MSMR

Medical Surveillance Monthly Report February 2026 | Vol. 33| No. 2

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A Publication of the Armed Forces Health Surveillance Division

Medical Surveillance for Military Readiness

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Tuberculosis (TB) remains a force health protection threat to the U.S. military, particularly in crucial populations at increased risk of exposure or re-activation. This analysis examined TB testing trends and the prevalence of latent tuberculosis infection (LTBI) among U.S. Army active component soldiers from 2014 through 2023, the first decade following a major policy shift to targeted testing. Defense Medical Surveillance System data indicate that a total of 339,465 TB tests were administered, primarily (81.0%) tuberculin skin tests. Of those tests, 22,762 (6.7%) were positive, leading to the identification of 18,018 (5.3%) LTBI diagnoses. Asian/Pacific Islander soldiers demonstrated the highest LTBI diagnosis proportion (10.2%), followed by non-Hispanic Black (8.6%), Hispanic (5.6%), and Non-Hispanic White (2.9%) soldiers; the data also include 'other' (6.8%) and 'unknown/missing' (3.6%) categories. Recruits exhibited a significantly higher LTBI diagnosis proportion (11.0%) than non-recruits (3.6%), highlighting a high prevalence of LTBI among incoming personnel at time of accession. A marked decline in testing volume—a 72% decrease from 2014 to 2023 in the annual numbers of tests administered—followed the 2013 U.S. Army Medical Command policy shift. The substantially higher average proportion (6.7%) of positive tests from 2014 to 2023 compared to the average from the pre-policy era (1.3%) of universal screening demonstrates the successful concentration of testing resources on those most at risk, thereby improving diagnostic yield within a low-prevalence military force. This analysis's findings describe the epidemiological outcomes of the Army's targeted testing policy and underscore the importance of ongoing, targeted surveillance to mitigate TB risks in military settings.

What are the new findings?

The 2013 policy that successfully transitioned the U.S. Army from universal tuberculosis screening to a targeted, risk-based strategy reduced testing volume by 72% over the next decade. The decline in tuberculosis testing volume coincided with a substantial increase in diagnostic yield, with the overall positivity proportion rising from 1.3% in the pre-policy era to 6.7% in 2023.

What is the impact on readiness and force health protection?

The 2013 policy revision to a targeted, risk-based tuberculosis testing strategy succeeded in focusing valuable public health resources on high-risk groups. The high prevalence (14.0%) of latent tuberculosis infection that has been identified in recruits confirms that accession is the most critical juncture for tuberculosis control within the Army. Slight but notable differences in testing type positivity suggests opportunity for further policy refinement.

Tuberculosis (TB) remains a significant force health protection concern for the U.S. military, primarily due to the risk of activating latent tuberculosis infection (LTBI) and the potential for transmission in congregate settings.[1,2] A 2014 analysis in *MSMR* of TB testing in all branches of the U.S. Armed Forces, covering the period from 2004 through 2012, provides a critical baseline for the present analysis. During that era of routine annual screening, the prevalence of LTBI diagnoses was low and stable, ranging from just 0.9% to 1.6% annually among those tested.[3] That report provides the context for the current analysis, which focuses on the U.S. Army in the decade following a major policy change.

In November 2013, the U.S. Army Medical Command (MEDCOM) published Regulation 40-64, *The Tuberculosis Surveillance and Control Program*, which fundamentally altered the Army's approach to TB control.[4] This directive shifted the strategy from universal annual testing to a targeted, risk-based testing model, aligning with modern public health principles advocated and then formally updated in May 2019 by the U.S. Centers for Disease Control and Prevention (CDC) and National Tuberculosis Controllers Association (NTCA), which revised sections of previous guidelines. The rationale for this change was to improve screening efficiency and reduce the high number of false positive results when testing large, low-prevalence populations, thereby avoiding unnecessary follow-up procedures and resource expenditures.[4,5]

Under the targeted testing policy, routine TB testing is discouraged and is instead mandated only after a formal risk assessment. Key high-risk populations designated for testing include 1) all new recruits upon accession into service, 2) personnel who have deployed or traveled to TB-endemic regions, 3) individuals identified as close contacts of an infectious TB case, and 4) personnel with specific clinical or occupational risk factors, such as health care workers.[2,4] The objective of this analysis was to describe the trends of TB tests and LTBI positivity in Army active component soldiers from January 2014 through December 2023, the first full decade following the implementation of this targeted testing policy, and to compare these findings to the pre-2013 baseline.

Methods

The analysis population included all Army active component soldiers who had a TB test at any military hospital or clinic from January 2014 through December 2023. The data source was the Defense Medical Surveillance System (DMSS). Tests for TB were identified using a combination of immunizations, laboratory, and outpatient procedure data. The DMSS includes data for Army active and reserve component soldier immunizations received during military service and administrative (i.e., billing records) from inpatient and outpatient medical encounters for all Military Health System (MHS) beneficiaries when reimbursed through TRICARE. Laboratory data for interferon gamma release assays (IGRAs), which include QuantiFERON-TB Gold Plus (QFT) and T-SPOT. QFT and T-SPOT tests are IGRAs used to detect TB infection; QFT measures overall amount of IFN-γ, or interferon gamma, while T-SPOT counts number of cells producing IFN-γ. TB tests performed during the surveillance period were provided by the Defense Center for Public Health–Portsmouth. All laboratory tests were classified as IGRA. Tuberculin skin tests (TSTs) were identified from immunizations or outpatient procedures, as depicted in **Table 1**. Outpatient procedures were used to identify additional IGRA tests **(Table 1)**. When calculating the number of tests administered, an individual was counted once per day.

For the purposes of this analysis, a 'positive' test was any TST or IGRA test result recorded as "positive" in the database. A diagnosis of LTBI was defined as an individual with a record of a positive TB test who also received a corresponding International Classification of Diseases, 9th or 10th revision, Clinical Modification (ICD-9-CM / ICD-10-CM) code for LTBI (ICD-9-CM: 795.5x; ICD-10-CM: R76.11, Z22.7) **(Table 1)** in any diagnostic position within 30 days of the test. Demographic information was identified at the time of each test, including beneficiary type, age, sex, race or ethnicity, branch of service, and geographic region of the military treatment facility performing the TB test.

Under the post-2013 targeted testing policy evaluated in this analysis, Army personnel were eligible for TB testing based on a risk assessment.

TABLE 1. Diagnostic Codes for Tuberculosis and Latent Tuberculosis Screening, Testing and Diagnosis, U.S. Army Active Component, 2014–2023

Diagnostic Code	Description	Test Type[a]
CVX (non-vaccine)		
095	Tuberculin skin test, old tuberculin multipuncture device	TST
096	Tuberculin skin test, purified protein derivative solution, intradermal	TST
097	Tuberculin skin test, purified protein derivative solution, multipuncture	TST
098	Turberculin skin test, NOS	TST
Outpatient CPT		
86580	Skin test; tuberculosis, intradermal	TST
86480	Tuberculosis test, cell mediated immunity measurement of gamma interferon antigen response	IGRA
86481	Tuberculosis test, cell mediated immunity measurement; enumeration of gammainterferon-producing T-cells in cell suspension	IGRA
86585	Skin test; tuberculosis, time test	TST
ICD-9-CM		
795.5, 795.51, 795.52	Latent tuberculosis	
010*–018*	Active tuberculosis	
ICD-10-CM		
22.7, R76.11, R76.12. Z86.15	Latent tuberculosis	
A15*–A19*	Active tuberculosis	

Abbreviations: CVX, vaccine administered; TST, tuberculin skin test; NOS, not otherwise specified; CVT, Current Procedural Terminology; TB, tuberculosis; IGRA, interferon gamma release assay; ICD-9-CM, International Classification of Diseases, 9th Revision, Clinical Modification; ICD-10-CM, International Classification of Diseases, 10th Revision, Clinical Modification.
*Codes from International Classification of Diseases include a range of codes within specified category.
[a] If CPT 86580 or 86585 or CVX code 095, 096, 097 or 098, then test type TST; if CPT 86480 or 86481 or if record from laboratory data, then test type IGRA.

