

Analysis of VA Health Care Utilization among Operation Enduring Freedom (OEF), Operation Iraqi Freedom (OIF), and Operation New Dawn (OND) Veterans - Revised

Cumulative from 1st Qtr FY 2002 through 3rd Qtr FY 2012 (October 1, 2001 – June 30, 2012)

Revised December 2012

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<http://www.publichealth.va.gov/epidemiology>



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Introduction

This is a revised quarterly report on Veterans who have used Department of Veterans Affairs (VA) health care and who served in Operation Enduring Freedom (OEF), Operation Iraqi Freedom (OIF), or Operation New Dawn (OND). Veterans are presenting to VA with a wide variety of physical and mental health conditions. The data represent the use of health care resources.

The data only apply to OEF/OIF/OND Veterans who have accessed VA health care, and do not represent all recent Veterans who have become eligible for VA health care. This report is created by linking the Department of Defense (DoD) roster of returning Veterans to VA's electronic inpatient and outpatient health records.

This report was revised to correct an error in the number of inpatient cases. The original report was based upon an improperly constructed patient data file that omitted three months of data. Please see the Appendix for more details about the revision.

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Check <http://www.publichealth.va.gov/epidemiology> for updates.

Current DoD Roster of Recent Veterans

Evolving roster development by DoD Defense Manpower Data Center (DMDC)

- In September 2003, DMDC developed an initial file of Veterans who had been deployed to the Iraqi and Afghan theaters of operation using proxy files: Active Duty and Reserve Pay, Combat Zone Tax Exclusion, and Imminent Danger Pay.
- In September 2004, DMDC revised procedures for creating periodic updates of the roster and now mainly utilizes direct reports from service branches of Veterans who served in OEF/OIF/OND troops.
- VA's Office of Public Health provides ongoing assistance to DMDC to improve the accuracy and completeness of the roster and the variables provided.

Latest update of roster

- Provided to VA's Office of Public Health, Post Deployment Health Group, Epidemiology Program on July 11, 2012.

DoD's OEF/OIF/OND deployment roster

- Contains a list of Veterans who have left active duty and does not include currently serving active duty personnel.
- Does not distinguish between OEF, OIF, or OND Veterans.
- Roster only includes separated OEF/OIF/OND Veterans with out-of-theater dates through May 2012.
- Beginning with the 3rd Quarter Fiscal Year (FY) 2009 report, Veterans who received health care but subsequently died in-theater have been included in the quarterly analysis.
- The number of individuals who died in-theater from FY 2002 through 3rd Quarter FY 2012 (October 1, 2001 – June 30, 2012) is 5,709.

How VA uses the DoD Roster of Veterans Who Have Left Active Duty

- The DoD roster is linked to VA's electronic inpatient and outpatient health records in which the standard International Classification of Diseases, 9th Revision, Clinical Modification (ICD-9-CM) diagnostic codes are used to classify health problems in order to determine which OEF/OIF/OND Veterans accessed VA health care as of June 30, 2012.
- The data available for this analysis are mainly administrative data obtained from Veterans' VA medical records and are not based on a review of patient records or a confirmation of diagnoses. However, every clinical evaluation is captured in VA's computerized patient record. The data used in this analysis are appropriate for health care planning purposes because the ICD-9-CM administrative data reflect the use of health care resources.
- These administrative data have to be interpreted with caution because they ***only apply to those OEF/OIF/OND Veterans who have accessed VA health care***. These data do not represent all 1,515,707 OEF/OIF/OND Veterans who have become eligible for VA health care since FY 2002 (beginning October 1, 2001) or the approximately 2.4 million troops (as of June 30, 2012) who have served or are serving in the two theaters of operation since the beginning of the conflicts in Iraq and Afghanistan¹.
- Because VA health data are not representative of the Veterans who have not accessed VA health care, epidemiological studies are required to answer specific questions about the health of all OEF/OIF/OND Veterans.
- Analyses based on this updated roster are not directly comparable to those in prior reports because the denominator (number of OEF/OIF/OND Veterans eligible for VA health care) and numerator (number of Veterans enrolling for VA health care) change with each update.
- This report presents data from VA's health care facilities and does not include Vet Center data or DoD health care data.

