



MSSMR



Medical Surveillance Monthly Report

Vol. 6 No. 4

April 2000

U
S
A
C
H
P
P
M

Contents

Summary of ambulatory visits, US Army, 1999 2

Summary of hospitalizations, US Army, 1999 8

Summary of reportable events, US Army, 1999 15

Sentinel reportable events by reporting facility 18

Sentinel reportable events, active duty soldiers 20

Acute respiratory disease surveillance update 21

Force strength, US Army, December 1999 22

Data in the MSSMR are provisional, based on reports and other sources of data available to the Army Medical Surveillance Activity (AMSA). Notifiable events are reported by date of onset (or date of notification when date of onset is absent). Only cases submitted as confirmed are included.

Current and past issues of the MSSMR may be viewed online at: <http://amsa.army.mil>

Report Documentation Page

Form Approved
OMB No. 0704-0188

Public reporting burden for the collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to a penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.

1. REPORT DATE APR 2000	2. REPORT TYPE	3. DATES COVERED 00-00-2000 to 00-00-2000			
4. TITLE AND SUBTITLE Medical Surveillance Monthly Report (MSMR). Volume 6, Number 4, April 2000		5a. CONTRACT NUMBER			
		5b. GRANT NUMBER			
		5c. PROGRAM ELEMENT NUMBER			
6. AUTHOR(S)		5d. PROJECT NUMBER			
		5e. TASK NUMBER			
		5f. WORK UNIT NUMBER			
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) U.S. Army Center for Health Promotion and Preventive Medicine, Armed Forces Health Surveillance Center (AFHSC), 2900 Linden Lane, Suite 200, Silver Spring, MD, 20910		8. PERFORMING ORGANIZATION REPORT NUMBER			
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)		10. SPONSOR/MONITOR'S ACRONYM(S)			
		11. SPONSOR/MONITOR'S REPORT NUMBER(S)			
12. DISTRIBUTION/AVAILABILITY STATEMENT Approved for public release; distribution unlimited					
13. SUPPLEMENTARY NOTES					
14. ABSTRACT					
15. SUBJECT TERMS					
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT Same as Report (SAR)	18. NUMBER OF PAGES 24	19a. NAME OF RESPONSIBLE PERSON
a. REPORT unclassified	b. ABSTRACT unclassified	c. THIS PAGE unclassified			

Surveillance Trends

Summary of Ambulatory Visits, US Army, 1999

This report summarizes frequencies, rates, trends, and the nature of ambulatory visits of active duty soldiers during 1999.

Methods. Data were derived from the Defense Medical Surveillance System (DMSS), which contains records of ambulatory visits of US servicemembers at fixed military medical treatment facilities since 1997. For each visit, up to four diagnoses are coded using the *International Classification of Diseases, 9th revision, clinical modification* (ICD-9-CM). For this summary, illnesses and injuries were grouped based on the first three digits of the ICD-9-CM codes of the primary diagnoses. Ambulatory visits for "factors influencing health status and contact with health services" (codes V01-V82) were excluded.

Results. During 1999, there were 2,114,602 ambulatory visits of active duty soldiers. The crude overall rate was 4,513.6 per 1,000 person-years. The crude rate among females was slightly higher than the rate among males (table 1). Among both males and females, the youngest (< 20 yrs) and oldest (>= 40 yrs) age groups had the highest ambulatory visit rates (table 1).

Musculoskeletal disorders, which were the most frequently reported diagnoses, accounted for nearly one-third (n=631,204, 29.9%) of all ambulatory

visits of soldiers (table 1). Injuries and poisonings (n= 327,535) and respiratory disorders (n=195,997) were the next most frequently reported categories. Mental disorders (n=194,522) declined from the second most frequently reported category in 1998 to the fourth highest category in 1999 (figure 2, table 1).

Among males, musculoskeletal disorders (30.6%) and injuries and poisonings (17.1%) accounted for nearly half of all ambulatory visits. Other and unspecified disorders of joints (ICD-9-CM code 719) and of the back (ICD-9 code 724) accounted for nearly half of all musculoskeletal visits of male soldiers (table 3).

Among females, there were more visits for musculoskeletal disorders (27.7%) and injuries and poisonings (11.2%) than any other categories of diagnoses (table 1). Other and unspecified disorders of the back (ICD-9 code 724) and of joints (ICD-9-CM code 719) accounted for 45.4% of all musculoskeletal visits of female soldiers (table 3).

Editorial comment. The ambulatory visit experience of 1999 documents that musculoskeletal disorders and injuries remain the leading causes of outpatient morbidity among male and female soldiers. Prevention, treatment, rehabilitation, and research resources should be focused in these areas.

Executive Editor

COL Robert F. DeFraitas, MD, MPH

Senior Editor

LTC Mark V. Rubertone, MD, MPH

Editor

John F. Brundage, MD, MPH

Managing Editor

Kimmie F. Kohlhasse, MS

Assistant Managing Editor

Yvette E. Smith

The Medical Surveillance Monthly Report is prepared by the Army Medical Surveillance Activity, Directorate of Epidemiology and Disease Surveillance, United States Army Center for Health Promotion and Preventive Medicine (USACHPPM).

Inquiries regarding content or material to be considered for publication should be directed to the editor, Army Medical Surveillance Activity, Bldg. T-20, Rm 213, 6825 16th St., NW, Washington DC, 20307-5000. E-mail: editor@amsa.army.mil

To be added to the mailing list, contact the Army Medical Surveillance Activity @ (202) 782-0471, DSN 662-0471. E-mail: msmr@amsa.army.mil

Views and opinions expressed are not necessarily those of the Department of the Army.

Figure 1. Ambulatory visit rates, active duty soldiers, 1997-1999

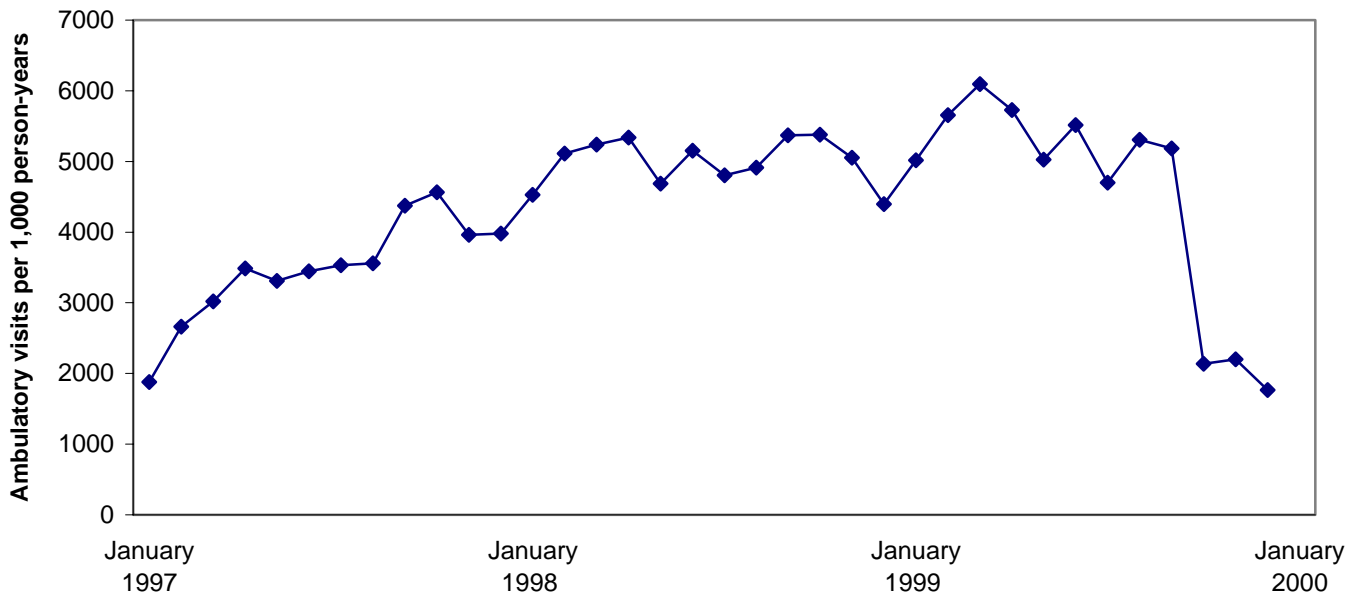


Figure 2. Ambulatory visit rates, by major diagnostic category, active duty soldiers, 1997-1999