Results

During the 10-year surveillance period (2014–2023), a total of 339,465 TB tests were administered to U.S. Army active component soldiers. Of these, 22,762 were positive, for an overall positivity proportion of 6.7%. This resulted in 18,018 individuals receiving a diagnosis of LTBI. As shown in **Figure 1**, the annual number of tests administered declined sharply over the surveillance period, from 82,295 in 2014 to 22,986 in 2023. Concurrently, the proportion of tests returning a positive result nearly doubled, showing a steady increase from 4.5% in 2014 to 8.5% in 2023.

The majority of tests were administered to soldiers who were male (n=270,057, 79.6%), non-Hispanic White (n=167,887, 49.5%), of enlisted rank (n=268,723, 79.2%), and ages 20-34 years (n=235,235, 69.3%). When evaluated by age, soldiers in the under age 20 years category had the highest positivity (8.3%); this age range represents the primary age for accession into the Army. Positivity was 7.3% for both the ages 20-24 and 30-34 years categories, followed by 6.8% for the age 25-29 years category **(Table 2)**.

TST was the most frequently used method (n=274,473), accounting for 81.0% of all tests, while IGRAs (n=64,992) comprised the remaining 19.0% **(Table 2)**.

While men accounted for a larger absolute number of positive tests and LTBI diagnoses, the positivity proportion was nearly identical between men (6.7%) and women (6.9%) **(Table 2)**. Proportions of positive tests and LTBI diagnoses varied notably by racial and ethnic group. Asian/Pacific Islander soldiers had the highest proportions of positive tests (13.0%) and LTBI diagnoses (10.2%), followed by non-Hispanic Black soldiers (11.2% and 8.6%, respectively). In contrast, non-Hispanic White soldiers had the lowest proportions (3.5% and 2.9%, respectively) **(Table 2)**.

A noticeable difference was observed based on recruit status. The proportion of positive tests among recruits was 14.0%, compared to 4.4% among non-recruits **(Table 2)**. The IGRA test showed a slightly higher positivity proportion (7.8%) compared to the TST (6.4%).

TABLE 2. Numbers and Percentages of Tests Positive for Latent Tuberculosis and Latent Tuberculosis Cases, U.S. Army Active Component, 2014–2023

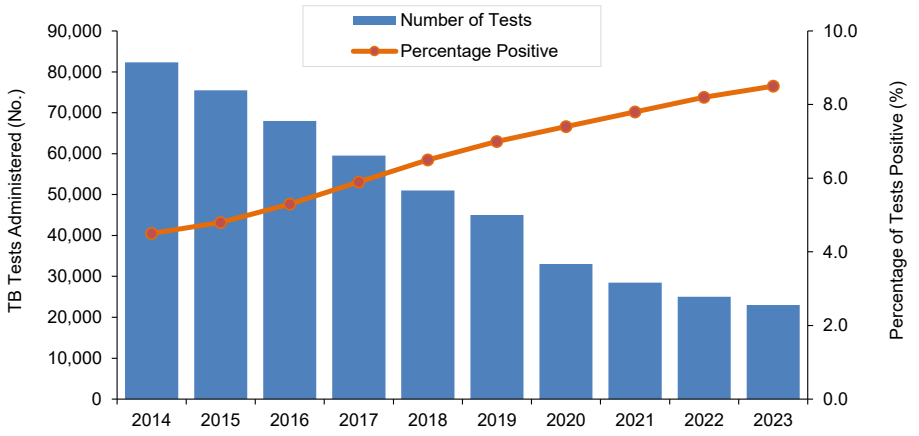
Demographic Characteristics	Total Tests	Positive Tests		LTBI Diagnoses	
	No.	No.	%	No.	%
Overall	339,465	22,762	6.7	18,018	5.3
Sex					
Male	270,057	18,005	6.7	14,254	5.3
Female	69,408	4,757	6.9	3,764	5.4
Age, *y*					
<20	42,293	3,491	8.3	2,754	6.5
20–24	97,470	7,107	7.3	5,712	5.9
25–29	81,536	5,519	6.8	4,340	5.3
30–34	56,229	4,098	7.3	3,133	5.6
35–39	31,957	1,386	4.3	1,110	3.5
40–49	26,069	1,054	4.0	877	3.4
50+	3,911	107	2.7	92	2.4
Race and ethnicity					
White, non-Hispanic	167,887	5,879	3.5	4,791	2.9
Black, non-Hispanic	63,890	7,140	11.2	5,488	8.6
Hispanic	54,957	3,796	6.9	3,070	5.6
Asian/Pacific Islander	34,511	4,494	13.0	3,528	10.2
Other	15,039	1,311	8.7	1,026	6.8
Unknown, missing	3,181	142	4.5	115	3.6
Recruit status					
Yes	80,156	11,249	14.0	8,785	11.0
No	259,309	11,513	4.4	9,233	3.6
Rank					
Enlisted	268,723	20,949	7.8	16,525	6.1
Officer	70,742	1,813	2.6	1,493	2.1
Test type					
TST	274,473	17,695	6.4	13,533	4.9
IGRA	64,992	5,067	7.8	4,485	6.9
10 leading installations					
Fort Jackson, SC[a]	38,715	5,956	15.4	4,468	11.5
USAG Yongsan-Casey, South Korea	17,191	4,533	26.4	4,043	23.5
Fort Sill, OK[a]	23,345	3,775	16.2	3,028	13.0
Fort Leonard Wood, MO[a]	13,821	1,239	9.0	985	7.1
Fort Benning, GA[a]	21,638	1,228	5.7	908	4.2
USAG Bavaria, Germany	2,462	656	26.6	475	19.3
JB San Antonio, TX	15,217	463	3.0	439	2.9
USAG Hawaii	15,166	306	2.0	232	1.5
Fort Bliss, NM, TX	12,999	299	2.3	209	1.6
NSA Bethesda, MD	9,700	285	2.9	203	2.1

Abbreviations: LTBI, latent tuberculosis infection; No., number; y, years; TST, tuberculin skin test; IGRA, interferon gamma release assay; SC, South Carolina; USAG, U.S. Army Garrison; OK, Oklahoma; MO, Missouri; GA, Georgia; JB, Joint Base; TX, Texas; NM, New Mexico; NSA, Naval Support Activity; MD, Maryland.
[a] Installation with initial entry recruit population.

Enlisted personnel had a higher proportion of positive tests (7.8%) and LTBI diagnoses (6.1%) compared to officers (2.6% and 2.1%, respectively) **(Table 2)**.

Considerable variability in test positivity was observed between military installations **(Table 2)**. Among the 10 installations with highest LTBI test positivity, U.S. Army Garrison (USAG) Bavaria, Germany, which is the largest U.S. Army training area in Europe, comprising Grafenwoehr Tower Barracks and Hohenfels Joint Multinational Readiness Center, reported the highest proportion of positive tests (26.6%) along with USAG Yongsan-Casey in South Korea, with second-highest test positivity (26.4%). Installations that serve as large initial entry training sites, such as Fort Sill, Oklahoma (16.2%) and Fort Jackson, South Carolina (15.4%), also reported high positivity proportions. Conversely, the 10 installations with the lowest positivity for LTBI—Aviano Air Base, Italy; Barksdale Air Force Base (AFB), Louisiana; Dover AFB, Delaware; Ellsworth AFB, South Dakota; Hanscom AFB, Massachusetts; Joint Base Charleston, South Carolina; Keesler AFB, Mississippi; Kirtland AFB, New Mexico; Maxwell AFB, Alabama; and U.S. European Command—each had 0% test positivity (data not shown). This could potentially be due to effective control measures, low local TB prevalence, or even a small sample size.

