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Mental Health Encounters and Diagnoses Following Deployment to Iraq and/or Afghanistan, U.S. Armed Forces, 2001-2006

After returning from deployments in Iraq or Afghanistan, service members experience relatively high rates of mental disorders such as depression, anxiety, substance abuse, and post-traumatic stress disorder (PTSD).[1-3] Not surprisingly, traumatic injuries while deployed increase risks of PTSD and depression after redeployment.[4] In addition, among soldiers and Marines serving in Iraq in 2006, mental health statuses were strongly related to combat experiences.[5] Among health care providers in Iraq and Afghanistan, the number and nature of threats to personal safety while deployed significantly determined risk of PTSD after redeployment.[3] Finally, extended and/or multiple deployments can disrupt relationships with spouses, other family members, friends, and work associates (Reserves); and homecoming can be stressful as some deployers struggle to readjust to home life.[2,5]

Recently, Seal and colleagues described the natures and prevalences of mental disorder-specific diagnoses among veterans of service in Iraq or Afghanistan who received care in the Veterans Affairs (VA) medical system.[6] The authors emphasized that military veterans who receive care in the VA system are not representative of all military service veterans or all deployers to Iraq or Afghanistan.[6] For this report, we estimated the natures and incidence of mental disorder-specific diagnoses during medical encounters in the U.S. Military Health System among all recent redeployers from Afghanistan or Iraq.

Methods:

For this analysis, the surveillance population included all members of active and reserve components of the U.S. Armed Forces who completed deployments to Iraq or Afghanistan between 1 January 2001 and 31 December 2006 (per deployment rosters routinely provided by the Defense Manpower Data Center).

The methods of Seal and colleagues[6] were slightly modified to characterize the burdens of mental disorders among members of the surveillance population. Specifically, the Defense Medical Surveillance System was searched to identify all records of medical encounters of U.S. service members in fixed military and non-military (reimbursed/contracted care) medical facilities that occurred after reported dates of deployment to Afghanistan or Iraq and included at least one diagnostic code in any diagnostic position that was specific for a mental disorder (ICD-9-CM codes: 290-319). Encounters in mental health specialty clinics (e.g., psychiatry, psychology) were identified using medical expense codes routinely reported on medical records.

The proportions of service members who received one, two, and three or more different mental health diagnoses after deploying to Afghanistan or Iraq were calculated. In addition, the numbers and natures of subsequent mental disorder-specific diagnoses among deployers whose initial diagnoses were in mental health specialty and other clinical settings were evaluated.

Results:

Between 2001 and 2006, 865,674 service members were reported as deployers to Iraq and/or Afghanistan. Most deployers were males (89%), members of the active component (70%), white (67%) or black (18%) non-Hispanic, and in the Army (62%) **(Table 1)**. Nearly two-thirds (63%) of deployers were younger than 30 years old, and approximately half (50%) were married **(Table 1)**.

Table 1. Characteristics of deployers from Iraq/Afghanistan, U.S. Armed Forces, January 2001-December 2006

	No.	%
Total	865,674	
Component		
Active	604,009	69.8
Reserve	261,665	30.2
Service		
Army	538,045	62.2
Air Force	162,479	18.8
Marine Corps	109,525	12.7
Navy	55,625	6.4
Sex		
Male	774,240	89.4
Female	91,424	10.6
Race ethnicity		
White, non-hispanic	578,266	66.8
Black, non-hispanic	153,665	17.8
Hispanic	84,683	9.8
Other	49,060	5.7
Age		
<20	59,166	6.8
20-24	315,082	36.4
25-29	169,059	19.5
30-34	119,771	13.8
35-39	101,361	11.7
40+	101,235	11.7
Marital Status		
Married	436,380	50.4
Single, never married	389,164	45.0
Divorced/separated	40,130	4.6

Approximately one of eight (12%) deployers received at least one, and approximately one of 20 (5%) deployers received more than one, mental disorder-specific diagnoses after deploying **(Table 2)**. Of deployers who received any mental disorder diagnosis after deployment, a majority (58%) received only one specific diagnosis; however, significant proportions received two (22%) or three or more (20%) distinct mental disorder diagnoses **(Table 2)**. Nearly all diagnoses (97%) were made in outpatient settings (data not shown).

Table 2. Mental disorder diagnoses after redeploying from Iraq/Afghanistan, U.S. Armed Forces, 2001-2006

Mental disorder diagnoses after deploying	No. of deployers	*% of deployers* Overall	With ≥1 mental disorder diagnosis
None	759,810	87.8	
One or more	105,864	12.2	100.0
One diagnosis	*61,139*	*7.1*	*57.8*
Two diagnoses	*23,720*	*2.7*	*22.4*
>3 diagnoses	*21,005*	*2.4*	*19.8*

The demographic subgroups with the highest rates of any mental disorder diagnosis after deploying were females (cumulative incidence: 17.4%), separated/divorced individuals (cumulative incidence: 16.2%), and those of "other" race/ethnicities (cumulative incidence: 15.0%). Deployers who were in the active component, in the Army, younger than 20 years old, and currently or previously married were also significantly more likely than their respective counterparts to receive a mental disorder diagnosis after deployment **(Table 3)**.

In general, the subgroups with relatively high rates of any mental disorder diagnoses also had relatively high rates of PTSD diagnoses **(Table 3)**. For example, deployers who were separated or divorced, "other" race/ethnicities, and/or in the Army had the highest crude rates of any mental disorder and of PTSD diagnoses after deployment **(Table 3)**. Of note in this regard, while females were approximately 50% more likely than males to receive any mental disorder diagnosis, they had nearly identical cumulative incidence rates of PTSD diagnoses **(Table 3)**.

Table 3. Cumulative incidence (%) and relative rate (RR) of receiving one or more diagnoses of any mental disorder or post traumatic stress disorder (PTSD) following deployment to Iraq/Afghanistan, U.S. Armed Forces, 2001-2006

	Mental disorder diagnosis (one or more)				**PTSD diagnosis**			
Characteristics	No. of deployers	%	RR	95% CI	No. of deployers	%	RR	95% CI
Total	105,864	12.2			19,991	2.3		
Component								
Active	83,889	13.9	1.65	1.63-1.68	14,472	2.4	1.14	1.10-1.17
Reserve	21,975	8.4	1.00		5,519	2.1	1.00	
Service								
Army	75,362	14.0	1.00		15,652	2.9	1.00	
Air Force	16,602	10.2	0.73	0.72-0.74	1,045	0.6	0.22	0.21-0.24
Marine Corps	8,608	7.9	0.56	0.55-0.57	2,321	2.1	0.73	0.70-0.76
Navy	5,292	9.5	0.68	0.66-0.70	973	1.7	0.60	0.56-0.64
Sex								
Male	89,976	11.6	0.67	0.66-0.68	17,851	2.3	0.98	0.94-1.03
Female	15,887	17.4	1.00		2,140	2.3	1.00	
Race/ethnicity								
Black, non-Hispanic	18,096	11.8	0.97	0.96-0.99	3,091	2.0	0.88	0.85-0.91
Hispanic	10,519	12.4	1.03	1.01-1.05	2,238	2.6	1.16	1.11-1.21
Other	7,371	15.0	1.24	1.22-1.27	1,443	2.9	1.29	1.22-1.36
White, non-Hispanic	69,878	12.1	1.00		13,219	2.3	1.00	
Age								
<20	8,234	13.9	1.21	1.18-1.25	1,633	2.8	1.19	1.12-1.26
20-24	40,075	12.7	1.11	1.09-1.13	7,345	2.3	1.00	0.96-1.05
25-29	20,302	12.0	1.05	1.02-1.07	3,826	2.3	0.97	0.93-1.03
30-34	13,964	11.7	1.02	0.99-1.04	2,674	2.2	0.96	0.91-1.02
35-39	11,677	11.5	1.00	0.98-1.03	2,162	2.1	0.92	0.97-0.97
40+	11,612	11.5	1.00		2,351	2.3	1.00	
Marital Status								
Married	60,679	13.9	1.40	1.38-1.41	12,065	2.8	1.61	1.56-1.66
Divorced/separated	6,484	16.2	1.62	1.59-1.66	1,238	3.1	1.80	1.69-1.91
Single, never married	38,701	9.9	1.00		6,688	1.7	1.00	

Relationships between age and rates of any mental disorder and PTSD diagnoses varied between the active and Reserve components **(Figure 1)**. For example, in the active component, rates of mental disorder diagnoses were highest among the youngest deployers, while in the Reserve component, they were highest by far among the oldest deployers **(Figure 1)**. Also, in the active component, rates of PTSD diagnoses monotonically decreased with age, while in the Reserve component, they increased with age **(Figure 1)**.

Finally, relationships between age and rates of any mental disorder and PTSD diagnoses also varied in relation to race/ethnicity **(Figure 2)**. For example, in the active component, rates of any mental disorder diagnosis steadily declined with age among white males, but, among black males, they steadily declined with age through the early-30s and then sharply increased **(Figure 2)**. Also, rates of PTSD diagnoses steadily declined with age among white males but were relatively stable across age groups among black males **(Figure 2)**. As a result, in each age stratum of deployers younger than 35 years old, white males had significantly higher rates than black males of any mental disorder and of PTSD diagnoses; however, in each age stratum older than 35, black males had higher rates than white males **(Figure 2)**.

Approximately one-third (35%) of deployers who received an initial mental disorder diagnosis after deployment had at least one subsequent ("follow-up") encounter with a mental disorder diagnosis. The likelihood of a follow-up encounter after an initial mental disorder diagnosis significantly varied based on the clinical setting of and the diagnosis during the initial encounter. For example, deployers whose initial mental disorder diagnoses were made in mental health specialty clinics were approximately twice as likely as those whose initial diagnoses were made in other clinical settings to have at least one follow-up encounter with a mental disorder diagnosis **(Table 4)**.

Nearly two-thirds (63%) of initial mental disorder diagnoses after deployment were made in mental health specialty clinics **(Table 4)**. Of deployers who received their first mental disorder diagnosis in a mental health specialty setting, fewer than half (43%) had at least one follow-up encounter with a mental disorder diagnosis; and of those, approximately three-fourths (74%) received the same mental

Figure 1. Cumulative incidence (%) of diagnoses of any mental disorder and post-traumatic stress disorder (PTSD), by age group, active and reserve components, after deployment to Iraq/Afghanistan, U.S. Armed Forces, 2001-2006

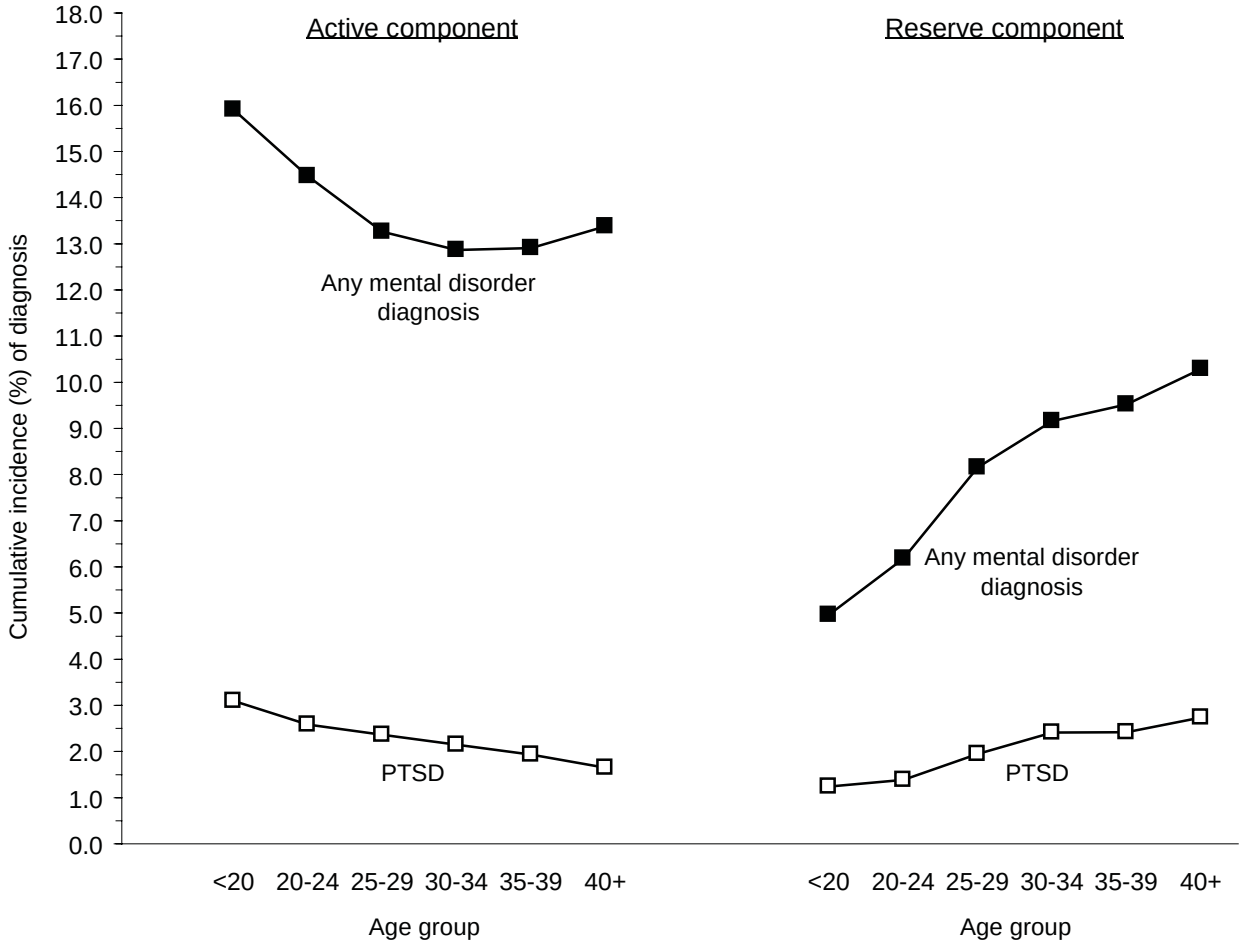
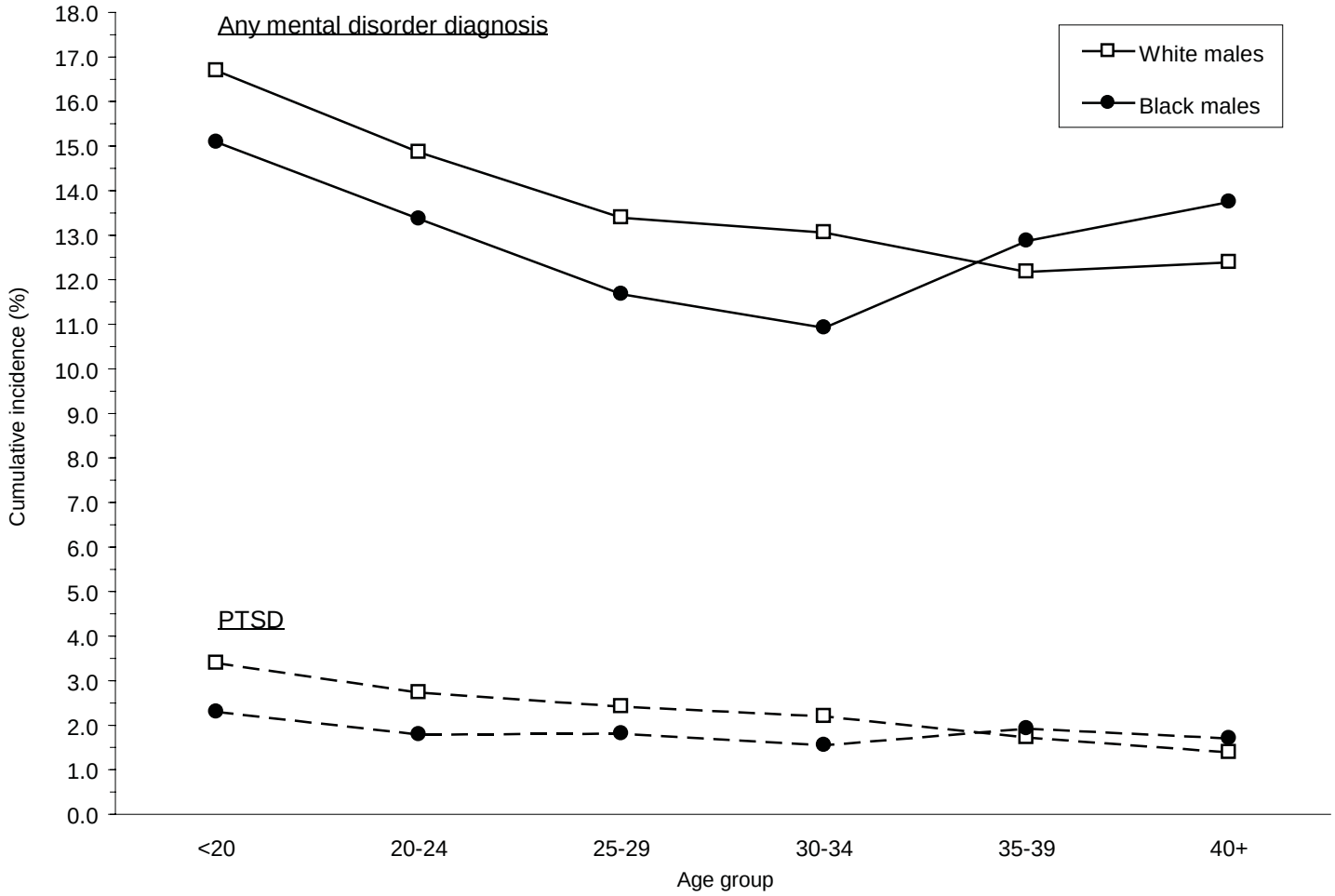


Figure 2. Cumulative incidence (%) of any mental disorder diagnosis or PTSD diagnosis after deployment to Iraq/Afghanistan, among white and black male service members, by age group, active components, U.S. Armed Forces, 2001-2006



disorder diagnosis at the initial and first follow-up encounter **(Table 4)**. Thus, approximately one-third (35%) of deployers who received their first mental disorder diagnosis in a mental specialty setting had a follow-up encounter at which they received the same diagnosis **(Table 4)**.

