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Accession Medical Standards
Analysis & Research Activity



Attrition & Morbidity Data for 2010 Accessions

Annual Report 2011



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14. ABSTRACT Accession Medical Standards Analysis & Research Activity (AMSARA), mission is to support the development of evidence based medical accession standards for the Department of Defense (DoD) contained in DoD Instruction 6130.4, "Medical Standards for Appointment, Enlistment, or Induction in the Armed Forces" by guiding improvement of medical and administrative databases and conducting epidemiologic and special studies analyses. Special studies presented in this annual report include analyses of accession medical disqualifications, waivers, existed prior to service (EPTS) and disability discharges. Descriptive statistics are reported for DoD enlisted accessions who enlisted in 2010 compared the 2005-2009 accessions totals. Data are collected while the recruits remain on active duty for the first fiscal year (thru fiscal year 2010 for this report). The data are then merged, analyzed and results presented as aggregated tables and figures.					
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The views expressed are those of the authors and should not be construed to represent the positions of the Department of the Army or Department of Defense.

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Executive Summary

The Accession Medical Standards Analysis and Research Activity (AMSARA) has completed its fifteenth year of providing the Department of Defense with evidence-based evaluations of accession standards. AMSARA evaluates accession medical standards and retention programs to improve military readiness by maximizing both the accession and retention of motivated and capable recruits. This report provides findings from selected special studies and descriptive data on FY 2010 accessions. This is the third AMSARA annual report analyzing data by fiscal rather than calendar year.

Section 1 of this report, Publications, Keynote Speeches and poster presentations, presents brief overviews of selected research conducted at AMSARA. Among these studies an extension of a presentation given by AMSARA, comparing accession demographic and medical factors of male Army members who deploy within three years, to those who do not. Medical factors include waiver, conditions at MEPS, and body mass index (BMI). And presentation abstract, for which a manuscript is in progress, describing AMSARA's analysis of AIM (Assessment of Individual Motivation), a test developed by the Army Research Institute (ARI) and given to Tier 2 applicants during FY 2005-2009. Also included are abstracts of manuscripts published and posters presented in FY 2010 by AMSARA.

Section 2 of this report includes the descriptive statistics AMSARA compiles and publishes annually for historical and reference value. Descriptive statistics are for applicants who enlisted in FY10 and are compared to the five year aggregate data from FY 2006-2010. Data are collected while the recruits remain on their first year of active duty. By convention, the annual report is dated for the first complete year after enlistment (FY 2011). Comparisons can be made between services and on occasion between enlisted component (active, reserve, guard).

Approximately 308,000 Active Duty, Reserve, and National Guard enlisted applicants were examined for medical fitness at Military Entrance Processing Stations (MEPS) in 2010 compared to approximately 321,000 per year average from 2005 to 2009. For the first time, the FY11 report presents accession demographics for the reserve and guard components. While the age, gender, and race, of Active Duty, Reserves, and Guard enlisted applicants remained relatively consistent, it was observed that a greater proportion of applicants to all components in 2010 had a high school diploma and a greater proportion of applicants also had a bachelor's degree compared to the previous five years. In 2010, applicants scoring in the lowest Armed Forces Qualification test (AFQT) percentiles for military eligibility (11-49th) decreased in Active Duty, Reserve, and National Guard applicants relative to the previous 5-year period.

Approximately 12% of applicants for Active Duty enlisted service were initially disqualified for service due to permanently disqualifying medical conditions, and another 6% received disqualifications for conditions that could be remediated, primarily excess body weight. Such recruits, however, are less likely to ultimately become service members, with approximately 54% (2005-2009) of applicants with temporary disqualifications and 45% (2005-2009) of applicants with permanently disqualifying conditions are subsequently gained onto active duty service, compared to 75% of fully qualified recruits who accessed. The most common reason for medical disqualification in 2010 was exceeding weight/body fat limits, considered a temporary disqualification. The most frequent permanent disqualifications were disorders of refraction and accommodation and hearing deficiency. The fourth most common condition, nondependent abuse of cannabis, was approximately half as frequent in 2010 as compared to 2005-2009, when it was the second most common disqualification; this is likely a result of policy changes disallowing the granting of some drug related waivers.

Accession medical waivers are considered by each service for applicants with a disqualifying medical condition. Accordingly, the conditions most frequently considered for a waiver closely reflect the most common permanently disqualifying conditions. In total, about 27,000 applications for accession medical waivers were considered in 2010. The number of medical waiver considerations is significantly less than in 2009, as a result of two factors: some reduction across all services, and under-reporting of Marine Corps records from Q2 2010. The percentage of waivers approved varies substantially by the medical condition being considered, with overall approval percentages ranging from 45% to almost 100% for the most commonly applied for and most highly approved waivers. Differences in approval percentages between the services may reflect differences in the applicant pools applying to the services, different distributions of conditions being considered for waiver, or different needs of each service. Waiver approval rates for individuals applying for Army and Air Force waivers increased notably over 2005-2010, while Navy rates decreased slightly and Marine rates remained consistent.

Hospitalization data are provided for the period 2005-2010. In 2010, there were approximately 5,500 hospitalizations among active duty enlistees (all services) in the first year of service. The rate of first year hospitalization in 2010 was lower than in 2005-2009, with the exception of the Air Force. The top reasons for hospitalization within the first year of service for all services in 2005-2010 were psychiatric conditions, pneumonia and influenza, and infections of the skin and subcutaneous tissue. During the first two years of service, psychiatric conditions remained the most frequent reason for hospital admissions. However, the frequency of hospitalizations for complications of pregnancy, fracture, and injuries increased dramatically when compared to the first year of service, with pregnancy the most common reason for hospital admission in the second year. For first-time active duty enlistees who accessed in 2005-2010, Army enlistees had the highest risk of hospitalization followed by the Marines with the second high risk. Navy enlistees had the lowest risk of hospitalization. Women, whites, those older in age at the time of enlistment, those with lower military aptitude score (AFQT), and those with a medical disqualification or waiver were at higher risk for hospitalization.

All-cause attrition of first-time active duty recruits following 90, 180, 365, and 730 days of service is also described. At two years, the Army had the highest rate of attrition for all services considered (approximately 19%) while the Air Force had the lowest (about 14%). Being female, white, older at the time of enlistment, lower educational attainment, scoring in the lower percentile groups on the AFQT, and having a medical disqualification or waiver were all characteristics associated with significantly higher attrition at all points of assessment.

Discharges of recent enlistees for medical conditions that existed prior to service are a costly problem for all branches of the military, and are considerably more common than data indicate. Documentation of EPTS discharges is requested from each Initial Entry Training (IET) sites by USMEPCOM but this reporting is not required by service regulations. The total numbers of reported discharges have varied over time, ranging from a high of approximately 8,000 in 2004 to a low of about 4,800 in 2006. Variation by training base over time has been significant.

Past AMSARA studies have shown that the great majority of EPTS discharges are for medical conditions that were not discovered or disclosed at the time of application for service, with concealment by the applicant being the most common scenario. Accordingly, the primary problem of EPTS discharges appears to be the bypassing of accession medical standards rather than the implementation of those standards. Psychiatric conditions, orthopedic conditions, and asthma continue to be the most common causes of EPTS discharges reported to USMEPCOM. Risk of EPTS discharge varies by service, with those in the Army having the lowest risk and Marines the highest. Increased risk of EPTS discharge is observed for females, recruits older than 30 years of age at accession, whites, recruits without a high school education

at accession, recruits who scored in the lower AFQT percentile score groups, and recruits with a medical disqualifications or waiver.

Disability evaluation is very infrequent among new enlistees, with less than one percent of enlistees being considered for such a discharge within the first year of service. The rate of disability evaluation has remained relatively consistent over the period 2005-2010. The most common disability evaluations during the first year of service in 2010 were for diseases of the spine, skull, limbs, and extremities in the Army, Navy and Marine Corps, and diseases of the trachea and bronchi in the Air Force. Other common conditions prompting disability evaluation in the first year of service included prosthetic implants and diseases of the musculoskeletal system, and schizophrenia and other psychotic disorders. Risk of evaluation for disability discharge in the first year of service was highest in the Army, and lowest in the Navy and Air Force. Characteristics associated with increased risk of disability evaluation include being female, white, aged over 30 at time of accession, and having a lower AFQT score, medical disqualification, or medical waiver.

AMSARA is committed to further development of evidence-based medical accession standards to enable the DoD to enlist the highest quality applicants in a cost-effective manner, thereby ensuring a healthy, fit, and effective force. The following programmatic recommendations are based on 15 years of research:

1. Various databases must be improved. For example, waiver data do not provide sufficient clinical detail such as severity, duration and prognosis to allow analyses of waiver decision criteria.
2. EPTS classification and reporting from the IET sites to USMEPCOM, which is still passive, should be mandated and standardized by DoD/service regulations. Analysis would be enhanced with conversion from paper to digital records.
3. AMSARA should develop expertise in cost-benefit analyses in order to better advise DoD medical standards policy makers.
4. AMSARA should continue prospective studies similar to the Assessment of Recruit Motivation and Strength (ARMS) (a study evaluating those who exceed Army body fat standards using a physical fitness test on accession) that challenge current accession standards. MEPS-based studies that are outcome oriented (including morbidity, occupational qualification and performance, deployability, and attrition) in the area of physical and mental fitness, including motivation to serve, should be prioritized.
5. Rather than study accession medical standards in isolation, the medical standards across the continuum of a service member's life-cycle should be analyzed using evidence-based principles. This would include medical standards for deployment and retention, in addition to accession medical standards. In FY 2009 at the direction of ASD Health Affairs, Clinical Program and Policy AMSARA began to systematically evaluate each service's Disability Evaluation System. The first retention medical standards analysis and research report was published for FY2010, with a second planned for publication by the close of FY 2011. Future plans include similar evidence of DoD and Combatant Command medical deployment standards.

Introduction

The Medical-Personnel Executive Steering Committee (formerly the Accession Medical Standards Steering Committee) was established by the Under Secretary of Defense (Personnel and Readiness) to integrate the medical and personnel communities so they could provide policy guidance and establish standards for accession requirements. These standards would stem from evidence-based information provided by analysis and research. The committee is co-chaired by the Under Deputy Assistant Secretary of Defense (Military Personnel Policy) and the Deputy Assistant Secretary of Defense (Clinical and Program Policy) and comprises representatives from the Office of the Assistant Secretary of Defense (Force Health Protection and Readiness), Office of the Assistant Secretary of Defense (Health Affairs), Office of the Assistant Secretary of Defense (Reserve Affairs), Offices of the Service Surgeons General, Offices of the Service Deputy Chiefs of Staff for Personnel, and Health and Safety Directorate (Department of Homeland Security, U.S. Coast Guard).

The Accession Medical Standards Working Group is a subordinate working group that reviews accession medical policy issues contained in DoD Instruction 6130.4, entitled "Medical Standards for Appointment, Enlistment, or Induction in the Armed Forces." This group is composed of representatives from each of the offices listed above.

AMSARA was established in 1996 within the Division of Preventive Medicine at Walter Reed Army Institute of Research to support the efforts of the Accession Medical Standards Working Group. The mission of AMSARA is to support the development of evidence-based accession standards by guiding the improvement of medical and administrative databases, conducting epidemiologic analyses, and integrating relevant operational, clinical, and economic considerations into policy recommendations. AMSARA has the following seven key objectives:

1. Validate current and proposed standards utilizing existing databases (e.g., should asthma as a child be disqualifying?);
2. Incorporate prospective research studies to challenge selected standards (e.g., are body weight standards adequate measures of fitness?);
3. Validate assessment techniques (e.g., improve current screening tools);
4. Perform quality assurance (e.g., monitor geographic variation);
5. Optimize assessment techniques (e.g., develop attrition and morbidity prediction models);
6. Track impact of policies, procedures, and waivers;
7. Recommend changes to enhance readiness, protect health, and save money.

Military staffing to support this effort includes MAJ Marlene Gubata, Chief, AMSARA, and COL David Niebuhr, Director, Division of Preventive Medicine.

AMSARA is augmented with contract support through Allied Technology Group, Inc. Staff in 2010 included Dr. David N. Cowan, Project Manager; Xiaoshu Feng, Bin Yi, Statisticians; Matthew Barker, Caitlin Blandford, Mikayla Chubb, Alexis Oetting, Elizabeth Packnett, , Amanda Piccirillo, Nadia Urban, Analysts; Janice Gary, Data Manager/Analyst; and Vielka Rivera, Program Administrative Assistant.

1. PUBLICATIONS, KEYNOTE SPEECHES AND POSTER PRESENTATIONS

Publications

Self-Reported Physical Activity and Pre-accession Fitness Testing in US Army Applicants

Accepted to Military Medicine, 2011;176 (8):922-925

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Purpose: The Assessment of Recruit Motivation and Strength (ARMS) study evaluated a physical fitness screening test for Army applicants before basic training. This report examines applicants' self-reported physical activity as a predictor of objective fitness measured by ARMS.

Methods: In 2006, the ARMS study administered a fitness test and physical activity survey to Army applicants during their medical evaluation, using multiple logistic regression for comparison.

Results: Among both men and women, "qualified" and "exceeds-body-fat" subjects who met American College of Sports Medicine adult physical activity guidelines were more likely to pass the fitness test. Overall, subjects who met physical activity recommendations, watched less television, and played on sports teams had a higher odds of passing the ARMS test after adjustment for age, race, and smoking status.

Conclusion: This study demonstrates that self-reported physical activity was associated with physical fitness and may be used to identify those at risk of failing a preaccession fitness test.

U.S. Military Recruits Waived for Pathological Curvature of the Spine: Increased Risk of Discharge From Service

Accepted to Military Medicine, 2011;176(5):519-523

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Purpose: Selective accession waivers for medically disqualifying conditions like spinal curvature are one way the military meets its manpower needs. We evaluated retention patterns during the first 2 years of service of a cohort of military recruits with waivers for pathological curvature of the spine (spinal curvature).

Methods: Recruits waived for spinal curvature (n = 417), who accessed from 1998 to 2005 were identified and matched with 3 qualified recruits. Kaplan–Meier survival analysis and Cox proportional hazards model were used to compare survival patterns and adjusted attrition hazard estimates.

Results: Waived recruits experienced significantly increased risk of “all cause” discharge (relative risk = 1.3; 95% confidence interval: 1.1, 1.5) and “existing prior to service” discharge (relative risk = 2.4; confidence interval: 1.6, 3.5).

Conclusion: Despite the increased risk of discharge, current waiver criteria allowed a majority with spinal curvature to complete at least 2 years of service. Policy makers must consider risks and benefits before modifying the current accession standard for spinal curvature.

Risk Factors for Disability Retirement Among Healthy Adults Joining the U.S. Army

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Objective: From 2001 to 2006, the Army deployed over 717,000 personnel to Iraq and Afghanistan, with over 15,000 troops wounded. Little is known about the impact of military and demographic factors, particularly deployment, occupation, and pre-existing medical status, on disability retirement.

Methods: A nested case–control study of first time, active duty personnel entering from 1997 to 2004. Cases, individuals granted a medical disability retirement from 1997 to 2006, were identified by the Army Physical Disability Agency. Five controls were matched by year of entrance to each case.

Results: Several factors were associated with increased risk of disability retirement, including sex, age, Hispanic ethnicity, body mass index, and military occupation; deployment was associated with a lower risk.

Conclusions: The reasons for increased risk among some groups are unknown. The decreased risk associated with deployment probably reflects a “healthy warrior effect,” whereas the increased risk for combat arms may reflect combat exposures among the deployed and more rigorous training among the nondeployed.

Descriptive Epidemiology and Natural History of Idiopathic Venous Thromboembolism in U.S. Active Duty Enlisted Personnel, 1998–2007

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Accepted to Military Medicine, 2011;176,(5):537-543

Background: The estimated incidence of idiopathic venous thromboembolism (IVTE) cases in the United States ranges from 24,000 to 282,000/year. This analysis explores the incidence and prevalence of IVTE in the military and if cases experience increased attrition.

Methods: The Defense Medical Surveillance System was searched for incident IVTE cases from 1998 through 2007. Enlisted cases were each matched to 3 controls. Kaplan–Meier survival analysis and Cox proportional hazard modeling were performed.

Results: We matched 463 cases to 1,389 controls. Outpatient IVTE rates have increased markedly from 1998 through 2007. Cases of all-cause attrition risk (0.56 [95% CI = 0.44, 0.72]) and rates were significantly less than controls ($p < 0.0001$), and cases of medical attrition risk (1.64 [95% CI = 1.13, 2.37]) and rates were significantly higher ($p < 0.01$).

Conclusion: Increasing rates with lower attrition suggests increasing case prevalence. Health care providers must maintain a high index of suspicion for venous thromboembolism to minimize adverse sequelae affecting health, unit readiness, and medical costs.

Incidence of adult onset schizophrenic disorders in the US Military: Patterns by sex, race and age

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Background: There are limited data describing the epidemiology of adult-onset schizophrenic disorders in the United States. Although the military is not proportionately comparable in all demographic characteristics to the civilian population, it is drawn from all racial/ethnic subgroups, and members range in age from 17 to N60 years. We describe the incidence of hospitalization for new onset schizophrenic disorders among military members by sex, race, and age.

Methods: Using military inpatient data, we evaluated patterns of initial hospitalizations for schizophrenic disorders among military personnel for 2000–2009, focusing on sex, race, and age. No individual-level data were available.

Results: From 2000–2009, 1976 military personnel had a first schizophrenic disorder hospitalization, with an overall incidence rate of 0.14/1000 person-years. There were no consistent changes in rates over time. While overall incidence rates were similar for men and women (incidence rate ratio (IRR)=1.10), rates were higher among men than women below age 25; after 25–30 rates were higher among women. Incidence was higher among blacks and other racial groups, with IRR=2.0 and 1.3, respectively.

Conclusion: Medical screening of military applicants prevents persons with overt or a reported history of psychosis, and most with serious behavior problems, from enlisting; therefore, first hospitalization is likely to reflect new illness. No pre-military socioeconomic data were available, however, essentially all study subjects were high school graduates; unmeasured differences in socioeconomic status were unlikely to explain the observed results. This report may provide lower bound estimates of the schizophrenic disorder incidence in the United States.

Musculoskeletal injuries among overweight army trainees: incidence and health care utilization

Accepted to Occupational Medicine (Lond), 2011;61:247-252.

Authors: David N. Cowan, PhD, MPH; Sheryl A. Bedno, MD, MPH, MS; Nadia Urban, MHS; Bin Yi, MS; David W. Niebuhr, MD, MPH, MS

Background: Musculoskeletal injuries are a major cause of morbidity in military training. They are more common among overweight/obese individuals, and the prevalence of overweight/obesity in the military has increased. During strong economic periods, the military can be challenged to recruit enough qualified personnel, and physical standards are sometimes relaxed.

Aims: This study was conducted to compare the incidence of and outpatient utilization for training-related overuse injuries among men who were over body fat (OBF) standards compared with those who were weight qualified (WQ).

Methods: All study subjects were men $\geq$ 18 years old, who were classified as OBF or WQ and were followed for 90 days. During this period, everyone entering through the study sites was required to take a physical fitness test (5 min step test). Only individuals passing the fitness test were included in these analyses.

Results: There were 812 OBF and 6511 WQ study participants. OBF were 47% more likely to experience a musculoskeletal injury and had 49% higher health care utilization. Other significant factors included age >19 and a history of smoking.

Conclusions: Among this population who had passed a fitness test, those who were OBF had a substantially higher risk of injury and higher utilization for these injuries. Because the recruiting environment is much better, military entrance standards have been tightened, but should the economy improve substantially the military may again be challenged to recruit adequate numbers of personnel, and the lessons learned in this project may prove valuable.

Keynote Speeches

Accession Medical Factors, Attrition, and Non-Deployment, within the First Tour of Duty (3 Years of Service) among Enlisted Men in the Army

Accepted for presentation at The 2011 Joint Accession Best Practices Research Symposium (JAR & BPS), Colorado Springs, Colorado, May 2011.

Authors: David N. Cowan, PhD, MPH; Marlene E. Gubata, MD, MPH; Matthew E. Barker, MPH; Mikayla C. Chubb, MS; Bin Yi, MS; David W. Niebuhr, MD, MPH, MS

Background: An effective military requires service members who can be deployed world-wide, and non-deployability for any reason adversely impacts military readiness. Attrition continues to be a substantial problem in the Army as historically 20-30% of enlistees fail to complete their first tour of duty. Certain factors have been found to be predictive of attrition, but no strong and few consistent factors have been identified. Individuals who attrit are not available for deployment, so reducing attrition should increase the number of individuals who could potentially be deployed.

Reasons for non-deployment can be categorized as unit-level and individual-level. The unit-level reason for non-deployment is whether or not the unit of assignment is scheduled for deployment during the study period. There are many possible individual-level reasons for non-deployment, assuming the soldier is assigned to a deploying unit, but they can be summarized as the individual attrits before deployment, or the unit deploys but individual does not deploy. At this point we are unable to evaluate unit-level or individual-level reasons for non-deployment, other than attrition. This is a preliminary analysis of non-deployment and attrition among first-time enlisted men in the US Army, assessing medical factors identified at time of entry into the service.

Methods: The study population included all non-prior service men who enlisted in the active component of the US Army FY2003-2010, with follow-up through the end of FY2010. Data captured and evaluated included: Demographics (age, race, education, AFQT, BMI), medical disqualification (Permanent DQ, Temporary DQ, none), medical waiver (yes or none), medical conditions noted at the Military Entrance Processing Station (MEPS), accession Military Occupational Specialty (Combat Arms (CA), Combat Support (CS), Combat Service Support (CSS), date of first deployment, and date and Inter-service Separation Codes (ISC) for attrition.

All endpoints refer to events occurring by the end of the first term of service, defined as 3 years. Mutually exclusive study endpoints were defined: Attrition before deployment (yes or no), and among those who did not attrit, deployment (yes or no). Statistical analysis included Cox proportional hazards regression for attrition as a function of person-time at risk. Individuals were right-censored when they deployed and no longer contributed to person-time at risk. The measure of association for attrition is the hazard ratio (HR). Logistic regression was used to assess deployment at the end of three years. The measure of association for deployment is the odds ratio (OR). Only soldiers who did not attrit before deployment were included in these analyses.

Results: During the study period, 360,869 enlisted men accessed to the Active Duty Army. Within the first 3 years of service 25% attrited before deployment, 49% deployed, and 26% neither deployed nor attrited.

Discussion: Attrition continues to be a major source of loss of manpower, with over 20% of soldiers attriting before three years of service, and the rate varied somewhat by MOS category. Medical disqualification and waiver status were not associated with attrition, and only having multiple medical codes identified at MEPS was slightly but significantly predictive. A substantial proportion of soldiers were not deployed during the study period, but other than attrition, the reason for any given individual is not known. Among those who did not attrit, those with permanent medical DQs were substantially and significantly more likely to not deploy. Waiver status was not significantly associated with non-deployment. Only multiple medical conditions identified at MEPS were consistently and significantly associated with deployment, and those individuals were less likely to non-deploy than others.

Medical disqualification was not associated with attrition, but was strongly and significantly associated with non-deployment. The medical examination process appears to screen out individuals with high risk of attrition and high risk of non-deployment, as waived individuals were not at increase risk of attrition or non-deployment. The strong association of a medical disqualification with non-deployment is of concern, but lacking information on the units of assignment, and individual reasons for non-deployment, it is not possible to address this issue further with existing data.

Using Assessment of Individual Motivation (AIM) to Predict Psychiatric Morbidity and Medical Attrition

Accepted for presentation at The 2011 Joint Accession Best Practices Research Symposium (JAR & BPS), Colorado Springs, Colorado, May 2011.

Authors: Marlene E. Gubata, MD, MPH; Alexis A. Oetting, MS; Xiaoshu Feng, MS; Mikayla C. Chubb, MS; Natalya S. Weber, MD, MPH; David N. Cowan, PhD, MPH; David W. Niebuhr, MD, MPH, MS

Background: AIM is a 27 item non-cognitive questionnaire developed by the Army Research Institute for the Behavioral and Social Sciences, designed to screen for probability of attrition and overall success prior to enlistment, without relying on cognitive abilities or education level. AIM was implemented in 2000 under the GED Plus Program and used in the Tier Two Attrition Screen (TTAS) to offer enlistment incentives for military applicants without a high school diploma. AIM generated composite and subscale scores for behavioral trends assessed in six functional areas: work orientation, adjustment, agreeableness, dependability, leadership, and physical conditioning.

Methods: AIM composite and subscale scores were analyzed for associations with accession factors such as demographics, medical conditions present at enlistment, medical waivers, Armed Forces Qualification Test (AFQT) scores, psychiatric morbidity and attrition within the first year of service.

Results: In total, 47,979 Tier Two non high school diploma first-time active duty enlistees took AIM and accessed between 2005 and 2009, the majority of whom were white males under age 25. Medical conditions present at enlistment and medical waivers were associated with AIM scores. Among demographic factors studied (sex, race/ethnicity, age, BMI, and AFQT), only sex was associated with AIM score. AIM composite scores predicted attrition in the first year of service, with lower scorers having higher attrition. When adjusted for sex, age, race/ethnicity, BMI, AFQT, medical waivers, and the presence of medical conditions at enlistment, AIM scorers in the lowest quintile had a 56% greater risk of first year attrition when compared to those scoring in the highest quintile. AIM composite scores were also associated with psychiatric morbidity during the first year of service. AIM scorers in the lowest quintile had a greater risk of being diagnosed with a psychiatric disorder in the first year of service compared to AIM scorers in the highest quintile.

Conclusion: Future research includes assessment of the Tailored Adaptive Personality Assessment System (TAPAS) for associations with psychiatric morbidity and medical attrition. Compared to AIM, TAPAS is a more sophisticated tool, which was implemented beginning in October 2009 to all Army and Air Force tier one (high school diploma) applicants at all 65 MEPS.

Poster Presentations

Bone Stress Injuries among Weight-Qualified Female ARMS Participants: Physical Fitness, BMI and Bone Stress Injury Incidence in First 180 Days of Service

Accepted for presentation at Armed Forces Public Health; Hampton, Virginia, March 2011.

Authors: Nadia Urban, MHS; Sheryl A. Bedno, MD, MPH, MS; Marlene E. Gubata, MD, MPH; David N. Cowan, PhD, MPH; David W. Niebuhr, MD, MPH

Purpose: We investigated the effect of physical fitness and body mass index (BMI) on the incidence of bone stress injuries (BSI) among female recruits meeting body fat percent standards.

Methods: Study subjects included first-time enlistees entering the US Army February 2005-September 2006. All subjects took a 5-minute step test (pass/fail). BMI, age, race, and smoking history were also recorded at entry. The outcome was BSI to the lower extremity occurring during the first 180 days. The measure of relative risk was the hazard ratio (HR).

Results: Among 1568 study participants, 131 (8.4%) incurred a BSI. The HR for failing the step test was 1.46; the HR for being underweight was 2.36. Age was also significantly associated with BSI. Smoking status, race and being overweight were not significant predictors of BSI.

Conclusions: These results suggest intervention programs targeting modifiable risk factors have the potential to reduce the incidence of BSI.

The US Army Assessment of Recruit Motivation and Strength (ARMS) Study Physical Fitness Test as a Predictor of Morbidity and Attrition

Accepted for presentation at International Congress on Soldiers Physical Performance Jyväskylä, Finland, May 2011.

Authors: David W. Niebuhr, MD, MPH, MS; David N. Cowan, PhD, MPH; Marlene E. Gubata, MD, MPH; Sheryl A. Bedno, MD, MPH, MS

Background: The Assessment of Recruit Motivation and Strength (ARMS) study was designed to study the use of a physical fitness screening tool for US Army applicants before basic training.

Methods: The ARMS test consists of two components, a 5-minute step test at a cadence of 120 steps per minute and push-ups. Multiple cohort studies have been conducted to examine

various military relevant outcomes. Hazard ratios, rate ratios, and 95% confidence intervals (95% CI) were calculated and adjusted for covariables.

Results: First ARMS test performance was found to be significantly related to risk of attrition within 180 days; the hazard ratios for failing relative to passing the ARMS test were 2.27 (95% confidence interval, 1.70 –3.04) among female subjects and 1.36 (95% confidence interval, 1.13–1.64) among male subjects. The attributable risk of attrition associated with failing the ARMS test was 40% among female subjects and 30% among male subjects.

Secondly ARMS found that there were no significant differences in attrition between OBF and FQ at 180 days: adjusted hazard ratios were 1.17 (95% CI: 0.83, 1.65) among females and 1.23 (95% CI: 0.95, 1.58) among males.

Thirdly ARMS found that the incidence odds ratio of heat illness (any heat illness, heat stroke, heat exhaustion, and other heat illness) at 90 days of service among male recruits with excess body fat compared to qualified male recruits was 3.63 (95% CI: 1.92, 6.85). Men with excess body fat had an increased incidence of heat illness with a rate ratio of 7.25 (95% CI: 4.17, 12.61).

Fourthly ARMS found that among male US Army recruits who met body fat standards on accession the hazard rate ratio for injury among recruits who failed the fitness test compared to those who passed the test was 1.31 (95% confidence interval (CI): 1.20-1.43). Compared to normal weight, the hazard rate ratios for underweight and for obese recruits were 1.31 (95% CI: 1.07-1.61) and 1.12 (95% CI: 0.99-1.26), respectively. Among the subset of recruits with at least one medical encounter for an overuse injury, the utilization rate ratio for subjects who failed the fitness test versus those who passed was 1.16 (95%CI: 1.09-1.22).

Fifthly ARMS found that among women meeting body fat percent standards the risk of stress fracture in the first 180 days of service in ARMS recruits who failed versus passed the HR was 1.46 (95% CI 1.03, 2.07). BMI underweight versus normal weight = 2.41 (95% CI 1.34, 4.33) and for overweight and obese versus normal weight=0.82 (95% CI 0.55, 1.23).

Discussion: The ARMS study is the first prospective study conducted in the U.S. Army to assess physical fitness before accession. Physical fitness and motivation to serve were shown to correlate with attrition during initial entry training. Physically fit recruits who exceeded weight for height and body-fat standards were equally capable of serving at least 180 days compared to those who met standards. Although heat illness events were rare, a significantly increased risk of heat illness and outpatient utilization among male recruits with excess body fat was observed. Approximately 70% of the relative risk for heat illnesses in men with excess body fat during basic training was associated with exceeding body fat standards. Risk of musculoskeletal injury and utilization were both associated with BMI and physical fitness. In female recruits, failing the ARMS fitness test and being underweight were risk factors for bone stress injury to a lower extremity during the first 180 days of military service, while overweight and obese were at lower risk, but not significantly.

Conclusions: These findings have implications for military accession BMI and body fat and physical fitness policies and training programs.

BMI and Risk of Musculoskeletal Injuries Among Army Trainees Meeting Body Fat Standards

Accepted for presentation at The Obesity Society Annual Meeting, Washington, DC, October 2010.

Authors: Nadia Urban, MHS; Sheryl A. Bedno, MD, MPH MS; Marlene E. Gubata, MD, MPH; Bin Yi; MS David N. Cowan, PhD, MPH; David W. Niebuhr, MD, MPH, MS

Purpose: As part of a larger study evaluating the risk of musculoskeletal injury (MSI) associated with exceeding body fat percent (BF%) standards among men entering the US Army, we investigated the effect of body mass index (BMI) category on the incidence of MSI among men meeting BF% standards.

Methods: We evaluated first-time applicants to the US Army entering February 2005-September 2006, using four BMI categories: BMI $\leq$ 18.5 (underweight); 18.5 -24.9 (normal); 25-29.9 (overweight) and $\geq$ 30 (obese). Age and tobacco use at time of entry were also recorded. The outcome was MSI to the lower extremity occurring during the first 90 days of service. The measure of association between BMI and injury was the hazard ratio (HR), and only significant findings are reported.

Results: Among 8571 study participants, 2455 (29%) incurred an injury within the first 90 days. Obese and underweight were significantly associated with injury (HR=1.17 and HR=1.33, respectively). No association was observed in the overweight category. Those 20-24 and $\geq$ 25 years-old were at increased risk compared to those 18-19, with HR=1.24 and HR=1.62, respectively. Smokers were also at increased risk, with HR=1.26.

