinator to confirm that the information for each of their facilities is correct and to address any deficiencies (e.g., a facility does not have environmental health staff with an active ILER account). In January 2024, 89 percent (124 out of 140) of medical centers had at least one environmental health staff with an ILER account, according to VHA officials.⁴⁵ VHA does not otherwise track that other staff at the facilities have ILER accounts, such as primary care providers or other clinicians that may be using or have a use for ILER.

In the case of VBA, officials track staff completion of required training on ILER and which staff have active accounts. On a weekly basis, VBA officials send a list of staff who have completed the assigned training to the ILER team so that the team can grant account requests, according to VBA officials. VBA officials said that the ILER team, in return, provides VBA with a list of VBA staff with active ILER accounts. VBA officials then compare this list with staff who have completed the required training to determine who is eligible for an account but does not yet have access to one. Following the enactment of the PACT Act, the agency required all claims benefits staff to complete training on how to use ILER for claims adjudication and to have an ILER account. In February 2023, VBA officials told us that 99 percent of staff assigned the ILER training had

⁴⁴VHA requested that the ILER team develop an ILER user administration capability to enable easier collection of data on ILER use by facility. As of November 2023, the ILER team had not yet determined a completion date for this capability.

⁴⁵VHA officials told us that they track ILER use across 140 VHA facilities.

completed it. VBA also directs claims benefits staff to use information in ILER when adjudicating certain military toxic exposure disability claims.

While VHA and VBA each track the use of ILER to meet agency requirements, DOD and VA are not jointly monitoring the extent to which staff across the agencies are using ILER, including by staff type and purpose for use (e.g., clinical care, claims processing, research). In fiscal years 2022 and 2023, the Deployment Health Work Group (as the joint entity responsible for directly overseeing ILER) tracked data on the overall increase in the number of ILER accounts opened and logins relative to when ILER first became available to staff in 2019. This tracking was part of the work group's fiscal years 2022 and 2023 Plans of Actions, Milestones, and Measures—the process the agencies use to track progress toward achieving joint priorities and initiatives.⁴⁶ These data showed that from 2019 to 2023, the number of ILER accounts opened and logins increased, meeting the work group's goal of increasing overall ILER use. However, the data the working group collected did not break out use by staff type (e.g., DOD, VHA, or VBA) or purpose (e.g., clinical care, claims benefits processing).

As of fiscal year 2024, the work group is no longer tracking the overall extent of ILER use, because the work group considered its goal to be met in January 2023. Instead, the fiscal year 2024 Plans of Actions, Milestones, and Measures focus on other ILER efforts, such as adding additional data sources and research functionalities, completing electronic health record integration, and allowing service members and veterans to access to their information in ILER.

In our prior work, we have reported that key performance management steps include establishing goals and performance measures, collecting relevant information to measure progress toward its goals, and using

⁴⁶The Joint Executive Committee and the Health Executive Committee request the subgroups responsible for committee priorities and initiatives use Plans of Actions, Milestones, and Measures to track progress. The work group provides quarterly progress reports to the Health Executive Committee on ILER development. In turn, the committee can take action to mitigate risks to Plans of Actions, Milestones, and Measures not being achieved, as needed.

In the fiscal years 2022 and 2023 Plans of Actions, Milestones, and Measures, the work group had an objective to increase overall ILER use, with performance measures to 1) achieve a 50 percent increase in the total number of ILER user accounts and 2) achieve a 25 percent increase in users' monthly ILER logins and queries through the Joint Longitudinal Viewer, on average. The work group considered the objective achieved in January 2023.

performance information to inform decisions.⁴⁷ The development of goals for ILER use by type of staff and purpose within DOD and VA and related performance measures would be consistent with these performance management steps and allow for monitoring the extent to which ILER is used among relevant staff for each intended purpose.

DOD and VA officials indicated that they aim to maximize use among all relevant staff and that certain types of clinical staff particularly may benefit from ILER use. However, because the agencies, through the Deployment Health Work Group, have not established related goals or related performance measures, they do not have a clear mechanism to measure progress toward achieving this aim. By defining this goal in measurable terms, the work group will be able to systematically collect and analyze information to measure progress toward achieving its overall aim to maximize use.⁴⁸

Further, by monitoring the use by each type of staff and purpose, the work group would be better able to determine if actions—such as additional outreach efforts—are needed to increase awareness and use of ILER among any specific type of staff and purpose. For example, monitoring the uptake of ILER among DOD and VHA clinicians is important for the specialties for which the agencies believe using ILER would be particularly beneficial. Staff we interviewed at two of the five selected VA medical centers told us that clinicians involved with environmental health are more likely to be aware of ILER compared to other types of clinicians. To the extent this is true for other medical

⁴⁷[GAO/GGD-96-118](#). In this guide, we identified key steps and additional practices within each step that federal agencies can implement to improve their overall performance. While the Government Performance and Results Act is applicable to the department or agency level (e.g., VA), we have previously reported that goals and performance measures are important management tools at all levels of an agency, such as component agencies, offices, programs, and projects. For example, see GAO, *VA Health Care: Office of the Medical Inspector Should Strengthen Oversight of Recommendations and Assess Performance*, [GAO-23-105634](#) (Washington, D.C., July 27, 2023).

⁴⁸According to DOD and VA officials, acquiring information on users by staff type to monitor such a goal is possible within ILER's user administration capabilities. However, they currently cannot compile the information in an automated fashion, but rather must produce it manually (as officials did to provide us with the data on ILER use that we discussed earlier in this report). The ILER team told us it has plans to improve ILER's user administration capabilities. This includes developing the ability to track users by VHA facility, as noted earlier as a request from VHA officials to improve tracking of the agency's staff use requirement. According to DOD and VA officials, this capability currently is not planned to include the ability to track by user role, but that additional capability could be added in the future.

centers, this may further indicate a need for monitoring by type of staff and purpose to target additional outreach specifically to certain types of clinicians in DOD and VHA.

Additionally, the relatively small number of DOD and VHA clinicians with ILER accounts also may indicate a need for monitoring. Such monitoring could help the agencies determine if additional educational efforts are needed to ensure clinicians understand how ILER can add value to their work and how to use ILER effectively. Monitoring changes in use by staff type and purpose also could help the Deployment Health Work Group determine if a particular staff type, such as clinicians, have decreased use, which may reflect barriers to use and the need for additional outreach or training.

DOD and VA Established New Military Toxic Exposure Research Programs and Have Initiated Other Efforts to Identify Exposure-Related Illnesses

DOD and VA have multiple ongoing efforts to identify and better understand illnesses related to military toxic exposures. These efforts include research on health outcomes related to Agent Orange exposure in Vietnam veterans, the effects of veterans' exposure to burn pits, and the effects of military jet fuel and blast exposures.⁴⁹ Among the agencies' research efforts are two newer programs that focus on military toxic exposure research to inform and improve veterans' health care.