In contrast, of deployers who received their first mental disorder diagnosis in a non-mental health specialty setting, fewer than one-fourth (22%) had at least one subsequent encounter with a mental disorder diagnosis; and of those, fewer than two-thirds (61%) received the same mental disorder diagnosis at the initial and first follow-up encounters **(Table 4)**. Thus, only approximately one of seven (15%) deployers who received their first mental disorder diagnosis in a non-mental health specialty setting had a follow-up encounter at which they received the same diagnosis **(Table 4)**.

The most frequent initial mental disorder diagnoses after deployment were "other mental disorder" (including psychoses, affective disorders and personality disorders) (cumulative incidence: 4.6%; % of initial diagnoses: 38%), adjustment reaction (cumulative incidence: 2.8%; % of initial diagnoses: 23%), and substance abuse (cumulative incidence: 1.9%; % of initial diagnoses: 16%) **(Table 4)**. PTSD (cumulative incidence: 1.2%; % of initial diagnoses: 10%) and depression (cumulative incidence: 0.9%; % of initial diagnoses: 7%) were relatively uncommon initial mental disorder diagnoses after deployment **(Table 4)**.

In general, deployers whose initial mental disorder diagnoses were depression (follow-up: 52%), PTSD (follow-up: 48%), or substance abuse (follow-up: 46%) were most likely to have follow-up mental disorder-related encounters **(Table 4)**. Deployers whose initial mental disorder diagnoses were "other mental disorder" (follow-up: 30%), acute stress reaction (follow-up: 34%), or anxiety disorder (follow-up: 35%) were least likely to have subsequent encounters with mental disorder diagnoses **(Table 4)**.

Finally, the highest rates of follow-up of initial mental disorder diagnoses after deployment were among those seen in mental health specialty settings where they received diagnoses of depression (follow-up: 57%) substance abuse (follow-up: 52%), or PTSD (follow-up: 51%) **(Table 4)**. The lowest rates of follow-up of initial mental disorder diagnoses after deployment were among those seen in non-mental health

Table 4. Initial and follow-up medical encounters with mental disorder-specific diagnoses, following deployment to Iraq/Afghanistan, by clinical setting of initial encounter, U.S. Armed Forces, 2001-2006

	Initial mental disorder diagnosis															
	Adjustment reaction n=24,463				Substance abuse n=16,358				Anxiety disorder n=12,062				PTSD n=10,095			
	In mental health specialty setting (n=20,974)		In non-mental health setting (n=3,489)		In mental health specialty setting (n=13,195)		In non-mental health setting (n=3,163)		In mental health specialty setting (n=6,208)		In non-mental health setting (n=5,854)		In mental health specialty setting (n=7,933)		In non-mental health setting (n=2,162)	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Subsequent mental disorder diagnosis	8,591	41.0	1,228	35.2	6,837	51.8	688	21.8	2,735	44.1	1,504	25.7	4,008	50.5	822	38.0
Adjustment disorder	*6,510*	*31.0*	*791*	*22.7*	*469*	*3.6*	*64*	*2.0*	*396*	*6.4*	*91*	*1.6*	*457*	*5.8*	*89*	*4.1*
Substance abuse	*483*	*2.3*	*87*	*2.5*	*5,992*	*45.4*	*496*	*15.7*	*128*	*2.1*	*30*	*0.5*	*305*	*3.8*	*44*	*2.0*
Anxiety disorder	*312*	*1.5*	*306*	*8.8*	*137*	*1.0*	*42*	*1.3*	*1,857*	*29.9*	*848*	*14.5*	*302*	*3.8*	*133*	*6.2*
PTSD	*348*	*1.7*	*145*	*4.2*	*298*	*2.3*	*25*	*0.8*	*237*	*3.8*	*75*	*1.3*	*3,115*	*39.3*	*481*	*22.2*
Depression	*413*	*2.0*	*124*	*3.6*	*215*	*1.6*	*31*	*1.0*	*243*	*3.9*	*48*	*0.8*	*395*	*5.0*	*46*	*2.1*
Acute stress reaction	*204*	*1.0*	*143*	*4.1*	*63*	*0.5*	*30*	*0.9*	*86*	*1.4*	*69*	*1.2*	*193*	*2.4*	*111*	*5.1*
Other	*1,214*	*5.8*	*827*	*23.7*	*669*	*5.1*	*227*	*7.2*	*502*	*8.1*	*349*	*6.0*	*629*	*7.9*	*324*	*15.0*
No subsequent mental disorder diagnosis	12,383	*59.0*	*2,261*	*64.8*	*6,358*	*48.2*	*2,475*	*78.2*	*3,473*	*55.9*	*4,350*	*74.3*	*3,925*	*49.5*	*1,340*	*62.0*

specialty settings where they received diagnoses of acute stress reaction (follow-up: 23%), substance abuse (follow-up: 22%), or "other mental disorder" (follow-up: 20%) **(Table 4)**.

Data summaries by Pablo Aliaga, MPH, Analysis Group, Army Medical Surveillance Activity.

Editorial comment:

Approximately 12% of all service members who deployed to Iraq or Afghanistan between 2001 and 2006 received at least one mental disorder diagnosis after deployment. The proportion was approximately half that documented among Iraq/Afghanistan veterans who sought care at VA health care facilities during approximately the same period.[6] The difference is not surprising because the cohort of all redeployers still in active military service is likely "healthier" than the cohort of military veterans who receive medical care in the VA system.

Also, in this report, more than 40% of deployers who received any mental disorder diagnosis after deployment received more than one distinct diagnosis. In the VA cohort, 56% of those who received any mental disorder diagnosis received more than one distinct diagnosis.[6] The finding suggests that, in general, veterans of deployments to Iraq or Afghanistan who seek care in the VA system have more diverse mental health and psychosocial problems than their counterparts in active military service.

While PTSD may be the most notorious of the adverse psychological effects of combat service, it accounts for fewer than 10% of all initial mental disorder diagnoses among recent combat veterans. The finding reflects the relatively high prevalence and broad spectrum ("background") of mental health symptoms that affect service members in general[7,8]; the diversity of clinical expressions (e.g., substance abuse, depression, anxiety) of psychological effects of deployment[1,9,10]; the nonspecificity (e.g., adjustment reaction, acute reaction to stress) of initial clinical assessments of post-deployment psychological symptoms; and the requirement for persistence of symptoms for the diagnosis of PTSD (Diagnostic and Statistical Manual of Mental Disorders, 4th Edition [DSM-IV] code: 309.81).

The finding that rates of mental disorder diagnoses after deployment were higher among females than males reflects the background experiences of the Services regarding mental disorder diagnoses in general.[7] In this light, the finding of similar rates of PTSD diagnoses among male and female deployers represents a significant relative increase among males. A recent survey of soldiers and Marines deployed in Iraq found that the level of combat was the main determinant of mental-health status.[5] Because males are more likely than females to serve in combat units, they are likely to have more frequent and intense exposures to psychologically traumatic events.[5]

A significant finding of this report is that nearly two-thirds of initial mental disorder diagnoses after deployments were made in mental health specialty settings. The finding suggests that many deployers are being referred to mental health specialists during post-deployment health assessments, by unit level medical support persons (e.g., medics, unit surgeons), and/or by non-mental health specialists who may be reluctant to diagnose and report mental disorders. In general, this is a favorable finding because deployers whose initial diagnoses are in mental health specialty settings are much more likely than those diagnosed elsewhere to have mental disorder-specific follow-up encounters.

Table 4 continued. Initial and follow-up medical encounters with mental disorder-specific diagnoses, following deployment to Iraq/Afghanistan, by clinical setting of initial encounter, U.S. Armed Forces, 2001-2006

	Initial mental disorder diagnosis															
	Depression				Acute stress reaction				Other mental disorder				Any mental disorder diagnosis			
	n=7,416				n=5,205				n=39,675				n=105,864			
	In mental health specialty setting (n=5,847)		In non-mental health setting (n=1,569)		In mental health specialty setting (n=2715)		In non-mental health setting (n=2,490)		In mental health specialty setting (n=15,403)		In non-mental health setting (n=24,272)		In mental health specialty setting (n=64,746)		In non-mental health setting (n=41,118)	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Subsequent mental disorder diagnosis	3,307	56.6	580	37.0	1,196	44.1	567	22.8	6,901	44.8	4,839	19.9	27,982	43.2	9,111	22.2
Adjustment disorder	*470*	*8.0*	*106*	*6.8*	*192*	*7.1*	*44*	*1.8*	*1,356*	*8.8*	*243*	*1.0*	*7,907*	*12.2*	*2,066*	*5.0*
Substance abuse	*256*	*4.4*	*30*	*1.9*	*77*	*2.8*	*13*	*0.5*	*688*	*4.5*	*150*	*0.6*	*6,635*	*10.2*	*766*	*1.9*
Anxiety disorder	*301*	*5.1*	*88*	*5.6*	*63*	*2.3*	*60*	*2.4*	*577*	*3.7*	*272*	*1.1*	*2,649*	*4.1*	*1,339*	*3.3*
PTSD	*411*	*7.0*	*62*	*4.0*	*146*	*5.4*	*65*	*2.6*	*629*	*4.1*	*144*	*0.6*	*4,106*	*6.3*	*1,026*	*2.5*
Depression	*2,158*	*36.9*	*272*	*17.3*	*80*	*2.9*	*15*	*0.6*	*804*	*5.2*	*136*	*0.6*	*3,187*	*4.9*	*873*	*2.1*
Acute stress reaction	*82*	*1.4*	*40*	*2.5*	*643*	*23.7*	*167*	*6.7*	*240*	*1.6*	*111*	*0.5*	*1,058*	*1.6*	*430*	*1.0*
Other	*814*	*13.9*	*435*	*27.7*	*194*	*7.1*	*131*	*5.3*	*4,693*	*30.5*	*3,212*	*13.2*	*6,852*	*10.6*	*3,909*	*9.5*
No subsequent mental disorder diagnosis	*2,540*	*43.4*	*989*	*63.0*	*1,519*	*55.9*	*1,923*	*77.2*	*8,502*	*55.2*	*19,433*	*80.1*	*36,764*	*56.8*	*32,007*	*77.8*

Overall, only approximately one-third of deployers who received mental disorder diagnoses after deployment had evidence of mental health follow-ups. For those whose initial mental disorder diagnoses after deployment were in non-mental health specialty settings, fewer than one-fourth had evidence of mental health follow-ups. Yet, fewer than half of those who received initial mental disorder diagnoses in mental health specialty settings had at least one follow-up encounter with a mental disorder diagnosis. Many apparent "losses to follow-up" may be service members who terminate active service and/or Reserve component members who receive care outside of the Military Health System (e.g., VA, personal health care providers). Clearly, continuity of mental health care after deployment should be a priority of deployment health-related programs.

In this analysis, relationships between rates of mental disorder diagnoses and age sharply contrasted between active and Reserve component members. Specifically, in the active component, rates monotonically decreased with age, while in the Reserve component, they increased with age. The finding suggests that active and Reserve component members of similar ages had significantly different exposures to stressors while deployed; that deployment-related stressors of similar types and intensities had different effects among active and Reserve component members of similar ages; and/or that there were differences in the ascertainment and/or reporting of mental disorder-related diagnoses after deployment. In regard to the latter, there are stigmas associated with seeking mental health care in military populations and settings in general.[11] In the U.S. military, these stigmas may be stronger and more widespread among active than Reserve component members. In addition, in general, Reservists are eligible for care in the Military Health System for 90 days following redeployment. Thus, compared to active members, there are incentives for Reservists (especially older aged) to seek care for and to document — within 90 days after redeployment — symptoms that may be health effects of deployment. Finally, the stresses associated with long term deployments and with readjusting to civilian life after redeployment may be greater for Reserve (especially older aged) than active deployers.[2,5]

Department of Defense policy allows deployment of service members with mental health disorders that are stable or in remission.[12] It is likely that a proportion of service members with post-deployment mental disorder diagnoses were initially diagnosed with mental disorders prior to deployment to Iraq/Afghanistan. In a recent survey of soldiers who were evacuated from theater for psychiatric reasons, one-fifth had histories of psychiatric problems.[13] A previous *MSMR* report documented that service members hospitalized for mental disorders prior to deploying were seven times more likely to experience a post-deployment mental health hospitalization than their never-hospitalized counterparts.[14] Although this summary did not include medical experiences while deployed, surveys of soldiers and Marines in Iraq found that 30% of those who experienced high combat levels screened positive for anxiety, depression, and/or acute stress; approximately 40% of those with mental health problems sought professional help while deployed; and approximately 12% of soldiers and 5% of Marines reported taking medications for mental health, combat stress, or sleep problems while deployed.[5] It is clear that pre- and post-deployment health assessments should pay particular attention to deployers — particularly those who experienced high levels of combat — with recent histories of mental health problems.