Conclusions: This research indicates that both underweight and obese men were at increased and similar risk of musculoskeletal injury to a lower extremity during the first 90 days of military service. Age and tobacco use were also significant predictors of injury. These findings have potential utility in targeting high-risk individuals for intervention efforts.

2. DESCRIPTIVE STATISTICS FOR APPLICANTS AND ACCESSIONS FOR ENLISTED SERVICE

The characteristics of the source populations applying for enlisted service in the Active Duty, Reserve, and National Guard components of the military are described from fiscal year 2005 to fiscal year 2010. The characteristics of the accessed population are compared. For Active Duty accessions only, subsequent attritions are also shown. Individuals identified as having prior service in any US military component are excluded. An enlistee *applicant* is the individual who presents to a Military Entrance Processing Station (MEPS) for evaluation for acceptance into military service. An enlistee *accession* is the individual who has signed his or her oath of enlistment.

Except where otherwise noted, the following conventions apply:

- All references to year refer to fiscal year (FY).
- The “Accessions” shown in the following tables are from among the “Applicants” shown in the relevant preceding column. For example, columns showing fiscal year 2010 accessions are summarizing accessions only among individuals who applied for service in fiscal year 2010. Notation is made when complete follow-up is not available.
- Only data through fiscal year 2010 are included. Therefore, numbers and percentages gained (i.e. accessions) among applicants in 2010 refer only to those gained through September 30, 2010. For legitimate comparison of accession among applicants in 2010 and the previous five years, we calculated a within fiscal year accession rate, which takes into account only accessions that occurred in the same fiscal year as the MEPS physical. Therefore, when 2010 and 2005-2009 figures are compared, the follow up time for observing accessions will be comparable.
- To derive percentages and rates, data sets were merged at the individual level by Social Security Number (SSN). For example, in determining the percentage of individuals gained in 2010 who received a discharge, only discharges with a SSN matching a 2010 accession record SSN were included.
- Non-missing totals may vary slightly among tables depending upon the variable by which percentages or rates are presented. Records with a missing variable value used to calculate a percentage or rate in a given table are not included in that table, though the record may appear in other tables.
- Under the subsections titled “Active Duty Applicants and Accessions,” “Reserve Applicants and Accessions,” “National Guard Applicants and Accessions,” and “Medical Waivers,” education level and age were obtained at the time of MEPS application because MEPS data are the only source of these variables for applicants. For subsections titled “Hospitalizations,” “Attrition,” “EPTS Discharges,” and “Disability Discharge Considerations with an Accession Record,” age, education level, and Armed Forces Qualification Test (AFQT) score at time of accession are used. Under the Delayed Entry Program, the application process can occur up to 2 years before the actual accession takes place.

- Temporary medical disqualifications are for conditions that can be corrected, such as being overweight or recently using marijuana; these individuals may enter the military without a waiver after the condition is corrected. Permanent medical disqualifications are for all other disqualifying conditions described in DoD Instruction 6130.4.
- The ICD-9 code 'V69.5' and OMF code 15, both of which indicate participation in the delayed entry program (DEP), was considered a disqualification. These codes should not be counted as a disqualification when occurring without other ICD-9 or OMF codes. Some DEP participants may have been incorrectly classified as temporarily disqualified.
- The Department of Defense Instruction (DoDI) 6130.3 was superseded by DoDI 6130.4 in 2005. This change is reflected in the coding of Existing Prior to Service (EPTS) discharge conditions beginning in 2006. The updated classification system incorporated several extensive revisions with codes corresponding to psychiatric disorders and orthopedic conditions being the most heavily impacted. Given the breadth and scope of disease reclassification, it is difficult, if not impossible, to directly compare EPTS data from 2006-2009 to data from previous years; therefore 2005 data are omitted.
- The disease classification coding system outlined by DoDI 6130.3 is employed by the Navy and Marine Corps waiver authorities. At this time, there is no evidence to suggest that the Marine Corps has adopted the revised coding system and it is therefore possible to compare waiver data from 2009 to the same data from previous years. However, the Navy waiver authority began using a new coding system in 2006. Therefore, waiver data from 2006 through 2009 are not comparable to data from previous years.
- Beginning in the FY 2008 Annual report, the way International Classification of Diseases, 9th revision (ICD-9) codes are summarized was revised in order to establish more uniform granularity over the range of ICD-9 codes reported for MEPS disqualification and waivers. This was done by selecting a subset of codes based on expert opinion that were exceptionally broad and reporting them to four digits rather than three (summarized in Table 2.1). For example, 493 is specific to asthma whereas 733 denotes a diverse array of bone and cartilage disorders, which include osteoporosis, pathologic fractures, bone cysts, and aseptic necrosis. Please note, when a majority of codes examined out to the fourth digit do not have a fourth digit (either due to insufficient information at time of coding or to errors) it is possible to have a three-digit code appear in the top-20 medical conditions tables, even though the raw codes were examined out to the fourth digit. Such codes are treated as a distinct category and are in no case to be considered a parent term if a more specific code is present. For example, the ICD-9 groups specified by 785 and 785.0 are mutually exclusive categories and the latter is not a subset of the former.

TABLE 2.1 LIST OF ICD-9 CODING GROUPS SUMMARIZED TO THE FOURTH DIGIT

ICD-9 [†]	Condition
305	Nondependent abuse of drugs
306	Physiological malfunction arising from mental factors
307	Special symptoms or syndromes, not elsewhere classified
718	Other derangement of joint
719	Other and unspecified disorders of joint
724	Other and unspecified disorders of back
726	Peripheral enthesopathies and allied syndromes
733	Other disorders of bone and cartilage
746	Other congenital anomalies of heart
754	Certain congenital musculoskeletal deformities
756	Other congenital musculoskeletal anomalies
780	General symptoms
783	Symptoms concerning nutrition, metabolism, and development
784	Symptoms involving head and neck
785	Symptoms involving cardiovascular system
795	Other and nonspecific abnormal cytological, histological, immunological and DNA test findings
796	Other nonspecific abnormal findings
995	Certain adverse effects not elsewhere classified

[†] Differences in the level of coding specificity (3-digit vs. 4-digit) over time can lead to misleadingly large disparities in the incidence estimates for particular disease or condition categories when comparing current year data to the previous 5-year period. For example, if the code 305.0 is used in 2006 and 2007 where previously 305 was used, the top twenty condition categories for 2008 would appear to indicate that nondependent alcohol abuse is an emerging vs. established problem.

Active Duty Applicants and Accessions

Tables 2.2 through 2.9 describe the population of applicants who received a medical examination and subsequent accessions for Active Duty enlisted service in the Army, Air Force, Navy, and Marine Corps. Individuals were counted only once, either in the component and service in which they access, or for applicants, in one service and component applied to on their most recent day of application. Applicants for enlisted service who subsequently accessed as officers (as indicated by a pay grade at gain of MO01-06), were included as applicants, but excluded from accessions. The number of applicants and the percentage of subsequent accession for these applicants from 2005 to 2009 and 2010 are shown in Table 2.2. The percentages of accessions are shown in two ways: 1) total accession through the end of 2010 and 2) accessions occurring in the same fiscal year as application. Presentation of the average 'within fiscal year' accession rate is provided for the years 2005-2009 as a basis of comparison to the 'within fiscal year' accession rate for 2010.

The within fiscal year accession rate decreased across all services in 2010. For the Army, the within fiscal year accession rate was 40.7% in 2010, notably lower than the rate for the Army in 2005-2009 (49.6%). The within fiscal year accession rate for the Navy also decreased in 2010, to 22.2% from 33.2% in 2005-2009. Similarly, in 2010 the within fiscal year accession rate for the Marines (26.6%) and Air Force (31.4%) was much lower than the average within fiscal year accession rate from 2005 to 2009 (42.7% and 39.3%, respectively).

TABLE 2.2 ACCESSIONS FOR ENLISTED APPLICANTS AT MEPS WHO RECEIVED A MEDICAL EXAMINATION BY SERVICE IN 2005-2009 VS. 2010

Service	2005 – 2009			2010	
	Applicants	Accession rate within fiscal year	Accession rate overall	Applicants	Accession rate within fiscal year
Army	454,300	49.6	66.6	90,999	40.7
Navy	259,657	33.2	67.1	48,210	22.2
Marines	234,894	42.7	71.6	45,255	26.6
Air Force	182,941	39.3	77.3	35,966	31.4
Total	1,131,792	-	-	220,430	-

Table 2.3 shows the number of applicants for enlisted service by year for 2005-2010 and the associated accession counts and rates within one year and within two years following application. Regulations state that accessions must occur within one year of application, although it is fairly common for applicants to request and to be granted a one-year extension. Due to the lack of full two-year follow-up data for 2009 applicants and one year follow-up for 2010 applicants, the corresponding accession rates were underestimated (see note below Table 2.3). The accession rates within one and two years of application for 2005 were lower than the rates for 2006-2009.

TABLE 2.3 ACCESSIONS WITHIN ONE AND TWO YEARS OF APPLICATION FOR ENLISTED APPLICANTS AT MEPS WHO RECEIVED A MEDICAL EXAMINATION IN 2005-2010

Year of exam	Applicants	No. within 1 year of application	% within 1 year of application	No. within 2 years of application	% within 2 years of application
2005	194,992	113,001	58.0	121,373	62.2
2006	215,540	146,995	68.2	155,092	72.0
2007	209,912	143,223	68.2	152,335	72.6
2008	243,274	163,494	67.2	174,251	71.6
2009	268,074	170,817	63.7	182,399	68.0 [†]
2010	220,430	71,052	32.2 [†]	-	-
Total	1,352,222	808,582	-	785,450	-

[†] The proportion of applicants who accessed was underestimated due to a lack of sufficient follow-up data since only accessions through 2010 are reported in the above table.

Tables 2.4 through 2.8 show demographic characteristics (at time of application) and accession rates for the applicant pools in 2005-2009 and 2010. Most applicants in 2010 were male (81.4%), aged 17-20 years (64.1%), and white (75.0%, excluding applicants who declined to provide their racial status and those with missing records). Most applicants had a high school diploma (61.6%). However, just over one-quarter of applicants in 2010 had not completed high school at the time of application (25.5%); most were in the Delayed Entry Program (DEP) and completed high school prior to accession. This demographic profile is consistent with the demographic profile of the applicants in 2005 through 2009 with the exception of education. Overall, applicants were more educated than in 2005-2009, with the percentage in the “Below HS senior” category decreasing (from 1.5% to 0.3%), and the percentage with at least some college increasing (from 4.1% to 5.1% of applicants). Demographic distributions of accessions largely reflect the applicant population with regard to gender, age, race, and education. Graduation from high school prior to accession among applicants who were high school seniors at the time of application accounts for many of the differences noted among these proportions between applicants and accessions. Additionally, slight differences may be seen between applicants and accessions on other demographic variables, though these differences are likely attributable to random fluctuations that occur from year to year.

TABLE 2.4 GENDER OF ENLISTED APPLICANTS WHO RECEIVED A MEDICAL EXAMINATION IN 2005-2009 VS. 2010

Gender	2005 – 2009				2010			
	Applicants		Accessions		Applicants		Accessions	
	Count	%	Count	%	Count	%	Count	%
Male	926,796	81.9	659,690	83.9	179,376	81.4	58,456	82.3
Female	204,899	18.1	125,842	16.1	40,991	18.6	12,603	17.7
Total [†]	1,131,792	-	786,532	-	220,430	-	71,059	-

[†] Some individuals with a missing value for gender are included in the total.

TABLE 2.5 AGE OF ENLISTED APPLICANTS WHO RECEIVED A MEDICAL EXAMINATION IN 2005-2009 vs. 2010

Age group at MEPS	2005 – 2009				2010			
	Applicants		Accessions		Applicants		Accessions	
	Count	%	Count	%	Count	%	Count	%
17 – 20	754,926	66.7	548,354	69.7	141,404	64.1	45,533	64.1
21 – 25	283,556	25.1	187,811	23.9	58,921	26.7	19,598	27.6
26 – 30	63,957	5.7	36,668	4.7	13,836	6.3	4,184	5.9
> 30	29,353	2.6	13,699	1.7	6,269	2.8	1,744	2.5
Total	1,131,792	-	786,532	-	220,430	-	71,059	-

TABLE 2.6 RACE OF ENLISTED APPLICANTS WHO RECEIVED A MEDICAL EXAMINATION IN 2005-2009 vs. 2010

Race	2005 – 2009				2010			
	Applicants		Accessions		Applicants		Accessions	
	Count	%	Count	%	Count	%	Count	%
White	857,293	77.4	611,243	78.2	161,721	75.0	52,931	74.5
Black	159,497	14.4	109,914	14.1	32,795	15.2	11,288	15.9
Other	90,392	8.2	60,638	7.8	21,224	9.8	6,825	9.6
Missing or declined [†]	24,610	-	4,737	-	4,690	-	15	-
Total	1,131,792	-	786,532	-	220,430	-	71,059	-

[†] Note: New categories for race were available beginning in 2003. However, greater numbers of applicants chose not to indicate their race. Our data do not distinguish between individuals declining to answer and those missing race information for other reasons.

TABLE 2.7 EDUCATION LEVEL OF ENLISTED APPLICANTS WHO RECEIVED A MEDICAL EXAMINATION IN 2005-2009 vs. 2010

Education	2005 – 2009				2010			
	Applicants		Accessions		Applicants		Accessions	
	Count	%	Count	%	Count	%	Count	%
Below HS Senior [†]	16,670	1.5	10,041	1.3	741	0.3	252	0.4
HS Senior	289,012	25.5	203,795	25.9	55,931	25.4	15,579	21.9
HS Diploma	724,677	64.0	517,455	65.8	135,889	61.6	47,887	67.4
Some College	46,403	4.1	32,066	4.1	11,259	5.1	4,095	5.8
Bachelor's and above	55,030	4.9	23,175	2.9	16,610	7.5	3,246	4.6
Total	1,131,792	-	786,532	-	220,430	-	71,059	-

[†] Encompasses the following: 1) those pursuing completion of the GED or other test-based high school equivalency diploma, vocational school, or secondary school, etc; 2) those not attending high school and who are neither a high school graduate nor an alternative high school credential holder; 3) one who is attending high school and is not yet a senior.

Table 2.8 shows the Armed Forces Qualification Test (AFQT) scores by percentile for applicants and accessions, comparing the time period of 2005 through 2009 to 2010. In 2010, the distribution of AFQT scores differed slightly from the distribution of AFQT scores in the previous five years. In 2010, a higher percentage of applicants scored in the 93rd-99th percentile (7.6%) relative to the previous five years (6.0%). In addition, a higher percentage of applicants scored

in the 65th-92nd percentile in 2009 (40.5%) as compared to the previous five years (36.0%). The increases in the percent of applicants scoring in the highest percentiles corresponded to a decrease in the percentage of applicants scoring in the 30th-49th percentile in 2010 (23.8%) relative to the previous five years (29.5%). Note that AFQT is a nationally normalized test, so the score distribution among all applicants would not necessarily mirror the percentile ranges. Applicants scoring in the 1st through 10th percentiles are barred from the medical examination process, therefore, the observed counts most likely reflect data capture errors.

TABLE 2.8 AFQT SCORE CATEGORIES OF ENLISTED APPLICANTS WHO RECEIVED A MEDICAL EXAMINATION IN 2005-2009 vs. 2010

AFQT score	2005 – 2009				2010			
	Applicants		Accessions		Applicants		Accessions	
	Count	%	Count	%	Count	%	Count	%
93 – 99	66,015	6.0	49,096	6.3	16,051	7.6	5,149	7.3
65 – 92	394,456	36.0	292,416	37.4	85,522	40.5	28,682	40.7
50 – 64	282,796	25.7	203,191	26.0	56,661	26.9	18,691	26.5
30 – 49	324,460	29.5	225,982	28.9	50,291	23.8	17,585	25.0
11 – 29 [†]	29,185	2.7	11,441	1.5	2,450	1.2	305	0.4
< 11	389	<0.1	9	<0.1	13	<0.1	0	0.0
Missing	33,491	-	4,397	-	9,442	-	647	-
Total	1,131,792	-	786,532	-	220,430	-	71,059	-

[†] Individuals scoring in the 10 percentile or lower are prohibited from applying, therefore, the observed accessions most likely reflect data capture errors.

The medical qualification status (see Part III, Data Sources) of applicants and accessions in 2010 as compared to applicants in the previous five years is shown in Table 2.9. The percentage of qualified applicants and accessions in 2010 is slightly higher than the overall percentage observed from 2005 to 2010; (82.5%) of applicants and (89.5%) of accessions were classified as medically qualified for enlisted service compared to (79.2%) of applicants and (85.4%) of accessions from 2005 to 2009. The increase in fully qualified applicants in 2010 corresponded with a decrease in the percentage of applicants with temporary disqualifications (5.7%) relative to the previous five years (9.1%); the percentage of permanent disqualifications in 2010 was similar to that observed in the previous five years. Among accessions, the observed increase in fully qualified accessions in 2010 corresponded to a drop in both permanent medically disqualified accessions (6.2%) and temporary medically disqualified accessions (4.3%) relative to the previous five years (7.5% and 7.1% respectively).

TABLE 2.9 MEDICAL DISQUALIFICATION STATUS OF ACTIVE DUTY ENLISTED APPLICANTS WHO RECEIVED A MEDICAL EXAMINATION IN 2005-2009 vs. 2010

Medical status	2005 – 2009				2010			
	Applicants		Accessions		Applicants		Accessions	
	Count	%	Count	%	Count	%	Count	%
Fully qualified	896,771	79.2	671,788	85.4	181,859	82.5	63,631	89.5
Permanent	132,056	11.7	59,255	7.5	26,091	11.8	4,377	6.2
Temporary	102,965	9.1	55,489	7.1	12,480	5.7	3,051	4.3
Total	1,131,792	-	786,532	-	220,430	-	71,059	-

Reserve Applicants and Accessions

Tables 2.10 through 2.17 describe the characteristics of applicants for the enlisted Reserves of the Army, Navy, Marines, and Air Force. Data on Reserve applicants who underwent medical examinations at any MEPS are shown for the period from FY 2005 to FY 2009 in aggregate and separately for FY 2010. These results include only civilians with no prior service applying for the Reserves and do not include direct accessions from Active Duty military. Individuals were counted only once, either in the component and service in which they access, or for applicants, in one service and component applied to on their most recent day of application. Reserve applicants who subsequently accessed as officers (as indicated by a pay grade at gain of MO01-06), were included as applicants, but excluded from accessions.

The within fiscal year accession rate increased in the Army Reserves and remained consistent across the other services in 2010. The within fiscal year accession rate in the Army was 67.1% in 2010, higher than the rate for the Army in 2005-2009 (61.5%). Note that despite dissimilar within fiscal year accession rates, the overall accession rates during 2005-2009 are very similar across services.

TABLE 2.10 ACCESSIONS FOR RESERVE APPLICANTS AT MEPS WHO RECEIVED A MEDICAL EXAMINATION BY SERVICE IN 2005-2009 VS. 2010

Service	2005 – 2009			2010	
	Applicants	Accession rate within fiscal year	Accession rate overall	Applicants	Accession rate within fiscal year
Army	114,761	61.5	69.7	15,160	67.1
Navy	31,138	37.0	57.1	3,581	30.3
Marines	39,032	39.3	64.5	8,466	36.2
Air Force	17,500	50.0	64.0	6,016	51.4
Total	202,431	-	-	33,223	-

Table 2.11 shows the number of applicants for the Reserves by year for 2005-2010 and the associated accession counts and rates within one year and within two years following application. Regulations state that accessions must occur within one year of application, although it is fairly common for applicants to request and to be granted a one-year extension. Due to the lack of full two-year follow-up data for 2009 applicants and one year follow-up for 2010 applicants, the corresponding accession rates were underestimated (see note below Table 2.11). The accession rates within one and two years of application were lower during 2005-2007, with both the accession rate and the number of applicants increasing during 2008-2009.

TABLE 2.11 ACCESSIONS WITHIN ONE AND TWO YEARS OF APPLICATION FOR RESERVE APPLICANTS AT MEPS WHO RECEIVED A MEDICAL EXAMINATION IN 2005-2010

Year of exam	Applicants	No. within 1 year of application	% within 1 year of application	No. within 2 years of application	% within 2 years of application
2005	34,889	21,647	62.0	22,600	64.8
2006	38,582	23,070	59.8	23,991	62.2
2007	37,841	22,773	60.2	23,612	62.4
2008	44,011	30,021	68.2	30,961	70.3
2009	47,108	31,783	67.5	32,421	68.8 [†]
2010	33,223	17,404	52.4 [†]	-	-
Total	235,654	96,162	-	88,381	-

[†] The proportion of applicants who accessed was underestimated due to a lack of sufficient follow-up data since only accessions through 2010 are reported in the above table.

Tables 2.12 through 2.16 describe the demographics of Reserve applicants at MEPS. Most Reserve applicants in 2010 were male (77.1%), between the ages of 17 and 20 (61.2%), and white (73.1%, excluding applicants who declined to provide their racial status and those with missing records). The demographic profile of Reserve applicants in 2010 was consistent with that observed, in aggregate, over the past five years, and similar to the demographic profile of Reserve accessions over the same time periods. It should also be noted that the proportion of Reserve applicants in 2010 who were classified as having an education beyond high school nearly doubled in 2010 relative to the previous five years; both in the category 'some college' (2.6% versus 1.6% in 2005-2009) and the category 'Bachelor's or higher' (5.1% versus 3.6% in 2005-2009). This was also reflected in an increasing percentage of these educational categories among Reserve accessions.

TABLE 2.12 GENDER OF RESERVE APPLICANTS AT MEPS WHO RECEIVED A MEDICAL EXAMINATION IN 2005-2009 vs. 2010

Gender	2005 – 2009				2010			
	Applicants		Accessions		Applicants		Accessions	
	Count	%	Count	%	Count	%	Count	%
Male	153,137	75.6	102,309	76.3	25,601	77.1	13,318	76.5
Female	49,276	24.3	31,783	23.7	7,608	22.9	4,086	23.5
Total [†]	202,431	-	134,093	-	33,233	-	17,404	-

[†] Some individuals with a missing value for gender are included in the total.

TABLE 2.13 AGE OF RESERVE APPLICANTS AT MEPS WHO RECEIVED A MEDICAL EXAMINATION IN 2005-2009 vs. 2010

Age group at MEPS	2005 – 2009				2010			
	Applicants		Accessions		Applicants		Accessions	
	Count	%	Count	%	Count	%	Count	%
17 – 20	133,349	65.9	91,866	68.5	20,348	61.2	11,053	63.5
21 – 25	43,011	21.2	27,391	20.4	8,149	24.5	4,173	24.0
26 – 30	13,765	6.8	8,104	6.0	2,784	8.4	1,314	7.6
> 30	12,306	6.1	6,732	5.0	1,942	5.8	864	5.0
Total	202,431	-	134,093	-	33,233	-	17,404	-

TABLE 2.14 RACE OF RESERVE APPLICANTS AT MEPS WHO RECEIVED A MEDICAL EXAMINATION IN 2005-2009 vs. 2009

Race	2005 – 2009				2010			
	Applicants		Accessions		Applicants		Accessions	
	Count	%	Count	%	Count	%	Count	%
White	149,745	76.0	104,465	78.1	23,938	73.1	12,996	74.7
Black	33,665	17.1	21,128	15.8	6,278	19.2	3,230	18.6
Other	13,499	6.9	8,226	6.1	2,510	7.7	1,175	6.8
Missing or declined [†]	5,522	-	274	-	497	-	3	-
Total	202,431	-	134,093	-	33,223	-	17,404	-

[†] Note: New categories for race were available beginning in 2003. However, greater numbers of applicants chose not to indicate their race. Our data do not distinguish between individuals declining to answer and those missing race information for other reasons.

TABLE 2.15 EDUCATION LEVEL OF RESERVE APPLICANTS AT MEPS WHO RECEIVED A MEDICAL EXAMINATION IN 2005-2009 vs. 2010

Education	2005 – 2009				2010			
	Applicants		Accessions		Applicants		Accessions	
	Count	%	Count	%	Count	%	Count	%
Below HS Senior [†]	3,196	1.6	2,091	1.6	115	0.3	48	0.3
HS Senior	58,225	28.8	30,384	23.0	7,611	22.9	3,493	20.1
HS Diploma	122,684	60.6	86,984	64.9	20,749	62.5	10,965	63.0
Some College	10,202	5.0	9,157	6.8	2,676	8.1	1,885	10.8
Bachelor's and above	8,124	4.0	5,027	3.7	2,072	6.2	1,013	5.8
Total	202,431	-	134,093	-	33,223	-	17,404	-

[†] Encompasses the following: 1) those pursuing completion of the GED or other test-based high school equivalency diploma, vocational school, or secondary school, etc; 2) those not attending high school and who are neither a high school graduate nor an alternative high school credential holder; 3) one who is attending high school and is not yet a senior.

Table 2.16 shows the distribution of AFQT scores among enlisted Reserve applicants at MEPS. AFQT percentile scores in 2010 were somewhat higher than those observed in prior years. Most Reserve applicants in 2010 scored in the 65th to 92nd percentile (39.3%), as compared with only 34.0% of applicants scoring in this range in 2005-2009. There was a corresponding decrease in the percent of Reserve applicants who scored in the 30th to 49th percentile in 2010 (25.5%) relative to the previous five years (31.2%). Reserve accessions in both periods had an AFQT score distribution similar to that among applicants.

TABLE 2.16 AFQT SCORE CATEGORIES OF RESERVE APPLICANTS AT MEPS WHO RECEIVED A MEDICAL EXAMINATION IN 2005-2009 VS. 2010

AFQT score	2005 – 2009				2010			
	Applicants		Accessions		Applicants		Accessions	
	Count	%	Count	%	Count	%	Count	%
93 – 99	11,903	5.9	8,007	6.0	2,344	7.1	1,215	7.0
65 – 92	68,573	34.0	47,400	35.4	12,947	39.3	7,062	40.6
50 – 64	50,232	24.9	34,275	25.6	8,537	25.9	4,641	26.7
30 – 49	62,886	31.2	41,633	31.1	8,413	25.5	4,292	24.7
11 – 29 [†]	7,297	3.6	2,482	1.9	733	2.2	175	1.0
< 11	691	0.3	199	0.1	6	<0.1	0	0.0
Missing	849	-	97	-	243	-	19	-
Total	202,431	-	134,093	-	33,223	-	17,404	-

[†] Individuals scoring in the 10th percentile or lower are prohibited from applying, therefore, the observed accessions most likely reflect data capture errors.

The medical qualification status (for definition, see Part III) of the applicants for enlisted reserve is shown in Table 2.17. Distribution of applicants among the three qualification status categories were nearly the same in 2010 as found in aggregate for the previous five years. In 2010 (82.4%) of applicants were considered as fully medically qualified, higher than the percent of applicants who were fully qualified in the previous five years (77.5%); this increase corresponded to a decrease in the percent of applicants who were temporarily disqualified in 2010 (6.2%) relative to the previous five years (9.8%). This change in the distribution of applicants resulted in a significant decrease in the proportion of accessions with a medical disqualification in 2010.

TABLE 2.17 MEDICAL DISQUALIFICATION STATUS OF RESERVE APPLICANTS AT MEPS WHO RECEIVED A MEDICAL EXAMINATION IN 2005-2009 VS. 2010

Medical status	2005 – 2009				2010			
	Applicants		Accessions		Applicants		Accessions	
	Count	%	Count	%	Count	%	Count	%
Fully qualified	156,833	77.5	113,189	84.4	27,386	82.4	15,632	89.8
Permanent	25,797	12.7	10,693	8.0	3,777	11.4	983	5.6
Temporary	19,801	9.8	10,211	7.6	2,060	6.2	789	4.5
Total	202,431	-	134,093	-	33,223	-	17,404	-

Army and Air National Guard Applicants at MEPS with Accession Records

Tables 2.18 through 2.25 describe the characteristics of applicants in the enlisted National Guard of the Army and Air Force. The Navy and Marines do not have a National Guard component. Data on National Guard applicants who received a medical examination at MEPS are shown for the period from FY 2005 through FY 2009 (in aggregate) and separately for FY 2010. These results include only civilians with no prior service applying for the Reserves and do not include direct accessions from Active Duty military. Individuals were counted only once, either in the component and service in which they access, or for applicants, in one service and component applied to on their most recent day of application. National Guard applicants who subsequently accessed as officers (as indicated by a pay grade at gain of MO01-06), were included as applicants, but excluded from accessions.

The within fiscal year accession rate in 2010 decreased in the Air National Guard, while remaining consistent in the Army National Guard, as shown in Table 2.18. The within fiscal year accession rate in the Air National Guard was (49.9%) in 2010, lower than the within fiscal year accession rate in 2005-2009 (62.1%). Note that despite dissimilar within fiscal year accession rates for the Air National Guard as compared to the Army, the overall accession rates in the two services for 2005-2009 are very similar.

TABLE 2.18 ACCESSIONS FOR ARMY AND AIR NATIONAL GUARD APPLICANTS AT MEPS WHO RECEIVED A MEDICAL EXAMINATION BY SERVICE IN 2005-2009 vs. 2010

Service	2005 – 2009			2010	
	Applicants	Accession rate within fiscal year	Accession rate overall	Applicants	Accession rate within fiscal year
Army	241,167	71.2	76.6	47,942	71.0
Air Force	28,265	62.1	71.8	6,011	49.9
Total	269,432	-	-	53,953	-

Table 2.19 shows the number of applicants for the Reserves by year for 2005-2010 and the associated accession counts and rates within one year and within two years following application. Regulations state that accessions must occur within one year of application, although it is fairly common for applicants to request and to be granted a one-year extension. Due to the lack of full two-year follow-up data for 2009 applicants and one year follow-up for 2010 applicants, the corresponding accession rates were underestimated (see note below Table 2.19). The accession rates within one and two years of application were very similar throughout the period 2005-2010, with the highest number of National Guard applicants in 2008.

TABLE 2.19 ACCESSIONS WITHIN ONE AND TWO YEARS OF APPLICATION FOR RESERVE APPLICANTS AT MEPS WHO RECEIVED A MEDICAL EXAMINATION IN 2005-2010

Year of exam	Applicants	No. within 1 year of application	% within 1 year of application	No. within 2 years of application	% within 2 years of application
2005	37,849	27,834	73.5	28,502	75.3
2006	55,514	42,381	76.3	43,218	77.9
2007	55,399	41,685	75.2	42,474	76.7
2008	62,386	46,979	75.3	47,761	76.6
2009	58,284	41,977	72.0	42,598	73.1 [†]
2010	53,953	37,062	30.3 [†]	-	-
Total	323,385	237,918	-	204,554	-

[†] The proportion of applicants who accessed was underestimated due to a lack of sufficient follow-up data since only accessions through 2010 are reported in the above table.

Tables 2.20 through 2.24 describe the demographics of National Guard applicants for the year 2010 relative to the aggregate demographic characteristics of applicants between 2005 and 2009. In 2010, most applicants were male (79.6%), aged 17-20 (61.7%), and white (81.4%, excluding applicants who declined to provide their racial status and those with missing records), whose highest attained education (at application) was a high school diploma (61.7%). The gender and race for Army and Air National Guard applicants in 2010 was similar with that observed, in aggregate, over the previous five years. However, in 2010 a higher percentage of applicants to National Guard were older than 20, and slightly more had education beyond college relative to the previous five year period.

TABLE 2.20 GENDER OF ARMY AND AIR NATIONAL GUARD APPLICANTS AT MEPS WHO RECEIVED A MEDICAL EXAMINATION IN 2005-2009 VS. 2010

Gender	2005 – 2009				2010			
	Applicants		Accessions		Applicants		Accessions	
	Count	%	Count	%	Count	%	Count	%
Male	211,176	78.4	162,006	79.1	42,973	79.6	29,844	80.5
Female	58,217	21.6	42,909	20.9	10,970	20.3	7,218	19.5
Total [†]	269,432	-	204,915	-	53,953	-	37,062	-

[†] Some individuals with a missing value for gender are included in the total.

