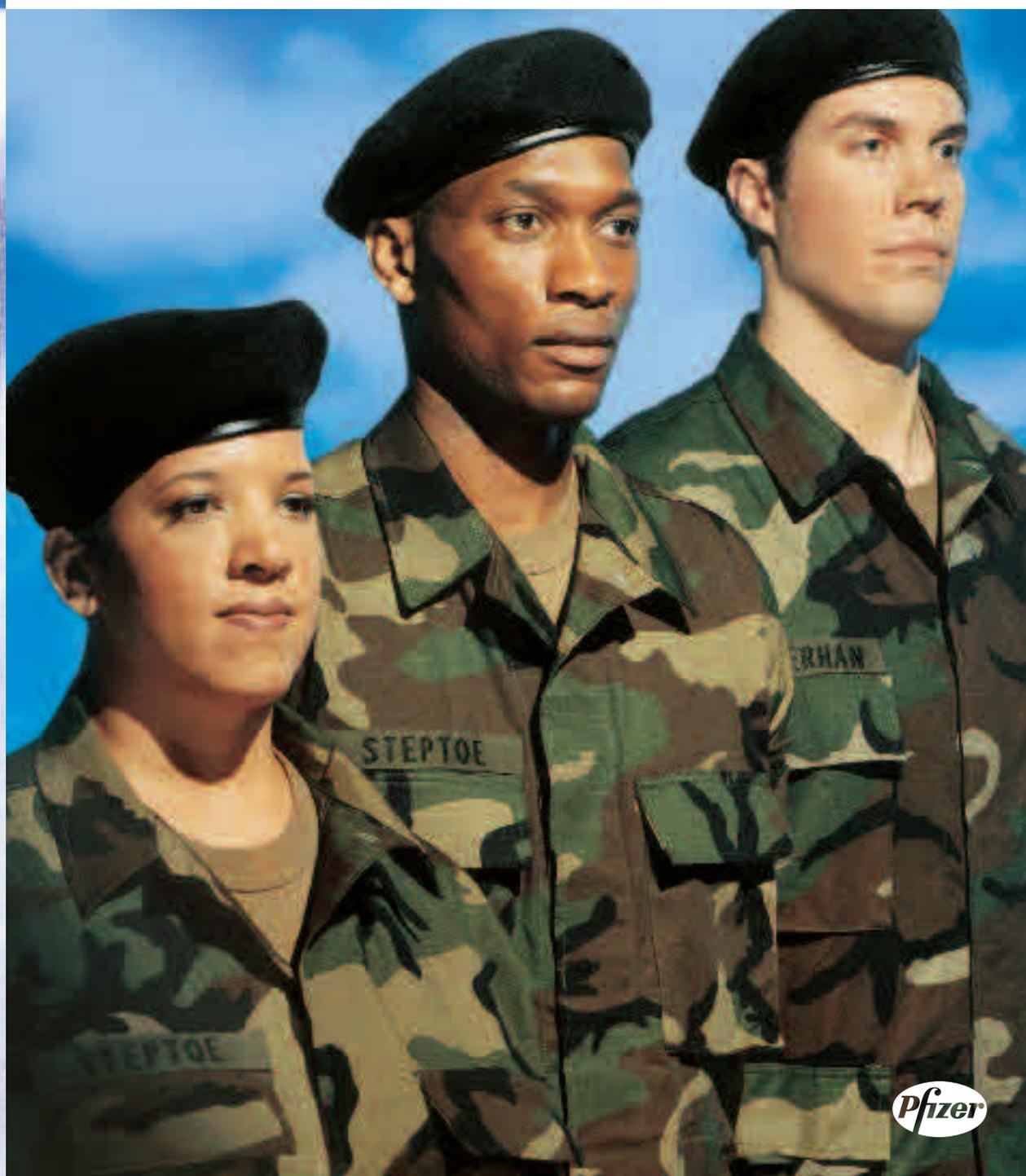


The Health Status of the United States Army

Findings from the Total Army Injury and
Health Outcomes Database (TAIHOD)





Note: The source of the data in this publication is the Total Army Injury and Health Outcomes Database (TAIHOD). The use of Army medical or administrative records in the preparation of this material is acknowledged, but it is not to be construed as implying official Department of the Army approval of the conclusions presented.

The Health Status of the United States Army

With one-half million persons serving on active duty throughout the world, the United States (US) Army represents one of the largest single employers in the United States. Eighty-five percent of active-duty personnel are men, and 92% of service members are younger than 40. Because many physical limitations and chronic health conditions are reasons for exclusion from entering military service, the end result is a youthful workforce that is relatively fit and healthy: In 1999, only 5% rarely exercised or were obese. However, the picture is not perfect. Musculoskeletal conditions, and to a lesser degree mental disorders, are the most prevalent diagnosed conditions among US Army personnel. Fifteen percent of Army service members have joint disorders, and 5% of servicewomen aged 40 to 65 years have osteoarthritis. Adjustment reaction affects 4% of active-duty women and 2% of active-duty men, and this condition was the most frequent hospital discharge diagnosis in 1999, accounting for 6% of all hospital stays. Cardiovascular disease prevalence increases with advancing age of Army personnel. Diagnosed hypertension affects 8% of servicewomen aged 40 to 65 years and 7% of servicemen in this age group.

This issue of Pfizer Facts describes the prevalence of diagnosed chronic conditions, behavioral risk factors, and healthcare resource utilization among all active-duty service members of the US Army aged 17 to 65 years, serving throughout the world. The Health Status of the United States Army presents new analyses of the Total Army Injury and Health Outcomes Database (TAIHOD) from 1995 through 2000 to increase understanding of health issues within this population and promote discussion of healthcare resources rendered to Army personnel.

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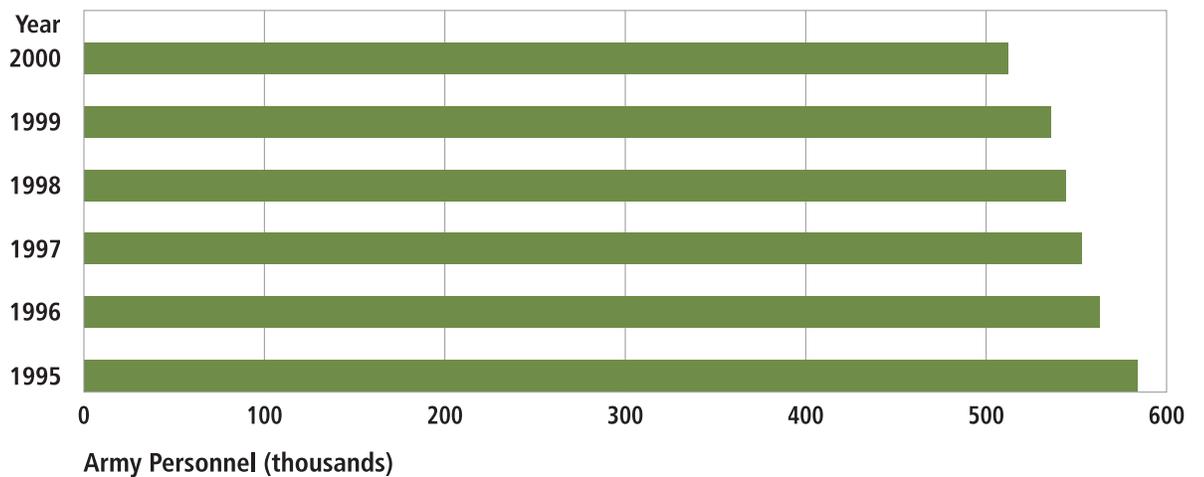
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Demographic Characteristics of the United States Army

In 2000, there were 511,945 active-duty personnel aged 17 to 65 years in the US Army, serving throughout the world. The number of service members has decreased 12% since 1995. The US Army is predominantly male (85%), racially diverse, and 51% of its personnel are married.

