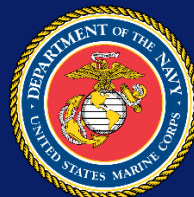


2022 Annual Report



Retention Medical Standards Analytics and Research (RMSAR)



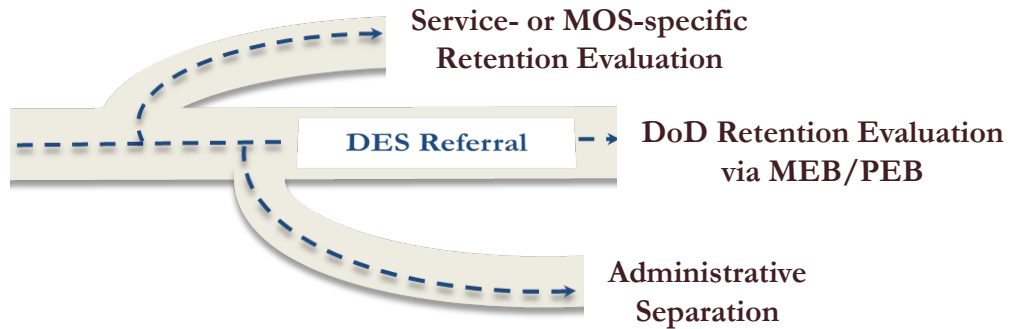
Report at a Glance

Retention Medical Standard Evaluation Metrics

In September 2020, DoD-wide retention medical standards were codified under DoDI 6130.03 Volume 2. As a result, the Medical Standards Analytics and Research (MSAR) team was established to provide advanced analytics and epidemiologic research in support of these evidence-based standards.

DoD Retention Medical Standard Evaluation Process

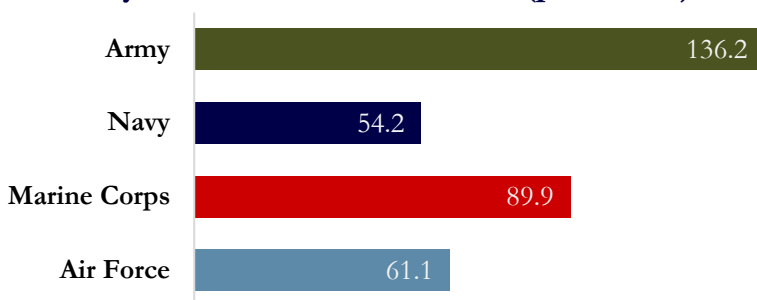
Service member has a condition identified through a healthcare encounter or health assessment which may render them unfit for duty for >12 months.



Evaluation Rates

From FY 2016-2021, retention medical standard evaluation rates, using PEB data as a proxy, were relatively rare (<2% of the total force per Service).

By-Service Evaluation Rates (per 10,000)



Most Commonly Evaluated Retention Medical Standards

Generalized Conditions of the Musculoskeletal System

- Degenerative arthritis
- Invertebral disc disorder

Behavioral Health

- PTSD
- Major depressive disorder

Lower Extremity

- Leg flexion limitation
- Ankle limitation

Evaluation Metrics

>90%

Did not meet retention standards and were entitled to DoD disability benefits

Median time in service to retention evaluation

Marine Corps – 4 years

Navy – 6 years

Army – 7 years

Air Force – 8 years



Little to no concordance between condition at evaluation and pre-accession medical waiver (0-4%)

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Material has been reviewed by the Walter Reed Army Institute of Research. There is no objection to its publication. The opinions or assertions contained herein are the private views of the authors, and are not to be construed as official, or as reflecting true views of the Department of the Army or the Department of Defense. The investigators have adhered to the policies for protection of human subjects as prescribed in AR 70–25.

MISSION AND OBJECTIVES

MISSION

Execute advanced analytics and epidemiological research to inform DoD medical retention and disability policy decisions to improve readiness and resilience by reducing attrition, streamlining the disability evaluation process, and decreasing replacement time and cost.

OBJECTIVES

- Provide key baseline metrics on retention medical standards
- Evaluate the retention medical standards process
- Design and execute epidemiologic studies to identify indicators and factors associated with the retention medical standards process



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EXECUTIVE SUMMARY

In 2017, the Secretary of Defense directed the Office of the Under Secretary of Defense for Personnel and Readiness to establish and maintain Department of Defense (DoD)-wide retention medical standards. As a result, the Retention Medical Standards Working Group (RMSWG) was formed. Upon publication of DoD Instruction 6130.03 Volume 2, Medical Standards for Military Service: Retention (DoDI), the RMSWG tasked the Medical Standards Analytics and Research (MSAR) team to provide advanced analytics and epidemiologic research to support these evidence-based retention medical standards. The objective of this inaugural Retention Medical Standards Annual Report is to describe baseline metrics of service members evaluated under the retention medical standards, utilizing service-specific Physical Evaluation Board (PEB) data.



This report is divided into three sections. Section 1, *Introduction*, describes the MSAR program, the retention medical standards, the retention evaluation processes, and this report's key terms and definitions. Section 2, *Baseline Metrics*, describes yearly trends and rates of retention medical standard evaluations both overall and by DoDI subsection, identifies the most common medical conditions within each DoDI subsection, and assesses pre-accession medical history and time in service from accession to first retention medical standard evaluation. Section 3, *Special Studies*, offers an additional survival analysis assessing the retainability impact of adjustment disorder on Army recruits diagnosed with a musculoskeletal injury within the first 10 weeks of service.

Key findings from Section 2: Baseline Metrics are as follows:

BASELINE METRICS KEY FINDINGS

FIGURE 2 and TABLES 3A-D: RATES OF RETENTION MEDICAL STANDARD EVALUATIONS, OVERALL AND BY DoDI SUBSECTION

Between fiscal years (FYs) 2016-2021, rates of retention medical standard evaluations, using Physical Evaluation Board (PEB) records as a proxy, were relatively rare (<2% of the total force per Service).

- The Army (136.2 per 10,000 Soldiers) and Marine Corps (89.8 per 10,000 Marines) had substantially higher rates of retention medical standard evaluation than the Navy (54.2 per 10,000 Sailors), and the Air Force (61.1 per 10,000 Airmen).
 - Variances may reflect any of several important inter-service differences, including but not limited to, service-specific retention evaluation processes and historical medical standards.
- The Army had the highest rate of retention medical standards evaluation for most DoDI subsections.
- Musculoskeletal conditions (including the spine and sacroiliac joint conditions, upper extremity conditions, lower extremity conditions, generalized conditions of the musculoskeletal system subsections), behavioral health disorders and neurological disorders contributed to the vast majority of retention medical standards evaluations.

TABLES 4A-D: TOP TWO EVALUATED MEDICAL CONDITIONS PER DoDI SUBSECTION

Although over 800 conditions are listed in the Veterans Administration Schedule for Rating Disabilities (VASRD), the top one to two conditions per DoDI subsection generally accounted for the vast majority of retention medical standard evaluations.

- Most notably, bronchial asthma accounted for 70-90% of lungs, chest wall, pleura and mediastinum (or respiratory) evaluations, hearing loss accounted for about 90% of hearing evaluations, and diabetes mellitus accounted for 70-85% of endocrine and metabolic conditions evaluations.
- A few of the larger general subsections, particularly lower extremity and neurologic conditions, are much less concentrated in the top two codes. However, these findings should be interpreted with caution since the number of VASRD codes mapped to each retention medical subsection differs widely (Table 2).

TABLES 5A-D: FINAL RETAINABILITY DETERMINATION CATEGORY, OVERALL AND BY DoDI SUBSECTION

To describe the outcome of the retainability evaluation, RMSAR categorized all service-specific PEB dispositions into three (3) retainability determinations (non-retainable: disability discharge, non-retainable: administrative separation, and fit for continued duty).

- Overall, more than 90% of service members evaluated under the retention medical standards were determined to be non-retainable and entitled to DoD disability benefits.
- Between 1.5% (Navy) and 4% (Air Force) of evaluated service members were determined to be non-retainable and were administratively separated, while less than 3% were found fit for continued service.
- Generally, the DoDI subsections and overall final retainability distributions followed the same pattern.

TABLES 6A-D: TIME IN SERVICE TO RETENTION MEDICAL STANDARD EVALUATION, OVERALL AND BY DoDI SUBSECTION

In an effort to identify time periods during which service members were most likely to be assessed for medical retainability, RMSAR defined three (3) time intervals loosely aligned with Disability Evaluation System governing policy.

- Overall, the median time in service until retention medical standard evaluation was longest among Airmen (7.7 years) and Soldiers (6.9 years) and shortest among Marines (4.0 years).
- No discernable pattern was observed when comparing time in service across subsections, neither within nor across services.

TABLES 7A-D: HISTORY OF ACCESSION MEDICAL WAIVER

To examine whether pre-accession disqualifications impact a service member's medical retainability, RMSAR traced retainability evaluations back to accession medical standards waivers and evaluated the concordance, or match rate, between the subsections listed for the accession and retention medical standards.

- Generally, less than 10% of service members evaluated under the retention medical standards had a history of accession medical waiver, which aligns with the proportion of all military accessions who entered service via an approved medical waiver (approximately 8%).
- Across all services, there was little to no concordance between the accession medical waiver and the DoDI subsection (0-4%).



INTRODUCTION

BACKGROUND

I. Medical Standards Analytics and Research (MSAR)

Dedicated analytic and scientific support of evidence-based military medical standards began over 25 years ago with the chartering of the Accession Medical Standards Analysis and Research Activity (AMSARA) in 1995. The first few years were primarily dedicated to identifying and acquiring data sources that would allow longitudinal study of the medical standards, including applicant physical exams, accession medical waivers, accession, medical encounters, and separations. Since acquiring those data, AMSARA has conducted data analyses and epidemiologic research in support of the accession medical process.

In 2010, AMSARA became AMSARA/Disability Evaluation Standards Analysis and Research (DESAR), with its mission augmented to include research on service disability discharge policies and processes. Since disability discharge data were already a part of AMSARA's data portfolio, DESAR was able to begin producing analyses soon after inception.

In 2020, with the establishment of DoD-wide retention medical standards, AMSARA/DESAR's scope was expanded to include scientific study of these new standards. With this expansion in scope, the program was renamed as the Medical Standards Analytics and Research (MSAR). This encompasses AMSARA, DESAR, and the newly commissioned Retention Medical Standards Analytics and Research (RMSAR). With its expanded mission, MSAR will aid in generating more complete support of military medical processes as it pertains to beginning of service (accession medical), in service (retention medical), and end of service medical outcomes (disability).

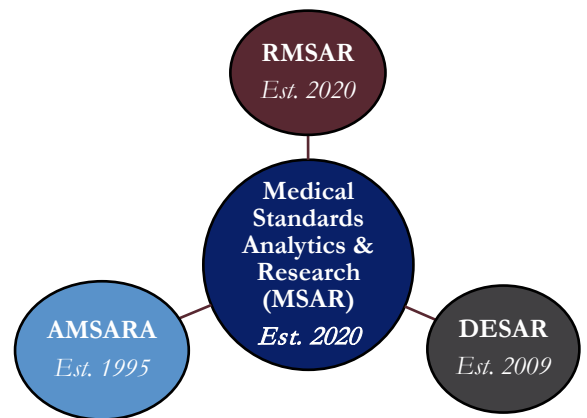


Figure 1: MSAR's Missions

II. Retention Medical Standards History

Historically, retention medical standards for members of the United States military have been set separately by each of the service branches, subject to their own needs. These service-specific standards have varied considerably in form, if not in function. For example, the Army retention medical standards, Army Regulation 40-501: Standards of Medical Fitness (June, 2019)¹, and Air Force retention medical standards, Department of the Air Force Manual 48-123: Medical Examinations and Standards (December, 2020)² specified categories of unfitting medical conditions. In contrast, the retention medical standards for the Navy/Marines, Secretary of the Navy Manual (SECNAV M)-1850.1: Department of the Navy Disability Evaluation System Manual (September, 2019)³, did not

specify any unfitting medical conditions, but rather focused on the nature, length, and prognosis of any condition that hindered service.

In July 2017, the Secretary of Defense directed the Office of the Under Secretary of Defense for Personnel and Readiness to review military personnel policies related to the retention and separation of permanently non-deployable service members. This review identified the need for DoD-wide retention medical standards and the Retention Medical Standards Working Group (RMSWG) was established. The RMSWG published the first iteration of the DoD-wide retention medical standards in September, 2020⁴. These standards superseded all prior service-specific standards by establishing baseline retention criteria applicable to all service members. The services could then add any more stringent criteria subject to service-specific needs. In 2022, the RMSWG was combined with the Accession Medical Standards Working Group, forming the Accession and Retention Medical Standards Working Group (ARMSWG).

III. DoD-wide Retention Medical Standards

DoDI 6130.03, Volume 2 establishes retention medical standards, with corresponding policy and procedures for all military services⁴. This document, supported by the Medical and Personnel Executive Steering Committee (MEDPERS) with a publication date of September 4, 2020, was the first promulgation of DoD-wide retention medical standards. These standards now serve as the core medical standards for retention in the military and supersede all prior retention medical standards promulgated by the individual service branches. The medical standards are classified into 29 subsections containing specific disqualifying conditions. If a service member is unable to meet these retention medical standards after reasonable treatment, with or without appropriate limitations to duty, they will either be referred to the Disability Evaluation System (DES) for review or processed administratively, as applicable.

As with the service-specific standards that preceded them, the DoD retention medical standards are focused on the ability to serve effectively without need of excessive treatment or accommodations that are not readily available in most service settings. Unlike the accession medical standards, the mere existence of a medical condition typically does not constitute a violation of the retention standards. Rather, these standards specify that a condition “must persist despite appropriate treatment and impair function to preclude satisfactory performance of required military duties of the Service member’s office, grade, rank, or rating.”