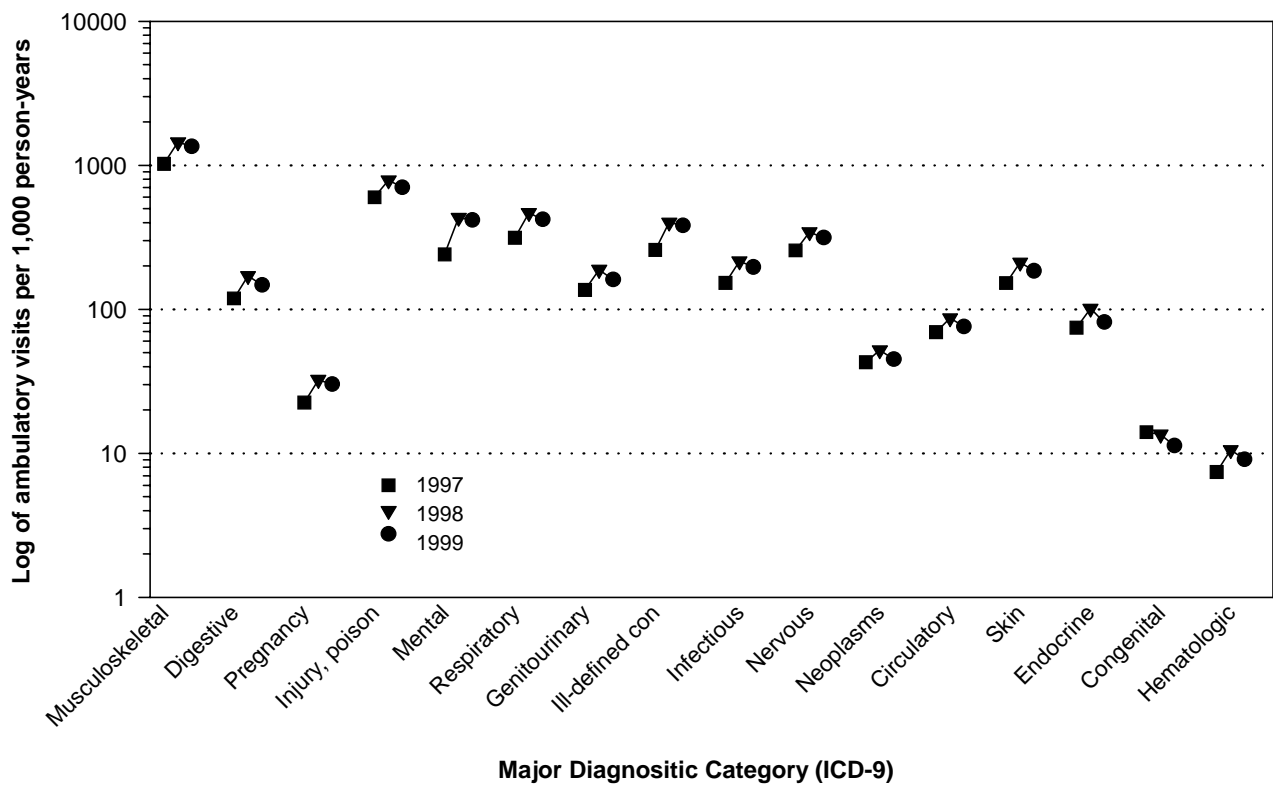


Table 1. Ambulatory visits, by gender and age group, active duty soldiers, 1999

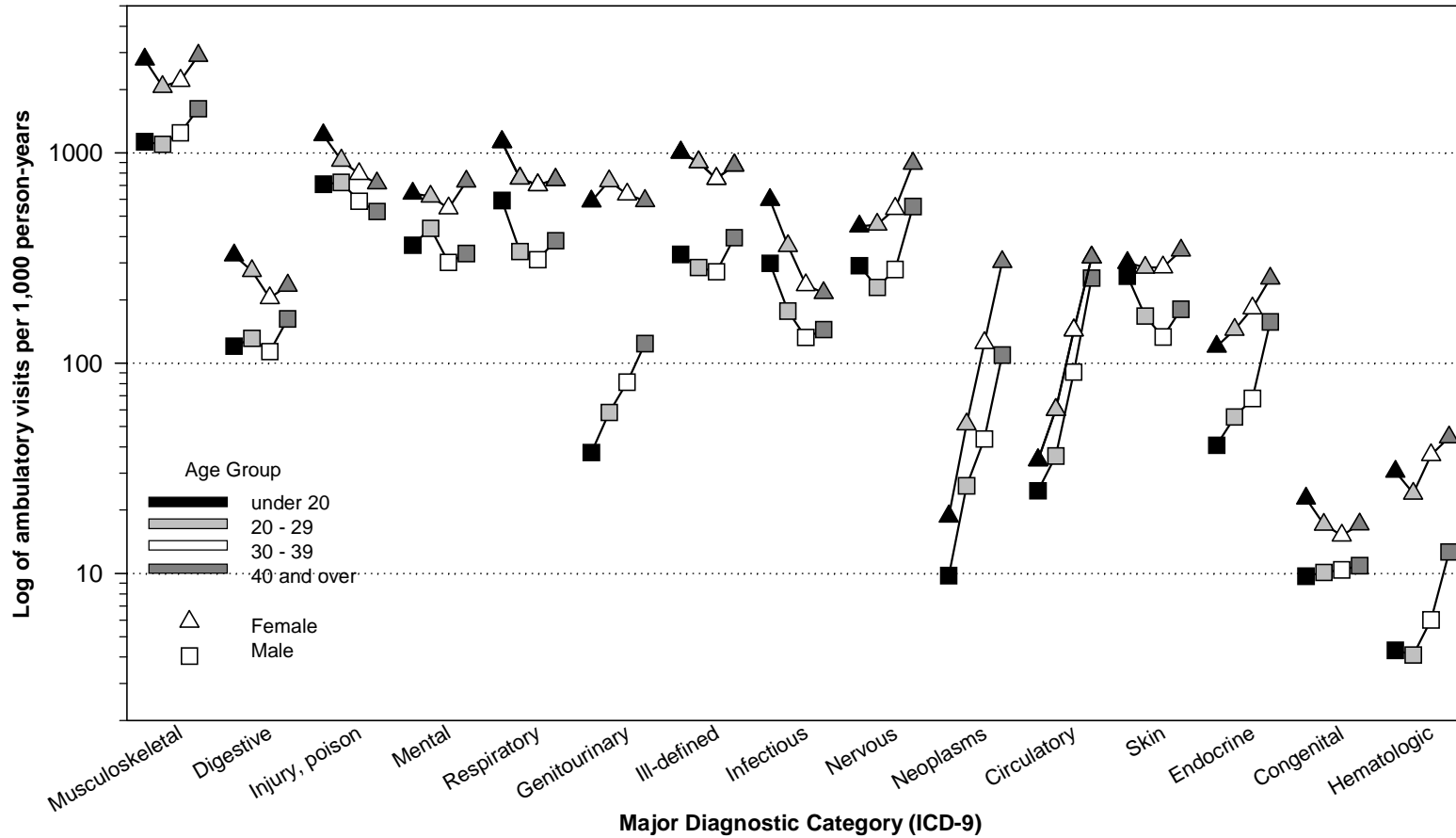
ICD-9	Males							Females							Total
	< 20	20-24	25-29	30-34	35-39	>=40	Total	< 20	20-24	25-29	30-34	35-39	>=40	Total	
Infectious	9,896	22,948	14,203	9,114	6,726	5,236	68,123	4,265	9,006	5,098	2,518	1,731	1,145	23,763	91,886
Neoplasms	324	2,490	2,997	2,574	2,640	3,965	14,990	133	1,001	1,002	968	1,286	1,610	6,000	20,990
Endocrine	1,349	6,571	5,077	3,707	4,414	5,694	26,812	853	3,173	2,457	1,721	1,569	1,341	11,114	37,926
Hematologic	143	438	423	292	427	459	2,182	217	520	417	282	379	236	2,051	4,233
Mental	12,068	59,059	32,813	20,286	15,703	12,037	151,966	4,568	15,338	8,915	5,547	4,303	3,885	42,556	194,522
Nervous	9,645	26,397	21,631	16,623	16,748	20,154	111,198	3,185	9,925	7,858	5,377	4,432	4,723	35,500	146,698
Circulatory	819	3,611	3,986	4,282	6,543	9,215	28,456	246	1,154	1,193	1,255	1,331	1,690	6,869	35,325
Respiratory	19,690	42,972	28,312	20,356	16,675	13,856	141,861	8,014	17,852	11,603	7,350	5,364	3,953	54,136	195,997
Digestive	3,991	16,337	11,184	7,235	6,320	5,891	50,958	2,319	6,780	3,950	2,174	1,514	1,243	17,980	68,938
Genitourinary	1,247	6,302	5,918	4,989	4,722	4,497	27,675	4,191	17,074	11,587	6,710	4,763	3,140	47,465	75,140
Pregnancy	-	-	-	-	-	-	-	1,003	6,459	3,606	1,796	878	154	13,896	14,112
Skin	8,588	21,852	13,323	8,600	7,306	6,546	66,215	2,137	6,621	4,502	2,954	2,209	1,824	20,247	86,462
Musculoskeletal	37,443	129,847	100,628	75,886	72,896	58,856	475,556	19,828	47,476	33,049	21,879	18,010	15,406	155,648	631,204
Congenital	322	1,256	866	559	684	395	4,082	162	395	272	154	120	91	1,194	5,276
Ill-defined	10,911	35,339	24,534	17,332	15,210	14,350	117,676	7,137	21,917	13,376	7,844	5,774	4,634	60,682	178,358
Injury	23,523	88,034	63,740	40,488	29,934	19,076	264,795	8,660	21,590	14,323	8,540	5,822	3,805	62,740	327,535
Total	139,959	463,453	329,635	232,323	206,948	180,227	1,552,545	66,918	186,281	123,208	77,069	59,485	48,880	561,841	2,114,602

Table 2. Ambulatory visit rates, by gender and age group, active duty soldiers, 1999¹

ICD-9	Males							Females							Total
	< 20	20-24	25-29	30-34	35-39	>=40	Total	< 20	20-24	25-29	30-34	35-39	>=40	Total	
Infectious	298.4	192.1	156.9	136.4	127.6	144.3	170.8	598.6	396.6	312.2	245.5	221.4	215.6	341.7	196.1
Neoplasms	9.8	20.8	33.1	38.5	50.1	109.3	37.6	18.7	44.1	61.4	94.4	164.5	303.1	86.3	44.8
Endocrine	40.7	55.0	56.1	55.5	83.8	156.9	67.2	119.7	139.7	150.5	167.8	200.7	252.5	159.8	81.0
Hematologic	4.3	3.7	4.7	4.4	8.1	12.7	5.5	30.5	22.9	25.5	27.5	48.5	44.4	29.5	9.0
Mental	363.9	494.4	362.5	303.5	298.0	331.8	380.9	641.1	675.4	546.0	540.9	550.4	731.5	611.9	415.2
Nervous	290.8	221.0	239.0	248.7	317.8	555.5	278.7	447.0	437.1	481.3	524.3	566.9	889.3	510.5	313.1
Circulatory	24.7	30.2	44.0	64.1	124.2	254.0	71.3	34.5	50.8	73.1	122.4	170.2	318.2	98.8	75.4
Respiratory	593.7	359.7	312.8	304.6	316.4	381.9	355.6	1,124.8	786.1	710.7	716.7	686.1	744.3	778.4	418.4
Digestive	120.3	136.8	123.6	108.2	119.9	162.4	127.7	325.5	298.6	241.9	212.0	193.7	234.0	258.5	147.1
Genitourinary	37.6	52.8	65.4	74.6	89.6	124.0	69.4	588.2	751.9	709.7	654.3	609.2	591.2	682.5	160.4
Pregnancy	-	-	-	-	-	-	-	140.8	284.4	220.9	175.1	112.3	29.0	199.8	30.1
Skin	259.0	182.9	147.2	128.7	138.6	180.4	166.0	299.9	291.6	275.7	288.0	282.6	343.4	291.1	184.6
Musculoskeletal	1,129.0	1,087.0	1,111.8	1,135.4	1,383.3	1,622.3	1,192.0	2,782.9	2,090.6	2,024.2	2,133.3	2,303.7	2,900.8	2,238.1	1,347.3
Congenital	9.7	10.5	9.6	8.4	13.0	10.9	10.2	22.7	17.4	16.7	15.0	15.3	17.1	17.2	11.3
Ill-defined	329.0	295.8	271.1	259.3	288.6	395.5	295.0	1,001.7	965.1	819.3	764.8	738.6	872.5	872.5	380.7
Injury	709.3	737.0	704.2	605.8	568.0	525.8	663.7	1,215.4	950.7	877.3	832.7	744.7	716.4	902.1	699.1
Total	4,220.2	3,879.7	3,641.9	3,475.9	3,927.0	4,967.7	3,891.6	9,392.0	8,203.0	7,546.3	7,514.5	7,608.7	9,203.5	8,078.7	4,513.6

1. Rates were calculated per 1,000 person-years.

Figure 3. Ambulatory visit rates, by major diagnostic category, gender, and age group, active duty soldiers, 1999



*Excludes pregnancy-related visits.

Table 3. Top five ambulatory visit diagnoses by major diagnostic category and gender, active duty soldiers, 1999

Male			Female		
Infectious and parasitic diseases (ICD9 001 - 139)			Infectious and parasitic diseases (ICD9 001 - 139)		
	N	%		N	%
079 Viral and chlamydial infection	25,143	39.5	079 Viral and chlamydial infection	10,405	46.7
078 Other diseases due to viruses and chlamydiae	12,981	20.4	078 Other diseases due to viruses and chlamydiae	3,163	14.2
110 Dermatophytosis	6,769	10.6	112 Candidiasis	1,523	6.8
099 Other venereal diseases	3,273	5.1	110 Dermatophytosis	1,324	5.9
034 Streptococcal sore throat and scarlet fever	1,789	2.8	054 Herpes simplex	933	4.2
ALL	63,610		ALL	22,303	
Neoplasms (ICD9 140 - 239)			Neoplasms (ICD9 140 - 239)		
	N	%		N	%
216 Benign neoplasm of skin	3,307	22.2	216 Benign neoplasm of skin	1,110	18.4
214 Lipoma	2,235	15.0	174 Malignant neoplasm of female breast	974	16.2
186 Malignant neoplasm of testis	888	6.0	218 Uterine leiomyoma	944	15.7
239 Neoplasms of unspecified nature	859	5.8	214 Lipoma	386	6.4
238 Neoplasm of uncertain behavior	771	5.2	239 Neoplasms of unspecified nature	309	5.1
ALL	14,915		ALL	6,018	
Endocrine, nutrition, immunity (ICD9 240 - 279)			Endocrine, nutrition, immunity (ICD9 240 - 279)		
	N	%		N	%
278 Obesity and other hyperalimentation	10,079	38.1	278 Obesity and other hyperalimentation	4,280	39.0
272 Disorders of lipid metabolism	5,799	21.9	276 Disorders of fluid and electrolyte balance	1,796	16.4
276 Disorders of fluid and electrolyte balance	3,323	12.5	244 Acquired hypothyroidism	1,259	11.5
250 Diabetes mellitus	3,031	11.4	272 Disorders of lipid metabolism	912	8.3
244 Acquired hypothyroidism	1,209	4.6	242 Thyrotoxicosis with or without goiter	785	7.2
ALL	26,483		ALL	10,963	
Hematologic disorders (ICD9 280 - 289)			Hematologic disorders (ICD9 280 - 289)		
	N	%		N	%
285 Other and unspecified anemias	1,067	50.0	285 Other and unspecified anemias	1,127	57.1
289 Other diseases of blood and blood-forming organs	274	12.8	280 Iron deficiency anemias	338	17.1
287 Purpura and other hemorrhagic conditions	191	8.9	286 Coagulation defects	139	7.0
286 Coagulation defects	159	7.4	289 Other diseases of blood and blood-forming organs	123	6.2
288 Diseases of white blood cells	130	6.1	287 Purpura and other hemorrhagic conditions	106	5.4
ALL	2,136		ALL	1,974	
Mental disorders (ICD9 290 - 319)			Mental disorders (ICD9 290 - 319)		
	N	%		N	%
305 Nondependent abuse of drugs	41,908	27.9	309 Adjustment reaction	9,822	23.6
303 Alcohol dependence syndrome	37,835	25.2	296 Affective psychoses	7,039	16.9
309 Adjustment reaction	18,492	12.3	305 Nondependent abuse of drugs	4,713	11.3
296 Affective psychoses	12,537	8.4	303 Alcohol dependence syndrome	4,535	10.9
300 Neurotic disorders	9,503	6.3	311 Depressive disorder, not elsewhere classified	4,289	10.3
ALL	150,067		ALL	41,538	
Nervous system (ICD9 320 - 389)			Nervous system (ICD9 320 - 389)		
	N	%		N	%
367 Disorders of refraction and accommodation	38,543	36.7	367 Disorders of refraction and accommodation	10,968	32.2
372 Disorders of conjunctiva	9,274	8.8	346 Migraine	4,744	13.9
389 Hearing loss	8,577	8.2	372 Disorders of conjunctiva	3,102	9.1
382 Suppurative and unspecified otitis media	6,279	6.0	354 Mononeuritis of upper limb and mononeuritis multiplex	2,364	6.9
346 Migraine	4,813	4.6	382 Suppurative and unspecified otitis media	2,079	6.1
ALL	105,021		ALL	34,071	
Circulatory system (ICD9 390 - 459)			Circulatory system (ICD9 390 - 459)		
	N	%		N	%
401 Essential hypertension	14,283	50.8	401 Essential hypertension	2,878	42.2
455 Hemorrhoids	3,577	12.7	455 Hemorrhoids	881	12.9
429 Ill-defined descriptions and complications of heart	1,393	5.0	435 Transient cerebral ischemia	468	6.9
435 Transient cerebral ischemia	1,356	4.8	454 Varicose veins of lower extremities	440	6.4
427 Cardiac dysrhythmias	1,297	4.6	427 Cardiac dysrhythmias	418	6.1
ALL	28,137		ALL	6,825	
Respiratory system (ICD9 460 - 519)			Respiratory system (ICD9 460 - 519)		
	N	%		N	%
465 Acute upper respiratory infections	38,587	28.7	465 Acute upper respiratory infections	15,077	29.1
477 Allergic rhinitis	17,156	12.8	477 Allergic rhinitis	7,433	14.3
462 Acute pharyngitis	17,070	12.7	462 Acute pharyngitis	6,267	12.1
461 Acute sinusitis	11,072	8.2	493 Asthma	5,059	9.8
493 Asthma	10,898	8.1	461 Acute sinusitis	4,724	9.1
ALL	134,516		ALL	51,836	