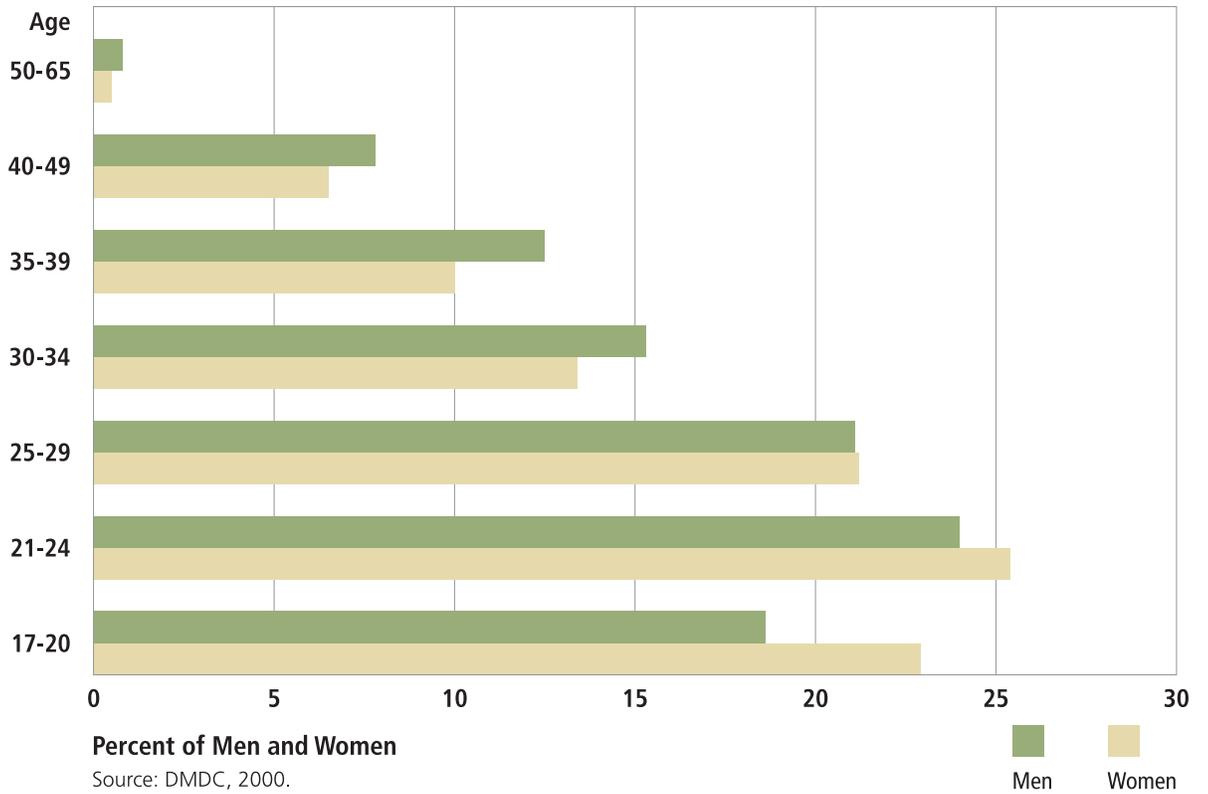
Number of US Army Personnel by Year



Source: DMDC*, 2000.

*DMDC=Defense Manpower Data Center, a component of the Total Army Injury and Health Outcomes Database (TAIHOD).

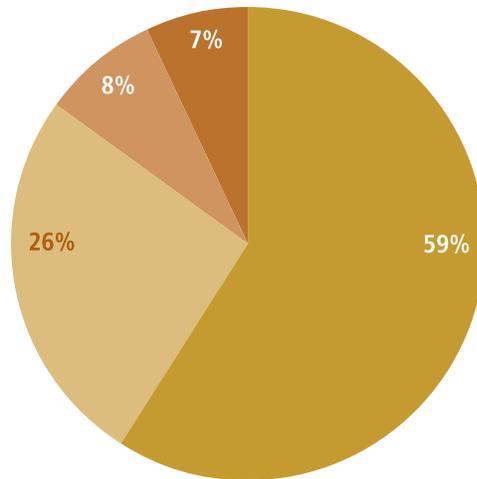
Age Distribution of US Army Personnel by Gender



- Army service members are relatively young, with an average age of 28 (average age of men, 28; average age of women, 27). Ninety-two percent of Army personnel are younger than 40 years:
 - 44% of all service members are aged 17 to 24 years.
 - 48% of all service members are aged 25 to 39 years.
- Army servicemen and servicewomen also have similar age distributions:
 - 19% of servicemen and 23% of servicewomen are aged 17 to 20 years.
 - 21% of both servicemen and servicewomen are aged 25 to 29 years.

The Health Status of the United States Army

Racial and Ethnic Distribution of US Army Personnel



Source: DMDC, 2000.

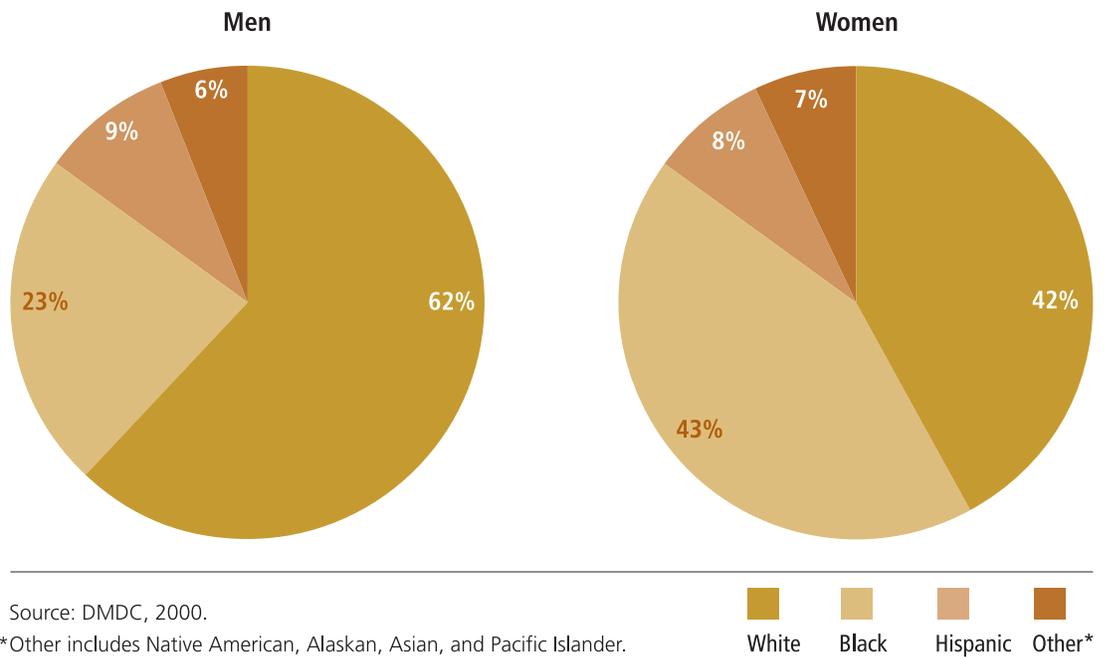
*Other includes Native American, Alaskan, Asian, and Pacific Islander.

White Black Hispanic Other*

- The US Army is racially and ethnically diverse; 41% of personnel are non-white.