¹ Source: [CTS Deployment File Baseline Report](#), Defense Manpower Data Center. Provided to Epidemiology Program by the Armed Force Health Surveillance Center, 08/15/2012.

How VA uses the DoD Roster of Veterans Who Have Left Active Duty - Revised

- These health care data are “***cumulative totals***” since FY 2002 and do not represent data from any single year.
- The numbers provided in this report should not be manipulated to derive new data without first establishing the validity of the manipulations with VA’s Office of Public Health.
- Updated Roster of OEF/OIF/OND Veterans Who Have Left Active Duty through May 31, 2012
 - **1,515,707** OEF/OIF//OND Veterans have left active duty and become eligible for VA health care since FY 2002
 - **848,616 (~56%)²** Former Active Duty troops
 - **667,091 (~44%)²** Reserve and National Guard

² Percentage reported is approximate due to rounding.

VA Health Care Utilization from FY 2002 – 3rd Qtr FY 2012 among OEF/OIF/OND Veterans - Revised

Among all 1,515,707 separated OEF/OIF/OND Veterans

- **834,467 (~55%)³** have obtained VA health care since FY 2002 (cumulative total).
 - **471,753 (~56%)³ of 848,616** Former Active Duty in DMDC roster
 - **362,714 (~54%)³ of 667,091** Reserve/National Guard in DMDC roster⁴

Among the 834,467 OEF/OIF/OND Veterans who received health care since FY 2002

- **778,385 of 834,467 (~93%)³** have been seen only as outpatients by VA.
- **56,082 of 834,467 (~7%)³** have been hospitalized at least once in a VA health care facility.

Comparison of VA Health Care Utilization

- Of the cumulative total of 834,467 OEF/OIF/OND Veterans who utilized VA health care from FY 2002 through 3rd Qtr FY 2012, 511,019 Veterans accessed care during the past 12 months (July 1, 2011-June 30, 2012). This represents about 8% of the ~6.2 million individuals who received VA health care during the latest complete fiscal year 2011 (October 1, 2010 – September 30, 2011).⁵

³ Percentage reported is approximate due to rounding.

⁴ May include both former and current Reserve/National Guard Members.

⁵ The most recent full fiscal year for which data are available. Obtained from Office of the Assistant Deputy Under Secretary for Health Policy and Planning.

Number of OEF/OIF/OND Veterans by Veterans Integrated Service Network (VISN) Providing Treatment - Revised

OEF/OIF/OND Veterans Treated at a VA Facility^{6, 7}

Treatment Site	Number	Percent
VISN 1: VA New England Healthcare System	36,044	4.3
VISN 2: VA Healthcare Network Upstate New York	22,808	2.7
VISN 3: VA New York/New Jersey Healthcare System	30,287	3.6
VISN 4: VA Stars & Stripes Healthcare System	42,444	5.1
VISN 5: VA Capitol Health Care System	31,052	3.7
VISN 6: VA Mid-Atlantic Health Care Network	59,145	7.1
VISN 7: VA Southeast Network	67,197	8.1
VISN 8: VA Sunshine Healthcare Network	65,424	7.8
VISN 9: VA MidSouth Healthcare Network	48,417	5.8
VISN 10: VA Healthcare System of Ohio	27,482	3.3
VISN 11: Veterans in Partnership Healthcare Network	38,453	4.6
VISN 12: VA Great Lakes Health Care System	43,112	5.2
VISN 15: VA Heartland Network	36,588	4.4
VISN 16: South Central VA Health Care Network	78,710	9.4
VISN 17: VA Heart of Texas Health Care Network	66,021	7.9
VISN 18: VA Southeast Health Care Network	47,258	5.7
VISN 19: VA Rocky Mountain Network	41,703	5.0
VISN 20: VA Northwest Health Network	49,206	5.9
VISN 21: VA Sierra Pacific Network	42,412	5.1
VISN 22: VA Desert Pacific Healthcare Network	73,531	8.8
VISN 23: VA Midwest Health Care Network ⁸	49,720	6.0

⁶ The total number of OEF/OIF/OND Veterans who received treatment (n = 834,467) was used to calculate the percentage treated in any one VISN. The total may be higher than 834,467 unique Veterans because a Veteran can be treated in more than one VISN and each is entered separately in this table.

