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Cellulitis and Abscess, Active Components, US Armed Forces, 2002-2005

Competent immune function and intact skin are effective defenses against pathogenic microorganisms. However, breakdowns of the physical integrity of skin (e.g., punctures, lacerations, abrasions, blisters, ulcers, stings) are common among military members. Such breakdowns can allow infectious agents (e.g., *Staphylococcus aureus*, *Streptococcus pyogenes*) to invade and proliferate in underlying tissues. Cellulitis and abscesses are the clinical expressions of such infections.

"Diseases of the skin and subcutaneous tissue" (ICD-9-CM: 680-709) was the only (of 16) major diagnostic categories that accounted for more hospitalizations of military members in 2005 than 2003;[1] and in 2005, more than 80% of all skin/ subcutaneous tissue-related hospitalizations of military members were attributable to cellulitis and abscess.[1] It is not surprising, therefore, that the recent increase in skin/subcutaneous tissue-related hospitalizations overall was largely attributable to increases in cellulitis/abscess-related hospitalizations.[1] Of note, cellulitis and abscesses also accounted for more skin and subcutaneous tissue-related ambulatory visits among service members than any other dermatologic condition; and in the past two years, "diseases of the skin and subcutaneous tissue" had the second largest absolute and relative increases in ambulatory visits among all major diagnostic categories.[2]

Finally, the potential impacts of cellulitis and abscess on the health and operational capabilities of service members and the military health care system are exacerbated by the emergence of community-acquired methicillin-resistant *Staphylococcus aureus*

Table 1. Incident diagnoses of cellulitis/abscess, by demographic/military characteristics, active components, U.S. Armed Forces, by calendar quarter, January 2002-December 2005

	2002				2003			
	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec
Total	**7,649**	**9,238**	**11,892**	**10,366**	**8,363**	**9,579**	**13,019**	**10,833**
Medical setting								
Ambulatory	7,442	8,973	11,604	10,074	8,160	9,322	12,686	10,554
Hospital	207	265	288	292	203	257	333	279
Gender								
Male	6,450	7,659	9,948	8,664	6,984	7,918	10,786	9,096
Female	1,199	1,579	1,944	1,702	1,379	1,661	2,233	1,737
Age group								
<20	1,221	1,327	2,561	2,480	1,376	1,366	2,832	2,304
20-24	2,801	3,490	4,228	3,653	3,093	3,612	4,716	3,965
25-29	1,317	1,588	1,926	1,627	1,438	1,777	2,158	1,785
30-34	869	1,039	1,216	995	938	1,098	1,270	1,088
35-39	837	992	1,078	889	847	954	1,080	894
40+	604	802	883	722	671	772	963	797
Race ethnicity								
White nonhisp	4,928	6,101	7,868	6,881	5,422	6,401	8,831	7,305
Black non-hisp	1,481	1,689	2,038	1,818	1,553	1,655	2,034	1,791
Hispanic	720	794	1,094	970	773	851	1,139	911
Other	520	654	892	697	615	672	1,015	826
Military status								
Enlisted	6,847	8,239	10,770	9,376	7,463	8,488	11,709	9,771
Officer	752	925	1,043	942	856	1,029	1,238	1,009
Warrant	50	74	79	48	44	62	72	53

(CA-MRSA).[3,4] In the past few years, several outbreaks of MRSA in close quartered military populations (e.g., military recruits, Navy ship crewmen) have been documented.[5-7]

This report documents frequencies, rates, geographic distributions, trends, and demographic correlates of risk of cellulitis and abscess among active component service members during a recent 4-year period. The report updates and extends the findings from a previous *MSMR* report regarding cellulitis (October 2002).[8]

Methods: The surveillance period was 1 January 2002 through 31 December 2005. The surveillance population included all individuals who served in an active component of the U.S. Armed Forces any time during the surveillance period. For surveillance purposes, a case was defined as an "incident" occurrence of a cellulitis/abscess-specific diagnosis in a member of the surveillance population during the surveillance period. All data were derived from the Defense Medical Surveillance System (DMSS).[9]

The ICD-9-CM codes used to identify cellulitis/abscess cases were 681 "cellulitis and abscess of finger and toe," ICD-9-CM 682 "other cellulitis and abscess," ICD-9-CM 686.0 "pyoderma," and ICD-9-CM 680 "carbuncle and furuncle."

All medical encounters for cellulitis/abscess within 30 days of an initial ("incident") diagnosis were considered follow-ups/exacerbations of the incident case and, thus, were not considered new cases. However, individuals could account for more than one case if incident episodes were separated by at least 30 days.

Results: There were 181,311 incident diagnoses of cellulitis/abscess among active component service members between 1 January 2002 and 31 December 2005. The overall incidence rate during the period was 32.4 per 1,000 person-years. The number of

Table 1. (Con't) Incident diagnoses of cellulitis/abscess, by demographic/military characteristics, active components, U.S. Armed Forces, by calendar quarter, January 2002-December 2005

	2004				2005				Total	
	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	*Number*	*% of total*
Total	**9,474**	**12,677**	**15,672**	**11,770**	**10,567**	**12,594**	**15,384**	**12,234**	***181,311***	***100.0***
Medical setting										
Ambulatory	9,236	12,388	15,356	11,519	10,315	12,337	15,096	11,983	*177,045*	*97.6*
Hospital	238	289	316	251	252	257	288	251	*4,266*	*2.4*
Gender										
Male	7,794	10,513	13,060	9,741	8,805	10,539	12,892	10,315	*151,164*	*83.4*
Female	1,680	2,164	2,612	2,029	1,762	2,055	2,492	1,919	*30,147*	*16.6*
Age group										
<20	1,573	2,039	3,762	2,591	1,827	1,729	3,114	2,569	*34,671*	*19.1*
20-24	3,548	4,984	5,860	4,232	3,911	5,026	5,684	4,470	*67,273*	*37.1*
25-29	1,708	2,335	2,567	2,008	2,034	2,378	2,781	2,216	*31,643*	*17.5*
30-34	1,022	1,345	1,397	1,177	1,129	1,392	1,541	1,249	*18,765*	*10.3*
35-39	814	1,035	1,102	912	855	1,079	1,172	890	*15,430*	*8.5*
40+	809	939	984	850	811	990	1,092	840	*13,529*	*7.5*
Race ethnicity										
White nonhisp	6,272	8,458	10,735	7,822	6,909	8,439	10,531	8,372	*121,275*	*66.9*
Black non-hisp	1,683	2,187	2,477	2,099	1,947	2,104	2,474	1,971	*31,001*	*17.1*
Hispanic	808	1,063	1,281	988	926	1,103	1,190	976	*15,587*	*8.6*
Other	711	969	1,179	861	785	948	1,189	915	*13,448*	*7.4*
Military status										
Enlisted	8,525	11,487	14,322	10,751	9,575	11,315	13,928	11,102	*163,668*	*90.3*
Officer	888	1,114	1,272	933	924	1,179	1,369	1,067	*16,540*	*9.1*
Warrant	61	76	78	86	68	100	87	65	*1,103*	*0.6*

incident cases increased by 30% from the first to the last year of the period (Table 1). Fewer than 2% of all cases required hospitalization (Table 1).

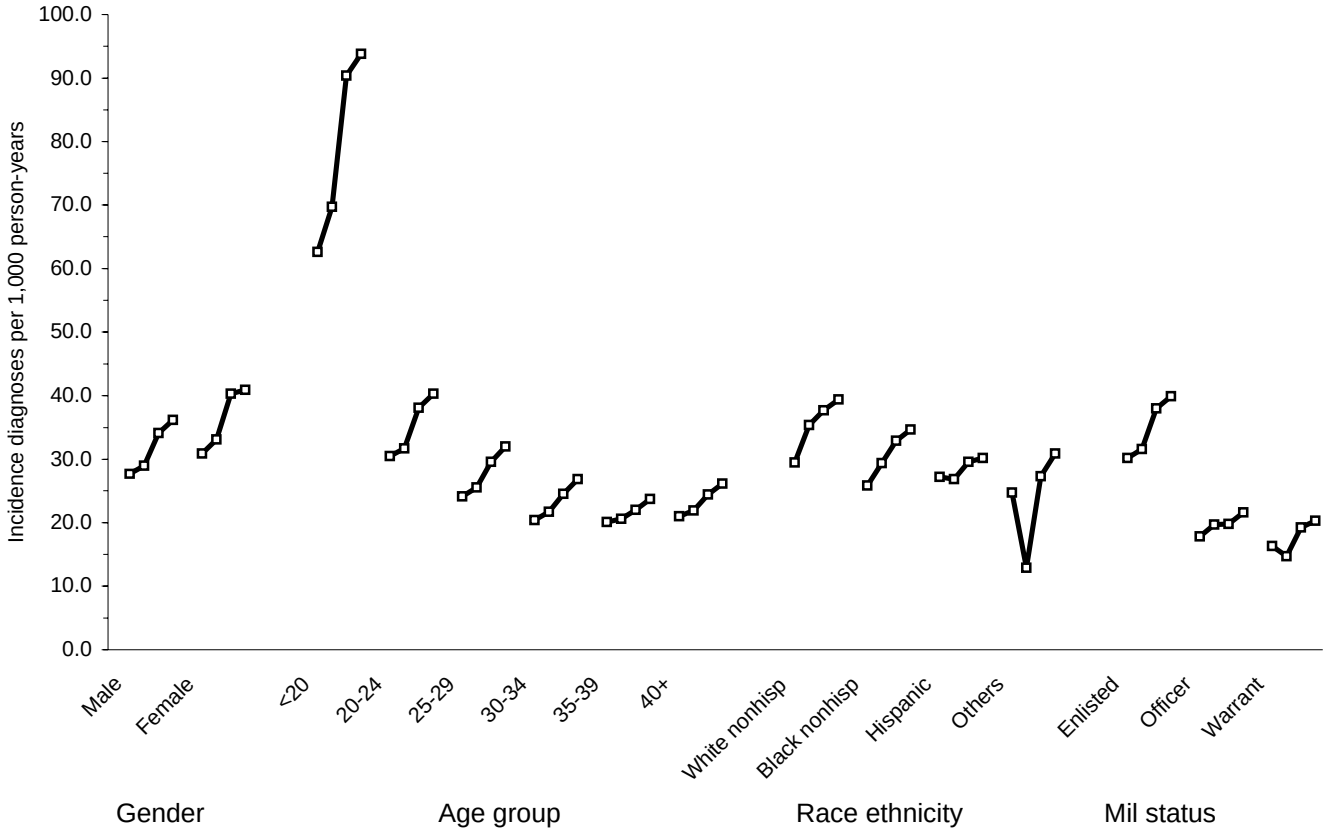
The highest incidence rates by far and the sharpest increases in rates during the period were among service members younger than 20 years old (Figure 1). Incidence rates (unadjusted) were higher among female, white nonhispanic, and enlisted service members compared to their respective counterparts (Figure 1). Of note, rates increased (generally monotonically) during the period in every demographic and military subgroup (Figure 1).