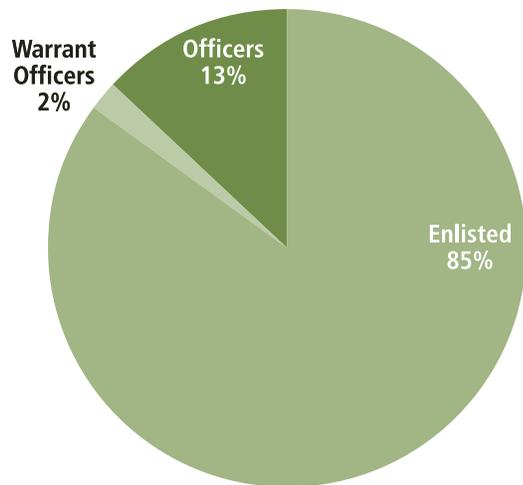


Racial and Ethnic Distribution of US Army Personnel by Gender



- The Army’s racial and ethnic proportions differ between servicemen and servicewomen:
 - Among servicemen, 62% are white and 23% are black.
 - Among servicewomen, there is a nearly equal proportion of whites and blacks, 42% and 43%, respectively.

Distribution of US Army Personnel by Rank



Source: DMDC, 2000.

- 85% of active-duty Army personnel are of enlisted rank.





Diagnosed Prevalence of Chronic Conditions Among US Army Personnel

Active-duty Army personnel have equal access to comprehensive medical care. The majority of care dispensed to servicepersons is for the treatment of musculoskeletal and mental disorders, and, among older service personnel, care includes treatment for cardiovascular and other chronic conditions.

The following sections describe diagnosed prevalence of chronic conditions, behavioral risk factor prevalence, and healthcare resource utilization among active-duty Army personnel for the year 1999, unless otherwise stated.

The diagnosed prevalence of a chronic condition refers to the proportion of active-duty Army personnel who, in 1999, had an ICD-9-CM (International Classification of Diseases, Ninth Revision, Clinical Modification) code for that condition recorded in hospitalization or outpatient medical records. True prevalence of disease includes both diagnosed and undiagnosed cases of that disease. Because the Army database is based on health claims, it is not possible to assess undiagnosed cases of disease.

Because women make up only 15% of total Army personnel, their effect on total diagnosed disease prevalence for any condition is fairly small.

Ranked Prevalent Diagnosed Conditions

Ranked Prevalent Diagnosed Conditions Among US Army Personnel

Rank	Condition	Prevalence (%)
1	Joint disorders	15
2	Internal derangement of knee	2
3	Adjustment reaction	2
4	Hypertension	2
5	Chronic obstructive pulmonary disease (excludes asthma)	2
6	Joint derangement	2
7	Osteoarthritis	1
8	Neuroses	1
9	Depression	1
10	Alcohol dependence syndrome	1

Source: IPDS* and SADR†, 1999.

Medical conditions
 Psychiatric conditions

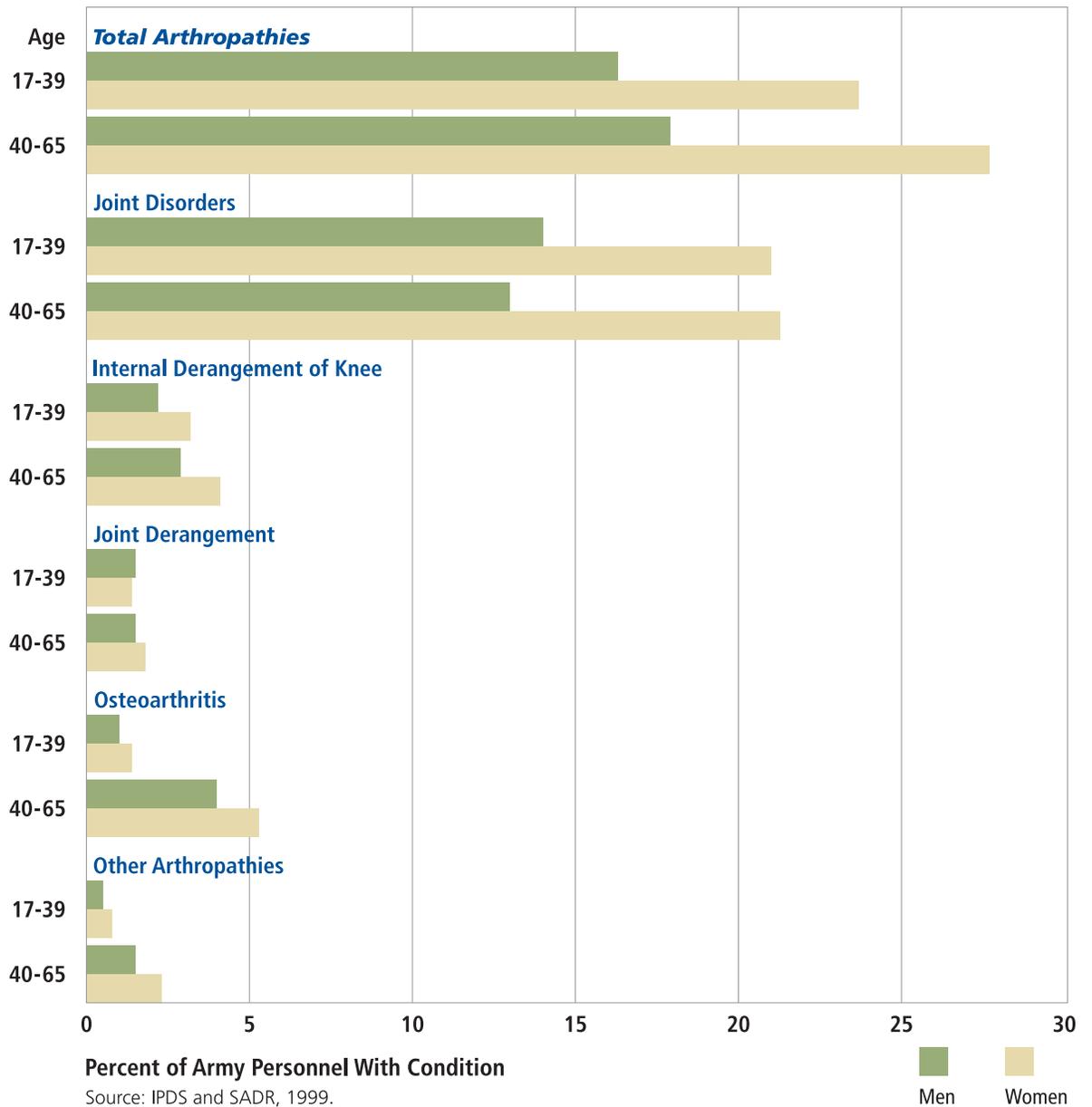
* IPDS = Individual Patient Data System, a component of the TAIHOD. IPDS is also known as Standard Inpatient Data Record (SIDR).

† SADR = Standard Ambulatory Data Record, a component of the TAIHOD.

- Joint disorders (e.g., swelling, stiffness of joint) is the most prevalent condition (15%) in the United States Army and its prevalence is seven times greater than internal knee derangement (2%), the second most prevalent condition among Army personnel.
- Four of the top 10 ranked chronic conditions among active-duty Army personnel are musculoskeletal disorders: joint disorders, internal derangement of the knee, joint derangement (e.g., cartilage disorders, old ruptures, tears), and osteoarthritis.
- Adjustment reaction affects 2% of Army members and ranks third among all diagnosed prevalent conditions. Other mental disorders ranking among the 10 most prevalent chronic conditions in the Army include neuroses, depression, and alcohol dependence syndrome, each with 1% prevalence rates.
- 2% of Army personnel have diagnosed hypertension.