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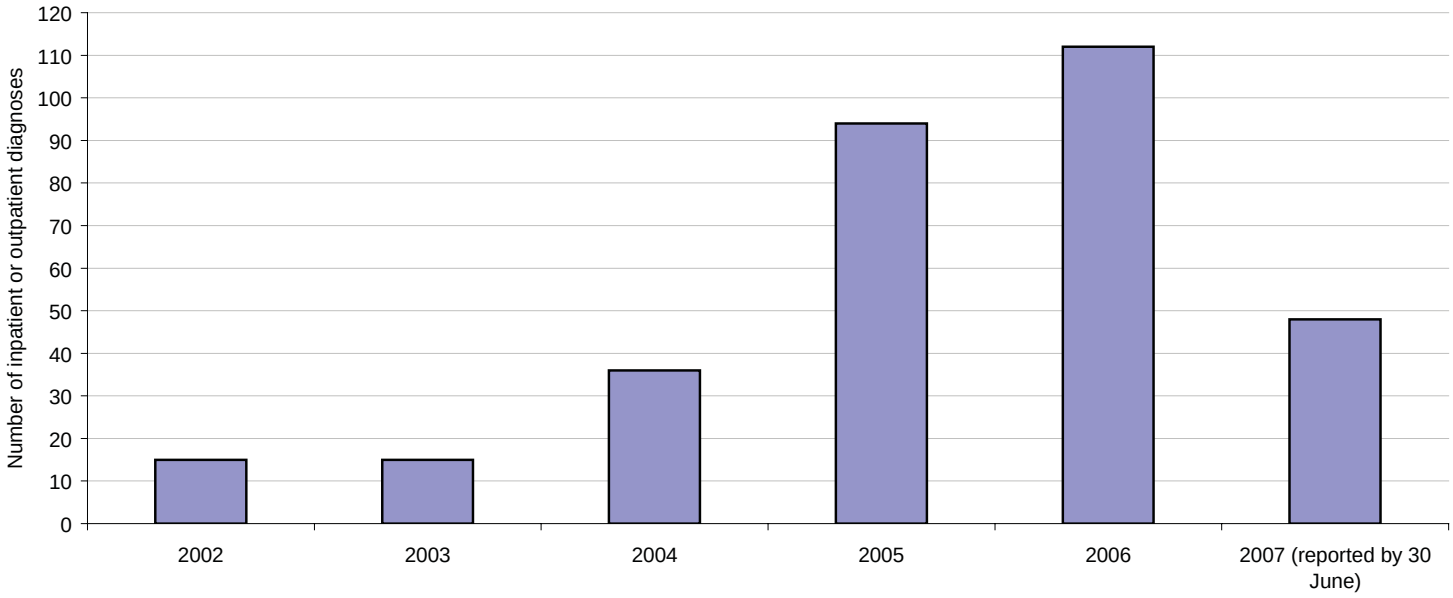
NEXT MONTH IN THE MSMR:

Heterotopic Ossification, U.S. Armed Forces, 2002-2007

Heterotopic ossification is the formation of mature bone in soft tissue. It can occur after spinal cord and traumatic brain injuries, burns, fractures, and amputations. It was previously considered a relatively infrequent cause of residual limb pain in amputees. However, among service members injured during combat operations in Iraq and Afghanistan, it has emerged as a significant clinical and rehabilitation problem. The next issue of the MSMR will summarize the numbers, rates, and correlates of risk of heterotopic ossification diagnoses among U.S. service members since the beginning of combat operations in Afghanistan and Iraq.

Incident diagnoses of heterotopic ossification (ICD-9-CM: 728.13), U.S. Armed Forces, January 2002-June 2007



Hormonal Contraceptive Use among Female Service Members, Active Components, U.S. Armed Forces, January 2004-March 2006

The 2005 DoD Survey of Health Related Behaviors estimated that 15% of female service members between 21 and 25 years of age experienced an unintended pregnancy during the previous 12 months.[1] The proportion of pregnancies that are mistimed or unwanted at the time of conception is approximately 60% among 20 to 24 year olds in the general population.[2] The proportions of pregnancies that are unintended among women in the Army[3,4], Navy[5], and Air Force[6] are similar to or higher than those among civilians. In a survey of more than 700 sailors who became pregnant, nearly two-thirds of the pregnancies were unintended — only half of the sailors who experienced unintended pregnancies were using contraception.[5]

Pregnancy-related conditions are the leading cause of hospitalizations among members of the U.S. Armed Forces.[7] In 2006, pregnancy-related hospitalizations (n=14,412) accounted for more than one-fifth of all hospitalizations of active component service members. The use of effective contraceptive methods can reduce unplanned pregnancies and military health care burdens.

This report summarizes pharmacy records that document prescriptions for hormonal contraceptives — including oral contraceptives ("the pill"); once weekly transdermal patch; intravaginal ring; long-lasting progesterone injection; and intrauterine device (IUD) containing progestin — that are available through military medical facilities.

Methods:

The surveillance population included all females who served in an active component of the U.S. Armed Forces any time between January 2005 and June 2006. Military and demographic characteristics were obtained from personnel records routinely maintained in the Defense Medical Surveillance System (DMSS). For this report, we estimated the percentage of members of the surveillance population younger than 50 years of age who filled one or more prescriptions for hormonal contraceptives during a 27-month surveillance period (based on records of medications that were dispensed at military treatment facilities between 1 January 2004 and 31 March 2006). Hormonal contraceptives were defined using drug names obtained from the Pharmacy Data Transaction Service.

Results:

From January 2004 through March 2006, military medical facilities filled hormonal contraceptive prescriptions for more than half (54.2%) of all females who served in an active component of the U.S. military **(Table 1)**. Majorities of females who were prescribed hormonal contraceptives were younger than 25 years old (51.2%), white (55.0%) and not married (56.7%) **(Table 1)**. More females in the Air Force than in any other Service were prescribed hormonal contraceptives during the period **(Table 1)**.

Nearly three-quarters (73.5%) of all women who were prescribed hormonal contraceptives during the period received at least one prescription for oral contraceptives **(Table 1, Figure 1)**. The transdermal patch accounted for approximately one-half (49.6%), injectables one-third (34.7%), and the vaginal ring one-eighth (12.2%) of all other prescriptions during the period **(Table 1)**.

Females in their twenties were more likely than those younger or older to receive prescriptions for hormonal contraceptives — overall and for each type except the IUD with progestin **(Table 1)**. Of note, females in their teens were much less likely than those in their twenties to receive prescriptions for hormonal contraceptives overall and oral contraceptives, in particular. However, females younger than 20 were as likely as those in their late twenties and more likely than those older than 30 to receive prescriptions for the transdermal patch and long-lasting progesterone injections **(Table 1, Figure 2)**.

Never married women were slightly more likely than those currently or ever married to receive prescriptions for hormonal contraceptives overall and oral contraceptives, the patch, and injectables, in particular **(Table 1)**. However, ever-married women were more likely to receive prescriptions for the hormonal IUD and the vaginal ring **(Table 1)**. Compared to women of other race-ethnicities, Black non-Hispanic females were least likely to receive prescriptions for hormonal contraceptives overall and oral contraceptives in particular; however, Black, Hispanic, and Native American/Alaskan women were more likely to receive prescriptions for the transdermal patch and progesterone injections. Finally, commissioned/warrant officers and college graduates were relatively unlikely to receive prescriptions for the transdermal patch and progesterone injections **(Table 1)**.

In general, females in the Navy and Marine Corps were more likely than those in the Army and Air Force to receive prescriptions for hormonal contraceptives during the period. Findings related to each Service include the following:

Army: The proportion of female soldiers who received prescriptions for hormonal contraceptives overall was 46.5%, the lowest among the Services **(Table 1)**. Compared to other

service members, female soldiers were less likely to receive prescriptions for most types of hormonal contraceptives, particularly oral contraceptives (Army: 34.0%; all others: 43.1%), the transdermal patch (Army: 10.5%; all others: 14.4%), and the vaginal ring (Army: 1.6%; all others: 4.1%) **(Table 1)**.

Air Force: During the period, the proportion of females in the Air Force who received prescriptions for hormonal contraceptives overall was 56.0%, lower than in the Navy or Marine Corps **(Table 1)**. As in the other services, women in the Air Force were much more likely to receive prescriptions for oral contraceptives than any other type **(Table 1)**. Compared to their counterparts, Air Force women were the least likely to receive prescriptions for progesterone injections (8.0%) and most likely to choose hormonal IUDs (1.4%) **(Table 1)**.

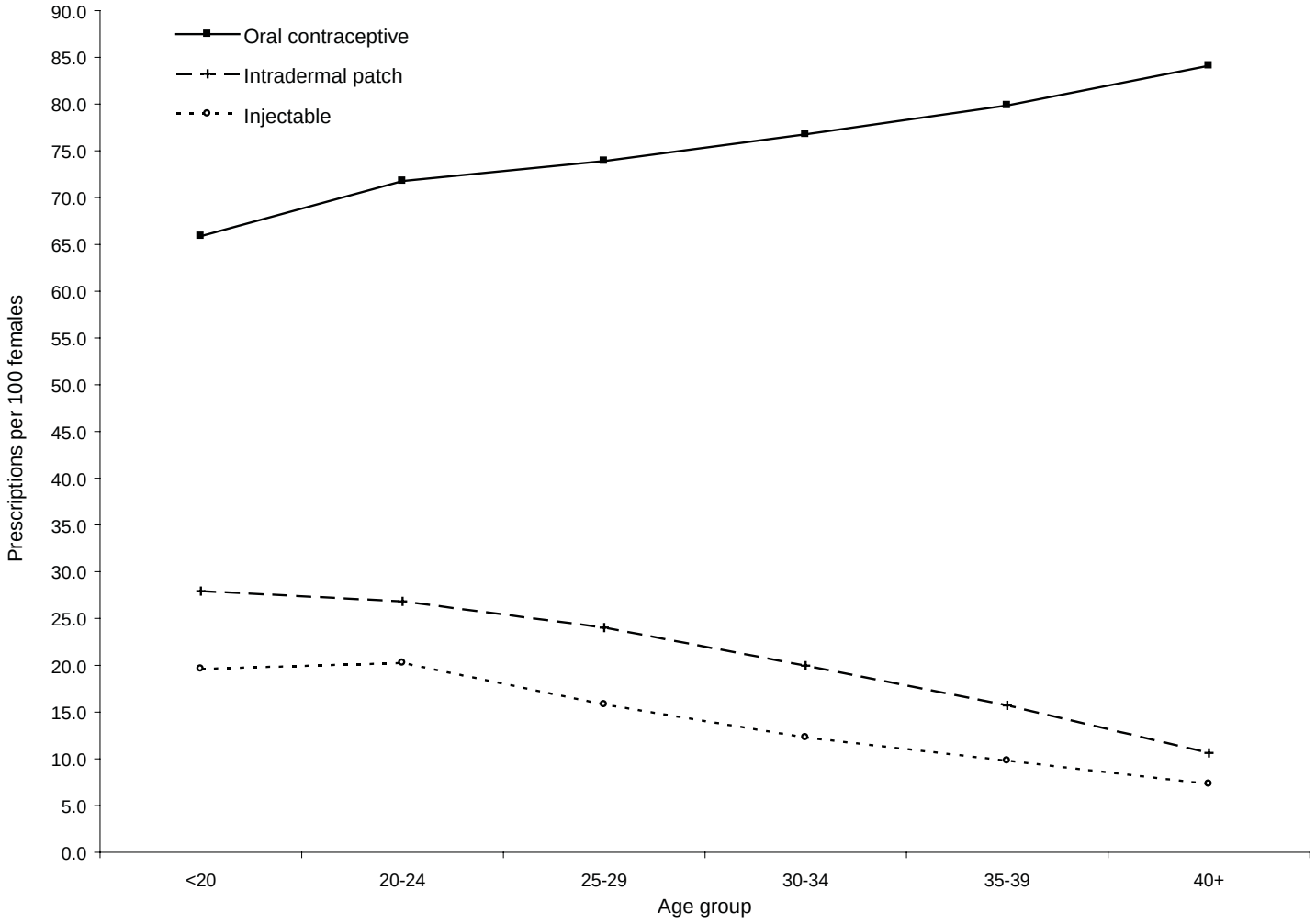
Navy: The proportion of female sailors who received prescriptions for hormonal contraceptives overall was 60.6% **(Table 1)**. Female sailors were more likely than women in the Army and Air Force, but less likely than those in the Marine Corps, to receive prescriptions for each hormonal contraceptive type except the IUD containing progestin **(Table 1)**.

Marine Corps: The proportion of female Marines who received prescriptions for hormonal contraceptives overall was

Table 1. Hormonal contraceptive prevalence rates, by method, active component females of reproductive age, U.S. Armed Forces, 1 January 2004 - 31 March 2006

	All hormonal methods		Oral contraceptive		Patch		Injectable		Vaginal ring		IUD w/ progestin	
	No. with prescrip-tion	% of all females in respective subgroup	No. with prescrip-tion	% of all females in respective subgroup	No. with prescrip-tion	% of all females in respective subgroup	No. with prescrip-tion	% of all females in respective subgroup	No. with prescrip-tion	% of all females in respective subgroup	No. with prescrip-tion	% of all females in respective subgroup
Total	117,110	54.2	86,030	39.8	28,142	13.0	19,790	9.2	6,943	3.2	2,119	1.0
Age group												
<20	9,007	49.5	5,934	32.6	2,516	13.8	1,766	9.7	258	1.4	20	0.1
20-24	50,924	64.1	36,546	46.0	13,664	17.2	10,304	13.0	3,358	4.2	787	1.0
25-29	31,246	61.8	23,098	45.7	7,505	14.8	4,935	9.8	2,066	4.1	677	1.3
30-34	13,960	51.2	10,716	39.3	2,786	10.2	1,714	6.3	785	2.9	347	1.3
35-39	7,853	37.2	6,271	29.7	1,233	5.8	770	3.6	323	1.5	207	1.0
40+	4,120	21.0	3,465	17.7	438	2.2	301	1.5	153	0.8	81	0.4
Race/ethnicity												
Asian/ Pacific Islander	6,058	53.3	4,524	39.8	1,539	13.5	924	8.1	305	2.7	89	0.8
Black non-Hispanic	31,175	51.3	20,513	33.7	9,654	15.9	6,361	10.5	1,812	3.0	616	1.0
Hispanic	13,090	57.1	9,233	40.3	3,822	16.7	2,403	10.5	804	3.5	215	0.9
Native Am/ Aleut/other	3,401	58.8	2,471	42.8	827	14.3	650	11.2	190	3.3	27	0.5
White non-Hispanic	60,541	55.0	47,173	42.8	11,620	10.6	9,019	8.2	3,640	3.3	1,119	1.0
Service												
Army	36,120	46.5	26,396	34.0	8,185	10.5	6,456	8.3	1,253	1.6	555	0.7
Navy	32,941	60.6	23,438	43.1	9,078	16.7	5,748	10.6	2,273	4.2	466	0.9
Air Force	40,254	56.0	30,890	43.0	8,727	12.1	5,744	8.0	2,780	3.9	1,040	1.4
Marine Corps	7,795	63.6	5,306	43.3	2,152	17.6	1,842	15.0	637	5.2	58	0.5
Marital status												
Single	57,639	56.8	41,624	41.1	13,889	13.7	10,769	10.6	3,163	3.1	441	0.4
Married	50,727	52.0	37,881	38.8	12,375	12.7	7,514	7.7	3,220	3.3	1,497	1.5
Divorced/sep	8,744	50.9	6,525	38.0	1,878	10.9	1,507	8.8	560	3.3	181	1.1
Education												
High school	86,102	57.2	60,976	40.5	23,001	15.3	16,568	11.0	5,148	3.4	1,536	1.0
<4 yrs college	9,201	46.4	6,977	35.2	1,987	10.0	1,301	6.6	492	2.5	210	1.1
College graduate	18,776	48.0	15,712	40.2	2,534	6.5	1,566	4.0	1,071	2.7	330	0.8
Military status												
Enlisted	99,953	54.8	71,601	39.3	25,855	14.2	18,500	10.1	5,818	3.2	1,806	1.0
Officer	17,157	50.8	14,429	42.7	2,287	6.8	1,290	3.8	1,125	3.3	313	0.9

Figure 1. Percentage of females who received prescriptions of various types, among those who received prescriptions for any hormonal contraceptive, by age group, active components, U.S. Armed Forces, January 2004-March 2006



63.6%, the highest among the Services **(Table 1)**. Compared to women in the other Services, female Marines were the most likely to receive prescriptions for each hormonal contraceptive type, except the IUD containing progestin **(Table 1)**. Oral contraceptives were prescribed to 43.3% and the transdermal patch to 17.6% of women in the Marine Corps **(Table 1)**. Of note, female Marines were nearly twice as likely as their counterparts in the Air Force and Army to receive prescriptions for progesterone injections **(Table 1)**.

Editorial comment:

The results of this analysis likely underestimate the actual rates of hormonal contraceptive use among female service members. First, estimates of contraceptive prevalence rates typically use "women at-risk for pregnancy" as denominators. For example, in the Centers for Disease Control's most recent surveillance summary of civilian contraceptive use, women who reported that they were currently pregnant (5%) or not sexually active (14%) were excluded.[8] If service members not at-risk of pregnancy had been excluded from the present analysis, contraceptive prevalence rates would have been higher. Second, many female service members who use hormonal contraceptives may obtain them through non-military pharmacies, the TRICARE Mail Order Pharmacy, pharmacies on-board ships or in deployed medical facilities. Such prescriptions were not accounted for in this analysis. Third, for this analysis, only women who received prescriptions for hormonal IUDs during the 27-month surveillance period were counted, to the exclusion of users of the method who received their prescriptions earlier.

