2010-10-01

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Association of Military Surgeons of the U.S.

Shen, Yu-Chu, et al. "Effects of Iraq/Afghanistan deployments on PTSD diagnoses for still active personnel in all four services." Military medicine 175.10 (2010): 763-769.
https://hdl.handle.net/10945/57084

MILITARY MEDICINE, 175, 10:763, 2010

Effects of Iraq/Afghanistan Deployments on PTSD Diagnoses for Still Active Personnel in All Four Services

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ABSTRACT We estimate the effect of deployment location and length on risk of developing post-traumatic stress disorder (PTSD). We draw a random sample of active duty enlisted personnel serving between 2001 and 2006 from a TRICARE beneficiary database and link deployment characteristics from the contingency tracking system. Using logistic regressions, we found that deployment to Iraq/Afghanistan increases the odds of developing PTSD substantially, relative to those in other duties, with the largest effect observed for the Navy (OR = 9.06, $p < 0.01$) and the smallest effect for the Air Force (OR = 1.25, $p < 0.01$). A deployment longer than 180 days increases the odds of PTSD by 1.11 to 2.84 times compared to a short tour. For Army and Navy, a deployment to Iraq/Afghanistan further exacerbates the adverse effect of tour length.

INTRODUCTION

Recent research suggests that the wars in Afghanistan and Iraq, also known as Operation Enduring Freedom (OEF) and Operation Iraqi Freedom (OIF), pose substantial mental health challenges to U.S. military service members and mental health systems.[1–6] Post-traumatic stress disorder (PTSD), in particular, has risen steadily, with heavy combat typically being cited as a leading cause of PTSD.[3,7–11] A recent comprehensive review of the literature by Rand found a wide range of PTSD rates among those serving in Iraq and Afghanistan, with estimates ranging from 4% to 45%, depending on the samples and how PTSD was measured.[5]

While previous studies have provided important information on PTSD in the current operations, most notably reports by the Mental Health Advisory Team,[12–16] they have several shortcomings. First, little is done comparing the rates of PTSD due to deployment across services, and such differences are important in evaluating total force readiness. Second, most studies used convenience samples on those returning from OEF/OIF, without a comparable control group of personnel who were not deployed under OEF/OIF.[1–3,7,12–19] Third, studies using surveys often had to rely on screening questions, which are typically short and simple to administer but likely miss some cases of PTSD and misdiagnose PTSD in other cases.[20,21] Finally, previous studies focus on the effect of the deployment location (i.e., Iraq or Afghanistan) with little attention paid to the duration of deployment.

In this study, we address the shortcomings of the previous literature with a random sample of all active duty enlisted personnel serving between 2001 and 2006. Specifically, we address the following research questions for the four services (Army, Marines, Navy, and Air Force):

(1) How do the rates of PTSD among all active duty enlisted personnel differ by service and deployment location?
(2) How do deployment location and length of deployment affect the probability of being diagnosed with PTSD?
(3) Is there an interactive effect between a deployment's length and location?

We focus on TRICARE eligible population (i.e., people who are still serving in the military during the study period), and our results give a sense of the mental health readiness among those who remained active in service.

DATA AND METHODS

Data and Sample

We combine several data sources from TRICARE and the Defense Manpower Data Center (DMDC) to form the basis of our analysis. First, we identify the active duty personnel population and obtain demographic and service information (such as age, gender, race, and rank) from the Defense Enrollment Eligibility Reporting System (DEERS). Second, we identify the date that PTSD was first diagnosed and related health information from the following sources: the Standard Inpatient Data Record, the Standard Ambulatory Data Record, and the TRICARE Encounter Data. Third, we obtain OEF/OIF deployment characteristics and military occupational specialty (MOS) codes between 2001 and 2006 from the Contingency Tracking System (CTS).

Our data consist of 678,227 unique enlisted personnel from all services. This represents a 25% random sample

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The opinions or assertions herein are those of the authors and do not necessarily reflect the view of the United States Department of Defense and any of the affiliated institutions. This work received institutional review board approvals from Naval Postgraduate School, Defense Manpower Data Center, TRICARE Management Activity, and the Office of Navy Medicine.

of the active population without PTSD and 100% of the PTSD population. We weight all of our comparisons and empirical models to reflect this sampling scheme so our estimated numbers are representative of all personnel from each service.