Arthropathies

Diagnosed Prevalence of Arthropathies Among US Army Personnel by Age and Gender



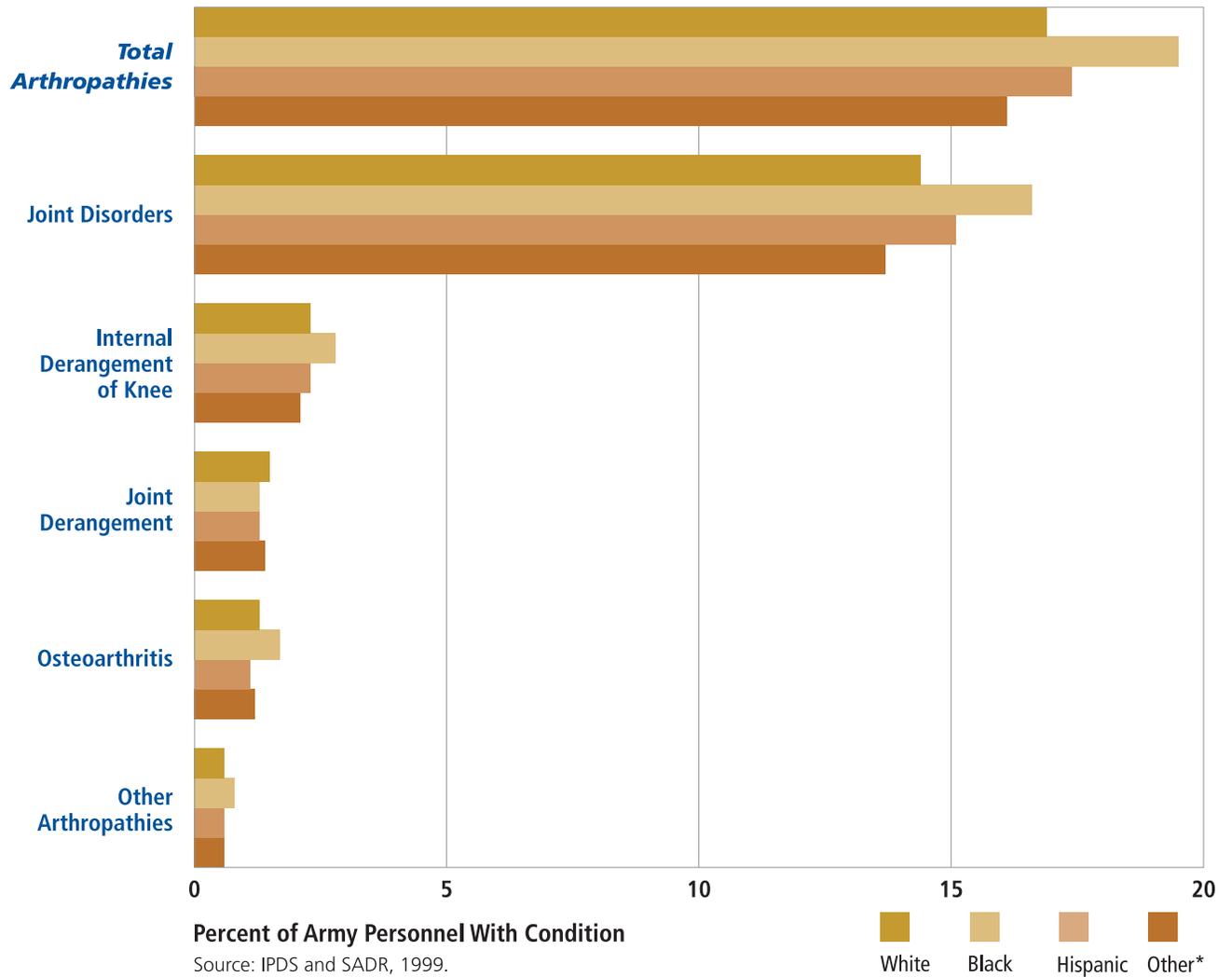
- 18% of all active-duty Army personnel have a diagnosed arthropathy. The prevalence rate of arthropathies among servicewomen is 24%, 50% higher than the 16% prevalence rate among servicemen.

The Health Status of the United States Army

- Joint disorders is the most prevalent arthropathy (15%), and it is also the most common chronic condition among all Army service personnel. Twenty-one percent of younger and older servicewomen have joint disorders; the prevalence among age-matched servicemen are 14% and 13%, respectively.
- Osteoarthritis is more prevalent among Army servicemen and servicewomen aged 40 to 65 years (4% and 5%, respectively) compared with servicemen and servicewomen aged 17 through 39 years (1% each).



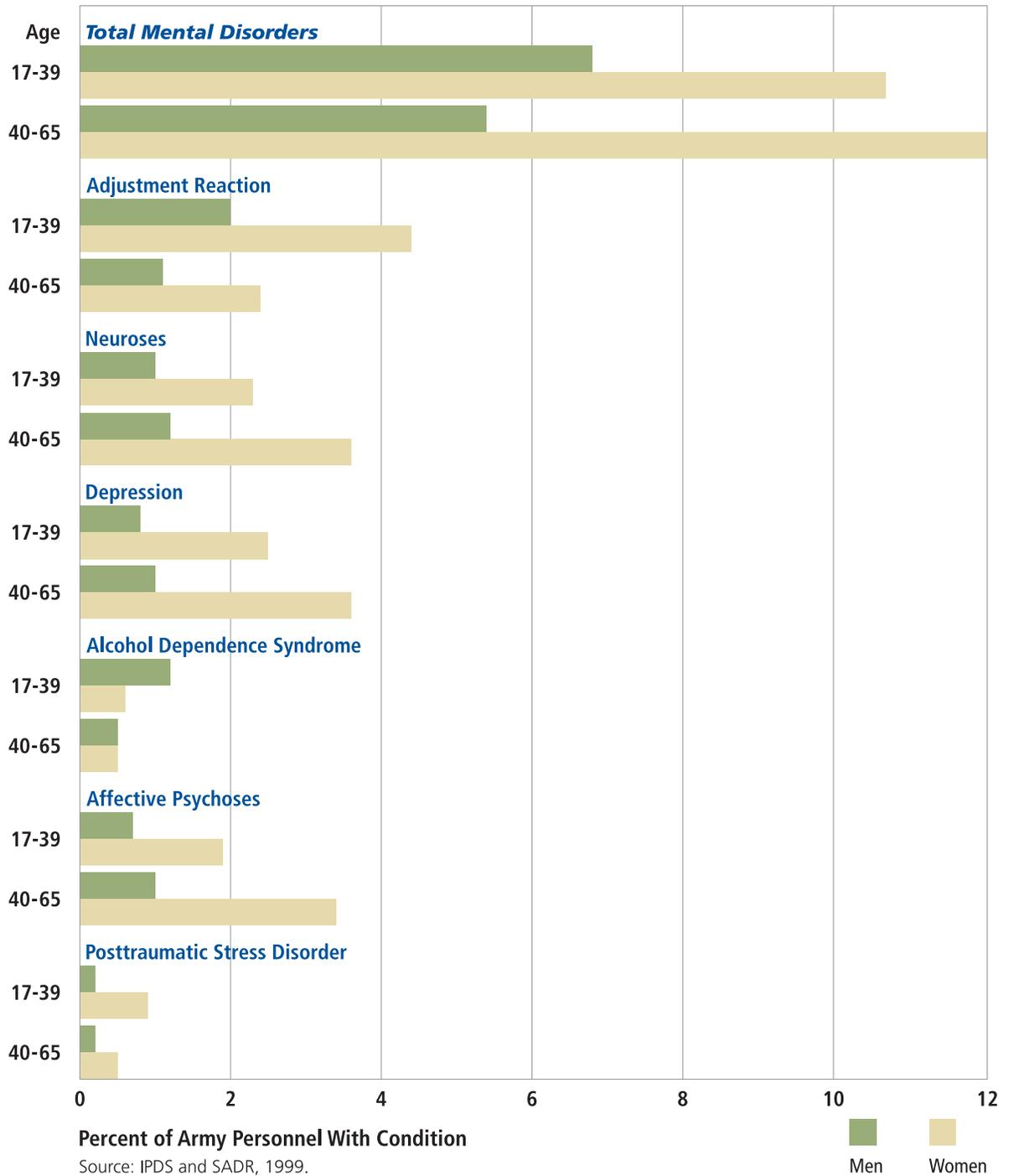
Diagnosed Prevalence of Arthropathies Among US Army Personnel by Race or Ethnicity



- Black Army personnel have a greater prevalence of total arthropathies (20%) than whites and Hispanics (17% each), and the group comprising Native Americans, Alaskans, Asians, and Pacific Islanders (16%).