IV. Service-Specific Retention Medical Standards Instructions

Prior to the establishment of DoDI 6130.03, Volume 2 on September 4, 2020⁴, each service was responsible for its own retention medical standards. However, once the DoDI 6130.03 V2⁴ was published, service members and examiners were expected to adhere to the stricter standard (either service-specific^{1,2,3} or DoDI 6130.03 V2⁴). Below, for readers’ reference, we highlight the documents that outlined service-specific policies until the DoD-wide standards took effect.



Army

Primary document: Army Regulation (AR) 40-501: Standards of Medical Fitness (June, 2019)¹

Section 3 of AR 40-501 is titled “Medical Fitness Standards for Retention and Separation, Including Retirement”¹. This document pre-dates the DoD standards, and accordingly reflects the entirety of Army retention medical standards for Army medical separations at least until the publication of DoDI 6130.03 V2⁴. This chapter lists medical conditions and physical defects that may render a soldier unfit for service, the circumstances under which the standards do and do not apply, and the basic procedures for handling a soldier who does not meet the standards.



Navy/Marine Corps

Primary document: SECNAV M-1850.1: Department of the Navy Disability Evaluation System Manual (September, 2019)³

Unlike the other two services, the Navy and Marine Corps only had functional standards in the case that a service member is unable to reasonably perform duties, represents a decided medical risk to the health of the member, or to the welfare/safety of the other members before the introduction of the retention medical standards listed in DoDI 6130.03 V2⁴. Chapter 3: “Medical Evaluation Board (MEB)” of SECNAV M-1850.1 defines the role that the MEB has in documenting medical conditions that will prevent service members from reasonably performing the duties of their office, grade, rank, or rating and can recommend retention (through assignment to Limited Duty /Temporary Limited Duty) or refer cases to the Physical Evaluation Board (PEB) for further DES evaluation.



Air Force

Primary documents: Air Force Instruction (ARI) 48-123: Medical Examinations and Standards (December, 2020)² and the current Air Force Medical Standards Directory (updated annually, and last updated February, 2022)⁵

Chapter 4 entitled “Medical Standards for Continued Military Service (Retention)” and Chapter 5 entitled “Flying and Special Operational Duty” of ARI 48-123 contain the applicability and the medical standards that limit a service member’s ability to complete their assigned duty². The Medical Standards Directory⁵ further expands on the ARI 48-123². The regulation predates DoDI 6130.03 V2⁴, but the Medical Standards Directory has adapted to work in tandem with DoDI 6130.03 V2 and details the required actions for each retention medical disqualifying condition⁵.

RETENTION MEDICAL PROCESS

I. Initiation of the Retention Medical Process

Service-hindering medical issues may arise, or be noticed, at any point in a service member's career. Retention medical process initiation points for identifying medical conditions which may not meet retention medical standards include healthcare provider visits and/or health and performance assessments. An example initiation point is when a service member presents to a medical provider with a condition listed in the retention medical standards either at service member's initiative or instigated by an unsatisfactory health or performance assessment with a medical underpinning.

Another way the retention medical process can be initiated is through the Periodic Health Assessment (PHA). All service members are required, at minimum, to undergo a performance and physical health assessment at regular and relatively frequent intervals. There is also regular physical fitness testing that occurs as part of maintaining force readiness, for re-enlistment or change of occupational specialty, and other similar situations⁶.

Regardless of how it is first noticed, if a medical condition may render the service member unfit for duty or non-deployable for more than 12 months (as per DoDI 1332.45, "Retention Determinations for Non-Deployable Service Members")⁷, documentation of the service member's medical condition will be forwarded to the proper branch authority which will initiate the retention medical process.

II. Service Application of the Retention Medical Standards

Once a medical issue has been flagged as potentially violating retention medical standards, there are several outcomes that may occur. The service member may be found fit to continue service, either with or without accommodations such as rest and recovery time, treatment, or in some cases, a change of primary military occupation. Alternatively, a service member deemed unfit to continue service may be evaluated through the DES process. This process may begin with review and documentation of the pertinent information by a MEB, although medical documentation can be collected in earlier pre-MEB processes. After review, the MEB will typically refer the case to a PEB, which will determine a disposition of the case (see 'PEB Disability Disposition Categories' for possible PEB dispositions)⁸.

In some cases, a service member may be administratively separated without referral to the DES process. There are many circumstances that could lead to such a separation. Examples include when the medical condition was acquired through willful neglect or intentional misconduct, or during excessive or unexcused leave⁹. Another situation that may lead to administrative separation is when the condition pre-existed service, was identified during the first 180 days of service, and was not exacerbated by service⁸. One other situation explicitly allowed for in section 1.2.b(2) of DoDI 6130.03 Vol 2 is that the medical condition at issue does not constitute a disability⁴.

If a condition is found to be unfitting, the *Army*, *Navy/Marine Corps*, and *Air Force*, each have their own service-specific policies for how each service member's case is to be handled^{1,2,3}. The primary documents outlining those policies are identified in the *Publications* section of this report. Additional documentation can be found in the *Additional Supporting Publications* section. It is important to note that when examining data on any aspect of the retention medical process that the services may have different rules for how unfitting conditions are handled. For example, cases referred for processing through DES may differ by service based on the range of severity, and features that affect benefits determinations, such as how the condition was acquired, whether it pre-existed service, etc. For these reasons, comparisons of retention medical standards outcomes must be interpreted with caution and considerable nuance.

DATA SOURCES

I. Data Sources Used in RMSAR Baseline Metrics

Through data collected from each service's DES used to support MSAR's DESAR mission, MSAR currently receives data at the PEB level for service members of each DoD branch. These disability discharges are compiled separately for each service. The **U.S. Army Physical Disability Agency (PDA)** provides data on *Army* disability evaluations, the **Secretary of the Navy Council of Review Board (CORB)** provides disability evaluation data for the *Navy* and *Marine Corps*, and the **Air Force Personnel Center (AFPC)** provides data on *Air Force* disability evaluations. In future reports, MSAR is working to expand these data sources to include data at the MEB and pre-MEB level.

The **Defense Manpower Data Center (DMDC)** provides data on service members at accession (Social Security Number (SSN), gain date) and the total service population as of September 30 of the fiscal year in question. SSN was used to link a service member to their PEB record. Gain date was used to calculate the total service length from first accession to initial retainability evaluation.

Pre-accession medical waiver records, required for accession by those applicants with an identified medical disqualification, were received by MSAR from each of the **Service Medical Waiver Review Authorities (SMWRAs)**. To assess the concordance between non-retainability and pre-accession medical disqualifications, the most recent waiver record was selected among the report population.

II. MSAR Data Pursuits Relevant to Retention Medical Standards

This inaugural RMSAR Annual Report consists of data on only a subset of service members who have failed to meet retention medical standards – specifically, those whose cases were processed through the DES and were adjudicated by a PEB. DES evaluation and subsequent entrance into the DES is only one possible outcome of the retention medical process. However, MSAR currently only has access to this PEB-level retention medical data that supports their mission to provide research on service disability discharge policies and processes. MSAR is actively working to acquire direct data on the application of retention medical standards. **Table 1** presents a summary of other data that may assist MSAR in evaluating this process.

Table 1: Potential Sources of Useful Information Relevant to Retention Medical Standards.

Potential Sources of Useful Information
Retention Medical Initiating Event
<i>Medical Treatment Facility (MTF) Referrals to a Medical Evaluation Board (MEB)</i>
<i>Physical Health Assessments</i>
<i>Physical Fitness Assessments</i>
<i>Performance Assessment</i>
<i>Re-Enlistment Assessment</i>
<i>Change of Military Occupational Specialty (MOS)</i>
<i>Deployment Assessment</i>
<i>Flying Duty Medical Examination</i>
<i>Other Retention Medical Initiating Examinations</i>
Deployment Medical Waivers
Pre-MEBs
MEBs
Physical Evaluation Boards (PEB)
Administrative Separation Data for Medical Conditions Not Amounting to a Disability

1. MSAR's current window into the application of retention standards consists primarily of data from the services' Physical Evaluation Boards (PEBs).

KEY TERMS, DEFINITIONS, AND ELEMENTS

Disability Evaluation System (DES): The DES, as defined in DoDI 1332.18, establishes policy, assigns responsibilities, and provides procedures for referral, evaluation, return to duty, separation, or retirement of service members because of a medical condition causing inability to serve effectively in the military⁸. The DES also defines the role of the MEB and the PEB in the medical discharge of service members.

1. **Medical Evaluation Board (MEB):** The MEB documents the medical status and duty limitations of service members who meet referral eligibility criteria to be admitted to the DES². After documentation is complete, if the service member cannot perform the duties of his office, grade, rank, or rating, the case is sent to the PEB for a disability disposition determination. Some services, such as the Navy and Marine Corps, use the MEB to evaluate service members against retention standards.
2. **Physical Evaluation Board (PEB):** Using documentation gathered by the MEB, the PEB determine fitness to perform military duties and eligibility for benefits. For those deemed unfit for continued duty, the PEB determines a disposition for the case that indicates the amount and type of disability benefit to be provided, if any, a Veterans Affairs Schedule for Rating Disabilities (VASRD) code and analogous code if necessary, and a disability rating. RMSAR categorized the service-specific disability dispositions into **retainability determination categories**.

DoDI Subsection: For this report, selected VASRD codes were mapped to the associated subsection of the Retention Standards outlined in DoDI 6130.03 V2⁴ (**Table 2**). The DoDI subsections are not mutually exclusive, so VASRDs may have been placed into more than one subsection (e.g. Eyes and Vision).

Retainability Determination Category: The three retainability determination categories identify the outcome of the retainability evaluation and were based on the six broad disability disposition categories utilized in DESAR's Annual Report¹¹. Definitions of DoD or service-specific dispositions can be found in DoDI 1332.18⁸, Army Regulation 635.40¹, SECNAV M-1850.1³, or Air Force Instruction 36-3212².

1. **Non-Retainable: Disability Discharge:** A discharge where a service member has a service-connected medical condition which does not meet retention standards, is entitled to DoD disability benefits, and is assigned a VASRD code. The disability dispositions included in this category are as follows:

Permanent Disability Retirement List (PDRL): A service member is placed on the PDRL if they meet the following conditions: when medical condition(s) are considered stable enough to be rated for long-term impairment, and when either or both of the following apply: 1) the combined disability rating is 30 percent or higher; or 2) the service member has completed at least 20 years of service.

Temporary Disability Retirement List (TDRL): TDRL is a temporary classification given when an unfitting condition has not sufficiently stabilized to assess long-term disability severity. This disposition is directed under ‘Regulars and members on active duty for more than 30 days: temporary disability retired list’, 10 United States Code (U.S.C.) § 1202 (December 2011)¹² or ‘Members on active duty for 30 days or less: temporary disability retired list’, 10 U.S.C., 10 U.S.C. § 1205 (December 2011)¹³, as applicable, when the years of service or percentage requirements for permanent disability retirement are met, but the disabilities are not determined to be permanent and stable. Re-evaluation of TDRL cases should occur every 6-18 months until the condition stabilizes, or the service member has been on the TDRL for three years. Since prior MSAR analyses have found that over 90% of service members placed on the TDRL convert to the PDRL [6, 7], service members placed on the TDRL were included in this ‘non-retainable: disability discharge’ category.

Separation with Severance Pay (SWSP): This disposition applies when at least one medical condition does not meet retention standards, the combined disability rating incorporating all medical conditions is less than 30 percent, and the service member has completed less than 20 years of service⁸.

2. **Non-Retainable: Administrative Separation:** A discharge where a service member was determined to be no longer medically retainable, was not entitled to disability benefits from the DoD, or was administratively removed from the DES and assigned a VASRD code. This category includes service members assigned the following disability dispositions:

Separated without DoD Disability Benefits (SWODDB): This category encompasses all dispositions where a service member is no longer retainable and is not entitled to disability benefits from the DoD (e.g. separated without entitlement to benefits, discharge pursuant to other than Chapter 61 of 10 U.S.C.¹⁴, revert to retired status without disability benefits, nonduty unfit, not physically qualified, miscellaneous administrative removal, and administrative removal off the TDRL). Circumstances leading to this disposition include medical conditions that were acquired during unauthorized absence, conditions acquired due to intentional misconduct or willful neglect, or conditions proven to have existed prior to service, were not exacerbated by service and service time was less than 8 years. Most service members separated without DoD disability benefit are not assigned a VASRD code. However, a small number may be assigned an unrated VASRD code which denotes that the service member had an unfitting condition but was not eligible for DoD benefits¹. Since the purpose of this report is to provide descriptive statistics by retention medical standard, only those who were assigned a VASRD mapped to the DoDI were included.

Other: This category comprises a set of diverse administrative dispositions including transfer to retired reserve, revert to retired status, no action, reboard, deceased, and dual-action term.

3. **Fit for Continued Duty:** This category includes all service members judged medically retainable and allowed to continue service. The following disability dispositions are included in this category: fit, limited duty, continuation on active duty, and physically qualified to continue reserve status. A service member determined to have unfitting conditions may continue service at the discretion of the Secretary of the Military Department based on the needs of the Service.

Therefore, a small proportion of ‘Fit for Continued Duty’ service members have an assigned VASRD code.

Retention Medical Standard Evaluation: For this report, a retention medical standard evaluation is defined as evaluation by both the MEB and PEB between FY 2016-2021, during which a VASRD code was assigned.

Veterans Affairs Schedule for Rating Disabilities (VASRD) Codes: VASRD codes are assigned by the PEB and translate specific medical conditions into disability ratings in 10-percentage point intervals¹⁰. Disability ratings are used to determine disability disposition and benefits. When a service member has a medical condition without a directly associated VASRD code, the VASRD code which best approximates the service member’s medical impairment and duty limitation is assigned.