Demographic differences in choices of hormonal contraceptives among female service members generally reflect those reported in other populations and settings. For example, in the military, married and college educated women are more likely than their counterparts to use oral contraceptives; and in non-military populations, oral contraceptive users tend to be of higher socioeconomic status.[9] Married and college educated service members tend to be older; and older women may be more experienced—and, thus, more comfortable—with user-

Figure 2. Proportion of females who received prescriptions for hormonal contraceptives, by method and age group, active components, U.S. Armed Forces, January 2004-March 2006

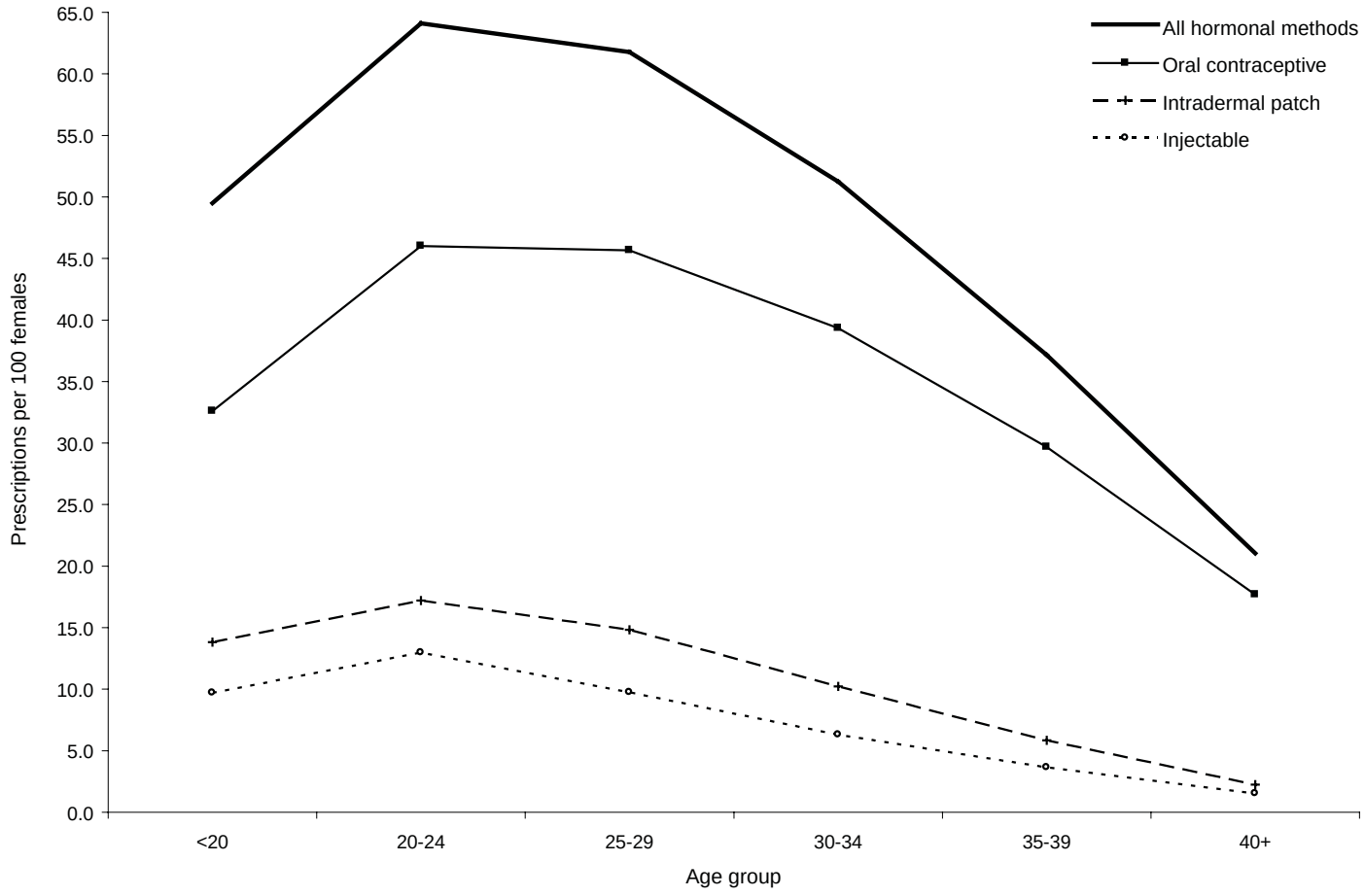


Table 2. Contraceptive efficacy: Percentage of civilian women in the United States experiencing an unintended pregnancy during the first year of use of contraception and the percentage continuing use at the end of the first year

	% of women experiencing an unintended pregnancy within the first year of use		% of women continuing use at one year
Method	**Typical Use**	**Perfect Use**	
No method	85	85	
Combined pill and progestin-only pill	8	0.3	68
Patch	8	0.3	68
Vaginal ring	8	0.3	68
Injectable	3	0.3	56
IUD with progestin	0.2	0.2	80
Male condom	15	2	53
Female condom	21	5	49
Standard Days method*		5	

*The Standard Days method avoids intercourse on cycle days 8 through 19.

Source: Trussell J. Choosing a contraceptive: efficacy, safety, and personal consideration. In: Hatcher RA, Trussell J, Nelson AL, Cates W, Stewart FH, Kowal D. Contraceptive technology. Nineteenth revised edition. New York: Ardent Media, Inc., 2007.

dependent methods such as the pill. Younger women may prefer user-independent methods, such as injections—and if not frequently sexually active, non-hormonal methods, such as condoms.

Hormonal methods of contraception offer the most effective protection against unwanted pregnancies **(Table 2)**; and for users of injectable and continuous use oral contraceptives,[10] menstrual suppression may also be considered a benefit.[11] However, hormonal contraceptive methods do not protect against sexually transmitted infections (STIs). Service members should be advised to use both condoms and hormonal contraceptives for dual protection against pregnancy and STIs. Condoms may also be useful to hormonal contraceptive users to cover missed doses or gaps in use due to infrequent sexual activity.

Counseling new users about the potential side effects of hormonal contraceptives (e.g., nausea, irregular bleeding) provides realistic expectations which may increase their appropriate long-term use.[12] Service members who find hormonal contraceptives unacceptable should be counseled regarding non-hormonal options. Male condoms have been reported as 98% effective against pregnancy when

used consistently and correctly[13] (yet, in 2005, condom use was estimated as 36% among unmarried female service members).[1] Newly developed methods based on awareness of fertility ("rhythm methods") have been found effective. For example, the Standard Days method, in which women avoid unprotected intercourse on days 9 through 18 of their menstrual cycles, has been shown to be 95% effective among women with regular cycles.[14] Of importance, condoms and Standard Days require partner cooperation; thus, they do not offer protection in the event of sexual assault.

A survey of women in the Navy found a high proportion of unplanned pregnancies among those who already had children.[15] A post-partum IUD (inserted within 48-hours of delivery) is the most effective contraceptive method for new mothers who wish to delay childbearing. Today's IUDs, with or without hormones, do not increase risks of pelvic inflammatory disease[16] or infertility[17] when prescribed to healthy women. The IUD is safe and effective for nulliparous women as well, despite slightly higher expulsion rates.[18]

Finally, clinicians and others who counsel women of childbearing age should be aware of recent changes in contraindications and medical eligibility criteria for contraceptive use. Pelvic examinations and pregnancy tests are no longer medically indicated to initiate most forms of hormonal contraception.[19] Up-to-date guidance on the safety of 19 contraceptive methods is available from the World Health Organization.[20]

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Update: Deployment Health Assessments, U.S. Armed Forces, January 2003-June 2007

The health protection strategy of the U.S. Armed Forces is designed to deploy healthy, fit, and medically ready forces, to minimize illnesses and injuries during deployments, and to evaluate and treat physical and psychological problems (and deployment-related health concerns) following deployment.

In 1998, the Department of Defense initiated health assessments of all deployers prior to and after serving in major operations outside of the United States. [1] In March 2005, the Post-Deployment Health Reassessment (PDHRA) program was begun to identify and respond to health concerns that persisted for or emerged within three to six months after redeployment. [2]

This report summarizes responses to selected questions on deployment health assessments completed since 2003. In addition, it documents the natures and frequencies of changes in responses from before to after deployments.

Methods:

Completed deployment health assessment forms are transmitted to the Armed Forces Health Surveillance Center (AFHSC) where they are incorporated into the Defense Medical Surveillance System (DMSS).[3] In the DMSS, data recorded on health assessment forms are integrated with data that document demographic and military characteristics and medical encounters (e.g. hospitalizations, ambulatory visits) at fixed military and other (contracted care) medical facilities of the Military Health System. For this analysis, DMSS was searched to identify all pre (DD2795) and post (DD2796) deployment health assessment forms completed since 1 January 2003 and all post-deployment health reassessment (DD2900) forms completed since 1 August 2005.

Results:

Since January 2003, 1,685,681 pre-deployment health assessment forms, 1,687,154 post-deployment health assessment forms, and 363,519 post-deployment health reassessment forms were completed at field sites, transmitted to the AFHSC, and integrated into the DMSS **(Figure 1)**. Throughout the period, there were intervals of approximately 2-4 months between peaks of pre-deployment and post-deployment health assessments (that were completed by different cohorts of deployers) **(Figure 1)**. Post-deployment health reassessments rapidly increased between February and May 2006 **(Figure 1)**. Since then, numbers of reassessment forms per month have been relatively stable (reassessment forms per month, July 2006-June 2007: mean: 23,173; range: 13,920-35,213) **(Figure 1, Table 1)**.

Between July 2006 and June 2007, nearly three-fourths (73.9%) of deployers rated their "health in general" as "excellent" or "very good" during pre-deployment health assessments **(Figure 2)**. During the same period, only 59.7% and 51.8% of redeployers rated their general health as "excellent" or "very good" during post-deployment assessments and post-deployment reassessments, respectively **(Figure 2)**.

From pre-deployment to post-deployment to post-deployment reassessments, there were sharp increases in the proportions of deployers who rated their health as "fair" or "poor" **(Figure 2)**. For example, prior to deployment, approximately

Figure 1. Total deployment health assessment and reassessment forms, by month, U.S. Armed Forces, January 2003-June 2007

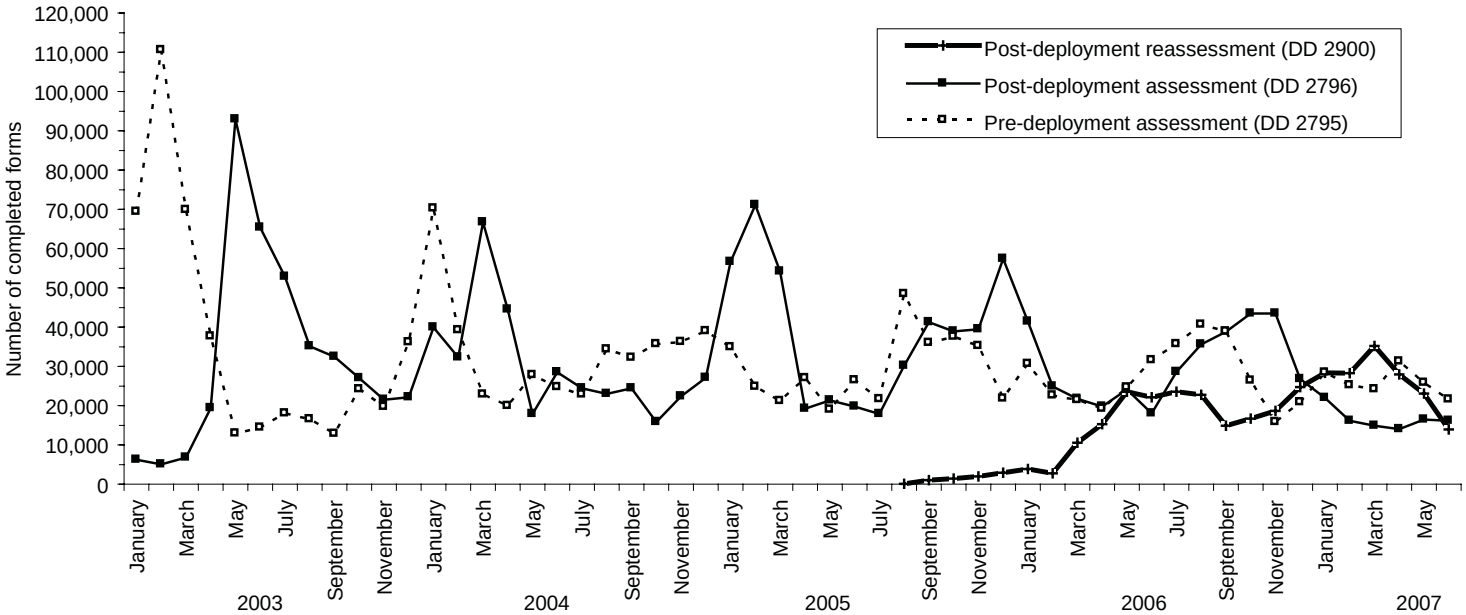


Table 1. Deployment-related health assessment forms, by month, U.S. Armed Forces, July 2006-June 2007

	Pre-deployment assessment DD2795		Post-deployment assessment DD2796		Post-deployment reassessment DD2900	
	No.	%	No.	%	No.	%
Total	**334,531**	**100**	**316,288**	**100**	**278,077**	**100**
2006						
July	35,688	10.7	28,601	9.0	23,560	8.5
August	40,596	12.1	35,611	11.3	22,764	8.2
September	38,919	11.6	38,839	12.3	14,882	5.4
October	26,383	7.9	43,435	13.7	16,658	6.0
November	15,816	4.7	43,435	13.7	18,696	6.7
December	20,832	6.2	26,754	8.5	24,729	8.9
2007						
January	28,386	8.5	22,002	7.0	28,344	10.2
February	25,169	7.5	16,171	5.1	28,276	10.2
March	24,141	7.2	14,859	4.7	35,213	12.7
April	31,254	9.3	13,979	4.4	27,944	10.0
May	25,792	7.7	16,435	5.2	23,091	8.3
June	21,555	6.4	16,167	5.1	13,920	5.0

one of 40 (2.6%) deployers rated their health as "fair" or "poor"; however, 3-6 months after redeploying (during post-deployment reassessments), approximately one of seven (14.1%) respondents rated their health as "fair" or "poor" **(Figure 2).**