Mental Disorders

Diagnosed Prevalence of Mental Disorders Among US Army Personnel by Age and Gender

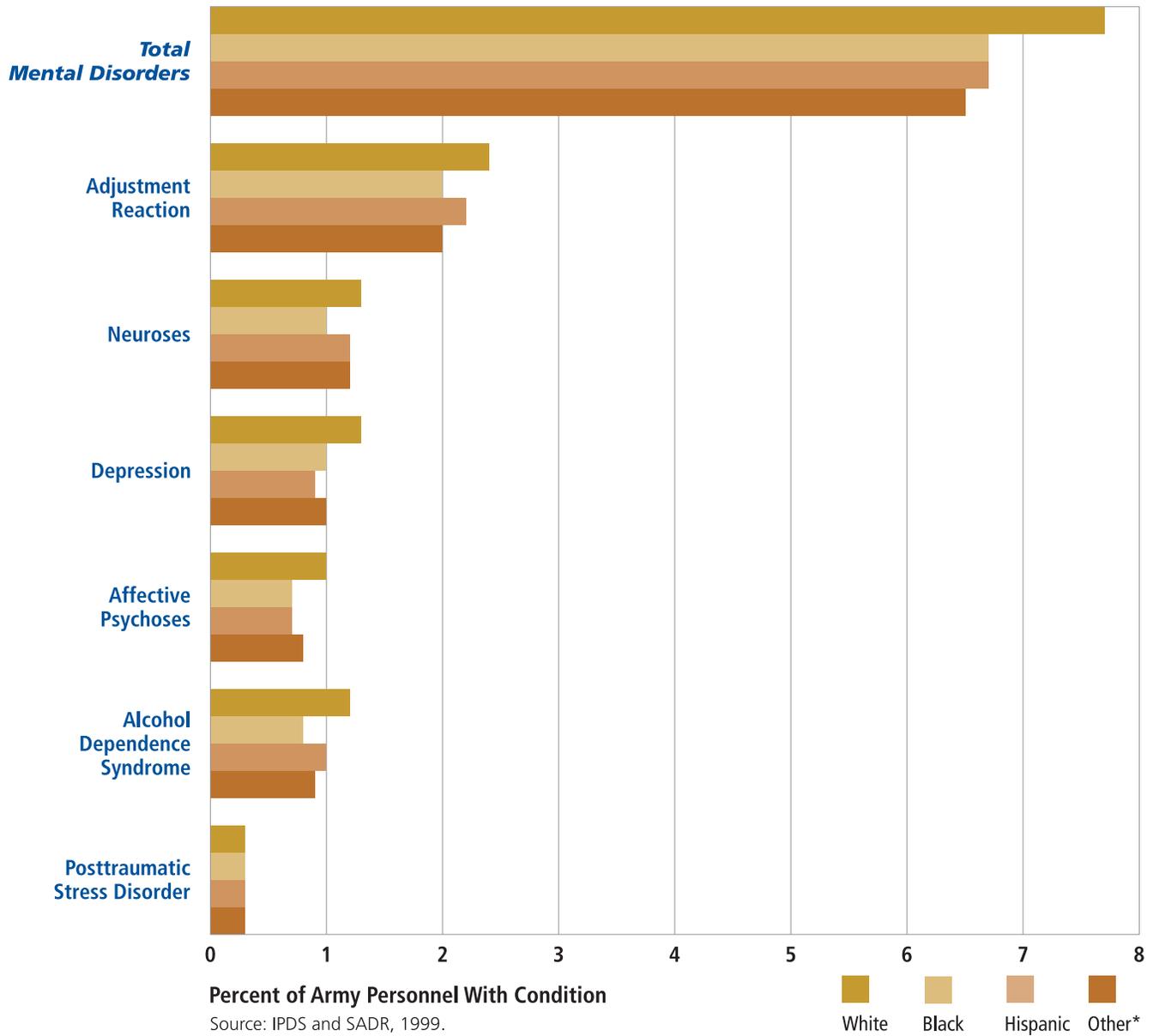


The Health Status of the United States Army

- 11% of active-duty women and 7% of active-duty men have a diagnosed mental disorder. Adjustment reaction, the most prevalent psychiatric condition, affects 2% of Army servicemen aged 17 to 39 years, and 4% of Army servicewomen aged 17 to 39 years.
- With the exception of alcohol dependence syndrome, the prevalence of each mental disorder examined is higher among younger and older servicewomen compared with prevalence rates among age-matched servicemen.
- Servicewomen 40 to 65 years old have a slightly higher prevalence of depression (4%), affective psychoses (3%), and neuroses (4%) than servicewomen aged 17 through 39 years (3% prevalence of depression, 2% prevalence each of affective psychoses and neuroses).
- The prevalence of adjustment reaction is slightly lower among servicemen aged 40 to 65 years (1%) than the prevalence among servicemen aged 17 to 39 years (2%). For the other mental disorders shown, prevalence rates are 1% or less for servicemen of both age groups.



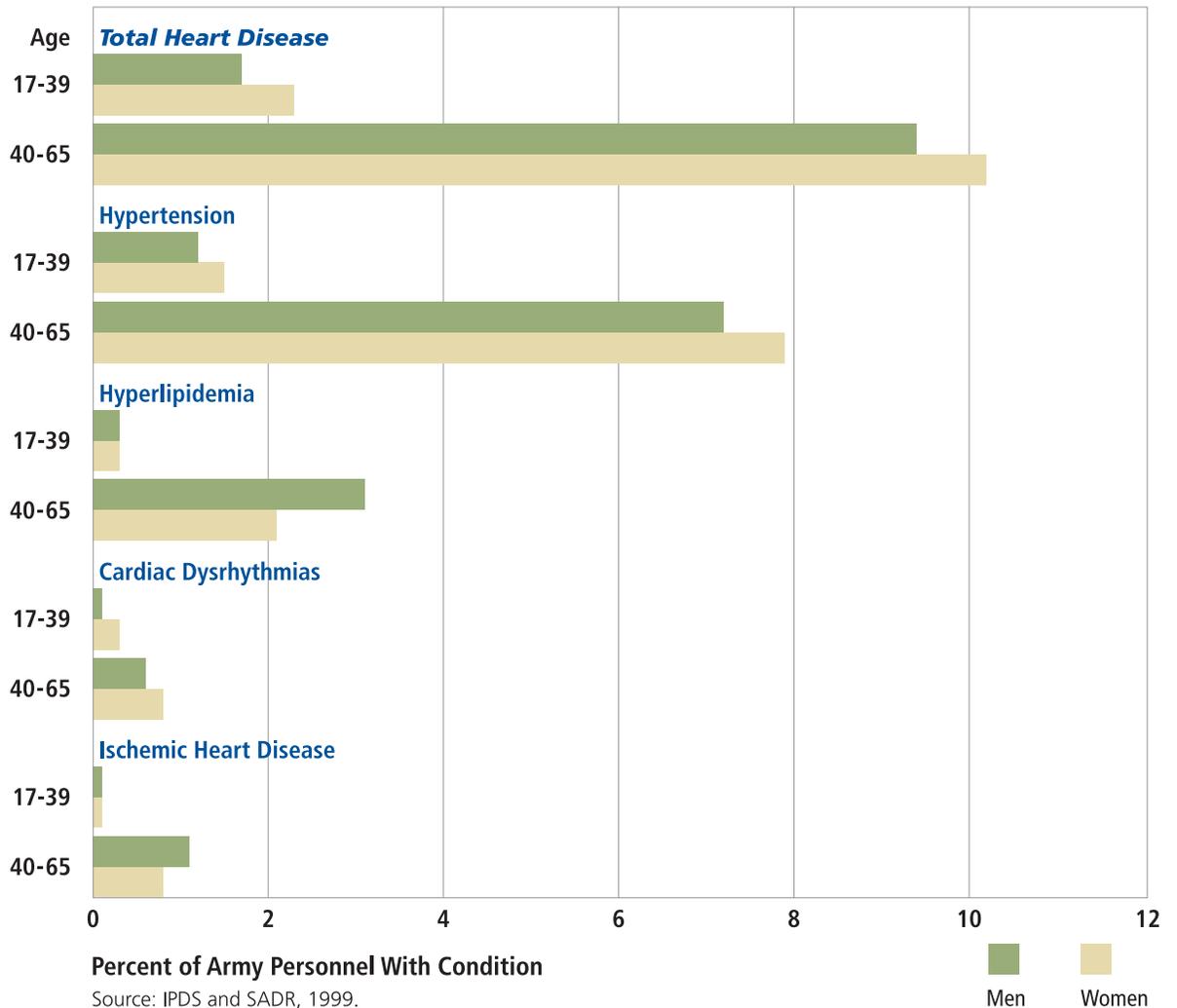
Diagnosed Prevalence of Mental Disorders Among US Army Personnel by Race or Ethnicity



- The prevalence of diagnosed mental disorders is similar among all racial and ethnic groups in the Army.