⁷ Percentages reported are approximate due to rounding.

⁸ In 2002, VA merged VISNs 13 and 14 to form VISN 23.

Demographic Characteristics of OEF/OIF/OND Veterans Utilizing VA Health Care⁹ - Revised

	% OEF/OIF/OND (n=834,467)		% OEF/OIF/OND (n=834,467)
Sex		Unit Type	
Male	88.0	Active Duty	56.5
Female	12.0	Reserve/Guard	43.5
Birth Year Cohort¹⁰		Branch	
1990 or later	0.7	Air Force	12.5
1980-1989	47.3	Army	60.2
1970-1979	25.3	Marines	13.8
1960-1969	20.1	Navy	13.3
1950-1959	5.8		
1926-1949	0.9		
Rank			
Enlisted	91.2		
Officer	8.8		

⁹ Hospitalization and outpatient visits recorded as of June 30, 2012.

¹⁰ The birth year category "1990 or Later" was added 2nd Qtr FY12 and the 1980 group was right truncated at 1989. This adjustment was made to equalize the number of years represented in each range. Birth year ranges were introduced 3rd Qtr FY 2009 in order to account for younger Veterans.

Diagnostic Data

- Veterans of recent military conflicts have presented to VA for outpatient and inpatient care with a wide range of medical and psychological conditions.
- Diagnoses have encompassed more than 8,000 discrete ICD-9-CM diagnostic codes.
- The three most common diagnoses of Veterans were musculoskeletal ailments (principally joint and back disorders), mental disorders, and “Symptoms, Signs and Ill-Defined Conditions.”
- As in other outpatient populations, the ICD-9-CM diagnostic category “Symptoms, Signs and Ill-Defined Conditions” was commonly reported. This is not a diagnosis of an unknown syndrome or unusual illness. This ICD-9-CM code includes symptoms and clinical findings that are not coded elsewhere. It is a diverse, catch-all category that is commonly used for the diagnosis of outpatient populations. It encompasses more than 160 sub-categories and primarily consists of common symptoms that do not have an immediately obvious cause during a clinic visit or of laboratory test abnormalities that do not point to a particular disease process and may be transient. The most frequently reported codes in this category, in order of magnitude are: General Symptoms (ICD-9-CM 780), Symptoms Involving Head and Neck (ICD-9-CM 784), and Symptoms Involving Respiratory System (ICD-9-CM 786).

Number of Diagnoses among OEF/OIF/OND Veterans - Revised

Disease Category (ICD-9-CM Categories)	% OEF/OIF/OND (n=834,467)	
	Number¹¹	Percent
Infectious and Parasitic Diseases (001-139)	131,263	15.7
Malignant Neoplasms (140-209)	11,787	1.4
Benign Neoplasms (210-239)	57,458	6.9
Diseases of Endocrine/Nutritional/Metabolic Systems (240-279)	274,343	32.9
Diseases of Blood and Blood Forming Organs (280-289)	32,668	3.9
Mental Disorders (290-319)	444,551	53.3
Diseases of Nervous System/ Sense Organs (320-389)	378,428	45.3
Diseases of Circulatory System (390-459)	180,525	21.6
Diseases of Respiratory System (460-519)	221,086	26.5
Diseases of Digestive System (520-579)	301,504	36.1
Diseases of the Genitourinary System (580-629)	128,752	15.4
Diseases of Skin (680-709)	181,899	21.8
Diseases of Musculoskeletal System Connective Tissue (710-739)	476,763	57.1
Symptoms, Signs and Ill Defined Conditions (780-799)	437,209	52.4
Injury/Poisonings (800-999)	243,966	29.2

¹¹ The total may be higher than 834,467 unique Veterans because a Veteran can have more than one diagnosis and each is entered separately in this table.