Table 3. Top five ambulatory visit diagnoses by major diagnostic category and gender, active duty soldiers, 1999 (continued)

Male			Female		
Digestive system (ICD9 520 - 579)			Digestive system (ICD9 520 - 579)		
	N	%		N	%
558 Other noninfectious gastroenteritis and colitis	20,439	40.7	558 Other noninfectious gastroenteritis and colitis	8,885	50.6
530 Diseases of esophagus	6,737	13.4	564 Functional digestive disorders	1,456	8.3
550 Inguinal hernia	4,170	8.3	530 Diseases of esophagus	1,444	8.2
535 Gastritis and duodenitis	3,017	6.0	535 Gastritis and duodenitis	1,368	7.8
564 Functional digestive disorders	1,615	3.2	536 Disorders of function of stomach	689	3.9
ALL	50,208		ALL	17,545	
Genitourinary system (ICD9 580 - 629)			Genitourinary system (ICD9 580 - 629)		
	N	%		N	%
599 Other disorders of urethra and urinary tract	6,130	22.4	599 Other disorders of urethra and urinary tract	10,263	21.9
608 Other disorders of male genital organs	3,153	11.5	616 Inflammatory disease of cervix	7,949	16.9
592 Calculus of kidney and ureter	2,973	10.9	625 Pain associated with female genital organs	6,928	14.8
604 Orchitis and epididymitis	2,826	10.3	626 Disorders of menstruation	4,954	10.6
606 Infertility, male	2,356	8.6	611 Other disorders of breast	3,859	8.2
ALL	27,309		ALL	46,913	
Pregnancy complications (ICD9 630 - 679)			Pregnancy complications (ICD9 630 - 679)		
	N	%		N	%
-	-	-	644 Early or threatened labor	2,498	18.0
-	-	-	640 Hemorrhage in early pregnancy	2,058	14.9
-	-	-	648 Other conds in the mother complicat. pregnancy	1,242	9.0
-	-	-	646 Other complications of pregnancy, NEC	1,183	8.5
-	-	-	634 Spontaneous abortion	911	6.6
-	-	-	ALL	13,858	
Skin diseases (ICD9 680 - 709)			Skin diseases (ICD9 680 - 709)		
	N	%		N	%
692 Contact dermatitis and other eczema	15,725	25.1	692 Contact dermatitis and other eczema	4,784	24.4
706 Diseases of sebaceous glands	7,817	12.5	706 Diseases of sebaceous glands	3,424	17.5
704 Diseases of hair and hair follicles	7,205	11.5	709 Other disorders of skin and subcutaneous tissue	2,233	11.4
682 Other cellulitis and abscess	6,921	11.0	682 Other cellulitis and abscess	1,588	8.1
709 Other disorders of skin and subcutaneous tissue	5,988	9.5	703 Diseases of nail	1,336	6.8
ALL	62,758		ALL	19,577	
Musculoskeletal system (ICD9 710 - 739)			Musculoskeletal system (ICD9 710 - 739)		
	N	%		N	%
719 Other and unspecified disorders of joint	111,422	24.0	724 Other and unspecified disorders of back	34,765	23.1
724 Other and unspecified disorders of back	110,466	23.8	719 Other and unspecified disorders of joint	33,501	22.3
726 Peripheral enthesopathies and allied syndromes	56,335	12.1	729 Other disorders of soft tissues	20,312	13.5
729 Other disorders of soft tissues	55,041	11.8	726 Peripheral enthesopathies and allied syndromes	15,670	10.4
717 Internal derangement of knee	24,185	5.2	733 Other disorders of bone and cartilage	7,066	4.7
ALL	464,905		ALL	150,407	
Congenital anomalies (ICD9 740 - 759)			Congenital anomalies (ICD9 740 - 759)		
	N	%		N	%
756 Other congenital musculoskeletal anomalies	1,230	30.9	754 Certain congenital musculoskeletal deformities	449	38.7
754 Certain congenital musculoskeletal deformities	1,155	29.0	756 Other congenital musculoskeletal anomalies	199	17.1
755 Other congenital anomalies of limbs	636	16.0	755 Other congenital anomalies of limbs	160	13.8
752 Congenital anomalies of genital organs	148	3.7	757 Congenital anomalies of the integument	108	9.3
757 Congenital anomalies of the integument	142	3.6	753 Congenital anomalies of urinary system	37	3.2
ALL	3,979		ALL	1,161	
Ill-defined conditions (ICD9 780 - 799)			Ill-defined conditions (ICD9 780 - 799)		
	N	%		N	%
786 Symptoms involving respiratory system and chest	18,485	16.1	789 Other symptoms involving abdomen and pelvis	14,200	24.0
784 Symptoms involving head and neck	15,933	13.9	784 Symptoms involving head and neck	9,930	16.8
799 Other ill-defined causes of morbidity and mortality	15,594	13.6	795 Nonspecific abnormal histology	6,069	10.2
782 Symptoms involving skin	15,062	13.2	782 Symptoms involving skin	5,519	9.3
789 Other symptoms involving abdomen and pelvis	14,717	12.9	780 General symptoms	5,262	8.9
ALL	114,524		ALL	59,257	
Injury and poisoning (ICD9 800 - 999)			Injury and poisoning (ICD9 800 - 999)		
	N	%		N	%
844 Sprains and strains of knee and leg	34,407	13.3	844 Sprains and strains of knee and leg	8,625	14.3
845 Sprains and strains of ankle and foot	31,997	12.4	845 Sprains and strains of ankle and foot	7,740	12.8
848 Other and ill-defined sprains and strains	24,724	9.6	848 Other and ill-defined sprains and strains	6,946	11.5
847 Sprains/strains of other/unspecified parts of back	13,669	5.3	995 Certain adverse effects not elsewhere classified	5,030	8.3
995 Certain adverse effects not elsewhere classified	12,895	5.0	847 Sprains/strains of other/unspecified parts of back	4,724	7.8
ALL	258,810		ALL	60,454	

Surveillance Trends

Summary of Hospitalizations, US Army, 1999

This report summarizes the hospitalization experience of active duty soldiers during calendar year 1999. The results document rates, trends, correlates of risk, and characteristics of hospitalizations of active duty soldiers in military medical treatment facilities.

Methods. All data were taken from the DMSS, which includes reports of all hospitalizations of active duty servicemembers in fixed military medical treatment facilities since 1990. Each hospitalization record in the DMSS includes up to eight diagnoses that are coded using the ICD-9-CM. If there are multiple diagnoses, the primary diagnosis indicates the chief reason for the hospitalization. For this analysis, primary diagnoses were used to assess the nature of the illnesses and injuries that resulted in hospitalization. Lost duty days were calculated as the number of days between hospital admission and hospital discharge dates.

Results. During 1999, there were 24,992 hospitalizations of active duty soldiers. In 1999, the crude overall rate was 53.3 hospitalizations per 1,000 person-years, which was slightly lower than the rate in 1998 (figure 1). The decrease extended the trend of continuous decline since 1993.

Female soldiers accounted for nearly 41% of all hospitalizations (table 1), and the crude hospitalization rate among females was almost 4-times higher than among males (table 2). For conditions unrelated to pregnancy, however, the hospitalization rate among females (60.0 per 1,000 person-years) was less than two-times higher than among males. Among both males and females, the most hospitalizations and the highest rates were in the 20-24 year old age group (table 4).

Pregnancy-related conditions accounted for more hospitalizations (24.0%) than any other category of illnesses or injuries (table 1). Musculoskeletal disorders (10.5%), mental disorders (14.8%), and injuries and poisonings (12.5%) were the next most frequently reported primary diagnoses (table 1).

Hospitalizations of soldiers during 1999 accounted for 249.6 years of lost duty. Mental disorders accounted for more lost days per hospitalization (mean: 7.7 days, figure 2) and more lost days overall (34.7%) than any other category of illnesses or injuries (table 4). Pregnancy-related conditions (17.8%) and injuries and poisonings (13.0%) accounted for the next highest numbers of lost duty days (table 4).

Among male soldiers, mental disorders accounted for 41.9% of hospitalization-related lost duty days, while among female soldiers, pregnancy-related conditions accounted for 49.2% of lost duty days (table 4).

Among males, of the five diagnoses that accounted for 400 or more hospitalizations each, two were mental disorders (adjustment reaction, n=1,142; affective psychoses, n=444), and two were musculoskeletal disorders (internal derangement of the knee, n=499; intervertebral disc disorders, n=505). The fifth most frequent diagnosis was acute appendicitis, n=403 (table 3).

In contrast, among females, the five most frequently reported primary diagnoses (excluding pregnancy-related conditions) represented four different major illness and injury categories: Adjustment reaction, n=434; affective psychoses, n=167; uterine leiomyoma, n=182; dentofacial anomalies, n=108; and other systems involving abdomen and pelvis, n=105 (table 3).