Outcome Measures

The dependent variable in our analysis is whether an enlisted person was diagnosed with PTSD anytime between 2001 and 2006 (i.e., if the ICD-9 code is 309.81).[22]

Statistical Models

We first use a descriptive analysis to compare the rate of PTSD among different branches of the armed services by deployment location. We then estimate two multivariate models using logistic regressions to assess the effect of deployment location and duration under OEF/OIF on the rate of PTSD separately for each service. In the primary models, we focus on deployment characteristics of the last deployment. Our key variables of interest in model 1 are the deployment location and duration. In model 2, we estimate an interaction effect between deployment duration and deployment location (in particular, Iraq and Afghanistan) to test whether longer deployments as a result of OIF and OEF magnifies the effect of such a deployment. In model 3, we estimate a model based on all past deployment locations, since PTSD is not necessarily triggered by the last deployment and often emerges after a long delay. The key variable of interest in this model is whether a person was ever deployed to a given location (details below). In all models, we control for service and demographic characteristics as explained below. All models were estimated using Stata 10.0.[23]

Explanatory Variables

There are three categories of variables that we include in the models: deployment characteristics, service characteristics, and demographic information. Summary statistics are presented in Table I.

We classify three categories of deployment locations: not deployed under OEF or OIF (the reference group), deployed to Iraq/Afghanistan, deployed on other OEF/OIF missions (such as Kuwait, Qatar, Saudi Arabia, and Turkey). For duration, we classify the deployment length into three categories: short if the length of the last deployment is less than 120 days (the reference group), medium if the length is between 120 and 180 days, and long if the length is greater than 180 days. For model 3, we define four mutually exclusive categories of all past deployment location indicators: ever deployed to Iraq or Afghanistan (but not other locations), ever deployed on other OEF/OIF missions, ever deployed to Iraq/Afghanistan, as well as other OEF/OIF missions, and never deployed on any OEF/OIF mission (the reference group).

TABLE I. Descriptive Statistics of Enlisted Personnel Characteristics

	Army	Marines	Navy	Air Force
Deployment Characteristics				
Location of Last OEF/OIF Deployment				
Not Deployed Under OEF/OIF	77.9%	75.3%	64.3%	61.5%
Afghanistan or Iraq	11.3%	8.6%	1.0%	5.4%
Other Countries Under OEF/OIF	10.8%	16.0%	34.7%	33.1%
Duration of Last Deployment for Those Deployed Under OEF/OIF				
Short (1–120 days)	28.0%	25.6%	31.4%	64.5%
Medium (120–180 days)	14.2%	26.0%	23.2%	24.7%
Long (more than 180 days)	57.7%	48.4%	45.4%	10.8%
Deployment History for Those Ever Deployed Under OEF/OIF				
Ever Deployed to Afghanistan or Iraq Only	31.4%	22.2%	2.0%	9.4%
Ever Deployed to Other OEF/OIF Countries Except Afghanistan or Iraq	45.0%	64.2%	97.0%	84.9%
Ever deployed to Afghanistan or Iraq, and Other OEF/OIF Countries	23.6%	13.6%	1.0%	5.7%
Service Characteristics				
Military Occupational Specialty*				
Combat Arms	28.9%	38.4%	4.9%	10.6%
Combat Support	10.9%	16.8%	10.0%	0.2%
Combat Service Support	26.7%	28.0%	5.6%	79.0%
Aviation	—	15.0%	3.4%	—
Medical	10.1%	—	3.0%	—
Other MOS	23.0%	1.3%	72.8%	9.8%
Rank				
E1–E3	33.6%	61.4%	38.2%	32.4%
E4	28.0%	17.0%	19.9%	18.7%
E5	17.4%	11.0%	20.4%	23.0%
E6	11.1%	5.6%	13.7%	14.5%
E7–E9	8.0%	4.4%	7.3%	11.5%
Demographic Characteristics				
Gender				
Male	88.7%	96.3%	87.4%	84.1%
Female	11.3%	3.7%	12.6%	15.9%
Marital Status				
Single	53.0%	69.0%	55.0%	48.2%
Married	47.0%	31.0%	45.0%	51.8%
Race				
White	63.9%	71.2%	57.2%	74.0%
Black	19.5%	10.3%	21.7%	15.3%
Hispanic	6.8%	8.2%	7.2%	3.4%
Asian	3.9%	2.8%	6.0%	2.2%
Other Races	5.9%	7.6%	8.0%	5.0%
Age	27.7	23.4	27.0	28.5
Sample Size	332,970	98,695	134,095	112,467