TABLE 2.21 AGE OF ARMY AND AIR NATIONAL GUARD APPLICANTS AT MEPS WHO RECEIVED A MEDICAL EXAMINATION IN 2005-2009 VS. 2010

Age group at MEPS	2005 – 2009				2010			
	Applicants		Accessions		Applicants		Accessions	
	Count	%	Count	%	Count	%	Count	%
17 – 20	175,636	65.2	138,042	67.4	33,267	61.7	24,010	64.8
21 – 25	60,063	22.3	43,718	21.3	11,870	24.9	8,753	23.6
26 – 30	19,268	7.2	13,573	6.6	4,355	8.1	2,692	7.3
> 30	14,464	5.4	9,581	4.7	2,897	5.4	1,607	4.3
Total [†]	269,432	-	204,915	-	53,953	-	37,062	-

[†] One individual with an age under 17 was included in the total.

TABLE 2.22 RACE OF ARMY AND AIR NATIONAL GUARD APPLICANTS AT MEPS WHO RECEIVED A MEDICAL EXAMINATION IN 2005-2009 VS. 2010

Race	2005 – 2009				2010			
	Applicants		Accessions		Applicants		Accessions	
	Count	%	Count	%	Count	%	Count	%
White	218,362	83.6	173,802	85.1	43,223	81.4	30,533	82.5
Black	33,329	12.8	24,106	11.8	7,740	14.6	5,198	14.0
Other	9,523	3.6	6,331	3.1	2,126	4.0	1,286	3.5
Missing or declined [†]	8,218	-	676	-	864	-	45	-
Total	269,432	-	204,915	-	53,953	-	37,062	-

[†] New categories for race were available beginning in 2003. However, greater numbers of applicants chose not to indicate their race. Our data do not distinguish between individuals declining to answer and those missing race information for other reasons.

TABLE 2.23 EDUCATION LEVEL OF ARMY AND AIR NATIONAL GUARD APPLICANTS AT MEPS WHO RECEIVED A MEDICAL EXAMINATION IN 2005-2009 VS. 2010

Education	2005 – 2009				2010			
	Applicants		Accessions		Applicants		Accessions	
	Count	%	Count	%	Count	%	Count	%
Below HS Senior [†]	15,489	5.7	11,201	5.5	4,286	7.9	2,538	6.8
HS Senior	76,574	28.4	54,438	26.6	11,071	20.5	7,490	20.2
HS Diploma	158,525	58.8	123,119	60.1	33,280	61.7	22,896	61.8
Some College	10,843	4.0	10,337	5.0	2,730	5.1	2,409	6.5
Bachelor's and above	8,001	3.0	5,820	2.8	2,586	4.8	1,729	4.7
Total	269,432	-	204,915	-	53,953	-	37,062	-

[†] Encompasses the following: 1) those pursuing completion of the GED or other test-based high school equivalency diploma, vocational school, or secondary school, etc; 2) those not attending high school and who are neither a high school graduate nor an alternative high school credential holder; 3) one who is attending high school and is not yet a senior.

Table 2.24 shows the distribution of AFQT scores among Army and Air National Guard enlistee applicants. In 2010, the observed percentage of applicants with AFQT scores at or above the 50th percentile (65.6%) was higher than in the previous five year period (59.7%).

TABLE 2.24 AFQT SCORE CATEGORIES OF ARMY AND AIR NATIONAL GUARD APPLICANTS AT MEPS WHO RECEIVED A MEDICAL EXAMINATION IN 2005-2009 VS. 2010

AFQT score	2005 – 2009				2010			
	Applicants		Accessions		Applicants		Accessions	
	Count	%	Count	%	Count	%	Count	%
93 – 99	12,832	4.8	10,245	5.0	3,228	6.0	2,322	6.3
65 – 92	82,372	30.7	66,681	32.6	18,414	34.3	13,434	36.3
50 – 64	65,151	24.3	52,048	25.4	13,581	25.3	9,748	26.3
30 – 49	93,092	34.7	71,131	34.7	16,706	31.1	11,261	30.4
11 – 29 [†]	14,886	5.5	4,642	2.3	1,738	3.2	267	0.7
< 11	201	0.1	40	<0.1	6	<0.1	0	0.0
Missing	898	-	128	-	280	-	30	-
Total	269,432	-	204,915	-	53,953	-	37,062	-

[†] Individuals scoring in the 10th percentile or lower are prohibited from applying, therefore, the observed accessions most likely reflect data capture errors.

The medical qualification status (for definition, see Part III, Data Sources) of National Guard applicants is shown in Table 2.25 for the year 2010 and the years 2005 through 2009. Most applicants in 2010 were classified as medically qualified (77.3%); the percentage was slightly increased from (71.7%) for the previous five years. In 2010, of those who were disqualified based on a medical condition, the proportion of applicants with a permanent disqualification was (12.6%) and temporary disqualification was (10.1%). The increase in medically qualified applicants in 2010 resulted in an increase in medically qualified Army and Air National Guard accessions to 87.4% from 80.7% during the prior five year period.

TABLE 2.25 MEDICAL DISQUALIFICATION STATUS OF ARMY AND AIR NATIONAL GUARD APPLICANTS AT MEPS WHO RECEIVED A MEDICAL EXAMINATION IN 2005-2009 VS. 2010

Medical status	2005 – 2009				2010			
	Applicants		Accessions		Applicants		Accessions	
	Count	%	Count	%	Count	%	Count	%
Fully qualified	193,085	71.7	165,422	80.7	41,715	77.3		
Permanent	38,789	14.4	16,608	8.1	6,814	12.6		
Temporary	37,553	13.9	22,885	11.2	5,424	10.1		
Total	202,431	-	116,142	-	33,223	-	17,408	-

Medical Disqualifications among Applicants for First-Time Active Duty Enlisted Service

Table 2.26 shows the medical disqualifications among applicants for Active Duty enlisted service during the period between FY 2005 and FY 2009, and separately for FY 2010 according to the ICD-9 code assigned to each disqualifying condition. Within this table, the number of disqualifications for a given condition is provided along with the percentage of disqualified individuals receiving the disqualification and the prevalence of the disqualification among all MEPS applicants. These conditions are ranked according to the number of disqualifications in 2010. Some disqualified individuals have more than one disqualifying medical condition; therefore the number of disqualifications is greater than the number of disqualified individuals. As previously mentioned, some codes¹ are summarized at the 4th digit to help maintain a comparable level of coding specificity across the ICD-9 categories².

The most frequent disqualifying condition in 2010 was exceeding the weight/body fat limits, a temporary disqualification which can be remedied. Despite remaining the most common disqualifying condition, exceeding the weight/body fat limits accounted for a notably smaller proportion of disqualifications in 2010 applicants (12.5%) as compared to applicants in the previous five years (22.6%). The prevalence of disqualifications for obesity/overweight (exceeding weight/body fat limits) is significantly lower in 2010 (2,097 per 100,000 applicants) as compared to applicants in the previous five years (4,640 per 100,000 applicants). The next most common conditions were disorders of refraction and accommodation, a permanent condition, (9.0% of disqualifications). Nondependent abuse of *Cannabis*, formerly the second most common medical disqualification observed, was the third most common disqualification in 2010 accounting for 5.4% of disqualifications, down from (10.5%) in 2005 through 2009. The prevalence of disqualifications for *Cannabis* abuse per 100,000 MEPS applicants decreased by over 50% in 2010, from 2,162 per 100,000 applicants in 2005-2009 to 901 per 100,000 in 2010. (As a result of similar decrease in prevalence, abuse of other drugs including cocaine and amphetamines were removed from the top 20 this year.) The proportion of disqualifications for hearing deficiency, the fourth most common disqualification, is 4.8%, consistent with the previous five year period; this is the second most common condition which is considered permanently disqualifying. Abnormal loss of weight represented the fifth leading cause for medical disqualification in 2010 (4.2%); the prevalence of this condition increased slightly over the previous five year period, to 695 cases per 100,000 applicants from 582 per 100,000 applicants.

¹ Selected ICD-9 codes are summarized in Table 2.1.

² For a variety of reasons including data extraction and entry, some codes belonging to the groups outlined in Table 2.1 may not have a fourth digit. When summarized, these three-digit codes are a distinct category from related four-digit categories. See page 17 paragraph 3.

TABLE 2.26 MEDICAL DISQUALIFICATIONS CATEGORIES OF FIRST-TIME ACTIVE DUTY ENLISTED APPLICANTS BY ALL ICD-9 CODES IN 2005–2009 VS. 2010

Group (ICD-9)	Condition [†]	2005-2009			2010		
		n	% of DQ apps [‡]	n / 100k apps [§]	n	% of DQ apps [‡]	n / 100k apps [§]
278	Obesity and other hyperalimentation	52,511	22.6	4,640	4,623	12.5	2,097
367	Disorders of refraction and accomodation	12,552	5.4	1,109	3,307	9.0	1,500
305.2	Nondependent Cannabis abuse	24,472	10.5	2,162	1,987	5.4	901
389	Hearing deficiency	11,242	4.8	993	1,771	4.8	803
783.2	Abnormal loss of weight	6,588	2.8	582	1,532	4.2	695
493	Asthma	8,429	3.6	745	1,345	3.6	610
300	Anxiety, dissociative, and somatoform disorders	5,248	2.3	464	1,141	3.1	518
995	Certain adverse effects not elsewhere classified	2,962	1.3	262	1,010	2.7	458
314	Hyperkinetic syndrome of childhood	3,669	1.6	324	872	2.4	396
796.2	Elevated blood pressure reading without a diagnosis of hypertension	4,587	2.0	405	801	2.2	363
791	Proteinuria	2,675	1.2	236	732	2.0	332
692	Contact dermatitis and other eczema	3,034	1.3	268	648	1.8	294
796	Nonspecific abnormal findings	3,906	1.7	345	451	1.2	205
717	Internal derangement of knee	1,901	0.8	168	424	1.2	192
311	Depression, not elsewhere classified	2,273	1.0	201	415	1.1	188
V22.2	Pregnancy	2,700	1.2	239	409	1.1	186
401	Hypertension	3,946	1.7	349	405	1.1	184
550	Inguinal hernia	2,330	1.0	206	402	1.1	182
312	Disturbance of conduct, not elsewhere classified	967	0.4	85	381	1.0	173
737	Deviation and curvature of spine	1,978	0.9	175	377	1.0	171
N/A	Individuals with one or more conditions not specified above*	123,441	53.1	10,907	19,090	51.8	8,660
	Total applicants at MEPS	1,131,792			220,430		
	Total of disqualified applicants	232,488			36,869		

[†] Condition categories (ICD-9 groups) are not mutually exclusive. The code 'V69.5' and the OMF code 15, which indicate participation in delayed entry program (DEP), were not included as a disqualification for purposes of this listing.

[‡] Indicates the percentage of medically disqualified MEPS applicants for the specified condition.

[§] Indicates the number of individuals with the specified condition for every 100,000 applicants screened at MEPS.

* Includes disqualified individuals with only OMF conditions.

Table 2.27 shows the medical disqualifications among applicants for Active Duty enlisted service during 2005 and 2009, and separately for 2010 according to Objective Medical Findings (OMF) codes provided by US Military Entrance Processing Command (USMEPCOM). These conditions are ranked according to the number of disqualifications in 2010. Some disqualified individuals have more than one disqualifying medical condition; therefore, the number of disqualifications is greater than the number of individuals disqualified.

As was observed in the more specific categorization presented in Table 2.26, body composition and drug use are among the leading categories for disqualification; these are generally considered temporary disqualifying conditions that can be remediated by the applicant without need for an accession medical waiver. Both of these general disqualification categories show a decrease in incidence in 2010 similar to that observed in the ICD-9 codes in Table 2.9. Psychiatric conditions, disorders of refraction, conditions of the lungs and chest, and allergies are generally classed as permanent disqualifications requiring an accession medical waiver (See “Waivers”).

TABLE 2.27 MEDICAL DISQUALIFICATIONS OF FIRST-TIME ACTIVE DUTY ENLISTED APPLICANTS BY ALL LISTED USMEPCOM FAILURE CODES IN 2005 – 2009 vs. 2010

Group (OMF)	Condition [†]	2005-2009			2010		
		n	% of DQ apps [‡]	n / 100k apps [§]	n	% of DQ apps [‡]	n / 100k apps [§]
54	Weight, body build	60,991	26.2	5,389	6,326	17.2	2,870
40	Psychiatric	19,348	8.3	1,710	4,337	11.8	1,968
62	Refraction	11,437	4.9	1,011	2,988	8.1	1,356
28	Lungs and chest (includes breasts)	12,600	5.4	1,113	2,509	6.8	1,138
38	Skin, lymphatic, allergies	12,989	5.6	1,148	2,501	6.8	1,135
34	Lower extremities (except feet)	14,097	6.1	1,246	2,137	5.8	969
50	Drugs	23,861	10.3	2,108	1,875	5.1	851
33	Upper extremities	10,907	4.7	964	1,795	4.9	814
71	Audiometer (hearing)	11,339	4.9	1,002	1,716	4.7	778
31	Abdomen and viscera (include hernia)	8,128	3.5	718	1,613	4.4	732
32	External genitalia (genitourinary)	7,077	3.0	625	1,434	3.9	651
58	Blood pressure	8,281	3.6	732	1,160	3.1	526
23	Eyes – general (visual acuity and refraction)	5,369	2.3	474	1,066	2.9	484
27	Heart	4,874	2.1	431	990	2.7	449
39	Neurologic	4,775	2.1	422	920	2.5	417
36	Spine, other musculoskeletal	4,875	2.1	431	833	2.3	378
35	Feet	5,666	2.4	501	823	2.2	373
45A	Proteinuria	2,423	1.0	214	635	1.7	288
42	Endocrine	2,677	1.2	237	605	1.6	274
46	Positive urine test for pregnancy	3,685	1.6	326	555	1.5	252
N/A	Individual with one or more conditions not specified above*	53,962	23.2	4,768	6,780	18.4	3,076
	Total Apps at MEPS	1,131,792			220,430		
	Total disqualified applicants	232,488			36,869		

[†] Condition categories (ICD-9 groups) are not mutually exclusive. The code 'V69.5' and the OMF code 15, which indicate participation in delayed entry program (DEP), were not included as a disqualification for purposes of this listing.

[‡] Indicates the percentage of medically disqualified MEPS applicants for the specified condition.

[§] Indicates the number of individuals with the specified condition for every 100,000 applicants screened at MEPS

* Includes disqualified individuals with only ICD-9 conditions.

Accession Medical Waivers

Applicants who receive a permanent medical disqualification at the MEPS may be granted an accession medical waiver for the disqualifying condition(s) from a service-specific waiver authority. This section summarizes the numbers of waiver considerations from 2005 to 2010. Part I examines all waiver considerations for first time enlisted waiver applicants, regardless of whether or not there is a corresponding Defense Manpower Data Center (DMDC) accession record. Waiver applicants are included without regard for component; the waiver authorities' review procedures are consistent across Active Duty, Reserve, and National Guard applicants. Some waiver applicants with prior military service but no prior approved medical waiver may also be included in Part I. Individuals applying to multiple waiver authorities may appear more than once in Part I. Thus, this section addresses the spectrum of waiver applications seen by the waiver authorities, with the exception of officer candidates. In addition, the waiver conditions most frequently applied for and the most frequently waived common waiver conditions associated with each service's enlisted waiver applicants are shown. Part II examines only those approved waiver records from Part I for which there is a matching Active Duty accessions record in the DMDC data, and the individual has no prior service as defined elsewhere in this report. This section describes the demographic characteristics of Active Duty waiver applicants and accessions. Note that in both Part I and II, the large apparent decrease in 2010 Marine waivers is associated with missing waiver records, dated January through April 2010, and not received by AMSARA.

Part I: Medical waivers irrespective of an accession record

Table 2.28 shows the raw count of individual waiver considerations and approval percentages by branch of service and year of waiver decision in 2005 through 2010. Individuals approved for a waiver prior to 2005 were excluded from the counts for that service. Multiple considerations by the same authority most frequently reflect resubmissions for the same condition, perhaps with additional information; multiple waiver records are counted in each year and each service in which they were considered. Approval percentages represent the proportion of the total waivers considered by each service that year, listed in the table as "Count", who had a waiver consideration approved in that service by 2010. The number of waivers considered by the Army and Air Force waiver authorities was generally increasing, with peak numbers of waivers considered in 2009 for both services. The number of waivers considered by the Navy and Marines was relatively consistent. Army waiver approval rates sharply increased in 2007 and have remained higher; Air Force approval rates also increased, from 52.5% in 2007 to 68.5% in 2009. Navy waiver approval rates dropped from a high of 73.1% in 2006 to 58.3% in 2009. The within-service approval rate for the Marines has been relatively consistent through the years examined.

TABLE 2.28 ALL COMPONENT WAIVER CONSIDERATIONS BY YEAR AND SERVICE

Year	Army		Navy		Marines		Air Force	
	Count	% Approved	Count	% Approved	Count	% Approved	Count	% Approved
2005	13,423	49.5	5,489	68.4	4,809	54.0	1,541	52.1
2006	15,176	49.9	6,179	73.1	5,680	49.0	2,390	51.2
2007	14,375	63.6	5,936	71.6	6,508	50.4	1,988	52.5
2008	17,805	69.7	6,107	57.2	7,006	46.1	2,543	60.2
2009	17,474	65.9	6,118	58.3	6,299	43.8	3,409	68.5
2010	14,878	58.4	5,440	53.5	3,388*	44.7	3,087	67.6
Total	93,131	-	35,269	-	33,690**	-	14,958	-

*Applicants may be counted more than once per year and in multiple services

** Value undercounted due to missing Marine waiver records from Q2 2010.

Table 2.29 describes all waiver considerations by service, including the number of considerations per individual, and the frequency with which applicants have multiple conditions. Marine waiver applicants had a higher frequency of waiver reconsiderations as compared to the other services, and a greater likelihood of having sought a waiver for multiple conditions over the 2005 to 2010 period. The Navy had the highest rate of missing conditions, with the majority in 2005-2006, presumably as a result of the coding changes being made at that time.

TABLE 2.29 ALL COMPONENT WAIVER CONSIDERATION COUNTS*: 2005-2010

Data source	Army Count	Navy Count	Marines** Count	Air Force Count
All waiver considerations	93,131	35,269	33,690	14,958
Individuals***	84,425	34,240	24,291	14,958
Average number of considerations per applicant	1.10	1.03	1.39	1.00
Applicants with a single condition	70,349 (83.3%)	24,859 (72.6%)	18,733 (77.1%)	12,343 (82.5%)
Applicants with multiple conditions	12,510 (14.8%)	4,445 (13.0%)	5,396 (22.2%)	2,258 (15.1%)
Applicants with missing conditions	1,566 (1.9%)	4,936 (14.4%)	162 (0.7%)	357 (2.4%)

* Applicants can be counted in multiple services.

** Value undercounted due to missing Marine waiver records from Q2 2010.

*** Individuals with approved waiver records prior to 2005 are excluded from the table.

Tables 2.30 through 2.33 show the medical conditions for which waivers were most frequently applied for in 2005-2010, and the approval rate for individuals with these conditions, for each branch of service. Waiver considerations from the years 2005 to 2009 are shown in aggregate to facilitate the comparison of waivers in 2010 to previous years. Medical condition categories for the Army and Air Force were created using ICD-9 code(s) assigned to each waiver record. Navy (2005 and prior) and Marine Corps waiver authorities employ a limited subset of the ICD-9 classification scheme, which is defined in DoDI 6130.3. In 2006 and later, code usage by the Navy waiver authority indicates the use of a hybrid system between DoDI 6130.3 and DoDI 6130.4. Condition codes such as PQ (physically qualified) and INCOM (incomplete exam or record) were eliminated as they do not represent a true diagnosis.

Enlisted medical accession waiver considerations and approvals for the Army are shown in Table 2.30. Disorders of refraction and accommodation overtook hearing loss as the most common medical disqualification for which waivers were sought in 2010, accounting for (10.3%) of waivers sought. Hearing loss, previously the most common condition for which accession medical waivers were sought, was the second most common condition in 2010, representing (7.9%) of waivers, a decrease from 9.8% of all waivers during the previous five year period. The next most common conditions, disorders of lipid metabolism and anxiety disorders, both show a notable increase in 2010. Consistent with previous observations suggesting that disqualifications for asthma at MEPS have decreased, possibly as a result of relaxed accession standards for asthma in June 2004, only (4.0%) of waiver applicants sought a waiver for this condition in 2010 as compared to (4.1%) in the preceding five year period.

TABLE 2.30 TOP CONDITIONS FOR ENLISTED ACCESSION WAIVERS CONSIDERED IN 2005–2009 VS. 2010: ARMY

ICD-9	Condition [†]	2005-2009				2010			
		Applied		Approved		Applied		Approved	
		Count	% of all apps [‡]	Count	% of apprvd apps [§]	Count	% of all apps [‡]	Count	% of apprvd apps [§]
367	Disorders of refraction and accommodation	5,554	8.0	4,380	9.6	1,507	10.3	1,228	14.4
389	Hearing loss, unspecified	6,826	9.8	3,205	7.0	1,156	7.9	466	5.5
272	Disorders of lipid metabolism	3,439	4.9	3,162	6.9	895	6.1	725	8.5
300	Anxiety, dissociative and somatoform disorders	2,466	3.5	1,088	2.4	661	4.5	108	1.3
493	Asthma	2,848	4.1	1,242	2.7	580	4.0	213	2.5
796.2	Elevated blood pressure	3,287	4.7	3,222	7.0	541	3.7	493	5.8
995 ^{††}	Certain adverse effects not elsewhere classified	1,406	2.0	1,154	2.5	526	3.6	406	4.8
314	Attention Deficit Disorder/ADHD	1,042	1.5	671	1.5	310	2.1	164	1.9
312	Conduct Disorders	689	1.0	363	0.8	303	2.1	119	1.4
733.9	Open reduction of internal fixation/retained hardware	2,634	3.8	2,279	5.0	290	2.0	216	2.5
305	Nondependent drug abuse, unspecified	955	1.4	478	1.0	289	2.0	115	1.3
717	Chondromalacia of patella	1,033	1.5	608	1.3	287	2.0	149	1.7
692	Contact dermatitis and other eczema	1,046	1.5	835	1.8	280	1.9	197	2.3
790	Nonspecific findings on examination of blood	806	1.2	714	1.6	233	1.6	181	2.1
311	Depression, not otherwise specified	924	1.3	427	0.9	227	1.6	32	0.4
719.4	Pain in joint	1,032	1.5	519	1.1	212	1.5	79	0.9
301	Personality disorders	751	1.1	285	0.6	199	1.4	26	0.3
429	Heart disease, complications	547	0.8	459	1.0	198	1.4	144	1.7
521	Diseases of hard tissue of teeth	1,162	1.7	933	2.0	186	1.3	116	1.4
831	Dislocation of shoulder	666	1.0	503	1.1	186	1.3	138	1.6
N/A	Individuals with one or more conditions not specified above	31,807	45.6	19,686	42.9	6,381	43.6	3,525	41.4
	Total applicants*	69,806				14,619			
	Total decisions rendered ^{††}	69,806				14,619			
	Total of approved applicants*	45,841 (65.7%)				8,521 (58.3%)			

[†] Condition categories (ICD-9 groups) are not mutually exclusive.

[‡] Indicates the percentage of waiver applicants for the specified condition category, among total waivers considered.

[§] Indicates the percentage of approved waiver applicants for the specified condition category, among total approved waivers.

^{††} Waiver applications for which a decision (granted vs. denied) is not known are not included in this total.

^{‡‡} Codes in this category typically include unspecified allergies and anaphylactic shock.

* This category includes waiver applicants with missing condition values.

Enlisted medical accession waiver considerations and approvals for the Navy are shown in Table 2.31. Conditions in 2005 are coded according to the DoDI 6130.3 whereas a hybrid of the DoDI 6130.3 and DoDI 6130.4 appears to be in use after 2005. Therefore, data for 2005 are not presented; only data for 2006-2009 compared to 2010 are tabulated. In 2010, the most commonly sought waivers were for disorders of refraction and accommodation (13.2%), hearing loss (6.3%), asthma (4.7%), anaphylactic shock (3.7%), and elevated blood pressure (2.9%). This represents a significant increase in waivers sought for disorders of refraction and accommodation, from 9.3% of all applicants in 2006-2009 to 13.2% in 2010; and anaphylactic shock, from 1.7% of previous year applicants to 3.7% in 2010. However, 2010 saw a decrease in the proportion of waivers sought for elevated blood pressure, from 4.3% of applicants to 2.9%. Among other conditions Navy waiver applicants sought waivers for, there was a notable increase in waivers for suicide and self-inflicted injuries in 2010 (2.7% of all applicants as compared to 1.5% of applicants in 2006 through 2009), and a slight increase in the prevalence of depression waivers sought (to 2.2%, from 1.9%).

TABLE 2.31 TOP CONDITIONS FOR ENLISTED ACCESSION WAIVERS CONSIDERED IN 2006-2009 vs. 2010: NAVY

DoDI	Condition [†]	2006-2009 [‡]				2010			
		Applied		Approved		Applied		Approved	
		Count	% of all apps [§]	Count	% of apprvd apps ^{††}	Count	% of all apps [§]	Count	% of apprvd apps ^{††}
367	Disorders of refraction and accommodation	2,178	9.3	1,422	9.3	696	13.2	405	14.5
389	Hearing loss, unspecified	1,511	6.4	632	4.1	334	6.3	55	2.0
493	Asthma	1,237	5.3	822	5.4	250	4.7	152	5.4
995.0	Other anaphylactic shock	404	1.7	330	2.2	194	3.7	151	5.4
796.2	Elevated blood pressure	1,012	4.3	790	5.2	153	2.9	94	3.4
314	Attention Deficit Disorder/ADHD	548	2.3	400	2.6	151	2.9	77	2.8
300.9, E958.9	Suicide and Self-inflicted injury by other specified means	345	1.5	217	1.4	145	2.7	91	3.3
311	Depression, not otherwise specified	435	1.9	284	1.9	118	2.2	56	2.0
692	Eczema	393	1.7	221	1.4	100	1.9	44	1.6
785	Symptoms involving cardiovascular system	441	1.9	363	2.4	98	1.9	52	1.9
P11.7	Other reconstructive and refractive surgery on cornea	513	2.2	449	2.9	95	1.8	83	3.0
272	Disorders of lipid metabolism	114	0.5	101	0.7	82	1.6	64	2.3
305	Nondependent drug abuse, unspecified	254	1.1	140	0.9	77	1.5	46	1.6
733.99	Open reduction internal fixation/retained hardware	1,136	4.8	951	6.2	75	1.4	55	2.0
995.7	Other adverse food reactions, not elsewhere classified	390	1.7	341	2.2	74	1.4	60	2.1
737	Deviation or curvature of spine	348	1.5	161	1.1	73	1.4	16	0.6
718.1	Loose body in joint	249	1.1	202	1.3	68	1.3	58	2.1
754	Chest wall malformation	86	0.4	48	0.3	65	1.2	36	1.3
312	Conduct disorders	57	0.2	27	0.2	49	0.9	25	0.9
905.4	Late effect of fracture of lower extremities	133	0.6	89	0.6	48	0.9	25	0.9
N/A	Individuals with one or more conditions that are not specified above	12,411	52.9	7,792	50.8	2,533	47.9	1,235	44.1
	Total applicants considered*	23,472				5,286			
	Total decisions rendered ^{‡‡}	20,556				4,611			
	Total of approved applicants	15,325 (65.3%)				2,799 (53.0%)			

[†] Condition categories (Navy waiver codes) are not mutually exclusive.

[§] Indicates the percentage of waiver applicants for the specified condition category, among total waivers considered.

^{††} Indicates the percentage of approved waiver applicants for the specified condition category, among total approved waivers.

^{‡‡} Waiver applications for which a decision (granted vs. denied) is not known are not included in this total.

* This category includes waiver applicants with missing condition values

Table 2.32 shows the leading conditions for which waivers were considered by the Marine Corps waiver authority during 2010; aggregate data from 2005 to 2009 is shown for comparison. The most common conditions for which accession medical waivers were sought by enlisted Marine applicants in 2010 were nonspecific abnormal findings (18.3% of waiver applicants), disorders of refraction and accommodation (17.1%), asthma (7.2%), and hearing loss (7.0%). The percentage of waiver applicants for \ two of these conditions, nonspecific abnormal findings and disorders of refraction and accommodation, almost doubled over the previous five years, while the proportions of individuals seeking asthma waivers and hearing loss waivers decreased slightly.

**TABLE 2.32 TOP CONDITIONS FOR ENLISTED ACCESSION WAIVERS CONSIDERED IN 2005–2009 VS. 2010:
MARINES**

DoDI	Condition [†]	2005-2009				2010			
		Applied		Approved		Applied		Approved	
		Count	% of all apps [‡]	Count	% of apprvd apps [§]	Count	% of all apps [‡]	Count	% of apprvd apps [§]
796	Other nonspecific abnormal findings	2,520	11.7	1,640	11.5	506	18.3	278	19.1
367	Disorders of refraction and accommodation	2,042	9.5	1,471	10.4	472	17.1	255	17.5
493	Asthma	1,671	7.8	1,045	7.4	199	7.2	112	7.7
389	Hearing loss, unspecified	1,951	9.1	964	6.8	193	7.0	59	4.0
300	Anxiety, dissociative and somatoform disorders	1,159	5.4	750	5.3	171	6.2	84	5.8
314	Attention Deficit Disorder/ADHD	761	3.5	529	3.7	134	4.9	66	4.5
995.0	Other anaphylactic shock	719	3.3	575	4.0	123	4.5	84	5.8
905.4	Late effect of fracture of lower extremities	396	1.8	288	2.0	92	3.3	52	3.6
733.99	Open reduction internal fixation/retained hardware	1,751	8.1	1,443	10.2	80	2.9	52	3.6
796.2	Elevated blood pressure	244	1.1	210	1.5	72	2.6	43	2.9
692	Eczema	405	1.9	245	1.7	69	2.5	47	3.2
754	Chest wall malformation	112	0.5	58	0.4	67	2.4	30	2.1
313	Behavior Disorders	428	2.0	257	1.8	65	2.4	36	2.5
305	Nondependent drug abuse, unspecified	482	2.2	327	2.3	63	2.3	39	2.7
737	Deviation or curvature of spine current	342	1.6	147	1.0	62	2.2	19	1.3
831	Dislocation of shoulder	189	0.9	26	0.2	53	1.9	4	0.3
706	Diseases of sebaceous glands	162	0.8	111	0.8	51	1.8	27	1.9
718.1	Shoulder instability	406	1.9	119	0.8	45	1.6	2	0.1
709.2	Scars conditions and fibrosis of skin	87	0.4	67	0.5	41	1.5	27	1.9
784	Headaches	224	1.0	147	1.0	37	1.3	16	1.1
N/A	Individuals with one or more conditions not specified above*	7,195	33.4	4,793	33.7	547	19.8	296	20.3
	Total applicants	21,532				2,759			
	Total decisions rendered ^{††}	18,258				1,994			
	Total of approved applicants	14,204 (66.0%)				1,459 (52.9%)			

[†] Condition categories (DoDI 6130.3 groups) are not mutually exclusive.

[‡] Indicates the percentage of waiver applicants for the specified condition category, among total waivers considered.

[§] Indicates the percentage of approved waiver applicants for the specified condition category, among total approved waivers.

^{††} Waiver applications for which a decision (granted vs. denied) is not known are not included in this total.

* This category includes waiver applicants with missing condition values.

Table 2.33 shows the most common conditions for which waivers were considered by the Air Force waiver authority. In addition to 2010 data, data from the years 2005 to 2009 are shown in aggregate for comparison. Disorders of refraction and accommodation were by far the most common single cause waiver sought by Active Duty Air Force enlistees in 2010 (12.5% of all waiver applicants) as well as in 2005-2009 (12.3%). Asthma (5.6%), hearing loss (4.8%), Attention Deficit Disorder/ADHD (4.5%), and episodic mood disorder (4.5%) are the second through fifth most common waivers applied for in 2010. These findings appear to be consistent with the previous five year period. However, the percent of waivers sought for the top five conditions in total decreased slightly from that observed in the previous five years.