Cardiovascular Conditions

Diagnosed Prevalence of Cardiovascular Conditions Among US Army Personnel by Age and Gender



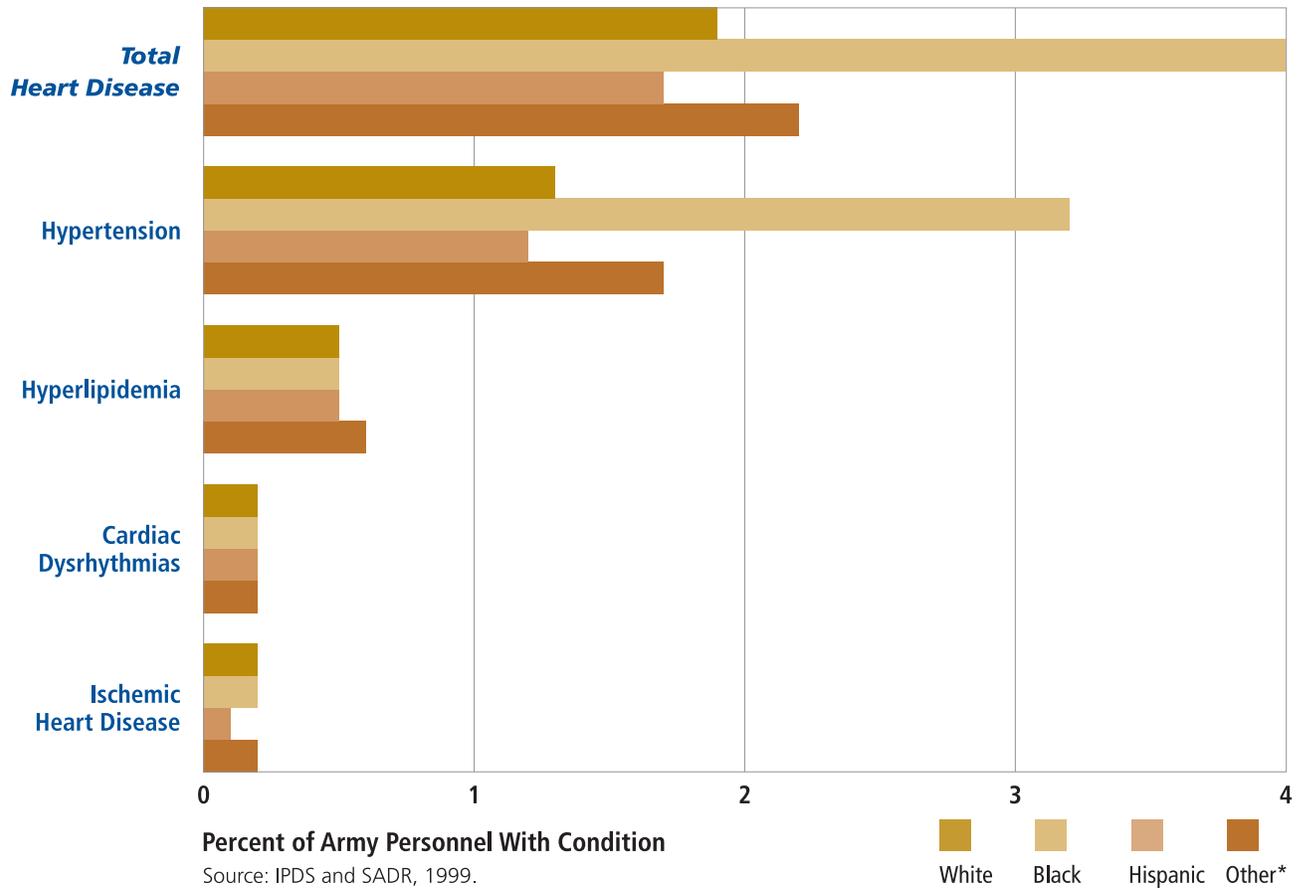
- The diagnosed prevalence of total heart disease among active-duty Army personnel is low, 3%, but it increases with age. Heart disease is about five times more prevalent among older servicemen and servicewomen (9% and 10%, respectively), than among younger servicemen and servicewomen (2% each).

The Health Status of the United States Army

- Hypertension, the most prevalent cardiac condition among Army personnel with an overall prevalence of 2%, increases with age. Diagnosed hypertension affects 7% of Army personnel aged 40 to 65 years: 7% of servicemen and 8% of servicewomen in this age group.
- Diagnosed hyperlipidemia affects 3% of Army personnel aged 40 to 65 years: 3% of older servicemen and 2% of older servicewomen.
- Although the data are not presented on the graph, there is a 0.1% prevalence of diagnosed heart failure among service personnel aged 40 to 65 years, and 0.1% prevalence of diagnosed previous myocardial infarction among servicewomen aged 40 to 65 years.



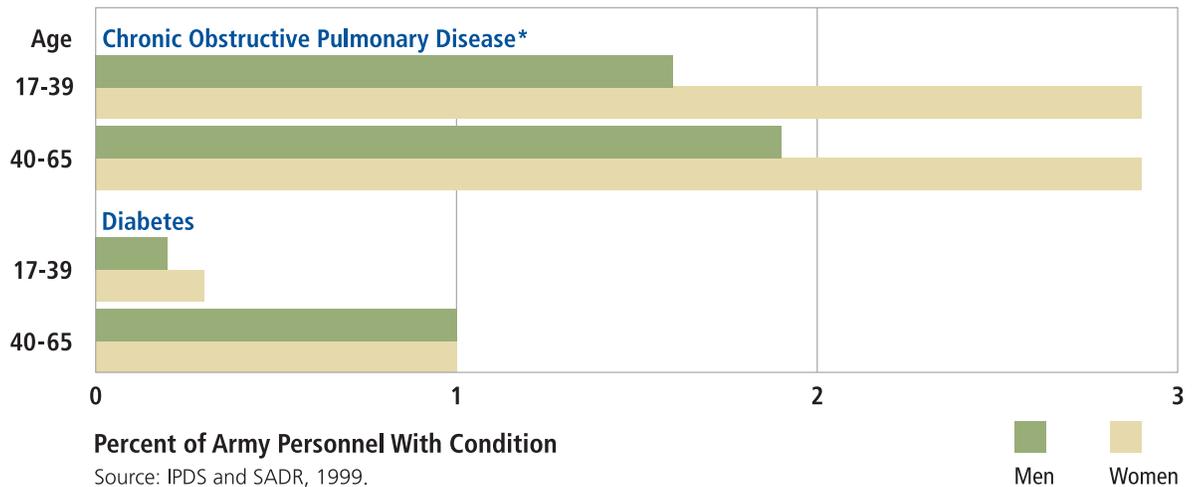
Diagnosed Prevalence of Cardiovascular Conditions Among US Army Personnel by Race or Ethnicity



- The prevalence of diagnosed hypertension is 3% among black service members compared with 1% prevalence among whites and Hispanics, and 2% prevalence among the group comprising Native Americans, Alaskans, Asians, and Pacific Islanders.