- **DOD's Toxic Exposures Research Program.** In fiscal year 2022, DOD established the Toxic Exposures Research Program.⁵⁰ The program awards funding to applicants to conduct research that seeks to improve the scientific understanding of toxic exposures, efficiently assess comorbidities, and speed up the development of treatments, cures, and preventions. Specifically, research conducted under the program focuses on issues associated with military toxic exposures, such as neurotoxin exposure, Gulf War Illness and its treatment, airborne hazards and burn pits, and military service-related toxic

⁴⁹Agent Orange was an herbicide used by the U.S. military during the Vietnam War. Exposure to Agent Orange has been linked to at least eight types of cancer. These cancers and other conditions caused by Agent Orange are on the list of presumptive conditions, which is a list of illnesses assumed to be caused or aggravated by exposure to Agent Orange and certain other toxins, such as smoke from burn pits, occurring on or during specific dates and in certain locations of active military service.

⁵⁰This program is administered by DOD's Congressionally Directed Medical Research Programs, which is an office within the United States Army Medical Research and Development Command that manages funding for biomedical research programs directed by Congress.

exposures in general.⁵¹ In addition to these and other conditions within the program's portfolio are those with neurological symptoms, such as Parkinson's disease, post-traumatic stress disorder, and Alzheimer's disease. In fiscal year 2022, the Toxic Exposures Research Program funded 26 applications representing 32 awards for specific research topics.

- **VA's Military Exposures Research Program.** According to officials, VHA established this program in fiscal year 2023 to better inform veterans' health care and veterans' health care policy.⁵² The program aims to do this through the use of new procedures and technologies to advance military exposure assessments and by enhancing understanding of military exposures' effects on veterans' health outcomes. The program plans to launch Military Exposure Research Innovation Centers that will focus on Gulf War Illness, burn pit exposures, per- and polyfluoroalkyl substances, and cardiopulmonary symptoms.⁵³ VHA announced two awards to fund military toxic exposure research studies under the program in January 2023 and two more in October 2023. According to VA officials, there is currently one ongoing study on constrictive bronchiolitis. This study will include involvement of living human subjects and is in the phase of assessing individuals who may participate.

See Appendix II for more information on these and other ongoing DOD and VA military toxic exposure research efforts.

In addition, according to officials, VA has begun efforts to address PACT Act provisions related to identifying illnesses that may be caused by toxic exposures during military service. As of January 2024, VA had initiated the following efforts:

- **Established the Military Environmental Exposures Sub-Council.** According to officials, in October 2022, VA established the Military

⁵¹Gulf War Illness is a cluster of medically unexplained chronic symptoms that includes fatigue, headaches, joint pain, and respiratory disorders that affects veterans of the 1991 Gulf War.

⁵²VHA's Office of Research and Development administers this program.

⁵³Perfluoroalkyl and polyfluoroalkyl substances, known as PFAS, are synthetic chemicals that do not break down in the environment and are found in many products, including fire-fighting foams used by both civilian and military firefighters.

Environmental Exposures Sub-Council.⁵⁴ This is a working group that includes VHA and VBA personnel. The sub-council is responsible for assessing military toxic exposure events and annually reporting to the Secretary of VA recommendations about which should be formally evaluated to assess the potential links between a specific event and an illness that later developed. The sub-council is also responsible for making recommendations to the Secretary of VA on needed corrections to ILER so that it better reflects toxic-exposed veterans.⁵⁵ According to VA officials, as of December 2023, the sub-council had not identified any needed corrections.

- **Identified illnesses for scientific review.** VA has identified illnesses to further assess for their potential links to military toxic exposures for the purposes of adding them to its list of presumptive conditions.⁵⁶ In July 2023, VA published a Federal Register notice, as required by the PACT Act, about its plans to assess acute leukemias, chronic leukemias, and multiple myeloma originating outside of the head and neck and their relationships to certain military toxic exposures.⁵⁷ VA officials also are working to identify additional illnesses that may be related to toxic exposures. This effort includes soliciting input from veterans service organizations, veterans, and other stakeholders.
- **Entered into an agreement for an independent review of the presumption decision process.** In December 2022, VA entered into an agreement with the National Academies of Sciences, Engineering, and Medicine to review VA's process for establishing a presumption of service connection for toxic exposures and illnesses. In August 2023, the National Academies of Sciences, Engineering, and Medicine issued a report on VA's current presumption decision process and made five recommendations to improve this process. For example, the report recommended that VA have decisions periodically expert-

⁵⁴The PACT Act requires the Secretary of VA to establish a working group to assess cases of toxic exposure and is authorized to develop recommendations regarding toxic exposure. The PACT Act also requires the establishment of a process for conducting formal evaluations with respect to recommendations made regarding toxic exposure cases. Pub. L. No. 117-168, tit. II, § 202, 136 Stat. 1767, 1768 (2022), codified at 38 U.S.C. §§ 1172-1173.

⁵⁵The PACT Act requires periodic assessment of ILER to ensure the accuracy of data collected, and the working group may make recommendations based on these assessments. 38 U.S.C. §§ 1172-1173.

⁵⁶Pub. L. No. 117-168, tit. II § 202, 136 Stat. 1767, 1768 (2022).

⁵⁷88 Fed. Reg. 48291 (July 26, 2023). The public comment period for this notice ended on August 25, 2023. Multiple myeloma originating in the head and neck were added by the PACT Act to the list of presumptive conditions and are not part of this evaluation.

reviewed to assess whether they are scientifically based, fair, timely, and veteran-centric, among other things.⁵⁸ VA officials told us in November 2023, that the agency had prepared a report for the Secretary of VA that endorses the recommendations.

- **Established a working group to facilitate federal collaboration.** In April 2023, VA established the Interagency Toxic Exposure Research Working Group, which includes 35 representatives from nine federal agencies.⁵⁹ The working group is responsible for identifying toxic exposure research activities being conducted across the federal government. According to VA officials, the working group meets biweekly. As of November 2023, the working group had analyzed federal agencies' resources to identify and characterize their infrastructure and capabilities for conducting toxic exposure research. The working group had also drafted an outline of strategic objectives as of November 2023.
- **Established a military toxic exposure public health website.** VA established a public health website in August 2023 to serve as a toxic exposure research clearinghouse. Among the website's resources are the definition of toxic exposure; a list of the chemicals, air pollutants, and occupational hazards of interest; and a list of related PACT Act-mandated research studies.⁶⁰

See Appendix II for the status of VA's efforts to address PACT Act provisions related to research on specific illnesses and exposure events.

Conclusions

The ILER web application delivers actionable information to claims benefits staff, clinicians, and researchers. Thus, ILER is an important tool in helping DOD and VA improve the care and services they provide to service members and veterans and better understand military toxic exposures. Since ILER's initial deployment in 2019, DOD and VA have taken key steps to improve its capabilities and respond to challenges staff have faced in accessing and using the web application. Given its

⁵⁸National Academies of Sciences, Engineering, and Medicine, *Review of the Department of Veterans Affairs Presumption Decision Process* (Washington, D.C.: National Academies Press, 2023).

⁵⁹Pub. L. No. 117-168, tit. V § 501, 136 Stat. 1785 (2022). The working group includes representatives from the Departments of Commerce, Defense, Energy, Health and Human Services, Labor, State, and Veterans Affairs; the Environmental Protection Agency; and the Executive Office of the President.