Table 2: DoDI Subsection to VASRD Code Mapping

DoDI Subsection	Mapped VASRD Codes
Head	5296, 9901, 9902
Eyes	6000-6022, 6025, 6027-6035, 6037, 6040, 6042, 6061, 6063, 6066, 6080, 6090-6092
Vision	6036, 6062, 6064-6081
Ears	6200, 6201, 6204, 6205, 6207, 6208, 6209, 6210
Hearing	6202, 6211, 6260, 6100
Nose, Sinuses, Mouth, and Larynx (NSML)	6502, 6504, 6510-6516, 6518-6524, 7200-7202, 9911
Dental	9900-9905, 9908, 9909, 9913-9918
Neck	5287, 5290, 5322, 5323
Lungs, Chest Wall, Pleura, Mediastinum (Respiratory)*	6600-6604, 6732, 6825-6833, 6840-6846
Heart	7000-7012, 7015-7018, 7020
Abdominal Organs and Gastrointestinal System (Abdominal & GI)	7203-7205, 7301, 7304-7312, 7314-7319, 7321-7340, 7342, 7345-7348, 7351, 7354
Female Genital System (Female Genital)	7610-7615, 7617-7621, 7624-7632
Male Genital System (Male Genital)	7520-7525, 7527
Urinary System (Urinary)	7500-7502, 7504, 7505, 7507-7509, 7511, 7512, 7515-7519, 7530-7542
Spine and Sacroiliac Joint Conditions (Spine & SI Joint)	5235-5241, 5244, 5286-5292, 5294, 5295, 5002, 5009, 5298, 5319, 5320
Upper Extremity Conditions (Upper Extremity)	5104-5106, 5108, 5109, 5111, 5120-5155, 5200-5203, 5205-5209, 5211-5230, 5301-5309
Lower Extremity Conditions (Lower Extremity)	5104, 5105, 5107, 5108, 5110, 5111, 5156, 5160-5167, 5170-5173, 5250-5263, 5270-5272, 5274-5276, 5278-5282, 5284, 5285, 5310-5318
Generalized Conditions of the Musculoskeletal System (General MSK)	5000, 5001, 5003-5008, 5010, 5013, 5014, 5016, 5018-5020, 5022-5024, 5051-5056, 5209, 5210, 5242, 5243, 5254, 5273, 5277, 5283, 5293, 5304, 5319-5321
Vascular System (Vascular)	6817, 7100, 7101, 7110-7115, 7119-7121
Skin and Soft Tissue Conditions (Skin & Soft Tissues)	6834-6839, 7118, 7800-7802, 7804-7809, 7811, 7813, 7815-7818, 7820-7822, 7824-7829, 7832, 7833
Blood and Blood Forming Conditions (Blood)	7702-7707, 7709, 7710, 7712, 7714-7725
Systemic Conditions (Systemic)*	5330, 6010, 6300-6302, 6304-6312, 6316-6320, 6325, 6326, 6329-6331, 6333-6335, 6351, 6701-6704, 6721-6724, 6730, 6731, 6822-6824, 6828, 6846, 7118, 7321, 7354, 7505, 7525, 7539, 7612, 7614, 7717, 7807, 7808, 7811, 7820, 8000, 8011, 8013-8015, 8019, 8020
Endocrine and Metabolic Conditions (Endocrine & Metabolic)	5013, 5014, 5016, 5017, 6313-6315, 7008, 7900-7919
Rheumatologic Conditions (Rheumatologic)	5002, 5009, 5021, 5025, 6350, 7117, 7124, 7821, 7826
Neurologic Conditions (Neurologic)	6026, 6046, 6275, 6276, 6841, 8000, 8002-8005, 8007-8015, 8017-8025, 8045, 8046, 8100, 8103-8107, 8205, 8207, 8209-8212, 8305, 8307, 8309-8312, 8405, 8407, 8409-8412, 8510-8530, 8540, 8610-8630, 8710-8730, 8910-8914, 9300, 9301, 9304, 9305, 9310, 9312, 9326
Sleep Disorders	6847, 8108
Behavioral Health	9201, 9208, 9210, 9211, 9400, 9403, 9404, 9410-9413, 9416, 9417, 9421-9425, 9431-9435, 9440, 9520, 9521
Tumors and Malignancies (Tumors)	5012, 5015, 5327-5329, 6014, 6015, 6208, 6209, 6819, 6820, 7123, 7343, 7344, 7528, 7529, 7627, 7628, 7630, 7631, 7703, 7709, 7712, 7715, 7719, 7724, 7725, 7818, 7819, 7833, 7914, 7915, 8002, 8003, 8021, 8022, 8540, 9917, 9918
Miscellaneous Conditions (Misc. Conditions)	5011, 6844, 7019, 7122, 7351, 7531, 7815

* VASRD codes 6701-6704, 6721-6724, 6730, 6731 were included in both respiratory and systemic DoDI subsections due to identical wording of retention standards. Subsection category selected for VASRD codes may be subject to change in future editions of RMSAR annual report due to updates to the DoDI 6130.03 V2.

BASELINE METRICS

PEB evaluations and discharges represent important outcomes among service members who fail to meet retention medical standards. Disability discharge is not the only possible outcome when a service member does not meet retention medical standards, since not all retention medical issues involve disabling conditions. However, process stakeholders have indicated that the PEB adjudicates most retention medical standards evaluations. Therefore, this report assesses PEB evaluations as a proxy for retention medical evaluations.

To assess the DoD-wide medical retention standards, MSAR identified all service members evaluated for retainability, via initial referral into the DES, between October 1, 2016 and September 30, 2021 (FY 2016-2021). To assess reasons for non-retainability, MSAR selected those service members who were determined to be non-retainable and assigned a VASRD code. All DoD services (Army, Navy, Marine Corps, and Air Force), ranks, and components (active duty, reserves, and National Guard) were included in these analyses. All references to FY throughout this report are based on the date of initial MEB evaluation. All VASRD codes and dispositions were selected from the most recent PEB evaluation record.

To assess the specific retention medical standards for which service members were most often evaluated, MSAR mapped all assigned VASRD codes to the 29 subsections listed in the DoD Retention Medical Standards (DoDI 6130.03, Volume 2, see section III⁴). All rates, based on total service population as of September 30 of the fiscal year in question, were calculated per 10,000 service members.

VASRD codes were not designed to be comprehensive of all medical conditions that may lead to disability, but rather provide a framework for consistent ratings of disabilities in terms of the nature and extent of impairment. VASRD codes can be used to describe underlying medical issues which contribute to the disability but might not have been included in the retention medical standard evaluation. Therefore, the distribution of medical conditions should be interpreted with caution as they pertain to retention medical standards.



I. Retention Medical Standard Evaluation Rates, Overall and by DoDI Subsection

To assess the prevalence and trends, **Figure 2** presents the temporal trend of retention medical standard evaluation rates by service from FY 2016-2021.

Rate calculations throughout this report were based on the FY of the service member's first MEB evaluation.

Figure 2 Key Findings

- Overall, rates of retention medical standard evaluations, using PEB evaluations as a proxy, were relatively small (<2% of the total force per Service).
- Rates of retention medical standard evaluations were highest for the Army (105-179 per 10,000 Soldiers), followed by Marine Corps (61-103 per 10,000 Marines), Air Force (41-82 per 10,000 Airmen), and Navy (50-63 per 10,000 Sailors).
 - Variances may reflect any of several important inter-service differences, including but not limited to, service-specific retention evaluation processes and historical standards for retainability.
- Over the six-year surveillance period, retention medical standard evaluations declined by 36-41% for the Army, Marine Corps, and Air Force.
 - Temporal decreases over this time period should be interpreted with caution due to the COVID-19 pandemic's impact on PEB processing and case deferments.

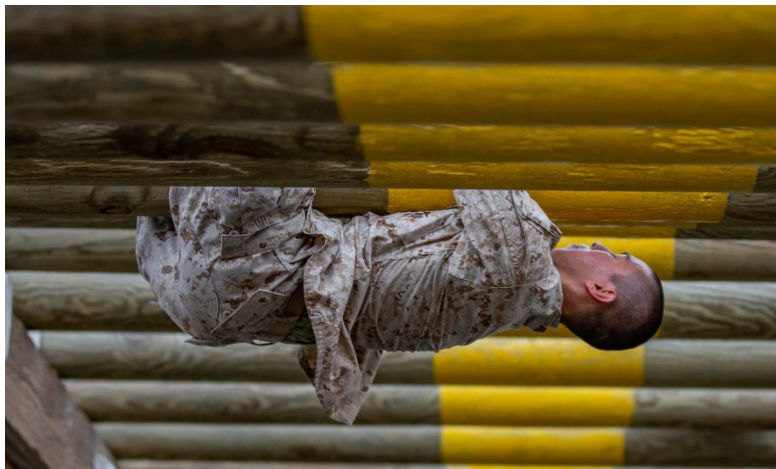
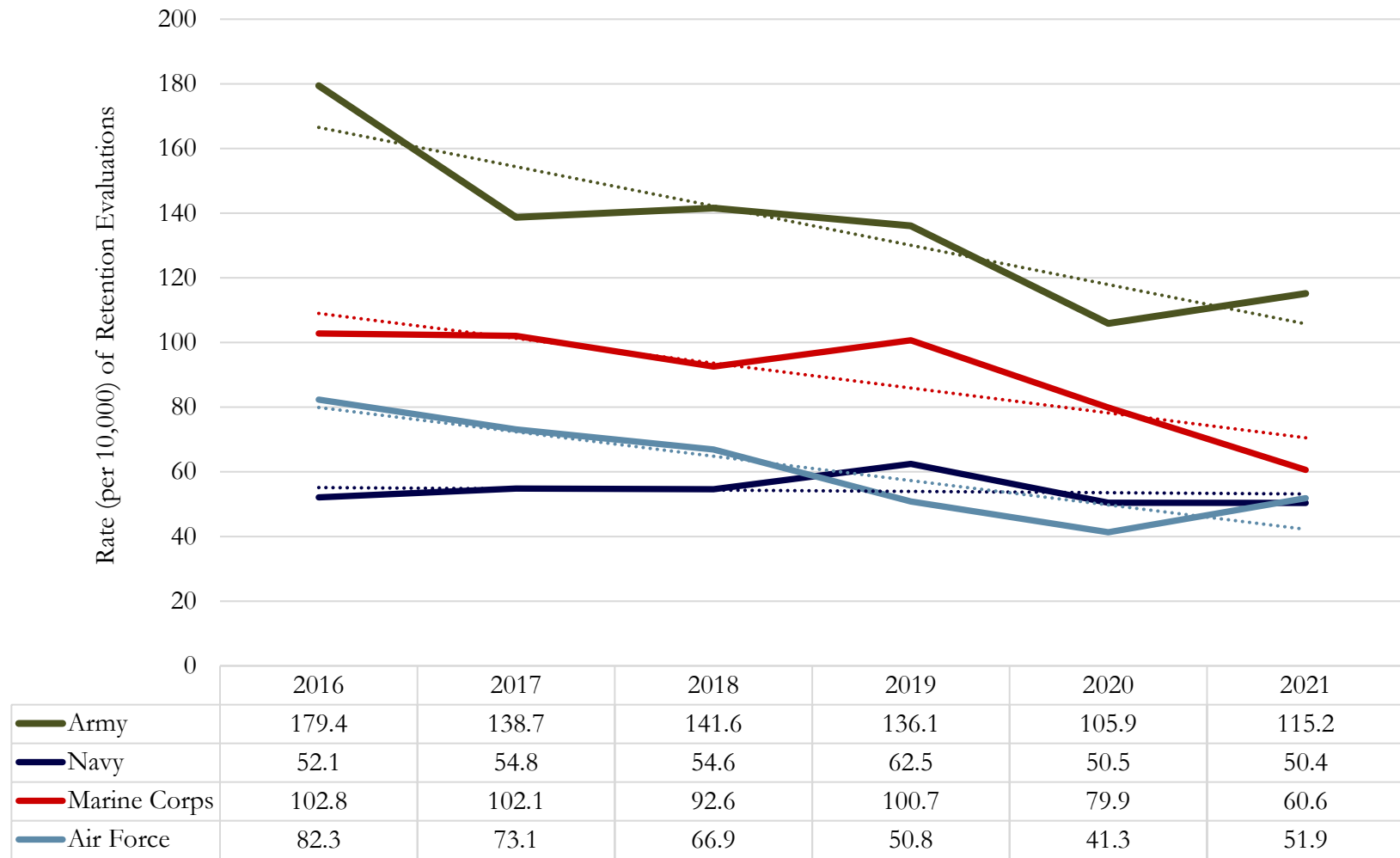


Figure 2: Temporal Trend of Overall Retention Medical Standard Evaluation Rates, by Service



1. Number of evaluations in 2017 may be underestimated due to missing or incomplete FY17 Army PEB data received by RMSAR.

To assess the most common retention standard categories for which service members were evaluated for non-retainability, **Tables 3A-D** presents the rate of retention medical standards evaluation (per 10,000 service members) per DoDI Subsection. For reference, DoDI subsections are referenced in Table 2.

Tables 3A-D Key Findings

- Musculoskeletal (MSK) conditions (including the spine, upper extremity, lower extremity, general MSK subsections), behavioral health and neurological disorders contributed to most retention medical standards evaluations.
 - This finding is in alignment with the FY 2022 DESAR Annual Report which indicated that 35-64% of FY 2017-2021 disability discharges had an unfitting musculoskeletal condition, 25-44% had an unfitting psychiatric disorder, and 16-24% had an unfitting neurological disorder.
- The Army had the highest rate of retention medical standards evaluation for most DoDI subsections.
 - The rates of most subsection-specific retention medical standards evaluation decreased over time, in alignment with the overall decreasing trend in retention medical standards evaluation.