During each year of the period, more cases occurred in the summer (June-August) and fewer in the winter than in any other season (Figure 2). Of note, however, for each season of the year, case numbers sharply increased during the 4-year period (% change in cases per season, 2005 versus 2002: winter [January-March]: +38.1%; spring [April-June]: +36.3%; summer [July-September]: +29.4%; fall [October-December]: +18.0%) (Table 1, Figure 2).

In each Service, the most cases and highest rates were at installations that conduct recruit training (Figures 3-6). In the Marine Corps, the highest rates were at MCRD Parris Island, SC (incidence rate [IR]: 391.2 per 1000 person-years [p-yrs]) and MCRD San Diego, CA (IR: 179.8 per 1000 p-yrs) (Figure 4). In the Army, four of the five installations with the highest rates were basic training posts: Fort Benning, GA (incidence rate [IR]: 91.4 per 1000 p-yrs), Fort Knox, KY (IR: 81.3 per 1000 p-yrs), Fort Jackson, SC (IR: 80.1 per 1000 p-yrs), and Fort Leonard Wood, MO (IR: 73.3 per 1000 p-yrs) (Figure 3). In the Navy and Air Force, the most cases and highest rates were at the recruit training installation of the respective Service: NTC Great Lakes, IL (IR: 72.7 per 1000 p-yrs) (Figure 5) and Lackland AFB, TX (IR: 40.0 per 1000 p-yrs) (Figure 6). Overall, the most cases and highest rates were at MCRD Parris Island, SC (Figure 4).

Editorial comment. The previous *MSMR* report (October 2002) regarding cellulitis reviewed the historical importance of skin infections in U.S. military populations (particularly during combat operations in tropical environments) and documented

Figure 1. Rates of incident diagnoses of cellulitis/abscess, by demographic/military characteritics, active components, U.S. Armed Forces, by calendar year, 2002-2005.



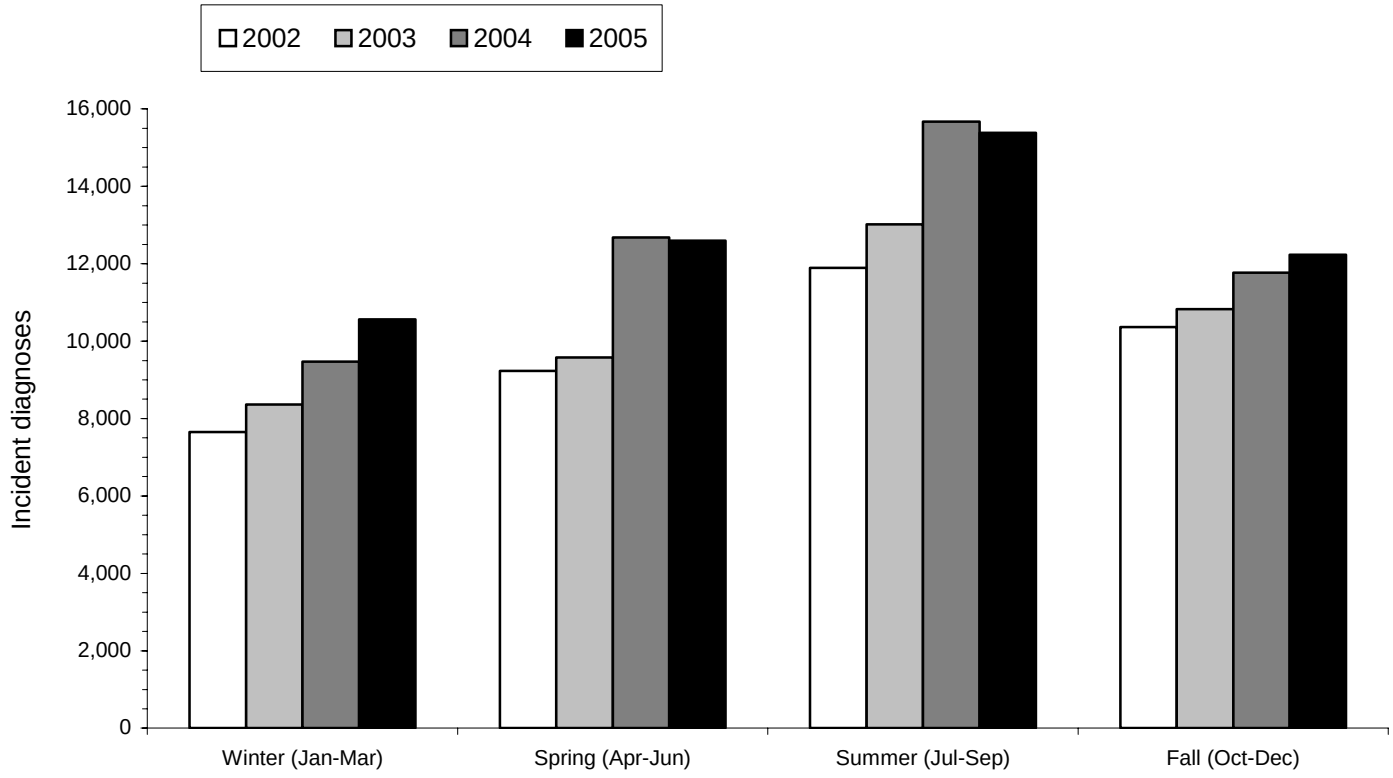
high rates of cellulitis in military recruits.[8] This report documents increasing rates of cellulitis and abscesses in military members since 2002, particularly among <20 year olds and at military recruit training installations.

Studies among recruits and special operations trainees suggest that cellulitis risk may be associated with traumatic physical activities; extreme physical exertion; blisters and other minor injuries of the skin; sleep deprivation, reduced food intake, stiff and/or poor fitting footwear; and prolonged exposures to wet environments.[10-13] Recommendations to reduce risk among Ranger trainees have included the use of protective devices (i.e., knee pads, shin guards, elbow pads) to reduce repetitive minor injuries, early detection and aggressive antibiotic treatment of infections, and mandatory daily breaks for personal hygiene.[12-14] Such preventive measures may be applicable to other rigorous military training activities.

Among recruits, cellulitis has been associated with friction blisters of the heels, ankles, and toes that occur after repeated rubbing against rigid surfaces (e.g., new footwear) during the first weeks of training.[10,15,16] Recent findings suggest that infections acquired later in training, e.g., during road marching, land navigation, kneeling, crawling, tactical exercises, are important sources of skin infections among recruits.[15,16] Not surprisingly, during a recent outbreak of CA-MRSA among recruits, 86% of cases occurred during weeks 6-12 of training; however, no specific event or activity was strongly associated with risk.[6]

In summary, skin infections are well documented – but not well recognized – threats to the health and military operational effectiveness of U.S. military members and units. This report documents that numbers and rates of cellulitis and abscesses have increased in the past four years. In addition, community-acquired MRSA is increasing in prevalence and has caused large outbreaks in military populations. The development and rigorous testing of measures that reliably prevent cellulitis, abscesses, and CA-MRSA in high-risk military

Figure 2. Incident diagnoses of cellulitis/abscess, active components, U.S. Armed Forces, by calendar quarter and year, 2002-2005.



populations and settings — particularly recruit training — should be high priorities.

Analysis by Jackson Gustave, MPH, Analysis Group, Army Medical Surveillance Activity.

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Figure 3. Incident diagnoses, numbers (bars) and rates (boxes), of cellulitis/abscess, active components, U.S. Armed Forces, at U.S. Army installations with >1,000 total cases during the period, 2002-2005.