⁶⁰VA, "Toxic Exposure Research Clearinghouse" (Washington, D.C.: August 8, 2023), accessed January 12, 2024, <https://www.publichealth.va.gov/exposureresearch/index.asp>.

important uses, DOD and VA aim to maximize its use among all relevant staff. However, the agencies—through the Deployment Health Work Group—are not monitoring whether they are achieving this aim. By establishing goals on the extent of ILER use by types of staff and purpose and measuring progress toward those goals, the work group will better be able to determine whether additional outreach or education efforts are needed to encourage use among types of staff for whom ILER use may be lagging. These efforts, in turn, would increase service members' and veterans' opportunities to receive care and services from staff who are leveraging this important tool.

Recommendations for Executive Action

We are making a total of four recommendations, two to DOD and two to VA:

The Assistant Secretary of Defense for Health Affairs should ensure that the Deployment Health Work Group establishes goals with performance measures on the extent of ILER use by types of staff and purpose within DOD and VA (Recommendation 1).

The Assistant Secretary of Defense for Health Affairs should ensure that the Deployment Health Work Group or other relevant entities, such as the ILER Steering Group, use the data collected for the goals' performance measures to inform management decisions, including outreach, training, or other efforts that support the appropriate use of ILER (Recommendation 2).

The VA Under Secretary for Health should ensure that the Deployment Health Work Group establishes goals with performance measures on the extent of ILER use by types of staff and purpose within DOD and VA (Recommendation 3).

The VA Under Secretary for Health should ensure that the Deployment Health Work Group or other relevant entities, such as the ILER Steering Group, use the data collected for the goals' performance measures to inform management decisions, including outreach, training, or other efforts that support the appropriate use of ILER (Recommendation 4).

Agency Comments

We provided a draft of this report to DOD and VA for review and comment. The departments' comments are reprinted in appendix III and IV. In written comments, DOD and VA concurred with our recommendations. VA stated that the agencies will develop plans to take the recommended actions as part of the development of a new joint subcommittee on ILER that reports directly to the Health Executive

Committee. VA also provided technical comments, which we incorporated as appropriate.

We are sending copies of this report to the appropriate congressional committees, the Secretaries of Defense and Veterans Affairs, and other interested parties. In addition, the report is available at no charge on the GAO website at <https://www.gao.gov>.

If you or your staff have any questions about this report, please contact me at (202) 512-7114 or hundrup@gao.gov. Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this report. GAO staff who made key contributions to this report are listed in appendix V.



Alyssa M. Hundrup
Director, Health Care

List of Committees

The Honorable Jack Reed
Chairman
The Honorable Roger Wicker
Ranking Member
Committee on Armed Services
United States Senate

The Honorable Jon Tester
Chairman
The Honorable Jerry Moran
Ranking Member
Committee on Veterans' Affairs
United States Senate

The Honorable Mike Rogers
Chairman
The Honorable Adam Smith
Ranking Member
Committee on Armed Services
House of Representatives

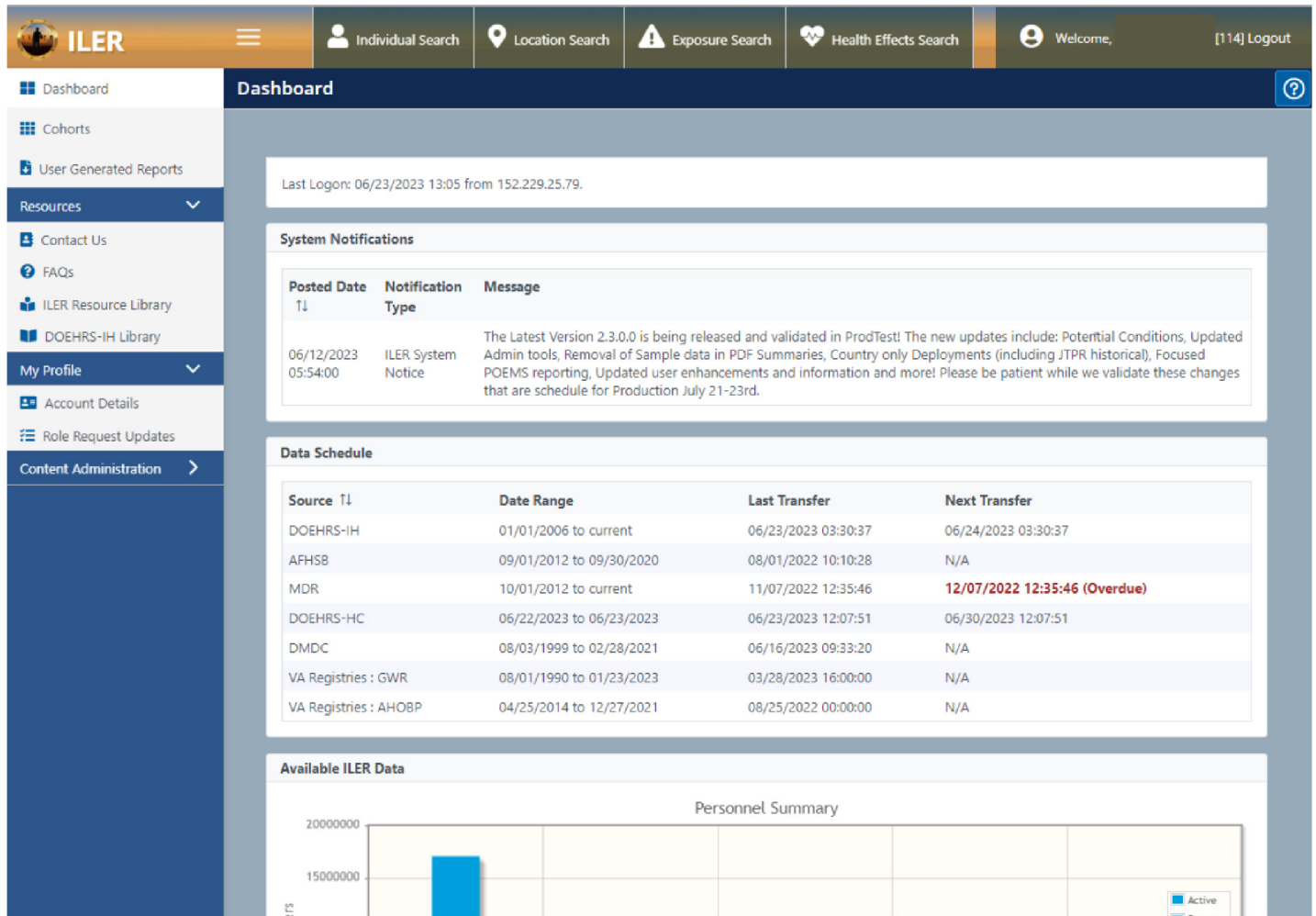
The Honorable Mike Bost
Chairman
The Honorable Mark Takano
Ranking Member
Committee on Veterans' Affairs
House of Representatives

Appendix I: Examples of Information Displays in the Individual Longitudinal Exposure Record (ILER)

This appendix provides examples of how information is displayed in ILER. Through the web application, Department of Defense and Department of Veterans Affairs staff can view exposure and deployment information from various agency data sources. The landing page of the web application—available to staff once they log in—displays (among other things) which data sources feed into ILER, including their date ranges (see fig. 4). From this page, staff can choose which search function they would like to complete (e.g., individual search), depending on their purpose for using ILER. After completing a search, ILER displays records organized into sections by type of exposure information with each labeled with the data source and the count of available data from that source (see fig. 5).