Figure 1. Rate of hospitalization, active duty soldiers, 1990-1999

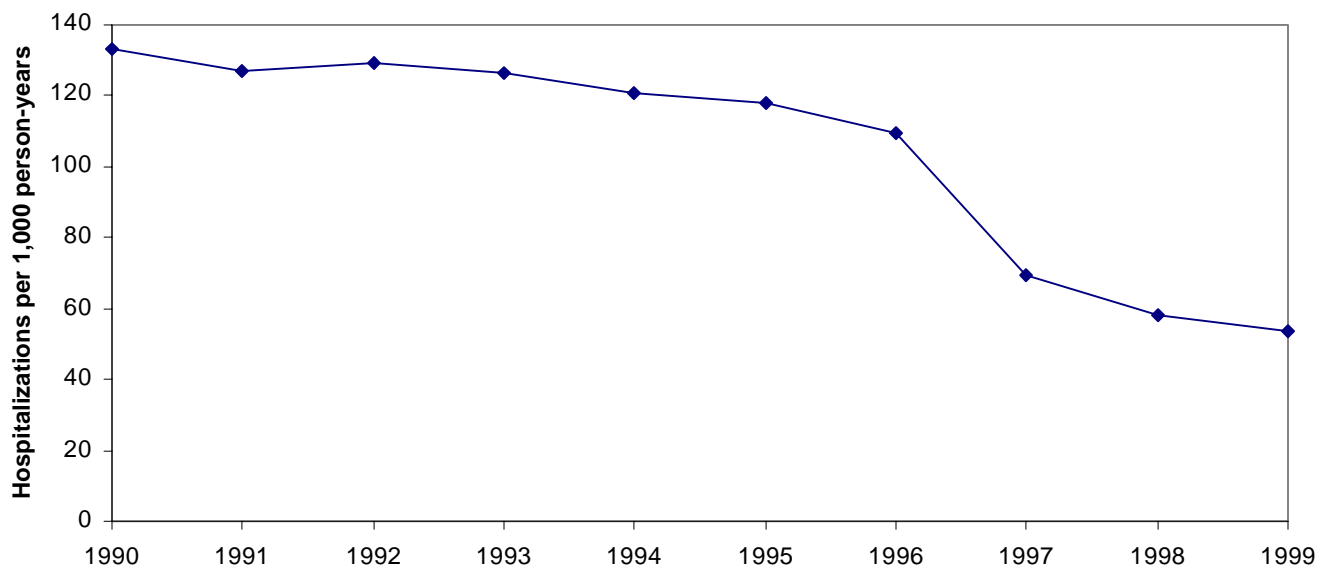
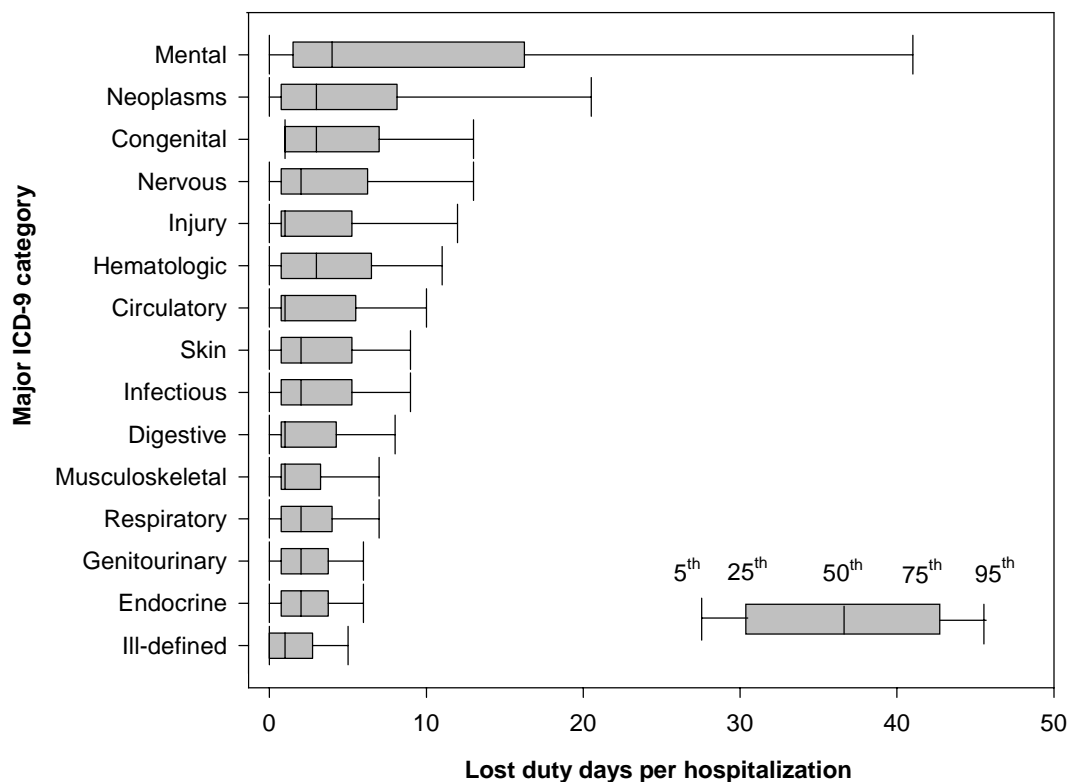


Figure 2. Distribution of lost duty days per hospitalization, by major ICD-9 category, active duty soldiers, 1999*



*Pregnancy-related hospitalizations not shown

Figure 3. Rates of hospitalization by major ICD-9 category, active duty soldiers, 1995-1999

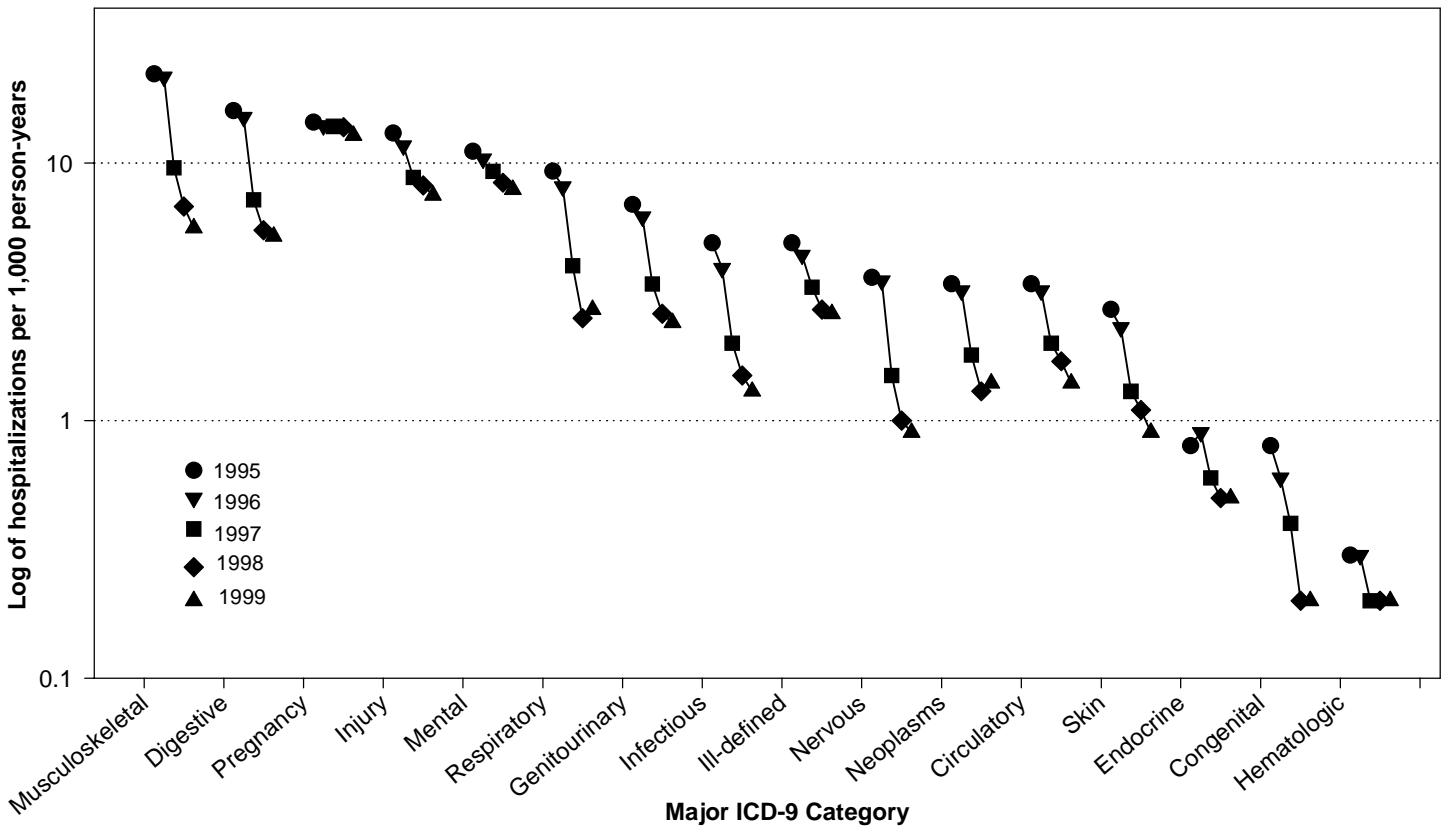


Figure 4. Hospitalizations by major ICD-9 category, by gender and age, active duty soldiers, 1999

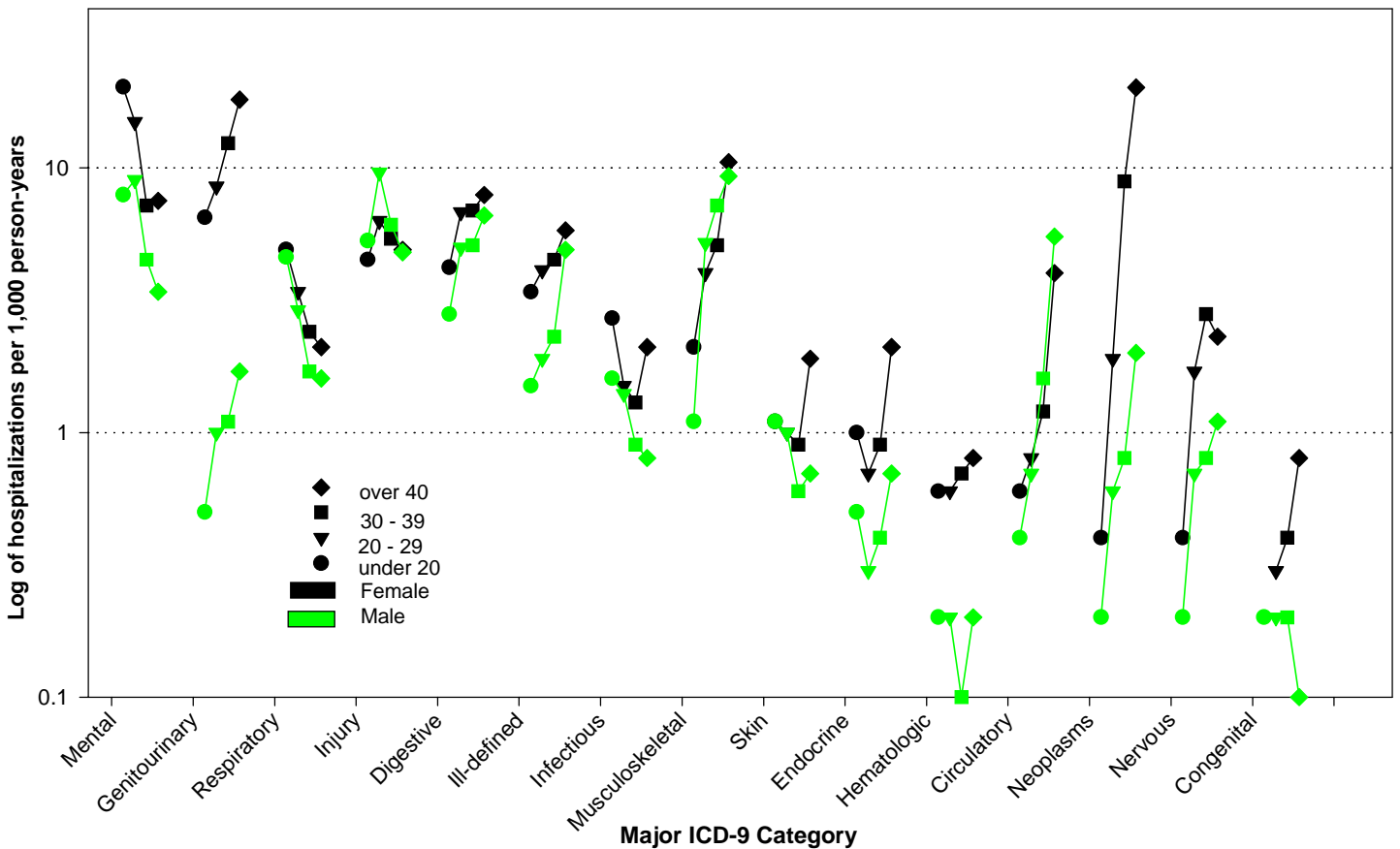


Table 1. Number of hospitalizations, active duty soldiers, 1999

ICD-9 Category	Males							Females							All
	< 20	20-24	25-29	30-34	35-39	>= 40	Total	< 20	20-24	25-29	30-34	35-39	>= 40	Total	
Infectious	53	185	108	68	38	29	481	19	38	21	16	8	11	113	594
Neoplasms	7	70	49	45	50	74	295	3	35	40	55	105	107	345	640
Endocrine	15	40	33	19	26	25	158	7	17	11	9	8	11	63	221
Hematologic	7	20	19	8	4	7	65	4	17	6	2	10	4	43	108
Mental	261	1,215	680	314	219	122	2,811	144	392	190	83	48	40	897	3,708
Nervous	8	78	66	52	45	39	288	3	36	30	26	24	12	131	419
Circulatory	14	81	71	79	112	200	557	4	14	19	11	10	21	79	636
Respiratory	151	393	221	119	85	59	1,028	35	99	34	18	26	11	223	1,251
Digestive	92	565	490	327	281	240	1,995	30	153	114	66	59	42	464	2,459
Genitourinary	18	125	88	63	72	60	426	46	186	145	128	96	96	697	1,123
Pregnancy	-	-	-	-	-	-	-	130	2,944	1,765	756	329	51	5,975	5,975
Skin	36	139	73	41	28	25	342	8	22	17	5	12	10	74	416
Musculoskeletal	37	524	560	411	444	338	2,314	15	83	73	55	37	56	319	2,633
Congenital	6	26	17	16	10	4	79	0	5	5	5	3	4	22	101
Ill-defined	49	230	178	129	145	179	910	24	102	59	51	30	31	297	1,207
Injury	176	1,278	741	426	308	173	3,102	32	148	96	51	46	26	399	3,501
Total	930	4,969	3,394	2,117	1,867	1,574	14,851	504	4,291	2,625	1,337	851	533	10,141	24,992