MOS, military occupational specialty.

For service characteristics, we include rank and MOS categories. We categorize military occupational specialty codes into the following categories: Combat arms (reference group), combat support, combat service support, aviation, medical, and other MOS. We include the following demographic

information in the models: gender, race, marital status, and age. Lastly, we include year indicators to control for possible macro trends in PTSD rate.

RESULTS

Table I presents the descriptive statistics of the sample by service branches. The majority of the active duty personnel were not deployed under OEF/OIF: the percentages range from 61.5% in Air Force to 78% in Army. Not surprisingly, the service with the highest share of its enlisted members sent to Iraq/Afghanistan is the Army (11.3%), follow by the Marines (8.6%). The Navy and Air Force appear to serve a more supporting role, with 35% and 33%, respectively, of their enlisted population being sent on OEF/OIF missions other than Iraq/Afghanistan. Among those deployed, large proportions of Army and Marine Corps personnel had been deployed more than 180 days in their most recent deployment before being included in the sample (58% and 48%, respectively), whereas 65% of deployed Air Force personnel had a tour length under 120 days. The next set of summary statistics report the proportions of those ever deployed under OEF/OIF who were ever deployed to a given location since September 11, 2001. We categorize the past deployment location indicators into three mutually exclusive categories to allow for easier comparison. With the Army, for example, 31% of soldiers ever deployed under OEF/OIF were sent to Iraq/Afghanistan (but not on other OEF/OIF missions), 45% were sent on other OEF/OIF missions, and the remaining 24% have been to Iraq/Afghanistan as well as other OEF/OIF missions. The rest of Table I provides summary statistics of service and demographic characteristics, which are representative of the U.S. armed forces active duty population.

Table II reports the proportion of the active duty population who were diagnosed with PTSD for each service. The first panel shows that people deployed to Iraq/Afghanistan had much higher rates of being diagnosed with PTSD compared to those not deployed under OEF or OIF (4.4% vs. 0.6% for the Army, 3.5% vs. 0.5% for the Marines, 6.5% vs. 0.5% for the Navy, and 1.3% vs. 0.6% for the Air Force; $p < 0.01$ for statistical tests of all of these differences). Among those deployed under OEF/OIF, the PTSD rate increases as the tour length increases. With the Army, for example, the proportion of enlisted personnel who were later diagnosed with PTSD is 2.9% among those with a short tour length (1–120 days), and the rate increases to 3.5% in the medium length category (120–180 days) and to 4.8% for long tours (>180 days).

The last set of statistics in Table II reports the PTSD rate by whether a person was ever deployed to a given location. With the Army, the proportion of people ever deployed to Iraq/Afghanistan (but not other OEF/OIF missions) who were diagnosed with PTSD is 3.5%. The number is slightly lower for those who were deployed elsewhere except for Iraq/Afghanistan (3.4%). The rate of PTSD is even higher (6.2%) for those who have been to Iraq/Afghanistan, as well as other OEF/OIF missions. We observe similar pattern for the other three branches.