Table 3A: Retention Medical Standard Evaluation Rate, by DoDI Subsection: Army FY 2016-2021

Army						
DoDI Subsection	2016	2017 ¹	2018	2019	2020	2021
Head	<0.1	0.1	<0.1	<0.1	<0.1	<0.1
Eyes	1.4	0.9	1.1	0.9	0.6	0.8
Vision	1.2	0.8	1.0	0.7	0.4	0.5
Ears	0.8	0.6	0.6	0.5	0.4	0.4
Hearing	0.9	0.8	0.9	0.8	0.5	0.5
NSML	0.4	0.2	0.4	0.4	0.3	0.4
Dental	0.2	0.1	0.2	0.1	0.1	0.1
Neck	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Respiratory	3.4	3.0	3.2	3.1	2.2	2.2
Heart	2.9	2.4	2.1	2.5	1.9	2.3
Abdominal & GI	4.2	2.9	3.7	2.8	2.4	2.7
Female Genital	0.7	0.5	0.5	0.5	0.5	0.4
Male Genital	0.8	0.7	0.8	0.9	0.6	0.5
Urinary	1.6	1.2	1.3	1.1	0.9	1.0
Spine & SI Joint	29.2	21.7	19.5	18.2	12.9	13.7
Upper Extremity	24.4	18.2	17.8	16.2	13.2	14.3
Lower Extremity	59.0	44.1	43.8	42.4	33.5	34.2
General MSK	73.0	50.9	50.7	45.9	35.0	36.1
Vascular	2.0	1.3	1.6	1.7	1.3	1.5
Skin & Soft Tissue	3.0	3.1	2.5	2.5	2.0	2.3
Blood	0.7	0.7	0.7	1.0	0.6	0.7
Systemic	0.8	0.6	0.6	0.7	0.6	0.8
Endocrine & Metabolic	3.0	3.7	4.0	3.4	2.3	2.8
Rheumatologic	4.5	3.9	4.0	3.8	2.5	3.0
Neurologic	40.8	33.5	33.5	31.2	24.3	29.4
Sleep Disorders	2.1	1.6	1.7	1.5	1.1	1.3
Behavioral Health	60.5	49.2	49.3	49.4	36.7	40.0
Tumors	1.8	1.6	1.4	1.6	1.2	1.4
Misc. Conditions	0.2	0.1	0.1	0.2	0.1	0.1

NSML: Nose, sinus, mouth and larynx; GI: Gastrointestinal; SI: Sacroiliac; MSK: Musculoskeletal

1. The 2017 rate may be underestimated due to missing or incomplete FY17 Army DES data received by MSAR.

Note: Average number of Total Force Soldiers for FY2016-2021 was 1,086,349.

Table 3B: Retention Medical Standard Evaluation Rate, by DoDI Subsection: Navy FY 2016-2021

Navy						
DoDI Subsection	2016	2017	2018	2019	2020	2021
Head	<0.1	<0.1	-	<0.1	-	-
Eyes	0.4	0.4	0.8	0.9	0.5	0.5
Vision	0.4	0.4	0.7	0.6	0.4	0.4
Ears	0.5	0.3	0.3	0.4	0.2	0.3
Hearing	0.1	0.1	0.1	0.1	<0.1	0.1
NSML	0.1	0.2	0.1	0.1	<0.1	0.1
Dental	<0.1	0.1	0.1	0.1	<0.1	0.1
Neck	<0.1	-	<0.1	<0.1	-	<0.1
Respiratory	0.8	0.5	0.5	0.9	0.5	0.7
Heart	0.9	0.8	0.8	1.2	0.8	0.6
Abdominal & GI	2.3	2.3	2.5	2.9	2.2	1.9
Female Genital	0.2	0.2	0.4	0.3	0.2	0.2
Male Genital	0.3	0.2	0.2	0.3	0.2	0.1
Urinary	0.8	0.5	0.5	0.7	0.5	0.5
Spine & SI Joint	3.9	4.2	3.7	3.8	3.1	2.9
Upper Extremity	3.4	3.7	4.0	4.5	4.1	3.3
Lower Extremity	9.5	10.5	10.1	10.2	9.1	7.7
General MSK	9.1	10.7	12.0	10.8	9.4	7.0
Vascular	0.4	0.5	0.4	0.9	0.8	0.8
Skin & Soft Tissue	0.9	0.6	0.6	0.8	0.9	0.9
Blood	0.2	0.3	0.4	0.3	0.5	0.5
Systemic	0.3	0.3	0.1	0.3	0.2	0.3
Endocrine & Metabolic	0.9	1.2	1.4	1.4	1.3	1.2
Rheumatologic	1.9	2.2	2.4	2.8	1.9	1.8
Neurologic	9.0	10.4	11.4	11.0	7.8	8.0
Sleep Disorders	0.4	0.3	0.5	0.9	0.6	0.5
Behavioral Health	18.1	19.2	18.7	24.8	21.1	25.4
Tumors	1.1	1.2	1.1	1.0	0.9	0.9
Misc. Conditions	0.1	<0.1	0.1	0.1	<0.1	<0.1

NSML: Nose, sinus, mouth and larynx; GI: Gastrointestinal; SI: Sacroiliac; MSK: Musculoskeletal
 (-) indicates that no service members were evaluated under the DoDI subsection and a rate could not be calculated.

Table 3C: Retention Medical Standard Evaluation Rate, by DoDI Subsection: Marine Corps FY 2016-2021

DoDI Subsection	Marine Corps					
	2016	2017	2018	2019	2020	2021
Head	<0.1	-	<0.1	-	-	-
Eyes	0.6	0.8	0.4	0.8	0.5	0.6
Vision	0.5	0.6	0.3	0.6	0.3	0.4
Ears	0.1	0.4	0.3	0.1	0.1	0.1
Hearing	0.3	0.5	0.2	0.2	0.1	<0.1
NSML	0.2	0.2	0.1	0.3	0.1	<0.1
Dental	0.1	0.1	<0.1	0.1	-	-
Neck	<0.1	<0.1	-	<0.1	-	-
Respiratory	2.3	1.8	2.1	2.7	2.8	1.9
Heart	1.2	0.9	1.2	1.0	0.9	0.9
Abdominal & GI	2.8	3.2	2.8	3.4	2.0	1.7
Female Genital	0.3	0.3	0.2	0.2	0.3	0.3
Male Genital	1.1	0.8	0.7	0.6	0.5	0.4
Urinary	0.5	0.5	0.7	0.5	0.4	0.4
Spine & SI Joint	9.1	10.6	6.4	10.3	8.0	5.0
Upper Extremity	13.5	12.6	11.0	12.8	9.8	7.8
Lower Extremity	33.5	37.5	36.4	37.5	30.8	21.6
General MSK	28.5	29.3	25.1	26.9	20.5	16.1
Vascular	0.3	0.7	0.8	0.8	0.8	0.5
Skin & Soft Tissue	1.1	1.1	0.9	1.0	0.9	0.9
Blood	0.4	0.4	0.4	0.5	0.5	0.2
Systemic	0.5	0.5	0.3	0.6	0.2	0.4
Endocrine & Metabolic	1.1	1.4	1.4	1.2	0.9	0.8
Rheumatologic	1.9	2.2	2.0	1.9	1.9	0.7
Neurologic	14.1	13.3	13.1	13.8	11.6	9.4
Sleep Disorders	0.7	0.2	0.3	0.8	0.6	0.3
Behavioral Health	19.7	15.0	13.0	14.5	11.6	9.7
Tumors	1.2	1.2	0.8	1.0	0.7	0.8
Misc. Conditions	0.1	0.2	<0.1	0.1	0.1	<0.1

NSML: Nose, sinus, mouth and larynx; GI: Gastrointestinal; SI: Sacroiliac; MSK: Musculoskeletal
 (-) indicates that no service members were evaluated under the DoDI subsection and a rate could not be calculated.

Table 3D: Retention Medical Standard Evaluation Rate, by DoDI Subsection: Air Force
FY 2016-2021

DoDI Subsection	Air Force					
	2016	2017	2018	2019	2020	2021
Head	-	0.1	<0.1	-	-	<0.1
Eyes	0.8	0.5	0.7	0.6	0.4	0.5
Vision	0.5	0.6	0.5	0.4	0.2	0.4
Ears	0.6	0.8	0.7	0.5	0.3	0.5
Hearing	0.2	0.1	0.1	0.1	0.1	0.1
NSML	0.4	0.3	0.2	0.2	0.1	0.1
Dental	0.1	0.1	0.1	0.1	<0.1	<0.1
Neck	-	<0.1	-	<0.1	-	-
Respiratory	4.6	3.7	3.2	1.9	1.7	2.4
Heart	2.1	2.0	1.9	1.4	1.1	1.7
Abdominal & GI	4.0	2.6	2.5	1.8	2.0	2.4
Female Genital	0.4	0.4	0.5	0.4	0.4	0.3
Male Genital	0.2	0.2	0.2	0.2	0.1	0.1
Urinary	0.8	0.6	0.9	0.5	0.6	0.6
Spine & SI Joint	8.4	7.7	6.3	5.0	4.0	5.3
Upper Extremity	4.7	5.5	4.2	3.1	2.1	2.8
Lower Extremity	15.2	13.4	10.8	7.3	4.9	5.4
General MSK	24.2	20.3	16.3	10.5	7.5	8.3
Vascular	1.1	1.0	1.1	0.7	0.8	0.9
Skin & Soft Tissue	2.1	2.1	1.7	1.1	1.1	2.1
Blood	0.7	0.9	0.5	0.4	0.6	0.5
Systemic	0.5	0.7	0.6	0.3	0.2	0.3
Endocrine & Metabolic	1.6	1.7	1.4	1.2	1.0	1.5
Rheumatologic	4.2	4.2	3.3	2.2	2.2	2.3
Neurologic	15.8	17.3	17.5	12.5	10.0	12.6
Sleep Disorders	2.0	1.9	1.7	1.1	0.6	0.7
Behavioral Health	23.0	20.9	22.9	21.1	16.3	22.1
Tumors	1.6	1.6	1.3	1.2	1.1	1.2
Misc. Conditions	0.1	0.1	0.1	0.1	0.1	<0.1

NSML: Nose, sinus, mouth and larynx; GI: Gastrointestinal; SI: Sacroiliac; MSK: Musculoskeletal
(-) indicates that no service members were evaluated under the DoDI subsection and a rate could not be calculated.

II. Most Common Conditions per DoDI Subsection

Tables 4A-D identify the top two specific conditions, based on the assigned VASRD codes, within each of the 29 subsections identified in DoDI 6130.03 V2. The objective of these tables is to describe the specific conditions most frequently involved in retention medical standards evaluations across the services. Service members with more than one condition within a specific subsection can be counted more than once. For example, service members evaluated for hearing loss and tinnitus would be counted under each condition but would only be counted once under the hearing subsection.

Tables 4A-D Key Findings

- For many of the retention medical standards subsections, a substantial proportion of service members were evaluated for at least one of the top two conditions.
 - For each service, most service members evaluated under the hearing subsection had hearing loss (60-95%).
 - Approximately 70-85% of service members evaluated under the endocrine & metabolic subsection had diabetes mellitus.
 - Approximately 70-90% of service members evaluated under the respiratory subsection had bronchial asthma.
- Generally, the two most common conditions within each DoDI subsection were similar between all services, with a few notable differences.
 - Among service members evaluated under the skin & soft tissue subsection, the most common condition among Soldiers and Marines were unstable/painful scars, while the most common conditions among Sailors and Airmen were dermatitis, eczema, and psoriasis.
 - The most common conditions under the heart subsection were ventricular and supraventricular arrhythmias in the Navy, Marine Corps, and Air Force. However, the most common heart condition in the Army was arteriosclerotic heart disease (23%), closely followed by supraventricular arrhythmias (21%).
- A few of the larger general subsections, particularly lower extremity and neurologic, are much less concentrated in the top two codes. However, these findings should be interpreted with caution since the number of VASRDs mapped to each retention medical subsection differs widely (Table 2).

Table 4A: Top Two Unfitting Medical Conditions per DoDI Subsection: Army, FY 2016-2021

