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Demographic, Military, and Health Characteristics of VA Health Care Users and Nonusers Who Served in or During Operation Enduring Freedom or Operation Iraqi Freedom, 2009-2011

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Abstract

An estimated 60% of all Operation Enduring Freedom / Operation Iraqi Freedom (OEF/OIF) veterans who have left the military had used the US Department of Veterans Affairs (VA) for health care services as of March 31, 2015. What is not known, however, are the differences in demographic, military, and health characteristics between OEF/OIF veterans who use the VA for health care and OEF/OIF veterans who do not. We used data from the 2009-2011 National Health Study for a New Generation of US Veterans to explore these differences. We found that VA health care users were more likely than non-VA health care users to be non-Hispanic black, to be unmarried, to have served on active duty and in the army, to have been deployed to OEF/OIF, and to have an annual income less than $35 000. The prevalence of 21 chronic medical conditions was higher among VA health care users than among non-VA health care users. OEF/OIF veterans using the VA for health care differ from nonusers with respect to demographic, military, and health characteristics. These data may be useful for developing programs and policies to address observed health disparities and achieve maximum benefit for the VA beneficiary population.

Keywords

OEF/OIF, veterans, Department of Veterans Affairs

The US Department of Veterans Affairs (VA) is the largest provider of health care in the United States, serving 8.8 million veterans each year.[1] Studies published in 1987 and 2000 showed that veterans who sought care at VA medical facilities differed from the general US population in age, income, education, and health status; these veterans tended to be older, have lower incomes, and have lowers levels of education.[2,3] These 2 studies did not include veterans of Operation Enduring Freedom (OEF) or Operation Iraqi Freedom (OIF).

In 2011, an estimated 50% of all OEF/OIF veterans who had left the military had used VA health care at some point since separation.[4] OEF/OIF veterans (ie, those who deployed to the war) are eligible for medical care at any VA medical center for any condition that is possibly related to their service in OEF/OIF theater of operations for 5 years after they are discharged or released from active duty.[5] Veterans who served during the OEF/OIF era (ie, those who served during the same period but were not deployed to the war) may also be eligible for VA health care, but their eligibility requirements differ from those of combat veterans.[6]

We used data on demographic, military, and health characteristics from the 2009-2011 National Health Study for a New Generation of US Veterans to explore differences between VA health care users and nonusers among OEF/OIF veterans. This brief report contributes to the literature by providing population prevalence estimates of 21 chronic

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medical conditions among OEF/OIF veterans who did not use VA health care services.

Methods

Details on methods for this study are described elsewhere.[7] In brief, between 2009 and 2011, 20 563 veterans from a population-based sample of 30 000 deployed OEF/OIF veterans and 30 000 nondeployed veterans from the OEF/OIF era completed a 16-page health survey via Internet, mail, or telephone. The survey included questions about functional status, activity limitations, health perceptions, height, weight, deployment-related military exposures, chronic medical conditions, VA health care utilization, posttraumatic stress disorder, traumatic brain injury, cigarette smoking, alcohol use, risky driving behavior, and sexual risk-taking behaviors. The variables of interest for this analysis were 21 self-reported medical conditions ascertained by asking the question "Has a doctor ever told you that you have any of the following conditions?" to which the respondents would answer with "yes" or "no." VA health care user status was determined by a yes-or-no answer to the question "Have you used VA health care services since you were separated from active duty?" This study was reviewed and approved by the Washington DC Veterans Administration Hospital Institutional Review Board.

Weights were developed to improve the precision and accuracy of the population prevalence estimates and to adjust for 3 factors: the stratified sampling design, nonresponse, and misclassification in the sampling frame. These methods are described elsewhere.[8] In short, basic sampling weights to account for the stratified sampling design and nonresponse were developed to ensure that the respondents reflected the entire population of service members. A proportion of the sampled respondents identified as nondeployed when the sample was drawn had deployed before or during data collection. Poststratification weighting was performed to account for temporal misclassification of deployment status in the sampling frame on the basis of the most current deployment records.[8] We calculated unweighted frequencies, unadjusted odds ratios, weighted prevalence and 95% confidence intervals (CIs), and weighted adjusted odds ratios (aORs) and 95% CIs, comparing VA health care users with nonusers, using SAS version 9.3.[9] The odds ratios were adjusted for sex, age, race/ethnicity, branch of service, unit component, education, marital status, income, and deployment to OEF/OIF. To our knowledge, this analysis is the first to report the demographic, military, and health characteristics of the OEF/OIF veteran population by VA health care user status.