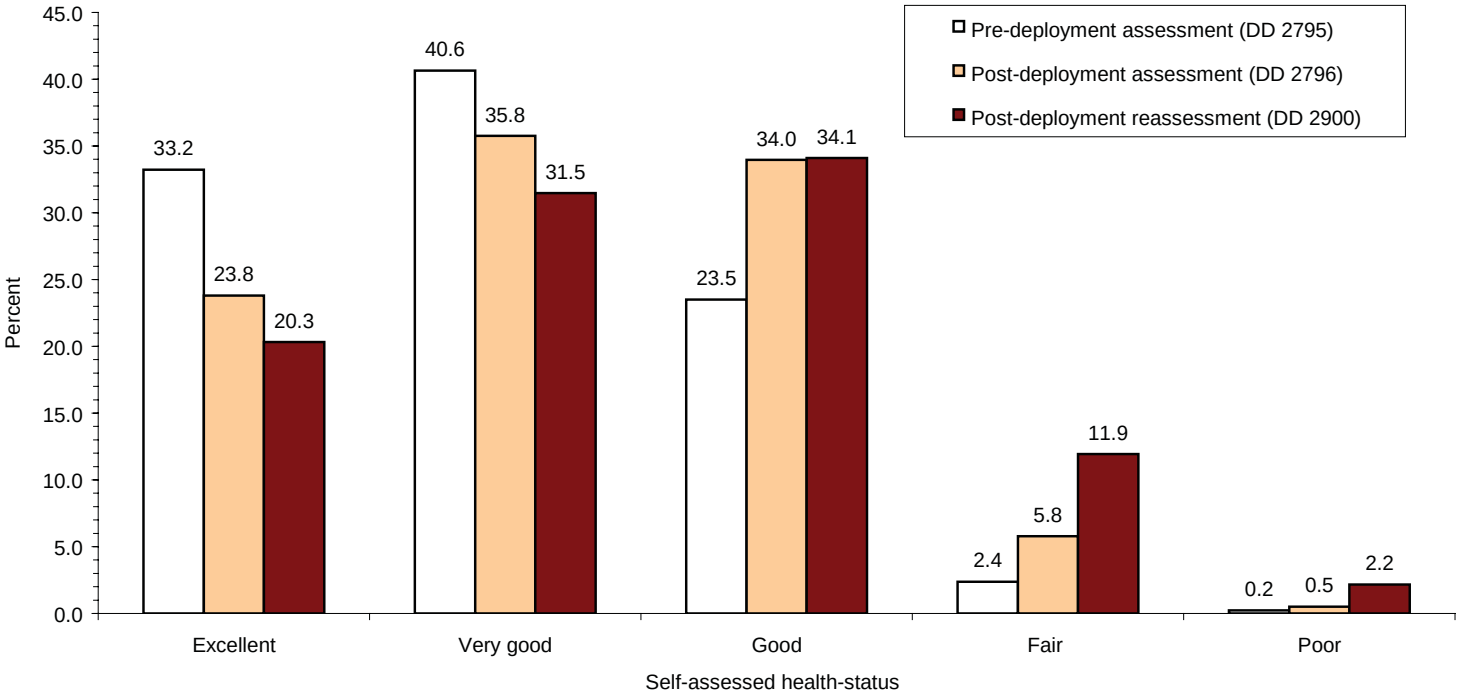
From January 2003 through June 2007, the proportion of deployers who assessed their general health as "fair" or "poor" before deploying remained consistently low (% "fair" or "poor" "health in general," pre-deployment health assessments, Jan 2003-Jun 2007, by month: mean: 2.4% [range: 1.5-3.3%]) **(Figure 3).** During the same period, the proportion of redeployers who assessed their general health as "fair" or "poor" around times of redeployment was consistently and clearly higher than before deploying (% "fair" or "poor" "health in general," post-deployment health assessments, Jan 2003-Jun 2007, by month: mean: 7.0% [range: 3.0-10.2%]) **(Figure 3).** Finally, from January 2006 through June 2007, the proportion of redeployers who assessed their general health as "fair" or "poor" 3-6 months after redeploying was sharply higher than at redeployment (% "fair" or "poor" "health in general," post-deployment health reassessments, Jan 2006-Jun 2007, by month: mean: 13.9% [range: 11.6-16.9%]) **(Figure 3).**

More than half of service members who rated their overall health before deployment chose a different descriptor after deploying, but usually by only a single category (on a five category scale). The proportions of deployers whose self-rated health improved by more than one category from pre-deployment to reassessment remained relatively stable between July 2006 and June 2007 (mean: 1.5%, range:1.1-1.7%) **(Figure 4).** The proportions of service members whose self-assessed health declined by more than one category increased between October 2006 and March 2007 and then declined to the July-August 2006 level (mean: 16.7, range 14.6-19.1%) **(Figure 4).**

In general, on post-deployment assessments and reassessments, members of Reserve components and members of the Army were much more likely than their respective counterparts to report mental health-related symptoms and health and exposure-related concerns – and in turn, to have indications for medical and mental health follow-ups ("referrals") **(Table 2).**

Among Reserve versus active component members, relative excesses of health-related concerns and provider-indicated referrals were much greater 3-6 months after redeployment (DD2900) than either before deploying (DD2795) or at redeployment (DD2796) **(Table 2, Figures 5,6).** For example, among both active and Reserve component members of all

Figure 2. Percent distributions of self-assessed health status as reported on deployment health assesment forms, U.S. Armed Forces, July 2006-June 2007



Services, mental or behavioral health referrals were more common after deployment than before **(Figure 5)**. However, from the time of redeployment to 3-6 months later, mental health referrals sharply increased among active and Reserve component members of the Army and Marine Corps and among Reserve component members of the Navy (but not among active component members of the Navy or members of the Air Force) **(Table 2, Figure 5)**. Of note in this regard, the largest absolute increases in mental health referrals from redeployment to 3-6 months later were for Reserve component members of the Army (post-deployment: 4.3%; reassessment: 13.8%) and Navy (post-deployment: 2.3%; reassessment: 7.7%) **(Table 2, Figure 5)**.

Finally, over the past three years, Reserve versus active component members have been approximately twice as likely to report "exposure concerns" on post-deployment health assessments (DD2796) (% "exposure concerns," post-deployment assessments, by month, July 2004-June 2007: Reserve: mean: 25.7%, range: 19.3-33.1%; active: mean: 12.3%; range: 8.7-21.0%) **(Figures 6,7)**. Of interest regarding exposure concerns, sharply higher proportions of both Reserve and active component members endorsed exposure concerns 3-6 months after (DD2900) compared to around times (DD2796) of redeployment (% "exposure concerns," post-deployment reassessments, by month, Jan 2006-Jun 2007: Reserve: mean: 38.4%, range: 32.8-48.3%; active: mean: 19.2%; range: 16.7-23.6%) **(Figure 7)**.

Editorial comment:

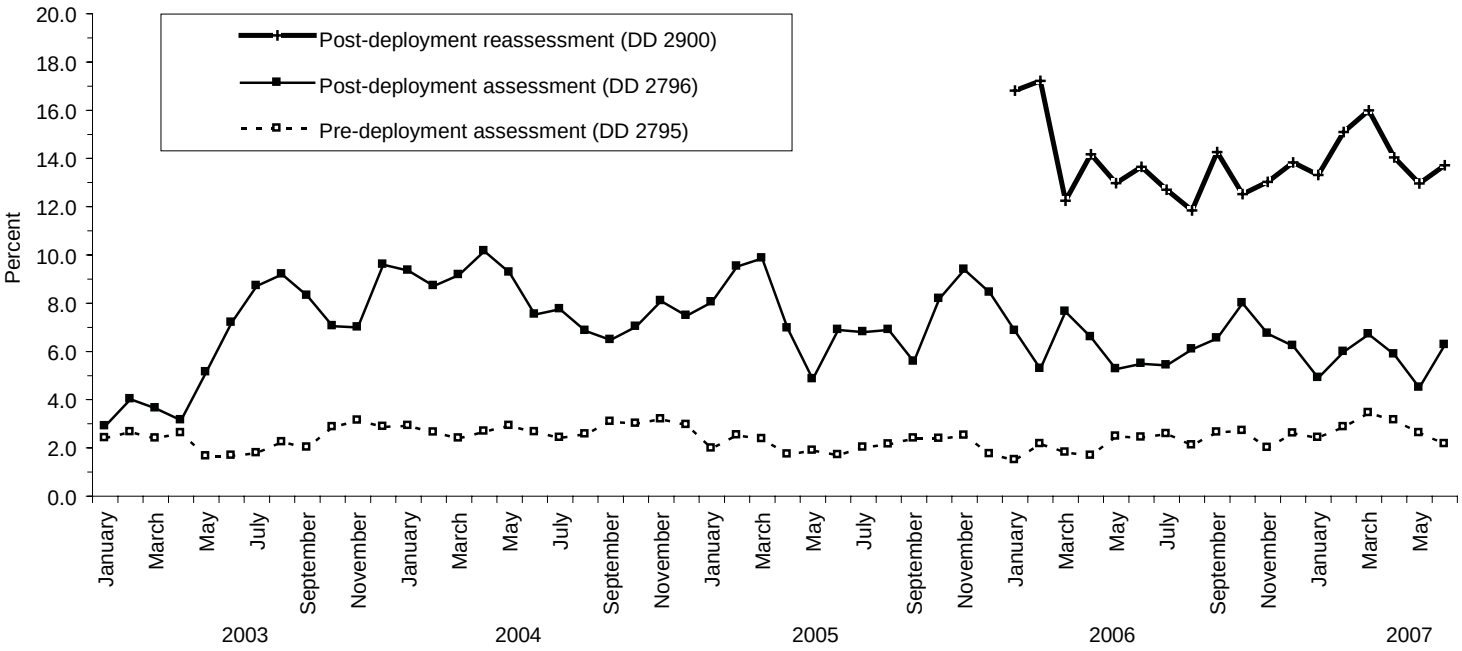
In general, since 2003, proportions of U.S. deployers to Iraq and Afghanistan who report medical or mental health-related symptoms (or have indications for medical or mental health referrals) on deployment-related health assessments increased from pre-deployment to post-deployment to 3-6 months post-deployment, are higher among members of the Army than the other Services, and are higher among Reserve than the active component members.

Regardless of the Service or component, deployers often rate their general health worse when they redeploy compared to before deploying. This is not surprising because deployments are inherently physically and psychologically demanding. Clearly, there are many more – and more significant – threats to the physical and mental health of service members when they are conducting or supporting combat operations away from their families in hostile environments compared to when serving at their permanent duty stations (active component) or when living in their civilian communities (Reserve component).

However, many redeployed service members rate their general health worse 3-6 months after returning from deployment compared to earlier. This finding may be less intuitively understandable. Symptoms of post-traumatic stress disorder (PTSD) may emerge or worsen within several months after a life threatening experience (such as military service in a war zone). PTSD among U.S. veterans of combat duty in Iraq has been associated with higher rates of physical health problems after redeployment.[4] The post-deployment health reassessment at 3-6 months post-deployment is designed to detect service members with symptoms not only of PTSD but also persistent or emerging deployment-related medical and mental health problems.

Among British veterans of the Iraq war, Reservists reported more "ill health" than their active counterparts.[5] Roles, traumatic experiences, and unit cohesion while deployed were associated with medical outcomes after redeployment; however, PTSD

Figure 3. Proportion of deployment health assessment forms with self-assessed health status as "fair" or "poor", U.S. Armed Forces, January 2003-June 2007



symptoms were more associated with problems at home (e.g, reintegration into family, work, and other aspects of civilian life) than with events in Iraq.[5] The finding may explain, at least in part, the large differences in prevalences of mental health symptoms, medical complaints, and provider-indicated mental health referrals among Reserve compared to active members — particularly in the Army and Navy — 3-6 months after returning from deployment compared to earlier.

Post-deployment health assessments may be more reliable several months after redeployment compared to earlier. Commanders, supervisors, family members, peers, and providers of health care to redeployed service members should be alert to emerging or worsening symptoms of physical and psychological problems for several months, at least, after redeployment.

Figure 4. Proportion of service members whose self-assessed health status improved ("better") or declined ("worse") (by 2 or more categories on 5-category scale) from pre-deployment to reassessment, by month, U.S. Armed Forces, July 2006-June 2007

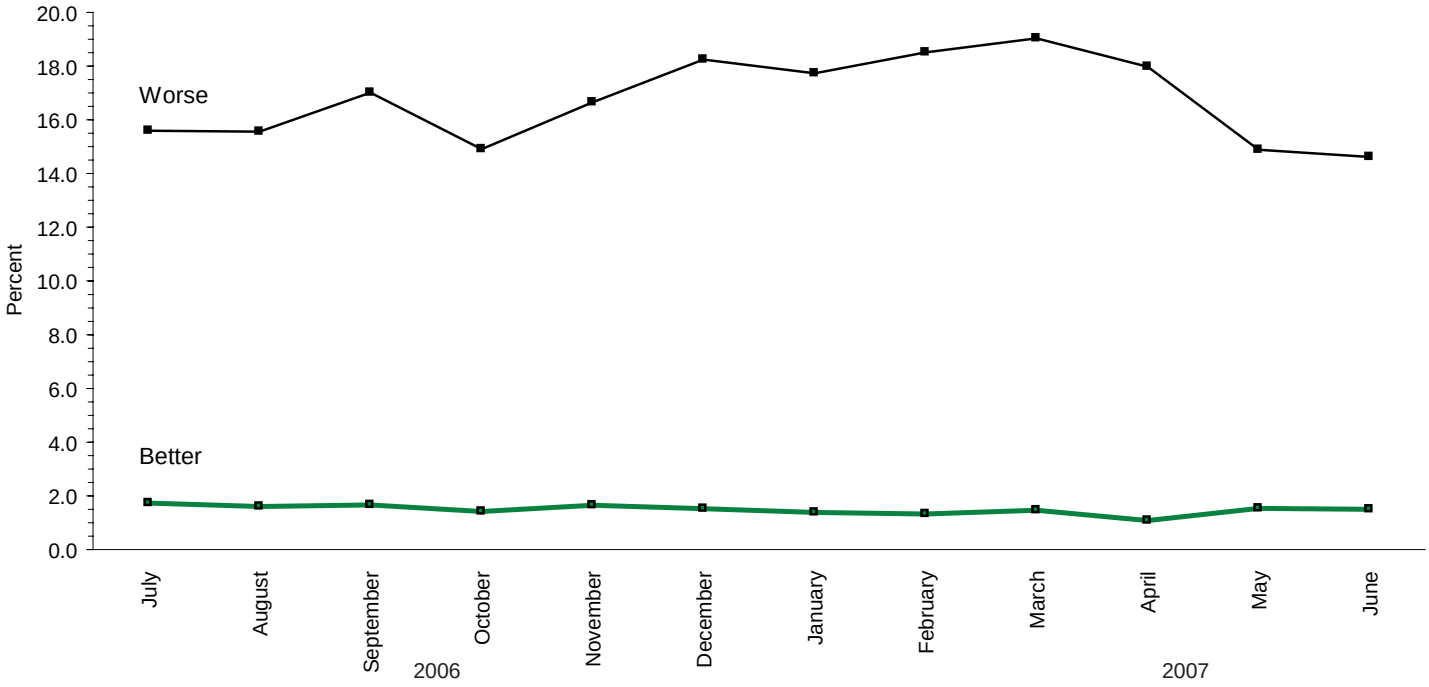


Figure 5. Percent of deployers with mental or behavioral health referrals, by Service and component, by timing of health assessment, U.S. Armed Forces, July 2006-June 2007

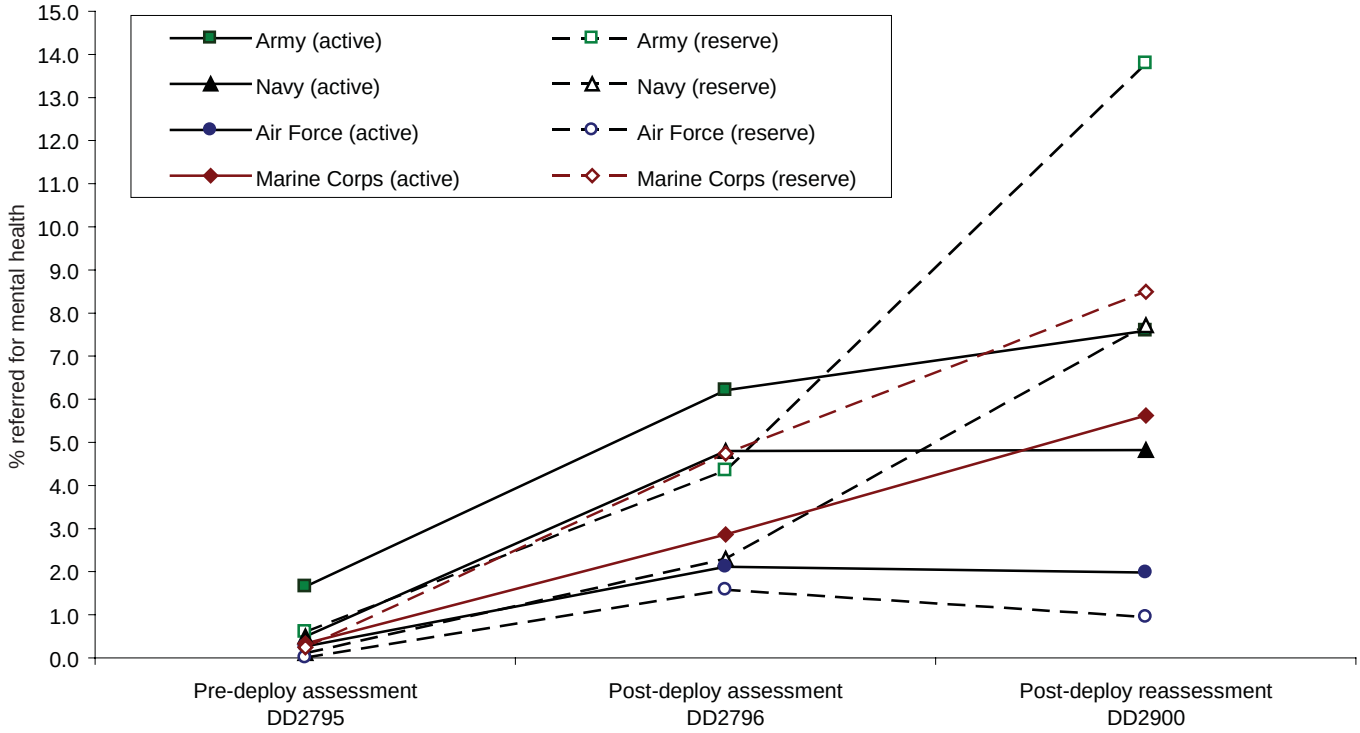


Table 2. Proportions (%) of deployers who endorse selected questions on deployment health assessment forms, U.S. Armed Forces, July 2006 - June 2007