Table 2. Rates of hospitalization, active duty soldiers, 1999¹

ICD-9 Category	Males							Females							All
	< 20	20-24	25-29	30-34	35-39	>= 40	Total	< 20	20-24	25-29	30-34	35-39	>= 40	Total	
Infectious	1.6	1.5	1.2	1.0	0.7	0.8	1.2	2.7	1.7	1.3	1.6	1.0	2.1	1.6	1.3
Neoplasms	0.2	0.6	0.5	0.7	0.9	2.0	0.7	0.4	1.5	2.4	5.4	13.4	20.1	5.0	1.4
Endocrine	0.5	0.3	0.4	0.3	0.5	0.7	0.4	1.0	0.7	0.7	0.9	1.0	2.1	0.9	0.5
Hematologic	0.2	0.2	0.2	0.1	0.1	0.2	0.2	0.6	0.7	0.4	0.2	1.3	0.8	0.6	0.2
Mental	7.9	10.2	7.5	4.7	4.2	3.4	7.0	20.2	17.3	11.6	8.1	6.1	7.5	12.9	7.9
Nervous	0.2	0.7	0.7	0.8	0.9	1.1	0.7	0.4	1.6	1.8	2.5	3.1	2.3	1.9	0.9
Circulatory	0.4	0.7	0.8	1.2	2.1	5.5	1.4	0.6	0.6	1.2	1.1	1.3	4.0	1.1	1.4
Respiratory	4.6	3.3	2.4	1.8	1.6	1.6	2.6	4.9	4.4	2.1	1.8	3.3	2.1	3.2	2.7
Digestive	2.8	4.7	5.4	4.9	5.3	6.6	5.0	4.2	6.7	7.0	6.4	7.5	7.9	6.7	5.2
Genitourinary	0.5	1.0	1.0	0.9	1.4	1.7	1.1	6.5	8.2	8.9	12.5	12.3	18.1	10.0	2.4
Pregnancy	-	-	-	-	-	-	-	18.2	129.6	108.1	73.7	42.1	9.6	85.9	12.8
Skin	1.1	1.2	0.8	0.6	0.5	0.7	0.9	1.1	1.0	1.0	0.5	1.5	1.9	1.1	0.9
Musculoskeletal	1.1	4.4	6.2	6.1	8.4	9.3	5.8	2.1	3.7	4.5	5.4	4.7	10.5	4.6	5.6
Congenital	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.0	0.2	0.3	0.5	0.4	0.8	0.3	0.2
Ill-defined	1.5	1.9	2.0	1.9	2.8	4.9	2.3	3.4	4.5	3.6	5.0	3.8	5.8	4.3	2.6
Injury	5.3	10.7	8.2	6.4	5.8	4.8	7.8	4.5	6.5	5.9	5.0	5.9	4.9	5.7	7.5
Total	28.0	41.6	37.5	31.7	35.4	43.4	37.2	70.7	189.0	160.8	130.4	108.9	100.4	145.8	53.3

1. Rates were calculated per 1,000 person-years.

Table 3. Top five hospitalization-related diagnoses by major diagnostic category and gender, active duty soldiers, 1999

Male			Female		
Infectious and parasitic diseases (ICD9 001 - 139)			Infectious and parasitic diseases (ICD9 001 - 139)		
	N	%		N	%
079	89	18.5	079	24	21.2
052	56	11.6	008	17	15.0
008	51	10.6	047	16	14.2
084	46	9.6	052	11	9.7
047	44	9.1	075	9	8.0
ALL	481		ALL	113	
Neoplasms (ICD9 140 - 239)			Neoplasms (ICD9 140 - 239)		
	N	%		N	%
186	22	7.5	218	182	52.8
193	22	7.5	220	19	5.5
213	18	6.1	174	14	4.1
185	12	4.1	233	14	4.1
191	12	4.1	217	13	3.8
ALL	295		ALL	345	
Endocrine, nutrition, immunity (ICD9 240 - 279)			Endocrine, nutrition, immunity (ICD9 240 - 279)		
	N	%		N	%
276	50	31.6	276	18	28.6
250	47	29.7	241	14	22.2
242	18	11.4	242	13	20.6
251	9	5.7	250	9	14.3
241	7	4.4	251	2	3.2
ALL	158		ALL	63	
Hematologic disorders (ICD9 280 - 289)			Hematologic disorders (ICD9 280 - 289)		
	N	%		N	%
289	20	30.8	287	12	27.9
287	15	23.1	280	11	25.6
288	15	23.1	288	9	20.9
282	9	13.8	285	4	9.3
285	2	3.1	289	4	9.3
ALL	65		ALL	43	
Mental disorders (ICD9 290 - 319)			Mental disorders (ICD9 290 - 319)		
	N	%		N	%
309	1,142	40.6	309	434	48.4
296	444	15.8	296	167	18.6
303	385	13.7	300	63	7.0
300	167	5.9	303	62	6.9
311	142	5.1	311	49	5.5
ALL	2,811		ALL	897	
Nervous system (ICD9 320 - 389)			Nervous system (ICD9 320 - 389)		
	N	%		N	%
346	48	16.7	346	38	29.0
354	39	13.5	340	10	7.6
345	29	10.1	345	10	7.6
349	27	9.4	337	6	4.6
348	21	7.3	322	5	3.8
ALL	288		ALL	131	
Circulatory system (ICD9 390 - 459)			Circulatory system (ICD9 390 - 459)		
	N	%		N	%
427	132	23.7	427	11	13.9
414	61	11.0	453	9	11.4
410	53	9.5	455	9	11.4
455	43	7.7	436	7	8.9
453	37	6.6	411	4	5.1
ALL	557		ALL	79	
Respiratory system (ICD9 460 - 519)			Respiratory system (ICD9 460 - 519)		
	N	%		N	%
486	238	23.2	493	43	19.3
493	99	9.6	486	38	17.0
462	89	8.7	462	26	11.7
475	71	6.9	465	24	10.8
474	61	5.9	474	16	7.2
ALL	1,028		ALL	223	

Table 3. Top five hospitalization-related diagnoses by major diagnostic category and gender, active duty soldiers, 1999 (continued)

Male			Female		
Digestive system (ICD9 520 - 579)			Digestive system (ICD9 520 - 579)		
	N	%		N	%
540 Acute appendicitis	403	20.2	524 Dentofacial anomalies	108	23.3
524 Dentofacial anomalies	272	13.6	540 Acute appendicitis	51	11.0
530 Diseases of esophagus	191	9.6	574 Cholelithiasis	45	9.7
550 Inguinal hernia	174	8.7	558 Other noninfectious gastroenteritis & colitis	40	8.6
558 Other noninfectious gastroenteritis & colitis	146	7.3	577 Disease of pancreas	29	6.3
ALL	1,995		ALL	464	
Genitourinary system (ICD9 580 - 629)			Genitourinary system (ICD9 580 - 629)		
	N	%		N	%
592 Calculus of kidney and ureter	142	33.3	590 Infections of kidney	101	14.5
608 Other disorders of male genital organs	59	13.8	614 Inflammatory disorders of reproductive organs	90	12.9
593 Other disorders of kidney and ureter	27	6.3	625 Syndromes associated with female genital organs	84	12.1
611 Other disorders of breast	27	6.3	620 Noninflammatory disorders of reproductive organs	79	11.3
598 Urethral stricture	26	6.1	611 Other disorders of breast	57	8.2
ALL	426		ALL	697	
Pregnancy complications (ICD9 630 - 679)			Pregnancy complications (ICD9 630 - 679)		
	N	%		N	%
-	-	-	664 Trauma to perineum and vulva during delivery	1,243	20.8
-	-	-	650 Normal delivery	541	9.1
-	-	-	644 Early or threatened labor	417	7.0
-	-	-	661 Abnormality of forces of labor	417	7.0
-	-	-	659 Other indications for care, NEC	399	6.7
-	-	-	ALL	5,975	
Skin diseases (ICD9 680 - 709)			Skin diseases (ICD9 680 - 709)		
	N	%		N	%
682 Other cellulitis and abscess	229	67.0	682 Other cellulitis and abscess	35	47.3
685 Pilonidal cyst	24	7.0	701 Other hypertrophic and atrophic conditions	12	16.2
681 Cellulitis and abscess of finger and toe	23	6.7	692 Contact dermatitis and other eczema	6	8.1
686 Other local infections of skin	11	3.2	681 Cellulitis and abscess of finger and toe	4	5.4
706 Diseases of sebaceous glands	9	2.6	685 Pilonidal cyst	4	5.4
ALL	342		ALL	74	
Musculoskeletal system (ICD9 710 - 739)			Musculoskeletal system (ICD9 710 - 739)		
	N	%		N	%
717 Internal derangement of knee	499	21.6	717 Internal derangement of knee	61	19.1
722 Intervertebral disc disorders	439	19.0	722 Intervertebral disc disorders	38	11.9
718 Other derangement of joint	363	15.7	718 Other derangement of joint	37	11.6
733 Other disorders of bone and cartilage	170	7.3	735 Acquired deformities of toe	25	7.8
726 Peripheral enthesopathies	139	6.0	733 Other disorders of bone and cartilage	23	7.2
ALL	2,314		ALL	319	
Congenital anomalies (ICD9 740 - 759)			Congenital anomalies (ICD9 740 - 759)		
	N	%		N	%
747 Circulatory system	12	15.2	753 Urinary systems	5	19.2
756 Musculoskeletal	12	15.2	752 Genital organs	3	11.5
751 Digestive system	8	10.1	756 Other musculoskeletal	3	11.5
746 Heart	6	7.6	751 Digestive system	2	7.7
752 Genital organs	6	7.6	754 Certain musculoskeletal deformities	2	7.7
ALL	79		ALL	26	
Ill-defined conditions (ICD9 780 - 799)			Ill-defined conditions (ICD9 780 - 799)		
	N	%		N	%
786 Symptoms involving respiratory system and chest	299	32.9	789 Other symptoms involving abdomen and pelvis	105	35.4
780 General symptoms	268	29.5	780 General symptoms	67	22.6
789 Other symptoms involving abdomen and pelvis	188	20.7	786 Symptoms involving respiratory system and chest	55	18.5
784 Symptoms involving head and neck	47	5.2	787 Symptoms involving digestive system	19	6.4
787 Symptoms involving digestive system	29	3.2	784 Symptoms involving head and neck	17	5.7
ALL	910		ALL	297	
Injury and poisoning (ICD9 800 - 999)			Injury and poisoning (ICD9 800 - 999)		
	N	%		N	%
824 Fracture of ankle	278	9.0	998 Other complications of procedures, NEC	54	13.5
998 Other complications of procedures, NEC	227	7.3	965 Poisoning by analgesics, antipyretics	22	5.5
844 Sprains and strains of knee and leg	182	5.9	824 Fracture of ankle	21	5.3
959 Injury, other and unspecified	136	4.4	997 Complications affecting specific systems, NEC	19	4.8
992 Effects of heat and light	134	4.3	996 Complications due to certain procedures	16	4.0
ALL	3,102		ALL	399	

Table 4. Number of hospitalization-related lost duty days, active duty soldiers, 1999