**Appendix I: Examples of Information Displays
in the Individual Longitudinal Exposure Record
(ILER)**

Figure 4: Individual Longitudinal Exposure Record (ILER) Web Application Default Landing Page with Information on Data Sources

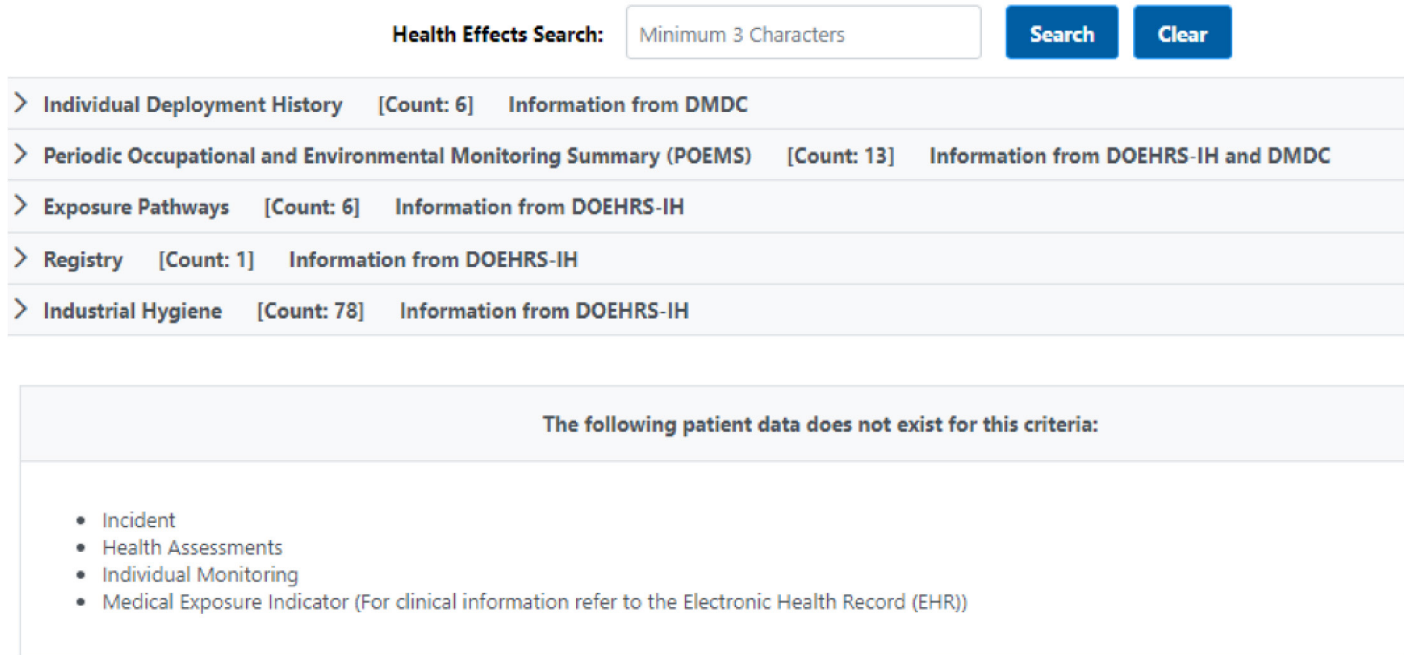


Source: Department of Defense and Department of Veterans Affairs ILER User Guide (supports ILER version 2.4). | GAO-24-106423

Note: The landing page of the web application—available to staff once they log in—displays (among other things) which data sources feed into ILER, including the date ranges of data captured in the data sources and when the data were last transferred into ILER.

Appendix I: Examples of Information Displays
in the Individual Longitudinal Exposure Record
(ILER)

Figure 5: Examples of Sections of Records Displayed in Individual Longitudinal Exposure Record (ILER) Resulting from an Individual Search



Source: Department of Defense and Department of Veterans Affairs ILER User Guide (supports ILER version 2.4). | GAO-24-106423

Note: The figure shows the screen in ILER after completing an individual search. ILER displays records organized into different sections by type of exposure information. It also indicates the number of records available for each type of information, as well as the database that provided the records. For example, the searched individual has six individual deployment history records—sourced from the Defense Manpower Data Center—available in ILER. The Health Effects Search field at the top of the screen allows the user to search for information related to specific symptom or illness (e.g., pulmonary conditions) within an individual's ILER exposure summary.

Appendix II: Department of Defense (DOD) and Department of Veterans Affairs (VA) Military Toxic Exposure Related Efforts

This appendix provides information on examples of military toxic exposure research efforts funded or conducted by DOD and VA. These research efforts include programs or studies that have identified conditions that are presumed to be caused by toxic exposures or are being investigated potential links between conditions and military toxic exposures. Table 4 includes examples of DOD's and VA's toxic exposure research efforts.

**Appendix II: Department of Defense (DOD) and
Department of Veterans Affairs (VA) Military
Toxic Exposure Related Efforts**

Table 4: Examples of Ongoing Department of Defense (DOD) and Department of Veterans Affairs (VA) Military Toxic Exposure Research Efforts, as of November 2023

DOD's Millennium Cohort Study

- Initiated in 2001 to understand the effects of military service on the long-term health of service members and veterans.
- Participants enroll during their military service and complete surveys every 3 to 5 years through 2068.
- To date, over 260,000 service members have enrolled, making this the largest and longest ongoing cohort study of U.S. military personnel.
- Research topic areas include physical and mental health and health-related behavior.
- Received about \$7.3 million in fiscal year 2023.

Examples of health conditions studied:

- Cancer, including lung cancer and melanoma
- Asthma
- Chronic bronchitis
- Emphysema
- Sinusitis

Examples of exposures studied:

- Open-air burn pit smoke
- Per-and polyfluoroalkyl substances, known as PFAS and found in firefighter foam and many consumer products

Examples of recently completed studies:

- Neika Sharifian et al., "Risk and Protective Factors for Cancer Mortality Among United States Service Members and Veterans (2001-2018)." *Cancer Epidemiology, Biomarkers, & Prevention* 32, no. 5 (May 2023): 606-616. <https://doi.org/10.1158/1055-9967.EPI-22-0943>.
- Jennifer N. Belding et al., "Single and Repeated High-Level Blast, Low-Level Blast, and New-Onset Self-Reported Health Conditions in the U.S. Millennium Cohort Study: An Exploratory Investigation." *Frontiers in Neurology* 14, 1110717 (March 2023). <https://doi.org/10.3389/fneur.2023.1110717>.