Results

Data on VA health care use were available on 20 547 of 20 563 (99.9%) respondents. VA health care users were more likely than nonusers to be non-Hispanic black, to be unmarried, to have served on active duty and in the army, to have been deployed to OEF/OIF, and to have an annual income less than $35 000 (Table 1). Compared with nonusers, VA health care users had higher adjusted odds of having each chronic medical condition—notably, chronic fatigue syndrome (aOR = 2.45; 95% CI, 1.94-3.09), arthritis (aOR = 2.40; 95% CI, 2.20-2.62), sleep apnea (aOR = 2.34; 95% CI, 2.09-2.61), diabetes (aOR = 1.86; 95% CI, 1.54-2.26), hypertension (aOR = 1.83; 95% CI, 1.66-2.01), migraines (aOR = 1.79; 95% CI, 1.62-1.98), irritable bowel disease (aOR = 1.77; 95% CI, 1.56-2.02), significant hearing loss (aOR = 1.76; 95% CI, 1.61-1.93), and sinusitis (aOR = 1.55; 95% CI, 1.41-1.70)—after adjusting for sex, age, race/ethnicity, branch of service, unit component, education, marital status, income, and deployment to OEF/OIF (Table 2).

Discussion

This study showed that, since having left the military, OEF/OIF veterans who used the VA for health care were more likely to have chronic medical conditions than OEF/OIF veterans who had not used the VA for health care, even after adjustment for deployment. To some degree, this finding is expected, because veterans may be using the VA to treat an illness or injury that occurred during their service and is covered by the VA. Additionally, the VA provides care for veterans at certain income levels regardless of eligibility for injury or illness occurring in the line of duty.[6] Poor health is a major driver of health care utilization. For example, in our study, VA health care users reported an average of 2 chronic medical conditions, whereas nonusers reported an average of 1 chronic medical condition ($P < .001$).

The most common reason that VA nonusers cited for not having used the VA for health care was that they did not know if they were eligible (39%). Education about VA health care services is recommended for veterans who do not use VA health care, because early assessment and treatment of health conditions through primary prevention may lead to improved outcomes. Nearly 20% of VA health care nonusers indicated that VA health care services were inconvenient, although they did not specify why. Future studies should evaluate the impact of the Veterans Access, Choice, and Accountability Act of 2014 to assess use of VA health care services and the extent to which veterans receive care from non-VA entities that satisfy the law's timeliness and distance-from-care requirements.[10]

A strength of our study was that we used data on an underutilized comparison group—veterans of the OEF/OIF era who do not use VA health care services—from a nationally representative population-based study of veterans. Previous studies used data on veterans from the National Health Interview Survey to compare VA health care users with nonveterans in the general patient population, but these analyses were conducted with data from 1979 and the early 1990s.[2,3] More recent studies were limited to small geographic areas or to female veterans.[11] Additionally, the stratified sampling

Table 1. Demographic and military characteristics of US Department of Veterans Affairs (VA) health care users and nonusers who served in or during Operation Enduring Freedom or Operation Iraqi Freedom: National Health Study for a New Generation of US Veterans, 2009-2011