TABLE II. Rate of PTSD Diagnoses By Deployment Location

	Army	Marines	Navy	Air Force
Overall	1.40%	1.06%	0.77%	0.56%
Based on Location of Last OEF/OIF Deployment				
Not Deployed Under OEF/OIF	0.63	0.52	0.83	0.62
Afghanistan or Iraq	4.41	3.51	6.46	1.34
Other Countries Under OEF/OIF	3.77	2.28	0.49	0.31
Based on Duration of Last OEF/OIF Deployment				
Short (1–120 days)	2.90	2.31	0.50	0.31
Medium (120–180 days)	3.49	2.22	0.66	0.62
Long (more than 180 days)	4.83	3.19	0.77	0.99
Based on Deployment History				
Not Deployed Under OEF/OIF	0.63	0.52	0.83	0.62
Ever Deployed Under OEF/OIF	4.10	2.71	0.66	0.46
Ever Deployed to Afghanistan or Iraq Only	3.48	2.76	6.32	1.27
Ever Deployed to Other OEF/OIF Countries Except Afghanistan or Iraq	3.43	2.19	0.49	0.31
Ever Deployed to Afghanistan or Iraq, and Other OEF/OIF Countries	6.20	5.14	6.06	1.36
Sample Size	332,970	98,695	134,095	112,467

We report in Table III the logistic regression results that compare, across services, the effect of the OEF/OIF deployment on the risk of developing PTSD relative to the risk enlisted personnel would have had in the more typical military missions around the world. We present the results in terms of odds ratios and focus only on the effect of deployment characteristics (the complete results for model 1 are included in the Appendix). The top panel of Table III reports the main effect of the last deployment's location and duration. With the Army, the first row indicates that the odds of being diagnosed with PTSD is 3.96 times higher among those deployed to Iraq/Afghanistan compared to those not deployed under OEF/OIF ($p < 0.01$). Being deployed on other OEF/OIF missions also increases the odds of PTSD by the same magnitude (OR = 3.97, $p < 0.01$).

The effects of being deployed to Iraq/Afghanistan and on other OEF/OIF missions are comparable for the Marines, as it increases the odds of developing PTSD by 4.57 and 3.51 times ($p < 0.01$ for both), respectively. For the Navy, being deployed to Iraq/Afghanistan also carries a very high risk of developing PTSD (OR = 9.06, $p < 0.01$) compared to those not deployed under OEF/OIF. Iraq/Afghanistan missions appear to have the smallest impact for Air Force, as the odds of developing PTSD among those deployed to Iraq/Afghanistan is only

TABLE III. Effect of Last Deployment's Location and Duration on the Rate of PTSD Diagnosed

	Army	Marines	Navy	Air Force
Model 1: Main Effect				
Location of Last Deployment (reference group is not deployed under OEF/OIF)				
Deployed to Afghanistan or Iraq	3.96** (0.12)	4.57** (0.32)	9.06** (1.10)	1.25* (0.11)
Deployed to Other Countries Under OEF/OIF	3.97** (0.11)	3.51** (0.21)	0.54** (0.04)	0.36** (0.02)
Duration of Last Deployment (reference group is short, <120 days)				
Medium (120–180 days)	1.18** (0.04)	0.95 (0.06)	1.19+ (0.12)	1.72** (0.14)
Long (longer than 180 days)	1.62** (0.04)	1.11+ (0.06)	1.21* (0.11)	2.84** (0.28)
Model 2: Interactive Effect				
Location of Last Deployment (reference group is not deployed under OEF/OIF)				
Deployed to Afghanistan or Iraq	3.70** (0.17)	5.37** (0.51)	4.53** (1.38)	1.25+ (0.14)
Deployed to Other Countries Under OEF/OIF	4.07** (0.12)	3.32** (0.22)	0.59** (0.04)	0.36** (0.02)
Duration of Last Deployment (reference group is short, <120 days)				
Medium (120–180 days)	1.21** (0.06)	0.97 (0.07)	1.07 (0.11)	1.70** (0.17)
Long (longer than 180 days)	1.53** (0.05)	1.28** (0.09)	1.07 (0.10)	2.89** (0.34)
Interaction Between Deployment Duration and Iraq/Afghanistan Location				
Medium Duration X Iraq or Afghanistan	0.97 (0.08)	0.99 (0.15)	2.50* (0.96)	1.02 (0.18)
Long Duration X Iraq or Afghanistan	1.15* (0.07)	0.71** (0.08)	2.47** (0.82)	0.96 (0.20)
Sample Size	332,970	98,695	134,095	112,467

Note: Full regression results for model 1 is in the Appendix. $^{**}p < 0.01$, $^{*}p < 0.05$, $+p < 0.10$.