Examples of ongoing studies:

- Rudolph Rull and Aarti Gautam. Identification of Molecular Indicators Associated with Open-air Burn Pit Smoke Exposure.
 - Rudolph Rull. Comprehensive Analysis of Both Short- and Long-chain Per-and Polyfluoroalkyl Substances Congeners Measured in Existing Serum Collected from Military Firefighters and Construction Workers Enrolled in the Millennium Cohort Study.
 - Jennifer Powers, Rudolph Rull, and Gregory Gray. Establishing the Role of Deployments in Melanoma in the Military.
-

**Appendix II: Department of Defense (DOD) and
Department of Veterans Affairs (VA) Military
Toxic Exposure Related Efforts**

DOD's Toxic Exposures Research Program

- Initiated in fiscal year 2022 to improve scientific understanding of toxic exposure pathobiology, efficiently assess comorbidities, and speed the development of treatments, cures, and preventions.
- Research topic areas include neurotoxin exposure, Gulf War Illness and its treatment, airborne hazards and burn pits, among others.
- Received \$30 million in fiscal year 2023.

Examples of health conditions studied:

- Gulf War Illness
- Chronic respiratory diseases, such as bronchitis and asthma
- Cancers, such as prostate, lung, and liver
- Parkinson's disease
- Alzheimer's disease
- Posttraumatic stress disorder

Examples of exposures studied:

- Per- and polyfluoroalkyl substances
- Particulate matter 2.5
- Sulfur dioxide
- Radiation
- Jet propellant-5
- Open-air burn pit smoke
- Pesticides
- Prophylactic medications, including those used to treat malaria
- Metals

Examples of recently completed studies: None

Examples of ongoing studies:

- Matthew Cave. Liver and Systemic Effects of Toxic Exposures.
 - Bryan McCranor. Treatment of Pulmonary Insults from Acute and Chronic Toxic Exposures with Purified Exosome Products.
 - Ashok Shetty. Contribution of Cellular Senescence and Brain Aging to Cognitive Dysfunction in Gulf War Illness.
 - Evgueni Kadossov. Safeguarding Military Lives and Health via Superior Monitoring of Environmental and Personal Chemical Exposures.^a
-

**Appendix II: Department of Defense (DOD) and
Department of Veterans Affairs (VA) Military
Toxic Exposure Related Efforts**

DOD's Peer-Reviewed Medical Research Program

- Established in fiscal year 1999 to support scientific and medical research to enhance the health, care, and well-being of service members, veterans, retirees, and their family members.
- Funds peer-reviewed research for congressionally-specified research topic areas.
- Strategic goals for two of the program's current military toxic-exposure-related topic areas—pulmonary fibrosis and respiratory health: a) to determine how airborne hazards, toxins, or nanomaterial exposures cause respiratory injury and disease; and b) develop and validate sensors to assess environmental or physiological levels of exposure to airborne hazards or toxins.
- Received \$370 million in fiscal year 2023.

Examples of health conditions studied:

- Respiratory diseases, such as constrictive bronchiolitis, chronic obstructive pulmonary disease, bronchitis, and asthma
- Lung disorders, such as pneumonitis, emphysema, acute lung injury, and acute respiratory distress syndrome
- Pulmonary fibrosis
- Cardiovascular disease
- Rheumatoid arthritis
- Examples of exposures studied:
 - Open-air burn pit smoke
 - Airborne hazards
 - Radionuclides
 - Heavy metals

Example of a recently completed study:

- Gregory Downey, *Mechanisms and Treatment of Deployment-Related Lung Injury: Repair of the Injured Epithelium* (Denver, CO: National Jewish Medical and Research Center, 2022).

Examples of ongoing studies:

- David Jackson. Development of a Field-Use Therapeutic for Pulmonary Injuries from Trauma or Chemical Exposure.
 - Mark Cridge. A Wearable Device for Airborne Hazard and Burn Pit Exposure Monitoring.
 - David Savitz. Impact of Open Burn Pit Exposure on Respiratory and Cardiovascular Health Among Military Veterans.
-

**Appendix II: Department of Defense (DOD) and
Department of Veterans Affairs (VA) Military
Toxic Exposure Related Efforts**

VA's Airborne Hazards and Burn Pits Center of Excellence

- Established in 2013 to conduct research on and assess veterans' cardiopulmonary function, military and non-military exposures, and health-related symptoms for those with airborne hazard concerns.
- Renamed in 2019 when Congress provided \$5 million to develop a concentration in burn pit study and research.^b
- Research focuses on a range of health concerns related to airborne hazard exposure, including respiratory concerns, such as unexplained shortness of breath, and detecting emerging trends and patterns in post-deployment health conditions.
- Received \$13 million in fiscal year 2023.

Examples of health conditions studied:

- Gulf War Illness, including post-exertion malaise
- Respiratory concerns, including unexplained shortness of breath

Examples of exposures studied:

- Blast overpressure
- Open-air burn pit smoke
- Airborne hazards

Examples of recently completed studies:

- Dane Cook and Michael Falvo. Post Exertion Malaise in GWI: Brain, Autonomic and Behavioral Interactions (Madison, WI: William S. Middleton Memorial Veterans' Hospital, 2023).
- Drew Helmer and Michael Falvo, Lung Injury Etiology, Risk Factors, and Morbidity of Single and Repeated Low-Level Blast Overpressure Exposure (Houston, TX: Baylor College of Medicine, 2023).

Example of an ongoing study:

- John Osterholzer and Michael Falvo. Advancing Non-Invasive Diagnostics and Treatments of Deployment-Related Chronic Lung Disease in Gulf War Veterans.

VA's Women's Operational Military Exposure Network

- Established in October of 2022 to provide clinical care and conduct research on how military women's post-deployment health concerns and needs differ from men, specifically, how military toxic exposure may affect women differently in the long-term and how that affects their care needs.
- Conducts research to understand how environmental toxins may adversely affect the female reproductive system, specifically women's reproductive organ and hormonal systems.
- Received \$2.4 million in fiscal year 2023.

Examples of health conditions studied:

- Breast, uterine, cervical, and ovarian cancer
- Infertility
- Cardiovascular diseases
- Autoimmune diseases
- Depression
- Post traumatic stress disorder
- Dementia
- Eating disorders

Examples of exposures studied:

- Particulate matter pollution

Examples of recently completed studies: None

Examples of an ongoing study:

- Maheen Mausooof Adamson. Breast Cancer in Deployed Women Veterans.
-

**Appendix II: Department of Defense (DOD) and
Department of Veterans Affairs (VA) Military
Toxic Exposure Related Efforts**

VA's Million Veteran Program^c

- Launched in 2011 to learn how genes, lifestyle, military experiences, and exposures affect health and wellness in veterans.
- Eligible veterans complete surveys about their health, lifestyle habits, military history, and personal and family history, and provide a blood sample for genetic analysis. This information is stored in the Million Veteran Program database and made available to VA researchers with approved projects.
- Since 2011, more than 1,000,000 Veterans have joined the Million Veteran Program.
- As of September 2023, there were over 100 ongoing projects with access to the Million Veteran Program data for genomic and epidemiological studies.
- Currently facilitating the Sergeant First Class Heath Robinson Honoring our Promise to Address Comprehensive Toxics Act of 2022 (PACT Act) and military exposures-related research with data.
- Received about \$8.2 million in fiscal year 2023.

Examples of health conditions studied:

- Cancer, including prostate cancer
- Cardiovascular disease
- Diabetes
- Gulf War Illness
- Lymphoid malignancies
- Dementia
- Posttraumatic stress disorder

Examples of exposures studied:

- Agent Orange
- Open-air burn pit smoke

Examples of a recently completed study:

- Richard Hauge, Clinical Manipulation of Testosterone and Its Impact on Dementia and Health (San Diego, CA: Veterans Affairs Healthcare System, 2021).