Army

Head (N=26)			Upper Extremity (N=11,219)		
	n	%		n	%
5296: Skull, loss of part of, both inner and outer tables	19	73.1	5201: Arm, limitation of motion	8,723	77.8
9902: Mandible, loss of approximately one-half	7	26.9	5215: Wrist, limitation of motion	1,584	14.1
Eyes (N=634)			Lower Extremity (N=27,746)		
6066: Anatomical loss of 1 eye with visual acuity of other eye 20/40 (6/12)	262	41.3	5260: Leg, limitation of flexion	10,803	38.9
6080: Field vision, impairment	163	25.7	5252: Thigh, limitation of flexion	6,905	24.9
Vision (N=498)			General MSK (N=31,405)		
6066: Anatomical loss of 1 eye with visual acuity of other eye 20/40 (6/12)	262	52.6	5242: Degenerative arthritis, degenerative disc disease	12,641	40.3
6080: Field vision, impairment	163	32.7	5243: Intervertebral disc syndrome	12,526	39.9
Ears (N=352)			Vascular (N=1,016)		
6204: Peripheral vestibular disorders	252	71.6	7121: Post-phlebotic syndrome	369	36.3
6205: Meniere's syndrome	96	27.3	6817: Pulmonary vascular disease	365	35.9
Hearing (N=474)			Skin & Soft Tissue (N=1,654)		
6100: Hearing loss	450	94.9	7804: Scar(s), unstable or painful	430	26.0
6260: Recurrent tinnitus	100	21.1	7802: Burn scar(s) or scar(s) due to other causes, not of the head, face, or neck that are not associated with underlying soft tissue damage	263	15.9
NSML (N=228)			Blood (N=469)		
6516: Chronic laryngitis	85	37.3	7703: Leukemia	72	15.4
6522: Allergic or vasomotor rhinitis	52	22.8	7709: Hodgkin's lymphoma	72	15.4
Dental (N=94)			Systemic (N=445)		
9905: Temporomandibular disorder (TMD)	75	79.8	7525: Chronic epididymo-orchitis	136	30.6
9902: Loss of mandible including ramus, unilaterally or bilaterally	7	7.4	6846: Sarcoidosis	79	17.8
Neck (n=10)			Endocrine & Metabolic (N=2,092)		
5322: Torso and Neck-Group XXII Function: Rotary and forward movements, head	8	80.0	7913: Diabetes mellitus	1,808	86.4
5323: Torso and Neck-Group XXIII Function: movements of head	2	20.0	5017: Gout	70	3.3
Respiratory (N=1,834)			Rheumatologic (N=2,345)		
6602: Bronchial asthma	1,481	80.8	5025: Fibromyalgia	1,306	55.7
6604: Chronic obstructive pulmonary disease	86	4.7	5009: Other specified forms of arthropathy (excluding gout)	385	16.4
Heart (N=1,513)			Neurologic (N=20,829)		
7005: Arteriosclerotic heart disease	347	22.9	8520: Paralysis of sciatic nerve	7,712	37.0
7010: Supraventricular arrhythmias	324	21.4	8100: Migraine	4,402	21.1
Abdominal & GI (N=2,030)			Sleep Disorders (N=1,005)		
7323: Ulcerative colitis	604	29.8	6847: Sleep apnea syndromes	593	59.0
7319: Irritable colon syndrome	436	21.5	8108: Narcolepsy	421	41.9
Female Genital (N=334)			Behavioral Health (N=30,815)		
7629: Endometriosis	117	35.0	9411: Posttraumatic stress disorder	20,168	65.4
7626: Breast, surgery	59	17.7	9434: Major depressive disorder	5,228	17.0
Male Genital (N=460)			Tumors (N=966)		
7523: Testis, atrophy, complete	222	48.3	7343: Malignant neoplasms in digestive system	117	12.1
7525: Epididymo-orchitis, chronic only	136	29.6	8003: Benign growth of the brain	94	9.7
Urinary (N=769)			Misc. Conditions (N=98)		
7542: Neurogenic bladder	225	29.3	7122: Residuals of cold injury	35	35.7
7530: Renal disease, chronic	127	16.5	6844: Post-surgical residuals	24	24.5
Spine & SI Joint (N=12,375)					
5237: Lumbosacral or cervical strain	9,746	78.7			
5239: Spondylolisthesis or segmental instability	881	7.1			

N = Number of service members disability discharged under the DoDI subsection; NSML: Nose, sinus, mouth and larynx; GI: Gastrointestinal; SI: Sacroiliac; MSK: Musculoskeletal

% denotes the proportion of disability discharged service members with the specific unfitting condition (e.g. hearing loss) out of the number of service members disability discharged within the applicable DoDI subsection (e.g. hearing).

Table 4B: Top Two Unfitting Medical Conditions per DoDI Subsection: Navy, FY 2016-2021

Navy

Head (N=3)		n	%	Upper Extremity (N=963)		n	%
5296: Skull, loss of part of, both inner and outer tables		2	66.7	5201: Arm, limitation of motion		602	62.5
9902: Mandible, loss of approximately one-half		1	33.3	5215: Wrist, limitation of motion		175	18.2
Eyes (N= 147)				Lower Extremity (N=2,370)			
6066: Anatomical loss of 1 eye with visual acuity of other eye 20/40 (6/12)		53	36.1	5260: Leg, limitation of flexion		897	37.8
6080: Field vision, impairment		34	23.1	5271: Ankle, limitation of motion		391	16.5
Vision (N=122)				General MSK (N=2,447)			
6066: Anatomical loss of 1 eye with visual acuity of other eye 20/40 (6/12)		53	43.4	5243: Intervertebral disc syndrome		924	37.8
6080: Field vision, impairment		34	27.9	5242: Degenerative arthritis, degenerative disc disease		777	31.8
Ears (N=86)				Vascular (N=159)			
6204: Peripheral vestibular disorders		56	65.1	6817: Pulmonary vascular disease		59	37.1
6205: Meniere's syndrome		29	33.7	7121: Post-phlebotic syndrome		52	32.7
Hearing (N=25)				Skin & Soft Tissue (N=191)			
6100: Hearing loss		20	80.0	7806: Dermatitis or eczema		46	24.1
6211: Perforation of tympanic membrane		3	12.0	7816: Psoriasis		30	15.7
NSML (N=27)				Blood (N=93)			
6516: Chronic laryngitis		10	37.0	7703: Leukemia		25	26.9
6521: Injury of pharynx		5	18.5	7709: Hodgkin's lymphoma		18	19.4
Dental (N=17)				Systemic (N=65)			
9905: Temporomandibular disorder (TMD)		14	82.4	6846: Sarcoidosis		16	24.6
9918: Malignant neoplasm, hard and soft tissue		2	11.8	8000: Epidemic/Chronic encephalitis		11	16.9
Neck (N=4)				Endocrine & Metabolic (N=311)			
5323: Torso and Neck-Group XXIII Function: movements of head		3	75.0	7913: Diabetes mellitus		245	78.8
5322: Torso and Neck-Group XXII Function: Rotary and forward movements, head		1	25.0	7903: Hypothyroidism		10	3.2
Respiratory (N=162)				Rheumatologic (N=548)			
6602: Bronchial asthma		115	71.0	5025: Fibromyalgia		329	60.0
6846: Sarcoidosis		16	9.9	5002: Multi-joint arthritis (except post-traumatic and gout), 2 or more joints, as an active process		87	15.9
Heart (N=204)				Neurologic (N=2,391)			
7011: Ventricular arrhythmias		64	31.4	8100: Migraine		636	26.6
7010: Supraventricular arrhythmias		47	23.0	8045: Residuals of traumatic brain injury (TBI)		317	13.3
Abdominal & GI (N=588)				Sleep Disorders (N=134)			
7323: Ulcerative colitis		293	49.8	8108: Narcolepsy		85	63.4
7319: Irritable colon syndrome		118	20.1	6847: Sleep apnea syndromes		49	36.6
Female Genital (N=65)				Behavioral Health (N=5,329)			
7629: Endometriosis		22	33.8	9411: Posttraumatic stress disorder		1,895	35.6
7627: Malignant neoplasms of gynecological system		8	12.3	9434: Major depressive disorder		1,605	30.1
Male Genital (N=50)				Tumors (N=254)			
7523: Testis, atrophy, complete		23	46.0	8002: Malignant growth of the brain		39	15.4
7524: Testis, removal		11	22.0	8003: Benign growth of the brain		32	12.6
Urinary (N=144)				Misc. Conditions (N=13)			
7542: Neurogenic bladder		55	38.2	7351: Liver transplant		4	30.8
7530: Renal disease, chronic		23	16.0	6844: Post-surgical residuals		3	23.1
Spine & SI Joint (N=893)							
5237: Lumbosacral or cervical strain		483	54.1				
5239: Spondylolisthesis or segmental instability		130	14.6				

N = Number of service members disability discharged under the DoDI subsection; NSML: Nose, sinus, mouth and larynx; GI: Gastrointestinal; SI: Sacroiliac; MSK: Musculoskeletal

% denotes the proportion of disability discharged service members with the specific unfitting condition (e.g. hearing loss) out of the number of service members disability discharged within the applicable DoDI subsection (e.g. hearing).

Table 4C: Top Two Unfitting Medical Conditions per DoDI Subsection: Marine Corps, FY 2016-2021

Marine Corps

Head (N=2)			Upper Extremity (N=1,703)		
	n	%		n	%
5296: Skull, loss of part of, both inner and outer tables	2	100.0	5201: Arm, limitation of motion	1,209	71.0
-	-	-	5215: Wrist, limitation of motion	198	11.6
Eyes (N=94)			Lower Extremity (N=4,991)		
6066: Anatomical loss of 1 eye with visual acuity of other eye 20/40 (6/12)	32	34.0	5260: Leg, limitation of flexion	1,652	33.1
6080: Field vision, impairment	19	20.2	5271: Ankle, limitation of motion	841	16.9
Vision (N=69)			General MSK (N=3,696)		
6066: Anatomical loss of 1 eye with visual acuity of other eye 20/40 (6/12)	32	46.4	5243: Intervertebral disc syndrome	1,332	36.0
6080: Field vision, impairment	19	27.5	5242: Degenerative arthritis, degenerative disc disease	945	25.6
Ears (N=28)			Vascular (N=100)		
6204: Peripheral vestibular disorders	18	64.3	6817: Pulmonary vascular disease	27	27.0
6205: Meniere's syndrome	9	32.1	7121: Post-phlebotic syndrome	27	27.0
Hearing (N=35)			Skin & Soft Tissue (N=148)		
6100: Hearing loss	32	91.4	7804: Scar(s), unstable or painful	41	27.7
6260: Recurrent tinnitus	3	8.6	7825: Chronic urticaria	24	16.2
NSML (N=25)			Blood (N=59)		
6516: Chronic laryngitis	14	56.0	7703: Leukemia	18	30.5
6520: Stenosis of larynx	4	16.0	7705: Immune thrombocytopenia	12	20.3
Dental (N=7)			Systemic (N=64)		
9905: Temporomandibular disorder (TMD)	5	71.4	7525: Chronic epididymo-orchitis	28	43.8
9900: Chronic osteomyelitis, osteonecrosis, or osteoradionecrosis of maxilla or mandible	1	14.3	6846: Sarcoidosis	7	10.9
Neck (N=3)			Endocrine & Metabolic (N=171)		
5322: Torso and Neck-Group XXII Function: Rotary and forward movements, head	2	66.7	7913: Diabetes mellitus	119	69.6
5323: Torso and Neck-Group XXIII Function: movements of head	1	33.3	7903: Hypothyroidism	9	5.3
Respiratory (N=346)			Rheumatologic (N=268)		
6602: Bronchial asthma	305	88.2	5025: Fibromyalgia	117	43.7
6843: Traumatic chest wall defect	8	2.3	5009: Other specified forms of arthropathy (excluding gout)	67	25.0
Heart (N=151)			Neurologic (N=1,906)		
7010: Supraventricular arrhythmias	41	27.2	8045: Residuals of traumatic brain injury (TBI)	380	19.9
7011: Ventricular arrhythmias	32	21.2	8100: Migraine	364	19.1
Abdominal & GI (N=403)			Sleep Disorders (N=76)		
7323: Ulcerative colitis	186	46.2	8108: Narcolepsy	54	71.1
7319: Irritable colon syndrome	75	18.6	6847: Sleep apnea syndromes	22	28.9
Female Genital (N=38)			Behavioral Health (N=2,107)		
7629: Endometriosis	19	50.0	9411: Posttraumatic stress disorder	1,013	48.1
7613: Uterus, disease or injury	6	15.8	9434: Major depressive disorder	458	21.7
Male Genital (N=102)			Tumors (N=142)		
7523: Testis, atrophy, complete	58	56.9	7703: Leukemia	18	12.7
7525: Epididymo-orchitis, chronic only	28	27.5	8003: Benign growth of the brain	15	10.6
Urinary (N=73)			Misc. Conditions (N=14)		
7542: Neurogenic bladder	26	35.6	6844: Post-surgical residual	5	35.7
7530: Renal disease, chronic	13	17.8	7122: Residuals of cold injury	3	21.4
Spine & SI Joint (N=1,247)					
5237: Lumbosacral or cervical strain	810	65.0			
5239: Spondylolisthesis or segmental instability	192	15.4			

N = Number of service members disability discharged under the DoDI subsection; NSML: Nose, sinus, mouth and larynx; GI: Gastrointestinal; SI: Sacroiliac; MSK: Musculoskeletal

% denotes the proportion of disability discharged service members with the specific unfitting condition (e.g. hearing loss) out of the number of service members disability discharged within the applicable DoDI subsection (e.g. hearing).

Table 4D: Top Two Unfitting Medical Conditions per DoDI Subsection: Air Force, FY 2016-2021

Air Force

Head (N=7)		n	%	Upper Extremity (N=1,141)		n	%
5296: Skull, loss of part of, both inner and outer tables	5	71.4	5201: Arm, limitation of motion	733	64.2		
9901: Mandible, loss of, complete, between angles	1	14.3	5215: Wrist, limitation of motion	204	17.9		
Eyes (N=181)				Lower Extremity (N=2,885)			
6066: Anatomical loss of 1 eye with visual acuity of other eye 20/40 (6/12)	75	41.4	5260: Leg, limitation of flexion	966	33.5		
6080: Field vision, impairment	29	16.0	5271: Ankle, limitation of motion	524	18.2		
Vision (N=132)				General MSK (N=4,397)			
6066: Anatomical loss of 1 eye with visual acuity of other eye 20/40 (6/12)	75	56.8	5243: Intervertebral disc syndrome	2,463	56.0		
6080: Field vision, impairment	29	22.0	5242: Degenerative arthritis, degenerative disc disease	1,629	37.0		
Ears (N=174)				Vascular (N=296)			
6204: Peripheral vestibular disorders	115	66.1	6817: Pulmonary vascular disease	117	39.5		
6205: Meniere's syndrome	59	33.9	7121: Post-phlebotic syndrome	90	30.4		
Hearing (N=37)				Skin & Soft Tissue (N=521)			
6100: Hearing loss	23	62.2	7816: Psoriasis	112	21.5		
6260: Recurrent tinnitus	15	40.5	7806: Dermatitis or eczema	109	20.9		
NSML (N=74)				Blood (N=182)			
6516: Chronic laryngitis	27	36.5	7703: Leukemia	39	21.4		
6522: Allergic or vasomotor rhinitis	16	21.6	7715: Non-Hodgkin's lymphoma	37	20.3		
Dental (N=20)				Systemic (N=130)			
9905: Temporomandibular disorder (TMD)	14	70.0	6351: HIV-Related Illness	43	33.1		
9913: Loss of teeth	2	10.0	7820: Infections of the skin	21	16.2		
Neck (N=2)				Endocrine & Metabolic (N=438)			
5322: Torso and Neck-Group XXII Function: Rotary and forward movements, head	1	50.0	7913: Diabetes mellitus	345	78.8		
5287: Spine, ankylosis of, cervical	1	50.0	7903: Hypothyroidism	17	3.9		
Respiratory (N=892)				Rheumatologic (N=932)			
6602: Bronchial asthma	811	90.9	5025: Fibromyalgia	540	57.9		
6604: Chronic obstructive pulmonary disease	18	2.0	5002: Multi-joint arthritis, (except post-traumatic and gout), 2 or more joints, as an active process	124	13.3		
Heart (N=528)				Neurologic (N=4,419)			
7010: Supraventricular arrhythmias	173	32.8	8520: Paralysis of sciatic nerve	1,123	25.4		
7011: Ventricular arrhythmias	96	18.2	8100: Migraine	1,006	22.8		
Abdominal & GI (N=776)				Sleep Disorders (N=410)			
7323: Ulcerative colitis	360	46.4	6847: Sleep apnea syndromes	273	66.6		
7319: Irritable colon syndrome	180	23.2	8108: Narcolepsy	139	33.9		
Female Genital (N=125)				Behavioral Health (N=6,551)			
7629: Endometriosis	44	35.2	9411: Posttraumatic stress disorder	2,911	44.4		
7627: Malignant neoplasms of gynecological system	22	17.6	9434: Major depressive disorder	1,752	26.7		
Male Genital (N=61)				Tumors (N=412)			
7523: Testis, atrophy, complete	28	45.9	7343: Malignant neoplasms in digestive system	58	14.1		
7525: Epididymo-orchitis, chronic only	13	21.3	8003: Benign growth of the brain	50	12.1		
Urinary (N=205)				Misc. Conditions (N=25)			
7542: Neurogenic bladder	69	33.7	7531: Kidney transplant	8	32.0		
7530: Renal disease, chronic	25	12.2	7351: Liver transplant	7	28.0		
Spine & SI Joint (N=1,879)							
5237: Lumbosacral or cervical strain	1,121	59.7					
5239: Spondylolisthesis or segmental instability	252	13.4					