	Army			Navy			Air Force			Marine Corps			All service members		
	Pre-deploy DD2795	Post-deploy DD2796	Reassessmt DD2900	Pre-deploy DD2795	Post-deploy DD2796	Reassessmt DD2900	Pre-deploy DD2795	Post-deploy DD2796	Reassessmt DD2900	Pre-deploy DD2795	Post-deploy DD2796	Reassessmt DD2900	Pre-deploy DD2795	Post-deploy DD2796	Reassessmt DD2900
Active component	n=160,932	n=14,9691	n=10,4532	n=6,677	n=9,313	n=7,005	n=64,550	n=55,215	n=58,937	n=8,448	n=22,506	n=12,722	n=240,607	n=236,725	n=183,196
	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
General health "fair" or "poor"	4.2	7.6	17.5	1.4	3.6	6.8	0.6	1.8	5.3	1.8	3.4	9.1	3.1	5.7	12.6
Health concerns, not wound or injury	12.9	21.9	40.6	5.4	8.4	18.5	4.2	11.5	16.6	3.8	8.7	24.7	10.1	17.7	30.9
Health worse now than before deployed	0.0	20.1	28.1	0.0	8.1	13.0	0.0	6.8	10.7	0.0	11.6	18.8	0.0	15.7	21.3
Exposure concerns	0.0	19.2	25.3	0.0	6.4	11.5	0.0	5.6	12.3	0.0	7.2	14.7	0.0	14.4	19.9
PTSD symptoms (2 or more)	0.0	14.5	16.9	0.0	5.6	7.8	0.0	2.3	3.1	0.0	8.2	13.0	0.0	10.7	11.9
Depression symptoms	0.0	29.2	10.3	0.0	23.2	7.1	0.0	8.3	2.9	0.0	27.0	10.2	0.0	23.9	7.8
Referral indicated by provider (any)	7.8	27.6	25.7	5.5	16.5	17.4	1.5	12.4	8.0	3.3	14.9	18.7	5.9	22.4	19.2
Mental health referral indicated*	1.7	6.2	7.6	0.5	4.8	4.8	0.3	2.1	2.0	0.3	2.9	5.6	1.2	4.9	5.5
Medical visit following referral†	94.2	99.4	97.6	80.6	77.3	84.8	79.4	94.9	95.5	44.7	68.4	69.4	92.4	96.8	94.0
	Pre-deploy DD2795	Post-deploy DD2796	Reassessmt DD2900	Pre-deploy DD2795	Post-deploy DD2796	Reassessmt DD2900	Pre-deploy DD2795	Post-deploy DD2796	Reassessmt DD2900	Pre-deploy DD2795	Post-deploy DD2796	Reassessmt DD2900	Pre-deploy DD2795	Post-deploy DD2796	Reassessmt DD2900
Reserve component	n=71,416	n=59,624	n=68,104	n=3,594	n=2,610	n=3,527	n=17,500	n=14,591	n=17,730	n=810	n=2,448	n=5,520	n=93,320	n=79,273	n=94,881
	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
General health "fair" or "poor"	1.8	9.9	19.8	0.6	5.2	12.1	0.3	2.0	4.0	1.1	5.6	11.3	1.5	8.1	16.1
Health concerns, not wound or injury	13.8	34.4	59.0	2.8	21.6	44.0	1.6	21.2	16.5	3.2	26.5	40.6	11.0	31.3	49.5
Health worse now than before deployed	0.0	27.6	38.7	0.0	19.0	27.5	0.0	9.5	9.6	0.0	24.5	25.8	0.0	23.9	32.1
Exposure concerns	0.0	31.1	42.1	0.0	23.7	32.5	0.0	7.6	17.3	0.0	23.5	26.8	0.0	26.3	36.2
PTSD symptoms (2 or more)	0.0	11.3	23.3	0.0	5.8	15.2	0.0	1.9	2.9	0.0	15.7	19.6	0.0	9.5	19.0
Depression symptoms	0.0	25.0	12.7	0.0	19.5	8.8	0.0	7.5	2.3	0.0	36.1	9.2	0.0	21.9	10.4
Referral indicated by provider (any)	11.6	31.4	55.8	3.3	21.7	42.6	0.2	11.9	29.6	1.7	22.6	48.8	9.1	27.2	50.0
Mental health referral indicated*	0.6	4.3	13.8	0.1	2.3	7.7	0.0	1.6	0.9	0.2	4.7	8.5	0.5	3.8	10.9
Medical visit following referral†	96.8	97.4	24.5	87.0	87.1	27.7	40.0	56.0	22.5	100.0	52.9	19.9	96.5	93.6	24.2

*Includes behavioral health, combat stress and substance abuse referrals
†Record of inpatient or outpatient visit within 6 months after referral

References:

1. Undersecretary of Defense for Personnel and Readiness. Department of Defense Instruction (DODI) Number 6490.3. Subject: Deployment health, dated 11 August 2006. Accessed on 19 March 2007 at: http://www.dtic.mil/whs/directives/corres/pdf/649003p.pdf.
2. Assistant Secretary of Defense (Health Affairs). Memorandum for the Assistant Secretaries of the Army (M&RA), Navy (M&RA), and Air Force (M&RA), subject: Post-deployment health reassessment (HA policy: 05-011), dated 10 March 2005. Washington, DC. Accessed on 18 October 2006 at: < http://www.ha.osd.mil/policies/2005/05-011.pdf >.
3. Rubertone MV, Brundage JG. The Defense Medical Surveillance System and the Department of Defense Serum Repository: Glimpses of the Future of Public Health Surveillance. *Am J Public Health* 2002 Dec;92, (12):1900-04.
4. Hoge CW, Terhakopian A, Castro CA, Messer SC, Engel CC. Association of post-traumatic stress disorder with somatic symptoms, health care visits, and absenteeism among Iraq war veterans. *Am J Psychiatry*. 2007 Jan;164(1):150-3.
5. Browne T, Hull L, Horn O, et al. Explanations for the increase in mental health problems in UK reserve forces who have served in Iraq. *Br J Psychiatry*. 2007 Jun;190:484-489.

Figure 6. Ratio of percents of deployers who endorse selected questions, Reserve versus active component, on pre-deployment health assessments (DD2795) and post-deployment health reassessments (DD2900), U.S. Armed Forces, July 2006-June 2007

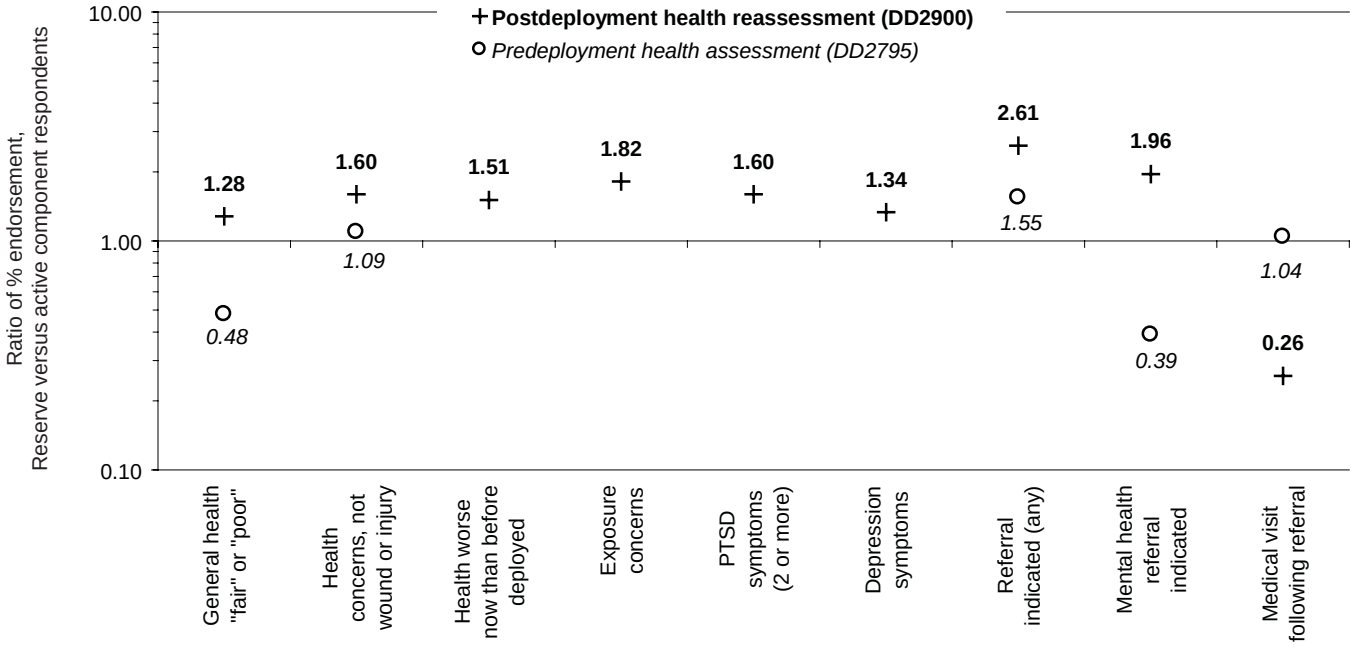
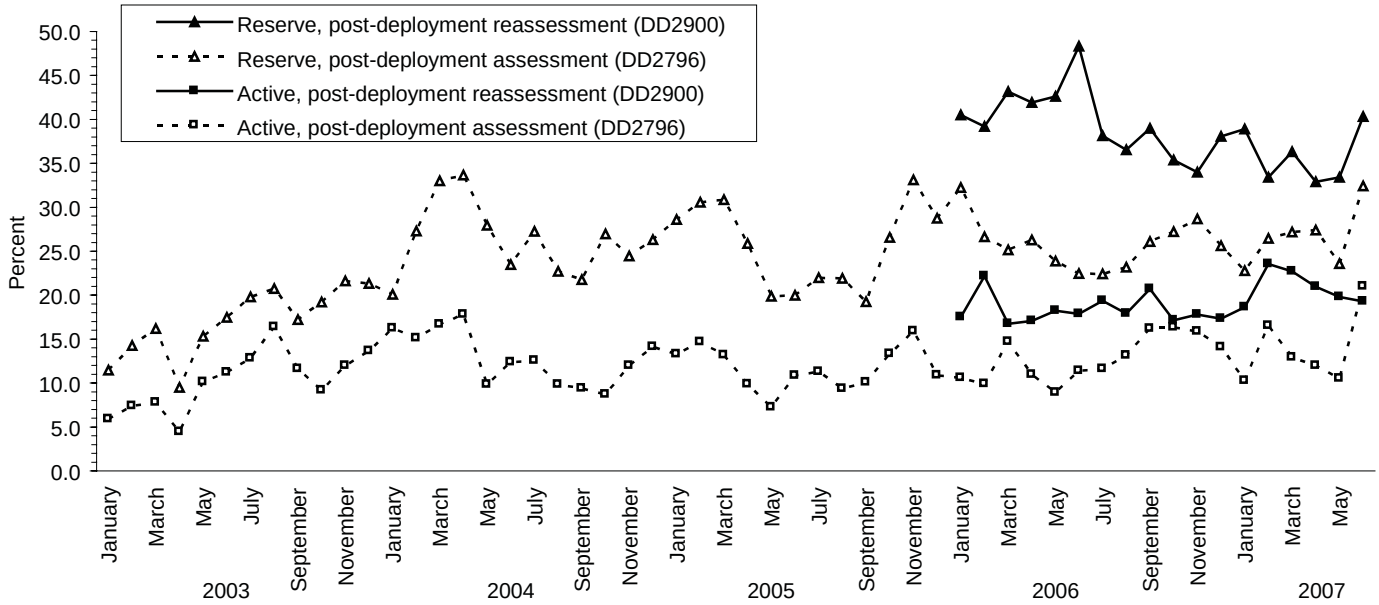
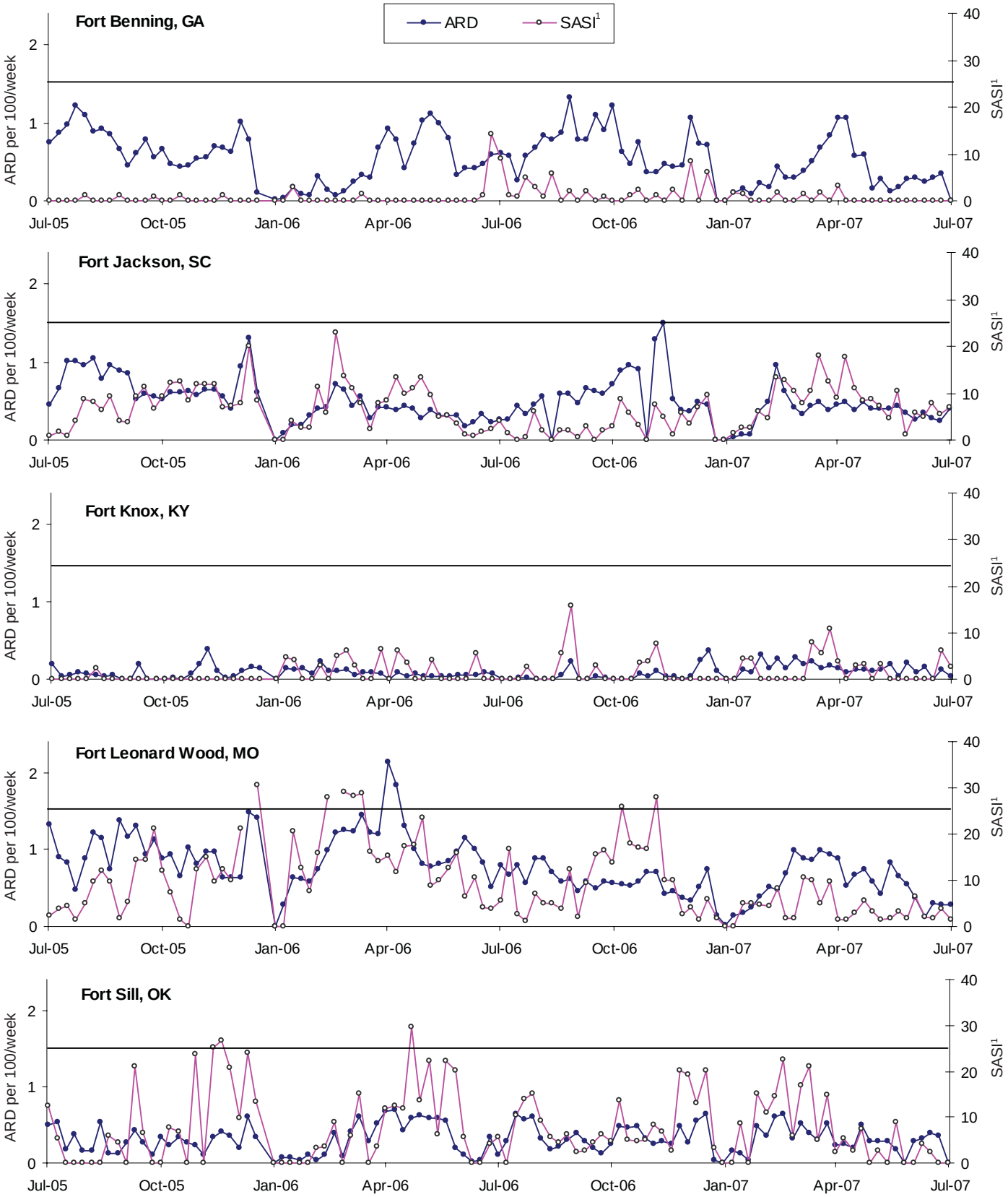


Figure 7. Proportion of service members who endorse exposure concerns on post-deployment health assessments, U.S. Armed Forces, 2003-2007



Acute respiratory disease (ARD) and streptococcal pharyngitis rates (SASI[1]), basic combat training centers, U.S. Army, by week, July 2005 - July 2007



1. Streptococcal-ARD surveillance index (SASI) = ARD rate x % positive culture for group A streptococcus
ARD rate = cases per 100 trainees per week
ARD rate ≥ 1.5 or SASI ≥ 25.0 for 2 consecutive weeks are surveillance indicators of epidemics

Sentinel reportable events for service members and beneficiaries at U.S. Air Force medical facilities, cumulative numbers* for calendar years through June 2006 and June 2007

Air Force

Reporting locations	Number of reports all events‡		Food-borne								Vaccine preventable					
			Campylo-bacter		Giardia		Salmonella		Shigella		Hepatitis A		Hepatitis B		Varicella	
	2006	2007	2006	2007	2006	2007	2006	2007	2006	2007	2006	2007	2006	2007	2006	2007
Air Combat Cmd	602	677	1	1	.	1	1	.	.	.	.	.	1	4	2	6
Air Education & Training Cmd	277	298	.	.	1	.	5	6	.	1	.	.	1	2	3	4
Lackland, TX	0	0	.	.	.	.	.	.	.	.	.	.	.	.	.	.
USAF Academy, CO	80	21	.	.	.	.	.	2	.	.	.	.	.	.	.	.
Air Force Dist. of Washington	32	5	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Air Force Materiel Cmd	282	205	1	.	.	.	2	6	.	.	.	.	2	.	2	1
Air Force Special Ops Cmd	55	63	.	.	.	.	2	.	1	1	.	.	.	.	.	.
Air Force Space Cmd	186	126	.	1	.	1	2	5	.	.	.	.	1	1	.	1
Air Mobility Cmd	443	339	.	.	3	.	5	2	8	2	.	.	4	3	1	2
Pacific Air Forces	301	240	.	.	1	1	5	3	.	.	.	.	2	2	.	8
PACAF Korea	111	55	.	.	.	.	.	.	.	.	.	.	.	.	.	1
U.S. Air Forces in Europe	193	151	.	3	1	.	.	.	.	.	.	.	.	.	2	.
Total	**2,562**	**2,180**	**2**	**5**	**6**	**3**	**22**	**24**	**9**	**4**	**0**	**0**	**11**	**12**	**10**	**23**

*Events reported by July 7, 2006 and 2007

†Seventy medical events/conditions specified by Tri-Service Reportable Events Guidelines and Case Definitions, May 2004.