ICD-9 Category	Males							Females							Total
	< 20	20-24	25-29	30-34	35-39	>= 40	Total	< 20	20-24	25-29	30-34	35-39	>= 40	Total	
Infectious	186	563	388	211	134	114	1,596	53	91	57	40	65	21	327	1,923
Neoplasms	131	397	485	261	240	737	2,251	7	87	271	218	332	469	1,384	3,635
Endocrine	31	97	83	62	45	53	371	30	47	17	22	14	40	170	541
Hematologic	11	92	88	22	7	29	249	15	54	18	1	41	4	133	382
Mental	2,307	9,741	6,355	2,906	1,947	1,149	24,405	1,001	2,837	1,643	901	497	372	7,251	31,656
Nervous	34	303	139	208	180	86	950	9	160	179	74	78	50	550	1,500
Circulatory	133	233	220	162	307	673	1,728	20	96	26	58	15	158	373	2,101
Respiratory	406	939	569	327	197	168	2,606	85	224	62	70	46	21	508	3,114
Digestive	282	1,239	1,150	864	844	782	5,161	60	281	301	149	266	202	1,259	6,420
Genitourinary	46	269	117	126	159	150	867	90	323	301	274	304	271	1,563	2,430
Pregnancy	-	-	-	-	-	-	-	331	7,883	4,866	1,914	1,065	140	16,199	16,199
Skin	158	412	212	128	66	110	1,086	28	139	44	18	33	28	290	1,376
Musculoskeletal	164	1,071	1,120	745	1,017	810	4,927	62	158	189	93	103	104	709	5,636
Congenital	35	98	62	89	41	25	350	0	13	19	22	7	24	85	435
Ill-defined	161	335	382	203	235	255	1,571	30	142	79	90	45	42	428	1,999
Injury	843	4,147	2,176	1,281	787	916	10,150	216	648	391	133	164	118	1,670	11,820
Total	4,928	19,936	13,546	7,595	6,206	6,057	58,268	2,037	13,183	8,463	4,077	3,075	2,064	32,899	91,167

Table 5. Rate of hospitalization-related lost duty days,¹ active duty soldiers, 1999

ICD-9 Category	Males							Females							Total
	< 20	20-24	25-29	30-34	35-39	>= 40	Total	< 20	20-24	25-29	30-34	35-39	>= 40	Total	
Infectious	5.6	4.7	4.3	3.2	2.5	3.1	4.0	7.4	4.0	3.5	3.9	8.3	4.0	4.7	4.1
Neoplasms	4.0	3.3	5.4	3.9	4.6	20.3	5.6	1.0	3.8	16.6	21.3	42.5	88.3	19.9	7.8
Endocrine	0.9	0.8	0.9	0.9	0.9	1.5	0.9	4.2	2.1	1.0	2.1	1.8	7.5	2.4	1.2
Hematologic	0.3	0.8	1.0	0.3	0.1	0.8	0.6	2.1	2.4	1.1	0.1	5.2	0.8	1.9	0.8
Mental	69.6	81.5	70.2	43.5	36.9	31.7	61.2	140.5	124.9	100.6	87.9	63.6	70.0	104.3	67.6
Nervous	1.0	2.5	1.5	3.1	3.4	2.4	2.4	1.3	7.0	11.0	7.2	10.0	9.4	7.9	3.2
Circulatory	4.0	2.0	2.4	2.4	5.8	18.6	4.3	2.8	4.2	1.6	5.7	1.9	29.7	5.4	4.5
Respiratory	12.2	7.9	6.3	4.9	3.7	4.6	6.5	11.9	9.9	3.8	6.8	5.9	4.0	7.3	6.6
Digestive	8.5	10.4	12.7	12.9	16.0	21.6	12.9	8.4	12.4	18.4	14.5	34.0	38.0	18.1	13.7
Genitourinary	1.4	2.3	1.3	1.9	3.0	4.1	2.2	12.6	14.2	18.4	26.7	38.9	51.0	22.5	5.2
Pregnancy	-	-	-	-	-	-	-	46.5	347.1	298.0	186.6	136.2	26.4	232.9	34.6
Skin	4.8	3.4	2.3	1.9	1.3	3.0	2.7	3.9	6.1	2.7	1.8	4.2	5.3	4.2	2.9
Musculoskeletal	4.9	9.0	12.4	11.1	19.3	22.3	12.3	8.7	7.0	11.6	9.1	13.2	19.6	10.2	12.0
Congenital	1.1	0.8	0.7	1.3	0.8	0.7	0.9	0.0	0.6	1.2	2.1	0.9	4.5	1.2	0.9
Ill-defined	4.9	2.8	4.2	3.0	4.5	7.0	3.9	4.2	6.3	4.8	8.8	5.8	7.9	6.2	4.3
Injury	25.4	34.7	24.0	19.2	14.9	25.2	25.4	30.3	28.5	23.9	13.0	21.0	22.2	24.0	25.2
Total	148.6	166.9	149.7	113.6	117.8	167.0	146.1	285.9	580.5	518.3	397.5	393.3	388.6	473.1	194.6

1. Rates were calculated as lost duty days per 1,000 person-years.

Surveillance Trends

Summary of Reportable Events, US Army, 1999

In the US Army, medical surveillance of infectious and other conditions of military operational and public health importance is conducted through the Army's Reportable Medical Events System (ARMES). Automated reporting of notifiable medical events has been conducted Armywide since 1995. Currently, 34 preventive medicine activities in the United States, Korea, and Europe electronically transmit reportable medical events data to the Army Medical Surveillance Activity (AMSA) in Washington, DC. AMSA compiles, summarizes, and disseminates reports of frequencies, rates, trends, and correlates of risk of reportable conditions. A DoD consensus list of 70 conditions are currently reportable in the Army and the other Services.¹

In 1999, 12,867 cases of reportable medical events—an average of 35 per day—were reported to AMSA (table 1). There were nearly 19% more reports in 1999 than in 1998. In 1999, sexually transmitted diseases accounted for 86% of all reportable events—similar to the proportion in 1998. *Chlamydia trachomatis* genital infections remained the most frequently reported notifiable condition (table 2).

There were approximately 5-times as many reports of influenza in 1999 than the average of the prior three years (figure 1). The increase reflects

enhanced efforts at some installations to identify agents responsible for influenza-like illnesses.² There were twice as many reports of heat injuries in 1999 compared to the prior three-year average. Reports of heat injuries have increased each year since automated reporting began. The trend may reflect continuous improvements in case ascertainment and central reporting at local levels throughout the Army.^{2,3}

In contrast, there were approximately 30% fewer reports of varicella in 1999 compared to the prior three-year average. The decrease may reflect the effects of targeted uses of varicella vaccine in high risk populations and settings.⁴ Finally, the decrease in reports of leishmaniasis in 1999 reflects the reduction of US Army forces and the cessation of jungle operations training in Panama.²

References

1. Tri-Service consensus list of reportable medical events: Completeness and timeliness of reporting in the Army, January-June 1998. *MSMR*, 1998, 4(8):2-11.
2. Reportable events among beneficiaries of health care, US Army, 1998. *MSMR*, 1999, 5(3): 26.
3. Completeness and timeliness of reporting of hospitalized notifiable cases, US Army. January 1999-June 1999. *MSMR*, 1999, 5(8): 10
4. Niebuhr, DW. Varicella primary prevention program, Fort Knox, Kentucky. *MSMR*, 1999, 5(4): 9-10.

**Table 1. Reportable events, US Army medical treatment facilities¹
Cumulative events for all beneficiaries, 1999²**

Diagnosis ³	Jan-Mar 1999	Apr-Jun 1999	Jul-Sep 1999	Oct-Dec 1999	Diagnosis ³	Jan-Mar 1999	Apr-Jun 1999	Jul-Sep 1999	Oct-Dec 1999
All reportable events	3371	3028	3648	2820	Listeriosis	-	1	1	-
Amebiasis	1	1	-	-	Lyme disease	2	20	27	12
Anthrax	-	-	-	-	Malaria, falciparum	2	3	1	2
Biological warfare agent exposure	-	-	-	-	Malaria, malariae	-	-	-	-
Botulism	-	-	-	-	Malaria, ovale	1	-	-	-
Brucellosis	-	-	-	-	Malaria, unspecified	1	2	1	-
Campylobacter	23	36	44	21	Malaria, vivax	5	22	31	6
Carbon monoxide poisoning	-	-	-	4	Measles	-	3	-	-
Chemical agent exposure	-	-	-	-	Meningococcal meningitis	4	-	1	2
Chlamydia	2012	1826	2160	1764	Meningococcal septicemia	-	-	-	-
Cholera	-	-	-	-	Mumps	3	-	-	-
Coccidioidomycosis	1	1	-	-	Pertussis	3	-	1	-
Cold weather, frostbite	67	2	-	19	Plague	-	1	-	-
Cold weather, hypothermia	11	-	-	1	Pneumococcal pneumonia	11	5	3	1
Cold weather, immersion type	6	-	-	19	Poliomyelitis	-	-	-	-
Cold weather, unspecified	2	-	-	-	Q fever	-	-	-	-
Cryptosporidiosis	1	-	-	-	Rabies, human	-	-	-	-
Cyclospora	-	-	-	-	Relapsing fever	-	-	-	-
Dengue fever	-	1	2	-	Rheumatic fever, acute	-	-	-	-
Diphtheria	-	-	-	-	Rift valley fever	-	-	-	-
E. Coli O157:H7	1	3	3	6	Rocky mountain spotted fever	-	2	2	-
Ehrlichiosis	-	1	1	-	Rubella	3	-	-	1
Encephalitis	-	-	-	1	Salmonellosis	24	51	76	38
Filariasis	-	1	-	-	Schistosomiasis	-	-	-	-
Giardiasis	17	15	32	15	Shigellosis	10	57	43	24
Gonorrhea	610	474	563	493	Smallpox	-	-	-	-
H. influenzae, invasive	1	1	1	4	Streptococcus, group A, invasive	1	-	-	3
Hantavirus infection	-	1	-	1	Syphilis, congenital	-	-	3	1
Heat exhaustion	8	51	198	4	Syphilis, latent	8	6	10	11
Heat stroke	5	35	34	3	Syphilis, primary/secondary	21	23	12	14
Hemorrhagic fever	-	-	-	-	Syphilis, tertiary	6	2	3	4
Hepatitis A	4	6	3	1	Tetanus	-	-	-	-
Hepatitis B	31	11	13	2	Toxic shock syndrome	-	-	-	-
Hepatitis C	12	3	11	7	Trichinosis	-	-	-	-
Influenza	173	13	8	56	Trypanosomiasis	-	-	-	-
Lead poisoning	-	-	4	3	Tuberculosis, pulmonary	8	6	1	6
Legionellosis	1	2	1	1	Tularemia	-	-	-	-
Leishmaniasis, cutaneous	1	1	2	-	Typhoid fever	-	-	-	-
Leishmaniasis, mucocutaneous	-	-	-	-	Typhus fever	-	-	1	-
Leishmaniasis, unspecified	-	-	-	-	Urethritis, non-gonococcal	215	294	313	246
Leishmaniasis, visceral	-	-	-	-	Vaccine, adverse event	7	7	6	6
Leprosy	-	-	-	-	Varicella, active duty only	43	17	12	9
Leptospirosis	-	-	-	-	Yellow fever	-	-	-	-

1. Main and satellite clinics.

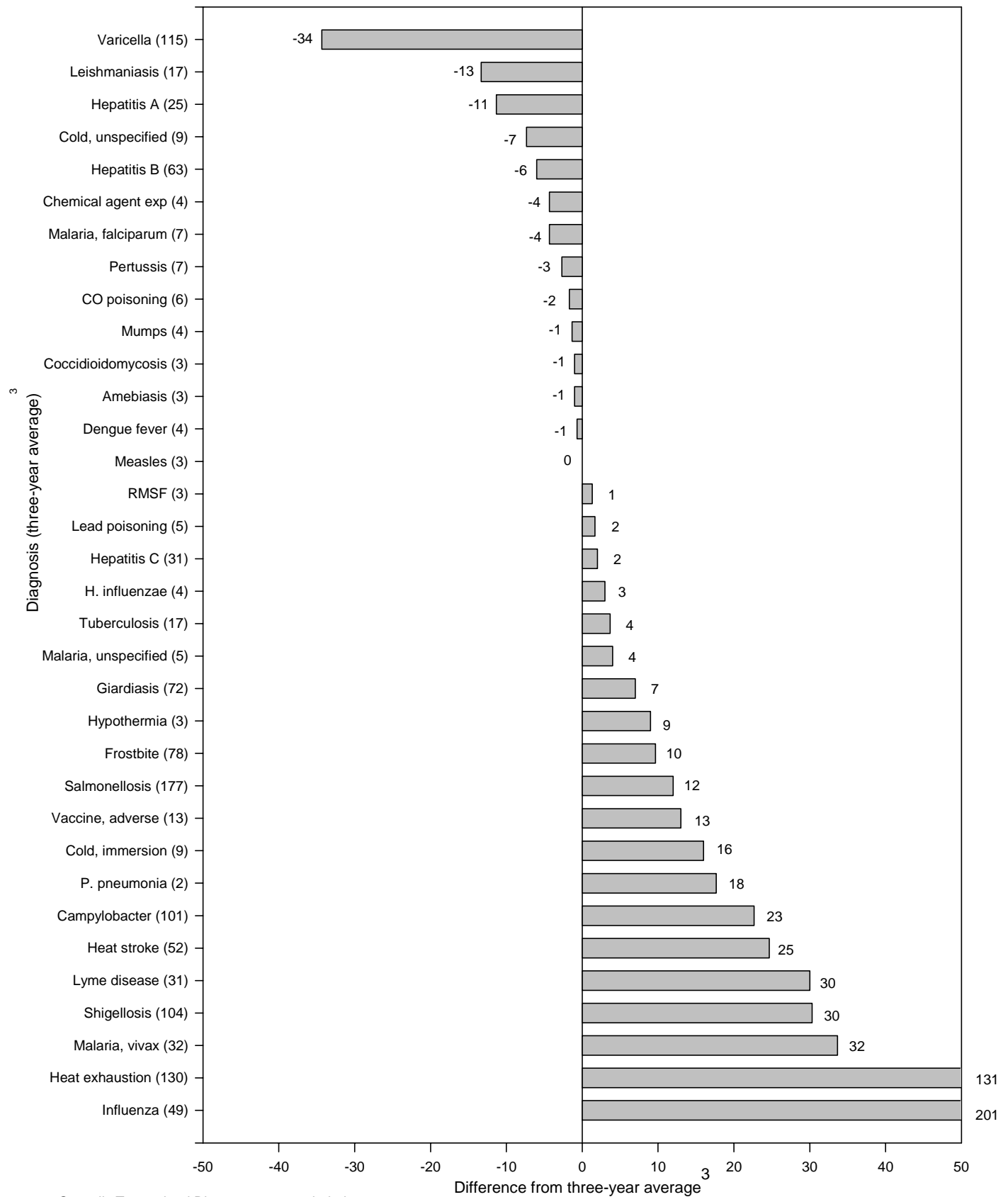
2. Events reported by April 7, 2000.