Number of Veterans with Mental Disorders¹² among OEF/OIF/OND Veterans Evaluated at VA Facilities since FY 2002¹³ - Revised

Diagnosis (ICD-9-CM)	Number of OEF/OIF/OND Veterans¹⁴
Post-traumatic stress disorder (PTSD) (309.81) ¹⁵	239,174
Depressive Disorders (311)	184,505
Neurotic Disorders (300)	161,608
Affective Psychoses (296)	111,395
Alcohol Dependence Syndrome (303)	52,829
Nondependent Abuse of Drugs (305) ¹⁶	37,739
Special Symptoms, Not Elsewhere Classified (307)	32,308
Specific Nonpsychotic Mental Disorder due to Organic Brain Damage (310)	28,838
Drug Dependence (304)	28,329
Sexual Deviations and Disorders (302)	26,791

¹² Includes both provisional and confirmed diagnoses.

¹³ These are cumulative data since FY 2002. ICD-9-CM diagnoses used in these analyses are obtained from computerized administrative data. Although diagnoses are made by trained health care providers, up to one-third of initial diagnostic codes may not be confirmed because the diagnosis is provisional, pending further evaluation.

¹⁴ The total will be higher than the 444,551 unique patients who received a diagnosis of a possible mental disorder. A Veteran may have more than one mental disorder diagnosis and each diagnosis is entered separately in this table.

¹⁵ This row of data does not include a) information on PTSD from VA's Vet Centers, b) data from Veterans not enrolled for VA health care, or c) Veterans who received only a diagnosis of adjustment reaction, ICD-9-CM 309 (n=56,627). The decrease from 2nd Qtr FY 2012 is a result of a calculation error in the past two reports. The number of ICD-9-CM 309 cases in 1st Qtr FY 2012 was 50,878, not 141,658 as reported; in 2nd Qtr FY 2012, it was 53,800, not 153,800 as reported.

¹⁶ This category currently excludes Veterans who have a diagnosis of a) tobacco use disorder only, ICD-9-CM 305.1 (n=118,711); b) alcohol abuse only, ICD-9-CM 305.0, (n=30,645); or both tobacco use disorder and alcohol abuse, ICD-9-CM 305.0 and 305.1, (n=24,768).

Summary

- Recent OEF/OIF/OND Veterans are presenting to VA with a wide range of health conditions. The three most common diagnoses of Veterans were musculoskeletal ailments (principally joint and back disorders), mental disorders, and “Symptoms, Signs and Ill-Defined Condition.”
- The 834,467 OEF/OIF/OND Veterans who have accessed VA health care do not constitute a representative sample of all OEF/OIF/OND Veterans.
- For example, the fact that 45% of VA patient encounters were coded as being related to diseases of the nervous system/sense organs does not indicate that 45% of all recent Veterans are suffering from this health problem. Only epidemiological studies can evaluate the overall health of OEF/OIF/OND Veterans.
- Percentages of VA health care utilization by recent OEF/OIF/OND Veterans may be influenced by combat Veterans’ enhanced access to VA health care enrollment (in January 2008, this authority was extended from two years to five years post discharge) and exemption from co-pay charges for any health problem possibly related to their military service.

Appendix

Correction - 3rd Quarter FY 2012 OEF/OIF/OND VA Health Care Utilization Reports Dated September 2012

Nature of the Error: When preparing the 3rd Quarter FY 2012 report, the wrong end date was mistakenly used for the inpatient data (March 2012 instead of June 2012).

Impact of the Error: This error resulted in incorrect numbers in the 3rd Quarter FY 2012 report on inpatient data and summary data. The incorrect and correct numbers are provided in Table 1. The error does not affect the outpatient file. Since inpatient care represents a small proportion of the total care provided to Veterans, the overall magnitude of the data error is minimal, resulting in an increase in the total person count for the 3rd Quarter by four individuals (an impact of less than one percent for all disease categories).

The impact is greater when looking at inpatient events not preceded by an outpatient event (Table 2). In this case, the number of inpatient events increased by approximately seven percent (n=1,964); the percentage change within each ICD-9-CM major disease category ranges between 6 percent and 9 percent, with the exception of Diseases of the Musculoskeletal System/Connective Tissue (difference n=102;11.6%).

Protocol Modifications: Changes have been made in how these files are constructed to help ensure that such an error will not recur.