FIGURE. Total Number of Tuberculosis Tests Administered and Percentage of Positive Tests by Year, U.S. Army Active Component, 2014-2023



Abbreviations: TB, tuberculosis; No., number.

Discussion

This analysis of over 339,000 TB tests in the U.S. Army active component from 2014 through 2023 shows clear epidemiological outcomes following the 2013 MEDCOM policy [4] shift to targeted, risk-based screening. These findings should be viewed within the context of the greater U.S., where a diagnosis of active TB disease is relatively uncommon, with a civilian incidence rate (IR) of 2.9 cases per 100,000 persons in 2023.[6,7] This contrasts sharply with the U.S. military, where the risk is substantially lower, with an active TB disease IR estimated at less than 1 case per 100,000 persons.[4,8] Similarly, while a significant reservoir of infection exists in the U.S. general population, with an estimated 4.0% prevalence of LTBI,[6,7] the prevalence among military-age groups is estimated to be only around 1%.[4,8] The primary finding of this analysis is a sharp 72% reduction in the annual number of tests administered. The substantially higher average proportion of positive tests from 2014 to 2023 (6.7%) compared to the average from the pre-policy era of universal screening (1.3%) demonstrates the successful concentration of testing resources on those most at risk, thereby improving diagnostic yield within a low-prevalence military force.

Following the 2013 MEDCOM policy change, the decline in testing volume and corresponding rise in the positivity proportion are the expected and intended results of a successful targeted testing program. By focusing screenings on high-risk populations, such as recruits, personnel deploying to endemic areas, and close personal contacts, the policy effectively eliminated the testing of a large, low-risk population that previously diluted the overall positivity prevalence. The result is not necessarily an increase in overall LTBI within the Army, but rather an improved diagnostic yield and more efficient allocation of public health resources, a finding consistent with the stated goals of the policy.

The demographic and military characteristics associated with LTBI in this analysis are largely consistent with previous reports,[3,5] although the magnitude of these associations is more pronounced due to targeted testing. The elevated proportion of positive tests among recruits (14.0%) underscores that accession screening remains critical for identifying prevalent LTBI acquired prior to service. The disparities observed among racial and ethnic groups, particularly the high proportions among non-Hispanic Black (11.2%) and Asian / Pacific Islander (13.0%) soldiers, are also consistent with national trends.[6,9] These associations are likely confounded, however, by socio-economic factors and, most importantly, country of origin. Non-U.S. birth is a primary LTBI risk factor, and it is probable that this unmeasured variable accounts for a significant portion of the observed differences between racial, ethnic, and even rank categories.[6,10] The higher proportion of LTBI among enlisted personnel compared to officers, for example, is more likely a reflection of underlying demographic differences at accession than of occupational exposures during service.

The pronounced disparities among racial and ethnic groups warrant further consideration, particularly considering this analysis's limitations. The absence of data on country of birth is a significant confounding variable that likely explains a substantial portion of observed differences. National data consistently show that a majority of TB cases in the U.S. occur in non-U.S. born individuals.[9] It is highly plausible that the elevated LTBI proportions among Asian/Pacific Islander

and non-Hispanic Black soldiers are more reflective of a higher prevalence of non-U.S. birth within those cohorts than of any inherent racial or ethnic predisposition. Future surveillance should aim to integrate country of birth data into the initial screening process, which would enable more precise risk stratification, distinguishing risk acquired prior to service from that acquired during a military career. New country of birth data would allow public health officials to design prevention and treatment strategies more effectively.

From a policy perspective, while the targeted screening strategy has proven successful in enhancing diagnostic yield, these findings highlight the ongoing need for vigilance. The high prevalence of LTBI identified in recruits (14.0%) confirms that the point of accession is the most critical juncture for TB control within the Army. Furthermore, the slight but notable difference in positivity between IGRA (7.8%) and TST (6.4%) tests suggests opportunity for policy refinement; this variance could be attributable to IGRA's greater specificity, especially among individuals who may have received the Bacille Calmette-Guérin vaccine, or it may reflect its use in more selectively high-risk groups. Given these factors, the Army may consider recommending IGRA as the primary screening tool for specific high-risk recruit populations, such as those born in TB-endemic countries, to further optimize the accuracy and effectiveness of the TB control program.

There are several limitations to this analysis. First, the demographics of the 2 periods (all forces vs. Army), living conditions, and potential exposures in different geographic locations may contribute to some differences. Second, there are generalizability limitations, as results are specific to the U.S. Army active component, limiting the relevance to other MHS beneficiaries such as other service components, family dependents, and retirees. Third, the dataset lacked information on service members' countries of birth, a crucial unmeasured confounder that, as discussed, likely influenced observed associations with race and ethnicity. Fourth, there are data completeness problems, as the race and ethnicity data had 6% unknown or missing entries, potentially biasing disparity analyses. Fifth, the definition of an LTBI case relied on the presence of an ICD-9-CM/ICD-10-CM code within 30 days of a positive test. This is a significant assumption, as administrative or clinical lapses may lead to misclassification; it is possible that some individuals with a positive test did not receive a corresponding diagnostic code, or vice versa, potentially leading to an under-estimation of the true LTBI burden. Sixth, this analysis assumes uniform implementation of the 2013 MEDCOM policy, but adherence likely varied over time and between installations. This inconsistent application of targeted testing could contribute to the variability in positivity and may have influenced the overall trends. Finally, these are observational data, so causality cannot be determined; external factors, such as changes in deployment patterns or recruitment demographics, may also have influenced the observed trends.

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Acknowledgments
The authors would like to thank Dr. Sithembile Mabila, Armed Forces Health Surveillance Division, for assistance in obtaining DMSS data.

Disclaimer
The views expressed in this article are those of the authors and do not necessarily reflect the official policy nor position of the Department of the Army, Department of War, nor the U.S. Government.

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Historical Perspective

Post-Infection Symptoms in U.S. Soldiers with Malaria During the Second World War: Major Limitation to Return to Duty

G. Dennis Shanks, MD, MPH

Malaria proved decisive in determining the outcome of the Pacific theater during the Second World War. In 1943 alone, over 100,000 malaria cases were reported among the U.S. military in the Southwest Pacific and South Pacific. Thousands of sick soldiers were evacuated from their units and hospitalized for weeks or months of rehabilitation due to malaria. The primary challenge was not treatment of acute infections, as death rates were very low, but rather an inability to return recovered soldiers quickly to their units. Relapsing *Plasmodium vivax* malaria posed a particular problem, with many soldiers stationed at Guadalcanal or New Guinea suffering more than 10 relapses. Secondary gain from residual symptoms became apparent when around 1% of malaria patients were repatriated for 'chronic malaria'. Future conflicts disrupted by infectious diseases will almost certainly include diffuse, post-infection symptoms that must be anticipated to prevent catastrophic warfighter attrition.