N = Number of service members disability discharged under the DoDI subsection; NSML: Nose, sinus, mouth and larynx; GI: Gastrointestinal; SI: Sacroiliac; MSK: Musculoskeletal

% denotes the proportion of disability discharged service members with the specific unfitting condition (e.g. hearing loss) out of the number of service members disability discharged within the applicable DoDI subsection (e.g. hearing).

III. Final Retainability Determination Category, Overall and by DoDI Subsection

To assess the outcomes of the retention medical standard evaluation, **Tables 5A-D** present the distribution of the final retainability determination category per service. Definitions for the three retainability determination categories can be found in the *Key Terms, Definitions and Elements* section of this report.



Tables 5A-D Key Findings

- Over 90% of service members evaluated under the retention medical standards were determined to be non-retainable and entitled to DoD disability benefits.
 - The Air Force had the highest proportion found fit for continued duty (3.0%), when compared to the other services (<0.4%).
 - Between 1.5% (Navy) and 4.1% (Air Force) were determined to be non-retainable but were administratively discharged.
- The distribution of retainability determinations remained stable over the time period (results not shown).

Table 5A: Distribution of Final Retainability Determination Category, by DoDI Subsection:
Army, FY 2016-2021

Army			
DoDI Subsection	Non-Retainable: Disability Discharge %	Non-Retainable: Administrative Discharge %	Fit for Continued Duty %
Head (n=26)	100.0	-	-
Eyes (n=634)	92.6	6.3	1.1
Vision (n=498)	93.6	5.4	1.0
Ears (n=352)	97.4	2.0	0.6
Hearing (n=474)	93.9	5.3	0.8
NSML (n=228)	96.5	2.6	0.9
Dental (n=94)	96.8	2.1	1.1
Neck (n=10)	100.0	-	-
Respiratory (n=1,834)	97.7	1.8	0.5
Heart (n=1,513)	93.9	5.2	0.9
Abdominal & GI (n=2,030)	96.7	2.6	0.7
Female Genital (n=334)	96.4	3.6	-
Male Genital (n=460)	97.6	2.4	-
Urinary (n=769)	96.9	2.7	0.4
Spine & SI Joint (n=12,375)	98.4	1.4	0.3
Upper Extremity (n=11,219)	98.4	1.3	0.3
Lower Extremity (n=27,746)	98.4	1.4	0.2
General MSK (n=31,405)	98.4	1.3	0.3
Vascular (n=1,016)	94.8	4.6	0.6
Skin & Soft Tissue (n=1,654)	97.3	2.2	0.5
Blood (n=469)	92.8	6.6	0.6
Systemic (n=445)	96.0	3.4	0.7
Endocrine & Metabolic (n=2,092)	91.9	4.2	4.0
Rheumatologic (n=2,345)	98.7	0.9	0.4
Neurologic (n=20,829)	98.7	1.0	0.3
Sleep Disorders (n=1,005)	97.1	2.2	0.7
Behavioral Health (n=30,815)	98.4	1.5	0.1
Tumors (n=966)	96.2	3.4	0.4
Misc. Conditions (n=98)	98.0	1.0	1.0
Overall	97.7	1.9	0.4

NSML: Nose, sinus, mouth and larynx; GI: Gastrointestinal; SI: Sacroiliac; MSK: Musculoskeletal
(-) indicates that no service members were assigned within that retainability determination category

Table 5B: Distribution of Final Retainability Determination Category, by DoDI Subsection:
Navy, FY 2016-2021

Navy			
DoDI Subsection	Non-Retainable: Disability Discharge %	Non-Retainable: Administrative Discharge %	Fit for Continued Duty %
Head (<i>n</i> =3)	100.0	-	-
Eyes (<i>n</i> =147)	98.6	0.7	0.7
Vision (<i>n</i> =122)	98.4	0.8	0.8
Ears (<i>n</i> =86)	91.9	7.0	1.2
Hearing (<i>n</i> =25)	96.0	4.0	-
NSML (<i>n</i> =27)	96.3	3.7	-
Dental (<i>n</i> =17)	94.1	5.9	-
Neck (<i>n</i> =4)	100.0	-	-
Respiratory (<i>n</i> =162)	98.1	1.9	-
Heart (<i>n</i> =204)	98.0	2.0	-
Abdominal & GI (<i>n</i> =588)	97.4	2.4	0.2
Female Genital (<i>n</i> =65)	100.0	-	-
Male Genital (<i>n</i> =50)	100.0	-	-
Urinary (<i>n</i> =144)	98.6	0.7	0.7
Spine & SI Joint (<i>n</i> =893)	99.4	0.6	-
Upper Extremity (<i>n</i> =963)	99.6	0.3	0.1
Lower Extremity (<i>n</i> =2,370)	99.1	0.8	-
General MSK (<i>n</i> =2,447)	99.2	0.8	-
Vascular (<i>n</i> =159)	98.7	1.3	-
Skin & Soft Tissue (<i>n</i> =191)	99.5	0.5	-
Blood (<i>n</i> =93)	100.0	-	-
Systemic (<i>n</i> =65)	100.0	-	-
Endocrine & Metabolic (<i>n</i> =311)	98.7	1.3	-
Rheumatologic (<i>n</i> =548)	98.9	0.9	0.2
Neurologic (<i>n</i> =2,391)	98.6	1.3	0.1
Sleep Disorders (<i>n</i> =134)	99.3	0.7	-
Behavioral Health (<i>n</i> =5,329)	97.7	2.2	0.1
Tumors (<i>n</i> =254)	96.1	3.9	-
Misc. Conditions (<i>n</i> =13)	100.0	-	-
Overall	98.4	1.5	0.1

NSML: Nose, sinus, mouth and larynx; GI: Gastrointestinal; SI: Sacroiliac; MSK: Musculoskeletal
(-) indicates that no service members were assigned within that retainability determination category

Table 5C: Distribution of Final Retainability Determination Category, by DoDI Subsection:
Marine Corps, FY 2016-2021

Marine Corps			
DoDI Subsection	Non-Retainable: Disability Discharge %	Non-Retainable: Administrative Discharge %	Fit for Continued Duty %
Head (n=2)	100.0	-	-
Eyes (n=94)	97.9	2.1	-
Vision (n=69)	95.7	4.3	-
Ears (n=28)	82.1	17.9	-
Hearing (n=35)	97.1	2.9	-
NSML (n=25)	96.0	4.0	-
Dental (n=7)	100.0	-	-
Neck (n=3)	66.7	33.3	-
Respiratory (n=346)	98.0	1.7	0.3
Heart (n=151)	94.7	4.6	0.7
Abdominal & GI (n=403)	95.8	4.0	0.2
Female Genital (n=38)	97.4	2.6	-
Male Genital (n=102)	97.1	2.9	-
Urinary (n=73)	98.6	1.4	-
Spine & SI Joint (n=1,247)	95.1	4.9	-
Upper Extremity (n=1,703)	95.8	4.1	0.1
Lower Extremity (n=4,991)	97.1	2.9	-
General MSK (n=3,696)	95.7	4.2	0.1
Vascular (n=100)	94.0	6.0	0.0
Skin & Soft Tissue (n=148)	95.9	3.4	0.7
Blood (n=59)	98.3	1.7	-
Systemic (n=64)	95.3	4.7	-
Endocrine & Metabolic (n=171)	95.9	2.9	1.2
Rheumatologic (n=268)	95.5	4.5	-
Neurologic (n=1,906)	94.8	5.1	0.2
Sleep Disorders (n=76)	96.1	3.9	-
Behavioral Health (n=2,107)	92.5	7.5	-
Tumors (n=142)	95.8	3.5	0.7
Misc. Conditions (n=14)	92.9	7.1	-
Overall	96.1	3.8	0.1

NSML: Nose, sinus, mouth and larynx; GI: Gastrointestinal; SI: Sacroiliac; MSK: Musculoskeletal
(-) indicates that no service members were assigned within that retainability determination category

Table 5D: Distribution of Final Retainability Determination Category, by DoDI Subsection:
Air Force, FY 2016-2021

Air Force			
DoDI Subsection	Non-Retainable: Disability Discharge %	Non-Retainable: Administrative Discharge %	Fit for Continued Duty %
Head (<i>n</i> =7)	100.0	-	-
Eyes (<i>n</i> =181)	86.7	7.2	6.1
Vision (<i>n</i> =132)	89.4	6.8	3.8
Ears (<i>n</i> =174)	94.3	5.7	0.0
Hearing (<i>n</i> =37)	89.2	8.1	2.7
NSML (<i>n</i> =74)	94.6	4.1	1.4
Dental (<i>n</i> =20)	90.0	5.0	5.0
Neck (<i>n</i> =2)	50.0	-	50.0
Respiratory (<i>n</i> =892)	92.6	3.8	3.6
Heart (<i>n</i> =528)	84.8	10.0	5.1
Abdominal & GI (<i>n</i> =776)	91.4	4.5	4.1
Female Genital (<i>n</i> =125)	89.6	4.8	5.6
Male Genital (<i>n</i> =61)	75.4	4.9	19.7
Urinary (<i>n</i> =205)	88.8	7.3	3.9
Spine & SI Joint (<i>n</i> =1,879)	93.8	2.9	3.4
Upper Extremity (<i>n</i> =1,141)	95.9	2.1	2.0
Lower Extremity (<i>n</i> =2,885)	95.3	1.8	2.9
General MSK (<i>n</i> =4,397)	94.6	2.8	2.6
Vascular (<i>n</i> =296)	84.1	7.1	8.8
Skin & Soft Tissue (<i>n</i> =521)	92.7	2.5	4.8
Blood (<i>n</i> =182)	78.6	11.5	9.9
Systemic (<i>n</i> =130)	84.6	2.3	13.1
Endocrine & Metabolic (<i>n</i> =438)	86.1	7.5	6.4
Rheumatologic (<i>n</i> =932)	92.7	4.6	2.7
Neurologic (<i>n</i> =4,419)	94.5	3.1	2.4
Sleep Disorders (<i>n</i> =410)	88.3	3.2	8.5
Behavioral Health (<i>n</i> =6,551)	95.5	3.5	1.0
Tumors (<i>n</i> =412)	81.8	10.9	7.3
Misc. Conditions (<i>n</i> =25)	68.0	28.0	4.0
Overall	92.9	4.1	3.0

NSML: Nose, sinus, mouth and larynx; GI: Gastrointestinal; SI: Sacroiliac; MSK: Musculoskeletal
(-) indicates that no service members were assigned within that retainability determination category

IV. Time in Service to Retention Medical Standard Evaluation

To assess time in service to retention medical standard evaluation per DoDI subsection, **Tables 6A-D** describe time from accession to first MEB evaluation by three defined intervals: the first 25th percentile (lower quartile, Q1), 50% (median), and the 75th percentile (upper quartile, Q3) of the population. The objective of these tables was to identify the time periods in which service members were most likely to be assessed for medical retainability, after accounting for outliers. The time metrics were chosen to align with time points listed in DES governing policy, which states that service members are not eligible for disability retirement for pre-existing conditions prior to eight years of active service¹⁵ and, at 20 years, when a service member becomes automatically eligible for permanent disability retirement, regardless of condition and/or rating¹⁶. Higher median times in service may suggest that the unfitting condition(s) was related to cumulative damage or exposure over a long period, or was a chronic disease related to ageing. Conversely, shorter median times in service may suggest that the unfitting condition was typically related to a distinct event or exposure which resulted in immediate or near-term disability.

Time in service metrics for subsections with small numbers (e.g. neck, head) should be interpreted with caution. For reference, DoDI subsections are referenced in Table 2.

Tables 6A-D Key Findings

- Overall, the median time in service until retention medical standard evaluation was longest among Airmen (7.7 years) and Soldiers (6.9 years) and shortest among Marines (4.0 years).
- No discernable pattern was observed when comparing time in service across subsections, either within a service or across services.