TABLE 2.33 TOP CONDITIONS FOR ENLISTED ACCESSION WAIVERS CONSIDERED IN 2005 – 2009 VS. 2010: AIR FORCE

ICD-9	Condition [†]	2005-2009				2010			
		Applied		Approved		Applied		Approved	
		Count	% of all apps [‡]	Count	% of apprvd apps [§]	Count	% of all apps [‡]	Count	% of apprvd apps [§]
367	Disorders of refraction and accommodation	1,466	12.3	926	13.4	386	12.5	214	10.3
493	Asthma	751	6.3	255	3.7	173	5.6	116	5.6
389	Hearing loss, unspecified	620	5.2	39	0.6	149	4.8	18	0.9
314	Attention Deficit Disorder/ADHD	575	4.8	435	6.3	140	4.5	116	5.6
296	Episodic mood disorder	611	5.1	383	5.5	139	4.5	101	4.8
300	Anxiety, dissociative, and somatoform disorders	257	2.2	155	2.2	113	3.7	89	4.3
401	Essential hypertension	198	1.7	146	2.1	106	3.4	100	4.8
692	Eczema	302	2.5	78	1.1	102	3.3	45	2.2
785.0	Tachycardia, unspecified	306	2.6	282	4.1	98	3.2	91	4.4
745	Bulbus cordis anomalies and anomalies of cardiac septal closure	168	1.4	104	1.5	76	2.5	61	2.9
783.4	Lack of expected physiological development	207	1.7	158	2.3	49	1.6	42	2.0
718.3	Recurrent dislocation of joint	176	1.5	135	1.9	47	1.5	44	2.1
396	Disease of mitral and aortic valves	114	1.0	74	1.1	46	1.5	37	1.8
752	Congenital anomalies of genital organs	123	1.0	87	1.3	46	1.5	40	1.9
309	Adjustment Disorders	160	1.3	107	1.5	45	1.5	28	1.3
754.2	Congenital musculoskeletal deformities (of spine)	243	2.0	57	0.8	39	1.3	20	1.0
995	Certain adverse effects not elsewhere classified ^{††}	65	0.5	50	0.7	38	1.2	35	1.7
706	Diseases of sebaceous glands	70	0.6	53	0.8	37	1.2	31	1.5
718.8	Other joint derangement, NEC	162	1.4	127	1.8	37	1.2	32	1.5
368	Visual disturbances	241	2.0	175	2.5	36	1.2	25	1.2
N/A	Individuals with one or more conditions not specified above*	5,441	45.8	3,239	46.7	1,182	38.3	780	37.4
	Total applicants	11,871				3,087			
	Total decisions rendered ^{††}	11,871				3,087			
	Total of approved applicants	6,936 (58.4%)				2,087 (67.6%)			

[†] Condition categories (ICD-9 groups) are not mutually exclusive; [‡] Indicates the percentage of waiver applicants for the specified condition category, among total waivers considered; [§] Indicates the percentage of approved waiver applicants for the specified condition category, among total approved waivers; ^{††} Waiver applications for which a decision (granted vs. denied) is not known are not included in this total; ^{‡‡} Codes in this category typically include unspecified allergies and anaphylactic shock. * This category includes records with missing or invalid condition values.

Tables 2.34 through 2.37 show the most frequently approved waiver conditions ranked by waiver consideration approval percentage in aggregate for 2005-2010. The same population of considerations was used as in Tables 2.30-2.33. Note that conditions are not exclusive. An individual may appear in the table in multiple condition rows, but will have the same outcome in each.

Among Active Duty Army applicants (Table 2.34), nearly all waivers for elevated blood pressure without a diagnosis of hypertension, tachycardia, corneal transplant, and abdominal wall hernia were granted in both 2010 and the previous five-year period. The next most common conditions, other reconstructive and refractive surgery of the cornea and normal pregnancy, saw a decrease in the proportion of approved waiver applications in 2010; for other reconstructive and refractive surgery of the cornea the approval rate was 85.2% in 2010 compared to 90.8% in 2005-2009, and for pregnancy 82.9% of individuals were approved compared to 91.9% during the previous five year period. It is worth noting that the approval rate of several categories of waiver conditions, namely other and unspecified disorders of the bone and cartilage, abnormal loss of weight and underweight, and complications of certain procedures (including orthopedic devices, implants and grafts), were considerably lower in 2010 than in previous years. This may be associated with the relatively lower number of waivers sought in these categories by Army Active Duty applicants in 2010.

None of the most common and highly approved waivers considered by the Navy waiver authority had approval rates of 90% or above (Table 2.35) in 2010. The most commonly approved waivers in 2006 to 2010 were for refractive surgery (87.5% approved), adverse food reactions (86.4%), and retained hardware (83.1%). The distribution of the most commonly waived conditions in 2010 was similar to that observed in the period from 2006-2009, though the percent of waivers approved for cardiovascular symptoms, elevated blood pressure, nonspecific abnormal findings, ADD/ADHD, and diseases of the esophagus in 2010 was lower than in 2006-2009.

Within the Marine Corps, only Dyplasic Nevi Syndrome had an approval rate exceeding 90% in the total 2005-2010 period (Table 2.36), with the next most commonly approved conditions being cardiovascular symptoms (85.0% approved) and late effect of fracture of upper extremities (84.8%). Hypertension (overall the fourth most approved condition at 82.4%), elevated blood pressure reading without hypertension, and ADD/ADHD all showed a significantly lower approval rate in 2010 than in the previous five year period.

There were four conditions among Air Force enlistees with approval rates of 90% or higher in 2010 (Table 2.37). These waiver applications were for hypertension (94.3%), recurrent dislocation of joint (93.6%), tachycardia (92.8%), and diseases of the esophagus (91.7%). With the exception of tachycardia, this represents a higher approval rate for these conditions in 2010 compared to the previous five year period, though in some cases this could be simply a result of a smaller population seeking waivers.

TABLE 2.34 CONDITION-SPECIFIC CATEGORIES FOR THOSE ACCESSION MEDICAL WAIVERS WITH THE HIGHEST PROPORTION OF APPROVED APPLICATIONS AMONG ACTIVE DUTY ARMY ENLISTEES: 2005–2009 vs. 2010

ICD-9	Condition	Total		2005-2009		2010	
		Count	% Granted	Count	% Granted	Count	% granted
796.2	Elevated blood pressure			3,287	98	541	91.1
785.1	Tachycardia, persistent current	276	91.7	190	93.2	86	88.4
P11.6	Corneal transplant	605	91.6	527	92.4	78	85.9
553	Abdominal wall hernia	358	90.2	259	90.7	99	88.9
P11.7	Other reconstructive and refractive surgery on cornea	1,172	90.1	1,023	90.8	149	85.2
V22	Normal pregnancy	384	90.1	308	91.9	76	82.9
785	Symptoms involving cardiovascular system	1,003	89.8	866	90.8	137	83.9
272	Disorders of lipid metabolism	4,334	89.7	3,439	91.9	895	81
752	Congenital anomalies of genital organs	865	87	686	89.5	179	77.6
790	Nonspecific findings on examination of blood	1,039	86.1	806	88.6	233	77.7
733.9	Other and unspecified disorders of bone and cartilage	2,924	85.3	2,634	86.5	290	74.4
V15	Other personal history presenting hazards to health	270	84.4	195	87.2	75	77.3
795	Other nonspecific abnormal cytological, histological, immunological, and DNA test findings [†]	374	82.6	340	82.9	34	79.4
783.2	Abnormal loss of weight and underweight	1,097	81.3	1,095	81.4	2	50
429	Heart disease, complications	745	80.9	547	83.9	198	72.7
378	Strabismus and other disorders of binocular eye movements	339	80.8	269	79.2	70	87.1
995	Certain adverse effects not elsewhere classified [§]	1,932	80.7	1,406	82.1	526	77.2
996	Complications peculiar to certain specified procedures [^]	474	80.6	441	82.8	33	51.5
783.4	Lack of expected physiological development	416	79.8	365	81.6	51	66.7
367	Disorders of refraction and accommodation	7,061	79.4	5,554	78.9	1,507	81.5

Condition categories (ICD-9 groups) are not mutually exclusive.

[†] Codes in this category typically include nonspecific reaction to the tuberculin skin test (without active TB) and abnormal results from a Papanicolaou smear.

[§] Codes in this category typically include unspecified allergies and anaphylactic shock.

[^] Codes in this category typically include complication of orthopedic device, implant, or graft.

TABLE 2.35 CONDITION-SPECIFIC CATEGORIES FOR THOSE ACCESSION MEDICAL WAIVERS WITH THE HIGHEST PROPORTION OF APPROVED APPLICATIONS AMONG ACTIVE DUTY NAVY ENLISTEES IN 2006-2009 VS. 2010

DoDI	Condition [†]	Total		2006-2009		2010	
		Count	% Granted	Count	% Granted	Count	% Granted
P11.7	Other reconstructive and refractive surgery	608	87.5	513	87.5	95	87.4
995.7	Other adverse food reactions, not elsewhere classified	464	86.4	390	87.4	74	81.1
733.99	Open reduction internal fixation/retained hardware	1,211	83.1	1,136	83.7	75	73.3
718.1	Loose body in joint	317	82.0	249	81.1	68	85.3
995.0	Other anaphylactic shock	598	80.4	404	81.7	194	77.4
831	Shoulder dislocation	186	80.1	139	82.7	47	72.3
785	Symptoms involving cardiovascular system	539	77.0	441	82.3	98	53.1
796.2	Elevated blood pressure	1,165	75.9	1,012	78.1	153	61.4
717.83	Old disruption of the anterior cruciate ligament (ACL)	200	74.5	165	76.4	35	65.7
923	Contusion of bone or joint (upper extremity)	183	74.3	148	76.3	35	65.7
717.7	Chondromalacia of patella	164	70.1	123	71.5	41	65.8
796	Other nonspecific abnormal findings	172	69.2	160	71.3	12	41.7
314	Attention Deficit Disorder/ADHD	699	68.2	548	73.0	151	51.0
530.11	Diseases of the esophagus	160	68.1	121	74.4	39	48.7
905.4	Late effect of fracture of lower extremities	181	66.3	133	66.9	48	64.6
424.0	Mitral valve disorder	158	65.8	114	69.3	44	56.8
493	Asthma	1,487	65.5	1,237	66.4	250	60.8
795	Abnormal histological and immunological findings, including abnormal Papanicolaou smear	225	65.3	198	68.7	27	40.7
309	Adjustment Disorders	163	64.4	141	66.0	22	54.5
924	Contusion of bone or joint (lower extremity and other unspecified sites)	176	63.6	155	65.8	21	47.6

[†] Condition categories (DoDI 6130.3 groups) are not mutually exclusive.

TABLE 2.36 CONDITION-SPECIFIC CATEGORIES FOR THOSE ACCESSION MEDICAL WAIVERS WITH THE HIGHEST PROPORTION OF APPROVED APPLICATIONS AMONG ACTIVE DUTY MARINE CORPS ENLISTEES: 2005–2009 VS. 2010

DoDI	Condition [†]	Total		2005-2009		2010	
		Count	% Granted	Count	% Granted	Count	% Granted
448.1	Dyplasic Nevi Syndrome	111	90.1	97	95.9	14	50.0
785	Symptoms involving cardiovascular system	400	85.0	372	85.5	28	78.6
905.2	Late effect of fracture of upper extremities	158	84.8	151	85.4	7	71.4
401	Essential hypertension	910	82.4	874	83.4	36	58.3
733.99	Open reduction internal fixation/retained hardware	1,831	81.6	1,751	82.4	80	65.0
796.2	Elevated blood pressure	316	80.1	244	86.1	72	59.7
995.0	Other anaphylactic shock	842	78.3	719	80.0	123	68.3
717.83	Old disruption of the anterior cruciate ligament (ACL)	359	74.4	332	74.7	27	70.4
726.3	Elbow limitation of motion	113	74.3	100	74.0	13	76.9
709.2	Scars conditions and fibrosis of skin	128	73.4	87	77.0	41	65.8
734, 754.6	Flat foot, acquired and congenital	294	72.4	263	73.4	31	64.5
905.4	Late effect of fracture of lower extremities	488	69.7	396	72.7	92	56.5
735	Deformities of the toes, acquired	111	69.4	97	69.1	14	71.4
367	Disorders of refraction and accommodation	2,514	64.6	2,042	72.0	472	54.0
394	Valvular heart diseases, acquired	207	67.6	203	67.0	4	100.0
305	Nondependent drug abuse, unspecified	545	67.1	482	67.8	63	61.9
726.4	Wrist, fingers, and thumb limitation of motion	205	66.8	175	67.4	30	63.3
314	Attention Deficit Disorder/ADHD	895	66.5	761	69.5	134	49.3
854	Head injuries	250	64.8	219	64.4	31	67.7
706	Diseases of sebaceous glands	213	64.8	162	68.5	51	52.9

[†] Condition categories (DoDI 6130.3 groups) are not mutually exclusive.

TABLE 2.37 CONDITION-SPECIFIC CATEGORIES FOR THOSE ACCESSION MEDICAL WAIVERS WITH THE HIGHEST PROPORTION OF APPROVED APPLICATIONS AMONG ACTIVE DUTY AIR FORCE ENLISTEES: 2005–2009 VS. 2010

ICD-9	Condition [†]	Total		2005-2009		2010	
		Count	% Granted	Count	% Granted	Count	% Granted
785.0	Tachycardia, unspecified	404	92.3	306	92.2	98	92.8
733.9	Other and unspecified disorders of bone and cartilage	643	90.2	606	90.6	37	83.8
P81.4	Other repair of joint of lower extremity	189	82.5	183	82.5	6	83.3
401	Essential hypertension	304	80.9	198	73.7	106	94.3
718.3	Recurrent dislocation of joint	223	80.3	176	76.7	47	93.6
734	Flat foot	135	80.0	112	78.6	23	87.0
718.8	Other joint derangement, not elsewhere classified	199	79.9	162	78.4	37	86.5
783.4	Lack of expected physiological development	256	78.1	207	76.3	49	85.7
314	Attention Deficit Disorder/ADHD	715	77.1	575	75.6	140	82.8
752	Congenital anomalies of the genital organs	169	75.1	123	70.7	46	87.0
530	Diseases of the esophagus	159	73.6	135	70.4	24	91.7
368	Visual disturbances	277	72.2	241	72.6	36	69.4
396	Disease of mitral and aortic valves	160	69.4	114	64.9	46	80.4
745	Bulbus cordis anomalies and anomalies of cardiac septal closure	244	67.6	168	61.9	76	80.3
300	Anxiety, dissociative and somatoform disorders	370	65.9	257	60.3	113	78.8
309	Adjustment Disorders	205	65.8	160	66.9	45	62.2
296	Episodic mood disorder	750	64.5	611	62.7	139	72.7
732	Osteochondropathies	155	62.6	124	66.1	31	48.4
367	Disorders of refraction and accommodation	1,852	61.6	1,466	63.2	386	55.4
893	Open wound of toe(s)	246	58.9	210	56.7	36	72.2

[†] Condition categories (ICD-9 groups) are not mutually exclusive.

Part II: Medical waivers with an accession record

Table 2.38 shows the numbers of enlisted Active Duty applicants who were granted accession medical waivers who had a MEPS physical examination record indicating no prior service. Individuals are counted once, in the most recent year of waiver consideration. Results are shown for each year from 2005 to 2010 for all service branches combined. Also shown are the numbers and percentages of these individuals who were subsequently gained onto enlisted Active Duty service within one and two years of their most recent MEPS visit. The number of approved waivers has notably increased during 2005 to 2010, with the number of approved waivers recorded in 2009 (14,787) being higher than all previous years. The proportion of individuals granted waivers who subsequently become accessions within one year of their MEPS physical has fluctuated over the period from 2005-2010 but generally remained near 70%.

TABLE 2.38 ACTIVE DUTY ACCESSIONS WITHIN ONE AND TWO YEARS OF PHYSICAL EXAMINATION FOR ENLISTED APPLICANTS WHO RECEIVED A WAIVER IN 2005–2010[†]: BY YEAR

Year of waiver consideration	Applicants with waivers granted	Applicants who accessed within 1 year of application		Applicants who accessed within 2 years of application	
		Count	%	Count	%
2005	9,773	5,695	58.3	6,450	66.0
2006	11,481	7,947	69.2	8,729	76.0
2007	12,592	9,086	72.2	10,032	79.7
2008	14,369	10,352	72.0	11,398	79.3
2009	14,787	9,714	65.7	11,125	75.2
2010 ^{‡*}	11,910	4,339	36.4	4,763	40.0

[†] Considers accessions among only those applicants with both a MEPS physical examination for Active Duty service record and an approved waiver.

* Value undercounted due to missing Marine waiver records from Q2 2010.

[‡] The accession rate was underestimated due to a lack of sufficient follow up time.

Tables 2.39 through 2.43 describe the characteristics of applicants who were granted waivers from all branches of service. Individuals with a corresponding MEPS Active Duty application record as well as subsequent accessions are shown for 2005-2009 and separately for 2010. Total numbers of records used in calculating percents vary slightly depending upon the completeness of data on the demographic factor being considered. For example, an individual with missing data on gender, but not race, will be included in the description of race of applicants but not in the description of gender.

The gender distribution of enlisted applicants who received a waiver is shown in Table 2.39 for all waivers and for those with subsequent accession records. In 2010, slightly more females applied for waiver and accessed with waiver than in 2005-2009. In both time periods, males accounted for a larger percentage of waiver accessions (81.2% in 2010) than they did among approved waiver applicants (80.4% in 2010).

TABLE 2.39 GENDER DISTRIBUTION OF ALL ACTIVE DUTY ENLISTED APPLICANTS WHO RECEIVED AN ACCESSION MEDICAL WAIVER COMPARED TO ONLY THOSE WAIVED PERSONNEL WHO BEGAN ACTIVE DUTY SERVICE: 2005-2009 vs. 2010

Gender	2005- 2009				2010			
	All waivers		Accessed only		All waivers		Accessed only	
	Count	%	Count	%	Count	%	Count	%
Male	51,968	82.5	40,029	83.8	9,578	80.4	3,872	81.2
Female	11,033	17.5	7,716	16.2	2,330	19.6	896	18.8
Total†	63,002	-	47,745	-	11,910	-	4,768	-

† Some individuals with a missing value for gender are included in the total.

Table 2.40 shows the age distribution of enlisted applicants who received a waiver in 2005-2009 and in 2010. The majority of waiver recipients in 2010 were between the ages of 17 and 20 years, regardless of whether or not they accessed. The percentage of individuals within each age category of waiver applicants and those who accessed was consistent when comparing 2010 and the previous five year period.

TABLE 2.40 AGE DISTRIBUTION OF ALL ACTIVE DUTY ENLISTED APPLICANTS WHO RECEIVED AN ACCESSION MEDICAL WAIVER COMPARED TO ONLY THOSE WAIVED PERSONNEL WHO BEGAN ACTIVE DUTY SERVICE: 2005-2009 vs. 2010

Age group at accession	2005-2009				2010			
	All waivers		Accessed only		All waivers		Accessed only	
	Count	%	Count	%	Count	%	Count	%
17 – 20	38,262	60.7	29,753	62.3	6,939	58.3	2,679	56.2
21 – 25	17,201	27.3	12,896	27.0	3,377	28.4	1,421	29.8
26 – 30	4,535	7.2	3,171	6.6	916	7.7	372	7.8
> 30	3,003	4.8	1,924	4.0	677	5.7	295	6.2
Total	63,002	-	47,745	-	11,910	-	4,768	-

Table 2.41 shows the race of enlisted applicants who received a medical waiver in 2010 and in 2005-2009. The demographic profile of applicants and accessions, with respect to race, included fewer whites receiving medical waivers in 2010, and more individuals of other races compared to previous years.

TABLE 2.41 DISTRIBUTION OF RACE AMONG ALL ACTIVE DUTY ENLISTED APPLICANTS WHO RECEIVED AN ACCESSION MEDICAL WAIVER COMPARED TO ONLY THOSE WAIVED PERSONNEL WHO BEGAN ACTIVE DUTY SERVICE: 2005-2009 vs. 2010

Race [†]	2005-2009				2010			
	All waivers		Accessed only		All waivers		Accessed only	
	Count	%	Count	%	Count	%	Count	%
White	49,781	79.0	38,351	80.3	9,016	75.7	3,636	76.3
Black	7,374	11.7	5,526	11.6	1,531	12.9	656	13.8
Other	4,887	7.8	3,617	7.6	1,172	9.8	474	9.9
Missing or declined	960	1.5	251	0.5	191	1.6	2	<0.1
Total	63,002	-	47,745	-	11,910	-	4,768	-

[†] Note: New categories for race were available beginning in 2003. However, greater numbers of applicants chose not to indicate their race. Our data do not distinguish between individuals declining to answer and those missing race information for other reasons.

Table 2.42 shows the education level of applicants granted an accession medical waiver at the time of application in 2010 and in 2005-2009. Applicants who subsequently accessed are shown separately from applicants granted a waiver. The prevalence of education beyond high school was higher in 2010, in both applicants granted waivers as well as those who accessed following waiver. Note that the great majority of applicants granted a waiver who have not completed high school are high school seniors and will graduate prior to enlistment.

TABLE 2.42 DISTRIBUTION OF EDUCATION (HIGHEST LEVEL ATTAINED AT ACCESSION) AMONG ALL ACTIVE DUTY ENLISTED APPLICANTS WHO RECEIVED AN ACCESSION MEDICAL WAIVER COMPARED TO ONLY THOSE WAIVED PERSONNEL WHO BEGAN ACTIVE DUTY SERVICE: 2005-2009 vs. 2010

Education level	2005-2009				2010			
	All waivers		Accessed only		All waivers		Accessed only	
	Count	%	Count	%	Count	%	Count	%
Below HS senior [†]	725	1.2	494	1.0	29	0.2	12	0.3
HS senior	15,267	24.2	11,687	24.5	2,722	22.9	963	20.2
HS diploma	41,300	65.6	31,738	66.5	7,552	63.4	3,161	66.3
Some college	2,422	3.8	1,795	3.8	670	5.6	281	5.9
Bachelor's and higher	3,288	5.2	2,031	4.3	937	7.9	351	7.4
Total	63,002	-	47,745	-	11,910	-	4,768	-

[†] Encompasses the following three cases: 1) one who is pursuing completion of the GED or other test-based high school equivalency diploma, vocational school, or secondary school, etc.; 2) one who is not attending high school and who is neither a high school graduate nor an alternative high school credential holder; 3) one who is attending high school but is not yet a senior

Table 2.43 shows the distribution of AFQT percentile scores among enlisted applicants who received a waiver in 2005-2009 and in 2010. AFQT scores in 2010 appear to be somewhat higher among enlisted waiver applicants compared to the previous five years. A similar distribution was seen among waiver applicants that subsequently accessed.

TABLE 2.43 DISTRIBUTION OF AFQT SCORE GROUPS AMONG ALL ACTIVE DUTY ENLISTED APPLICANTS WHO RECEIVED AN ACCESSION MEDICAL WAIVER COMPARED TO ONLY THOSE WAIVED PERSONNEL WHO BEGAN ACTIVE DUTY SERVICE: 2005-2009 vs. 2010

AFQT score	2005-2009				2010			
	All waivers		Accessed only		All waivers		Accessed only	
	Count	%	Count	%	Count	%	Count	%
93-99	5,136	8.2	3,977	8.3	1,280	10.7	487	10.2
65-92	23,912	38.0	18,455	38.7	5,012	42.1	1,968	41.3
50-64	15,793	25.1	11,983	25.1	3,031	25.4	1,217	25.5
30-49	16,772	26.6	12,786	26.8	2,503	21.0	1,071	22.5
11-29	832	1.3	532	1.1	62	0.5	19	0.4
<11	17	<0.1	0	0.0	0	0.0	0.0	0.0
Missing	540	0.9	12	<0.1	22	0.2	6	0.1
total	63,002	-	47,745	-	11,910	-	4,768	-

Table 2.44 shows the distribution of medical disqualification status (see definition in Part III, Data Sources) among enlisted applicants who received a waiver in 2005-2009 and in 2010. Individuals with a status of permanently disqualified are required to receive a waiver prior to accession. Accordingly, over 95% of applicants and accessions approved for waiver have a permanently disqualified status, with relatively few fully qualified or temporarily disqualified individuals seeking one. The proportion of permanently disqualified individuals among those receiving waivers increased slightly in 2010 applicants as compared to prior years.

TABLE 2.44 DISTRIBUTION OF MEDICAL STATUS AMONG ALL ACTIVE DUTY ENLISTED APPLICANTS WHO RECEIVED AN ACCESSION MEDICAL WAIVER COMPARED TO ONLY THOSE WAIVED PERSONNEL WHO BEGAN ACTIVE DUTY SERVICE: 2005-2009 vs. 2010

Medical status	2005-2009				2010			
	All waivers		Accessed only		All waivers		Accessed only	
	Count	%	Count	%	Count	%	Count	%
Fully qualified	2,466	3.9	1,853	3.9	303	2.5	243	5.1
Permanent	59,390	94.3	45,120	94.5	11,475	96.3	4,437	93.1
Temporary	1,146	1.8	772	1.6	132	1.1	88	1.8
Total	63,002	-	47,745	-	11,910	-	4,768	-

Hospitalizations

This section summarizes hospitalization records of service members admitted to any military facility. Part I summarizes all hospitalization records, regardless of whether AMSARA has an accession record corresponding to the hospitalized individual. These results address the burden of disease across all military services. Part II summarizes only hospitalization records among Active Duty enlistees who began service during 2005-2010 and for whom AMSARA has a corresponding Active Duty accession record. This section accordingly examines hospitalization among Active Duty enlistees early in service.

Part I: Hospitalizations irrespective of an accession record

Hospitalization records of service members admitted to any military treatment facility are summarized regardless of whether AMSARA has an accession record corresponding to the hospitalized individual. Except where indicated, the tables include all hospitalizations, regardless of length of service before hospitalization. For those tables that present results according to length of service before hospitalization, the length of service was taken from a field within each hospitalization record.

Table 2.45 shows the overall hospitalization counts and percentages during the first and second years of service as well as counts of hospitalization at all lengths of service. Results are shown for Active Duty enlistees separately for 2010 and the previous five-year period. For the Army, Navy, and Marines, the percent of hospitalizations occurring in the first year of service is lower than the corresponding percent for the previous five years. In the Air Force the percent of all hospitalizations occurring in the first year is slightly higher. The percent of Active Duty hospitalizations occurring in the second year of service does not appear to be substantially different in any branch of service in 2010 compared to previous years.

TABLE 2.45 HOSPITALIZATIONS IN 2005 – 2010 BY SERVICE AND YEARS OF SERVICE: ACTIVE DUTY

Service	Years of service	2005-2009		2010	
		Count	% of service total	Count	% of service total
Army	<1	20,147	14.3	2,800	10.6
	1 – <2	19,650	14.0	3,568	13.5
	All	140,712	-	26,370	-
Navy	<1	3,118	5.3	427	3.7
	1 – <2	6,366	10.9	1,372	11.8
	All	58,536	-	11,656	-
Marines	<1	7,185	20.1	1,151	15.1
	1 – <2	5,494	15.4	1,295	17.0
	All	35,741	-	7,636	-
Air Force	<1	4,854	11.6	1,138	14.2
	1 – <2	3,189	7.6	512	6.4
	All	41,804	-	8,028	-

Table 2.46 shows hospitalizations among the Reserves. When comparing the percentages of hospitalizations occurring in the first and second years of service, the following generalizations can be made. For the Army Reserves, the percentage of hospitalizations occurring in the first year of service for 2010 decreased slightly, while the percentage occurring in the second year increased over the previous five year period, with significantly more hospitalizations occurring in the first year than the second. The percentage of hospitalizations occurring in the first and second year of service in the Navy, Marines, and Air Force Reserves during 2010 was consistent with previous years, with the exception of an increase in the percent of Marine hospitalizations occurring during the second year of service.

TABLE 2.46 HOSPITALIZATIONS IN 2005 – 2010 BY SERVICE AND YEARS OF SERVICE: RESERVES

Service	Years of service	2005-2009		2010	
		Count	% of service total	Count	% of service total
Army	<1	1,409	19.1	248	17.3
	1 – <2	496	6.7	147	10.3
	All	7,363	-	1,433	-
Navy	<1	28	2.6	3	1.2
	1 – <2	41	3.9	16	6.3
	All	1,062	-	256	-
Marines	<1	52	7.6	7	8.4
	1 – <2	55	8.1	15	18.1
	All	682	-	83	-
Air Force	<1	55	6.6	20	9.5
	1 – <2	31	3.7	8	3.8
	All	829	-	211	-

Table 2.47 shows hospitalizations for the National Guard. Most hospitalizations in 2005-2010 occurred among service members with more than two years of service. Hospitalizations among second-year service members represented a greater percentage of all hospitalizations among the Army and Air Force National Guard in 2010 than in the previous five year period.

TABLE 2.47 HOSPITALIZATIONS IN 2005 – 2010 BY SERVICE AND YEARS OF SERVICE: NATIONAL GUARD

Service	Years of service	2005 - 2009		2010	
		Count	% of service total	Count	% of service total
Army	<1	2,333	21.4	452	21.8
	1 – <2	935	8.6	246	11.9
	All	10,899	-	2,069	-
Air Force	<1	26	3.4	11	5.6
	1 – <2	25	3.2	12	6.1
	All	773	-	198	-

Hospitalizations for Active Duty enlisted service members by condition category and service are shown in Table 2.48 for the years 2005 to 2009 in aggregate and separately for 2010. For each service, complications of pregnancy were the most common conditions for which hospitalizations occurred in 2005-2009 and in 2010. The percentage of hospitalizations in 2010 attributable to this category was lower in the Marines (14.2%) and Army (16.9%) than in the Navy (33.4%) and Air Force (31.3%). Among enlisted Army members, the next most common categories for hospitalizations in 2010 included neurotic and personality disorders (7.4%), fractures (5.2%), and injuries (4.9%); the distribution of causes of hospitalization among Army members in 2010 was consistent with the distribution in 2005-2009. Among enlisted Navy members in 2010, complications of pregnancy were followed by neurotic and personality disorders (6.4%), other psychoses (4.3%), and appendicitis (3.4%) as the most common causes of hospitalizations. The percentage of neurotic and personality disorders increased from (4.3%) of Navy hospitalizations in 2005-2009 to (6.4%) in 2010, and the percentage of enlisted Navy hospitalizations attributable to other psychoses also increased, from (3.5%) in 2005-2009 to 4.3% in 2010. Among Marines, complications of pregnancy (13.5%), neurotic and personality disorders (8.1%), and fractures (7.6%) were the most common hospitalizations in 2010; the percentage of neurotic and personality disorders represents an increase from 2005-2009 levels (7.4%). Complications of pregnancy (31.3%), neurotic and personality disorders (5.1%), nonspecific symptoms (4.4%), and other psychoses (3.2%) were the most common hospitalizations among enlisted Air Force members in 2010, with the percentage of hospitalizations attributable to other psychoses showing an increase over the 2005-2009 value of (2.4%).