"However, the way the individual adjusted to the malaria and concurrent situational factors, contributed to the development of symptoms, to their perpetuation and intensification." [1]

Nearly all U.S. soldiers deployed to the Pacific theater during the Second World War were hospitalized at least once per year,[2] primarily for infectious diseases—such as malaria, scrub typhus, filariasis, and skin infections—rather than combat wounds.[3] Malaria came close to being a decisive agent in the Pacific theater due to the sheer number of casualties it produced. Infection rates reached 250 per 1,000 men per year in the Solomon Islands and New Guinea.[4] **Figure 1** shows the variety of hospitalizations in Guadalcanal, in the Solomon Islands, in 1942-1943, with a majority due to malaria.[3] At the end of 1942, entire units had been incapacitated by malaria in Milne Bay, New Guinea due to inadequate chemoprophylaxis and preventive measures, but fortunately after the combined Australian and U.S. forces had already defeated the Japanese invasion the previous August.[5]

From the viewpoint of military commanders, the most critical limitation of malaria infection was that infantry divisions withdrawn from the Solomon Islands or New Guinea became useless for further deployment for at least 6 months.[4] Multiple relapses of malaria struck soldiers even while their divisions attempted to reconstitute in non-endemic areas such as Australia and Fiji. Military planners estimated that maintaining contact with the enemy by 1 division required at least 3, possibly as many as 5, divisions simply because of malaria casualties.[5,6] Relapsing malaria due to *Plasmodium vivax* was a common sequela that often led to multiple, sequential febrile attacks even when a soldier was removed from an endemic area.[7]

Two weeks of anti-malarial drug treatment was required for those sick enough to be hospitalized. Many soldiers were medically evacuated from combat zones due to limited medical support in forward areas.[8] By 1943, the situation had become unsustainable. Eventually, improved regimens of enforced chemo-suppression with quinacrine, combined with better anti-mosquito measures, reduced new infections, and treatment regimens were shortened to 7 days. Use of 8-aminoquinolines to eliminate latent parasites causing relapse would have to wait for chemotherapeutic advances during the Korean War, however.[9]

While treatment with quinine and quinacrine (atabrine) proved successful, and death rates remained very low,[6] a more insidious problem for the U.S. military emerged. Large numbers of soldiers developed chronic symptoms and weight loss that led to repatriation for 'chronic malaria'. Chronic malaria was characterized not only by multiple relapses—10 were not unusual—but a failure to recover between nearly monthly febrile relapses. Soldiers suffering from chronic malaria populated a medical system designed to treat combat injuries, with 3,334 malaria evacuations to the U.S. from the South Pacific in 1943, and a similar number from the Southwest Pacific to Australia.[3,8]

The magnitude of the problem prompted the U.S. military to designate entire Army general hospitals as specialty centers for tropical diseases: in Longview, Texas; Modesto, California; Swannanoa, North Carolina; and in Klamath Falls, Oregon, for the U.S. Navy and Marine Corps; in addition to the 105th General Hospital in Gatton, Australia.[4] Those dedicated facilities were clearly preferrable to the tented field hospitals **(Figure 2)**. The farther a malaria-infected soldier traveled from where he acquired infection, the better the treatment facilities became—and more removed the opportunity to return to his original unit. Secondary gains from continued symptoms increased proportionally.

The concern over chronic malaria grew so severe that medical studies were initiated in both Australia and Fiji to determine better ways to limit disease casualties. After studying 3,358 malaria patients in Australia in 1943-1944, officials found a wide range of responses to malaria infection among service members.[8] Many soldiers reported chronic weakness and a variety of ill-defined complaints including headaches, dizziness, nervousness, insomnia and tremor. In Fiji, largely working with soldiers from the Americal (23rd) Infantry Division, a group of psychiatrists conducted a medical and laboratory study of malaria groups at the 18th General Hospital,[1] and found similarly wide variation in soldiers' abilities to deal with malaria infection. Those who tolerated the disease poorly primarily reported weakness and chronic fatigue, along with a host of ancillary complaints. Remarkably, the only definite physical finding from the studies of malaria casualties was that most soldiers had lost 10-20 pounds of body weight since developing malaria.

The results of those wartime studies concluded that the non-physical effects of malaria were largely psychosomatic in nature. It was ultimately determined that patients—and the U.S. Army—achieved better outcomes when chronic malaria's psychosomatic element was recognized and its medicalization was minimized.[8] One wartime study author observed, "The soldier is usually capable of remaining useful, even though sometimes in a limited capacity, so long as his morale remains satisfactory; and symptomatology only becomes severe when the adjustment of the person is faulty."[1] Although malaria infection was nearly universal for frontline infantry, the vast majority of soldiers coped well with the stress and only required hospitalization when overcome by 40° Celsius fevers and uncontrollable rigors.

Neuropsychiatric casualties due to maladjustment were not new in the Pacific theatre. All humans have limitations on abilities to cope with stress, and soldiers in the Pacific theater found themselves in life-threatening situations in a tropical jungle, with malaria an added stress in an austere warfare environment. Soldiers whose coping mechanisms failed early showed up as combat stress casualties. In mid-1943, after landing on New Georgia in the Solomon Islands, the 43rd Division had been incapacitated by war neurosis and combat stress resulting in 16% medical evacuations.[10] Fully 15% of medical evacuations from the South Pacific in 1943 were due to neuropsychiatric diagnoses, with likely considerable overlap with other diseases such as malaria.[3]

FIGURE 1. Disease Casualties at Three Provisional Field Hospitals Demonstrating Malaria Predominance, U.S. Army 101st Medical Regiment, Americal (23rd) Infantry Division, Guadalcanal, November 1942–February 1943[3]

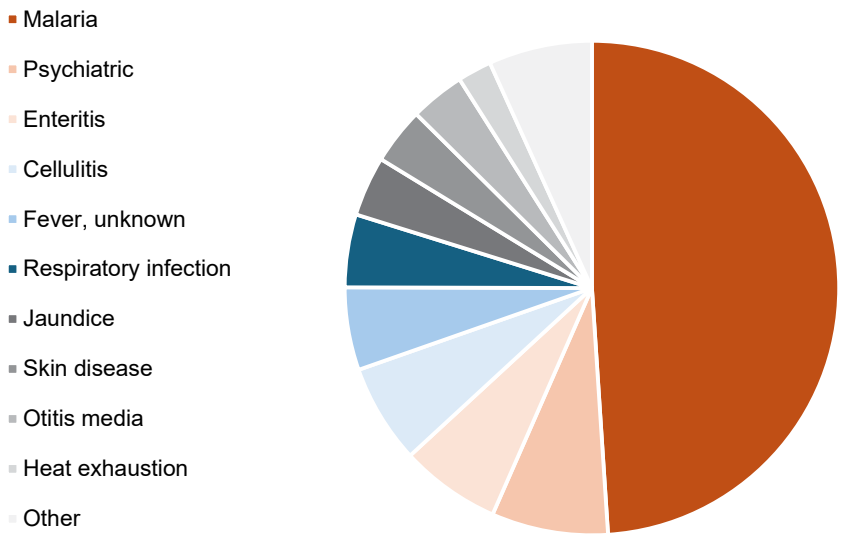

FIGURE 2. U.S. Army Hospital, Advanced Base Near Port Moresby, Papua New Guinea, August 1943[16]

Chronic malaria manifested later in the World War II Pacific conflict, when soldiers consciously or unconsciously understood that illness would keep them from returning to a combat zone. Medicalizing the symptoms of either combat stress or malaria was counter-productive and likely extended soldier hospitalizations during the war. The treatment of combat stress casualties was subsequently developed

with emphasis on proximity, immediacy, and expectancy—principles that greatly influenced recommendations for handling post-infection casualties. Malaria treatment units were created near the front lines and evacuation distances were minimized. These strategies conformed to the principles of combat stress treatment and succeeded even when the U.S. Army encountered drug-resistant malaria during the Vietnam War, proving highly effective for management of post-infection casualties.[11]

While malaria is unlikely to recur as a major casualty-producing agent in current South China Sea scenarios, the recent COVID-19 pandemic demonstrated both our limited ability to predict future epidemics and the potency of chronic disabling conditions such as the poorly defined 'long COVID'.[12] Current INDOPACOM (Indo-Pacific Command) military exercises can expose service members to scrub typhus, also likely to have post-infection symptoms, given its potential for cardiovascular damage.[13] Most infectious diseases have post-infection symptoms, seen during World War II, with filariasis, and during the Vietnam conflict, with dengue infections.[14,15]

Given the ability of disinformation to spread via the internet, along with the expectation of many soldiers that infections will cause chronic symptoms, future military medical officers will almost certainly find themselves in situations analogous to those in the South Pacific in 1943. Applying the same treatment principles established for combat stress neuropsychiatry—namely proximity, immediacy, and expectancy—for infectious diseases is likely to be successful in minimizing preventable casualties during any future conflict.