Examples of ongoing studies:

- Helen Ma. Epigenetic Dysregulation, Genetic Mutations, and Outcomes of Lymphoid Malignancies Related to Agent Orange and Burn Pit Exposures Compared to Unexposed Case-Matched Controls.
 - Drew Helmer and Beth Hauser. Genomics of Gulf War Illness in Veterans.
-

**Appendix II: Department of Defense (DOD) and
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VA's Military Exposures Research Program

- Established in 2023 to advance military exposure assessments and understand the effects of military exposures on veterans' health outcomes to inform care and policy.
- Issued two research funding announcements in January 2023 and two more in October 2023.
- Will be launching and supporting research through Military Exposure Research Innovation Centers, which will focus on exposure assessments, Gulf War Illness, burn pits, and more.
- Received about \$3.4 million in fiscal year 2023.

Examples of health conditions studied:

- Constrictive bronchiolitis
- Gulf War Illness

Examples of exposures studied:

- Open-air burn pit smoke
- Per- and polyfluoroalkyl substances

Examples of recently completed studies: None

Example of an ongoing study:

- Bradley Richmond. Post-Deployment Respiratory Illness in Veterans of Iraq and Afghanistan.

Source: GAO analysis of DOD and VA research programs and information provided by DOD and VA officials. | GAO-24-106423

Note: The exposures identified in the table refer to toxins that veterans were exposed to during active military service. The listed exposures and health conditions under each identified research effort are examples and may not comprise a comprehensive list of all exposures and health conditions related to military toxic exposures ever investigated by the programs. The programs listed are selected programs under DOD and VA and do not represent a comprehensive list of efforts under which military exposures and their related or presumed-to-be related health conditions are studied. For example, according to DOD, the Defense Health Agency through the Military Operational Medicine Research Program, is also conducting several relevant studies. Some of the listed efforts are new, such as the DOD Toxic Exposures Research Program and the VA Military Exposures Research Program and have not yet completed studies. For these programs, the listed health conditions and exposures are currently being or will be studied.

^aAccording to DOD, this study may involve the Individual Longitudinal Exposure Record (ILER) application. ILER, which DOD and VA jointly launched in 2019, is a web application that compiles and links exposure information for service members and veterans to their deployment and medical information. It supports DOD's efforts to provide health care to service members and VA's efforts to provide health care to and process disability claims for veterans and can also be used for research. This study plans to develop an environmental and personal chemical exposure monitoring device. Sampling rates will be incorporated into a data repository platform, which will enable sorting and exporting to ILER.

^bH. Rpt. 115-929 accompanying H.R. 5895, Energy and Water, Legislative Branch, and Military Construction and Veterans Affairs Appropriations Act, 2019 at 258 (Sep. 10, 2018).

^cThe Million Veteran Program established a task force to explore a process to integrate military exposure data sources, including ILER, with the Million Veteran Program's data. The Million Veteran Program Phenomics Core staff have obtained access to ILER and are exploring the data available.

**Appendix II: Department of Defense (DOD) and
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Table 5 provides information on awards funded through the Department of Veterans Affairs’ Office of Research and Development. Awards are for research studies that are investigating military toxic exposures and conditions presumed to be caused by or that may be linked to military toxic exposures.

Table 5: Department of Veterans Affairs (VA) Office of Research and Development Military Toxic Exposure Research Studies Funded or Under Way in Fiscal Year 2023

Amount in dollars

Research service	Study title	Study period	Total funding
Deployment-Related Airborne or Biologic Exposures			
Biomedical Laboratory Research and Development	Collaborative Merit Award: Pulmonary and Systemic Effects of Deployment Related Particulate Matter Exposures	January 2020 – December 2024	705,975
	Collaborative Merit Award: Pulmonary and Systemic Effects of Deployment Related Particulate Matter Exposures	January 2020 – December 2024	700,994
	Collaborative Merit Award: Pulmonary and Systemic Effects of Deployment Related Particulate Matter Exposures	January 2020 – December 2025	660,000
	The Roles of the Necroptotic and Excitotoxic Pathways in Diisopropyl Fluorophosphate-Induced Neuronal Necrosis	April 2020 – March 2024	707,776
	Toxicant Exposure Impacts Host-Pathogen Interactions within the Reproductive Tract	January 2021 – December 2024	1,200,027
	Defining Breath Volatile Organic Compound Biomarkers to Improve Respiratory Health of Exposed Veterans	September 2020 – September 2025	650,000
	Investigating a Model for Particulate-Matter-Induced Exacerbation of Autoimmunity	July 2019 – March 2024	706,250
	Basic and Translational Mechanisms of Cancer Initiation of the Urothelium in Veterans Exposed to Carcinogens: <i>Role of Peroxisome Proliferator Activated Receptor-Gamma in the Formation and Progression of Carcinoma in situ of the Bladder</i>	April 2022 – March 2026	1,195,732
	Basic and Translational Mechanisms of Cancer Initiation of the Urothelium in Veterans Exposed to Carcinogens: <i>Defining the Molecular and Spatial Features of Carcinoma in situ of the Bladder</i>	October 2021 – September 2025	1,200,000
	Basic and Translational Mechanisms of Cancer Initiation of the Urothelium in Veterans Exposed to Carcinogens: <i>Leveraging Artificial Neural Networks to Enhance Detection of Carcinoma in situ</i>	October 2021 – September 2024	1,200,000
The Interaction of Parkin and Environmental Toxins in Parkinson’s Disease	April 2018 – March 2023	1,003,875	
Health Services Research and Development	Exploring the Sergeant First Class Heath Robinson Honoring our Promise to Address Comprehensive Toxics Act of 2022 (PACT Act) and the Role of Priority Groupings in Delivering Veterans Health Administration Care ^a	May 2023 – April 2024	55,185