TABLE 2.48 DISTRIBUTION OF PRIMARY CAUSE CATEGORIES FOR HOSPITALIZATIONS AMONG ACTIVE DUTY ENLISTEES IN 2005–2009 VS. 2010: BY SERVICE

ICD-9	Category	Army		Navy		Marines		Air Force	
		*2005-2009	*2010	*2005-2009	*2010	*2005-2009	*2010	*2005-2009	*2010
630-677	Complications of pregnancy, childbirth, and the puerperium	16.9	19.5	33.8	33.4	13.5	14.2	31.8	31.3
308-316	Neurotic or personality disorders	7.7	7.4	4.3	6.4	7.4	8.1	5.3	5.1
830-959	Injuries	6.7	4.9	2.9	2.4	8.0	6.5	2.5	1.9
800-829	Fracture	6.6	5.2	3.6	3.2	8.1	7.6	2.7	2.1
295-299	Other Psychoses	3.8	4.1	3.5	4.3	4.3	5.0	2.4	3.2
781-782, 786-794, 797-799	Nonspecific symptoms	3.4	3.8	3.5	3.0	1.8	1.8	4.2	4.4
680-686	Infections of skin and subcutaneous tissue	3.0	2.6	2.5	2.2	5.5	4.9	2.2	2.1
720-723	Dorsopathies	2.6	3.4	2.5	2.4	1.7	1.6	2.2	2.1
480-487	Pneumonia and influenza	2.2	2.0	0.7	0.6	3.8	3.1	1.1	1.8
710-717	Arthropathies and related disorders	2.2	1.4	1.7	2.0	2.5	1.9	1.4	1.2
540-543	Appendicitis	2.0	2.6	3.2	3.4	3.4	3.6	3.1	3.3
300-302	Neurotic or personality disorders	1.6	1.2	1.4	1.0	2.0	1.8	0.8	0.7
520-529	Diseases of the oral cavity, salivary glands, and jaws	1.6	1.3	1.0	1.1	1.1	1.1	2.6	2.7
570-579	Other diseases of digestive system	1.5	1.8	2.1	2.3	1.2	1.3	1.9	2.2
725, 727-729	Rheumatism, excluding the back	1.4	1.1	0.8	0.6	1.4	1.8	0.8	0.8
960-989	Poisoning and toxic effects	1.4	1.6	0.9	0.8	1.5	1.5	0.6	0.7
210-229	Benign neoplasms	1.3	1.6	1.5	1.4	0.5	0.5	1.8	2.0
550-553	Hernia of abdominal cavity	1.3	1.0	0.5	0.4	1.0	0.7	0.6	0.6
590-599	Other diseases of urinary system	1.2	1.1	1.2	1.1	0.9	0.9	1.6	1.6
303-304	Alcohol and drug dependence	1.2	1.2	1.5	1.6	1.5	1.5	0.5	0.5
	Others	30.6	31.2	27.1	26.6	28.9	30.6	29.7	29.9
	Total hospitalizations	140,712	26,370	58,536	11,656	35,741	7,636	41,804	8,028

* % of total

Table 2.49 shows the percentage hospitalized by primary cause and component of service in aggregate for 2005-2009 and separately for 2010. The Navy and Marine Corps do not have a National Guard component. In 2010, complications of pregnancy (23.5%) were the most common reason for hospitalizations among Active Duty members followed by neurotic and personality disorders (6.6%), fractures (5.6%), injuries (5.4%), and other psychoses (3.6%). Among Reservists, the most common causes of hospitalizations in 2010 were complications of pregnancy (8.0%), nonspecific symptoms (6.7%), neurotic and personality disorders (4.9%), and other psychoses (4.4%). For the National Guard the most common hospitalization causes in 2010 were fractures (7.1%), neurotic and personality disorders (7.0%), nonspecific symptoms (5.3%), other psychoses (5.0%), and complications of pregnancy (4.8%). In general, the contribution of each category to the sum of all hospitalizations within a service was remarkably similar between 2010 and 2005-2009, except for the noticeable reduction in the proportion of injuries in 2010 compared the previous five year period for all components.

TABLE 2.49 DISTRIBUTION OF PRIMARY CAUSE CATEGORIES FOR HOSPITALIZATIONS AMONG ENLISTEES IN 2005–2009 VS. 2010: BY COMPONENT

ICD-9	Category	Active Duty		Reserves		National Guard	
		*2005-2009	*2010	*2005-2009	*2010	*2005-2009	*2010
630-677	Complications of pregnancy, childbirth, and the puerperium	22.3	23.5	6.6	8.0	3.4	4.8
308-316	Neurotic or personality disorders	6.6	6.9	5.7	4.9	6.7	7.0
800-829	Fracture	5.6	4.6	5.3	3.8	8.1	7.1
830-959	Injuries	5.4	4.2	5.4	3.4	7.4	3.9
295-299	Other Psychoses	3.6	4.1	3.8	4.4	4.1	5.0
781-782, 786-794, 797-799	Nonspecific Symptoms	3.4	3.4	6.3	6.7	5.4	5.3
680-686	Infections of skin and subcutaneous tissue	3.1	2.8	3.2	3.0	3.9	3.0
540-543	Appendicitis	2.6	3.0	1.9	2.2	1.7	2.3
720-723	Dorsopathies	2.4	2.7	3.4	3.6	3.3	3.6
710-717	Arthropathies and related disorders	2.0	1.6	2.8	2.1	2.0	1.6
480-487	Pneumonia and influenza	1.9	1.8	2.2	2.8	3.6	3.7
570-579	Other diseases of digestive system	1.7	1.9	2.4	2.9	2.0	2.6
520-529	Diseases of the oral cavity, salivary glands, and jaws	1.5	1.5	1.4	1.2	1.0	1.3
300-302	Neurotic or personality disorders	1.5	1.2	1.2	1.1	1.5	1.0
210-229	Benign neoplasms	1.3	1.4	2.5	1.9	1.4	1.7
590-599	Other diseases of urinary system	1.2	1.2	1.9	2.6	2.3	2.6
725, 727-729	Rheumatism, excluding the back	1.2	1.0	1.3	1.1	1.2	1.6
303-304	Alcohol and drug dependence	1.2	1.2	0.9	0.9	1.0	1.3
960-989	Poisoning and toxic effects	1.2	1.3	0.6	0.5	0.7	1.3
560-569	Other diseases of intestines and peritoneum	1.1	1.3	1.6	2.3	1.3	1.2
	Other	29.3	29.4	39.6	40.5	38.2	38.1
	Total hospitalizations	276,793	53,690	9,936	1,983	11,672	2,267

* % of total

Part II: Hospitalizations among personnel with an accession record, Active Duty enlistees only

Hospitalization records of Active Duty enlistees who began service during 2005-2010 and for whom AMSARA has a corresponding accession record are summarized. Relative risks are used to compare the risk of hospitalization across demographic groups. The baseline group chosen for each comparison depends on the factor being considered. For factors with some inherent order (e.g., age group, which ranges from younger to older) it is the first or last group in that order, as appropriate. Otherwise, the baseline group is generally the largest group.

Table 2.50 shows hospitalizations and individuals hospitalized among those accessed during each year from 2005 to 2010. Hospitalizations are separated into two groups: one that includes hospitalizations occurring in the same year as accession and one that includes hospitalizations occurring within one year of Active Duty service. The former provides a basis for appropriate comparison for those accessed in 2010, because hospitalization data were available only through 2010 in this report, allowing less than a full year of follow-up for this group. Because multiple hospitalizations can occur per person, results are shown both in terms of hospitalizations (“Admissions”) and individuals hospitalized (“Individuals”). The proportion of individuals hospitalized (% of Individuals) within the first year of service is relatively stable from 2005-2010.

TABLE 2.50 ACTIVE DUTY HOSPITALIZATIONS IN 2005 - 2010: BY YEAR

Year	Total accessed	Within same gain year			Within one year of service		
		Admissions	Individuals	% of Individuals	Admissions	Individuals	% of Individuals
2005	117,228	2,492	2,249	1.9	4,938	4,286	3.7
2006	154,616	3,685	3,288	2.1	7,095	6,155	4.0
2007	155,536	3,569	3,235	2.1	6,816	5,915	3.8
2008	160,642	3,424	3,105	1.9	6,286	5,513	3.4
2009	159,476	3,283	2,963	1.9	5,404	4,712	3.0
2010	158,968	2,812	2,555	1.6	2,811	2,554	1.6
Total	906,466	19,265	17,395	-	33,350	29,135	-

Table 2.51 shows that the risk of hospital admission within one year of accession for enlisted personnel varies by service. Army enlistees had the highest risk of hospitalization in the year following accession. This risk was significantly greater than Navy, Marine, and Air Force enlistees. Marine Corps enlistees had a significantly greater risk of hospitalization in the first year of service than Air Force enlistees, whose risk was significantly higher than Navy enlistees. Navy enlistees had the lowest risk of hospitalization admission, with 1.3% of individuals hospitalized within one year of accession.

**TABLE 2.51 HOSPITAL ADMISSIONS WITHIN ONE YEAR OF ACCESSION FOR ACTIVE DUTY ENLISTED PERSONNEL
ACCESSED IN 2005 – 2010: BY SERVICE**

Service	Total accessed	Admissions	Individuals hospitalized			
			Count	%	Relative risk	95% CI
Army	344,608	18,181	15,729	4.6	1.00	-
Navy	203,895	3,026	2,644	1.3	0.28	(0.27, 0.30)
Marines	194,520	7,917	7,013	3.6	0.79	(0.77, 0.81)
Air Force	163,443	4,226	3,749	2.3	0.50	(0.49, 0.52)

Tables 2.52 through 2.56 summarize the demographic characteristics of enlistees hospitalized within one year of accession. The risk of hospitalization was significantly higher for women relative to men (Table 2.52). Table 2.53 shows that the risk of hospitalization increases significantly with advancing age. The risk of each age group is significantly higher than the risk of the next lower age group, with the exception of individuals aged 17-20 and those aged 21-25 who had similar rates of first year of service hospitalization in 2005-2010. Whites had the highest risk of hospitalization within a year of accession, significantly higher relative to blacks and individuals of any other race (Table 2.54). Those who declined to report race had the highest hospitalization risk. Table 2.55 shows the hospitalization risk by the level of education at accession in 2005-2010. The risk of hospitalization in the first year of accession was lower for individuals with a Bachelor's degree or higher compared to those who graduated high school. Enlistees who had completed some college at the time of accession had a higher risk of hospital admission than high school graduates. The risk among those with below a high school education was higher than the risk among high school graduates, but not significantly so.

**TABLE 2.52 HOSPITAL ADMISSIONS WITHIN ONE YEAR OF ACCESSION FOR ACTIVE DUTY ENLISTED PERSONNEL
ACCESSED IN 2005–2010: BY GENDER**

Gender	Total accessions	Admissions	Individuals hospitalized			
			Count	%	Relative risk	95% CI
Male	760,310	26,327	23,127	3.0	1.00	-
Female	145,144	7,023	6,008	4.1	1.35	(1.31, 1.39)

**TABLE 2.53 HOSPITAL ADMISSIONS WITHIN ONE YEAR OF ACCESSION FOR ACTIVE DUTY ENLISTED PERSONNEL
ACCESSED IN 2005-2010: BY AGE**

Age group at accession	Total accessions	Admissions	Individuals hospitalized			
			Count	%	Relative risk	95% CI
17 – 20	601,725	21,395	18,783	3.1	1.00	-
21 – 25	241,173	8,813	7,668	3.2	1.02	(0.99, 1.05)
26 – 30	46,739	2,065	1,776	3.8	1.22	(1.16, 1.28)
> 30	16,829	1,077	908	5.4	1.73	(1.62, 1.84)

**TABLE 2.54 HOSPITAL ADMISSIONS WITHIN ONE YEAR OF ACCESSION FOR ACTIVE DUTY ENLISTED PERSONNEL
ACCESSED IN 2005–2010: BY RACE**

Race [†]	Total accessions	Admissions	Individuals hospitalized			
			Count	%	Relative risk	95% CI
White	702,550	27,050	23,612	3.4	1.00	-
Black	127,459	4,135	3,645	2.9	0.85	(0.82, 0.88)
Other	71,269	1,879	1,632	2.3	0.68	(0.65, 0.72)
Declined	5,188	286	246	4.7	1.41	(1.25, 1.59)

[†] Note: New categories for race were available beginning in 2003. However, greater numbers of applicants chose not to indicate their race. Our data do not distinguish between individuals declining to answer and those missing race information for other reasons.

**TABLE 2.55 HOSPITAL ADMISSIONS WITHIN ONE YEAR OF ACCESSION FOR ACTIVE DUTY ENLISTED PERSONNEL
ACCESSED IN 2005–2010: BY EDUCATION LEVEL**

Education level	Total accessions	Admissions	Individuals hospitalized			
			Count	%	Relative risk	95% CI
Below HS graduate [†]	7,610	322	269	3.5	1.10	(0.98, 1.24)
HS diploma	831,464	30,428	26,603	3.2	1.00	-
Some college	37,811	1,676	1,450	3.8	1.20	(1.14, 1.26)
Bachelor's or higher	29,581	924	813	2.7	0.86	(0.80, 0.92)

[†] Encompasses the following three cases: 1) one who is pursuing completion of the GED or other test-based high school equivalency diploma, vocational school, or secondary school, etc.; 2) one who is not attending high school and who is neither a high school graduate nor an alternative high school credential holder; 3) one who is attending high school but is not yet a senior.

Table 2.56 shows hospital admissions within one year of accession for Active Duty enlisted personnel by AFQT score. As shown in the table, the risk of hospitalization is lowest among individuals scoring in the highest percentile group (93-99). Relative to the highest percentile group, the risk of hospitalization of each of the other percentile score groups is significantly higher, with the greatest relative risk for hospitalization seen in the lowest percentile group (11-29). The percentage of enlistees hospitalized tended to increase with decreasing AFQT percentile score group.

**TABLE 2.56 HOSPITAL ADMISSIONS WITHIN ONE YEAR OF ACCESSION FOR ACTIVE DUTY ENLISTED PERSONNEL
ACCESSED IN 2005 – 2010: BY AFQT SCORE**

AFQT score	Total accessions	Admissions	Individuals hospitalized			
			Count	%	Relative risk	95% CI
93 – 99	57,518	1,856	1,627	2.8	1.00	-
65 – 92	340,523	11,922	10,419	3.1	1.08	(1.03, 1.14)
50 – 64	235,579	8,892	7,779	3.3	1.17	(1.11, 1.23)
30 – 49	255,573	10,018	8,747	3.4	1.21	(1.15, 1.27)
11 – 29 [†]	11,875	626	529	4.5	1.57	(1.43, 1.73)
Missing	5,395	36	34	0.6	0.22	(0.16, 0.31)

[†] Individuals scoring in the 10th percentile or lower are prohibited from applying.

Table 2.57 shows hospital admissions within one year of accession for Active Duty enlisted personnel by medical disqualification status (see Part III, Data Sources). As shown in the table, the risk of hospitalization is significantly higher among the two disqualified groups than among fully qualified, and also significantly higher among those temporarily disqualified than among permanently disqualified individuals.

**TABLE 2.57 HOSPITAL ADMISSIONS WITHIN ONE YEAR OF ACCESSION FOR ACTIVE DUTY ENLISTED PERSONNEL
ACCESSED IN 2005 – 2010: BY MEDICAL DISQUALIFICATION STATUS**

Medical DQ	Total accessions	Admissions	Individuals hospitalized			
			Count	%	Relative risk	95% CI
Fully qualified	776,383	27,312	23,967	3.1	1.00	-
Temporary	62,386	3,162	2,677	4.3	1.39	(1.31, 1.48)
Permanent	67,697	2,876	2,494	3.7	1.19	(1.12, 1.27)

Table 2.58 shows hospital admissions within one year of accession for Active Duty enlisted personnel by approved medical waiver. As shown in the table, the risk of hospitalization is significantly higher among those who have an approved medical waiver.

**TABLE 2.58 HOSPITAL ADMISSIONS WITHIN ONE YEAR OF ACCESSION FOR ACTIVE DUTY ENLISTED PERSONNEL
ACCESSED IN 2005 – 2010: BY MEDICAL WAIVER STATUS**

Medical Waiver	Total accessions	Admissions	Individuals hospitalized			
			Count	%	Relative risk	95% CI
No	847,334	30,817	26,934	3.2	1.00	-
Yes	72,034	2,938	2,750	3.8	1.20	(1.16, 1.25)

Table 2.59 show the most common hospital diagnoses and the numbers of admissions and individuals admitted for these conditions. The category of neurotic and personality disorders is clearly the most frequent medical condition leading to hospitalization, particularly during the first year of service. Pneumonia and influenza are the second leading diagnosis in the first year of service followed by infections of the skin and subcutaneous tissue, other psychoses, fractures, and injuries. When considering all hospitalizations within the first two years of service, complications of pregnancy and neurotic and personality disorders are by far the most common, with fractures the third leading cause.

When comparing the numbers of hospitalizations within each medical category between the different follow-up periods (i.e. one and two years following accession), it is clear that several conditions resulting in hospital admissions tend to occur most frequently in the first year of Active Duty enlisted service. In particular, hospitalizations for pneumonia and influenza, acute respiratory infections, and other communicable diseases all occur with much higher frequency in the first year of service. Hospitalizations for neurotic and personality disorders also appear more common in the first year of service, though the difference is less dramatic than for communicable diseases. The reduced number of hospitalizations for neurotic and personality disorders in the second year of service may reflect the fact that most enlistees experience a serious episode related to mental illness early in training are discharged soon after (2000 AMSARA Annual Report, p.23-33). Further, given the observed hospitalizations, most serious mental illnesses appear to manifest within one year of service. The lower number of hospitalizations for pneumonia and influenza may be related to a reduction in group-living situations after basic training. Contrary to the pattern of occurrence shared by hospitalizations for neurotic and personality disorders, pneumonia and influenza, admissions for complications of pregnancy increased dramatically in the second year of service, not surprising given that pregnancy is a temporary medical disqualification at MEPS and a cause for discharge during Basic Combat Training (BCT). The risk of fractures appears similar in both the first and second years of service given that the number of hospitalizations for fractures is similar in both years of follow-up. However, the risk for injuries appears to increase after the first year of service given that the number of hospitalizations for injuries is more than doubled in the second year of follow-up. This increase in risk may be deployment related.

TABLE 2.59 HOSPITAL ADMISSIONS AND PERSONS HOSPITALIZED WITHIN ONE AND TWO YEARS OF SERVICE FOR ACTIVE DUTY ENLISTED PERSONNEL ACCESSED IN 2005-2010: BY MEDICAL CATEGORY

ICD-9	Medical category	Within one year of accession		Within two years of accession	
		Hospital admissions	Persons hospitalized	Hospital admissions	Persons hospitalized
308-316	Neurotic or personality disorders	5,586	4,880	8,095	6,710
480-487	Pneumonia and influenza	3,180	2,981	3,344	3,106
680-686	Infections of skin and subcutaneous tissue	2,718	2,585	3,418	3,185
295-299	Other Psychoses	1,971	1,556	3,398	2,395
800-829	Fracture	1,829	1,693	3,606	2,976
830-959	Injuries	1,193	1,078	2,883	2,286
540-543	Appendicitis	895	868	1,564	1,495
300-302	Neurotic or personality disorders	876	705	1,458	1,103
960-989	Poisoning and toxic effects	733	620	1,274	999
460-466	Acute respiratory infections	720	674	824	756
630-677	Complications of pregnancy, childbirth, and the puerperium	632	547	8,656	7,456
725,727-729	Rheumatism, excluding the back	617	570	840	741
781-782,786-794,797-799	Nonspecific symptoms	610	498	954	740
550-553	Hernia of abdominal cavity	581	562	724	686
470-478	Other diseases of the upper respiratory tract	436	397	663	584
303-304	Alcohol and drug dependence	418	321	918	664
570-579	Other diseases of digestive system	394	334	671	530
070-079	Other diseases due to viruses and chlamydiae	373	343	426	391
733.9	Other and unspecified disorders of bone and cartilage	353	336	372	350
780.2	Syncope and collapse	340	310	443	385
	Others	8,895	7,407	15,155	18,446
	Total	33,350	29,265	59,686	49,274

Attrition

Attrition is one of the key outcomes of interest to AMSARA. This section provides a description of attrition among first-time Active Duty enlisted accessions into the Army, Navy, Marines, and Air Force from FY 2005 to FY 2010. Figures 2.1 through 2.9 display the cumulative probability of service member attrition at 90, 180, 365, and 730 days following accession onto Active Duty by service, year of accession, gender, race, age at accession, education, AFQT percentile score at accession, record of medical conditions at accession, record of medical waiver, and medical disqualification status. Censoring may result from a lack of full follow-up or from certain DMDC transactions that result in the generation of a loss date but are not considered adverse events. The most common cause of non-attrition loss was admission to officer commissioning programs (1040), followed by other early releases (1008) and early release to attend school (1003). Loss records generated for these events, noted in Table 2.60, were not counted among the attritions reported in the following figures. Totals may vary from figure to figure due to missing variable values.

Table 2.60 LOSS CATEGORIES EXCLUDED FORM ACTIVE DUTY ATTRITION BY ISC CODE

ISC Code	Description
1000	Unknown or Invalid
1001	Expiration of Term of Service
1003	Early Release – To Attend School
1004	Early Release – Police Duty
1005	Early Release – In the National Interest
1006	Early Release – Seasonal Employment
1007	Early Release – To Teach
1008	Early Release – Other (incl RIF/VSI/SSB)
1040	Officer Commissioning Program
1041	Warrant Officer Program
1042	Military Service Academy
1050	Retirement, 20-30 yrs of Service
1051	Retirement, Over 30 yrs of Service
1052	Retirement, Other Categories
1103	Record Correction
1104	Dropped from Strength as MIA/POW
1105	Dropped from Strength, Other

ISC, Interservice Separation Code; RIF, Reduction in force; VSI, voluntary separation initiative; SSB, special separation benefit; MIA, missing in action; POW, prisoner of war

Figure 2.1 shows the percent of Active Duty accessions gained in 2005-2010 who were lost to attrition at specified days of follow-up after accession. During the first 90 days of service, the Navy had the highest percentage of attrition (8.4%). At 180 days, the percent of attrition was similar across services, with Navy and Marine Corps having the highest (10.1% and 10.2%, respectively) and Air Force and Army the lowest attrition rates (8.7% and 8.8%). The percentage of attrition at one year was lowest in the Air Force (11.2%) and similar among all other services. At two years of service, the percent attrition was highest among the Army (18.5%) followed by the Navy (17.2%), Marines (15.8%), and Air Force (14.4%).

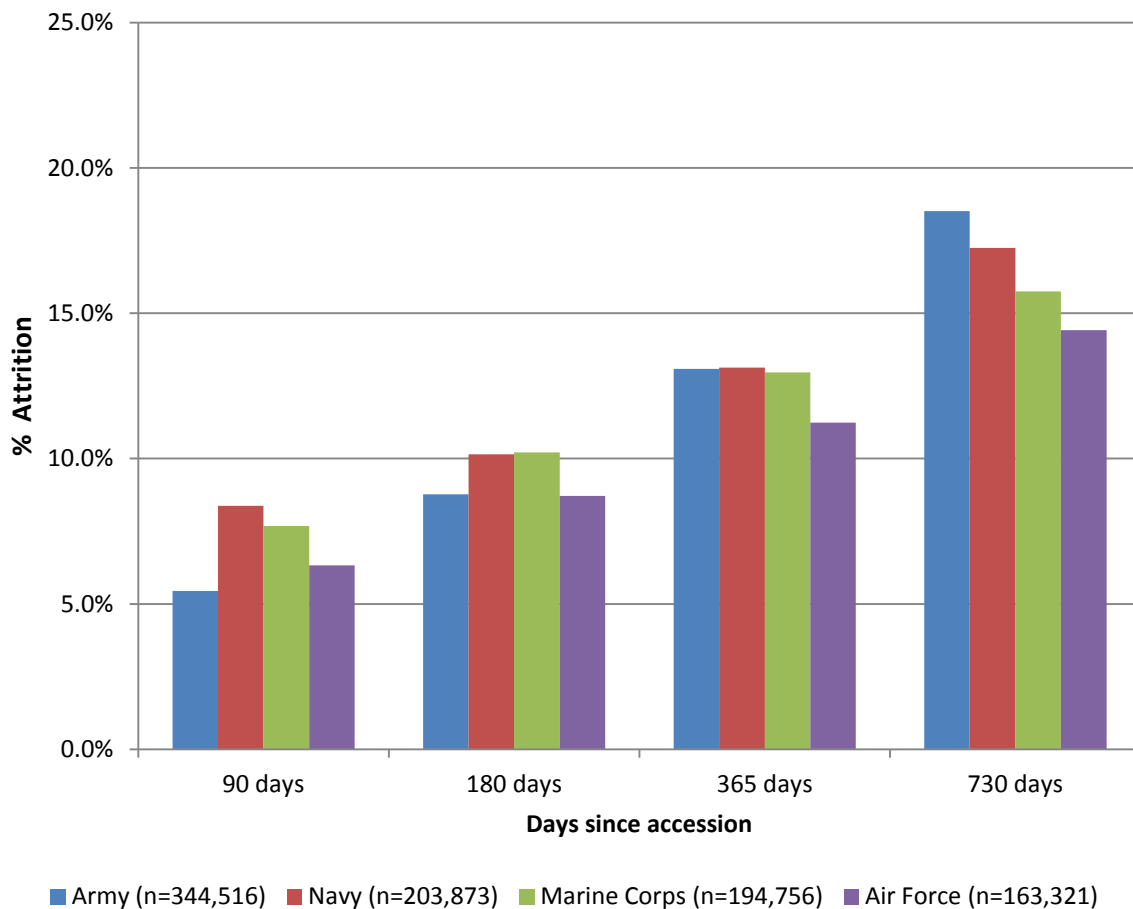


FIGURE 2.1 Attrition among first-time, Active Duty accessions in 2005 – 2010 at 90, 180, 365, and 730 days following accession. Separate plots are shown for the Army, Navy, Marines and Air Force.

Figure 2.2 describes the attrition profile all active duty enlisted accessions by year of accession. Overall, the attrition rate appears to decrease slightly by year of accession, with 2005 having the highest rates at each follow-up interval. Note the attrition rates were underestimated in 2010, as the result of incomplete follow-up.

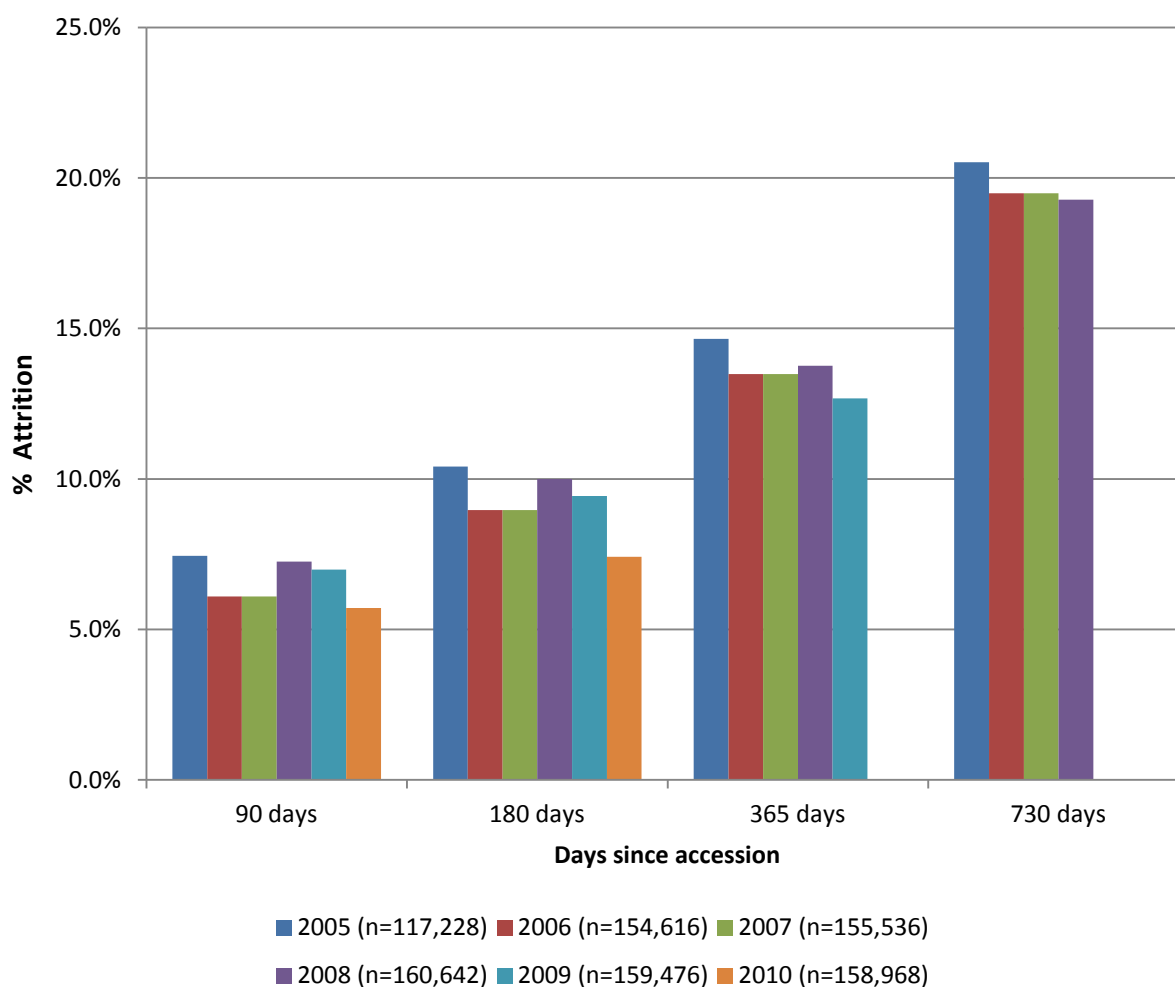


FIGURE 2.2 Attrition among first-time, Active Duty accessions in 2005 – 2010 at 90, 180, 365, and 730 days following accession, by year of accession. Separate plots are shown for each year of accession. Attrition for enlistees gaining in 2010 was calculated at 90 and 180 days, only.

Figures 2.3 through 2.7 describe the attrition profile for all Active Duty enlistees by gender, race, age at accession, education at accession, and AFQT score at accession. As seen in Figure 2.3, the proportion of accessions lost is consistently higher at all points of follow-up for females relative to males, even at the earliest point of assessment (90 days) where 9.8% of women were already lost to attrition as compared to only 6.2% of men. At the end of two years of service, cumulative attrition was 24.5% for females and 15.4% for males.

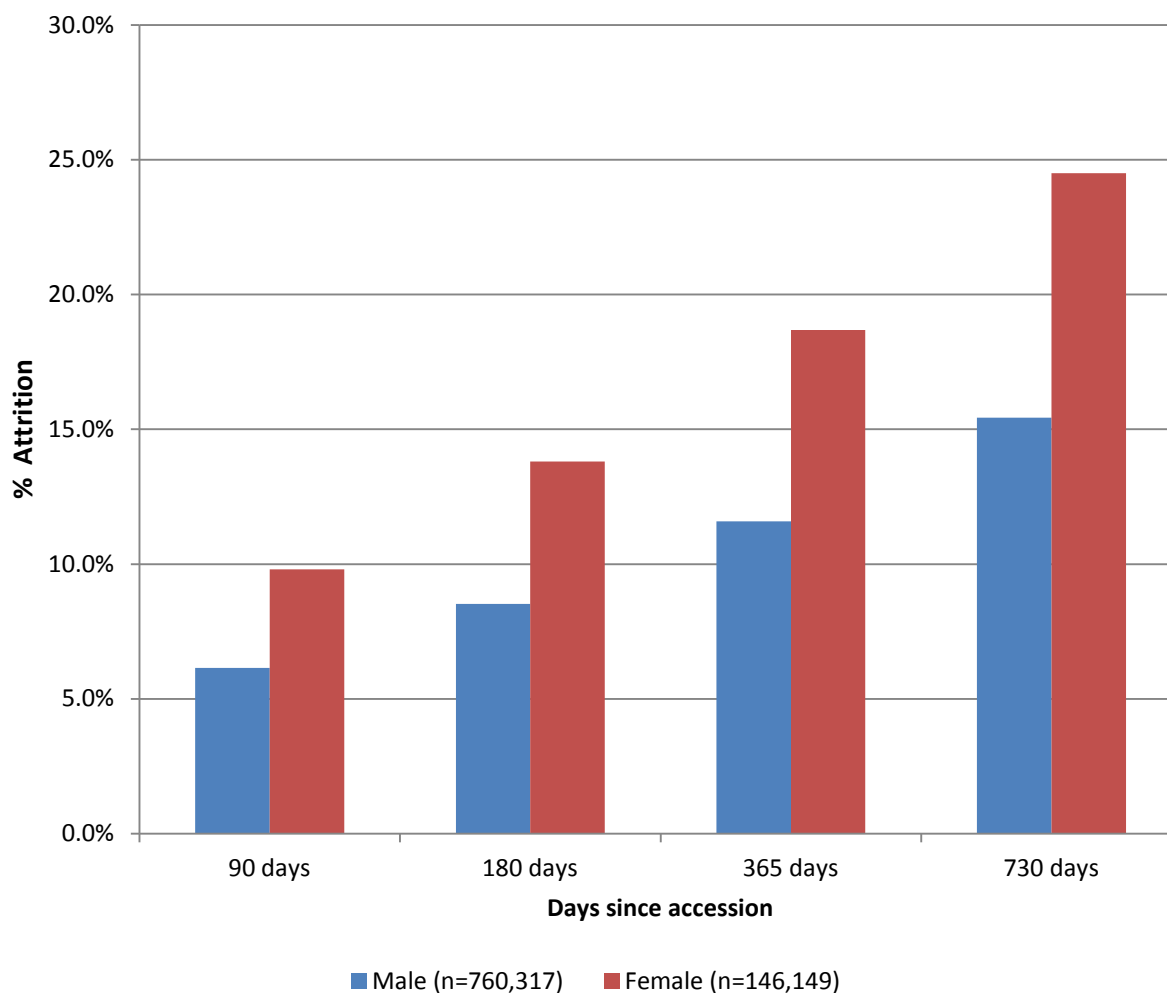


FIGURE 2.3 Attrition among first-time, Active Duty enlisted accessions in 2005 – 2010 at 90, 180, 365, and 730 days following accession, by gender.