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Acknowledgments
The author acknowledges the service and sacrifice of all those who served in the U.S. military during World War II and thanks the many unnamed military officers, scientists, historians, and medical librarians who unselfishly provided data and ideas for this manuscript, especially the librarians at the Australian Defence Force Library at Gallipoli Barracks, Queensland.

Disclaimer
The opinions expressed are those of the author and do not necessarily reflect those of the Australian Defence Force nor the Department of Foreign Affairs and Trade.

No specific funding was given for this work.

The author does not claim any conflicts of interest.

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Surveillance Snapshot

Adherence to Disease and Injury Standardized Surveillance Categories in Two U.S. Africa Command Exercises, 2024

Zachary. J. Rupert, MD; Dianne N. Frankel, DO, MPH; Michelle A. Dressner, MPH; David R. Sayers, MD, MTM&H

TABLE. Case Counts and Disease and Injury Category for U.S. Africa Command African Lion and Flintlock Exercises, 2024

African Lion				Flintlock			
Disease and Injury Category	Cases		Standardized Category	Disease and Injury Category	Cases		Standardized Category
	No.	%	(x=yes)		No.	%	(x=yes)
Other medical	103	32.8		Gastrointestinal	61	30	x
Respiratory (upper)	73	23.2	x	Musculoskeletal	35	17.2	
Orthopedic	49	15.6		Ear, nose, throat (ENT)	25	12.3	
Gastrointestinal	34	10.8	x	Dermatological	20	9.9	x
Dermatological	20	6.4	x	Ophthalmological	11	5.4	x
Influenza-like illness	15	4.8	x	Dental	9	4.4	
Ophthalmological	7	2.2	x	Insect, arachnid, animal bites, stings	8	3.9	
Dental	5	1.6		Climactic Injuries (heat stroke, rash)	8	3.9	x
Heat	3	1	x	Neurological	8	3.9	x
Neurological	2	0.6	x	Gynecological, urological	4	2	
Pulmonary, respiratory	1	0.3		Soft tissue	4	2	
Rash	1	0.3	x	Respiratory	3	1.5	x
Other	1	0.3		Vector-borne illness (malaria)	2	1	
				Fever, unexplained (<7 days)	1	0.5	x
				Influenza	1	0.5	
				Cardio-, chest pain	1	0.5	
				Allergy	1	0.5	
				Eye Injury	1	0.5	

Abbreviations: No., number; ENT, ear, nose, throat; <, less than.

Disease and non-battle injury (DNBI) is a significant threat to military operations, historically exceeding combat injuries in deployed settings.[1-4] Disease and injury (D&I) surveillance supports health risk assessment for the purpose of instituting interventions as needed to promote and maintain the health of deployed forces.[5-7] Defense Health Agency Procedural Instruction (DHA-PI) 6490.03: Deployment Health, effective June 19, 2019, defines standardized surveillance categories for D&I reporting.[6] While U.S. Department of War (DOW) policy prescribes electronic systems such as the Disease Reporting System internet (DRSi) and ESSENCE,[6] the austere nature of expeditionary operations often necessitates reliance on paper documentation, where adherence to these guidelines has not been described.

D&I data from 2 exercises, African Lion and Flintlock, held in the U.S. Africa Command (USAFRICOM) Area of Responsibility (AOR) in 2024 were evaluated. The absolute and relative D&I burden from each exercise was calculated and compared with DHA-PI 6490.03 for category consistency and standardization. De-identified D&I surveillance data were obtained from the AFRICOM Surgeon's Office, Southern European Task Force–Africa, and Special Operations Command–Africa. D&I entries were submitted by field medical teams—comprising Guard and active duty physicians, nurse practitioners, physician assistants, and combat medics—in accordance with exercise-specific reporting requirements, primarily using paper logs and consolidated after-action reports. The project was reviewed and approved by the Institutional Review Board of the Uniformed Services University of the Health Sciences.

During the African Lion 2024 exercise (33 days), 314 D&I cases were reported within 13 categories **(Table)**. Only 8 of the 13 categories (61.5%) and 155 cases (49.4%) conformed to standardized surveillance guidelines in accordance with DHA-PI 6490.03. The Flintlock 2024 exercise (12 days) recorded 203 D&I events within 18 categories. Compared to the DHA-PI 6409.09 standardized categories, 7 of 18 categorizations (38.9%) and 113 D&I cases (55.7%) were recorded correctly. While the high relative burden of respiratory (upper) cases (23.2%) in African Lion and gastrointestinal cases (30.0%) in Flintlock suggest significant environmental threats, the use of standardized surveillance categories in only 49.4% and 55.7% of entries, respectively, limits the ability to meaningfully correlate these events with health risk assessments or location-specific risk mitigation.

This descriptive analysis demonstrated inconsistent adherence of D&I surveillance to published military guidelines. Reporting and categorization of D&I during these exercises highlights the need for enhancing technical and administrative readiness in austere, resource-limited operational environments. While DOW electronic health records (e.g., Theater Medical Data Store) are designed to feed into standardized reporting systems, use of paper documentation in these austere environments prevents this automation.

Accurate documentation is needed for actionable medical readiness and planning.[1,5] Furthermore, lack of adherence to standardized case definitions at the point of care limits the operational value of surveillance; a list of illnesses and injuries without proper classification is ineffective for ensuring force health protection. Even in austere environments, and perhaps especially in those environments, standardized and timely data are essential for early threat detection and operational decision-making.

Recommended courses of action to combatant commands include prioritization of efforts to improve D&I surveillance by incorporating surveillance strategy into operational plans and orders (Annex Q); modifying field documentation tools (e.g., Standard Form 600, Chronological Record of Medical Care) to include D&I checkboxes; and integrating preventive medicine assets to provide just-in-time training and data quality assurance.

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The authors have no conflicts of interest to disclose.

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Guest Editorial

CHAMPS: The Career History Archival Medical and Personnel System—A Summary of Career and Medical Records of the U.S. Armed Forces, 1980–2023

Yohannes G. Haile, MS; Adam T. Biggs, PhD; James F. Bonkowski, BBA; Zeina G. Khodr, PhD; Jennifer McAnany, PhD; Christa R. Lausted, PsyD; Nathan C. Carnes, PhD

Military service requires not only physical but mental as well as moral fitness. To qualify for service, recruits must meet standards in each area, demonstrating their abilities to meet the demands of military service.[1] Maintaining physical and mental fitness is necessary, as continued military career success is contingent on sustained health and fitness. Inability to physically or mentally meet the standards of the U.S. Armed Forces can result in no longer qualifying for service.[2-4]

The Career History Archival Medical and Personnel System (CHAMPS) is a comprehensive archival database that collects and maintains career and medical related records for millions of U.S. service members of all branches of service: Army, Navy, Marine Corps, Air Force, Space Force, and Coast Guard. CHAMPS comprises over 1 billion career records from 1980 through 2022, with medical records from 2001 through 2023, for millions of active duty and activated reserve U.S. service members. On average, 212,493 new service members join the military each year **(Table)**. This robust source of data creates a timeline of career and medical events as service members enter, progress through, and separate from service.

The CHAMPS database was created to be a comprehensive, longitudinal database of all career and health events throughout a service member's military career. CHAMPS can be used to trace the complete trajectory of an individual service member's career, from accession and occupational specialty to career progression and promotion, deployment history, and eventual separation. Medical history data in CHAMPS include diagnosis and procedure codes, vital and immunization history, and laboratory and radiology records for all inpatient and outpatient encounters within military hospitals and clinics in addition to civilian health care providers.

CHAMPS was designed to provide insight into the correlation between health characteristics and military careers. Thorough analysis of the timing and trajectory of career and health events creates a more robust understanding of the experiences of service members and the complex interplay between career and health in a service member's life. This editorial presents an overview of the CHAMPS database, including available data fields, sources used, and example questions being answered with CHAMPS data. This editorial is intended to provide a comprehensive understanding of the utility and opportunities for research that CHAMPS presents, its existing and potential collaborations, as well as its significant analytical products to date, in an effort to help answer the most pressing questions about military health, readiness, and career outcomes. This study was approved by the Naval Health Research Center Institutional Review Board in compliance with all applicable federal regulations governing the protection of human subjects (NHRC.2021.002).