TABLE IV. Effect of Deployment History on the Rate of PTSD Diagnosed

	Army	Marines	Navy	Air Force
Model 3: Deployment History				
Based on All Past Deployments (reference group is never deployed under OEF/OIF)				
Ever Deployed to Afghanistan or Iraq Only	4.61** (0.12)	4.09** (0.23)	10.34** (1.20)	1.85** (0.15)
Ever Deployed to Other OEF/OIF Countries Except Afghanistan or Iraq	4.64** (0.10)	3.48** (0.16)	0.61** (0.03)	0.47** (0.03)
Ever Deployed to Iraq/Afghanistan as Well as Other Countires Under OEF/OIF	8.34** (0.20)	7.10** (0.42)	9.65** (1.74)	1.92** (1.74)
Sample Size	332,970	98,695	134,095	112,467

Full results are available upon request. $^{**}p < 0.01$, $^{*}p < 0.05$, $+p < 0.10$.

1.25 times higher than those not deployed ($p < 0.05$). For the Navy and Air Force, the risk of being deployed on other OEF/OIF missions is actually lower than for those not deployed on an OEF/OIF mission (OR = 0.54 and 0.44, respectively, both $p < 0.01$).

Model 1 also shows that the tour length matters. Compared to those who have a short tour length (<120 days), Army soldiers whose last deployment was between 120 and 180 days are 1.18 times more likely to get PTSD ($p < 0.01$) and those whose last deployment was more than 180 days have an odds ratio of 1.62 ($p < 0.01$). Similar adverse effects of longer tours are observed for the Navy and Air Force. For the Marine Corps, the duration effect only shows up if they have been deployed more than 180 days (OR = 1.11, $p < 0.10$).

For model 2, presented in the lower panel of Table III, we add an interaction effect between the Iraq/Afghanistan location and the tour duration variables to test whether long tours exacerbate the effects of deployments to these two countries. For the Army, the 1.53 odds ratio on the long duration variable itself now indicates that those whose OEF/OIF deployment to locations other than Iraq/Afghanistan lasted more than 180 days are 1.53 times more likely to be diagnosed with PTSD than those whose last tour to those locations were under 120 days. Even with a short tour, deployment to Iraq still results in an odds ratio of 3.70 ($p < 0.01$). The same applies to the Marine Corps and Navy, but the Air Force still has a smaller effect of an Iraq/Afghanistan deployment. The key variables are the last two rows. Among soldiers whose last deployment was to Iraq/Afghanistan, those that lasted more than 180 days had a 1.15 times higher risk of developing PTSD ($p < 0.10$) compared to those with a short (less than 120 day) deployment, which is in addition to the main Iraq/Afghanistan effect of 3.96). For the Army, a medium-length deployment had no additional effect on the risk of developing PTSD. We observe additive effects for the Navy (OR for the interactive terms on medium and long duration are 2.50 and 2.47, respectively, $p < 0.01$), but not for Marines or Air Force.

Model 3 captures whether the individual was ever deployed to a given location. The results in Table IV are similar to model 1 (where we only capture the location of last deployment).

The odds ratio of developing PTSD for those deployed to Iraq/Afghanistan (but not other OEF/OIF locations) compared to those never deployed under OEF/OIF ranges from 1.85 times for the Air Force to 10.34 times for the Navy ($p < 0.01$ for all services). The highest odds belong to those who were deployed to Iraq/Afghanistan as well as other OEF/OIF locations (essentially, deployed at least twice): the odds ratio of developing PTSD ranges from 1.92 for the Air Force to 9.65 for the Navy ($p < 0.01$ for all services) compared to those never sent on an OEF/OIF missions.