		VA Health Care Users		Non-VA Health Care Users		
Characteristic	**Total No. of Veterans[a]**	**No.**	**Weighted % (95% CI)[b]**	**No.**	**Weighted % (95% CI)[b]**	***P* Value[c]**
Total	20547	7593	NC	12954	NC	
Birth year						<.001
Pre-1960	3128	1288	10.5 (9.9-11.1)	1840	8.2 (7.8-8.6)	
1960-1969	5728	2276	23.5 (22.6-24.5)	3452	19.1 (18.5-19.8)	
1970-1979	6033	2123	30.2 (28.9-31.3)	3910	30.6 (29.7-31.5)	
1980 or later	5658	1906	35.8 (34.5-37.1)	3752	42.1 (41.1-43.1)	
Deployment status						<.001
Deployed	13201	5271	62.1 (61.3-62.9)	7930	52.6 (51.9-53.3)	
Not deployed	7346	2322	37.9 (37.1-38.7)	5024	47.4 (46.7-48.1)	
Sex						.02
Male	16199	5868	83.0 (82.8-83.3)	10331	84.3 (84.1-84.5)	
Female	4348	1725	17.0 (16.7-17.2)	2623	15.7 (15.5-15.8)	
Branch of service						<.001
Army	11153	4741	56.1 (55.7-56.6)	6412	45.8 (45.5-46.2)	
Air Force	4336	1107	15.0 (14.7-15.3)	3229	22.4 (22.1-22.7)	
Navy	3089	1053	16.6 (16.3-17.0)	2036	19.0 (18.6-19.3)	
Marine Corps	1969	692	12.2 (12.0-12.4)	1277	12.8 (12.6-13.0)	
Unit component						<.001
Active duty	7858	3152	56.9 (56.5-57.3)	4706	51.6 (51.3-51.9)	
National Guard	5610	2092	21.9 (21.6-22.2)	3518	21.1 (20.9-21.4)	
Reserve	7079	2349	21.2 (20.9-21.5)	4730	27.2 (27.0-27.5)	
Race/ethnicity						<.001
Hispanic	2164	891	12.1 (11.2-12.9)	1273	10.4 (9.6-10.8)	
Non-Hispanic white	14420	4867	65.6 (64.4-66.8)	9553	73.6 (72.7 74.5)	
Non-Hispanic black	2658	1332	16.2 (15.3-17.1)	1326	10.2 (9.6-10.8)	
Non-Hispanic other[d]	1183	447	6.1 (5.5-6.8)	736	5.8 (5.4-6.3)	
Not reported	122	56	NC	66	NC	
Marital status						<.001
Married	14538	5084	64.7 (63.4-65.9)	9454	69.3 (68.4-70.3)	
Divorced/separated	2311	1047	12.8 (12.0-13.7)	1264	9.1 (8.6-9.7)	
Never married	3630	1424	22.5 (21.3-23.6)	2206	21.5 (20.6-22.4)	
Not reported	68	38	NC	30	NC	
Annual income						<.001
<$35 000	5084	2299	36.2 (34.9-37.5)	2785	28.8 (27.8-29.7)	
$35 000-$49 999	3510	1447	19.2 (18.2-20.3)	2063	17.8 (17.0-18.6)	
$50 000-$74 999	4630	1737	22.2 (21.1-23.3)	2893	21.6 (20.8-22.4)	
$75 000-$99 999	2954	928	10.7 (9.9-11.4)	2026	13.5 (12.9-14.2)	
$100 000-$149 999	2803	775	8.7 (8.0-0.3)	2028	12.5 (12.0-13.1)	
≥$150 000	1292	295	3.0 (2.6-3.4)	997	5.8 (5.4-6.2)	
Not reported	274	112	NC	162	NC	
Education						<.001
≤High school degree	3098	1102	16.0 (15.0-17.0)	1996	19.7 (18.8-20.5)	
≤Bachelor degree	14636	5661	76.2 (75.2-77.3)	8975	69.8 (68.9-70.7)	
Advanced degree	2759	807	7.8 (7.2-8.3)	1952	10.6 (10.0-11.1)	
Not reported	54	23	NC	31	NC	

Abbreviations: CI, confidence interval; NC, not calculated.
[a]VA user status was available for 20547 of 20563 respondents. Includes veterans from Operation Enduring Freedom and Operation Iraqi Freedom.
[b]Each weighed proportion is based on the number of respondents for each demographic or military characteristic.
[c]*P* values calculated per the Rao-Scott χ^2 test.
[d]"Non-Hispanic other" includes Asian, American Indian / Alaska Native, Native Hawaiian / Pacific Islander.

design of the entire known population of those who served in OEF/OIF—including the reserve/National Guard component and those who were not deployed but who served during that period—as coupled with the weighting techniques provided prevalence estimates for 21 chronic medical conditions. Data from this study can be used to set benchmarks for the health experience of the OEF/OIF veteran population and may be useful for developing programs and policies to address

Table 2. Unweighted frequency, weighted prevalence, and adjusted odds of self-reported medical conditions among US Department of Veterans Affairs (VA) health care users and nonusers who served in or during Operation Enduring Freedom or Operation Iraqi Freedom: National Health Study for a New Generation of US Veterans, 2009-2011