Data Sources

CHAMPS includes demographic, career, and deployment military data from the Defense Manpower Data Center (DMDC) and health data from the Military Health System (MHS) Data Repository (MDR). Career events comprise 47% of the data in CHAMPS, with the remainder (53%) comprised of medical events **(Table)**. All career and medical events are chronologically concatenated in CHAMPS.

CHAMPS incorporates monthly personnel- and career-related data including demographics, military occupational specialty, accession and separation, deployment start and stop dates, and deployment countries or duty locations from DMDC. Data from a total of 11,748,005 unique service members are housed in the CHAMPS database **(Table)**. Records are uniquely identified using Social Security Numbers (SSNs). Demographic characteristics for each service member include full name, date of birth, SSN, Electronic Data Interchange Personal Identifier (EDI-PI), age, sex, race and ethnicity, education, marital status, and most recent home location prior to military service. Total records in CHAMPS are predominantly Army (42%), followed by Air Force (24%), Navy (21%), Marine Corps (11%), and Coast Guard (2%); Space Force data are still too limited to constitute a significant percentage. On average, from 1980 through 2022, over 80% of accessions are consistently new Army, Air Force, and Navy service members **(Figure 1)**.

CHAMPS contains historical medical data from 2001 through 2023, with medical-related information obtained from the MDR on an annual basis. MDR data include medical reimbursement information including dates, locations, and types of encounters; medical codes (e.g., International Classification of Diseases, Current Procedural Terminology, diagnosis-related group); prescriptions for all outpatient care

TABLE. CHAMPS Career and Medical Records, by Branch of Service, U.S. Armed Forces, 1980–2023

Record Category	Total		Branch of Service				
			Army	Navy	Marine Corps	Air Force	Coast Guard
	No.	Column %	No.	No.	No.	No.	No.
Event record type							
Unique service member	11,748,005	N/A	4,534,684	2,987,128	1,674,401	2,392,851	158,941
Career event	668,220,928	47.0	242,211,696	169,841,172	83,635,233	157,816,868	14,715,959
Medical event	752,630,527	53.0	352,549,214	131,088,679	66,822,927	179,214,351	18,530,113
Total records	1,420,851,455	100	594,760,910	300,929,851	150,458,160	337,031,219	33,246,072
Medical event record							
Direct institutional	1,216,898	0.2	596,908	274,654	150,451	182,282	9,492
Direct professional	501,003,956	66.6	236,393,230	95,814,731	50,498,868	111,197,411	5,990,912
Civilian care, institutional	921,656	0.1	428,530	140,139	68,013	250,597	28,443
Civilian care, non-institutional	249,488,017	33.1	115,130,546	34,859,155	16,105,595	67,584,061	12,501,266
Total medical events	752,630,527	100	352,549,214	131,088,679	66,822,927	179,214,351	18,530,113
Discharge condition record							
Dropped from strength or correction	225,649	1.3	111,030	65,019	36,848	12,342	410
Entry into officer program	255,388	1.5	105,695	57,810	27,020	62,815	2,048
Death	52,183	0.3	21,632	12,860	8,229	8,949	513
Administrative separation	2,311,188	13.3	972,787	607,433	348,749	355,593	26,626
Medical separation	1,151,752	6.6	602,287	226,139	160,412	150,813	12,101
Early release	974,161	5.6	354,591	234,561	105,819	275,046	4,144
End of active service	3,948,989	22.8	1,511,937	1,032,357	758,360	604,280	42,055
Re-enlistment	6,380,230	36.8	2,851,204	1,250,744	510,555	1,706,772	60,955
Retirement	1,523,583	8.8	476,371	391,545	99,801	523,744	32,122
Other	528,030	3.0	175,471	155,298	41,560	147,486	8,215
Total discharge records	17,351,153	100	7,183,005	4,033,766	2,097,353	3,847,840	189,189

Note: Space Force is excluded from table due to small numbers.
Note: Career records include years 1980–2022 and medical records include years 2001–2023.
Abbreviations: CHAMPS, Career History Archival Medical and Personnel System; No., number; %, percentage; N/A, not applicable.

at military hospitals and clinics (i.e., direct care) as well as civilian (i.e., purchased care) facilities; in addition to death date, when applicable, and status. In addition, detailed clinical and administrative data from military hospitals and clinics are available: appointments, referrals, laboratory and radiology orders and results, immunizations, vital records, and both inpatient and outpatient pharmacy records. Civilian care data are limited to health care administrative data billed to TRICARE.

Career-related information in CHAMPS reflects core aspects of a military service career, including promotions, duration of service, and events of significance both individually and historically, as the database spans decades and multiple major conflicts. CHAMPS data include each service member's initial accession date to the military, rank (e.g., enlisted, E01-E09; officer, O01-O10; warrant officer, W01-W05), branch of service (Army, Navy, Marine Corps, Air Force, Space Force, Coast Guard), status (active duty, activated Guard or reserve), and occupation designator (duty, primary or secondary).

Information on career progression (e.g., promotions, demotions) can be found using rank and branch of service variables. Condition of discharge or reason for separation from the military is categorized and defined as: "dropped from strength or correction" (e.g., desertion, imprisonment, missing in action or prisoner of war, change in status); "entry into officer program" (e.g., officer commissioning, warrant officer program, military service academy); death (e.g., battle casualty, non-battle casualty such as disease, cause of death not specified); administrative separation (e.g., failure to meet behavioral and performance criteria such as character or behavior disorder, drug or alcohol misuse, ineptitude); medical separation (e.g., medical disqualification due to disability, condition existing prior to service, failure to meet weight or body fat standards); early release (e.g., school attendance, insufficient retainability, police duty, seasonal employment, national interest); end of active service (e.g., expiration of term of service due to end of contract without re-enlistment); re-enlistment (if immediate re-enlistment required); and retirement (e.g., service of 20+ years, medical retirement). Military discharge based on conduct and performance are divided

into 2 categories: administrative discharge—e.g., honorable, general (under honorable conditions), or other than honorable—and punitive discharge (e.g., bad conduct or dishonorable).

Capabilities, Collaborations and Future Directions

The CHAMPS database offers numerous research possibilities, given the types, volume, and depth of information it contains. CHAMPS represents a prime opportunity for collaboration and data-driven exploration of the factors that affect not only the career and health outcomes of service members but the complex relationships among those factors. CHAMPS data reveal that some of the principal reasons service members separate from the military are required re-enlistment (37%), end of active service or expiration of term of service (23%), administrative separation or failure to meet behavioral and performance criteria (13%), and retirement (9%) **(Table)**. If including only desired type of discharges—e.g., early release, end of active service, failure to meet behavioral or performance criteria, medical disqualification, retirement—the majority of service members separated because they reached the end of their contracts or chose not to re-enlist **(Figure 2)**. Since early 2000s there has been a notable increase in medical discharges, comparable to a study published by the RAND Corporation.[5]

Career history information in CHAMPS can be compared with available medical information to estimate the relative influence of career- or medical-related factors on service member retention, and other related topics. Numerous medical conditions could be examined in relation to successful military service, to determine their prevalences and corresponding impacts on service member performance. Because CHAMPS passive data collection spans decades, it allows a longitudinal understanding of the relationship between career and health outcomes during time in service.[6]

The inclusion of individual identifiers such as SSNs allows for links with other

FIGURE 1. Unique Service Members Entering the U.S. Armed Forces, by Year and Branch of Service, 1980–2022