As shown in Figure 2.4, whites consistently had the highest proportion of losses among accessions at all points of follow up, from 90 days (6.9%) and through 2 years (17.3%). Blacks and individuals who identified themselves as members of any race other than black or white tended to have similar, lower rates of attrition. However, at 2 years, the rate of attrition among blacks (16.3%) was higher than the rate among individuals who identified themselves as a member of a race other than white or black (13.9%).

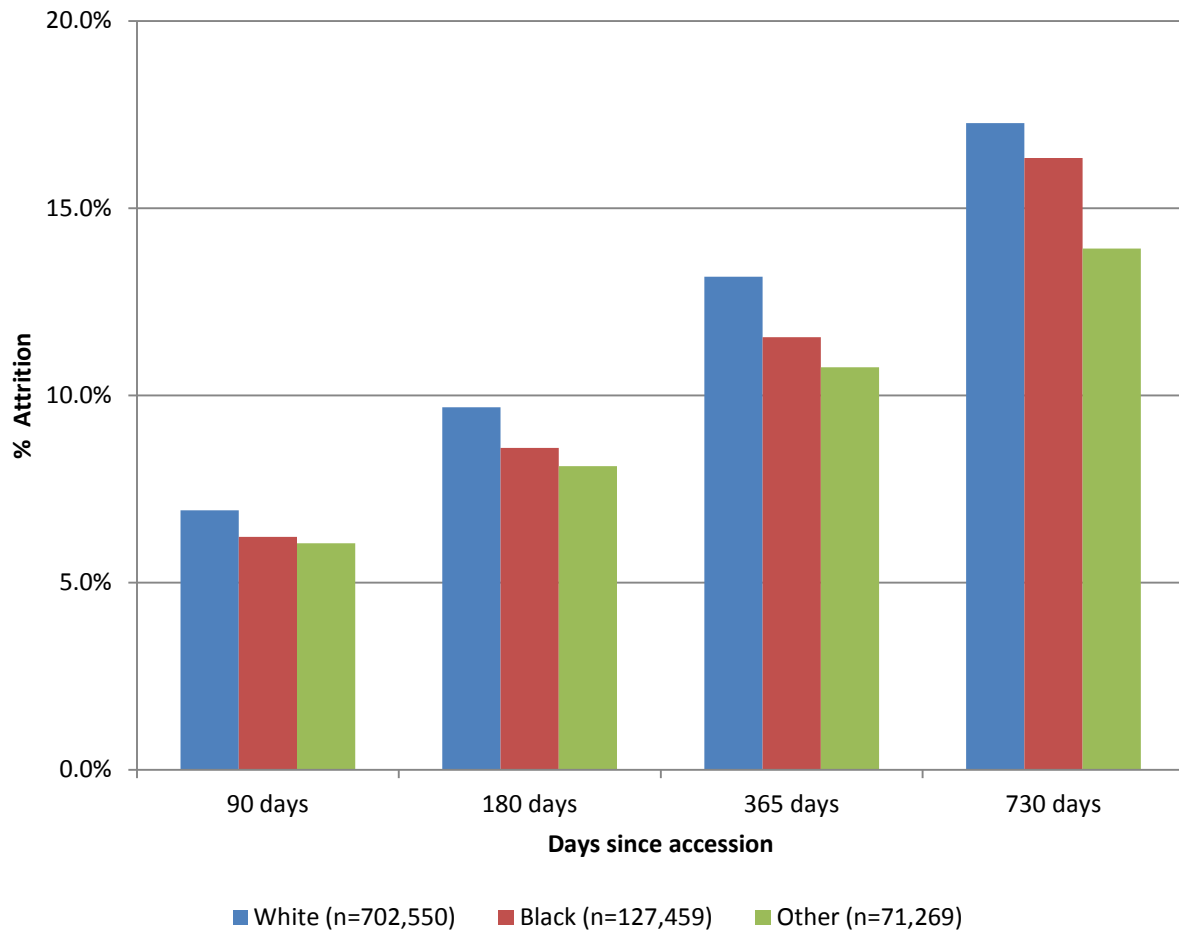


FIGURE 2.4 Attrition among first-time, Active Duty accessions in 2005 – 2010 at 90, 180, 365, and 730 days following accession, by race. Separate plots are shown for enlistees who identified themselves as white, black, or as a member of any other race. Enlistees declining to answer, or missing race information for other reasons, are not shown.

Cumulative attrition was highest for the over 30 age group at each time point over the two-year period (Figure 2.5). There appears to be an increasing proportion of attrites with increasing age, with the exception of the 17-20 age group being increasingly more likely to attrit than the 21-25 age group.

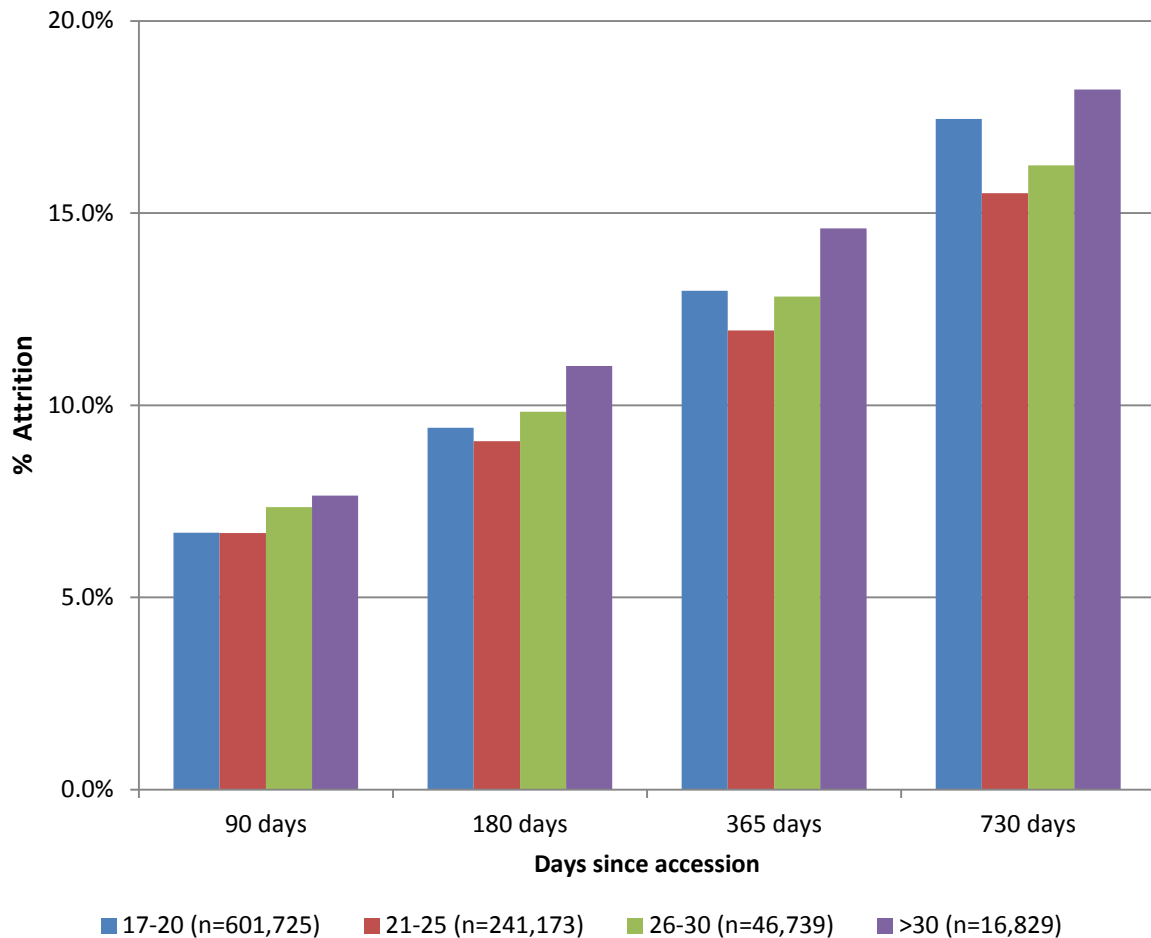


FIGURE 2.5 Attrition among first-time, Active Duty accessions in 2005–2010 at 90, 180, 365, and 730 days following accession, by age group at accession. Separate plots are shown for 17-20 year olds, 21-25 year olds, 26-30 year olds and accessions over 30 years of age.

When attrition was examined by education level (Figure 2.6) it was found that enlistees with higher levels of education had generally lower rates of attrition, at all points of follow-up. The rates for individuals reporting some college were very similar to the rates for those with a high school diploma at all points of follow up; at 90 days, these groups had similar attrition rates to high school seniors, but by 2 years the attrition rate for those who were high school seniors at accession was notably higher.

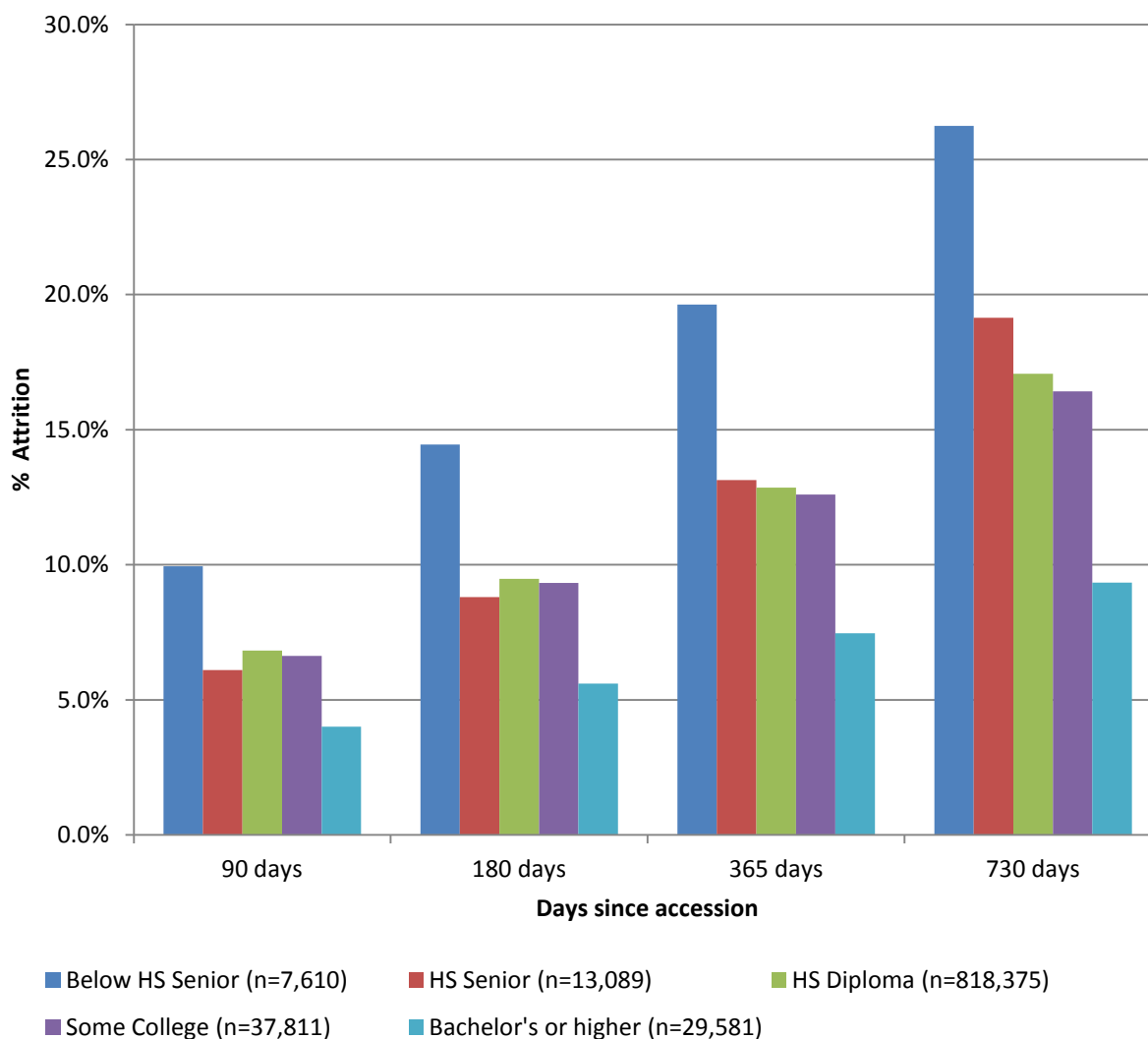


FIGURE 2.6 Attrition among first-time, Active Duty accessions in 2005 –2010 at 90, 180, 365, and 730 days following accession, by education.

Those with less than a high school education encompass the following three cases: 1) one who is pursuing completion of the GED or other test-based high school equivalency diploma, vocational school, or secondary school, etc.; 2) one who is not attending high school and who is neither a high school graduate nor an alternative high school credential holder; 3) one who is attending high school but is not yet a senior.

Figure 2.7 presents data on the attrition profile of accessions by AFQT percentile score group. The proportion lost at all points of follow-up was lowest for the highest percentile score group (93-99) and generally increased for progressively lower scoring categories. The increase in the proportion of attritions was highest among the lowest scoring group and lower for the higher scoring groups.

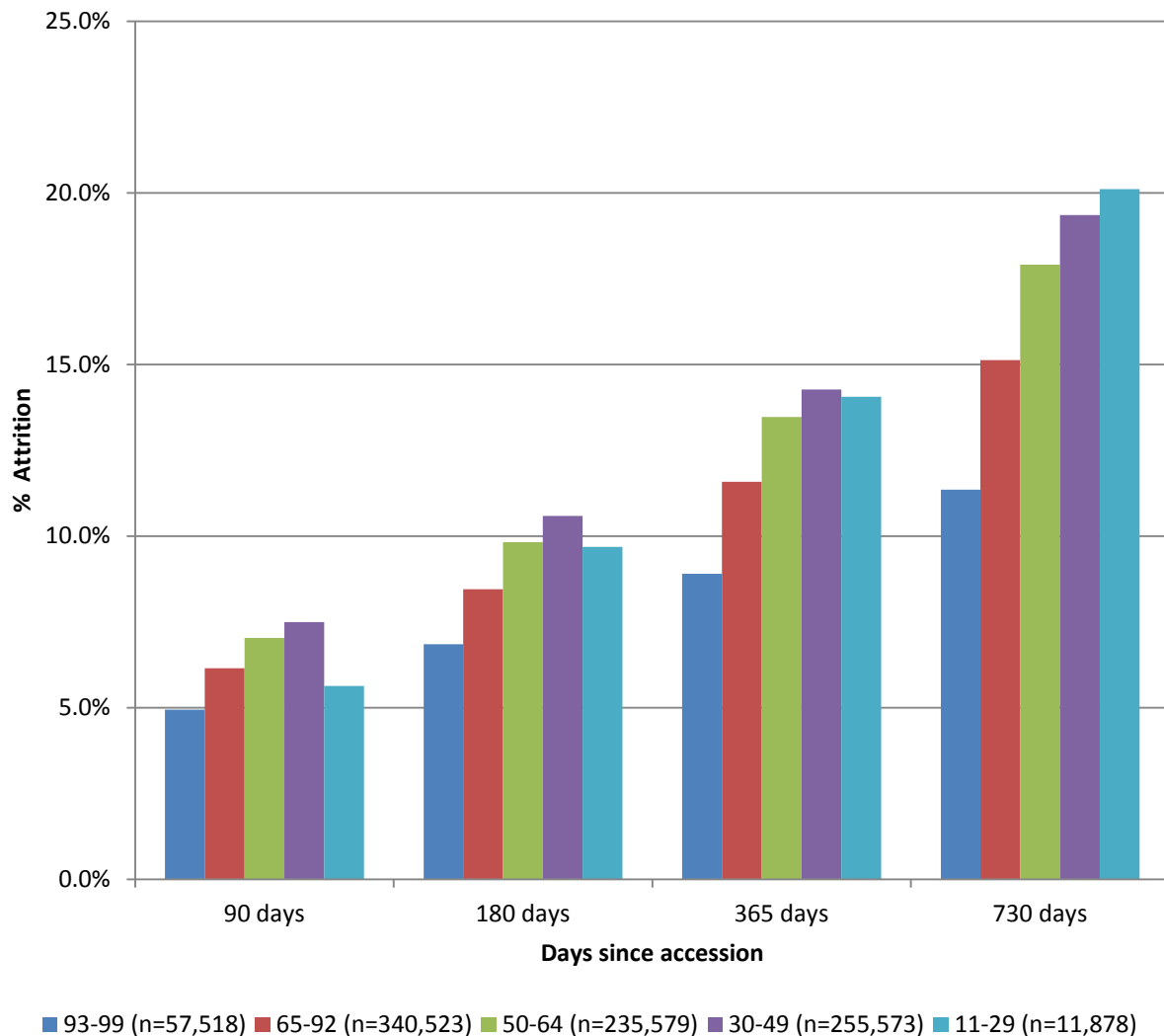


FIGURE 2.7 Attrition among first-time, Active Duty accessions in 2005 –2010 at 90, 180, 365, and 730 days following accession, by AFQT score. Separate plots are shown for specified groups based on AFQT score at time of accession in the 93-99, 65-92, 50-64, 31-49, and 11-29 percentile score groups. *Note that individuals scoring below the 10th percentile are barred from application.*

Figure 2.8 compares attrition among enlistees with medical conditions recorded by MEPS prior to accession with those who had no recorded medical conditions. At all points of follow up, the attrition rate was higher among those with conditions.

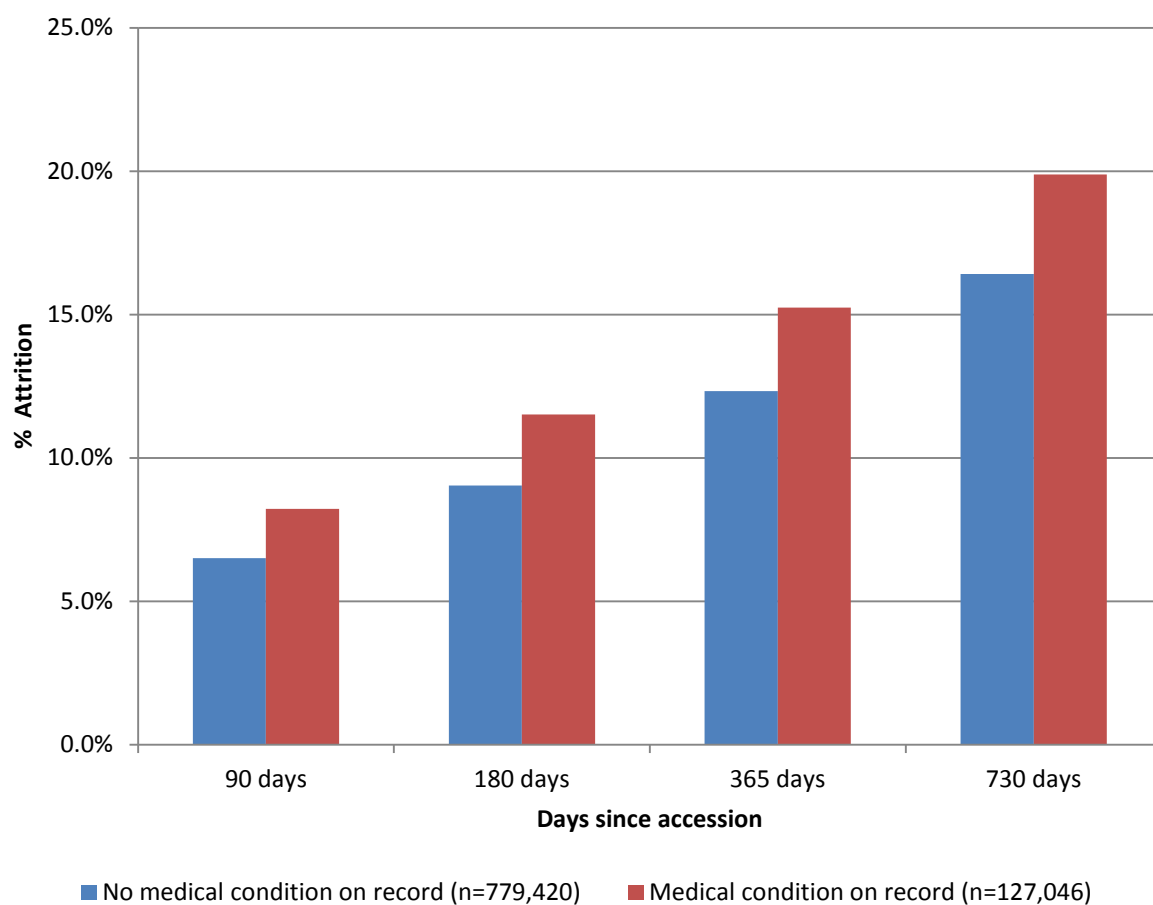


FIGURE 2.8 Attrition among first-time, Active Duty accessions in 2005 –2010 at 90, 180, 365, and 730 days following accession, by medical conditions at accession. Note that individuals with conditions reported by MEPS at any visit prior to accession are included in the medical conditions on record group.

Enlistees with an enlistment medical waiver record are compared to enlistees without a medical waiver record in Figure 2.9. While the proportion lost was slightly higher among individuals with a waiver record, the difference was relatively small even at 2 years of follow up, with those with a waiver record having an attrition rate of 18.1% compared to 16.8% among those who did not seek waivers.

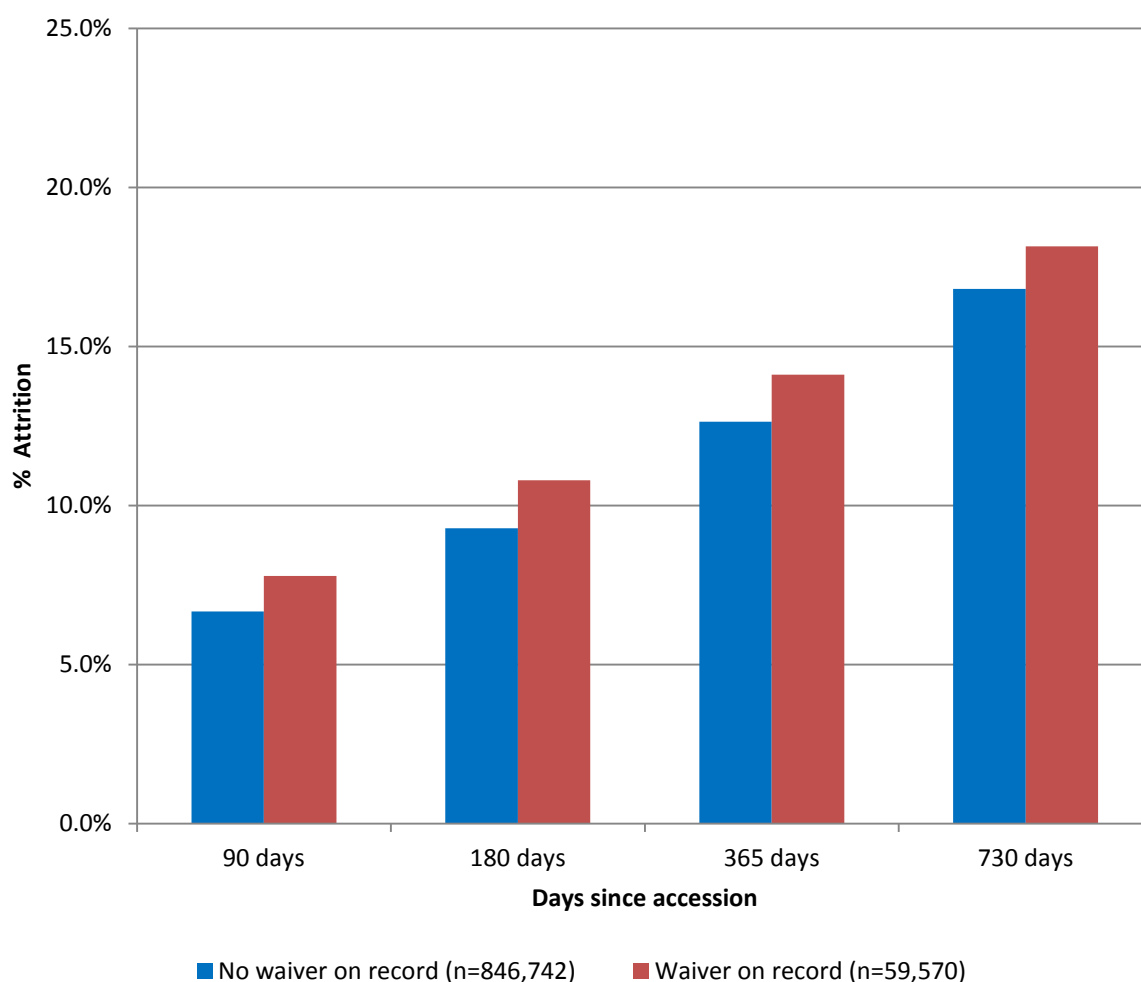


FIGURE 2.9 Attrition among first-time, Active Duty accessions in 2005 –2010 at 90, 180, 365, and 730 days following accession. Note that individuals who were granted an accession medical waiver from a different service than they accessed in are included in the waiver on record group.

Figure 2.10 shows the attrition rate by medical disqualification status. At all points of follow up, individuals with any medical disqualification have higher attrition rates than fully qualified individuals. The difference in attrition rate between fully qualified and permanently disqualified remains consistent over all points of follow up. However, the attrition rate among temporarily disqualified individuals increases much more rapidly. At 90 days, temporarily disqualified individuals have an attrition rate of 7.8%, higher than fully qualified (6.5%) and below permanently disqualified (8.5%). At all later points of follow up, the temporarily disqualified have the highest attrition rate, 21.2% at 2 years compared to 16.4% among fully qualified individuals.

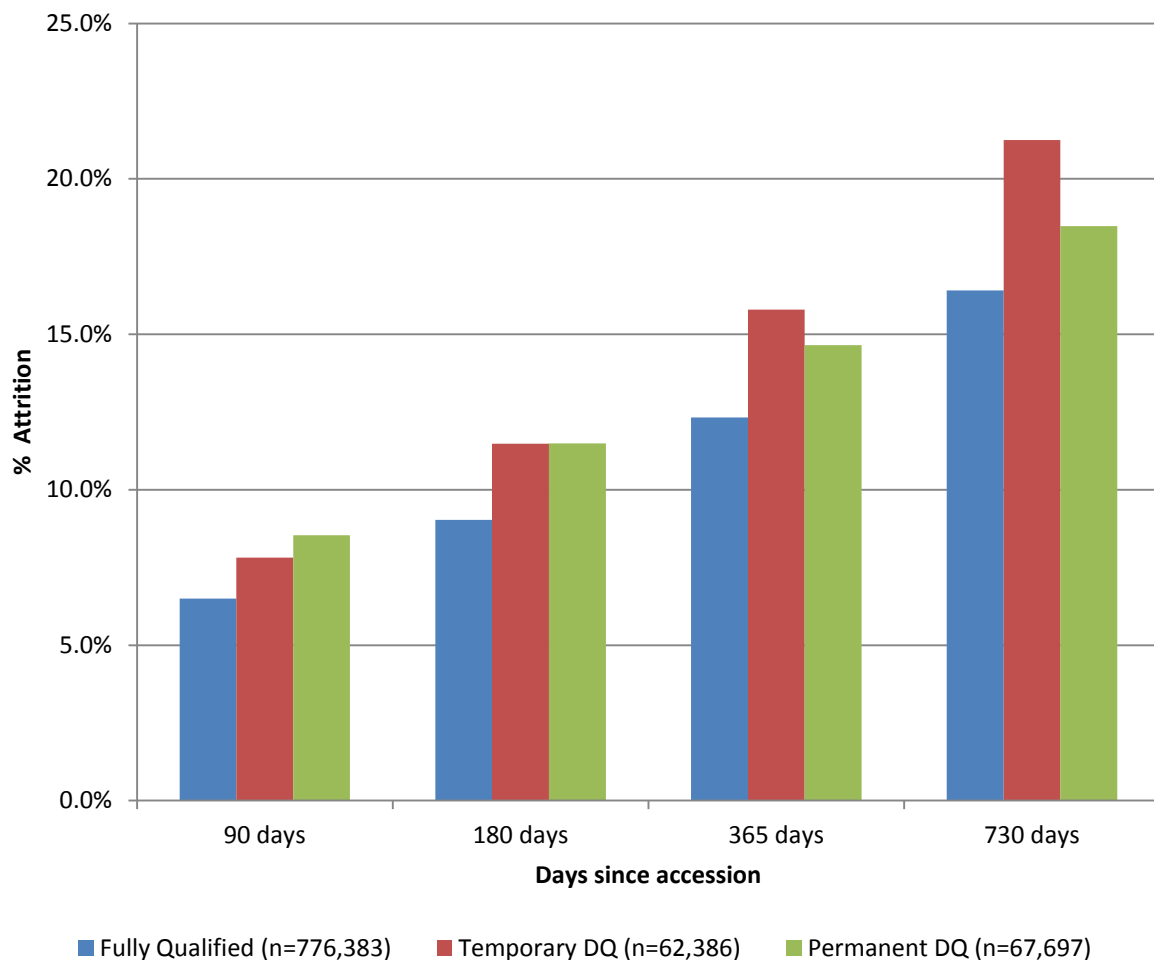


FIGURE 2.10 Attrition among first-time, Active Duty accessions in 2005 –2010 at 90, 180, 365, and 730 days following accession. Separate plots are shown for fully qualified, temporarily disqualified, and permanently disqualified enlistees.

EPTS Discharges

Discharges for medical conditions Existing Prior to Service (EPTS) are of vital interest to AMSARA. A discharge can be classified as EPTS if the condition was verified to have existed before the recruit began service and if the complications leading to discharge arose no more than 180 days after the recruit began duty. EPTS data reporting has varied by site and over time – see Data Sources section for details (Table 2.1).

Part I summarizes the EPTS records provided to AMSARA, regardless of whether a corresponding accession record is available. EPTS records for Active Duty, Reserves, and National Guard members are included. Part II only summarizes records for which a corresponding accession record is available. Due to the significant differences in the population between Active Duty and Reserves, only Active Duty discharges are included.

Part I: EPTS discharges irrespective of accession record

Some EPTS records do not have a matching accession record. Therefore, the tables in Part I show the numbers of EPTS discharge records provided by the IET sites for all components, regardless of whether a corresponding accession record is available to AMSARA.

The number of EPTS discharge records by service branch, component, and year of discharge are shown for the period between 2006 and 2010 in Table 2.61. Numbers for each service and component often differ considerably from year to year. For example, the average number of records received for Active Duty Army soldiers in 2006 and 2007 is nearly half the average number received in 2004 and 2005. Fluctuations in the numbers of reported EPTS discharges are also apparent for Active Duty Navy and Air Force. For example, Air Force reported EPTS discharges ranged from 445 in 2005 to 1,115 in 2007. Marine Corps EPTS discharge counts remain relatively constant from 2004-2008.

TABLE 2.61 EPTS DISCHARGES IN 2006 – 2010 BY SERVICE, COMPONENT, AND YEAR

Service	Component	2006	2007	2008	2009	2010 [†]	Total
Army	Active Duty	1,138	1,492	1,965	1,422	1,333	7,350
	National Guard	346	503	711	656	597	2,813
	Reserves	226	316	356	261	195	1,354
Navy*	Active Duty	962	1,717	1,693	1,410	1,435	7,217
	Reserves	42	167	186	112	82	589
Marines*	Active Duty	1,165	1,201	1,166	706	661	4,899
	Reserves	174	158	119	90	103	644
Air Force	Active Duty	715	1,115	1,040	567	567	4,004
	National Guard	4	5	6	6	5	26
	Reserves	59	70	77	61	75	342
Total		4,831	6,744	7,319	5,291	5,053	29,238

* Records are excluded if component is missing.

[†] May be incomplete; includes records received by AMSARA as of 3/31/2011.