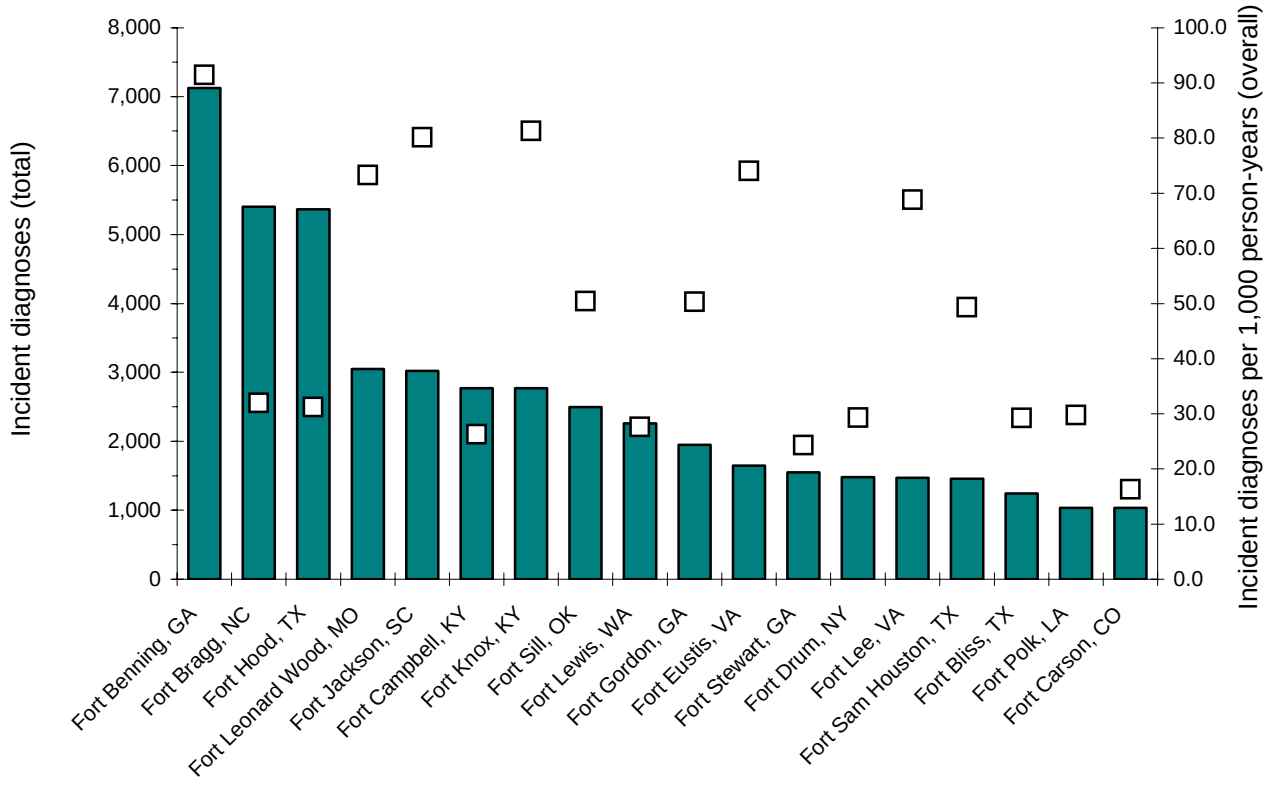

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Figure 4. Incident diagnoses, numbers (bars) and rates (boxes), of cellulitis/abscess, active components, U.S. Armed Forces, at U.S. Marine Corps installations with >500 total cases during the period, 2002-2005.

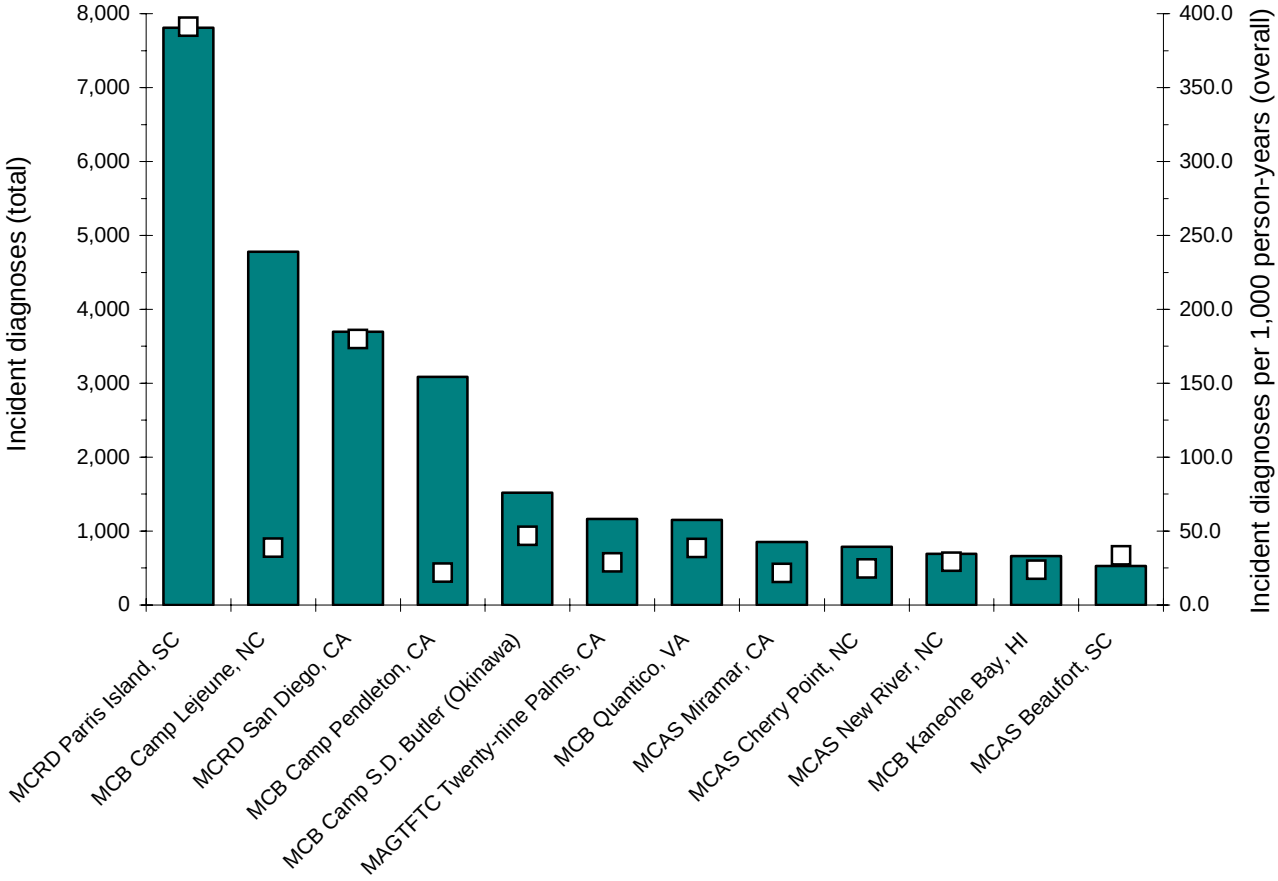


Figure 5. Incident diagnoses, numbers (bars) and rates (boxes), of cellulitis/abscess, active components, U.S. Armed Forces, at U.S. Navy installations with >500 total cases during the period, 2002-2005.