Table 1. Differences between the First Health Care File ("Original") and Reconstructed File ("New")					
	3rd Qtr FY12 New File	3rd Qtr FY12 Original File	3rd Qtr FY12 File Difference	Percent Change	2nd Qtr FY12 Figures
Number of Veterans Receiving Health Care	834,467	834,463	4	0.0	804,704
Number of Veterans Receiving Inpatient Care	56,082	53,583	2,499	4.7	52,950
Number of Veterans Receiving Outpatient Care ¹	834,362	834,362	0	0.0	804,602
Selected Diagnostic Categories ²					
Infectious, Parasitic Diseases (001-139)	131,263	131,119	144	0.1	124,968
Malignant Neoplasms (140-209)	11,787	11,782	5	0.0	11,156
Benign Neoplasms (210-239)	57,458	57,439	19	0.0	53,946
Dis. of Endocrine, Nutritional, Metabolic Sys. (240-279)	274,343	274,133	210	0.1	260,330
Dis. of Blood, Blood Forming Organs (280-289)	32,668	32,505	163	0.5	30,504
Mental Disorders (290-319)	444,551	444,505	46	0.0	424,803
Dis. of Nervous Sys., Sense Organ (320-389)	378,428	378,296	132	0.0	360,644
Dis. of Circulatory Sys. (390-459)	180,525	180,384	141	0.1	171,955
Dis. of Respiratory Sys. (460-519)	221,086	220,990	96	0.0	211,449
Dis. of Digestive Sys. (520-579)	301,504	301,376	128	0.0	289,303
Dis. of Genitourinary Sys. (580-629)	128,752	128,635	117	0.1	121,861
Dis. of Skin (680-709)	181,899	181,848	51	0.0	172,651
Dis. of Musculoskeletal Sys., Connective Tissue (710-739)	476,763	476,661	102	0.0	456,006
Ill-defined Conditions (780-799)	437,209	437,114	95	0.0	417,703
Injuries, Poisonings (800-999)	243,966	243,836	130	0.1	232,142

¹Verification that the error occurred only in the inpatient file.

²A Veteran is counted only once in any single Diagnostic Category, but can be counted in multiple categories.

Table 2. Percent Change between the First Health Care File ("Original") and Reconstructed File ("New") for Veterans Having Only an Inpatient Event for the Specified Diagnostic Category

	Inpatient Only 3rd Qtr FY12 New File	Inpatient Only 3rd Qtr FY12 Original File	Inpatient Only 3rd Qtr FY12 File Difference	Percent Change	Inpatient Only 2nd Qtr FY12 Figures
Number of Veterans Receiving Only Inpatient Care Selected Diagnostic Categories ¹	29,445	27,481	1,964	7.1	27,977
Infectious, Parasitic Diseases (001-139)	2,414	2,270	144	6.3	2,274
Malignant Neoplasms (140-209)	82	77	5	6.5	81
Benign Neoplasms (210-239)	362	343	19	5.5	344
Dis. of Endocrine, Nutritional, Metabolic Sys. (240-279)	2,568	2,358	210	8.9	2,423
Dis. of Blood, Blood Forming Organs (280-289)	2,567	2,404	163	6.8	2,397
Mental Disorders (290-319)	760	714	46	6.4	724
Dis. of Nervous Sys., Sense Organ (320-389)	1,658	1,526	132	8.7	1,610
Dis. of Circulatory Sys. (390-459)	2,252	2,111	141	6.7	2,153
Dis. of Respiratory Sys. (460-519)	1,393	1,297	96	7.4	1,313
Dis. of Digestive Sys. (520-579)	1,611	1,483	128	8.6	1,543
Dis. of Genitourinary Sys. (580-629)	1,623	1,506	117	7.8	1,513
Dis. of Skin (680-709)	900	849	51	6.0	860
Dis. of Musculoskeletal Sys., Connective Tissue (710-739)	981	879	102	11.6	930
Ill-defined Conditions (780-799)	1,350	1,255	95	7.6	1,306
Injuries, Poisonings (800-999)	1,846	1,716	130	7.6	1,759

¹A Veteran is counted only once in any single Diagnostic Category, but can be counted in multiple categories. An event can have multiple diagnosis.