Table 2.62 shows EPTS discharges between 2006 and 2010 for each branch of service by medical categories defined by USMEPCOM. The results are sorted according to the numbers of discharges from the Army, the largest service and the one with the most reported EPTS discharges. Psychiatric discharges were the most common cause of EPTS discharges in the Army, accounting for 29.5% of all EPTS discharges, and in the Marines, accounting for 43.0%. Psychiatric discharges were the second most common cause of EPTS discharge in the Navy, accounting for 14.6% of discharges, with other orthopedic conditions being slightly more common at 14.7% of discharges. However, psychiatric EPTS discharges accounted for less than 1% of all EPTS discharges from the Air Force. The leading cause of EPTS discharge in the Air Force was asthma, accounting for 20.4% of discharges; asthma is also the second most common cause of discharge from the Marines (11.0%). As a group, orthopedic conditions, including knee, back, feet, and other, account for 33.2% of discharges from the Army. Taken as a whole, orthopedic conditions were also leading causes of EPTS discharge in the Navy (35.7%), Marines (16.6%), and Air Force (45.0%). The difference in category frequencies may be due in part to differences in how each service categorizes and reports EPTS discharges, particularly discharges for psychiatric conditions (Army and Air Force). Accordingly, differences across services may reflect procedural differences more than true EPTS rates, and any comparisons across services should be made cautiously.

TABLE 2.62 EPTS DISCHARGES IN 2006–2010 BY CATEGORY

Condition	Army		Navy		Marines		Air Force	
	Count	%	Count	%	Count	%	Count	%
Psychiatric - other	3,401	29.5	1,147	14.6	2,394	43.0	19	0.4
Ortho - other	1,390	12.1	1,151	14.7	399	7.2	456	10.4
Ortho - back	1,027	8.9	648	8.3	229	4.1	339	7.8
Ortho - knee	899	7.8	723	9.2	238	4.3	556	12.7
Asthma	877	7.6	761	9.7	614	11.0	891	20.4
Other - general	728	6.3	606	7.7	440	7.9	282	6.5
Ortho - feet	503	4.4	275	3.5	58	1.0	615	14.1
Genitourinary system	480	4.2	422	5.4	193	3.5	135	3.1
Neurology - other	339	2.9	430	5.5	237	4.3	475	10.9
Abdomen and viscera	321	2.8	276	3.5	118	2.1	153	3.5
Cardiovascular - other	272	2.4	103	1.3	48	0.9	87	2.0
Seizure disorder	269	2.3	86	1.1	51	0.9	31	0.7
Chest & lung - other	232	2.0	310	4.0	73	1.3	74	1.7
Eyes - other	230	2.0	388	5.0	118	2.1	72	1.6
Skin & lymphatics	105	0.9	209	2.7	62	1.1	96	2.2
Ears - hearing	103	0.9	77	1.0	33	0.6	6	0.1
Cardiovascular – hypertension	74	0.6	40	0.5	32	0.6	15	0.3
Ears - other	42	0.4	61	0.8	35	0.6	4	0.1
Schizophrenia	22	0.2	5	0.1	14	0.3	1	<0.1
Eyes - refraction	15	0.1	39	0.5	8	0.1	12	0.3
Other/Missing	188	1.6	74	0.9	178	3.2	53	1.2
Total	11,517		7,831		5,572		4,372	

The medical causes of EPTS discharges for each service are more thoroughly examined by medical conditions that are disqualifying for enlisted service, as listed in the DoDI 6130.4. Prior to 2006, EPTS discharge conditions were coded according to the DoDI 6130.3. However, beginning in 2006 the discharge conditions were coded using DoDI 6130.4. Codes corresponding to psychiatric disorders and orthopedic conditions underwent a substantial revision. Given the breadth and scope of disease reclassification, it is difficult if not impossible to directly compare EPTS data from 2006-2010 to that from previous years. Therefore, only data from 2006 through 2010 are shown.

Table 2.63 shows the top 20 conditions leading to EPTS discharge from the Army for Active Duty enlistees in 2010, and for comparison gives the prevalence of EPTS discharges due to these conditions in 2006-2009. In 2010, asthma, depressive disorders, ADD/ADHD, and lower leg pain, deformities, and disease were the leading causes of EPTS discharges. The observed prevalence of EPTS discharges for the leading conditions in 2010 was generally similar to the prevalence of conditions observed in the period from 2006 to 2009. However, discharges for asthma increased in prevalence from 7.2% in 2006 to 2009 to 10.1% in 2010, and discharges for ADD/ADHD increased from 1.2% of all discharges to 5.3%. EPTS discharges for depressive disorders decreased slightly in prevalence in 2010, to 8.0% of all discharges from 9.5% in 2006 to 2009.

TABLE 2.63 TOP 20 PRIMARY EPTS DISCHARGE CONDITIONS FOR ACTIVE DUTY ENLISTEES IN 2006-2009 VS. 2010: ARMY

DoDI 6130.4	Primary EPTS condition	2006-2009		2010	
		n	%	n	%
493	Asthma	435	7.2	134	10.1
311	Depressive disorder, not elsewhere classified	573	9.5	107	8.0
314	ADD/ADHD	74	1.2	70	5.3
719.46	Lower leg pain, deformities, or disease	380	6.3	64	4.8
724	Unspecified disorders of back	285	4.7	50	3.8
300.01	Anxiety	128	2.1	44	3.3
737	Deviation or curvature of spine	90	1.5	31	2.3
719.47	Ankle or foot pain, deformities or disease	186	3.1	29	2.2
V22	Pregnancy	115	1.9	29	2.2
719.41	Shoulder pain, disease, injury current	141	2.3	28	2.1
285	Anemia	37	0.6	27	2.0
296.3	Major depression, recurrent	144	2.4	26	2.0
718.81	Shoulder instability	90	1.5	25	1.9
296.9	Mood disorder other and unspecified	118	2.0	24	1.8
296.8	Bipolar disorder	167	2.8	23	1.7
309	Adjustment disorders	193	3.2	22	1.7
345	Convulsive disorders	147	2.4	21	1.6
346	Headaches, migraines	45	0.7	20	1.5
389	Hearing deficiency	46	0.8	18	1.4
722	Disorders of intervertebral disc	79	1.3	18	1.4
Other	All other EPTS discharge categories	2,544	42.3	483	37.4
	Total for EPTS discharge categories	6,017		1,293	

Table 2.64 shows the top 20 conditions leading to EPTS discharge from the Navy among Active Duty personnel in 2010, compared to the prevalence of the same conditions in 2006-2009. Asthma (10.2%) was the leading cause of EPTS discharge in 2010, followed by lower leg pain (7.5%), and recurrent headaches (5.2%). The prevalence of EPTS discharge for recurrent headache and migraine were both higher in 2010 than in previous years.

TABLE 2.64 TOP 20 PRIMARY EPTS DISCHARGE CONDITIONS FOR ACTIVE DUTY ENLISTEES IN 2006-2009 vs. 2010: NAVY

DoDI (6130.4)	Primary EPTS condition	2006-2009		2010	
		n	%	n	%
493	Asthma	590	10.2	146	10.2
719.46	Lower leg pain, deformities, or disease	575	9.9	108	7.5
784.0	Headaches, recurrent	60	1.0	75	5.2
786.5	Chest pain	105	1.8	69	4.8
724	Unspecified disorders of back	287	5.0	62	4.3
346	Headaches, migraines	112	1.9	56	3.9
737	Deviation or curvature of spine	116	2.0	47	3.3
726.6	Knee limitation of Motion due to disease	77	1.3	44	3.1
371.6	Keratoconus of any degree	113	2.0	37	2.6
285	Anemia	52	0.9	31	2.2
718.81	Shoulder instability	91	1.6	26	1.8
368.2	Double vision	31	0.5	23	1.6
719.47	Ankle or foot pain, deformities or disease	156	2.7	22	1.5
728	Muscular paralysis, contracture or atrophy current of history	36	0.6	22	1.5
780.2	Syncope	75	1.3	20	1.4
389	Hearing deficiency	49	0.8	19	1.3
592	Nephrocalcinosis	56	1.0	19	1.3
796.9	Miscellaneous codes	52	0.9	18	1.3
719.45	Joint pain	58	1.0	17	1.2
831	Shoulder dislocation	55	1.0	17	1.2
Other	All other EPTS discharge categories	3,036	52.5	557	38.8
	Total for EPTS discharge categories	5,782		1,435	

Table 2.65 shows the top 20 conditions leading to EPTS discharge from the Marine Corps among Active Duty enlistees in 2010 and the corresponding prevalences for EPTS discharge due to these conditions in 2006-2009. Depressive disorders, asthma, and adjustment disorders were the top three reasons for EPTS discharge among Marines in 2010.

TABLE 2.65 TOP 20 PRIMARY EPTS DISCHARGE CONDITIONS FOR ACTIVE DUTY ENLISTEES IN 2006-2009 vs. 2010: MARINES

DoDI (6130.4)	Primary EPTS condition	2006-2009		2010	
		n	%	n	%
311	Depressive disorder, not elsewhere classified	555	13.1	71	10.7
493	Asthma	504	11.9	53	8.0
309	Adjustment disorders	162	3.8	49	7.4
724	Unspecified disorders of back	91	2.1	28	4.2
989.5	Allergic manifestations	103	2.4	27	4.1
300.01	Anxiety	163	3.8	25	3.8
719.46	Lower leg pain, deformities, or disease	105	2.5	19	2.9
300.9	Suicide behavior, gesture or attempt	230	5.4	17	2.6
719.47	Ankle or foot pain, deformities or disease	37	0.9	16	2.4
784.0	Headaches, recurrent	53	1.3	16	2.4
371.6	Keratoconus of any degree	28	0.7	14	2.1
346	Headaches, migraines	45	1.1	13	2.0
314	ADD/ADHD	120	2.8	10	1.5
719.41	Shoulder pain, disease, injury current	30	0.7	10	1.5
786.5	Chest pain	26	0.6	10	1.5
389	Hearing deficiency	19	0.4	9	1.4
401	Hypertension	17	0.4	9	1.4
732.4	Osteochondritis of the tibial tuberosity	15	0.4	9	1.4
296.8	Bipolar disorder	120	2.8	8	1.2
309.81	Posttraumatic stress disorder	27	0.6	8	1.2
Other	All other EPTS discharge categories	1,788	42.2	240	36.3
	Total for EPTS discharge categories	4,238		661	

Table 2.66 shows the top 20 conditions leading to EPTS discharge of Active Duty enlistees from the Air Force in 2010, compared to EPTS discharges in the same categories in 2006-2009. The primary causes for EPTS discharge in 2010 were lower leg pain, deformities, or disease; pes planus; asthma; and deviation or curvature of the spine. In contrast to other services, psychiatric conditions made up only a small percentage of EPTS discharges in all years considered. This difference may be attributable to active screening for these conditions in basic training at Lackland Air Force Base and in the categorization of such conditions as administrative rather than EPTS discharges by the Air Force.

TABLE 2.66 TOP 20 PRIMARY EPTS DISCHARGE CONDITIONS FOR ACTIVE DUTY ENLISTEES IN 2006-2009 VS. 2010: AIR FORCE

DoDI (6130.4)	Primary EPTS condition	2006-2009		2010	
		n	%	n	%
719.46	Lower leg pain, deformities, or disease	357	10.4	81	14.3
734, 754.6	Pes planus, acquired and congenital	335	9.7	45	7.9
493	Asthma	793	23.1	31	5.5
737	Deviation or curvature of spine	67	1.9	30	5.3
346	Headaches, migraines	277	8.1	24	4.2
724	Unspecified disorders of back	174	5.1	22	3.9
784.0	Headaches, recurrent	45	1.3	17	3.0
530.81	Gastroesophageal reflux disease (GERD)	27	0.8	10	1.8
692	Eczema	14	0.4	10	1.8
728.71	Plantar fasciitis, current	59	1.7	10	1.8
732.4	Osteochondritis of the tibial tuberosity	36	1.0	10	1.8
780.2	Syncope	33	1.0	10	1.8
786.5	Chest pain	12	0.3	10	1.8
719.41	Shoulder pain, disease, injury current	39	1.1	9	1.6
285	Anemia	12	0.3	8	1.4
455	Hemorrhoids, internal or external, when large, sym or Hx of bleeding	6	0.2	8	1.4
719.47	Ankle or foot pain, deformities or disease	87	2.5	8	1.4
718.81	Shoulder instability	48	1.4	7	1.2
719.45	Joint pain	23	0.7	6	1.1
042	Human Immunodeficiency Virus disease	11	0.3	5	0.9
Other	All other EPTS discharge categories	982	28.6	206	36.3
	Total for EPTS discharge categories	3,437		567	

Part II: EPTS discharges with an accession record

EPTS discharges among enlistees who accessed during 2005-2010 are summarized in Tables 2.67 through 2.75. Note that all references to years refer to the year of accession rather than the year of discharge. Discharge numbers reflect only discharges occurring among individuals with an accession record in the specific year. As mentioned, an EPTS condition must be identified within the first 180 days of service; if the service member is hospitalized at 180 days of service, their EPTS discharge may not occur until after their hospital discharge.

Relative risks are used to compare the likelihood of EPTS discharge between demographic groups. The baseline group chosen for each comparison depends on the factor being considered. For factors with some inherent order (e.g., age group, which ranges from younger to older) it is the first or last group in that order, as appropriate. Otherwise, the baseline group is generally the largest group. All comparisons, particularly those by service branch, should be taken in light of EPTS data reporting fluctuations by service and over time (see “Data Sources” for details).

Table 2.67 shows EPTS discharges reported among individuals accessed into enlisted service during each year from 2006 through 2010. EPTS discharge data for 2010 are not complete due to delays in reporting; therefore the total discharges are less than expected. No obvious pattern seems to exist in the number of EPTS discharges reported in 2006 through 2010; the percent of accessions receiving an EPTS discharge remained relatively stable over the same time period. The percentage of accessions discharged for an EPTS condition was highest in 2007 (3.4%).

TABLE 2.67 EPTS DISCHARGES BY ACCESSION YEAR

Year of accession	Accessions	Discharges	% Discharged
2006	154,616	3,997	2.6
2007	155,536	5,293	3.4
2008	160,642	4,963	3.1
2009	159,476	3,750	2.4
2010	158,968	3,293	2.1
Total	789,238	21,296	-

Enlisted accessions between 2006 and 2010 ending in EPTS discharges are shown in Table 2.68 for each branch of service. The risk of discharge in each service was compared to the Army. Marines and Air Force had similar risks of EPTS discharge, which were significantly increased relative to Army. Risk of EPTS discharge among Navy was the highest in any service, and was a statistically significantly increase relative to the Marines and Air Force.

TABLE 2.68 ENLISTED ACCESSIONS IN 2006–2010 ENDING IN EPTS DISCHARGE: BY SERVICE

Service	Accessions	Discharged	% Discharged	Relative risk	95% CI
Army	310,899	6,508	2.1	1.00	-
Navy	170,484	6,556	3.8	1.84	(1.78, 1.90)
Marines	163,477	4,400	2.7	1.29	(1.24, 1.34)
Air Force	144,378	3,832	2.7	1.27	(1.22, 1.32)

Table 2.69 shows the numbers of accessions and subsequent EPTS discharges reported by gender. The risk of EPTS discharge is significantly higher among females relative to males.

TABLE 2.69 ENLISTED ACCESSIONS IN 2006–2010 ENDING IN EPTS DISCHARGE: GENDER

Gender	Accessions	Discharged	% Discharged	Relative risk	95% CI
Male	661,191	15,355	2.3	1.00	-
Female	127,985	5,936	4.6	2.00	(1.94, 2.06)

The number of EPTS discharges and accessions are shown by race for the period of 2006 to 2010 in Table 2.70. Relative to whites, the risk of EPTS discharges among all other racial groups was significantly lower.

TABLE 2.70 ENLISTED ACCESSIONS IN 2006–2010 ENDING IN EPTS DISCHARGE: RACE

Race [†]	Accessions	Discharged	% Discharged	Relative risk	95% CI
White	475,890	13,587	2.9	1.00	-
Black	117,337	2,996	2.6	0.89	(0.86, 0.93)
Other	183,820	4,424	2.4	0.84	(0.82, 0.87)
Missing or declined	12,191	289	2.4	0.83	(0.74, 0.93)

[†] Note: New categories for race were available beginning in 2003. However, greater numbers of applicants chose not to indicate their race. Our data do not distinguish between individuals declining to answer and those missing race information for other reasons.

Table 2.71 shows the numbers of accessions and EPTS discharges by age for the period of 2006 to 2010. The risk of EPTS discharge is significantly elevated in the oldest age group relative to the youngest age group. However, the risk of discharge among 21-25 year olds is slightly lower than that of the youngest age group.

TABLE 2.71 ENLISTED ACCESSIONS IN 2006–2010 ENDING IN EPTS DISCHARGE: AGE

Age group at accession	Accessions	Discharged	% Discharged	Relative risk	95% CI
17 – 20	516,881	14,103	2.7	1.00	-
21 – 25	214,470	5,535	2.6	0.95	(0.92, 0.98)
26 – 30	42,218	1,139	2.7	0.99	(0.93, 1.05)
< 30	15,669	519	3.3	1.21	(1.11, 1.32)

The number of EPTS discharges and accessions are shown by education level for 2006 to 2010 in Table 2.72. Relative to those accessions with a high school education at gain, enlistees with education beyond high school were at significantly decreased risk of EPTS discharge. Risk of EPTS discharge among enlistees entering onto Active Duty service with less than a high school diploma was significantly increased as compared to enlistees with a high school diploma.

TABLE 2.72 ENLISTED ACCESSIONS IN 2006–2010 ENDING IN EPTS DISCHARGE: EDUCATION LEVEL

Education level	Accessions	Discharged	% Discharged	Relative risk	95% CI
Below HS grad [†]	5,609	205	3.7	1.32	(1.15, 1.51)
HS Diploma	675,529	18,688	2.8	1.00	-
Some college	29,797	664	2.2	0.81	(0.75, 0.87)
Bachelor's and higher	21,247	268	1.3	0.46	(0.40, 0.51)
Missing	57,056	1,471	2.6	0.93	(0.88, 0.98)

[†] Encompasses the following three cases: 1) one who is pursuing completion of the GED or other test-based high school equivalency diploma, vocational school, or secondary school, etc.; 2) one who is not attending high school and who is neither a high school graduate nor an alternative high school credential holder; 3) one who is attending high school but is not yet a senior.

Table 2.73 shows the enlisted accessions ending in EPTS discharge for the period between 2006 and 2010 by AFQT score. Those scoring in the highest percentile groups (93-99) had the lowest risk of EPTS discharge. All lower percentile groups had a significantly higher risk of EPTS discharge relative to the highest scoring group, with a general trend of lower risk corresponding with higher AFQT score. Those in the lowest AFQT score category (11-29), however, have a decreased risk of EPTS discharge relative to the next highest score category (30-49).

TABLE 2.73 ENLISTED ACCESSIONS IN 2006–2010 ENDING IN EPTS DISCHARGE: AFQT SCORE

AFQT score	Accessions	Discharged	% Discharged	Relative risk	95% CI
93 – 99	49,961	975	2.0	1.00	-
65 – 92	296,774	7,331	2.5	1.27	(1.18, 1.35)
50 – 64	204,430	5,887	2.9	1.48	(1.38, 1.58)
30 – 49	222,613	6,828	3.1	1.57	(1.47, 1.68)
11 – 29 [†]	10,466	272	2.6	1.33	(1.17, 1.52)
Missing	4,997	3	0.1	0.03	(0.01, 0.10)

[†] Individuals scoring in the 10th percentile or lower are prohibited from applying, although some exceptions have been noted.

Table 2.74 shows the enlisted accessions ending in EPTS discharge for the period between 2006 and 2010 by medical disqualification status. Both disqualified groups had a significantly higher risk of EPTS discharge relative to accessions who were fully medically qualified. Those with permanent disqualifications had a significantly higher risk of EPTS discharge than accessions with temporary disqualifications. For definitions of permanent and temporary disqualification see Part III, Data Sources.

TABLE 2.74 ENLISTED ACCESSIONS IN 2006–2010 ENDING IN EPTS DISCHARGE: MEDICAL DISQUALIFICATION

Medical status	Accessions	Discharged	% Discharged	Relative risk	95% CI
Fully qualified	675,651	17,175	2.5	1.00	-
Permanent	59,940	2,405	4.0	1.58	(1.51, 1.65)
Temporary	53,647	1,716	3.2	1.26	(1.20, 1.32)

Table 2.75 shows the enlisted accessions ending in EPTS discharge for the period between 2006 and 2010 by approved medical waiver. Waived individuals had a significantly higher risk of EPTS discharge relative to accessions who did not receive an accession medical waiver. However, the risk for those who received waivers was slightly lower than the risk for all permanently disqualified individuals (see Table 2.73, above).

TABLE 2.75 ENLISTED ACCESSIONS IN 2006–2010 ENDING IN EPTS DISCHARGE: MEDICAL WAIVER

Medical waiver	Accessions	Discharged	% Discharged	Relative risk	95% CI
No	743,080	19,554	2.6	1.00	-
Yes	46,209	1,744	3.8	1.43	(1.36, 1.50)

Disability Discharge Considerations with an Accession Record

Data on disability discharge considerations are compiled separately for each service by its disability agency. The Army and Air Force disability agencies have provided data on all individuals disability discharged since 1995. The Navy/Marines agency first provided data for all actions in FY 2009, in support of the first AMSARA DES annual report (published 2011). Consequently, the following tables will focus on disability evaluation within one year of accession while information on disability discharge data irrespective of accession records will now be reported in the DES annual report. These tables include all individuals evaluated, whether or not they were discharged or returned to duty as fit as a result of the evaluation. Among those discharged, dispositions included permanent disability retirement list, temporary disability retirement list, separated with severance pay, and separated without benefit. Medical diagnosis categories are taken from the Veterans Administration Schedule for Rating Disability (VASRD; see the “Disability” section in “Data Sources”). The grouping of VASRD codes was updated in the CY 2007 Annual Report. The current definitions are provided in the Data Sources Section. The revisions took into account the use of analogous codes which are unspecified disorders within a general diagnostic category. For example, code 5399 would indicate an unspecified muscle injury (in isolation) or a previously undefined condition (when in combination with a second or third code).

Tables 2.76 through 2.84 present the numbers of medical disability evaluations within the first year of the first term of service among Active Duty enlisted Army, Air Force, Navy and Marine Corps personnel who accessed during 2005 to 2010. Relative risks are used to compare the likelihood of disability evaluation between demographic groups. The baseline group chosen for each comparison depends on the factor being considered. For factors with some inherent order (e.g., age group, which ranges from younger to older) it is the first or last group in that order, as appropriate. Otherwise, the baseline group is generally the largest group.

Table 2.76 shows the numbers of disability evaluations reported among individuals accessed into the Army, Air Force, Navy, and Marine Corps enlisted service during each year from 2005 to 2010. Results are shown for each year of accession. The highest rate of disability evaluation in the first year of service (0.59%) occurred for 2008 accessions. The number of disability evaluations for accessions in 2010 is underestimated due to incomplete follow up time.

TABLE 2.76 DISABILITY EVALUATIONS FOR ACTIVE DUTY WITHIN ONE YEAR OF SERVICE IN 2005–2010: BY YEAR

Year of accession	Total accessed	Evaluated within one year of accession	
		Count	%
2005	117,228	665	0.57
2006	154,616	782	0.51
2007	155,536	867	0.56
2008	160,642	944	0.59
2009	159,476	653	0.41
2010*	158,968	253	0.16

* The rate of disability evaluation was underestimated due to lack of follow up data on individuals accessed in 2010.

Table 2.77 shows the Active Duty enlisted accessions that underwent disability evaluation by service. Relative to Army enlistees, disability evaluation during the first year of service was significantly less likely among enlistees from all other services.

TABLE 2.77 DISABILITY EVALUATIONS FOR ACTIVE DUTY WITHIN ONE YEAR OF SERVICE IN 2005–2010: BY SERVICE

Service	Total accessions	Evaluated within one year of accession			
		Count	%	Relative risk	95% CI
Army	344,608	2,764	0.80	1.00	-
Air Force	163,443	142	0.09	0.11	(0.09, 0.13)
Marine Corps	194,520	941	0.48	0.60	(0.56, 0.65)
Navy	203,895	317	0.16	0.19	(0.17, 0.22)

The demographic characteristics of Active Duty enlisted accessions who underwent disability evaluation within one year of service are shown in Tables 2.78 through 2.82. Females were around two and a half times more likely to undergo disability evaluation than males. The risk of disability evaluation also increased significantly with increasing age. On comparison of the risk of disability evaluations across race groups, whites have a significantly higher risk of evaluated compared to all other racial groups, except for those who declined to report race. With respect to the level of education attained by accession, the highest risk of disability evaluation was observed for enlistees who had some level of college education prior to accession. The lowest risk of disability evaluation was for accessions with a high school diploma, or with a bachelor's degree or higher.

TABLE 2.78 DISABILITY EVALUATIONS FOR ACTIVE DUTY WITHIN ONE YEAR OF SERVICE IN 2005–2010: BY GENDER

Gender	Total accessions	Evaluated within one year of accession			
		Count	%	Relative risk	95% CI
Male	760,310	2,810	0.37	1.00	-
Female	146,144	1,354	0.93	2.51	(2.35, 2.67)

TABLE 2.79 DISABILITY EVALUATIONS FOR ACTIVE DUTY WITHIN ONE YEAR OF SERVICE IN 2005 – 2010: BY AGE

Age group at accession	Total accessions	Evaluated within one year of service			
		Count	%	Relative risk	95% CI
17 – 20	601,725	2,275	0.38	1.00	-
21 – 25	241,173	1,242	0.51	1.36	(1.27, 1.46)
26 – 30	46,739	396	0.85	2.24	(2.01, 2.49)
> 30	16,829	251	1.49	3.94	(3.47, 4.49)

TABLE 2.80 DISABILITY EVALUATIONS FOR ACTIVE DUTY WITHIN ONE YEAR OF SERVICE IN 2005 – 2010: BY RACE

Race [†]	Total accession	Evaluated within one year of service			
		Count	%	Relative risk	95% CI
White	702,550	3,578	0.51	1.00	-
Black	127,459	353	0.28	0.54	(0.49, 0.61)
Other	71,269	191	0.27	0.53	(0.45, 0.61)
Declined	5,188	42	0.81	1.59	(1.17, 2.15)

[†] Note: New categories for race were available beginning in 2003. However, greater numbers of applicants chose not to indicate their race. Our data do not distinguish between individuals declining to answer and those missing race information for other reasons.

TABLE 2.81 DISABILITY EVALUATIONS FOR ACTIVE DUTY WITHIN ONE YEAR OF SERVICE IN 2005 – 2010: BY EDUCATION

Education level	Total accessions	Evaluated within one year of service			
		Count	%	Relative risk	95% CI
Below HS graduate [†]	7,610	42	0.55	1.22	(0.91, 1.66)
HS diploma	831, 464	3,739	0.45	1.00	-
Some college	37,811	253	0.67	1.49	(1.31, 1.69)
Bachelor's and higher	29,581	130	0.44	0.97	(0.82, 1.16)

[†] Encompasses the following three cases: 1) one who is pursuing completion of the GED or other test-based high school equivalency diploma, vocational school, or secondary school, etc.; 2) one who is not attending high school and who is neither a high school graduate nor an alternative high school credential holder; 3) one who is attending high school but is not yet a senior.

Table 2.82 shows the numbers and likelihood of disability evaluations within the first year of service by AFQT percentile score. Compared to the rate among individuals in the 93rd to 99th percentile, the rate of evaluation was higher among those in the 50th to 64th percentile and the 11th to 29th percentile groups.

TABLE 2.82 DISABILITY EVALUATIONS FOR ACTIVE DUTY WITHIN ONE YEAR OF SERVICE IN 2005–2010: BY AFQT SCORE

AFQT score	Total accessions	Evaluated within one year of service			
		Count	%	Relative risk	95% CI
93 – 99	57,518	235	0.41	1.00	-
65 – 92	340,523	1,577	0.46	1.13	(0.99, 1.30)
50 – 64	235,579	1,161	0.49	1.21	(1.05, 1.39)
30 – 49	255,573	1,119	0.44	1.07	(0.93, 1.23)
11 – 29 [†]	11,878	72	0.61	1.48	(1.14, 1.93)

[†] Individuals scoring in the 10th percentile or lower are prohibited from applying, although some exceptions have been noted.

Table 2.83 shows the numbers and likelihood of disability evaluations within the first year of service by medical disqualification status. The rate of disability evaluation for 2005-2010 accessions was higher in individuals with a disqualification as compared to fully qualified individuals, with the temporarily disqualified having the highest rate of disability evaluation during the first year of service.

TABLE 2.83 DISABILITY EVALUATIONS FOR ACTIVE DUTY WITHIN ONE YEAR OF SERVICE IN 2005 – 2010: BY MEDICAL STATUS

Medical status	Total accessions	Evaluated within one year of service			
		Count	%	Relative risk	95% CI
Fully qualified	776,383	3,227	0.42	1.00	-
Permanent	67,697	446	0.66	1.59	(1.44, 1.75)
Temporary	62,386	491	0.79	1.89	(1.72, 2.08)

Table 2.84 shows the numbers and likelihood of disability evaluations within the first year of service by medical waiver status. The rate of disability evaluation for 2005-2010 accessions was significantly higher in individuals approved for a medical accession waiver.

TABLE 2.84 DISABILITY EVALUATIONS FOR ACTIVE DUTY WITHIN ONE YEAR OF SERVICE IN 2005 – 2010: BY MEDICAL WAIVER STATUS

Medical Waiver	Total accessions	Evaluated within one year of service			
		Count	%	Relative risk	95% CI
No	847,334	3,753	0.44	1.00	-
Yes	72,034	411	0.57	1.29	(1.16, 1.43)

Table 2.85 shows the leading diagnoses for disability evaluation from the Army within the first year of service. Data are shown in aggregate for 2005-2009 compared to 2010. The majority of disability evaluations in both periods were accounted for by two categories: Impairments and disease of the spine, skull, limbs, and extremities, as well as other diseases of the musculoskeletal system (including joint replacement) accounted for 60.4% of all Army disability evaluations in 2010, followed by prosthetic implants and other musculoskeletal injuries (29.2%). For 2005-2009 in aggregate, almost 90% of all disability evaluations were related to musculoskeletal issues in the above two categories while all other disability evaluations among first-year soldiers collectively account for less than 15%. The third leading cause of disability evaluation, diseases of the peripheral nerves, accounted for 3.1% of evaluations in 2010 and 2.8% over the period 2005-2009.

TABLE 2.85 DIAGNOSIS CATEGORIES FOR DISABILITY EVALUATIONS AMONG FIRST-TIME ACTIVE DUTY PERSONNEL WITHIN THE FIRST YEAR OF SERVICE FOR 2005–2009 VS. 2010: ARMY

Diagnosis category	2005-2009		2010	
	Count	%	Count	%
Impairment, limitation, ankylosis of joints, spine, skull, limbs, and extremities	1,045	39.2	58	60.4
Prosthetic implants and diseases of the musculoskeletal system	1,312	49.2	28	29.2
Diseases of the peripheral nerves	74	2.8	3	3.1
Muscle injuries	65	2.8	3	3.1
Diseases of the heart	19	0.7	3	3.1
Diseases of the respiratory system	7	0.3	2	2.1
Diseases of the endocrine system	53	2.0	1	1.0
Organic diseases of the central nervous system	19	0.7	1	1.0
Diseases of the eye or loss of vision	12	0.4	1	1.0
Diseases of the cranial nerve	6	0.2	1	1.0
Affective and nonpsychotic mental disorders	68	2.5	0	0.0
Diseases of the trachea and bronchi	56	2.1	0	0.0
Schizophrenia and other psychotic disorders	27	1.0	0	0.0
Convulsive disorders	26	1.0	0	0.0
Miscellaneous neurological disorders	20	0.7	0	0.0
Diseases of the digestive system	17	0.6	0	0.0
Diseases of the arteries and veins	14	0.5	0	0.0
Diseases of the skin	11	0.4	0	0.0
The hemic and lymphatic systems	6	0.2	0	0.0
Diseases of the genitourinary system	4	0.1	0	0.0
Infectious diseases, immune disorders, and nutritional deficiencies	3	0.1	0	0.0
Diseases of the nose and throat	2	0.1	0	0.0
Diseases of the ear	2	0.1	0	0.0
Dental and oral conditions	2	0.1	0	0.0
Total individuals**	2,668		96	

** 31 individuals (26 in 2005-2009; 5 in 2010) had no VASRD codes and a final disposition of fit or administrative termination.