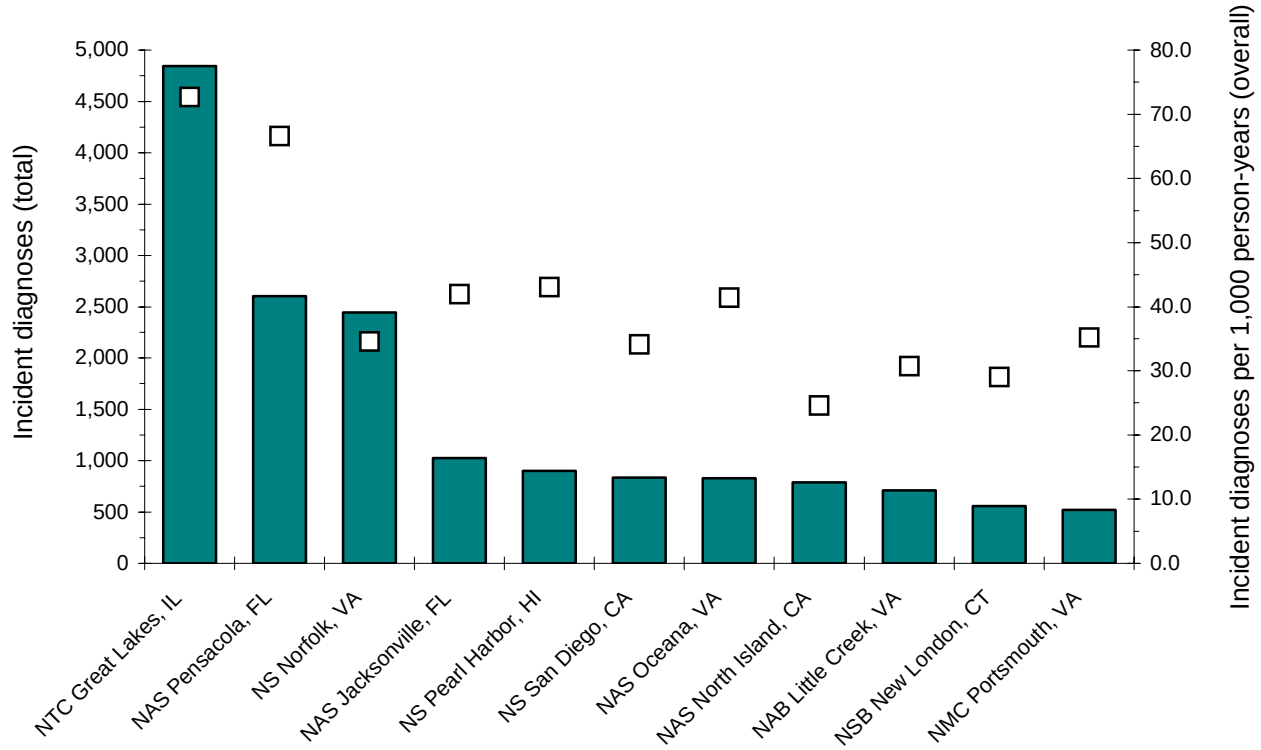
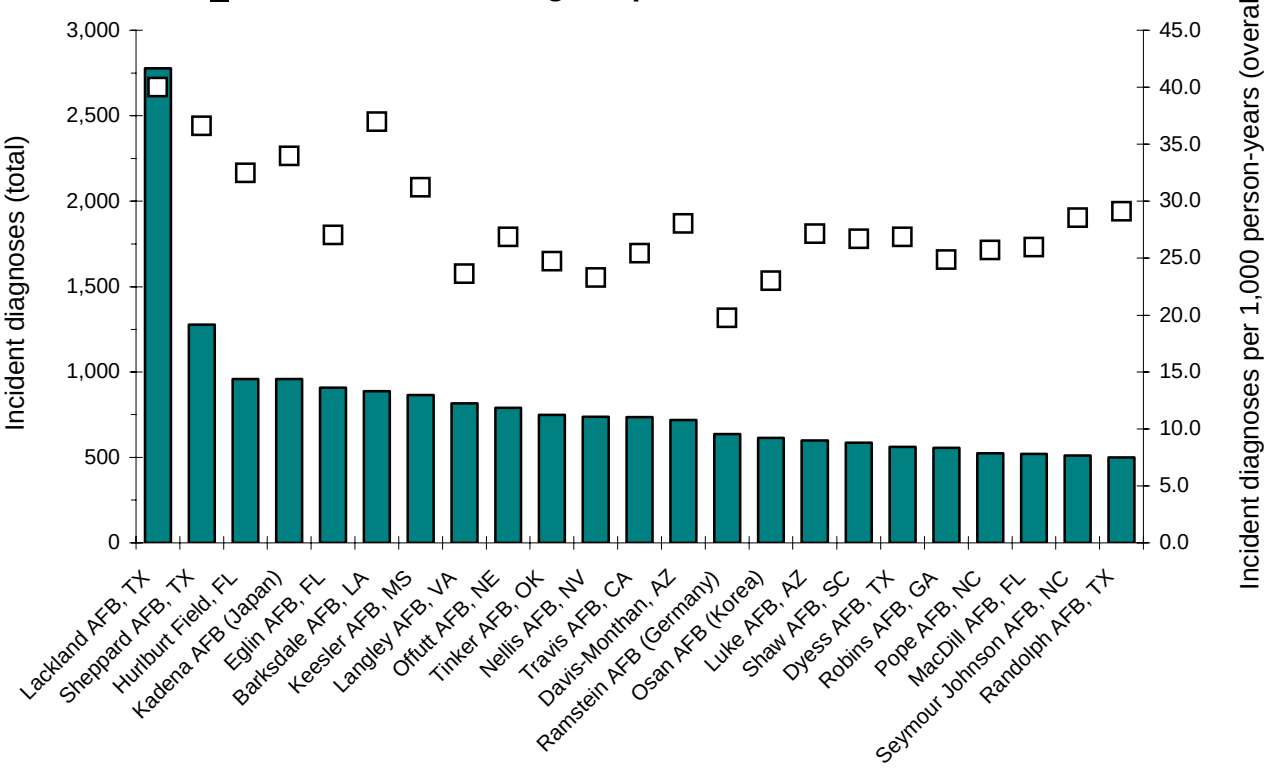
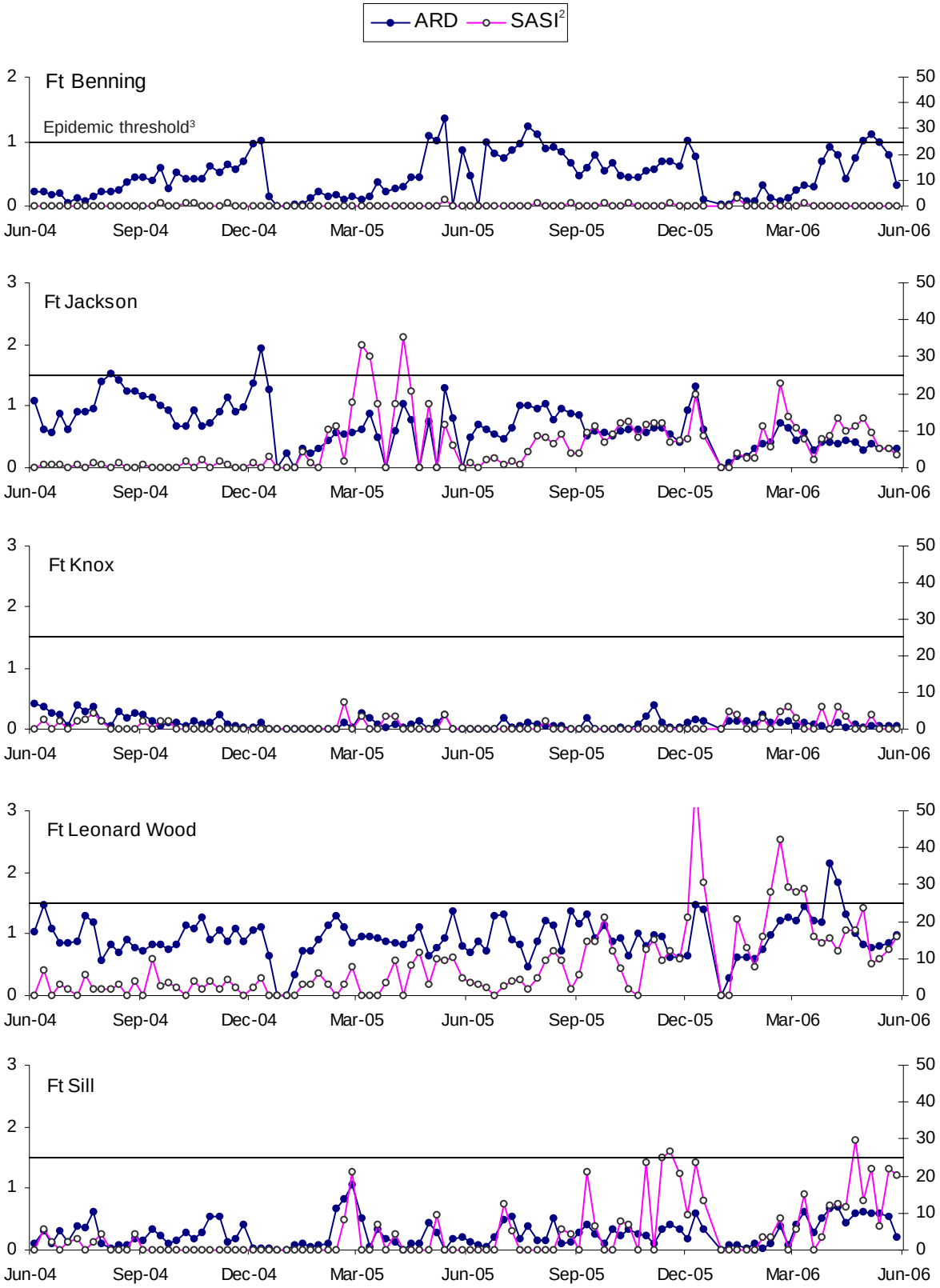


Figure 6. Incident diagnoses, numbers (bars) and rates (boxes), of cellulitis/abscess, active components, U.S. Armed Forces, at U.S. Air Force installations with ≥500 total cases during the period, 2002-2005



Acute respiratory disease (ARD) and streptococcal pharyngitis (SASI), Army basic training centers, by week through May 31, 2006



[1] ARD rate = cases per 100 trainees per week
[2] SASI (Strep ARD surveillance index) = (ARD rate)x(rate of Group A beta-hemolytic strep)
[3] ARD rate >=1.5 or SASI>=25.0 for 2 consectutive weeks indicates an "epidemic"

Update: Pre- and Post-deployment Health Assessments, U.S. Armed Forces, January 2003-May 2006

The June 2003 issue of the *MSMR* summarized the background, rationale, policies, and guidelines related to pre-deployment and post-deployment health assessments of servicemembers.[1-10] Briefly, prior to deploying, the health of each servicemember is assessed to ensure his/her medical fitness and readiness for deployment. At the time of redeployment, the health of each servicemember is again assessed to identify medical conditions and/or exposures of concern to ensure timely and comprehensive evaluation and treatment.

Completed pre- and post-deployment health assessment forms are routinely sent (in hard copy or electronic form) to the Army Medical Surveillance Activity (AMSA) where they are archived in the Defense Medical Surveillance System (DMSS).[11] In the DMSS, data recorded on pre- and post-deployment health assessments are integrated with data that document demographic characteristics, military experiences, and medical encounters of all servicemembers (e.g., hospitalizations, ambulatory visits, immunizations).[11] The continuously expanding DMSS database can be used to monitor the health of servicemembers who participated in major overseas deployments.[11-13]

The overall success of deployment force health protection efforts depends at least in part on the completeness and quality of pre- and post-deployment health assessments. This report summarizes characteristics of servicemembers who completed pre-and post-deployment forms since 1 January 2003, responses to selected questions on pre- and post-deployment forms, and changes in responses of individuals from pre-deployment to post-deployment.

Methods: For this update, the DMSS was searched to identify all pre- and post-deployment health assessments (DD Form 2795 and DD Form 2796, respectively) that were completed after 1 January 2003.

Results: From 1 January 2003 to 31 May 2006, 1,309,591 pre-deployment health assessments and 1,326,675 post-deployment health assessments were completed at field sites, shipped to AMSA, and integrated in the DMSS database (Table 1).

In general, the distributions of self-assessments of "overall health" were similar among pre- and post-deployment form respondents (Figure 1). For example, both prior to and after deployment, the most frequent descriptor of "overall health" was "very good." Of note, however, relatively more pre- (33%) than post- (23%) deployment respondents assessed their overall health as "excellent"; while more post- (41%) than pre- (25%) deployment respondents assessed their overall health as "good," "fair," or "poor" (Figure 1).

Among servicemembers (n=670,780) who completed both a pre- and a post-deployment health assessment, fewer than half (45%) chose the same descriptor of their overall health before and after deploying (Figures 2, 3). Of those (n=370,837) who changed their assessments from pre- to post-deployment, three-fourths (75%) changed by a single category (on a five category scale) (Figure 3); and of those who changed by more than one category, nearly 5-times as many indicated a decrement in overall health (n=75,719; 11.3% of all respondents) as an improvement (n=16,235; 2.4% of all respondents) (Figure 3).