Table 6A: Time in Service (Years) until Retention Medical Standards Evaluation: Army, FY 2016-2021

Army							
DoDI Subsection	Q1	Median	Q3	DoDI Subsection	Q1	Median	Q3
Head (<i>n</i> =26)	2.9	4.4	17.1	Upper Extremity (<i>n</i> =11,219)	4.0	7.7	13.2
Eyes (<i>n</i> =634)	3.7	8.7	14.8	Lower Extremity (<i>n</i> =27,746)	3.0	5.7	10.7
Vision (<i>n</i> =498)	3.7	8.6	15.0	General MSK (<i>n</i> =31,405)	4.5	8.7	14.2
Ears (<i>n</i> =352)	4.9	9.9	15.9	Vascular (<i>n</i> =1,016)	5.2	10.6	17.6
Hearing (<i>n</i> =474)	3.2	6.2	11.4	Skin & Soft Tissue (<i>n</i> =1,654)	3.5	6.7	11.6
NSML (<i>n</i> =228)	3.3	5.7	10.0	Blood (<i>n</i> =469)	3.6	7.6	13.7
Dental (<i>n</i> =94)	3.2	5.8	10.6	Systemic (<i>n</i> =445)	3.0	5.8	12.1
Neck (<i>n</i> =10)	5.9	8.9	12.0	Endocrine & Metabolic (<i>n</i> =2,092)	7.1	13.0	19.2
Respiratory (<i>n</i> =1,834)	3.0	6.0	11.1	Rheumatologic (<i>n</i> =2,345)	4.5	8.9	15.0
Heart (<i>n</i> =1,513)	3.6	8.5	15.3	Neurologic (<i>n</i> =20,829)	4.7	9.1	14.6
Abdominal & GI (<i>n</i> =2,030)	3.6	7.1	12.3	Sleep Disorders (<i>n</i> =1,005)	4.2	8.7	14.4
Female Genital (<i>n</i> =334)	3.6	7.0	11.8	Behavioral Health (<i>n</i> =30,815)	4.8	9.5	14.6
Male Genital (<i>n</i> =460)	2.8	4.9	9.3	Tumors (<i>n</i> =966)	4.7	9.6	15.6
Urinary (<i>n</i> =769)	3.4	7.6	13.8	Misc. Conditions (<i>n</i> =98)	3.8	9.3	13.6
Spine & SI Joint (<i>n</i> =12,375)	3.9	7.5	13.0	Overall	3.4	6.9	12.3

NSML: Nose, sinus, mouth and larynx; GI: Gastrointestinal; SI: Sacroiliac; MSK: Musculoskeletal
Service members missing an accession record were excluded from time in service calculations.

Table 6B: Time in Service (Years) until Retention Medical Standards Evaluation: Navy, FY 2016-2021

Navy							
DoDI Subsection	Q1	Median	Q3	DoDI Subsection	Q1	Median	Q3
Head (<i>n</i> =3)	3.6	8.6	12.0	Upper Extremity (<i>n</i> =963)	3.3	5.6	9.8
Eyes (<i>n</i> =147)	3.6	7.1	11.0	Lower Extremity (<i>n</i> =2,370)	3.1	5.4	9.6
Vision (<i>n</i> =122)	4.0	7.7	12.3	General MSK (<i>n</i> =2,447)	4.3	7.8	12.0
Ears (<i>n</i> =86)	4.2	8.2	12.8	Vascular (<i>n</i> =159)	5.0	9.9	14.7
Hearing (<i>n</i> =25)	4.4	7.5	11.6	Skin & Soft Tissue (<i>n</i> =191)	3.6	5.3	9.4
NSML (<i>n</i> =27)	6.0	11.0	14.6	Blood (<i>n</i> =93)	4.7	7.5	13.6
Dental (<i>n</i> =17)	3.6	5.1	6.5	Systemic (<i>n</i> =65)	3.2	6.3	11.4
Neck (<i>n</i> =4)	4.4	8.0	9.7	Endocrine & Metabolic (<i>n</i> =311)	4.3	7.6	11.9
Respiratory (<i>n</i> =162)	3.6	6.5	10.8	Rheumatologic (<i>n</i> =548)	4.0	7.1	11.1
Heart (<i>n</i> =204)	4.5	9.4	15.9	Neurologic (<i>n</i> =2,391)	3.8	6.8	11.7
Abdominal & GI (<i>n</i> =588)	3.9	6.3	10.4	Sleep Disorders (<i>n</i> =134)	4.5	8.3	12.3
Female Genital (<i>n</i> =65)	3.5	5.4	10.7	Behavioral Health (<i>n</i> =5,329)	3.4	5.5	10.3
Male Genital (<i>n</i> =50)	3.4	6.0	9.1	Tumors (<i>n</i> =254)	4.5	7.7	14.1
Urinary (<i>n</i> =144)	4.3	7.5	11.6	Misc. Conditions (<i>n</i> =13)	3.9	7.0	7.1
Spine & SI Joint (<i>n</i> =893)	3.8	6.7	10.8	Overall	3.4	5.8	10.3

NSML: Nose, sinus, mouth and larynx; GI: Gastrointestinal; SI: Sacroiliac; MSK: Musculoskeletal
Service members missing an accession record were excluded from time in service calculations.

Table 6C: Time in Service (Years) until Retention Medical Standards Evaluation: Marine Corps, FY 2016-2021

Marine Corps							
DoDI Subsection	Q1	Median	Q3	DoDI Subsection	Q1	Median	Q3
Head (<i>n</i> =2)	4.2	5.4	6.6	Upper Extremity (<i>n</i> =1,703)	2.8	4.0	8.3
Eyes (<i>n</i> =94)	2.6	3.7	9.0	Lower Extremity (<i>n</i> =4,991)	2.5	3.6	6.5
Vision (<i>n</i> =69)	2.7	5.0	10.0	General MSK (<i>n</i> =3,696)	3.2	5.0	9.6
Ears (<i>n</i> =28)	4.3	7.9	12.7	Vascular (<i>n</i> =100)	2.8	4.9	11.9
Hearing (<i>n</i> =35)	2.5	5.1	8.8	Skin & Soft Tissue (<i>n</i> =148)	2.6	4.0	8.3
NSML (<i>n</i> =25)	2.9	3.3	5.3	Blood (<i>n</i> =59)	3.0	3.9	6.3
Dental (<i>n</i> =7)	0.6	3.9	4.6	Systemic (<i>n</i> =64)	2.5	3.5	7.5
Neck (<i>n</i> =3)	0.7	3.0	14.3	Endocrine & Metabolic (<i>n</i> =171)	2.2	3.9	8.7
Respiratory (<i>n</i> =346)	2.4	3.5	6.0	Rheumatologic (<i>n</i> =268)	2.9	5.5	10.1
Heart (<i>n</i> =151)	2.6	4.3	11.1	Neurologic (<i>n</i> =1,906)	2.9	4.8	10.5
Abdominal & GI (<i>n</i> =403)	2.6	4.1	8.1	Sleep Disorders (<i>n</i> =76)	3.0	4.5	8.5
Female Genital (<i>n</i> =38)	3.1	4.0	6.8	Behavioral Health (<i>n</i> =2,107)	3.2	7.0	12.1
Male Genital (<i>n</i> =102)	3.1	3.6	6.4	Tumors (<i>n</i> =142)	2.9	4.1	8.4
Urinary (<i>n</i> =73)	3.1	4.5	8.9	Misc. Conditions (<i>n</i> =14)	1.8	3.8	12.3
Spine & SI Joint (<i>n</i> =1,247)	3.1	4.5	9.1	Overall	2.7	4.0	8.0

NSML: Nose, sinus, mouth and larynx; GI: Gastrointestinal; SI: Sacroiliac; MSK: Musculoskeletal
Service members missing an accession record were excluded from time in service calculations.

Table 6D: Time in Service (Years) until Retention Medical Standards Evaluation: Air Force, FY 2016-2021

Air Force							
DoDI Subsection	Q1	Median	Q3	DoDI Subsection	Q1	Median	Q3
Head (<i>n</i> =7)	5.0	7.7	13.1	Upper Extremity (<i>n</i> =1,141)	5.0	8.6	13.6
Eyes (<i>n</i> =181)	4.5	8.4	14.0	Lower Extremity (<i>n</i> =2,885)	4.6	7.9	13.1
Vision (<i>n</i> =132)	4.4	8.3	13.9	General MSK (<i>n</i> =4,397)	5.8	10.1	14.8
Ears (<i>n</i> =174)	5.7	10.2	15.0	Vascular (<i>n</i> =296)	5.3	10.7	15.8
Hearing (<i>n</i> =37)	4.7	8.2	12.8	Skin & Soft Tissue (<i>n</i> =521)	4.6	8.0	13.0
NSML (<i>n</i> =74)	4.5	7.2	11.6	Blood (<i>n</i> =182)	5.2	9.3	14.9
Dental (<i>n</i> =20)	3.0	7.5	11.3	Systemic (<i>n</i> =130)	3.8	7.3	11.7
Neck (<i>n</i> =2)	16.6	19.2	21.7	Endocrine & Metabolic (<i>n</i> =438)	4.2	8.4	14.5
Respiratory (<i>n</i> =892)	4.2	7.1	13.7	Rheumatologic (<i>n</i> =932)	5.1	9.2	14.6
Heart (<i>n</i> =528)	4.6	8.5	14.4	Neurologic (<i>n</i> =4,419)	5.3	9.3	14.4
Abdominal & GI (<i>n</i> =776)	4.3	8.0	13.4	Sleep Disorders (<i>n</i> =410)	5.3	9.8	15.4
Female Genital (<i>n</i> =125)	5.2	9.4	15.3	Behavioral Health (<i>n</i> =6,551)	4.0	7.3	13.0
Male Genital (<i>n</i> =61)	5.8	9.6	13.4	Tumors (<i>n</i> =412)	5.8	11.0	16.0
Urinary (<i>n</i> =205)	5.8	10.1	15.8	Misc. Conditions (<i>n</i> =25)	9.4	12.3	18.5
Spine & SI Joint (<i>n</i> =1,879)	4.9	8.2	13.3	Overall	4.4	7.7	13.2

NSML: Nose, sinus, mouth and larynx; GI: Gastrointestinal; SI: Sacroiliac; MSK: Musculoskeletal
Service members missing an accession record were excluded from time in service calculations.

V. Pre-accession Medical History

To examine whether pre-accession disqualifications impact a service member's medical retainability, RMSAR traced retainability evaluations back to accession medical standards waivers. Any conditions for which a substantial proportion of retention medical standard evaluations were preceded by related accession medical disqualification for which a waiver was granted may be worth consideration for tighter restrictions at accession.

Tables 7A-D show the percentages of retention medical standard evaluations with history of an accession medical waiver. The first percentage shown (in the “% Any Waiver” column) indicates the proportion of service members who entered service via any approved accession medical waiver. The “% Subsection Waiver” column indicates the medical category concordance, or match rate, between the subsections listed for the accession and retention medical standards.

For reference, DoDI subsections are referenced in Table 2. Results should be interpreted with caution since small numbers of retention medical standard evaluations, and of corresponding waivers, render many of the individual numbers unstable.

Tables 7A-D Key Findings

- Generally, less than 10% of service members evaluated under the retention medical standards had a history of accession medical waiver for any reason. This finding is in alignment with the proportion of all military accessions who entered service via an approved medical waiver (approximately 8%).
- Across all service branches there was little to no concordance (0.0%-4.0%) between the accession medical waiver and the DoDI subsection.
- The highest concordance between medical accession waivers and retention medical standards evaluations were seen among Soldiers evaluated under the eyes subsection (3.6%) and Sailors evaluated under the male genitals subsection (4.0%).



Table 7A: Prevalence of Accession Medical Waiver History Among Soldiers Evaluated under the Retention Medical Standards, by DoDI Subsection, FY 2016-2021

Army					
DoDI Subsection	% Any Waiver	% Subsection Waiver	DoDI Subsection	% Any Waiver	% Subsection Waiver
Head	3.8	-	Upper Extremity	8.6	1.0
Eyes	9.0	3.6	Lower Extremity	8.6	1.1
Vision	8.2	2.2	General MSK	7.8	1.2
Ears	6.5	0.3	Vascular	7.6	0.2
Hearing	11.0	0.2	Skin & Soft Tissue	9.2	1.4
NSML	8.3	-	Blood	6.2	-
Dental	7.4	-	Systemic	7.6	-
Neck	-	-	Endocrine & Metabolic	5.8	0.3
Respiratory	7.9	0.8	Rheumatologic	7.8	0.2
Heart	8.4	0.7	Neurologic	7.3	0.1
Abdominal & GI	8.5	0.2	Sleep Disorders	6.2	-
Female Genital	5.4	0.3	Behavioral Health	6.8	0.5
Male Genital	8.5	1.1	Tumors	6.4	-
Urinary	8.5	0.4	Misc. Conditions	7.1	-
Spine & SI Joint	7.5	0.5			

NSML: Nose, sinus, mouth and larynx; GI: Gastrointestinal; SI: Sacroiliac; MSK: Musculoskeletal
 (-) indicates that no service members received a pre-accession medical waiver of interest.

Table 7B: Prevalence of Accession Medical Waiver History Among Sailors Evaluated under the Retention Medical Standards, by DoDI Subsection, FY 2016-2021

Navy					
DoDI Subsection	% Any Waiver	% Subsection Waiver	DoDI Subsection	% Any Waiver	% Subsection Waiver
Head	-	-	Upper Extremity	13.1	0.8
Eyes	6.1	1.4	Lower Extremity	11.6	1.2
Vision	6.6	0.8	General MSK	9.5	1.7
Ears	5.8	-	Vascular	7.5	-
Hearing	4.0	-	Skin & Soft Tissue	5.2	-
NSML	3.7	-	Blood	3.2	-
Dental	-	-	Systemic	10.8	1.5
Neck	-	-	Endocrine & Metabolic	5.8	-
Respiratory	9.9	-	Rheumatologic	5.8	-
Heart	11.8	0.5	Neurologic	8.8	0.1
Abdominal & GI	10.2	0.5	Sleep Disorders	3.7	-
Female Genital	9.2	1.5	Behavioral Health	8.0	0.4
Male Genital	10.0	4.0	Tumors	6.7	-
Urinary	9.0	-	Misc. Conditions	-	-
Spine & SI Joint	9.5	0.2			

NSML: Nose, sinus, mouth and larynx; GI: Gastrointestinal; SI: Sacroiliac; MSK: Musculoskeletal
 (-) indicates that no service members received a pre-accession medical waiver of interest.