3. Tri-Service Reportable Events, Version 1.0, July 1998.

Note: Completeness and timeliness of reporting varies by facility.

Source: Army Reportable Medical Events System.

Figure 1. Reportable events,¹ US Army medical treatment facilities, 1999² compared to the three-year average³ of 1996-1998



1. Sexually Transmitted Diseases were excluded.

2. Reported by April 7, 2000.

3. Comparisons given for diseases that had a total three-year incidence of at least 7 cases. All averages are rounded to the nearest integer.

Source: Army Reportable Medical Events System

**Table 1. Sentinel reportable events, US Army medical treatment facilities¹
Cumulative events for all beneficiaries, calendar years 1998 and 1999²**

Reporting Facility	Number of reported events ³		Environmental				Food- and Water-borne							
			Cold		Heat		Campylobacter		Giardia		Salmonella		Shigella	
	Cum. 1998	Cum. 1999	Cum. 1998	Cum. 1999	Cum. 1998	Cum. 1999	Cum. 1998	Cum. 1999	Cum. 1998	Cum. 1999	Cum. 1998	Cum. 1999	Cum. 1998	Cum. 1999
NORTH ATLANTIC RMC														
Walter Reed AMC, DC	224	200	-	-	-	-	7	5	6	6	12	4	1	1
Aberdeen Prov. Grd., MD	46	24	-	-	2	-	-	-	-	-	-	-	-	-
FT Belvoir, VA	247	229	-	-	6	2	5	9	3	12	11	12	1	3
FT Bragg, NC	462	1,283	1	9	131	110	9	9	1	3	60	33	20	-
FT Drum, NY	201	234	18	35	-	3	1	1	2	4	1	1	-	-
FT Eustis, VA	237	214	-	1	21	3	2	2	-	-	5	4	5	1
FT Knox, KY	277	304	-	2	4	15	2	3	-	3	-	1	-	3
FT Lee, VA	85	178	-	-	-	1	-	-	-	-	-	2	-	-
FT Meade, MD	131	84	-	-	-	-	-	-	3	1	1	4	-	-
West Point, NY	52	73	-	-	1	2	-	-	1	-	1	-	-	1
GREAT PLAINS RMC														
Beaumont AMC, TX	417	316	-	-	-	5	-	-	-	-	3	4	6	2
Brooke AMC, TX	269	424	2	-	3	9	1	-	2	-	8	7	2	4
FT Carson, CO	764	768	2	2	5	-	5	5	4	10	3	6	-	1
FT Hood, TX	1,593	1,682	-	-	10	8	-	3	-	1	11	12	4	16
FT Huachuca, AZ	48	74	-	-	-	2	-	1	-	-	3	1	-	1
FT Leavenworth, KS	50	21	-	-	-	-	-	2	4	2	1	-	-	-
FT Leonard Wood, MO	203	178	2	6	5	3	-	-	1	1	1	3	-	-
FT Polk, LA	204	219	-	-	16	1	-	-	-	-	-	-	-	-
FT Riley, KS	345	314	1	2	-	18	-	-	5	-	1	2	4	-
FT Sill, OK	317	296	-	-	11	9	-	-	-	-	2	-	-	2
SOUTHEAST RMC														
Eisenhower AMC, GA	306	229	-	1	3	4	1	-	-	-	-	5	-	-
FT Benning, GA	351	435	2	-	28	100	4	1	5	2	8	17	3	2
FT Campbell, KY	611	594	1	2	1	10	8	19	13	9	7	18	40	88
FT Jackson, SC	358	405	1	-	3	-	1	-	-	-	2	1	1	-
FT Rucker, AL	47	59	-	-	-	4	-	-	-	-	-	-	-	1
FT Stewart, GA	509	508	1	-	29	20	-	-	-	3	3	6	2	-
WESTERN RMC														
Madigan AMC, WA	620	676	-	-	-	-	20	3	5	7	6	8	1	1
FT Irwin, CA	49	47	-	-	-	-	-	-	1	-	-	-	-	-
FT Wainwright, AK	98	133	18	52	-	-	1	-	-	-	-	-	-	-
OTHER LOCATIONS														
Tripler, HI	502	631	-	-	2	4	21	27	10	15	11	14	1	1
Europe	875	1,471	27	6	-	-	26	32	9	-	44	23	1	6
Korea	229	564	2	9	7	5	-	2	-	-	-	1	-	-
Total	10,727	12,867	78	127	288	338	114	124	75	79	205	189	92	134

1. Main and satellite clinics.

2. Events reported by April 7, 1999 and 2000.

3. Tri-Service Reportable Events, Version 1.0, July 1998.

**Table 1. (Cont'd) Sentinel reportable events, US Army medical treatment facilities¹
Cumulative events for all beneficiaries, calendar years 1998 and 1999²**

Arthropod-borne				Vaccine Preventable						Sexually Transmitted							
Lyme Disease		Malaria		Hepatitis A		Hepatitis B		Varicella		Chlamydia		Gonorrhea		Syphilis ⁴		Urethritis	
Cum. 1998	Cum. 1999	Cum. 1998	Cum. 1999	Cum. 1998	Cum. 1999	Cum. 1998	Cum. 1999	Cum. 1998	Cum. 1999	Cum. 1998	Cum. 1999	Cum. 1998	Cum. 1999	Cum. 1998	Cum. 1999	Cum. 1998	Cum. 1999
4	3	1	6	3	1	-	-	5	3	81	87	30	23	2	3	14	1
-	-	-	-	-	-	2	-	-	1	26	8	11	13	-	-	4	2
1	-	-	-	-	1	-	1	1	-	165	140	48	40	4	-	-	-
2	4	5	3	-	-	9	-	-	1	141	565	52	266	1	6	-	269
2	-	1	3	-	-	2	-	8	6	109	117	48	57	1	-	4	4
-	-	-	2	-	-	-	1	8	2	132	144	60	51	-	-	-	-
1	-	2	-	-	-	-	-	20	1	187	213	55	59	-	1	-	-
-	-	-	-	-	-	1	1	-	-	57	141	27	30	-	3	-	-
2	3	-	-	-	-	-	-	7	1	62	60	13	11	3	-	35	-
10	25	-	-	1	-	1	2	2	1	25	36	7	3	-	-	-	-
-	-	2	1	-	1	-	-	11	2	311	257	72	21	1	-	-	13
-	2	4	2	4	3	4	4	2	2	168	186	47	61	1	-	-	1
-	-	1	-	-	-	1	1	4	2	508	559	105	100	1	-	121	72
-	1	1	6	-	1	11	1	3	4	909	963	399	286	5	5	225	332
-	-	-	-	-	1	-	-	-	-	31	54	12	12	-	-	-	-
-	-	2	-	-	-	-	-	-	-	36	14	7	3	-	-	-	-
-	-	-	1	-	-	-	1	21	13	104	100	38	30	-	1	25	8
-	-	1	1	-	-	-	-	-	-	144	171	41	42	1	2	-	-
-	-	2	-	-	-	-	-	3	-	253	206	74	79	1	-	-	-
-	-	1	1	-	-	12	6	1	6	155	163	97	62	-	2	37	33
-	-	1	-	1	1	2	3	-	2	261	183	32	16	2	1	-	-
-	-	1	1	-	1	2	-	2	2	198	167	85	91	-	18	3	-
1	1	2	5	-	-	-	-	5	1	362	297	163	136	2	1	-	-
-	-	1	-	3	-	-	-	7	6	247	333	87	51	3	6	-	-
-	-	-	-	-	-	-	-	-	-	39	41	8	13	-	-	-	-
-	-	2	4	1	-	1	1	4	4	151	162	124	97	2	-	186	209
1	-	3	6	-	1	-	1	3	-	358	435	61	76	-	1	149	123
-	-	-	-	-	-	2	5	-	-	41	37	5	4	-	-	-	-
-	-	-	1	-	-	4	1	-	2	67	65	4	10	-	-	-	-
-	-	4	8	1	1	3	1	-	-	294	381	95	95	-	-	-	-
12	22	1	2	3	2	11	12	7	16	585	1,038	116	282	11	4	-	1
-	-	20	24	4	-	18	15	2	3	133	439	28	20	4	16	-	-
36	61	58	77	21	14	86	57	126	81	6,340	7,762	2,051	2,140	45	70	803	1,068

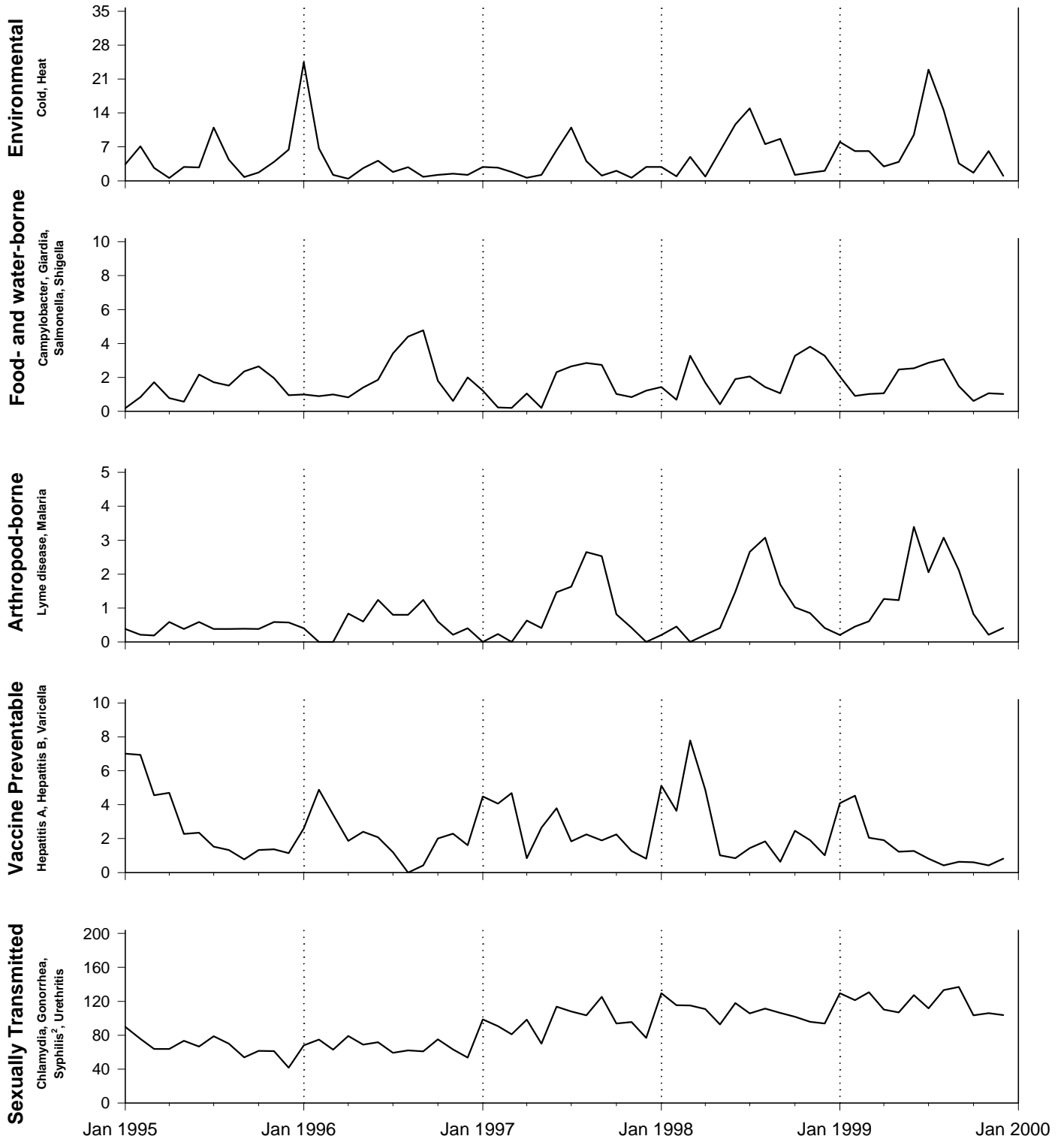
4. Primary and Secondary.