On post-deployment forms, 22% of active and 40% of Reserve component respondents reported "medical/dental problems" during deployment (Table 2). Among active component respondents, "medical/dental problems" were more frequently reported by soldiers and Marines than by members of the other Services. Among Reservists, members of the Air Force reported "medical/dental problems" much less often than members of the other Services (Table 2).

Approximately 4% and 6% of active and Reserve component respondents, respectively, reported "mental health concerns." "Mental health concerns" were reported relatively more frequently among soldiers (active: 7%; Reserve: 7%) than members of the other Services (Table 2). Post-deployment forms from approximately one-fifth (18%) of active component and one-fourth (24%) of Reserve component members documented that "referrals" were indicated (Table 2); and 91% and

Table 1. Total pre-deployment and post-deployment health assessments, by month and year, U.S. Armed Forces, January 2003-May 2006

	Pre-deployment		Post-deployment	
	No.	%	No.	%
Total	**1,309,591**	**100.0**	**1,326,675**	**100.0**
2003				
January	69,390	5.3	6,221	0.5
February	110,571	8.4	5,077	0.4
March	69,855	5.3	6,755	0.5
April	37,599	2.9	19,350	1.5
May	12,885	1.0	92,882	7.0
June	14,416	1.1	65,381	4.9
July	18,062	1.4	52,902	4.0
August	16,513	1.3	35,154	2.6
September	12,799	1.0	32,446	2.4
October	24,169	1.8	27,047	2.0
November	19,701	1.5	21,542	1.6
December	36,156	2.8	22,242	1.7
2004				
January	70,206	5.4	39,999	3.0
February	39,202	3.0	32,284	2.4
March	22,842	1.7	66,654	5.0
April	19,944	1.5	44,505	3.4
May	27,797	2.1	17,910	1.3
June	24,665	1.9	28,385	2.1
July	22,805	1.7	24,342	1.8
August	34,299	2.6	23,011	1.7
September	32,205	2.5	24,383	1.8
October	35,651	2.7	15,864	1.2
November	36,235	2.8	22,080	1.7
December	38,607	2.9	27,067	2.0
2005				
January	34,681	2.6	56,088	4.2
February	24,761	1.9	69,999	5.3
March	20,877	1.6	53,507	4.0
April	26,981	2.1	19,112	1.4
May	18,767	1.4	21,076	1.6
June	25,578	2.0	19,282	1.5
July	21,613	1.7	17,291	1.3
August	47,294	3.6	29,676	2.2
September	34,491	2.6	38,988	2.9
October	37,188	2.8	37,440	2.8
November	35,184	2.7	38,731	2.9
December	21,230	1.6	56,693	4.3
2006				
January	29,802	2.3	37,855	2.9
February	22,160	1.7	18,496	1.4
March	20,366	1.6	20,314	1.5
April	18,392	1.4	17,316	1.3
May	23,652	1.8	21,328	1.6

85% of all active and Reserve component respondents, respectively, had hospitalizations and/or medical encounters within 6 months after documented post-deployment referrals (Table 2).

Overall, approximately 16% of all post-deployment forms indicated deployment-related "exposure concerns" (Table 3). The proportion of respondents who reported exposure concerns significantly varied from month to month. In general, in the active components, rates of exposure concerns increased through calendar year 2003 and have been relatively stable (5-15%) since the spring of 2004 (Figure 4). In the Reserve components, rates of exposure concerns increased through the spring of 2004 and have been relatively high (15-30%) since then (Figure 4). Reports of exposure concerns have been generally higher in the Army than the other services and in the Reserve compared to the active component (Table 3). Finally, prevalences of exposure concerns increase with age (Tables 3, 4).

Figure 1. Percent distributions of self-assessed health status, pre- and post-deployment, U.S. Armed Forces, January 2003- May 2006.

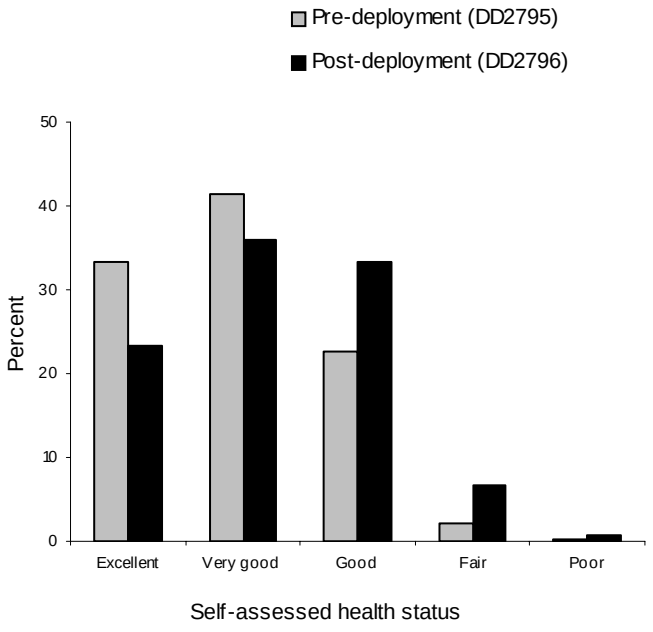


Figure 2. Self-assessed health status on post-deployment form, in relation to self-assessed health status on pre-deployment form in the same individual, U.S. Armed Forces, January 2003-May 2006.

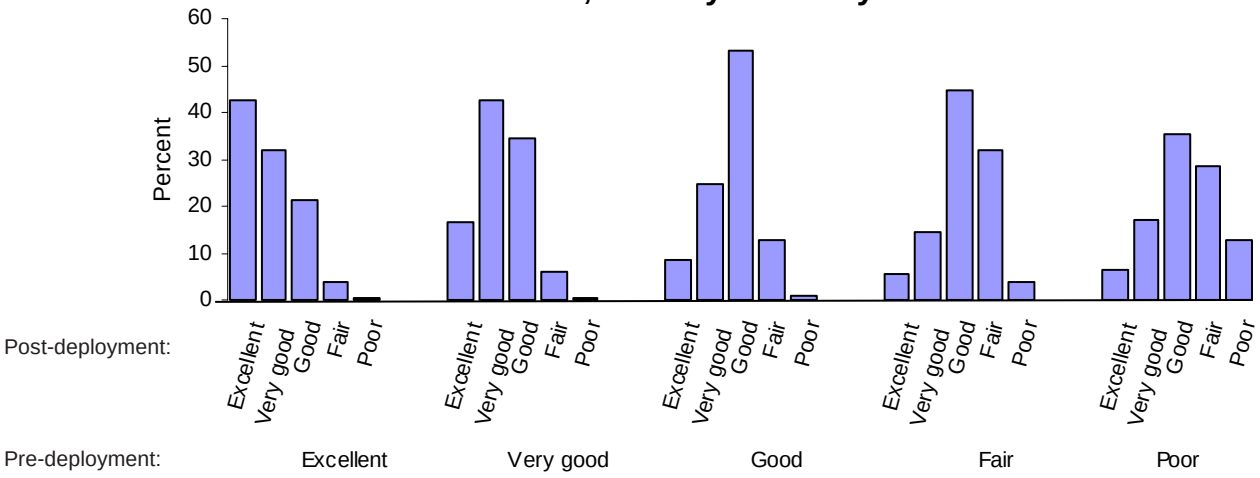


Table 2. Responses to selected questions from post-deployment forms (DD2796) by service and component, U.S. Armed Forces, January 2003-May 2006

	Army	Navy	Air Force	Marine Corps	Total
Active component					
SMs with DD 2796 in DMSS	**281,863**	**101,708**	**120,253**	**89,387**	**593,211**
Electronic version	78%	7%	72%	14%	55%
General health ("fair" or "poor")	9%	5%	2%	6%	6%
Medical/dental problems during deploy	30%	12%	12%	20%	22%
Currently on profile	11%	2%	2%	3%	6%
Mental health concerns	7%	3%	1%	2%	4%
Exposure concerns	17%	5%	4%	10%	11%
Health concerns	13%	6%	5%	9%	10%
Referral indicated	27%	7%	10%	13%	18%
Med. visit following referral[1]	97%	71%	90%	65%	91%
Post deployment serum[2]	94%	82%	89%	89%	90%
Reserve component					
SMs with DD 2796 in DMSS	**272,558**	**16,440**	**44,143**	**19,776**	**352,917**
Electronic version	72%	15%	61%	17%	65%
General health ("fair" or "poor")	11%	6%	2%	8%	10%
Medical/dental problems during deploy	45%	36%	15%	35%	40%
Currently on profile	14%	4%	2%	3%	12%
Mental health concerns	7%	3%	1%	3%	6%
Exposure concerns	26%	20%	8%	25%	23%
Health concerns	22%	21%	10%	22%	21%
Referral indicated	27%	19%	11%	23%	24%
Med. visit following referral[1]	89%	79%	57%	55%	85%
Post deployment serum[2]	94%	91%	70%	89%	91%

[1] Inpatient or outpatient visit within 6 months after referral.

[2] Only calculated for DD 2796 completed since 1 June 2003.

Editorial comment: Since January 2003, approximately 75% of U.S. servicemembers have assessed their overall health as "very good" or "excellent" when they are mobilized and/or prior to deploying overseas; and approximately 60% have assessed their overall health as "very good" or "excellent" at the end of their deployments. Most of the changes in assessments of overall health from pre- to post-deployment have been relatively minor (i.e., one category on a 5-category scale). Still, however, approximately one of nine post-deployers have indicated relatively significant declines (i.e., two or more categories) in their overall health from pre- to post-deployment. The findings are attributable at least in part to the extreme physical and psychological stresses associated with mobilization, overseas deployment, and harsh and dangerous living and working conditions.[14,15]

The deployment health assessment process is specifically designed to identify, assess, and follow-up as necessary all servicemembers with concerns regarding their health and/or deployment-related exposures. Overall, for example, approximately one-fifth of all returning soldiers had "referral indications" documented on post-deployment health assessments; and of those, most had documented outpatient visits and/or hospitalizations within 6 months after they returned.