Other Chronic Conditions

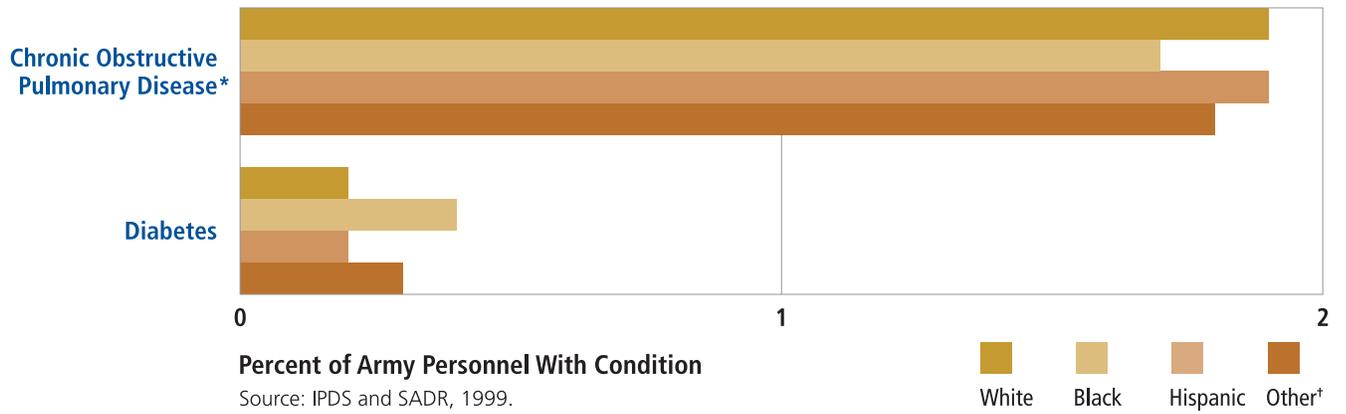
Diagnosed Prevalence of Other Chronic Conditions Among US Army Personnel by Age and Gender



- The diagnosed prevalence of chronic obstructive pulmonary disease (COPD) is 2% overall, 2% among both younger and older servicemen, and 3% among each age group of servicewomen.
- 0.3% of active-duty personnel have diagnosed diabetes, but the prevalence is 1% among active-duty personnel aged 40 to 65 years.



Diagnosed Prevalence of Other Chronic Conditions Among US Army Personnel by Race or Ethnicity



*Excludes asthma.

†Other includes Native American, Alaskan, Asian, and Pacific Islander.

- The diagnosed prevalence of COPD and that of diabetes do not vary by race.



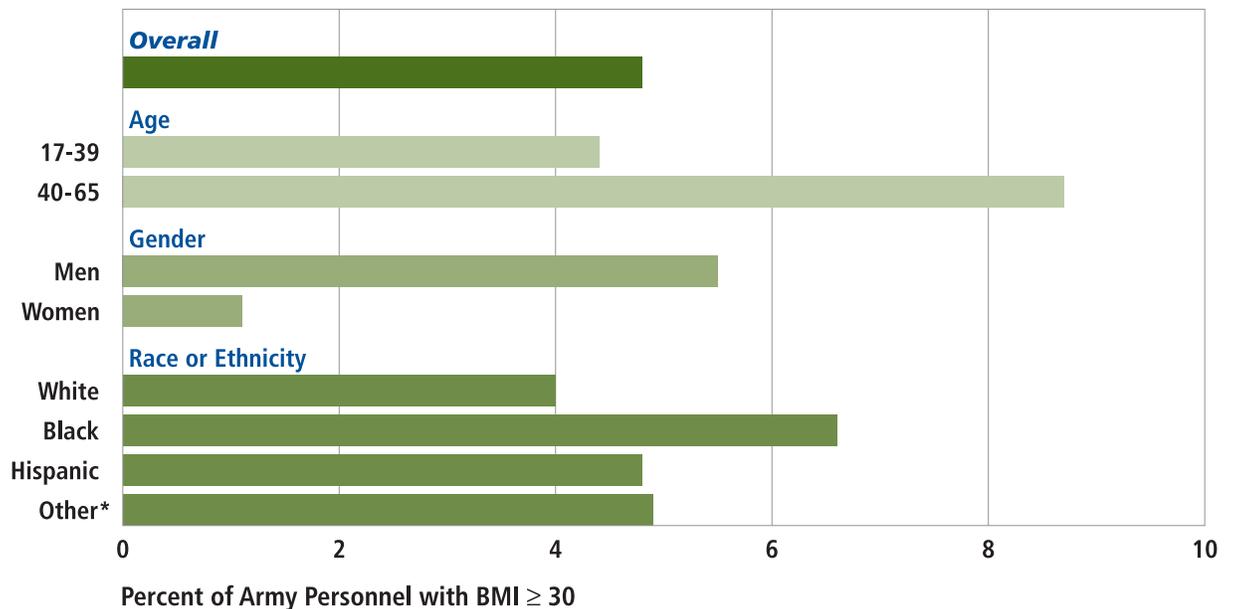


Prevalence of Behavioral Risk Factors Among US Army Personnel

Self-reported health habits and body mass index (BMI) were obtained from a demographically representative subgroup of active-duty Army personnel in 1999.

Obesity

Body Mass Index (BMI) \geq 30 Among US Army Personnel by Demographics



Source: HRA[†], 1999.

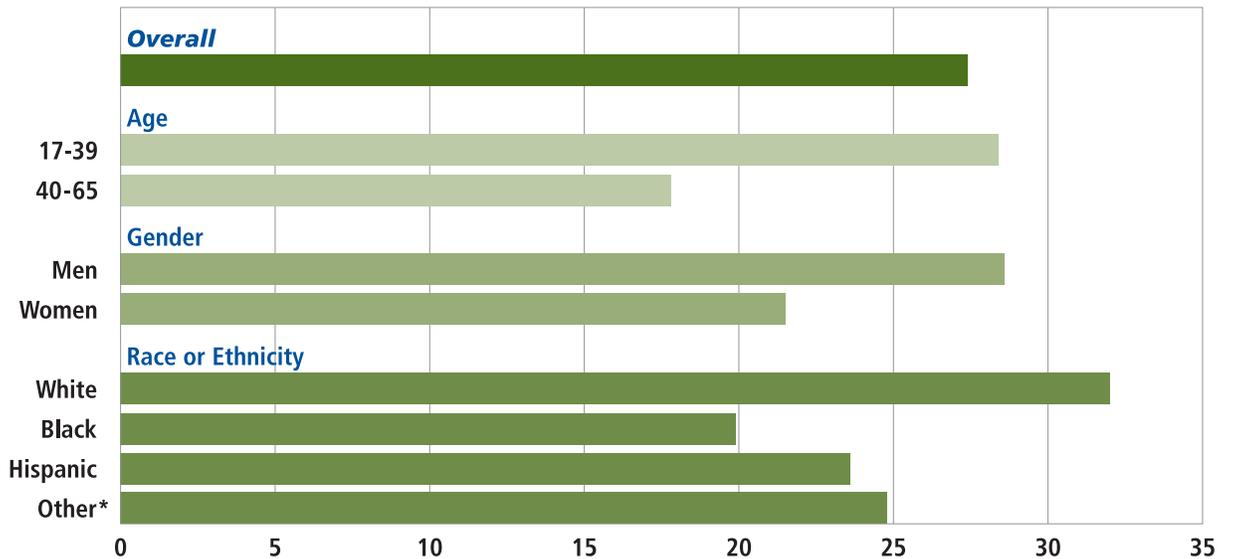
*Other includes Native American, Alaskan, Asian, and Pacific Islander.