**Appendix II: Department of Defense (DOD) and
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Research service	Study title	Study period	Total funding
Clinical Science Research and Development	Microbial Dysbiosis Among Veterans Following Deployment-Related Airborne Exposures	October 2021 – September 2025	1,252,009
	Epigenetic Dysregulation, Genetic Mutations, and Outcomes of Lymphoid Malignancies Related to Agent Orange and Burn Pit Exposures Compared to Unexposed Case-Matched Controls	January 2023 – December 2027	2,083,178
	Pulmonary Vascular Dysfunction after Deployment-Related Exposures	April 2018 – March 2023	1,231,744
	Clinical Markers and Monitoring for Post-9-11 Deployment Lung Diseases	October 2019 – September 2024	1,577,462
Cooperative Studies Program	Cooperative Studies Program #505 - Millennium Cohort Study	July 2001 – September 2027	1,890,152
Specific to 1990-1991 Gulf War Veterans			
Biomedical Laboratory Research and Development	VA Biorepository: Gulf War Veterans' Illnesses Biorepository	September 2020 – August 2024	961,368
	Integrating Genomics and Metabolomics Data to Identify Molecular Characteristics of Gulf War Veterans' Illnesses	January 2023 – December 2026	1,246,215
	Gulf War Veterans' Illness: Symptom Chronicity via Interactions of Diet and Lifestyle Risk Factors with the Gut Microbiome	October 2020 – September 2024	1,302,746
	Advancing Non-Invasive Diagnostics and Treatments of Deployment-Related Chronic Lung Disease in Gulf War Veterans	July 2020 – June 2024	991,667
	Humanized Mouse Model of Gulf War Veterans' Illness	January 2023 – December 2024	515,652
	Immune Basis for Hippocampal Cholinergic Deficits in Pyridostigmine-Treated Rats	October 2019 – September 2024	2,543,887
	Collaborative Merit Award: Immune/Inflammatory Priming in Exacerbating Responses to Gulf War Veterans' Illness Stressors: Implications for Gulf War Veterans' Illness Treatments	July 2019 – June 2024	2,910,978
Rehabilitation Research and Development	Health Coaching for Chronic Multi-symptom Illness	April 2020 – March 2025	1,197,808
Health Services Research and Development	Collaborative Specialty Care for Gulf War Illness	June 2020 – May 2025	2,022,748
	Listening to Gulf War Veterans: A Qualitative Inquiry into the Health Experience and Treatment of those with Chronic Multi-Symptom Illness	September 2018 – March 2024	1,021,817
Clinical Science Research and Development	Alveolar Macrophage Dysregulation in the Pathogenesis of Gulf War Respiratory Illness	October 2022 – September 2026	1,034,808
	The Role of the Brain Stem in Gulf War Veterans' Illness Pathology	April 2021 – March 2025	1,008,875
Clinical Science Research and Development	VA National Institutes of Health Investigative Deep Phenotyping Study of Gulf War Veteran Health (Project IN-DEPTH) ^b	October 2020 – September 2026	8,057,041

**Appendix II: Department of Defense (DOD) and
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Research service	Study title	Study period	Total funding
	Post Exertion Malaise in Gulf War Illness: Brain Autonomic and Behavioral Interactions	January 2016 – September 2024	7,603,405
	An Investigation of the Relationship Between Toxicant Exposures During Gulf War Deployment and Prodromal Parkinson’s Disease.	January 2019 – December 2024	2,219,193
	Collaborative Merit Award: Immune/Inflammatory Priming in Exacerbating Responses to Gulf War Veterans’ Illness Stressors: Implications for Gulf War Veterans’ Illness Treatments	April 2019 – March 2025	2,910,978
	Lung Cancer Susceptibility in Deployed Gulf War Veterans	April 2023 – March 2027	1,459,671
	Biomedical Laboratory Research Development and Clinical Science Research and Development Collaborative Merit Award: Targeting Gut-Microbiome in Veterans Deployment Related Gastrointestinal and Liver Diseases; CMA5- Functional Metagenomics in GWI-Related Gut Dysfunction	July 2023 – June 2027	1,199,995
	Acute Exercise Tolerance Among Veterans with Gulf War Illness	July 2018 – June 2024	1,059,420
	Repetitive Transcranial Magnetic Stimulation in Alleviating Pain and Co-morbid symptoms in Gulf War Veterans’ Illness	October 2019 – September 2025	1,869,639
	Microbiome Targeted Oral Butyrate Therapy in Gulf War Multi-Symptom Illness	January 2023 – December 2027	3,068,305
	Biomarker Candidates in Gulf War Veterans: A 10-year Follow-up Investigation	July 2018 – September 2024	2,414,269
	Novel Interventions for Gulf War Veterans’ Illnesses	April 2016 – September 2024	1,762,753
Cooperative Studies Program	Cooperative Studies Program #585 – Gulf War Era Cohort and Biorepository (Pilot)	April 2010 – December 2024	12,397,462
	Cooperative Studies Program #2006 – Genomics of Gulf War Illness in Veterans	April 2015 – December 2026	8,922,499
Specific to Post 9-11 Iraq and Afghanistan Veterans			
Clinical Science Research and Development	Post-Deployment Respiratory Syndrome in Veterans of Iraq and Afghanistan	April 2023 – March 2028	4,517,503
Cooperative Studies Program	Cooperative Studies Program #595 - Pulmonary Health and Deployment to Southwest Asia and Afghanistan	May 2016 – December 2027	19,309,562

Source: GAO summary of information from VA’s Office of Research and Development and VA officials. | GAO-24-106423

Note: The Veterans Health Administration, within VA, awards funding through its Office of Research and Development for research studies that are investigating military toxic exposures and conditions presumed to be caused by or that may be linked to military toxic exposures.

^aThe PACT Act, enacted in August 2022, expanded VA health care and benefits to veterans who experienced toxic exposures and included provisions on the use of the Individual Longitudinal Exposure Record (ILER) web application by the Department of Defense (DOD) and VA.

^bThis project used the ILER web application. ILER compiles and links exposure information for service members and veterans to their deployment and medical information. It supports DOD’s efforts to provide health care to service members and VA’s efforts to provide health care to and process

**Appendix II: Department of Defense (DOD) and
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disability claims for veterans and can also be used for research. According to VA, as part of project IN-DEPTH, a medical records review is conducted at two points of the study (pre-screen and after enrollment). ILER is used at this stage to provide early objective documentation of certain exposures that may be linked to Gulf War Illness and will also be used to supplement the self-reported exposures from Gulf War veterans.

Table 6 provides information on provisions in the Sergeant First Class Heath Robinson Honoring our Promise to Address Comprehensive Toxics Act of 2022 (PACT Act) to conduct toxic exposure-related research.

Table 6: Status of Department of Veterans Affairs (VA) Efforts to Address the Sergeant First Class Heath Robinson Honoring our Promise to Address Comprehensive Toxics Act of 2022 (PACT Act) Research-Related Provisions, as of January 2024

PACT Act section	Description	Status
502. Analysis and Report on Treatment of Veterans for Medical Conditions Related to Toxic Exposure	Requires VA to analyze, on a continuous basis, all clinical data that is obtained by VA in connection with hospital care, medical services, and nursing home care; and that is likely to be scientifically useful in determining the association, if any, between the medical condition of a veteran and a toxic exposure. This section also required an initial report to Congress in 2023 and annually thereafter.	VA's Health Outcomes Military Exposures office provided an initial report to Congress on August 10, 2023.
503. Analysis Relating to Mortality of Veterans Who Served in Southwest Asia	Requires VA in coordination with DOD to conduct an updated analysis of total and respiratory disease mortality in covered veterans.	VA's Health Outcomes Military Exposures office completed the analysis in spring 2023.
504. Study on Health Trends of Post-9/11 Veterans	Requires VA to conduct an epidemiological study on the health trends of veterans who served in the armed forces after September 11, 2001.	The study is in process as of January 2024.
505. Study on Cancer Rates Among Veterans	Requires VA to conduct a study on the incidence of cancer in veterans to determine trends in the rates of the incidence of cancer in veterans.	The study is in process as of January 2024.
506. Study on Health Effects of Waste Related to Manhattan Project on Certain Veterans	Requires VA to enter into an agreement with the National Academies of Sciences, Engineering, and Medicine to study the health trends of veterans who participated in or resided near the Manhattan Project while serving in the active military, naval, air, or space service. Requires a report to Congress in 2025.	VA entered into an agreement with the National Academies of Sciences, Engineering, and Medicine to conduct the study, which is in process as of January 2024. ^a
507. Study on Toxic Exposure and Mental Health Outcomes	Requires VA to enter into an agreement with the National Academies of Sciences, Engineering, and Medicine to assess possible relationships between toxic exposures experienced during service in the armed forces and mental health conditions. Requires a report to Congress in 2025.	VA entered into an agreement with the National Academies of Sciences, Engineering, and Medicine to conduct the study, which is in process as of January 2024. ^b
510. Report on Health Effects of Jet Fuels Used by Armed Forces	Requires VA to submit a publicly available report on health effects of jet fuels used by the armed forces. Required a report to Congress in 2023.	VA's Health Outcomes Military Exposures office completed the report and submitted it to Congress on September 15, 2023.