COMMENTS

In this study, we link deployment information and TRICARE health records to examine the relationship between deployment characteristics and PTSD. Our regression models shows that deployment to Iraq/Afghanistan increases the odds of developing PTSD substantially, with the largest effect observed for the Navy (OR = 9.06) and the smallest effect for the Air Force (OR = 1.25). The tour length also matters, as a deployment lasting longer than 180 days increases the odds of PTSD by 1.11 times to 2.84 times, depending on the service, compared to a short tour. Furthermore, for the Army and Navy, a deployment to Iraq/Afghanistan further exacerbates the adverse effect of tour length. The sizable adverse effect of deployment location persists when we considered all past deployments, not just the previous deployment.

Our overall rates of PTSD are much lower than previously reported based on surveys or on Veterans Administration (VA) data.[20] There are several important factors that contribute to the differences. First, our research is focused on active duty personnel who are still deemed fit to serve in the military. A service member with PTSD will likely self-select out of our sample population (conversely, studying the VA sample will likely have a upward bias since the VA population consists of those who left active duty due to serious physical or mental health problems). Second, compared to PTSD rates reported in anonymous surveys, our PTSD rates are based on clinical diagnoses. The enlisted person may be more willing to admit to PTSD symptoms, even if they were mild, on an anonymous survey than they would to military health officials. Third, for people who have the desire to continue serving (and thus stay within the TRICARE system), the stigma of PTSD often prevents them from seeking care when needed since this information would then go on the service person's record.

It is also important to keep in mind the following limitations of this study. First and foremost, our data do not allow for assessing the level of combat exposure (such as whether a person experienced a direct combat, saw bodies blown apart, etc.), therefore we are unable to ascertain whether the adverse effect is due to deployment to a combat zone itself or due to direct combat exposure. Second, even though we were able to include military occupational specialty categories, we do not have details on the specific assignments. The lack of details on assignments might contribute to the lower odds ratios we observe among Navy and Air Force personnel who were deployed to OEF/OIF locations that are not in Iraq or Afghanistan. Third, since our intention is to look at the prevalence of PTSD among the population of personnel who are still in service, we most likely miss severe cases of PTSD since those would show up in the VA system unless they were first diagnosed inside the TRICARE system. Third, using clinical diagnosis in a system that is not explicitly screening for PTSD has its own shortcoming.[24] Even though we have complete history of medical encounters during the study period, using clinical diagnoses to identify PTSD population is likely to underestimate PTSD's true prevalence among still active population. However, we don't expect the degree of underestimation to differ by the deployment characteristics; therefore the odds ratios we estimated for the effect of deployment intensity on PTSD would not be biased. Lastly, while we have the full deployment history of OEF/OIF, we are unable to capture other missions (i.e., those deployed to non-OEF/OIF missions would be in our control group).

With these caveats in mind, there are several important policy implications from our findings. While the adverse effects of Iraq/Afghanistan deployments across all services is expected, it might be surprising that such deployments cause the highest PTSD rates for the Navy. The wide range of odds ratios across services might be related to differences in training or resiliency development programs. For example, many sailors deployed to Iraq or Afghanistan are individual augmentees (IA), who are deployed individually or in a small group to assist Army and Marines. The IAs are subject to additional stress as they are thrust into an unfamiliar environment away from their parent command. It may be important to train these personnel for not just the additional physical skills but also mental health readiness for such assignments.

PTSD leads to a host of long-term family and workplace problems and is often comorbid with other psychiatric and physical disorders. It is important to remember that given the focus on still active duty population, the low prevalence rates in our study by no means imply that PTSD are not as significant an issue as they are for the overall military population. Further research that can link detailed combat experience and intensity to clinical data, as well as work on preventive measures and effective treatments of PTSD on the active duty population, especially the higher risk groups, needs to remain a focus within the Department of Defense.

ACKNOWLEDGMENTS

We thank Dennis Mar, Wendy Funk, and the staff at Defense Manpower Data Center and TRICARE Management Activity for assisting with data extraction. Y.S. and J.A. thank the Graduate School of Business and Public Policy Direct Funded Research Program and N1 Manpower, Personnel, Traning & Education for financial support.