		VA Health Care Users		Non-VA Health Care Users			
Health Outcome[a]	Total No. of Veterans[b]	No. (n = 7609)	Weighted Proportion (95% CI)[c]	No. (n = 12 970)	Weighted Proportion (95% CI)[c]	Adjusted Odds Ratio (95% CI)[d,e]	*P* Value[f]
Total	20 579	7609		12 970			
Chronic fatigue syndrome	475	296	3.7 (3.2-4.2)	179	1.3 (1.1-1.5)	2.45 (1.94-3.09)	<.001
Arthritis	4775	2507	31.5 (30.4-32.7)	2268	15.2 (14.5-15.9)	2.40 (2.20-2.62)	<.001
Sleep apnea	2158	1204	16.7 (15.7-17.6)	954	7.0 (6.5-7.5)	2.34 (2.09-2.61)	<.001
Other liver trouble	514	262	3.8 (3.3-4.3)	252	1.8 1.6-2.1)	1.99 (1.61-2.46)	<.001
Diabetes	700	384	4.8 (4.3-5.3)	316	2.1 (1.8-2.4)	1.86 (1.54-2.26)	<.001
Repeated seizures, convulsions, or blackouts	281	161	2.4 (2.0-2.8)	120	1.1 (0.9-1.3)	1.86 (1.38-2.49)	<.001
Multiple sclerosis	118	62	0.8 (0.6-1.1)	56	0.4 (0.3-0.6)	1.84 (1.16-2.94)	.01
Hypertension	3304	1618	20.9 (19.8-21.9)	1686	11.3 (10.7-11.9)	1.83 (1.66-2.01)	<.001
Any other cancer	469	234	2.9 (2.5-3.4)	235	1.5 (1.3-1.7)	1.80 (1.43-2.26)	<.001
Migraines	2699	1339	18.8 (17.8-19.8)	1360	10.8 (10.2-11.5)	1.79 (1.62-1.98)	<.001
Irritable bowel syndrome	1457	720	9.5 (8.7-10.3)	737	5.5 (5.0-5.9)	1.77 (1.56-2.02)	<.001
Significant hearing loss	3656	1761	22.5 (21.5-23.6)	1895	13.4 (12.7-14.0)	1.76 (1.61-1.93)	<.001
Coronary heart disease or artery disease	453	234	2.6 (2.2-3.0)	219	1.3 (1.1-1.5)	1.60 (1.26-2.04)	<.001
Sinusitis	3311	1495	18.4 (17.5-19.4)	1816	12.2 (11.6-12.8)	1.55 (1.41-1.70)	<.001
Frequent bladder infections	500	246	2.9 (2.5-3.4)	254	1.7 (1.5-1.9)	1.52 (1.22-1.90)	<.001
Asthma	1408	652	9.2 (8.5-10.0)	756	6.0 (5.5-6.5)	1.51 (1.32-1.72)	<.001
Cirrhosis	125	59	0.8 (0.6-1.1)	66	0.5 (0.4-0.6)	1.46 (0.91-2.33)	.11
Stroke	154	78	0.9 (0.7-1.2)	76	0.6 (0.4-0.7)	1.42 (0.95-2.14)	.09
Hepatitis	372	173	2.1 (1.8-2.5)	199	1.4 (1.2-1.6)	1.41 (1.07-1.85)	.01
Bronchitis	2668	1136	15.5 (14.5-16.5)	1532	11.6 (10.9-12.2)	1.38 (1.24-1.53)	<.001
Skin cancer	654	233	2.6 (2.2-2.9)	421	2.4 (2.1-2.6)	1.09 (0.77-1.32)	.39

Abbreviations: CI, confidence interval.
[a]Based on the question "Has your doctor ever told you that you have any of the following conditions?"
[b]Includes veterans from Operation Enduring Freedom and Operation Iraqi Freedom.
[c]Each weighted percentage is based on the number of respondents for the health outcome/condition.
[d]Adjusted for sex, age, race/ethnicity, branch of service, unit component, education, marital status, income, and deployment to Operation Enduring Freedom and Operation Iraqi Freedom.
[e]Non-VA health care users are the referent group for adjusted odds ratios.
[f]*P* values calculated from maximum likelihood estimators.

observed health disparities and achieve maximum benefit for the VA beneficiary population.

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