Of interest, "exposure concerns" among post-deploying respondents significantly vary from month to month. Since the beginning of 2004, exposure concerns have been much more common among Reserve compared to active component members. Among both active and Reserve component members, exposure concerns significantly increase with age, and in both components, servicemembers older than 40 are approximately twice as likely as those younger than 20 to report exposure concerns.

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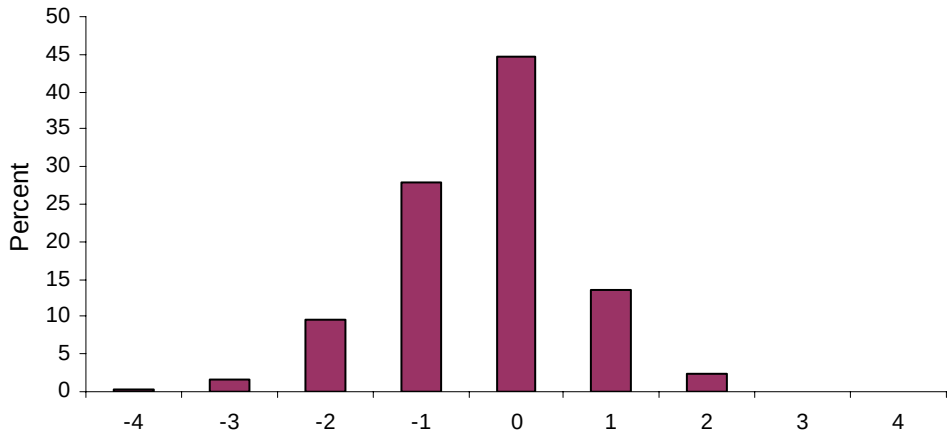
4. Hyams KC, Riddle J, Trump DH, Wallace MR. Protecting the health of United States military forces in Afghanistan: applying lessons learned since the Gulf War. *Clin Infect Dis.* 2002 Jun 15;34(Suppl 5):S208-14.

Figure 3. Distribution of changes in self-assessed health statuses as reported on pre- and post-deployment forms, U.S. Armed Forces, January 2003-May 2006.



Change in self-assessment of overall health status, pre- to post-deployment, calculated as: post deployment response - pre-deployment response, using the following scale for health status: 1="poor"; 2="fair"; 3="good"; 4="very good"; and 5="excellent".

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Table 3. Reports of exposure concerns on post-deployment health assessments, U.S. Armed Forces, January 2003-May 2006

	Total[1]	Exposure concerns	% with exposure concerns
Total	**938,149**	**148,886**	**15.9**
Component			
Active	584,802	67,828	11.5
Reserve	349,880	81,058	23.2
Service			
Army	550,429	118,083	21.5
Navy	115,814	7,942	6.8
Air Force	162,390	8,579	5.3
Marine Corps	106,049	14,282	13.2
Age (years)			
<20	24,279	1,938	8.0
20-29	495,262	65,390	13.1
30-39	258,694	45,872	17.7
>39	156,427	35,686	22.8
Gender			
Men	829,690	130,504	15.7
Women	104,988	18,382	17.5
Race/ethnicity			
Black non-Hispanic	161,337	27,845	17.2
Hispanic	91,501	15,955	17.2
Other	2,297	239	10.3
White non-Hispanic	613,312	94,359	15.3
Grade			
Enlisted	814,341	128,338	15.7
Officer	120,328	20,548	17.0

[1]Totals do not include non-responses/missing data.

Figure 4. Proportion of post-deployment forms that include reports of exposure concerns, U.S. Armed Forces, January 2003-May 2006.

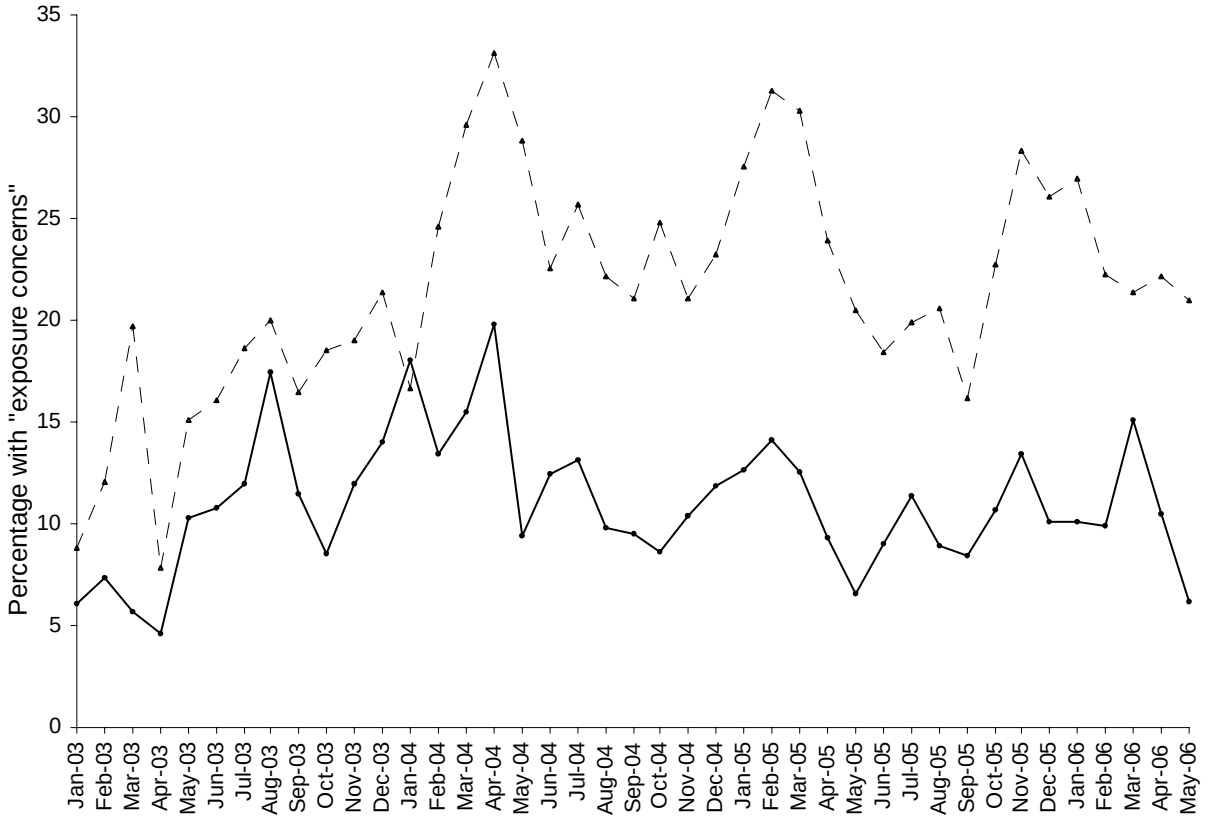


Table 4. Proportion of post-deployment forms that include reports of exposure concerns, by age group and component, U.S. Armed Forces, January 2003-May 2006

Age group	Active	Reserve
<20	6.4	13.9
20-29	10.5	20.4
30-39	13.2	24.0
>39	15.9	26.2

Sentinel reportable events for all beneficiaries[1] at U.S. Army medical facilities, cumulative numbers[2] for calendar years through May 31, 2005 and 2006

Reporting location	Number of reports all events[3]		Food-borne								Vaccine Preventable					
			Campylo-bacter		Giardia		Salmonella		Shigella		Hepatitis A		Hepatitis B		Varicella	
	2005	2006	2005	2006	2005	2006	2005	2006	2005	2006	2005	2006	2005	2006	2005	2006
NORTH ATLANTIC																
Washington, DC Area	251	130	2	4	4	.	2	2	2	.	.	.	2	.	1	.
Aberdeen, MD	50	11	.	.	.	.	.	.	1	.	.	.	.	.	.	.
FT Belvoir, VA	200	176	4	5	.	.	3	3	.	1	.	.	.	.	.	.
FT Bragg, NC	749	668	3	5	.	.	4	6	.	.	.	.	.	.	.	.
FT Drum, NY	104	95	.	.	.	.	.	.	.	.	.	.	.	.	.	.
FT Eustis, VA	145	92	.	.	.	.	1	.	.	.	.	.	.	.	.	.
FT Knox, KY	118	97	.	.	.	.	2	.	.	.	.	.	.	.	.	.
FT Lee, VA	86	183	.	.	.	.	.	.	.	.	.	.	.	.	.	.
FT Meade, MD	50	52	.	.	.	.	.	.	.	.	.	.	.	.	1	.
West Point, NY	25	18	.	.	.	.	.	1	.	.	.	.	.	.	.	.
GREAT PLAINS																
FT Sam Houston, TX	231	206	.	.	.	.	2	.	1	.	.	1	3	1	.	.
FT Bliss, TX	226	275	1	.	3	2	1	1	3	1	.	1	.	.	.	.
FT Carson, CO	387	361	2	.	2	.	.	3	.	.	.	1	.	.	.	.
FT Hood, TX	1,053	772	2	.	.	1	.	3	3	2	.	.	.	.	.	1
FT Huachuca, AZ	31	22	.	.	.	.	.	.	.	.	.	.	.	.	.	.
FT Leavenworth, KS	15	15	.	.	.	.	1	.	.	.	.	.	.	.	.	.
FT Leonard Wood, MO	174	130	.	.	.	1	.	1	.	.	.	.	.	.	2	6
FT Polk, LA	99	88	.	2	1	.	1	.	.	.	.	2	.	.	.	.
FT Riley, KS	136	154	.	1	1	.	.	.	.	.	.	.	.	.	.	.
FT Sill, OK	67	100	.	.	.	.	.	1	1	.	.	.	.	.	.	1
SOUTHEAST																
FT Gordon, GA	169	222	.	.	.	.	.	.	.	.	.	.	3	9	.	.
FT Benning, GA	113	175	.	2	.	1	3	2	2	.	.	.	.	.	.	.
FT Campbell, KY	517	267	.	.	.	.	2	.	2	.	.	.	.	.	1	.
FT Jackson, SC	73	118	.	.	.	.	.	.	.	.	2	.	.	.	.	.
FT Rucker, AL	15	19	.	1	.	.	.	.	.	.	.	.	.	.	.	.
FT Stewart, GA	252	301	.	.	.	.	2	1	.	3	6	2	23	4	.	3
WESTERN																
FT Lewis, WA	290	285	2	.	.	.	1	.	.	.	.	.	.	.	.	1
FT Irwin, CA	36	37	.	.	.	.	.	.	.	.	.	.	.	.	.	.
FT Wainwright, AK	79	78	.	.	.	.	.	1	.	.	.	.	.	.	.	.
OTHER LOCATIONS																
Hawaii	349	415	11	11	3	.	5	7	.	1	.	.	.	.	.	.
Europe	823	367	9	4	.	.	6	4	.	.	2	1	2	1	2	1
Korea	223	217	.	.	.	.	.	.	.	.	.	.	1	2	.	2
Total	**7,136**	**6,146**	**36**	**35**	**14**	**5**	**36**	**36**	**15**	**8**	**10**	**8**	**34**	**17**	**7**	**15**