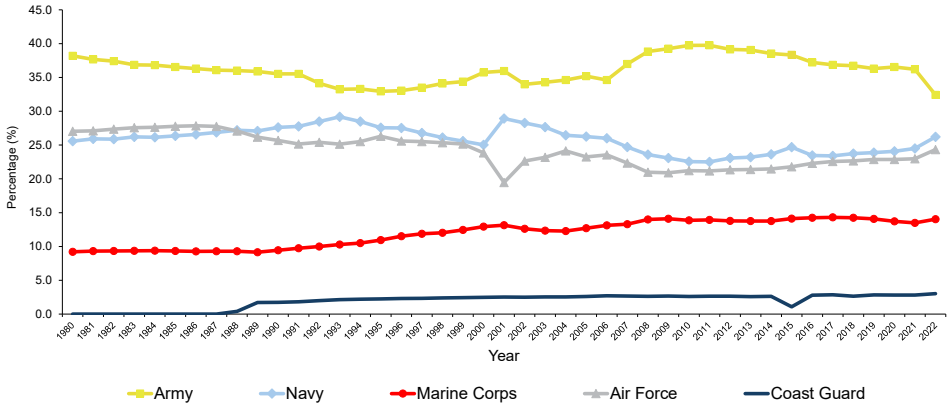
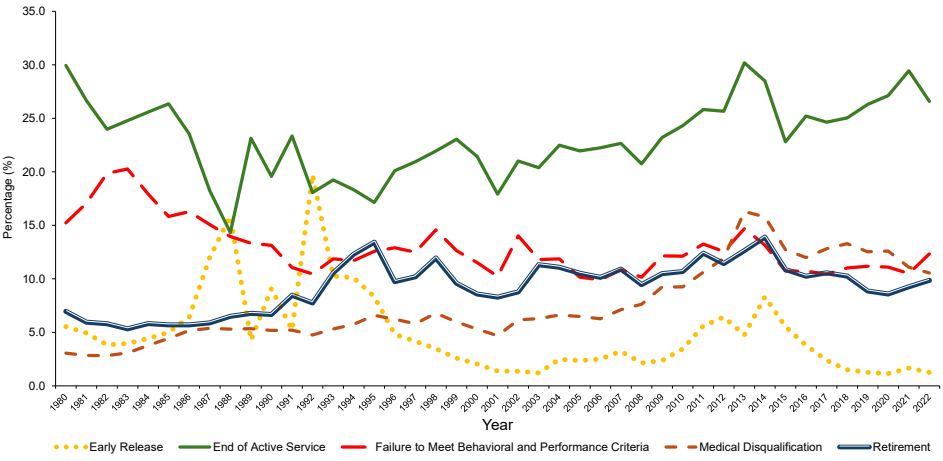


FIGURE 2. Condition of Discharge from the U.S. Armed Forces, by Year, 1980–2022



data sources. Extant military datasets have been augmented with the CHAMPS database to answer pressing questions, resulting in published findings on studies of the impact of injuries on military career outcomes[7]; mortality rates and severe extremity injuries[8]; impacts of traumatic brain injury (TBI) and severe limb injury on suicide[9]; musculoskeletal and blast-induced injuries[10]; TBI and low-level blast exposure on adverse career outcomes[11]; associations between concussion, severe TBIs, and early-onset of dementia[12]; brain injury and military alcohol misuse[13]; the relationship between mental health issues and attrition[14]; predictors of psychiatric disorders among combat veterans[15-18]; tele-behavioral health, in-person, and hybrid treatment of U.S. service members[19]; Marine recruit health and the Recruit Assessment Program[16,20,21]; and the limited duty Sailor and Marine Readiness Tracker System.[22]

CHAMPS does not track service members (e.g., death records) after separation, as it is limited to data captured during activated reserve or active duty status, but CHAMPS can be linked to data sources that follow health characteristics after service (e.g., Department of Defense and Veterans Affairs Infrastructure for Clinical Intelligence, or DaVINCI).

CHAMPS has been used extensively as a resource at the Naval Health Research Center, both as a named compendium of data and as a program for specific data elements (e.g., DMDC, MDR) that provides expertise and support for data agreement development, links, management, and analysis. All projects utilizing CHAMPS through data sharing agreements are tracked and enumerated. CHAMPS has been utilized for an assessment of the functional outcomes of lumbar microdiscectomy using a standardized physical readiness test (PRT) in a military population; identification of factors

associated with PRT failure among U.S. Navy active duty and reserve service members; identification of characteristics of service members assigned to shipboard duty associated with admittance to U.S. Navy Medicine's temporary limited duty (LIMDU); utilization of event transaction data to investigate post-LIMDU career outcomes for sailors designated for return to duty, in collaboration with Naval Medical Center San Diego; retrospective review of pulmonary medicine patients diagnosed with bronchiectasis and creation of a bronchiectasis registry, generating hypotheses for future research; identification of patients diagnosed with basal cell carcinoma matched with prescription medication history, deployment history, and career history; linking the data of personnel with musculoskeletal injuries sustained during combat; and collaboration with the Department of Defense and Uniformed Services University Brain Tissue Repository to improve warfighter brain health.

CHAMPS is an invaluable resource utilized in a multitude of military health research topics, through the detection of precursor metrics of risk as well as protective factors associated with outcomes such as readiness, individual trajectories, specific health conditions, substance abuse, sexual assault, domestic violence, and suicide. Prior and ongoing projects that have utilized the wealth of longitudinal and individual information housed in the CHAMPS database demonstrate not only its current but continuously expanding capabilities, with significant potential for additional exploration and further collaborations.

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Acknowledgments
We greatly acknowledge the support of an additional data management team member of the Career History Archival Medical and Personnel System (CHAMPS): Khider Allos, MCS, BSc. We also thank all current and previous members of the CHAMPS data management team for maintaining this important archival database since its inception.

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The authors declare that they have no competing interests.

Report 25-70 was supported by the Office of Naval Research under work unit NMR11355-29. The study protocol was approved by the Naval Health Research Center Institutional Review Board in compliance with all applicable federal regulations governing the protection of human subjects. Research data were derived from approved Naval Health Research Center Institutional Review Board protocol NHRC.2021.002.

The datasets generated and analyzed during the current study are not publicly available due to personally identifiable information regulations, but they may be made available by the corresponding author on reasonable request and approval by the Naval Health Research Center Institutional Review Board/Privacy Office.

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Reportable Medical Events at Military Health System Facilities Through Week 44, Ending November 1, 2025

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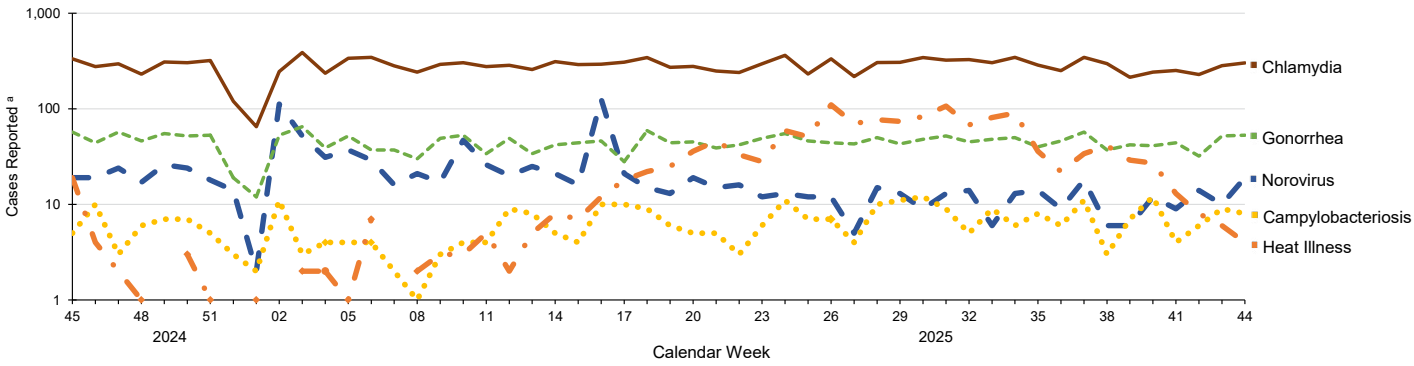
TOP 5 REPORTABLE MEDICAL EVENTS[a] BY CALENDAR WEEK, U.S. ACTIVE COMPONENT SERVICE MEMBERS, NOVEMBER 3, 2024–NOVEMBER 1, 2025



[a]Cases are shown on a logarithmic scale.