Note: Completeness and timeliness of reporting vary by facility.

Reporting location	Arthropod-borne				Sexually transmitted								Environmental			
	Lyme disease		Malaria		Chlamydia		Gonorrhea		Syphilis‡		Urethritis§		Cold		Heat	
	2006	2007	2006	2007	2006	2007	2006	2007	2006	2007	2006	2007	2006	2007	2006	2007
Air Combat Cmd	.	4	.	.	539	421	37	38	3	.	.	1	3	.	1	6
Air Education & Training Cmd	.	.	1	.	201	245	31	22	1	.	.	.	.	.	.	.
Lackland, TX	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
USAF Academy, CO	.	.	1	.	37	17	.	.	.	.	.	.	2	.	.	.
Air Force Dist. of Washington	.	.	.	.	23	5	3	.	.	.	.	.	.	.	.	.
Air Force Materiel Cmd	.	.	1	.	188	162	31	24	1	.	.	.	.	.	.	.
Air Force Special Ops Cmd	.	.	.	.	39	55	11	7	.	.	.	.	.	.	.	.
Air Force Space Cmd	1	.	.	.	146	103	5	10	.	.	.	.	1	.	.	.
Air Mobility Cmd	5	3	1	.	330	287	18	20	1	1	.	.	.	.	.	2
Pacific Air Forces	.	.	1	.	258	199	20	8	.	.	.	.	2	.	.	.
PACAF Korea	.	.	.	.	91	44	12	.	.	2	.	.	.	.	.	.
U.S. Air Forces in Europe	2	1	1	.	123	110	15	9	1	.	.	.	.	.	.	.
Total	**8**	**8**	**6**	**0**	**1,975**	**1,648**	**183**	**138**	**7**	**3**	**0**	**1**	**8**	**0**	**1**	**8**

‡Primary and secondary.

§Urethritis, non-gonococcal (NGU).

Sentinel reportable events for service members and beneficiaries at U.S. Army medical facilities, cumulative numbers* for calendar years through June 2006 and June 2007

Army

Reporting locations	Number of reports all events‡		Food-borne								Vaccine preventable					
			Campylo-bacter		Giardia		Salmonella		Shigella		Hepatitis A		Hepatitis B		Varicella	
	2006	2007	2006	2007	2006	2007	2006	2007	2006	2007	2006	2007	2006	2007	2006	2007
NORTH ATLANTIC																
Washington, DC Area	148	159	4	.	1	3	2	2	.	.	.	.	1	5	.	1
Aberdeen, MD	11	19	.	.	.	1	.	.	.	.	.	.	.	.	.	.
FT Belvoir, VA	196	132	6	8	.	2	4	4	1	1	.	.	.	.	.	1
FT Bragg, NC	870	646	5	2	.	.	6	11	.	2	.	.	.	.	.	.
FT Drum, NY	122	126	.	.	.	.	.	.	.	.	.	.	.	2	.	.
FT Eustis, VA	113	98	.	.	.	.	.	.	.	.	.	.	.	.	.	.
FT Knox, KY	134	146	.	.	.	.	.	2	.	1	.	.	.	1	.	.
FT Lee, VA	206	226	.	.	.	1	.	1	.	1	.	.	.	2	.	.
FT Meade, MD	61	29	.	.	.	.	.	.	.	.	.	.	.	.	.	.
West Point, NY	26	16	.	.	.	.	1	.	.	.	.	.	1	3	.	.
GREAT PLAINS																
FT Sam Houston, TX	313	347	.	.	2	1	3	2	1	.	.	.	.	2	1	6
FT Bliss, TX	180	200	.	.	.	.	.	.	.	.	.	.	1	2	.	.
FT Carson, CO	468	370	.	1	.	2	3	.	.	.	.	.	.	.	.	.
FT Hood, TX	942	1,066	2	3	1	2	5	5	5	8	.	.	.	.	1	1
FT Huachuca, AZ	27	54	.	.	.	.	.	5	.	.	.	.	.	.	.	.
FT Leavenworth, KS	20	27	.	1	.	.	.	.	.	.	.	.	.	.	.	.
FT Leonard Wood, MO	153	218	.	.	2	.	1	1	.	1	.	.	.	.	6	8
FT Polk, LA	115	106	2	.	1	3	.	2	.	.	.	.	.	.	.	1
FT Riley, KS	85	183	2	2	.	.	.	3	.	.	.	.	.	.	.	.
FT Sill, OK	126	98	.	.	.	.	1	1	.	.	.	.	.	.	1	1
SOUTHEAST																
FT Gordon, GA	252	361	.	.	.	.	.	1	.	.	.	.	9	1	.	.
FT Benning, GA	246	215	2	1	1	1	2	3	.	1	.	.	.	1	.	1
FT Campbell, KY	340	289	.	.	.	.	.	.	.	.	.	.	.	.	.	.
FT Jackson, SC	136	112	.	.	.	.	.	.	.	.	.	.	.	1	.	.
FT Rucker, AL	37	42	1	.	.	.	.	.	.	9	.	.	.	1	.	.
FT Stewart, GA	379	536	.	1	.	.	2	9	3	9	.	.	4	2	3	1
WESTERN																
FT Lewis, WA	333	353	.	1	.	3	1	1	.	1	.	.	.	.	1	1
FT Irwin, CA	54	56	.	1	.	.	.	2	.	1	.	.	.	.	.	.
FT Wainwright, AK	106	172	.	1	.	.	1	.	.	1	.	.	.	.	.	.
OTHER LOCATIONS																
FT Shafter, HI	532	384	17	15	1	1	9	8	1	.	.	.	.	1	.	.
Germany	495	431	10	5	.	1	10	5	.	6	.	.	1	.	1	1
Korea	268	314	.	.	.	.	.	.	.	.	.	.	3	.	4	2
Total	**7,494**	**7,531**	**51**	**42**	**9**	**21**	**51**	**68**	**11**	**42**	**0**	**0**	**20**	**24**	**18**	**25**

*Events reported by July 7, 2006 and 2007

†Seventy medical events/conditions specified by Tri-Service Reportable Events Guidelines and Case Definitions, May 2004.

Note: Completeness and timeliness of reporting vary by facility.

Sentinel reportable events for service members and beneficiaries at U.S. Army medical facilities, cumulative numbers* for calendar years through June 2006 and June 2007

Army

Reporting location	Arthropod-borne				Sexually transmitted								Environmental			
	Lyme disease		Malaria		Chlamydia		Gonorrhea		Syphilis‡		Urethritis§		Cold		Heat	
	2006	2007	2006	2007	2006	2007	2006	2007	2006	2007	2006	2007	2006	2007	2006	2007
NORTH ATLANTIC	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Washington, DC Area	.	3	1	2	76	87	12	14	2	4	1	.	.	.	.	.
Aberdeen, MD	.	.	.	.	8	10	1	3	.	.	.	.	.	.	.	.
FT Belvoir, VA	.	.	.	1	97	87	22	11	.	2	.	.	.	.	.	.
FT Bragg, NC	.	.	9	2	622	466	88	80	3	.	77	46	1	1	53	34
FT Drum, NY	.	2	.	2	108	76	14	13	.	.	.	.	.	.	.	.
FT Eustis, VA	.	.	.	.	80	82	22	2	.	.	.	.	.	.	2	5
FT Knox, KY	5	1	.	.	94	117	19	20	.	.	.	.	3	.	4	.
FT Lee, VA	.	1	.	.	153	176	26	26	.	.	.	.	.	1	.	3
FT Meade, MD	.	.	.	.	53	21	7	6	.	1	1	.	.	1	.	.
West Point, NY	2	3	.	.	15	9	.	.	.	.	.	.	1	.	.	.
GREAT PLAINS	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
FT Sam Houston, TX	.	1	1	.	164	169	29	33	2	2	.	.	.	.	.	1
FT Bliss, TX	.	.	.	.	139	154	31	32	2	2	.	.	.	.	1	.
FT Carson, CO	.	.	.	.	303	238	62	35	.	1	25	7	.	1	.	.
FT Hood, TX	.	.	.	2	584	791	151	124	.	1	19	56	.	.	19	1
FT Huachuca, AZ	.	.	.	.	24	41	2	8	.	.	.	.	1	.	.	.
FT Leavenworth, KS	.	.	.	.	18	22	2	4	.	.	.	.	.	.	.	.
FT Leonard Wood, MO	.	.	.	.	102	143	9	24	.	1	.	.	.	2	4	5
FT Polk, LA	.	.	.	14	70	59	22	14	1	1	.	.	.	.	19	11
FT Riley, KS	.	.	.	.	74	131	9	9	.	.	.	.	.	.	.	3
FT Sill, OK	.	.	.	.	37	65	13	16	2	.	.	.	.	1	16	9
SOUTHEAST	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
FT Gordon, GA	.	.	.	.	174	255	35	41	.	2	3	.	.	.	2	1
FT Benning, GA	.	.	.	1	158	130	39	42	.	.	.	.	.	1	39	18
FT Campbell, KY	.	.	.	.	232	194	37	32	.	.	.	.	.	.	9	.
FT Jackson, SC	.	.	.	.	123	87	13	22	.	2	.	.	.	.	.	.
FT Rucker, AL	.	.	.	.	30	26	3	1	.	.	.	.	.	.	2	4
FT Stewart, GA	3	.	2	.	241	386	81	81	1	2	10	.	1	.	13	5
WESTERN	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
FT Lewis, WA	.	.	2	1	260	303	38	30	.	.	22	7	.	.	.	.
FT Irwin, CA	.	1	.	.	42	33	7	4	2	.	.	.	.	.	3	11
FT Wainwright, AK	.	.	11	.	61	116	9	6	.	.	.	.	15	22	.	.
OTHER LOCATIONS	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
FT Shafter, HI	.	.	2	.	398	272	46	30	.	.	.	.	.	.	2	3
Germany	8	10	7	4	316	259	102	82	1	2	1	3	.	.	.	11
Korea	.	.	5	2	196	253	46	35	2	.	.	1	2	20	2	1
Total	**18**	**22**	**40**	**31**	**5,052**	**5,258**	**997**	**880**	**18**	**23**	**159**	**120**	**24**	**50**	**190**	**126**

‡Primary and secondary.

§Urethritis, non-gonococcal (NGU).

Sentinel reportable events for service members and beneficiaries at U.S. Navy medical facilities, cumulative numbers* for calendar years through June 2006 and June 2007

Navy

Reporting locations	Number of reports all events‡		Food-borne								Vaccine preventable					
			Campylo-bacter		Giardia		Salmonella		Shigella		Hepatitis A		Hepatitis B		Varicella	
	2006	2007	2006	2007	2006	2007	2006	2007	2006	2007	2006	2007	2006	2007	2006	2007
NATIONAL CAPITOL AREA	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Annapolis, MD	16	0	.	.	1	.	.	.	.	.	.	.	.	.	.	.
Bethesda, MD	37	16	3	1	3	.	1	1	.	.	.	.	.	.	.	.
Patuxent River, MD	0	0	.	.	.	.	.	.	.	.	.	.	.	.	.	.
NAVY MEDICINE EAST	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Albany, GA	6	0	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Atlanta, GA	5	3	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Beaufort, SC	75	108	.	.	.	.	1	.	.	1	.	.	.	.	.	.
Camp Lejeune, NC	213	169	.	.	.	.	2	1	.	.	.	.	.	.	.	.
Cherry Point, NC	42	57	.	.	1	.	2	.	.	.	.	.	.	.	.	2
Great Lakes, IL	0	148	.	.	.	1	.	2	.	.	.	.	.	.	.	.
Jacksonville, FL	74	109	.	1	.	.	4	2	.	2	.	.	.	.	.	.
Mayport, FL	16	24	.	1	.	.	1	4	.	.	.	.	.	.	.	.
NABLC Norfolk, VA	10	26	.	.	.	.	1	.	.	.	.	.	.	.	.	.
NBMC Norfolk, VA	117	48	.	.	.	.	.	.	.	.	.	.	.	.	.	.
NEHC Norfolk, VA	2	4	.	.	.	.	.	.	.	.	.	.	.	.	.	2
North Charleston, SC	0	3	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Pensacola, FL	23	53	.	.	.	.	.	.	.	3	.	.	.	.	.	5
Portsmouth, VA	1	0	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Washington, DC	0	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Guantanamo Bay, Cuba	0	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Europe	4	11	1	.	.	.	.	.	.	.	.	.	.	.	.	.
NAVY MEDICINE WEST	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Camp Pendleton, CA	37	11	.	.	.	.	3	.	.	.	.	.	2	.	.	.
Corpus Christi, TX	1	3	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Fallon, NV	3	0	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Ingleside, TX	1	0	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Lemoore, CA	66	0	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Pearl Harbor, HI	3	0	.	.	.	.	.	.	.	.	.	.	.	.	.	.
San Diego, CA	43	292	.	2	1	2	6	3	1	2	.	.	1	28	.	.
Guam	32	27	1	.	.	.	2	1	.	.	.	.	.	.	.	.
Japan	62	22	.	.	.	.	3	.	.	.	.	.	.	.	.	1
NAVAL SHIPS	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
COMNAVAIRLANT/CINCLANTFLEET	59	4	.	.	.	.	.	.	.	.	.	.	.	.	.	.
COMNAVSURFPAC/CINCPACFLEET	15	19	.	.	.	.	.	.	.	.	.	.	.	.	.	1
Total	**963**	**1,159**	**5**	**5**	**6**	**3**	**26**	**14**	**1**	**8**	**0**	**0**	**3**	**28**	**0**	**11**

*Events reported by July 7, 2006 and 2007

†Seventy medical events/conditions specified by Tri-Service Reportable Events Guidelines and Case Definitions, May 2004.

Note: Completeness and timeliness of reporting vary by facility.