Table 7C: Prevalence of Accession Medical Waiver History Among Marines Evaluated under the Retention Medical Standards, by DoDI Subsection, FY 2016-2021

Marine Corps					
DoDI Subsection	% Any Waiver	% Subsection Waiver	DoDI Subsection	% Any Waiver	% Subsection Waiver
Head	-	-	Upper Extremity	6.8	0.1
Eyes	4.3	1.1	Lower Extremity	7.0	1.0
Vision	2.9	1.4	General MSK	7.4	0.9
Ears	7.1	-	Vascular	4.0	2.0
Hearing	5.7	-	Skin & Soft Tissue	3.4	0.7
NSML	4.0	-	Blood	1.7	-
Dental	-	-	Systemic	3.1	-
Neck	-	-	Endocrine & Metabolic	11.1	1.2
Respiratory	4.6	1.2	Rheumatologic	7.5	-
Heart	5.3	1.3	Neurologic	7.4	0.1
Abdominal & GI	8.2	-	Sleep Disorders	7.9	-
Female Genital	2.6	-	Behavioral Health	6.1	1.4
Male Genital	4.9	1.0	Tumors	4.9	-
Urinary	9.6	-	Misc. Conditions	-	-
Spine & SI Joint	6.3	1.0			

NSML: Nose, sinus, mouth and larynx; GI: Gastrointestinal; SI: Sacroiliac; MSK: Musculoskeletal
 (-) indicates that no service members received a pre-accession medical waiver of interest.

Table 7D: Prevalence of Accession Medical Waiver History Among Airmen Evaluated under the Retention Medical Standards, by DoDI Subsection, FY 2016-2021

Air Force					
DoDI Subsection	% Any Waiver	% Subsection Waiver	DoDI Subsection	% Any Waiver	% Subsection Waiver
Head	-	-	Upper Extremity	5.0	1.5
Eyes	8.3	2.8	Lower Extremity	6.6	0.9
Vision	8.3	2.3	General MSK	4.9	0.6
Ears	5.7	0.6	Vascular	4.1	-
Hearing	2.7	-	Skin & Soft Tissue	6.5	0.2
NSML	2.7	-	Blood	8.8	0.5
Dental	5.0	-	Systemic	3.8	-
Neck	0.0	-	Endocrine & Metabolic	4.1	0.5
Respiratory	4.6	0.9	Rheumatologic	5.4	-
Heart	6.3	0.6	Neurologic	5.1	0.2
Abdominal & GI	5.3	0.3	Sleep Disorders	4.1	-
Female Genital	3.2	-	Behavioral Health	5.9	1.0
Male Genital	4.9	-	Tumors	4.1	0.5
Urinary	5.4	0.5	Misc. Conditions	4.0	-
Spine & SI Joint	5.3	0.4			

NSML: Nose, sinus, mouth and larynx; GI: Gastrointestinal; SI: Sacroiliac; MSK: Musculoskeletal
 (-) indicates that no service members received a pre-accession medical waiver of interest.

SPECIAL STUDIES

SECONDARY NOTATION OF ADJUSTMENT REACTION IN MEDICAL ENCOUNTERS – A HARBINGER OF ADVERSE SERVICE OUTCOMES?

I. Background

Early attrition among new enlistees is a costly problem for the US military, with the service branches losing 10-19% of new enlistees before completion of their first term of service¹⁸. Lack of data on retention medical standards actions prevents us from knowing how much of this early attrition is due to retention medical issues. One opportunity for the services to identify harbingers of non-retainability is assessing ambulatory medical encounters during Basic Combat Training (BCT). This study examined whether an indication of an adjustment reaction secondary to an out-patient encounter for a musculoskeletal (MSK) issue during BCT elevates a service member's risk of early attrition beyond what may be expected due to the MSK condition alone.

II. Methods

We examined attrition among a cohort of Army active-duty enlistees who joined the service during fiscal year 2015-2019 and had an early outpatient encounter with primary diagnosis of low back pain, pain in hip, or pain in knee. Soldiers with such an ambulatory encounter during the first 10 weeks of service, corresponding to the standard length of Army BCT, were classified according to whether there was a secondary diagnosis indicating an adjustment reaction. The primary outcome was total attrition within one year following the initial encounter, examined separately for those with versus those without a secondary notation of adjustment reaction. Adverse attrition was considered as a secondary outcome to focus on separations that were particularly disadvantageous to the Army and/or the service member.

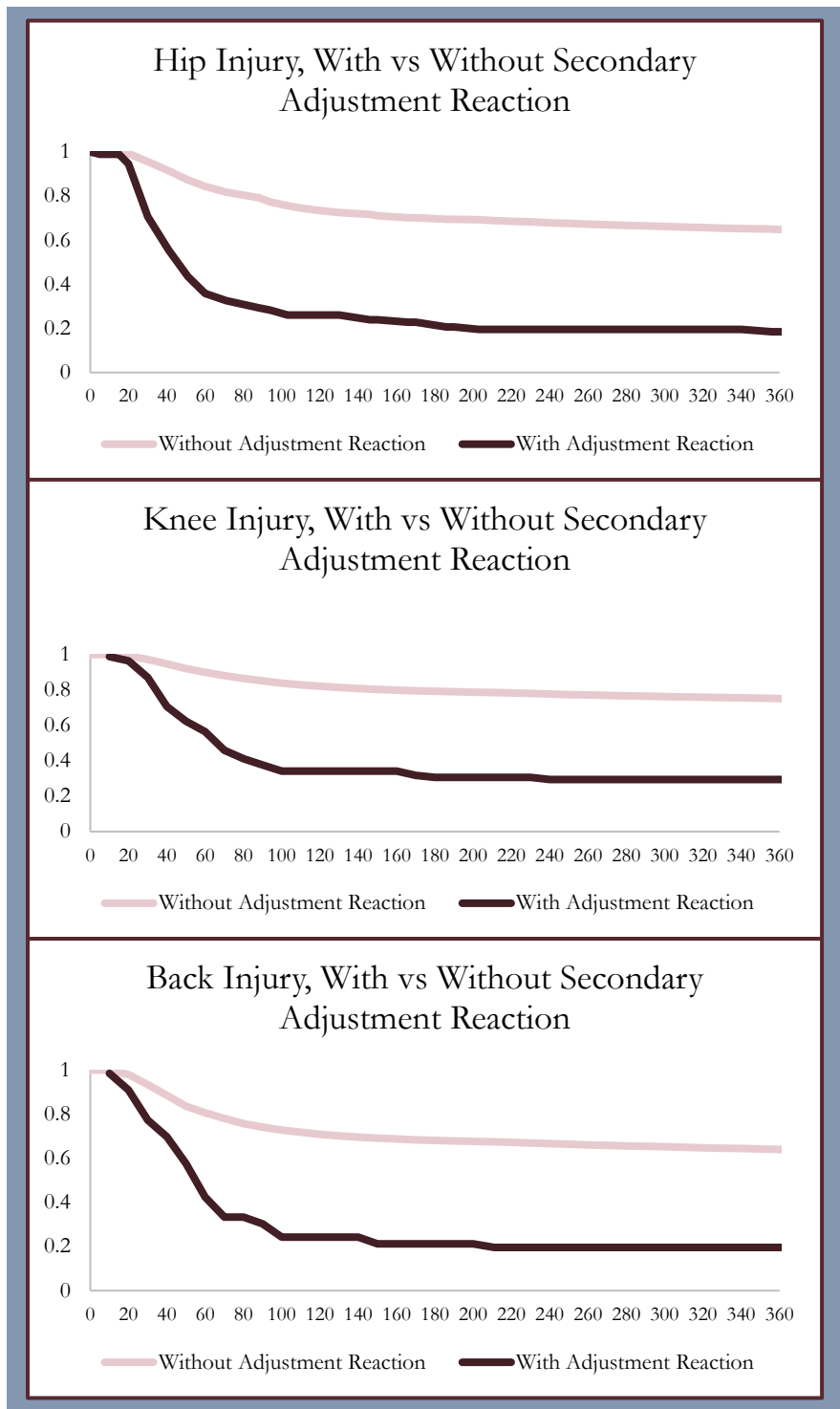
Adverse attrition was defined as a discharge with an inter-service separation code for one of the following reasons: unqualified for active duty, failure to meet minimum behavioral and performance criteria, erroneous enlistment or induction; underage, or other early administrative separations, such as breach of contract. We also examined whether such ambulatory encounters were more predictive of attrition when they occurred early in service time.

III. Results

Adverse attrition was much more likely in the year after initial encounter for each of the MSK conditions when accompanied by secondary notation of an adjustment reaction (Figure 3). One-year survival estimates among the Soldiers with secondary indication of adjustment reaction was below 30% for each of the MSK conditions considered. The levels of adverse attrition among the Soldiers with adjustment reaction was higher than for those without, beginning almost immediately after the initial clinical encounter with most separations among those with adjustment reaction occurring within the first 6 months after initial encounter.

More than half of the losses among Soldiers with secondary notation of adjustment reaction had a separation code of “medical disqualification – unqualified for active duty”. This loss code accounted for more than half of all losses across the three primary conditions, with the highest being 65% for those with a hip injury. Few of the losses in any of the groups had a DES record corresponding to their loss, indicating that most of these separations were without disability benefits.

Figure 3: Survival Curves of Time in Service for a Soldier with a Secondary Diagnosis of Adjustment Reaction for the Primary Diagnoses of Hip Injury, Knee Injury, and Back Injury



IV. Conclusions

- Attrition during the first term of enlisted service is a costly problem from several perspectives. For the Soldier, the cost may take the form of a lost career option, loss of income, and other personal setbacks.
- Identification of Soldiers at high risk for adverse service outcome, including inability to meet retention medical standards, may allow the services to intervene and provide support for those who need it. At worst, it may give the services an opportunity to separate service members who are unlikely to contribute to a healthy, deployment-ready force.
- This study indicates that ambulatory care providers at the BCTs should pay close attention to whether a Soldier being seen for other issues is also suffering an adjustment reaction. If so, this may be a red flag for an impending early separation. Efforts to support service members in this situation may be warranted.

V. Future Research

This study found high attrition in the event of co-morbidity between certain musculoskeletal conditions and adjustment disorders. Further work that may help to clarify this linkage includes evaluation of attrition when the adjustment-related issues were identified prior to musculoskeletal injury. This design restricts the study population to service members able to return to training after identification of the adjustment issue, and thus to outcomes more aptly attributed to the combined effect of the co-morbidity.

Given the high attrition observed in this situation, additional research could examine whether other early service co-morbidity scenarios produce elevated attrition risk. Examples may include:

- Other injury or illness (i.e., non-musculoskeletal) conditions in combination with adjustment disorder
- Musculoskeletal injuries in combination with non-adjustment mental health issues
- Other injury or illness conditions in combination with other mental health or illness conditions.

ACRONYMS AND LIMITATIONS

AFPC	Air Force Personnel Center
AMSARA	Accession Medical Standards Analysis and Research Activity
ARMSWG	Accession and Retention Medical Standards Working Group
CORB	Navy Council of Review Board
DES	Disability Evaluation System
DESAR	Disability Evaluation Standards Analysis and Research
DoD	Department of Defense
DoDI	Department of Defense Instruction
FY	Fiscal Year
GI	Gastrointestinal
MEDPERS	Medical and Personnel Executive Steering Committee
MEB	Medical Evaluation Board
Misc.	Miscellaneous
MOS	Military Occupational Specialty
MSAR	Medical Standards Analytics and Research
MSK	Musculoskeletal
MTF	Medical Treatment Facility
NSML	Nose, Sinuses, Mouth and Larynx (DoDI Subsection)
PDA	Physical Disability Agency
PDRL	Permanent Disability Retirement List
PEB	Physical Evaluation Board
PHA	Periodic Health Assessment
RMSAR	Retention Medical Standards Analytics and Research
SI	Sacroiliac Joint
SMWRAs	Service Medical Waiver Review Authorities
SWODDB	Separated Without DoD Disability Benefits
SWSP	Separated with Severance Pay
TBI	Traumatic Brain Injury
TDRL	Temporary Disability Retirement List
TMD	Temporomandibular Disorder
VASRD	Veterans Administration Schedule for Rating Disabilities
WRAIR	Walter Reed Army Institute of Research

The following limitations should be considered when interpreting the results of this report:

1. As of publication of this report, MSAR did not receive MEB or pre-MEB level data. Without these data, MSAR cannot form full conclusions about retention, as PEB evaluations represent only one of several possible outcomes of retention medical standards application.
2. VASRD codes give an indication of the unfitting conditions referred to the PEB, but do not contain the level of detail available when diagnoses are coded using ICD-9/10 codes¹⁹. Due to the nature of retention standards and the general VASRD descriptions, some VASRD codes were mapped to more than one DoDI subsection.

3. The service branches differ in how they handle retention medical standards issues^{1,2,3}, which may result in substantive differences in the populations examined by each service in the DES process. Therefore, great caution should be taken when using PEB level data to make comparisons of retention between services.
4. Retention standards may be altered or eliminated during completion of this report. As a result, mapped VASRD codes may be subject to change in future editions of the annual report. Caution should be taken when comparing results from more than one annual report.



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