APPENDIX. Effect of Deployment Location and Duration on the Rate of PTSD Diagnosed

	Army	Marines	Navy	Air Force
Location of Last Deployment (reference group is not deployed under OEF/OIF)				
Deployed to Afghanistan or Iraq	3.96** (0.12)	4.57** (0.32)	9.06** (1.10)	1.25* (0.11)
Deployed to other countries under OEF/OIF	3.97** (0.11)	3.51** (0.21)	0.54** (0.04)	0.36** (0.02)
Duration of Last Deployment (reference group is short, <120 days)				
Medium (120–180 days)	1.18** (0.04)	0.95 (0.06)	1.19+ (0.12)	1.72** (0.14)
Long (longer than 180 days)	1.62** (0.04)	1.11 + (0.06)	1.21* (0.11)	2.84** (0.28)
Military Occupational Specialty (reference group is Combat Arms)				
Combat Support	0.29** (0.01)	0.35** (0.02)	0.02** (0.00)	
Combat Service Support	0.33** (0.01)	0.37** (0.02)	0.03** (0.00)	0.09** (0.00)
Aviation	—	0.22** (0.02)	0.02** (0.00)	—
Medical	0.31** (0.01)	—	0.16** (0.01)	—
Other MOS	0.34** (0.01)	0.47** (0.07)	0.03** (0.00)	0.11** (0.01)
Rank (referenc group is E1–E3)				
E4	1.22** (0.03)	0.93 (0.04)	0.72** (0.04)	1.07 (0.06)
E5	1.00 (0.03)	0.88* (0.05)	0.41** (0.03)	1.00 (0.07)
E6	0.73** (0.03)	0.46** (0.04)	0.23** (0.02)	0.68** (0.06)
E7–E9	0.57** (0.02)	0.26** (0.03)	0.16** (0.02)	0.70** (0.08)
Demographics Race (reference group is White)				
African American	0.88** (0.02)	0.95 (0.06)	0.73** (0.04)	0.92 (0.05)
Hispanic	0.81** (0.03)	0.84** (0.05)	1.06 (0.07)	1.16 (0.11)
Asian	0.57** (0.03)	0.75* (0.09)	0.69** (0.06)	0.64** (0.10)
Other races	0.98 (0.03)	0.97 (0.06)	1.18* (0.07)	1.13 (0.09)
Gender (reference group is male)				
Female	2.96** (0.08)	6.34** (0.41)	4.90** (0.19)	5.20** (0.20)
Marital Status (reference group is married)				
Single	0.64** (0.01)	0.56** (0.02)	0.75** (0.03)	0.76** (0.03)
Age	1.04** (0.00)	1.07** (0.01)	1.06** (0.00)	1.03** (0.00)
Sample Size	332,970	98,695	134,095	112,467

Note: Year dummies are included. $^{**}p < 0.01$, $^{*}p < 0.05$, $+p < 0.10$.

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1. Publication Title	2. Publication Number	3. Filing Date
MILITARY MEDICINE	3 4 9 - 1 6 0	9/9/10
4. Issue Frequency	5. Number of Issues Published Annually	6. Annual Subscription Price
Monthly	12	$170-Domestic $225-Foreign

7. Complete Mailing Address of Known Office of Publication (Not printer) (Street, city, county, state, and ZIP+4®): 9320 Old Georgetown Road Bethesda, MD 20814-1621 — Contact Person: TONYA LIRA; Telephone (Include area code): 301/897-8800 x17

8. Complete Mailing Address of Headquarters or General Business Office of Publisher (Not printer): Same as Above

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Publisher (Name and complete mailing address): George K. Anderson, M.D. 9320 Old Georgetown Road, Bethesda, MD 20814-1621

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13. Publication Title	14. Issue Date for Circulation Data Below
Military Medicine	August 2010

15. Extent and Nature of Circulation			Average No. Copies Each Issue During Preceding 12 Months	No. Copies of Single Issue Published Nearest to Filing Date
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h. Total (Sum of 15f and g)			8427	8750
i. Percent Paid (15c divided by 15f times 100)			99.81%	97.47%

16. Publication of Statement of Ownership
☒ If the publication is a general publication, publication of this statement is required. Will be printed in the October 2010 issue of this publication. ☐ Publication not required.

17. Signature and Title of Editor, Publisher, Business Manager, or Owner: George K Anderson — Publisher — Date: 9/14/2010

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