Source: GAO summary of PACT Act provisions and information provided by VA officials. | GAO-24-106423

Note: The PACT Act was enacted on August 10, 2022, and expanded VA health care and benefits to veterans who experienced toxic exposures.

^aOn August 30, 2023, the National Academies of Sciences, Engineering, and Medicine issued a call for experts on the feasibility of assessing veteran health effects of the Manhattan Project (1942-1947) related waste. The call for experts stated that nominations were due by September 22, 2023.

**Appendix II: Department of Defense (DOD) and
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^bOn November 6, 2023, the National Academies of Sciences, Engineering, and Medicine issued a call for experts to participate in this study, and nominations were due by November 17, 2023.

Appendix III: Comments from the Department of Defense



THE ASSISTANT SECRETARY OF DEFENSE

1200 DEFENSE PENTAGON
WASHINGTON, DC 20301-1200

HEALTH AFFAIRS

April 24, 2024

Ms. Alyssa M. Hundrup
Director, Health Care
U.S. Government Accountability Office
441 G Street, N.W.
Washington, DC 20548

Dear Ms. Hundrup,

This is the Department of Defense (DoD) response to the Government Accountability Office (GAO) Draft Report GAO-24-106423, "MILITARY HEALTH CARE: DoD and VA Could Benefit from More Information On Staff Use of Military Toxic Exposure Records," dated February 29, 2024 (GAO Code 106423).

Attached is DoD's proposed response to the subject report. My point of contact is Mr. Steve Jones, who may be reached at (703) 681-7335 or steven.p.jones10.civ@health.mil.

Sincerely,

MULLEN.SEILEE
N.MARIE.151985
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Lester Martínez-López, M.D., M.P.H.

Attachments:
As stated

**GAO DRAFT REPORT DATED FEBRUARY 29, 2024
GAO-24-106423 (GAO CODE 106423)**

**“MILITARY HEALTH CARE: DOD AND VA COULD BENEFIT FROM MORE
INFORMATION ON STAFF USE OF MILITARY TOXIC EXPOSURE RECORDS”**

**DEPARTMENT OF DEFENSE COMMENTS
TO THE GAO RECOMMENDATIONS**

RECOMMENDATION 1: The Assistant Secretary of Defense for Health Affairs should ensure that the Deployment Health Work Group establishes goals with performance measures on the extent of ILER use by types of staff and purpose within DoD and VA.

DoD RESPONSE: Concur with the draft report as written.

RECOMMENDATION 2: The Assistant Secretary of Defense for Health Affairs should ensure that the Deployment Health Work Group or other relevant entities, such as the Individual Longitudinal Exposure Record Steering Group, uses the data collected for the goals’ performance measures to inform management decisions, including outreach, training, or other efforts that support the appropriate use of ILER.

DoD RESPONSE: Concur without comment.

Appendix IV: Comments from the Department of Veterans Affairs



DEPARTMENT OF VETERANS AFFAIRS
WASHINGTON

March 27, 2024

Ms. Alyssa M. Hundrup
Director
Health Care
U.S. Government Accountability Office
441 G Street, NW
Washington, DC 20548

Dear Ms. Hundrup:

The Department of Veterans Affairs (VA) has reviewed the Government Accountability Office (GAO) draft report: ***MILITARY HEALTH CARE: DOD and VA Could Benefit from More Information on Staff Use of Military Toxic Exposure Records*** (GAO-24-106423).

The enclosure contains technical comments and the action plan to address the draft report recommendations. VA appreciates the opportunity to comment on your draft report.

Sincerely,

A handwritten signature in black ink, appearing to read "Kimberly Jackson".

Kimberly Jackson
Chief of Staff

Enclosure

Enclosure

Department of Veterans Affairs (VA) Response to the
Government Accountability Office (GAO) Draft Report
***Military Health Care: DOD and VA Could Benefit from More Information on Staff
Use of Military Toxic Exposure Records***
(GAO-24-106423)

Recommendation 3: The Under Secretary of Veterans Affairs for Health should ensure that the Deployment Health Work Group establishes goals with performance measures on the extent of ILER use by types of staff and purpose within DOD and VA.

VA Response: Concur. Given the evolution and expansion of VA's mission following the enactment of the Honoring our PACT Act of 2022 (PACT Act), demands for use of the Individual Longitudinal Exposure Record (ILER) system have increased. VA and Department of Defense (DoD) have agreed to elevate the joint governance of ILER from within the Deployment Health Work Group under the Clinical Care Business Line to its own ILER Business Line (BL) under the VA-DoD Health Executive Committee (HEC), reporting directly to the VA/DoD HEC co-chairs. The establishment of the ILER BL was announced at the HEC meeting on February 28, 2024, and at the VA/DoD Joint Executive Committee (JEC) on March 11, 2024.

The HEC ILER BL is co-chaired by the VA Veterans Experience Office (VEO) and DoD Health Readiness Policy and Oversight Office, Office of Assistant Secretary of Defense for Health Affairs.

As part of the development of this new ILER Business Line, VA and DoD will develop plans to track and establish goals with performance measures on the extent of ILER use by types of staff and purpose within DoD and VA.

Target Completion Date: September 2025

Recommendation 4: The Under Secretary of Veterans Affairs for Health should ensure that the Deployment Health Work Group or other relevant entities, such as the ILER Steering Group, uses the data collected for the goals' performance measures to inform management decisions, including outreach, training, or other efforts that support the appropriate use of ILER.

VA Response: Concur. The ILER BL will utilize the data collected from the goals and performance measures created in Recommendation 3 to inform management decisions, that could include outreach, training, or other efforts that support the appropriate use of ILER.

Through this elevated joint governance structure, VA intends to leverage ILER's stature throughout the HEC and relevant subcommittees of the JEC.

Target Completion Date: September 2025

Appendix V: GAO Contact and Staff Acknowledgments

GAO Contacts

Alyssa M. Hundrup, (202) 512-7114 or hundrupa@gao.gov

Staff Acknowledgments

In addition to the individual names above, Hernán Bozzolo (Assistant Director), Toni Harrison (Analyst-in-Charge), Maggie Devlin, and Christina Murphy made key contributions to this report. Also contributing were Monica Perez-Nelson, Sam Amrhein, Roxanna Sun, Nyree Ryder-Tee, Amber Sinclair, Sirin Yaemsiri, Shaunyce Thurman, Elena Epps, Mark Bird, Cary Russell, Guy LoFaro, Kristen Kociolek, and Christopher Spain.

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