Abbreviation: RMEs, reportable medical events.

Note: There were 0 reported heat illness cases during weeks 49 and 52 of 2024, and during weeks 2 and 7 of 2025.

Reportable Medical Events (RMEs) are documented in the Disease Reporting System internet (DRSi) by health care providers and public health officials throughout the Military Health System (MHS) for monitoring, controlling, and preventing the occurrence and spread of diseases of public health interest or readiness importance. These reports are reviewed by each service's public health surveillance hub. The DRSi collects reports on over 70 different RMEs, including infectious and non-infectious conditions, outbreak reports, STI risk surveys, and tuberculosis contact investigation reports. A complete list of RMEs is available in the 2022 *Armed Forces Reportable Medical Events Guidelines and Case Definitions*.[1] Data reported in these tables are considered provisional and do not represent conclusive evidence until case reports are fully validated.

Total active component cases reported per week are displayed for the top 5 RMEs for the previous year. Each month, the graph is updated with the top 5 RMEs, and is presented with the current month's (October 2025) top 5 RMEs, which may differ from previous months. COVID-19 is excluded from these graphs due to changes in reporting and case definition updates in 2023.

For questions about this report, please contact the Disease Epidemiology Branch at the Defense Centers for Public Health–Aberdeen. Email: dha.apg.pub-health-a.mbx.disease-epidemiologyprogram13@health.mil

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TABLE. Reportable Medical Events, Military Health System Facilities, October 2025[a]

Reportable Medical Event[b]	Active Component[c]					MHS Beneficiaries[d]
	October 2025	September 2025	YTD 2025	YTD 2024	Total 2024	October 2025
	No.	No.	No.	No.	No.	No.
Amebiasis	0	0	13	11	15	0
Arboviral diseases, neuroinvasive, non-neuroinvasive	1	0	3	4	4	0
Babesiosis	0	0	1	0	0	0
Brucellosis	0	0	0	1	1	0
COVID-19-associated hospitalization, death	0	1	31	38	41	8
Campylobacteriosis	33	33	287	277	326	22
Chikungunya virus disease	0	0	0	0	1	0
Chlamydia trachomatis infection	1,204	1,185	12,517	13,769	16,097	149
Cholera, O1, O139	0	0	0	3	3	0
Coccidioidomycosis	1	4	20	43	53	0
Cold weather injury [e]	6	4	290	139	174	N/A
Cryptosporidiosis	3	8	59	78	82	2
Cyclosporiasis	0	0	22	11	11	0
Dengue virus infection	0	0	8	11	12	1
E. coli, Shiga toxin-producing	4	6	59	70	93	0
Ehrlichiosis, anaplasmosis	0	0	1	1	1	0
Giardiasis	5	11	90	90	98	3
Gonorrhea	205	199	1,950	2,415	2,823	18
H. influenzae, invasive	0	0	2	3	3	0
Heat illness [e]	46	138	1,358	1,244	1,276	N/A
Hepatitis A	1	0	2	7	7	0
Hepatitis B, acute, chronic [f]	5	11	69	93	108	7
Hepatitis C, acute, chronic	2	4	22	33	35	4
Influenza-associated hospitalization [g]	0	0	49	45	54	5
Lead poisoning, pediatric [h]	N/A	N/A	N/A	N/A	N/A	5
Legionellosis	0	0	1	4	5	0
Leishmaniasis	0	0	1	0	0	0
Leprosy	0	0	0	1	2	0
Listeriosis	0	0	1	0	0	0
Lyme disease	5	8	89	92	101	9
Malaria	1	5	30	18	21	1
Meningococcal disease	0	1	2	2	2	0
Mpox	2	1	9	13	14	0
Mumps	0	0	2	0	0	1
Norovirus infection [i]	58	45	951	467	654	64
Pertussis	1	1	38	25	39	5
Q fever	0	0	1	2	3	0
Rabies post-exposure prophylaxis (PEP)	54	54	534	524	637	36
Salmonellosis	17	26	148	134	160	20
Schistosomiasis	0	0	0	0	1	0
Shigellosis	3	1	33	46	53	1
Spotted fever rickettsiosis	6	4	35	22	22	0
Syphilis [j]	29	35	386	510	587	6
Toxic shock syndrome	0	0	0	2	2	0
Trypanosomiasis	0	1	2	3	5	0
Tuberculosis	0	0	8	4	6	1
Tularemia	0	0	2	1	1	0
Typhoid fever	0	0	0	1	1	0
Typhus fever	0	1	7	1	2	0
Varicella	1	3	14	12	18	6
Zika virus infection	0	0	0	1	1	0
Total case counts	1,693	1,790	19,147	20,271	23,655	374

Abbreviations: MHS, Military Health System; YTD, year-to-date; no., number; *E, Escherichia*; H., Haemophilus; N/A, not applicable; PEP, post-exposure prophylaxis; DRSi Disease Reporting System internet; RMEs, reportable medical events.

[a] RMEs submitted to DRSi as of Jan. 6, 2026. RMEs were classified by date of diagnosis or, where unavailable, date of onset. Monthly comparisons are displayed for periods Sep. 1, 2025–Sep. 30, 2025 and Oct. 1, 2025–Oct. 31, 2025. YTD comparison is displayed for period Jan. 1, 2025–Oct. 31, 2025 for MHS facilities. Previous year counts are provided as previous YTD, Jan. 1, 2024-Oct. 31, 2024 and Total 2024, Jan. 1, 2024–Dec. 31, 2024.

[b] RME categories with 0 reported cases among active component service members and MHS beneficiaries for periods covered were not included in this report.

[c] Services included in this report include the Army, Navy, Air Force, Marine Corps, Coast Guard, and Space Force, including personnel classified as active duty, cadet, midshipman, or recruit in DRSi.

[d] Beneficiaries include individuals classified as retired and family members (including spouse, child, other, and unknown). National Guard, reservists, civilians, contractors, and foreign nationals were excluded from these counts.

[e] Only reportable for service members.

[f] Observed decline in hepatitis B cases from 2024 to 2025 may be attributed, in part, to updated case validation process.

[g] Influenza-associated hospitalization is reportable only for individuals younger than age 65 years.

[h] Pediatric lead poisoning is reportable only for children aged 6 years or younger.

[i] DCPH-A is closely monitoring norovirus due to 104% increase in DRSi reports for norovirus YTD 2025 (n=951) compared to YTD 2024 (n=467).

[j] Observed decline in syphilis cases from 2024 to 2025 may be attributed, in part, to updated case validation process that began Jan. 2024.

The ***Medical Surveillance Monthly Report (MSMR)***, in continuous publication since 1995, is produced by the Armed Forces Health Surveillance Division (AFHSD) of the Defense Health Agency (DHA) Public Health Directorate. AFHSD is a designated public health authority within the Defense Health Agency. *MSMR* provides evidence-based estimates of the incidence, distribution, impact, and trends of illness and injuries among U.S. military members and associated populations. Most reports in *MSMR* are based on summaries of medical administrative data routinely provided to AFHSD and integrated within the Defense Medical Surveillance System for health surveillance purposes.

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ISSN 2158-0111 (print)

ISSN 2152-8217 (online)

Medical Surveillance Monthly Report (MSMR)
Defense Health Agency—Public Health
Armed Forces Health Surveillance Division
11800 Tech Road, Suite 220
Silver Spring, MD 20904