1. Includes active duty servicemembers, dependents, and retirees.

2. Events reported by June 7, 2005 and 2006.

3. Seventy events specified by Tri-Service Reportable Events, Version 1.0, July 2000.

Note: Completeness and timeliness of reporting vary by facility.

Source: Army Reportable Medical Events System.

(Cont'd) Sentinel reportable events for all beneficiaries[1] at U.S. Army medical facilities, cumulative numbers[2] for calendar years through May 31, 2005 and 2006

Reporting location	Arthropod-borne				Sexually Transmitted								Environmental			
	Lyme disease		Malaria		Chlamydia		Gonorrhea		Syphilis[4]		Urethritis[5]		Cold		Heat	
	2005	2006	2005	2006	2005	2006	2005	2006	2005	2006	2005	2006	2005	2006	2005	2006
NORTH ATLANTIC																
Washington, DC Area	.	.	1	2	83	64	15	10	6	1	.	1	1	.	.	.
Aberdeen, MD	.	.	.	.	15	8	2	1	1	.	.	.	.	.	.	.
FT Belvoir, VA	.	.	.	.	89	83	24	18	.	.	.	.	.	.	.	.
FT Bragg, NC	.	.	.	4	549	481	110	74	2	3	50	62	1	1	13	26
FT Drum, NY	.	.	.	.	52	81	4	14	.	.	.	.	2	.	.	.
FT Eustis, VA	.	.	.	.	79	63	17	20	.	.	.	.	2	.	.	1
FT Knox, KY	.	2	.	.	73	71	7	15	.	.	.	.	1	3	.	.
FT Lee, VA	1	.	.	.	71	132	13	24	.	.	.	.	1	.	.	.
FT Meade, MD	.	.	.	.	47	45	2	7	.	.	.	.	.	.	.	.
West Point, NY	3	.	.	.	16	11	.	.	.	.	.	.	1	1	.	.
GREAT PLAINS																
FT Sam Houston, TX	.	.	.	.	136	152	39	43	3	2	.	.	.	.	6	.
FT Bliss, TX	.	.	1	1	87	134	10	25	1	2	.	.	.	.	1	.
FT Carson, CO	.	.	1	.	240	218	31	46	.	.	11	18	1	.	.	.
FT Hood, TX	.	.	1	.	611	467	223	128	.	.	128	13	.	.	13	5
FT Huachuca, AZ	.	.	.	.	22	19	7	2	.	.	.	.	.	1	1	.
FT Leavenworth, KS	.	.	.	.	13	13	.	2	.	.	.	.	1	.	.	.
FT Leonard Wood, MO	.	.	.	.	92	84	23	8	.	.	1	.	4	.	2	1
FT Polk, LA	.	.	.	.	70	63	21	20	1	1	.	.	.	.	.	.
FT Riley, KS	.	1	.	.	70	131	26	12	.	.	.	.	5	.	1	.
FT Sill, OK	.	.	.	.	27	30	15	10	.	2	.	.	.	.	.	.
SOUTHEAST																
FT Gordon, GA	.	.	.	.	111	150	9	31	1	.	.	2	.	.	1	1
FT Benning, GA	.	.	1	.	74	132	24	32	.	.	.	.	1	.	6	1
FT Campbell, KY	1	.	.	.	359	178	69	27	.	.	.	.	1	.	10	.
FT Jackson, SC	.	.	.	.	55	106	12	12	.	.	.	.	.	.	.	.
FT Rucker, AL	.	.	.	.	8	17	7	1	.	.	.	.	.	.	.	.
FT Stewart, GA	.	1	.	.	129	198	52	66	.	1	8	8	.	1	6	3
WESTERN																
FT Lewis, WA	.	.	3	2	201	219	28	34	.	.	38	22	.	.	.	.
FT Irwin, CA	.	.	.	.	25	31	7	4	.	2	.	.	.	.	4	.
FT Wainwright, AK	.	.	1	5	53	42	7	7	1	.	.	.	13	16	.	.
OTHER LOCATIONS																
Hawaii	.	.	2	1	224	305	28	44	.	.	.	.	.	.	.	2
Europe	7	6	.	1	514	234	137	80	2	.	1	1	5	.	.	.
Korea	.	.	.	2	186	161	29	41	1	1	.	.	3	2	1	.
Total	**12**	**10**	**11**	**18**	**4,381**	**4,123**	**998**	**858**	**19**	**15**	**237**	**127**	**43**	**25**	**65**	**40**

4. Primary and secondary.

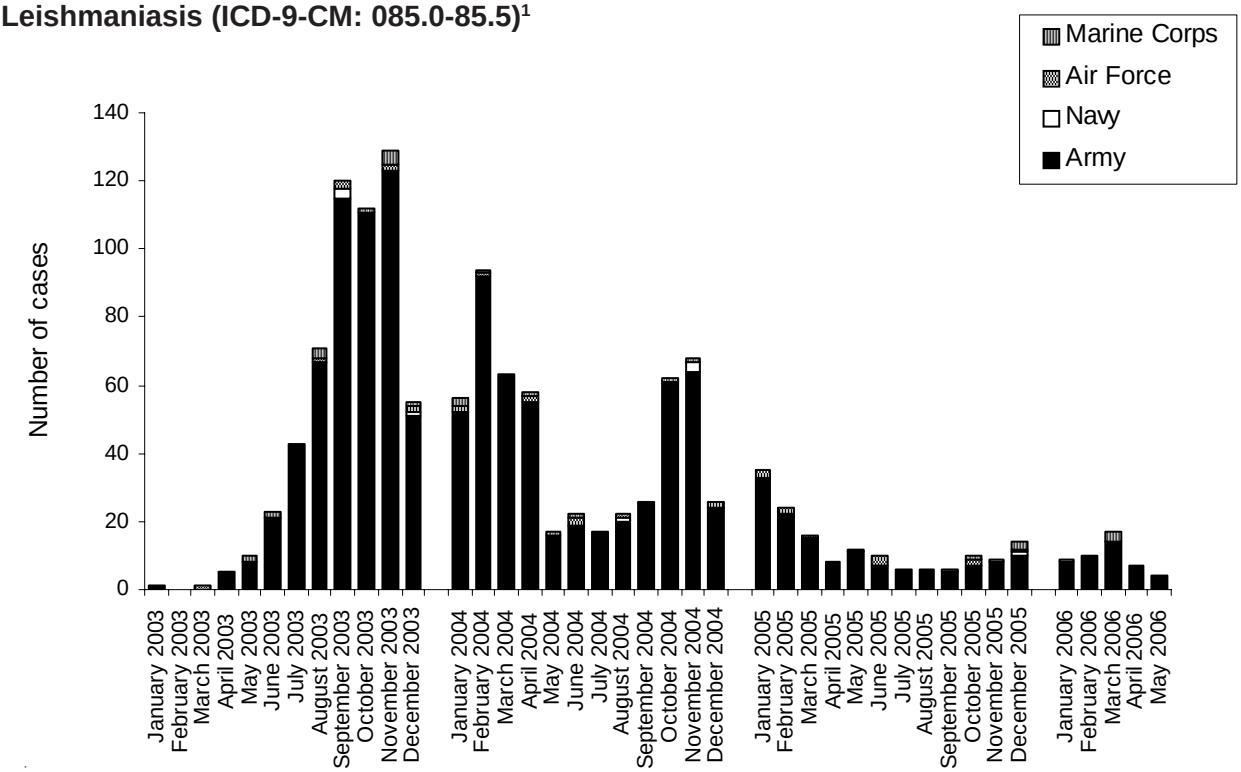
5. Urethritis, non-gonococcal (NGU).

Note: Completeness and timeliness of reporting vary by facility.