Sentinel reportable events for service members and beneficiaries at U.S. Navy medical facilities, cumulative numbers* for calendar years through June 2006 and June 2007

Navy

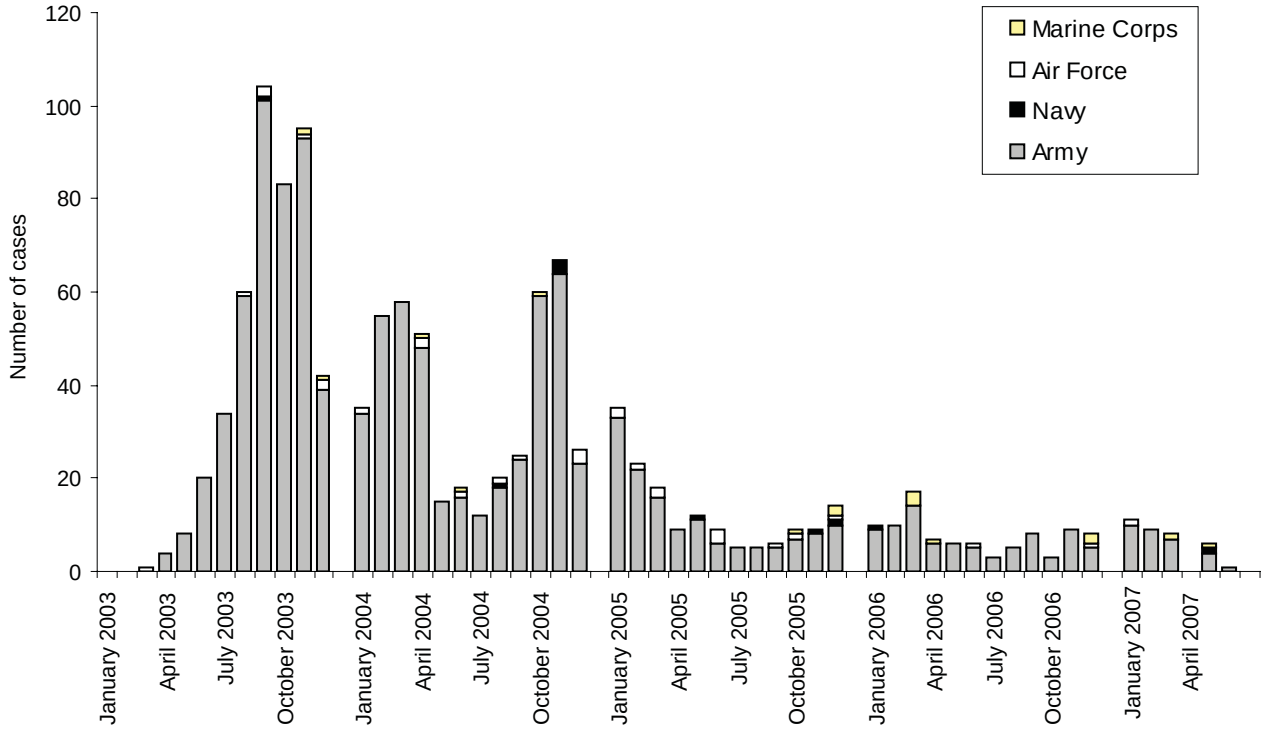
Reporting location	Arthropod-borne				Sexually transmitted								Environmental			
	Lyme disease		Malaria		Chlamydia		Gonorrhea		Syphilis‡		Urethritis§		Cold		Heat	
	2006	2007	2006	2007	2006	2007	2006	2007	2006	2007	2006	2007	2006	2007	2006	2007
NATIONAL CAPITOL AREA	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Annapolis, MD	.	.	.	.	13	.	2	.	.	.	.	.	.	.	.	.
Bethesda, MD	.	.	.	.	12	9	2	1	.	1	.	.	.	.	.	.
Patuxent River, MD	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
NAVY MEDICINE EAST	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Albany, GA	.	.	.	.	6	.	.	.	.	.	.	.	.	.	.	.
Atlanta, GA	.	.	.	.	3	1	2	1	.	1	.	.	.	.	.	.
Beaufort, SC	.	.	.	.	36	86	.	6	.	2	.	.	.	.	38	7
Camp Lejeune, NC	1	8	.	.	167	127	34	19	.	.	.	.	.	.	6	14
Cherry Point, NC	.	.	.	.	35	46	4	5	.	1	.	.	.	.	.	1
Great Lakes, IL	.	.	.	.	.	126	.	13	.	.	.	.	.	.	.	.
Jacksonville, FL	.	.	.	.	29	84	4	12	2	2	.	.	.	.	.	.
Mayport, FL	.	.	.	.	15	16	.	.	.	1	.	.	.	.	.	.
NABLC Norfolk, VA	.	.	.	.	7	24	2	2	.	.	.	.	.	.	.	.
NBMC Norfolk, VA	.	.	.	.	91	39	21	8	1	.	.	.	.	.	.	.
NEHC Norfolk, VA	.	.	.	.	.	2	.	.	.	.	.	.	1	.	1	.
North Charleston, SC	.	.	.	.	.	3	.	.	.	.	.	.	.	.	.	.
Pensacola, FL	.	.	.	.	22	31	1	3	.	.	.	.	.	.	.	8
Portsmouth, VA	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.
Washington, DC	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.
Guantanamo Bay, Cuba	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.
Europe	.	.	1	.	2	10	.	1	.	.	.	.	.	.	.	.
NAVY MEDICINE WEST	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Camp Pendleton, CA	.	.	.	.	32	9	.	1	.	1	.	.	.	.	.	.
Corpus Christi, TX	.	.	.	.	1	2	.	1	.	.	.	.	.	.	.	.
Fallon, NV	.	.	.	.	3	.	.	.	.	.	.	.	.	.	.	.
Ingleside, TX	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.
Lemoore, CA	.	.	.	.	24	.	4	.	.	.	.	.	.	.	.	.
Pearl Harbor, HI	.	.	.	.	1	.	1	.	.	.	.	.	.	.	.	.
San Diego, CA	.	1	.	.	26	181	5	34	.	4	.	.	.	.	.	.
Guam	.	.	.	.	23	23	5	3	.	.	.	.	.	.	.	.
Japan	.	.	.	.	53	16	6	4	.	.	.	.	.	.	.	.
NAVAL SHIPS	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
COMNAVAIRLANT/CINCLANTFLEET	1	.	.	.	48	4	9	.	1	.	.	.	.	.	.	.
COMNAVSURFPAC/CINCPACFLEET	.	.	.	.	6	13	6	5	.	.	3	.	.	.	.	.
Total	**2**	**9**	**1**	**0**	**657**	**854**	**108**	**119**	**4**	**13**	**3**	**0**	**1**	**0**	**45**	**30**

‡Primary and secondary.

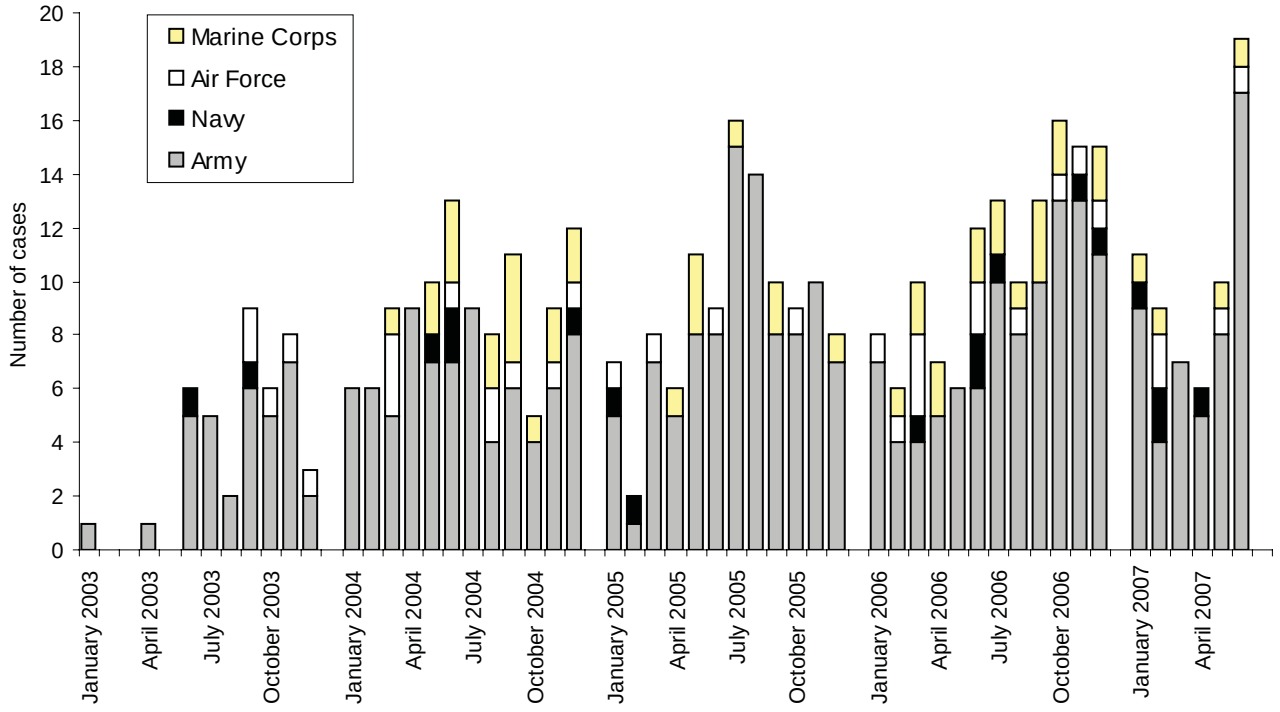
§Urethritis, non-gonococcal (NGU).

Deployment-related conditions of special surveillance interest, U.S. Armed Forces, by month and service, January 2003 - June 2007

Leishmaniasis (ICD-9: 085.0 to 085.9)*



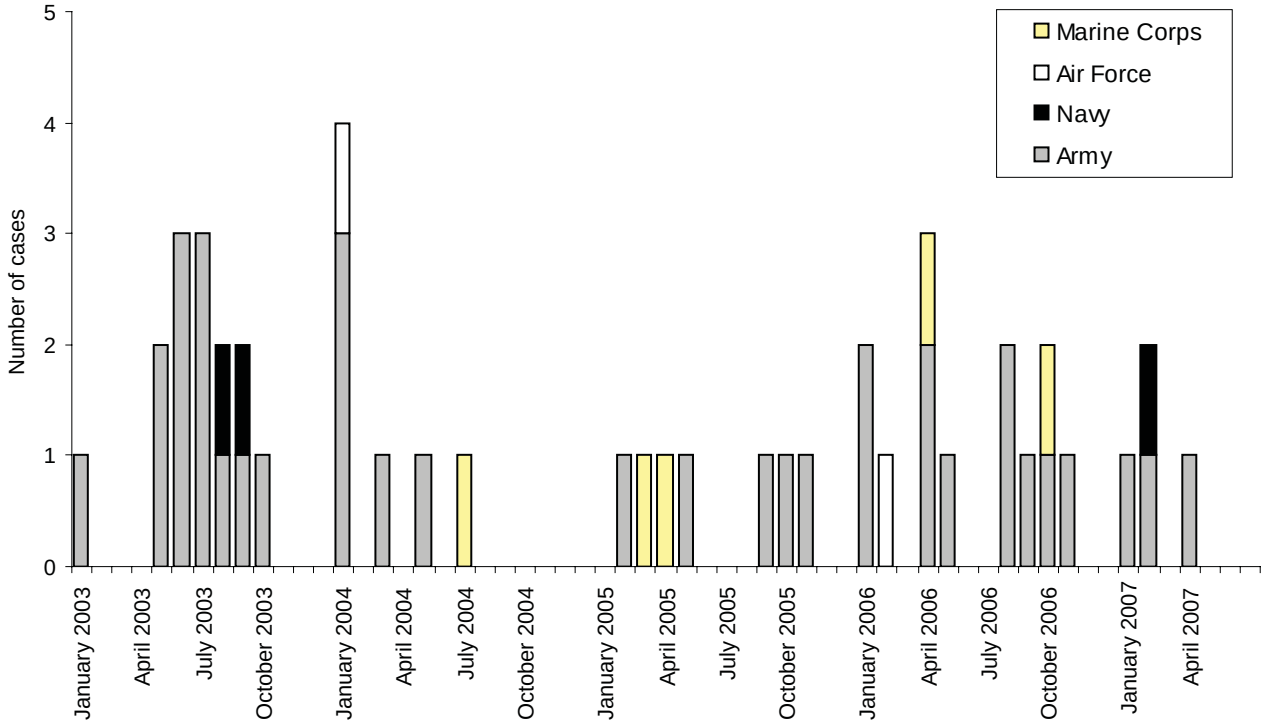
Deep vein thrombophlebitis/pulmonary embolus (ICD-9: 415.1, 451.1, 451.81)†



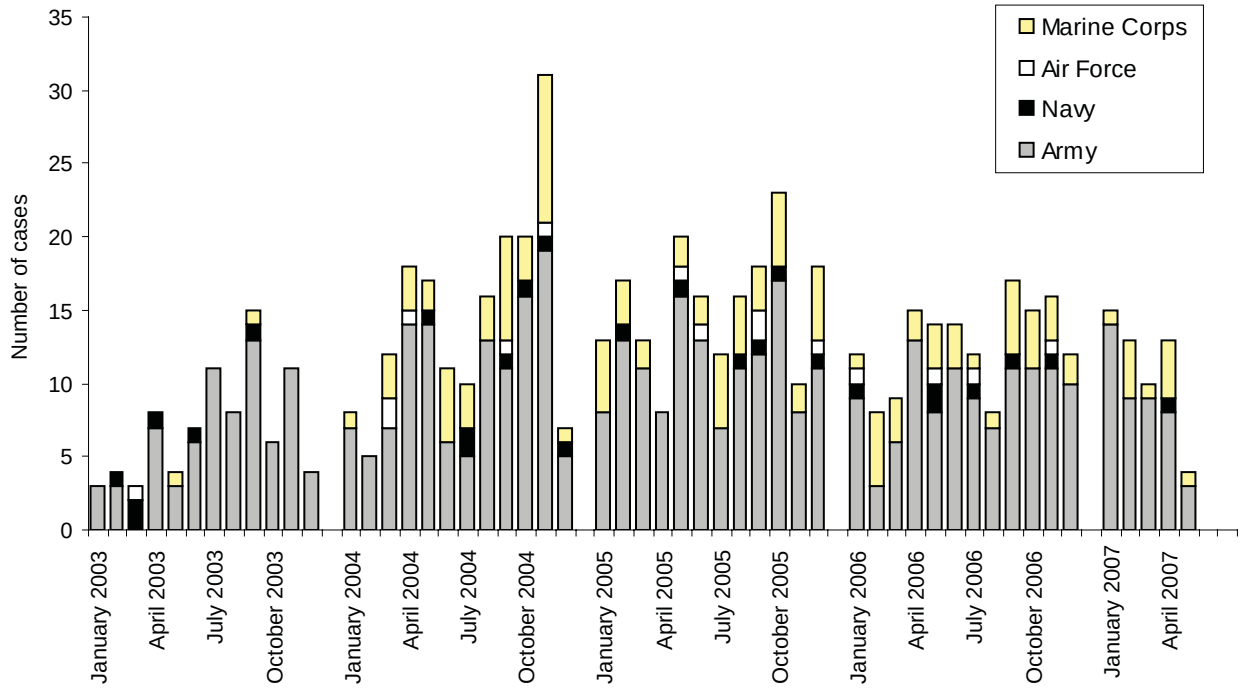
* Indicator diagnosis (one per individual) during a hospitalization, ambulatory visit, and/or from a notifiable medical event during/after service in OEF/OIF.
† Indicator diagnosis (one per individual) during a hospitalization while deployed to/within 30 days of returning from OEF/OIF.

Deployment-related conditions of special surveillance interest, U.S. Armed Forces, by month and service, January 2003 - June 2007

Severe acute pneumonia* (ICD-9: 518.81, 518.82, 518.3, 480-487, 786.09)‡



Amputations (ICD-9: 887, 896, 897, V49.6 to V49.7, PR 84.0 to PR 84.1)§



‡ Indicator diagnosis (one per individual) during a hospitalization or ambulatory visit while deployed to/within 30 days of returning from OEF/OIF.
§ Indicator diagnosis (one per individual) during a hospitalization of a servicemember during/after service in OEF/OIF.

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