Note: Completeness and timeliness of reporting varies by facility.

Source: Army Reportable Medical Events System.

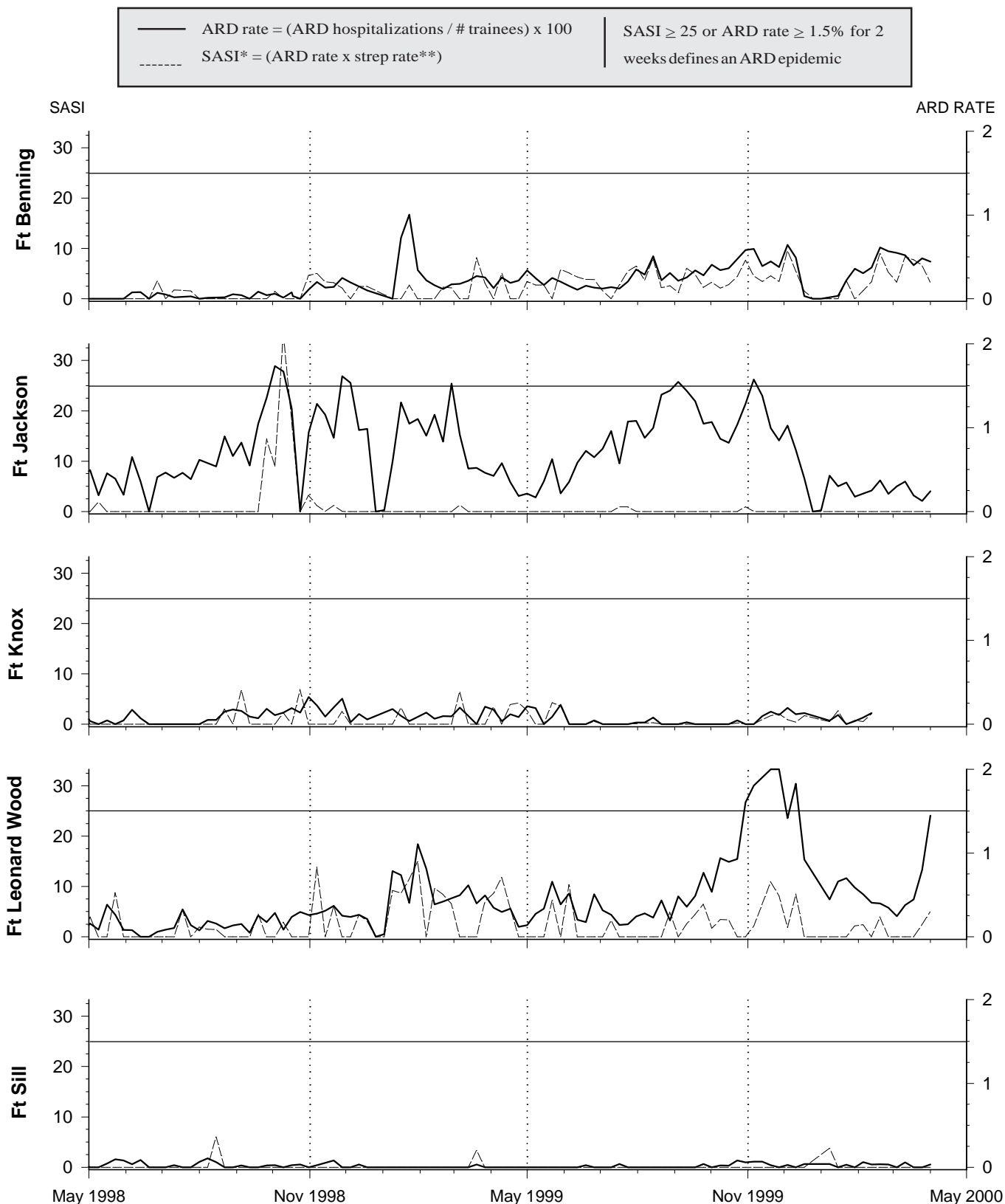
Figure 1. Sentinel reportable events (grouped), active duty soldiers,¹ January 1995 - December 1999²

Cases / 10,000 person-years



1. Events reported by April 7, 2000
2. Primary and Secondary

**Figure II. Acute respiratory disease (ARD) surveillance update
US Army initial entry training centers**



* SASI (Strep ARD Surveillance Index) is a reliable predictor of serious strep-related morbidity

** Strep rate = (Group A beta-hemolytic strep(+) / # cultures) x 100

Table S1. Force strength by age, race, gender, and service, active duty US Armed Forces, 1999

Characteristics	Army		Navy		Air Force		Marine Corps	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Total	468,493	100	364,009	100	356,400	100	171,344	100
Gender								
Male	398,937	85	315,969	87	290,931	82	161,352	94
Female	69,546	15	48,040	13	65,468	18	9,992	6
Age								
17-20 yrs	40,289	9	30,266	8	21,107	6	26,348	15
20-24 yrs	142,164	30	105,538	29	88,885	25	78,584	46
25-29 yrs	106,839	23	74,899	21	70,532	20	28,613	17
30-34 yrs	77,095	17	59,225	16	63,452	18	15,824	9
35-39 yrs	60,517	13	57,252	16	70,332	20	13,689	8
40-65 yrs	41,589	9	36,831	10	42,092	12	8,285	5
Race/ethnicity								
White non-Hispanic	278,465	59	237,753	65	267,589	75	116,398	68
Black non-Hispanic	124,509	27	66,026	18	55,822	16	26,714	16
Hispanic	34,760	7	31,161	9	16,652	5	20,510	12
Asian/Pacific Islander	13,282	3	22,088	6	8,669	2	3,824	2
Native American/Alaska Native	3,444	1	4,880	1	1,734	1	1,594	1
Other	14,033	3	2,102	1	5,962	2	2,304	1
Marital Status								
Married	259,600	55	191,455	53	228,133	64	76,046	44
Single	186,270	40	172,555	47	103,873	29	89,674	52
Other	22,623	5	0	0	24,394	7	5,625	3
Education								
High school or less	359,495	77	300,419	83	22,610	6	149,457	87
Some college	28,314	6	10,753	3	249,524	70	4,388	3
Bachelors	52,812	11	34,438	10	42,647	12	14,358	8
Masters	19,766	4	13,133	4	32,961	9	2,724	2
Doctorate	8,106	2	5,266	1	8,657	2	417	0
Rank (grade)								
PVT (E1) - PFC (E3)	108,389	23	90,506	25	73,873	21	74,018	43
CPL/SPC (E4) - SGM(E9)	282,660	60	219,991	60	212,558	60	79,417	46
2LT (O1) - CPT(O3), W01-CW3	48,719	10	31,930	9	39,768	11	11,763	7
MAJ (O4) - LTC(O9), CW4 - CW5	28,726	6	21,582	6	30,201	9	6,147	4

Table S2. Active duty force strength by MTF, United States Army, December 1999¹

MTF/Post ²	Males							Females							All
	< 20	20-24	25-29	30-34	35-39	>= 40	Total	< 20	20-24	25-29	30-34	35-39	>= 40	Total	
NORTH ATLANTIC RMC															
Walter Reed AMC	113	2535	1893	1640	1869	3124	11174	46	640	678	487	525	612	2988	14162
Aberdeen Prov. Ground, MD	910	547	281	333	371	347	2789	102	95	72	60	38	41	408	3197
FT Belvoir, VA	12	174	252	272	336	400	1446	3	67	115	72	75	86	418	1864
FT Bragg, NC	1891	11610	8166	5926	4344	2413	34350	260	1683	1186	664	465	238	4496	38846
FT Drum, NY	523	3870	2390	1423	1068	524	9798	81	466	252	153	102	56	1110	10908
FT Eustis, VA	963	1663	1252	986	937	803	6604	190	518	335	185	155	119	1502	8106
FT Knox, KY	1698	3077	1830	1491	1434	800	10330	36	224	213	153	122	64	812	11142
FT Lee, VA	1179	922	602	546	460	398	4107	759	502	254	159	124	94	1892	5999
FT Meade, MD	92	658	806	779	643	822	3800	36	267	267	215	155	139	1079	4879
West Point, NY	17	229	232	563	475	521	2037	5	60	64	100	70	68	367	2404
GREAT PLAINS RMC															
Brooke AMC	390	710	901	953	830	958	4742	305	388	384	351	289	295	2012	6754
Wm Beaumont AMC	581	2344	1774	1284	1237	1112	8332	128	624	414	209	189	168	1732	10064
FT Carson, CO	620	4387	3256	2013	1514	851	12641	111	683	430	203	161	97	1685	14326
FT Hood, TX	1683	13006	8581	5397	3957	2214	34838	390	2359	1533	867	634	369	6152	40990
FT Huachuca, AZ	528	1059	895	594	525	400	4001	130	368	212	106	96	101	1013	5014
FT Leavenworth, KS	40	264	228	471	803	533	2339	16	73	48	66	99	60	362	2701
FT Leonard Wood, MO	2253	2022	1257	1194	1000	568	8294	831	637	350	231	146	87	2282	10576
FT Polk, LA	402	2521	1556	1283	797	379	6938	71	434	265	141	83	67	1061	7999
FT Riley, KS	574	3615	2197	1313	972	488	9159	58	399	259	143	112	59	1030	10189
FT Sill, OK	1770	3680	2239	1572	1243	734	11238	337	573	332	211	136	68	1657	12895
SOUTHEAST RMC															
Eisenhower AMC	1800	1927	1438	1099	1100	1187	8551	354	562	438	333	293	245	2225	10776
FT Benning, GA	4390	5259	3246	2152	1478	760	17285	82	493	366	228	170	85	1424	18709
FT Campbell, KY	1044	7336	5351	3452	2344	1142	20669	178	1032	699	359	219	98	2585	23254
FT Jackson, SC	1864	1612	911	888	760	464	6499	1183	854	459	336	184	92	3108	9607
FT McClellan, AL	223	144	112	146	228	228	1081	35	44	26	36	29	35	205	1286
FT Rucker, AL	138	685	1036	612	523	454	3448	81	196	149	73	50	31	580	4028
FT Stewart, GA	979	6051	3990	2386	1808	949	16163	158	1054	635	390	246	142	2625	18788
WESTERN RMC															
Madigan AMC	967	5080	3619	2504	1953	1301	15424	296	1027	648	364	246	205	2786	18210
FT Irwin, CA	160	1419	987	714	556	269	4105	30	181	124	80	56	27	498	4603
FT Wainwright, AK	340	1873	1579	821	524	316	5453	60	331	242	132	111	48	924	6377
OTHER LOCATIONS															
Tripler AMC	648	4043	3429	1987	1496	938	12541	128	839	716	388	258	197	2526	15067
Europe	941	11763	11500	7313	5262	3637	40416	261	2427	1991	1122	842	533	7176	47592
Korea	989	4333	3493	2442	2168	1594	15019	173	753	625	420	365	233	2569	17588
Other/Unknown	2227	8610	7953	9166	8303	5014	41273	558	1848	1369	1213	978	621	6587	47879
Total	32949	119032	89239	65742	53363	36705	397030	7472	22701	16150	10251	7824	5485	69883[§]	466932[§]

1. Based on duty zip code. Does not account for TDY.

§ Includes unknown age groups and unknown gender.

2. Includes subordinate catchment areas not listed separately.

Source: Defense Manpower Data Center.

DEPARTMENT OF THE ARMY
U.S. Army Center for Health Promotion
and Preventive Medicine
Aberdeen Proving Ground, MD 21010-5422

OFFICIAL BUSINESS
MCHB-DC-EDM

BULK RATE
U.S. POSTAGE
PAID
APG, MD
PERMIT NO. 1