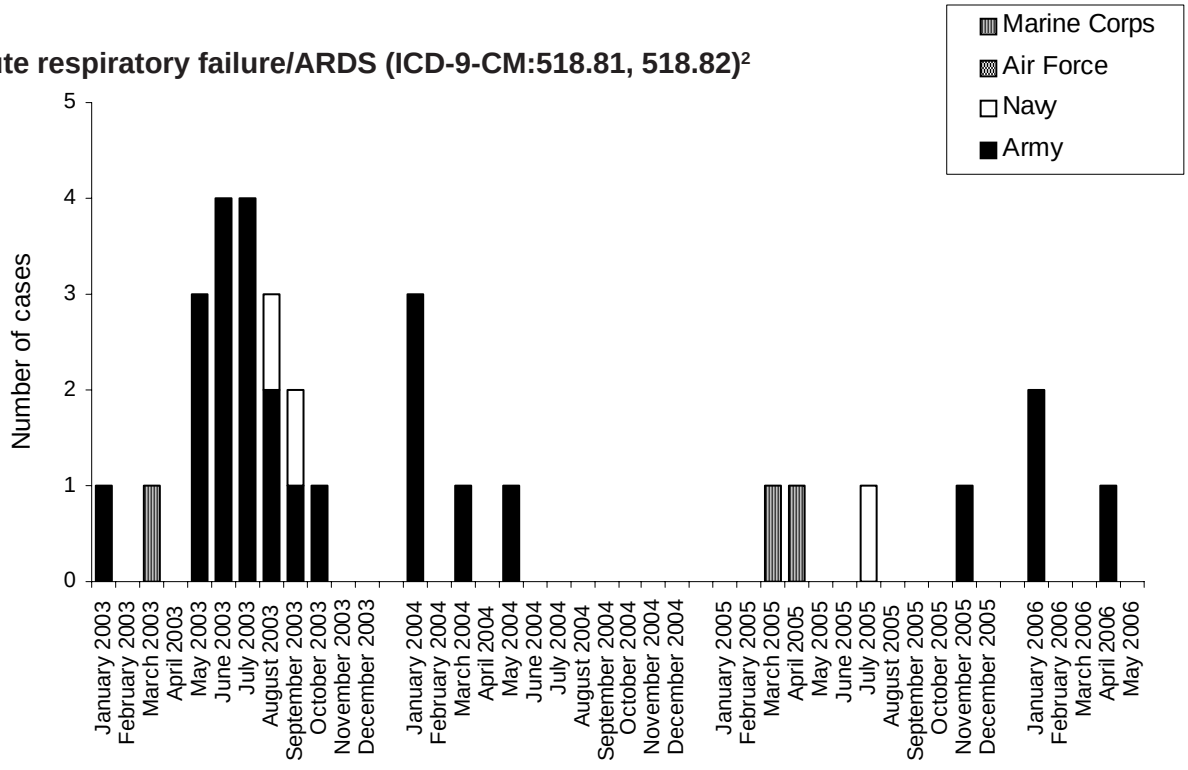
Source: Army Reportable Medical Events System.

Deployment related conditions of special surveillance interest, U.S. Armed Forces, by month and service, January 2003-May 2006

Leishmaniasis (ICD-9-CM: 085.0-85.5)[1]



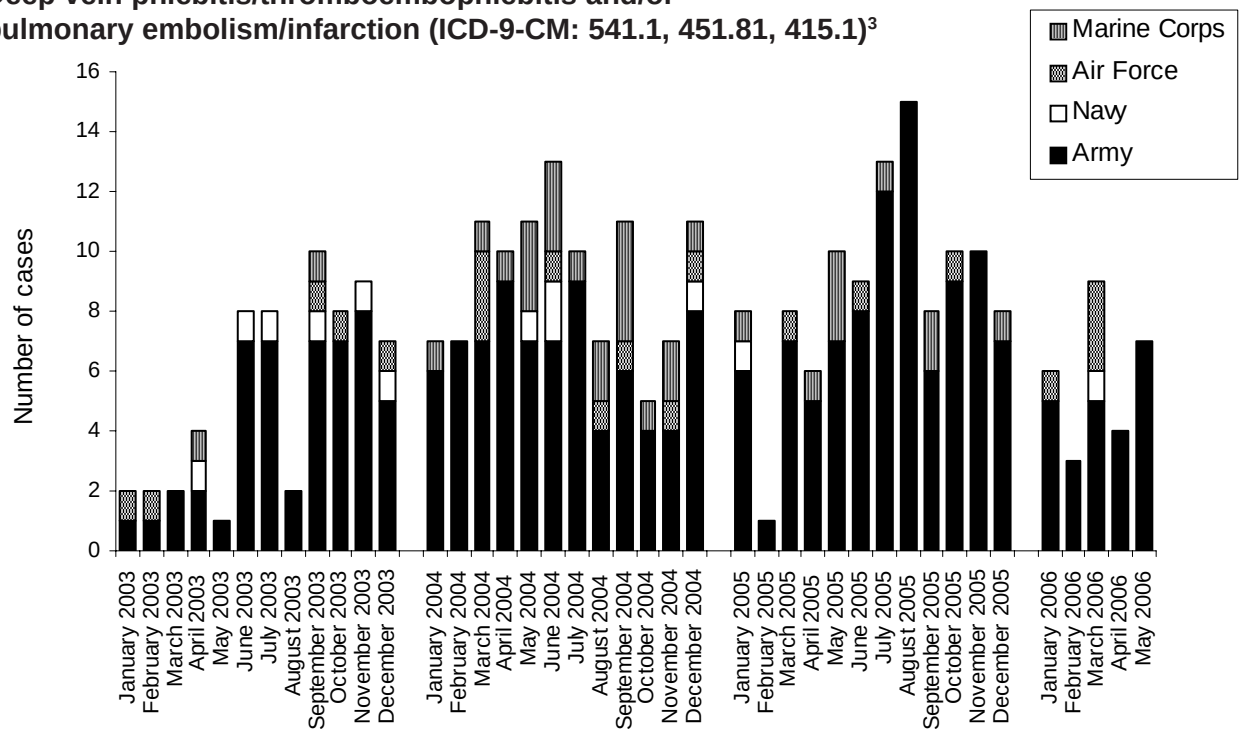
Acute respiratory failure/ARDS (ICD-9-CM:518.81, 518.82)[2]



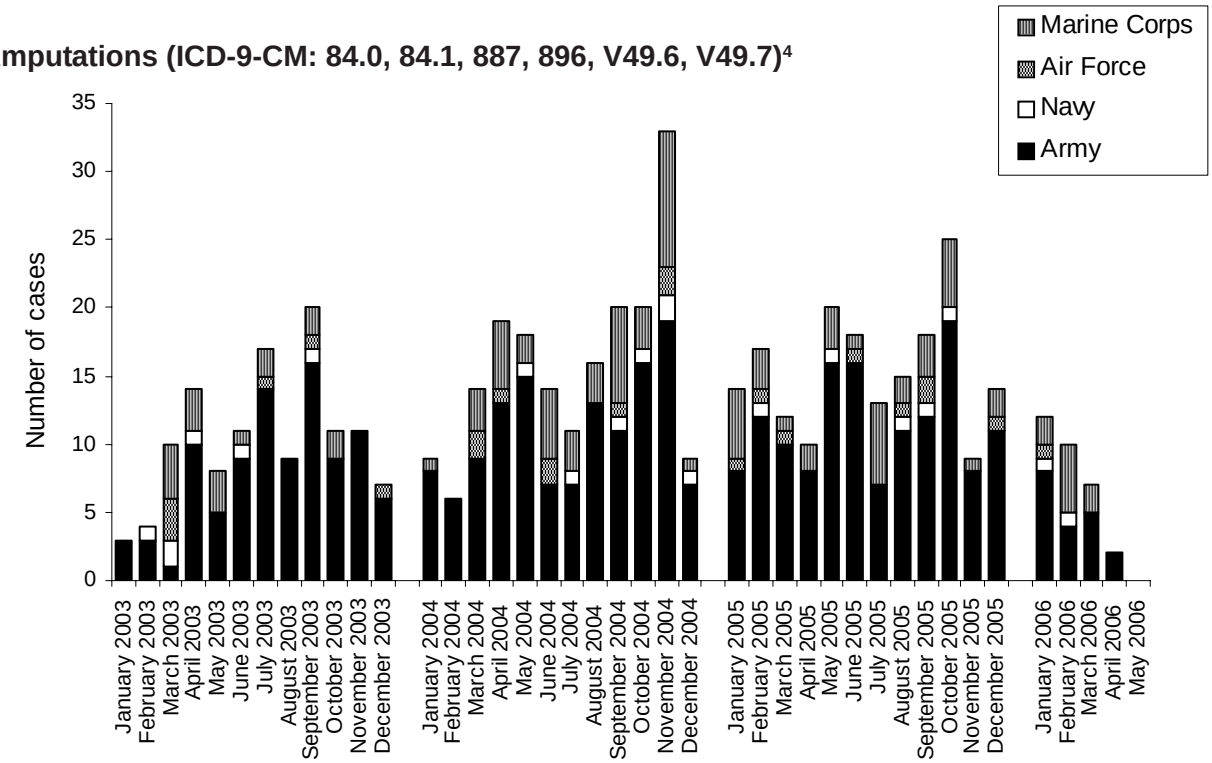
Footnotes:
[1] Indicator diagnosis (one per individual) during a hospitalization, ambulatory vist, and/or from a notifiable medical event during/after service in OEF/OIF.
[2] indicator diagnosis (one per individual) during a hospitalization while deployed to/within 30 days of returning from OEF/OIF.

(Con't.) Deployment related conditions of special surveillance interest, U.S. Armed Forces, by month and service, January 2003-May 2006

Deep vein phlebitis/thromboembophlebitis and/or pulmonary embolism/infarction (ICD-9-CM: 541.1, 451.81, 415.1)[3]



Amputations (ICD-9-CM: 84.0, 84.1, 887, 896, V49.6, V49.7)[4]



Footnotes:
[3] Indicator diagnosis (one per individual) during a hospitalization or ambulatory visit while deployed to/within 30 days of returning from OEF/OIF.
[4] Indicator diagnosis (one per individual) during a hospitalization of a servicemember during/after service in OEF/OIF.

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