Table 2.86 shows the leading diagnoses for disability evaluations in the Air Force within the first year of service. Data are shown for 2010 compared to 2009. Air Force data from 1995-2009 reflect only the most recent consideration per individual; thus the number first considered within the first year of service is undercounted for years prior to 2009. Disability evaluations for diseases of the trachea and bronchi (49.5%) was the largest single category for disability evaluations among first-year Air Force enlistees in 2010, followed by impairments and disease of the spine, skull, limbs and extremities (9.9%) and prosthetic implants and diseases of the musculoskeletal system (7.9%). The same conditions were ranked among the top three in 2009, however, diseases of the trachea and bronchi was the third of the three that year at only 9.8% of evaluations.

TABLE 2.86 DIAGNOSIS CATEGORIES FOR DISABILITY EVALUATIONS AMONG FIRST-TIME ACTIVE DUTY PERSONNEL WITHIN THE FIRST YEAR OF SERVICE FOR 2010: AIR FORCE

Diagnosis category	2009		2010	
	Count	%	Count	%
Diseases of the trachea and bronchi	4	9.8	50	49.5
Impairment, limitation, ankylosis of joints, spine, skull, limbs, and extremities	16	39.0	10	9.9
Prosthetic implants and diseases of the musculoskeletal system	6	14.6	8	7.9
Schizophrenia and other psychotic disorders	1	2.4	6	5.9
Affective and nonpsychotic mental disorders	3	7.3	5	5.0
Diseases of the digestive system	1	2.4	4	4.0
Diseases of the genitourinary system	1	2.4	3	3.0
Diseases of the endocrine system	4	9.8	2	2.0
Convulsive disorders	3	7.3	2	2.0
Muscle injuries	2	4.9	2	2.0
Diseases of the peripheral nerves	0	0.0	2	2.0
The hemic and lymphatic systems	0	0.0	2	2.0
Infectious diseases, immune disorders, and nutritional deficiencies	0	0.0	2	2.0
Miscellaneous neurological disorders	1	2.4	1	1.0
Diseases of the ear	1	2.4	1	1.0
Diseases of the arteries and veins	0	0.0	1	1.0
Diseases of the heart	0	0.0	1	1.0
Diseases of the respiratory system	0	0.0	1	1.0
Diseases of the skin	0	0.0	1	1.0
Diseases of the eye or loss of vision	0	0.0	1	1.0
Injury to the mouth, lips, tongue, and esophagus	0	0.0	1	1.0
Organic diseases of the central nervous system	0	0.0	1	1.0
Gynecological conditions and disorders of the breast	1	2.4	0	0.0
Total	41		101	

Table 2.87 shows the leading diagnoses for disability evaluation in the Navy within the first year of service. Data are shown in aggregate for 2005-2009 compared to 2010. The number of first-year Navy enlistees considered for disability discharge in 2010 (9) was extremely low. Disability evaluations for impairments and disease of the spine, skull, limbs, and extremities (33.3%) was the largest single category among first-year Navy enlistees in 2010, followed by prosthetic implants and diseases of the musculoskeletal system (22.2%) and organic diseases of the central nervous system (22.2%). This is similar to the period from 2005-2009, with the exception that convulsive disorders were the third leading condition in that period.

TABLE 2.87 DIAGNOSIS CATEGORIES FOR DISABILITY EVALUATIONS AMONG FIRST-TIME ACTIVE DUTY PERSONNEL WITHIN THE FIRST YEAR OF SERVICE FOR 2005–2009 VS. 2010: NAVY

Diagnosis category	2005- 2009		2010	
	Count	%	Count	%
Impairment, limitation, ankylosis of joints, spine, skull, limbs, and extremities	89	28.9	3	33.3
Prosthetic implants and diseases of the musculoskeletal system	78	25.3	2	22.2
Organic diseases of the central nervous system	16	5.2	2	22.2
Convulsive disorders	21	6.8	1	11.1
Amputation or anatomical loss of upper and lower extremities	1	0.3	1	11.1
Diseases of the peripheral nerves	13	4.2	0	0.0
Affective and nonpsychotic mental disorders	16	5.2	0	0.0
Muscle injuries	8	2.6	0	0.0
Schizophrenia and other psychotic disorders	6	1.9	0	0.0
Diseases of the endocrine system	4	1.3	0	0.0
Diseases of the heart	4	1.3	0	0.0
Diseases of the trachea and bronchi	4	1.3	0	0.0
Diseases of the digestive system	3	1.0	0	0.0
Diseases of the arteries and veins	3	1.0	0	0.0
Diseases of the eye or loss of vision	3	1.0	0	0.0
The hemic and lymphatic systems	3	1.0	0	0.0
Diseases of the respiratory system	2	0.6	0	0.0
Diseases of the cranial nerves	2	0.6	0	0.0
Miscellaneous neurological disorders	2	0.6	0	0.0
Organic psychotic disorders	2	0.6	0	0.0
Dental and oral conditions	1	0.3	0	0.0
Diseases of the genitourinary system	1	0.3	0	0.0
Infectious diseases, immune disorders, and nutritional deficiencies	1	0.3	0	0.0
Total Individuals	308		9	

Table 2.88 shows the leading diagnoses for disability evaluations in the Marines within the first year of service. Data are shown in aggregate for 2005-2009 compared to 2010. Disability evaluation for impairments and disease of the spine, skull, limbs, and extremities (51.1%) was the largest category among first-year Marines in 2010, followed by prosthetic implants and diseases of the musculoskeletal system (23.4%). This is similar to the pattern of evaluations observed in the period from 2005-2009.

TABLE 2.88 DIAGNOSIS CATEGORIES FOR DISABILITY EVALUATIONS AMONG FIRST-TIME ACTIVE DUTY PERSONNEL WITHIN THE FIRST YEAR OF SERVICE FOR 2005–2009 VS. 2010: MARINES

Diagnosis category	2005-2009		2010	
	Count	%	Count	%
Impairment, limitation, ankylosis of joints, spine, skull, limbs, and extremities	456	51.0	24	51.1
Prosthetic implants and diseases of the musculoskeletal system	195	21.8	11	23.4
Diseases of the peripheral nerves	69	7.7	3	6.4
Organic diseases of the central nervous system	30	3.4	3	6.4
Diseases of the digestive system	14	1.6	2	4.3
Muscle injuries	17	1.9	1	2.1
Diseases of the respiratory system	15	1.7	1	2.1
Affective and nonpsychotic mental disorders	11	1.2	1	2.1
Convulsive disorders	8	0.9	1	2.1
Diseases of the eye or loss of vision	4	0.4	1	2.1
Diseases of the cranial nerves	3	0.3	1	2.1
Diseases of the trachea and bronchi	23	2.6	0	0.0
Diseases of the genitourinary system	13	1.5	0	0.0
Schizophrenia and other psychotic disorders	11	1.2	0	0.0
Diseases of the endocrine system	7	0.8	0	0.0
The hemic and lymphatic systems	5	0.6	0	0.0
Diseases of the heart	4	0.4	0	0.0
Diseases of the skin	4	0.4	0	0.0
Diseases of the arteries and veins	4	0.4	0	0.0
Organic psychotic disorders	4	0.4	0	0.0
Miscellaneous neurological disorders	2	0.2	0	0.0
Amputation or anatomical loss of upper and lower extremities	1	0.1	0	0.0
Diseases of the ear	1	0.1	0	0.0
Total Individuals	894		47	

3. DATA SOURCES

The Accession Medical Standards Analysis and Research Activity (AMSARA) requests and receives data from various sources, most of which are the primary collection agencies for the data they provide to AMSARA. Because data are seldom collected with the goal of epidemiologic study, AMSARA coordinates with the appropriate points of contact to ensure that the following major data types needed for AMSARA studies are in an appropriate form for epidemiologic work.

As mentioned under “Charter and Supporting Documents,” AMSARA maintains strict confidentiality of all data it receives. No external access to the data is allowed, and internal access is limited to a small number of primary analysts on an as-necessary basis. Research results are provided only at the aggregate level, with no possibility of individual identification.

MEPS

AMSARA receives data on all applicants who undergo an accession medical examination at any of the 65 Military Entrance Processing Stations (MEPS) sites. These data, provided by US Military Entrance Processing Command (USMEPCOM) Headquarters (North Chicago, IL), contain several hundred demographic, medical, and administrative elements on recruit applicants for each applicable branch (regular enlisted, reserve, National Guard) of each service (Air Force, Army, Coast Guard, Marines, and Navy). These data also include records on a relatively small number of officer recruit applicants and other non-applicants receiving periodic physical examinations.

From the data records provided by USMEPCOM, AMSARA extracts personal, medical, and administrative variables that are often of use in studies of military attrition. These include personal identifiers (e.g., name and SSN) for linking with other data, demographics (e.g., gender, age, and race), and a wide range of other information that is often relevant to military attrition studies (e.g., intended service, education level at the time of application, and AFQT scores).

In addition, the MEPS records provide extensive medical examination information, including date of examination, medical qualification status, medical disqualification codes (where relevant), medical conditions observed by or reported to physicians, and any waiver requirements. Results of some specific tests are also extracted, including those for hearing/vision, alcohol/drug use, and measurements of height, weight, and blood pressure.

Medical conditions among applicants fall into two general categories, temporary (condition that can be remediated, e.g., being overweight) or permanent (condition that remains with the applicant, e.g., history of asthma). For those applicants with a permanent disqualification due to a permanent condition, an accession medical waiver from a service-specific waiver authority is required for the applicant to be eligible for accession into the service (see “Waiver”). Applicants with a temporary disqualification do not require a medical waiver and are generally re-evaluated at MEPS, with their medical status changed to qualified if their medical condition is corrected. For purposes of this report, we define disqualified medical status to include only individuals who, prior to their initial accession, had any condition documented by ICD-9 or OMF code. Within that group, individuals with a permanently disqualifying code in MEPS are considered permanently

disqualified, and all others are presumed to have been temporarily disqualified. These temporarily disqualified applicants may still have a temporarily disqualified status in MEPS, or may have a fully qualified status after being cleared to enter military service. MEPS data are the primary source of demographic information on new accessions into the armed forces and of initial medical conditions and medical qualification status. These data are linked by AMSARA to the Defense Manpower Data Center (DMDC) gain files (see “Active Duty Enlistee Gain/Loss”) to verify new accessions into the military and to provide benchmark descriptive statistics. These linked data are also used in epidemiologic investigations related to the military’s accession medical standards, such as selecting and matching subjects for survival studies to compare retention patterns among new recruits with various medical histories.

Active Duty Enlistee Gain and Loss Files

The DMDC provides data on individuals entering military service (gain or accession) and on individuals exiting military service (loss). Gain and loss data, which are AMSARA’s primary sources of information about who is, or has been, in the military, include when an individual began duty and when or if an individual exited the military. From this information the length of service can be determined for any individual entering and leaving during the periods studied. This information is vital to survival analyses and attrition studies presented in several AMSARA annual reports.

Gain data include approximately 50 variables. Of these, AMSARA has identified 25 of primary interest: personal identifiers (e.g., name and SSN) for linking with other data; demographics such as age, education, and Armed Forces Qualification Test (AFQT) score at the time of accession; and service information including date of entry, Unit Identification Code (UIC) of initially assigned unit, initially assigned Military Occupation Specialty code (MOS), and Initial Entry Training (IET) site. These data are combined with MEPS data to determine accession percentages among applicants by demographic and other variables. Also, as mentioned under “MEPS,” these linked data are used in epidemiologic investigations related to the military’s accession medical standards.

Loss data also include approximately 50 variables, many of which are the same as those found in the gain file, although they reflect the individual’s status at the time of loss rather than at the time of gain. The variables of primary interest to AMSARA are personal identifiers for linking with other data, the loss date for computing length of service, the UIC and MOS for grouping service members by occupation, and the Inter-service Separation Code (ISC) as a secondary source of the reason for leaving the military. These data serve as the primary source of information on all-cause attrition from the service and are linked with the MEPS and gain data for studies of attrition.

A problem with the loss data lies in the broad nature of the ISC that characterizes the cause of the loss. Although each service maintains its own codes for describing discharge reasons, these are replaced at DMDC by a consolidated ISC to provide a common coding system for all military discharges. Many categories have overlapping definitions, making it difficult to determine the real reason for discharge. For example, a discharge for Existing Prior to Service (EPTS) pregnancy might be coded “pregnancy,” “condition existing prior to service,” or “fraudulent enlistment.” This lack of specificity, as well as inter-service differences in discharge categorizations, has been encountered in comparing other sources of loss information (i.e., EPTS and disability discharge data) with the DMDC loss data. Moreover, a study of Army discharges at one IET site indicates that the reasons underlying many discharges are more complex than can be fully characterized by any single loss code [1].

Medical Waiver

AMSARA receives records on all recruits who were considered for an accession medical waiver, i.e., those who received a permanent medical disqualification at the MEPS (see “MEPS”) and sought a waiver for that disqualification. Each service is responsible for making waiver decisions about its applicants. Data on these waiver considerations are generated and provided to AMSARA by each service waiver authority. Although the specifics of these data vary by service, they generally contain identifiers (e.g., name and SSN) for linking with other data, demographics (e.g., gender, age, and race), and information about the waiver consideration.

In particular, each record contains the date of the waiver consideration, indicators of the medical condition(s) for which the waiver was required, and the decision of the waiver authority. The Air Force and Army indicate medical conditions being considered for waiver using the full set of diagnostic codes in ICD-9, whereas the Navy (prior to 2006) and Marines code waiver conditions according to the subset of ICD-9 codes presented in DoD Instruction 6130.3 in association with medically disqualifying conditions.

Many AMSARA studies begin with the waiver data. Individuals granted waivers for a particular medically disqualifying condition are matched to the DMDC gain file to determine their date of entry, if any, into the service. Those found to have begun active duty within a specified time constitute the pool from which the main study subjects are drawn (with their comparison subjects typically being matched recruits identified in DMDC records as fully qualified). Follow-up medical and attrition information during military service is appended to these records, and statistical comparisons can then be made. Specific details vary among studies. A few additional details of the data provided by each service waiver authority follow.

It should be noted that there are considerable changes over time in the numbers of waiver considerations and percentages approved for various conditions. While some of these changes are attributable to changed accession standards, others appear more likely to have resulted from changes in coding procedures or other unknown factors including the manpower needs of the services. AMSARA will work with the services' waiver authorities to reconcile these findings.

Air Force

The US Air Force Directorate of Medical Services and Training (Lackland AFB, TX) transmits, upon request, data on all officer and enlisted accession medical waivers. These data include SSN, name, action (e.g., approved, disapproved, other), and date of waiver consideration. In addition, ICD-9 codes are used to define the medically disqualifying condition(s) for which the waiver is being considered.

Army

The US Army Recruiting Command (USAREC, Fort Knox, KY) has provided monthly electronic accession medical waiver data since January 1997. Each data record contains name, SSN, action (e.g., approved, disapproved, other), and date of waiver consideration. In addition, ICD-9 codes are used to define the medically disqualifying condition(s) for which the waiver is being considered. Beginning in fiscal year 2008, only one ICD-9 code, which represents the primary condition for which a waiver was considered, will be reported as opposed to previous years in which multiple ICD-9 codes were reported per individual (USAREC, personal communication).

Marines

The US Navy Bureau of Medicine and Surgery (BUMED) in Washington, DC, provides, on request, accession and commissioning medical waiver data for enlisted personnel and officers,

along with data from special programs such as Reserve Officers' Training Corps (ROTC) and the Naval Academy. Data include name, SSN, date of waiver consideration, and recommended action (e.g., approved, disapproved, other). In addition, the subset of ICD-9 codes listed in DoD Instruction (DoDI) 6130.3 is used to indicate the medically disqualifying condition(s) for which the waiver is being considered.

Navy

The Office of the Commander, US Navy Recruiting Command (Millington, TN) provides accession medical waiver data on applicants for enlisted service in the Navy since May 2000. Prior to 2006, medically disqualifying conditions were encoded by the subset of ICD-9 codes defined by DoDI 6130.3. However, since 2006, a hybrid coding system has been used which employs elements of both DoDI 6130.3 and the revised instruction, DoDI 6130.4.

Hospitalization

The US Medical Command (USMEDCOM) Patient Administration Systems and Biostatistics Activity (PASBA) at Fort Sam Houston, TX provide Military Treatment Facilities hospitalization data on a yearly basis for all services except the Coast Guard. These data contain information on admissions of active duty officers and enlisted personnel to any military hospital; this includes individuals in the Reserve and Guard components who are activated or who have been activated within 6 months prior to admission. Information on each visit includes SSN for linking with other data, demographics (e.g., gender, age, and race), and details about the hospitalization. In particular, the medical diagnosis associated with the hospitalization is coded according to the ICD-9, with up to eight codes per record to describe all conditions found. Date of admission, date of disposition, number of sick days, number of bed days, and indicators of the medical outcome are also included.

EPTS Discharges

Discharges for EPTS medical conditions are of vital interest to AMSARA. A discharge for a medical condition can be classified as an EPTS discharge if the condition was verified to have existed before the recruit began service and if the complications leading to discharge arose no more than 180 days after the recruit began duty. USMEPCOM requests a copy of official paperwork on all EPTS discharges and records certain information about each. This information includes a general medical categorization (20 categories) of the reason(s) for discharge and a judgment on each discharge regarding why (i.e., concealment, waiver, or unawareness) the person was not rejected for service on the basis of the preexisting condition. Beginning in August 1996, this paperwork has been regularly forwarded by USMEPCOM to AMSARA for additional data extraction, including more specific coding of medical conditions leading to discharge. Prior to 2006, conditions were coded by a subset of ICD-9 codes defined by DoDI 6130.3; since 2006, the revised instruction DoDI 6130.4 has been used. Due to this coding change, EPTS data prior to 2006 has not been included in this year's report.

The primary concern with the EPTS discharge data is completeness. Table 2.1 summarizes the numbers of records provided to AMSARA over 2006-2010. Note that the numbers of records have been unstable over time for nearly all IET sites. For example, no EPTS discharges were reported by this training site between 2007 and 2009. In addition, very few EPTS discharge records were received from Ft. Jackson during a period starting in the fourth quarter of 2008

and ending in the first quarter of 2010. While some variability in numbers of EPTS records over time is expected, underreporting is clearly a major source of the fluctuations.

TABLE 3.1 EPTS DISCHARGE DATA REPORTED TO USMEPCOM BY TRAINING SITE AND YEAR[†]

Training Site		Fiscal Year of EPTS Discharge					
		2006	2007	2008	2009	2010	Total
Army	Fort Benning	399	356	861	966	360	2,942
	Fort Jackson	747	993	690	19	584	3,033
	Fort Knox	114	259	346	331	261	1,311
	Fort Leonard Wood	285	422	800	836	756	3,099
	Fort Sill	165	281	335	187	162	1,130
Navy	Great Lakes	1,004	1,892	1,884	1,526	1,521	7,827
Marines [‡]	Parris Island	1,048	1,366	1,295	802	763	5,274
	San Diego	294	0	0	0	0	294
Air Force	Lackland AFB	777	1190	1123	633	646	4,369
Coast Guard	Cape May	179	260	316	188	162	1,105
Total		5,012	7,019	7,650	5,488	5,215	30,384

[†] Numbers may not sum to totals shown in Section 2 because information from specific training sites is incomplete and other requirements for records are different.

[‡] EPTS discharges were not reported by the San Diego Marine Corps training site in Fiscal Years 2007 -2009.

AMSARA has addressed many of these data inconsistencies with on-site officials and continues to emphasize the importance of these data to assessing and improving the fitness of future recruits.

In light of these shortcomings in the data, comparisons of EPTS discharges across services, or even across different training sites within the same service, should be interpreted with caution. Disparities may reflect differences in reporting procedures more than actual differences in discharge likelihood. Furthermore, counts of EPTS records should not be construed as representing all EPTS discharges. Instead EPTS counts only represent discharges for which data were reported.

Disability Discharges

Data on disability discharge considerations are compiled separately for each service at its disability agency. The Army agency has provided data on all disability discharge considerations during 1995–2010 and continues to provide these data. The Air Force agency has provided data to cover all individuals considered during the period of 1995–2009, and all considerations for 2010. Data from the Department of the Navy, including all disability discharge considerations for the Navy and Marine Corps, are available from 2000 to 2010.

The Army Physical Disability Agency (PDA) provides information on all disability cases considered, including personal identifiers (e.g., name and SSN), program (e.g., regular enlisted, academy, or officer), date of consideration, and disposition (e.g., permanent disability, separation with or without benefits, temporary disability, or return to duty as fit). For individuals receiving a disability discharge, medical condition codes and degree of disability (rating) are also included.

The Air Force Physical Disability Division provides data on all disability discharges, including much of the same information as outlined for the Army. Specifically, these data include personal identifiers (e.g., name and SSN), rank, date of consideration, and disposition (e.g., permanent disability, temporary disability, severance, separated without benefit, or return to duty as fit). For

individuals receiving a disability discharge, medical condition codes and degree of disability are also included.

The Secretary of the Navy, Council of Review Boards provides data on all disability cases it considers, including much of the same information as outlined for the Army. Specifically, these data include personal identifiers (e.g., name and SSN), rank, date of consideration, and disposition (e.g., permanent disability, temporary disability, or return to duty as fit); as well as percent rating and medical condition codes for individuals receiving a disability discharge.

For all sources of disability data, the medical condition(s) involved in each case are described using the condition codes of the Veterans Administration Schedule for Rating Disabilities (VASRD). This set is less comprehensive than the ICD-9 codes. In some cases the disabling condition has no associated code, so the code most closely resembling the true condition is used. AMSARA therefore only uses broad categories of disability condition codes rather than attempting to interpret specific codes. These categories are defined in Table 2.2 and reflect revisions made for the fiscal year 2008 Annual Report.

TABLE 3.2 VASRD CODE GROUPINGS

VASRD code range	Conditions encompassed	VASRD code range	Conditions encompassed
5000 - 5099	Prosthetic Implants and diseases of the musculoskeletal system	7300 - 7399	Diseases of the digestive system
5100 - 5199	Amputation or anatomical loss of upper and lower extremities	7500 - 7599	Diseases of the genitourinary system
5200 - 5299	Impairment, limitation, ankylosis of joints, spine, skull, limbs, and extremities	7600 - 7699	Gynecological conditions and disorders of the breast
5300 - 5399	Muscle injuries	7700 - 7799	The hemic and lymphatic systems
6000 - 6099	Diseases of the Eye or loss of vision	7800 - 7899	Diseases of the skin
6200 - 6269	Diseases of the Ear	7900 - 7999	Diseases of the endocrine system
6270 - 6279	Diseases of other sense organs (smell and taste)	8000 - 8099	Organic Diseases of the Central Nervous System
6280 - 6299	Other and unspecified disorders of the sensory organs	8100 - 8199	Miscellaneous neurological disorders
6300 - 6399	Infectious diseases, immune disorders, and nutritional deficiencies	8200 - 8499	Diseases of the cranial nerves
6500 - 6599	Diseases of the nose and throat	8500 - 8799	Diseases of the peripheral nerves
6600 - 6699	Diseases of the trachea and bronchi	8900 - 8999	Convulsive disorders
6700 - 6799	Tuberculosis	9200 - 9299	Schizophrenia and other psychotic disorders
6800 - 6899	Diseases of the respiratory system	9300 - 9399	Organic psychotic disorders
7000 - 7099	Diseases of the heart	9400 - 9599	Affective and nonpsychotic mental disorders
7100 - 7199	Diseases of the arteries and veins	9900 - 9999	Dental and oral conditions
7200 - 7299	Injury to the mouth, lips, tongue, and esophagus		

Charter and Supporting Documents

HA Control #: NONE
Due Date: NONE

February 28, 1995

ASSISTANT SECRETARY OF DEFENSE
(HEALTH AFFAIRS)
EXECUTIVE SUMMARY/COVER BRIEF

MEMORANDUM FOR THE ASSISTANT SECRETARY OF DEFENSE
(HEALTH AFFAIRS)

THROUGH: *Jm* Dr. Sue Bailey, DASD (CS)
FROM: Action Officer, Colonel Ed Miller
SUBJECT: Accession Medical Standards Analysis and Research
Activity (AMSARA)

PURPOSE: SIGNATURE--on request that the Assistant Surgeon
General of the Army (Research and Development)
establish an Accession Medical Standards Analysis
and Research Activity (AMSARA).

DISCUSSION:

The Accessions Medical Standards Working Group which met over the summer sponsored through MFIM funding completed a functional economic analysis of the medical accessions examination process. One of the critical recommendations made by the Group was to establish a research activity to provide the Medical Accessions Standards Council (also recommended) with an evidence-based analysis of DoD accessions medical standards. The memorandum tasks the Army with the responsibility of establishing the activity resourced under the Defense Health Program. This has already been staffed with the Assistant Surgeon General of the Army (Research and Development)

RECOMMENDATION:
Sign tasking memorandum to Army Surgeon General.

COORDINATION:
✓ Mr. Conte, PDUSD(P&R) _____
Mr. Maddy, HB&P: See attached memo
✓ Mr. Richards, EO: _____
Dr. Martin, PDASD: _____

CHARTER AND SUPPORTING DOCUMENTS



HEALTH AFFAIRS

THE ASSISTANT SECRETARY OF DEFENSE

WASHINGTON, D. C. 20301-1200

DEC 08 1995

MEMORANDUM FOR SURGEON GENERAL OF THE ARMY

SUBJECT: Military Medical Standards Analysis and Evaluation Data Set

The personnel community has asked OASD/HA to develop a fact based accessions policy to minimize medical attrition, quantitate risk in medical waivers, and to defend accession decisions when challenged.

The offices of Clinical Services and Military Personnel Policy have worked closely with epidemiologists at Walter Reed Army Institute of Research on the concept of a Military Medical Standard Analysis and Evaluation Data Set (MMSABDS) to apply quantitative analysis to a longitudinal data base.

The Army Center for Health Promotion and Preventive Medicine (CHPPM) maintains a data base of personnel, hospitalization, deployment and separation information for all Services. I would like WRAIR, in coordination with CHPPM, to serve as consultants to the Accession Medical Standard Steering Committee, modify and maintain the data base, and coordinate field research to answer specific questions germane to accession policy.

Therefore, I request that, by the end of December 1995, a proposal be submitted through you from WRAIR, outlining the consultant role and modifications needed to the data base. This should include funding requirements.

Edward D. Mattes/bn
Stephen C. Joseph, M.D., M.P.H.

cc:
Commander WRAIR

DEPARTMENT OF DEFENSE
ACCESSION MEDICAL STANDARDS
STEERING COMMITTEE

CHARTER

I. ESTABLISHMENT, PURPOSE AND SCOPE

A. ESTABLISHMENT

The Under Secretary of Defense (Personnel and Readiness) establishes a Department of Defense Accession Medical Standards Steering Committee (hereafter referred to as the "Committee".) The Committee shall operate under the joint guidance of the Assistant Secretaries of Defense (Force Management Policy and Health Affairs [FMP & HA].)

B. PURPOSE

The Committee's main objective is to ensure the appropriate use of military members with regard to medical/physical characteristics, assuring a cost-efficient force of healthy members in military service capable of completing initial training and maintaining worldwide deployability. The primary purposes of the Committee are: (1) integrating the medical and personnel communities in providing policy guidance and establishing standards for accession medical/physical requirements, and (2) establishing accession medical standards and policy based on evidence-based information provided by analysis and research.

C. SCOPE OF ACTIVITY

1. The Committee's responsibility involves:

- a. Providing policy oversight and guidance to the accession medical/physical standards setting process.
 - b. Directing research and studies necessary to produce evidenced-based accession standards making the best use of resources.
 - c. Ensuring medical and personnel coordination when formulating accession policy changes.
 - d. Overseeing the common application of the accession medical standards as outlined in DoD Directive 6130.3, "Physical Standards for Appointment, Enlistment, and Induction."
-

- e. Interfacing with other relevant Department of Defense and Department of Transportation organizations.
- f. Recommending promulgation of new DoD directives as well as revisions to existing directives.
- g. Recommending legislative proposals concerning accession medical/physical processing.
- h. Reviewing, analyzing, formulating and implementing policy concerning the accession physical examination.
- i. Issuing policy letters or memoranda providing interpretation of provisions of DoD directives.
- j. Resolving conflicts of application of accession medical/physical standards and policies among the Military Services and other authorized agents.
- k. Maintaining records and minutes of Committee meetings.

II. ORGANIZATION

A. The Committee will be co-chaired by the Deputy Assistant Secretary of Defense (Military Personnel Policy) and the Deputy Assistant Secretary of Defense (Clinical Services). This will facilitate tasking the Deputy Chiefs of Staff for Personnel and the Surgeons General to assign staffers to relevant working groups, and to ensure DCS/Personnel and Surgeon General personal involvement with the various issues. The Committee will convene semiannually, at a minimum, and at the discretion of the Chairpersons.

B. Committee members are appointed by the Under Secretary of Defense (Personnel and Readiness) and provide ongoing liaison with their respective organizations concerning matters of medical/physical accession policy.

C. The Committee shall be composed of representatives from the following:

Office of the Assistant Secretary of Defense (Force Management Policy)

Office of the Assistant Secretary of Defense (Health Affairs)

Office of the Assistant Secretary of Defense (Reserve Affairs)

Office of Service Surgeons General

Office of Service Deputy Chiefs of Staff for Personnel, and Chief of Personnel and Training, HQ U.S. Coast Guard.

D. Representatives from the Office of the Assistant Secretary of Defense (Force Management Policy) and the Office of the Assistant Secretary of Defense (Health Affairs) shall serve as executive secretaries for the Committee, and maintain a working group, composed of representatives from each of the offices mentioned above, to receive and review issues pertinent to accession policy.

E. The Commander, U.S. Military Entrance Processing Command, and the Director, DoD Medical Examination Review Board shall serve as advisors to the Committee.

F. The Committee may invite consultants (i.e., training, recruiting, epidemiology) at the discretion of the Chairpersons.

Approved: JAN 16 1996
Date

A handwritten signature in black ink, appearing to read 'EDWIN DORN', with a stylized flourish extending to the right.

EDWIN DORN

Acronyms

ACL	anterior cruciate ligament	ICD-9	<i>International Classification of Diseases, 9th Revision</i>
ADD	attention deficit disorder	IET	Initial Entry Training
ADHD	attention deficit and hyperactivity disorder	INCOM	incomplete exam or record
AFB	Air Force base	ISC	Interservice Separation Code
AFQT	Armed Forces Qualification Test	MEPS	Military Entrance Processing Station
AIM	Assessment of Individual Motivation	MIA	missing in action
AMSARA	Accession Medical Standards Analysis and Research Activity	MOS	Military Occupational Specialty
AMSWG	Accession Medical Standards Working Group	MTF	Military Medical Treatment Facility
ARI	Army Research Institute	OB	over body fat
ARMS	Assessment of Recruit Motivation and Strength	OMF	Objective Medical Finding
BCT	Basic Combat Training	PASBA	Patient Administration systems and Biostatistics Activity
BF	body fat percent	PDA	Army Physical Disability Authority
BMI	body mass index	POW	prisoner of war
BUMED	Navy Bureau of Medicine and Surgery	PQ	physically qualified
CA	Combat arms	RIF	reduction in force
CS	Combat support	ROTC	Reserve Officer Training Corps
CSS	Combat service support	SSB	special separation benefit
CY	Calendar year	SSN	social security number
DEP	Delayed Entry Program	TAPAS	Tailored Adaptive Personality Assessment System
DES	Disability Evaluation System	TTAS	Tier Two attrition screen
DMDC	Defense Manpower Data Center	USAREC	US Army Recruiting Command
DoD	Department of Defense	USMEDCOM	US Medical Command
DQ	disqualified	USMEPCOM	US Military Entrance Processing Command
EPTS	existed prior to service	VASRD	Veterans Administration Schedule for rating Disability
FQ	fully qualified	WRAIR	Walter Reed Army Institute of Research
FY	fiscal year		
GED	general educational development		
HS	high school		



Accession Medical Standards Analysis & Research Activity

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