[†]HRA=Health Risk Assessment Survey, a component of the TAIHOD.

- Overall, 5% of active-duty Army personnel have a BMI greater than or equal to (\geq) 30 and are considered obese.
- Personnel aged 40 to 65 years, servicemen, and blacks have higher levels of obesity than other Army personnel.

Smoking

Current Smokers Among US Army Personnel by Demographics



Percent of Army Personnel Currently Smoking

Source: HRA, 1999.

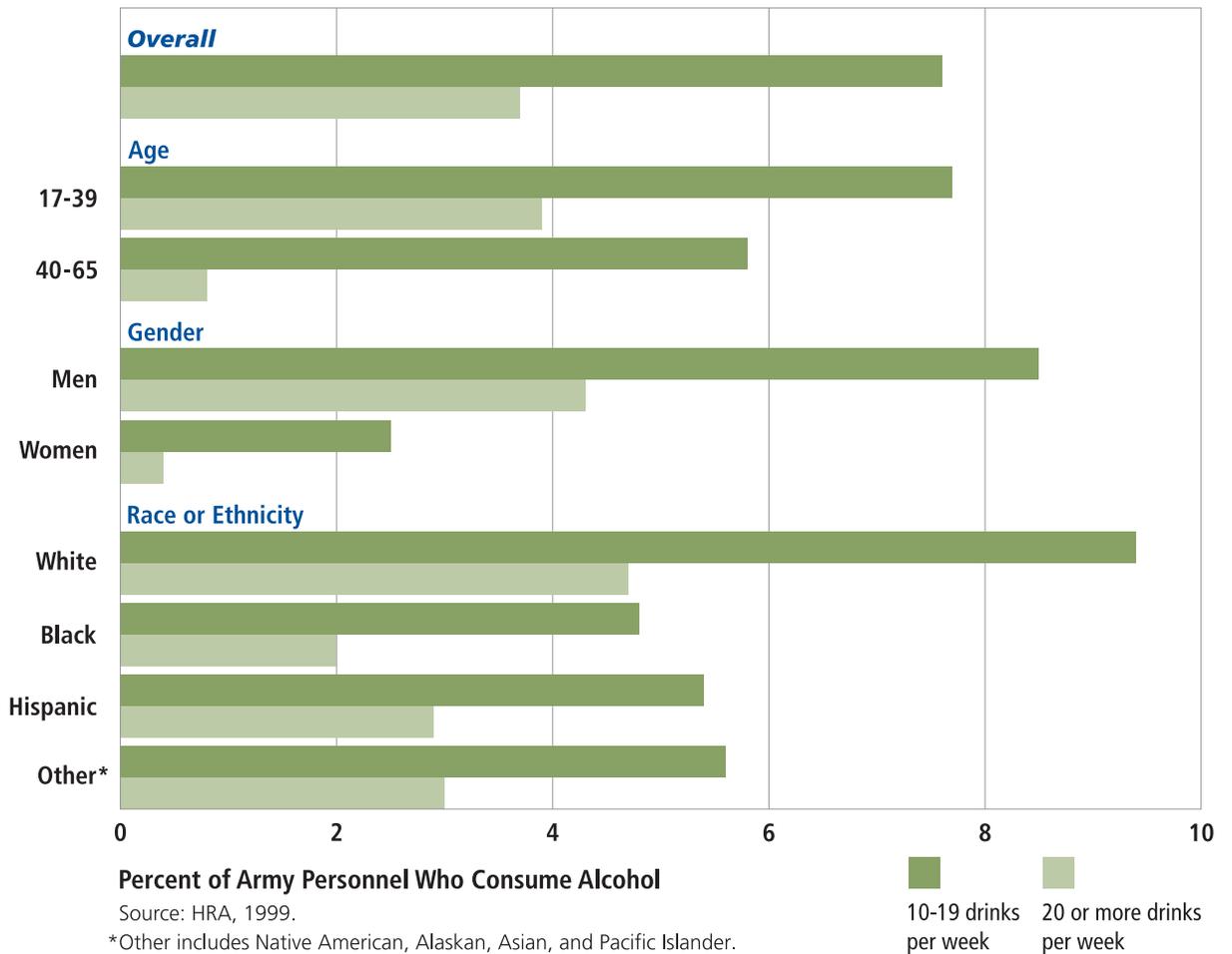
*Other includes Native American, Alaskan, Asian, and Pacific Islander.

- Overall, 27% of active-duty Army personnel report that they smoke. Service personnel aged 17 to 39 years, servicemen, and whites have higher smoking rates than other Army personnel.



Alcohol Use

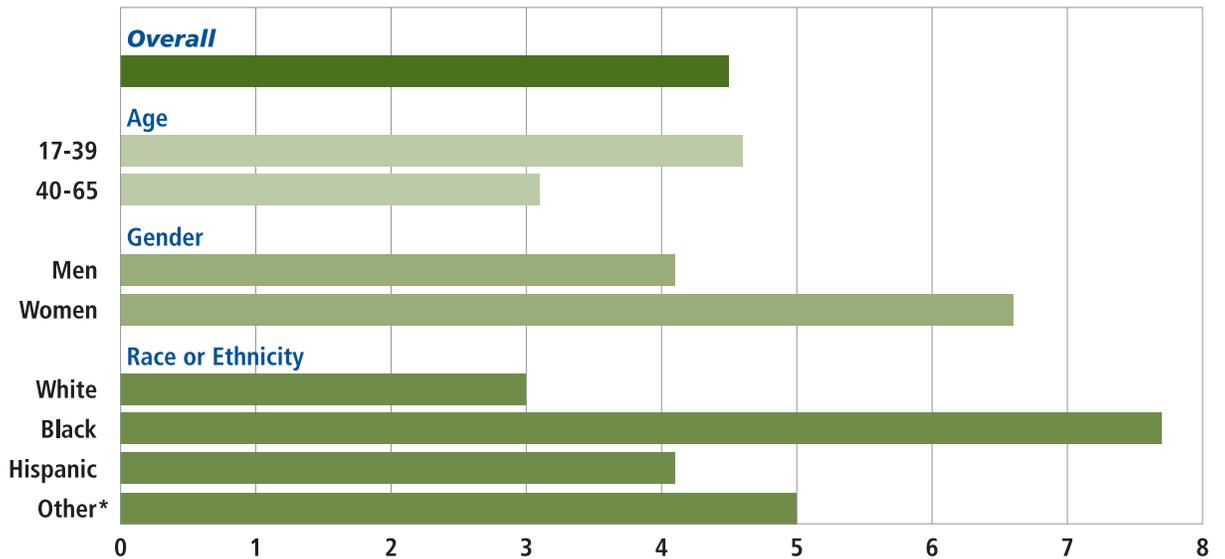
Alcohol Consumption Among US Army Personnel by Demographics



- Overall, 12% of active-duty Army personnel report that they consume 10 or more alcoholic drinks per week:
 - 8% of service personnel consume 10 to 19 alcoholic drinks per week.
 - 4% of service personnel drink 20 or more alcoholic beverages per week.
- Army personnel aged 17 to 39 years, servicemen, and whites report greater amounts of alcohol consumption per week than other Army personnel.

Low Exercise

Low Exercise Among US Army Personnel by Demographics



Percent of Army Personnel Who Rarely or Never Exercise

Source: HRA, 1999.

*Other includes Native American, Alaskan, Asian, and Pacific Islander.

- The great majority of active-duty Army personnel participate in some form of aerobic activity. In response to the question “How often do you do at least 20 minutes of non-stop aerobic activity (vigorous exercise that greatly increases your breathing and heart rate such as running, fast walking, biking, swimming, rowing, etc...)?” only 5% reported that they rarely or never perform 20 minutes of non-stop aerobic activity.
- Although the reported low exercise rate is minimal overall, Army personnel aged 17 to 39 years, women, and blacks exercise less frequently than other Army personnel.

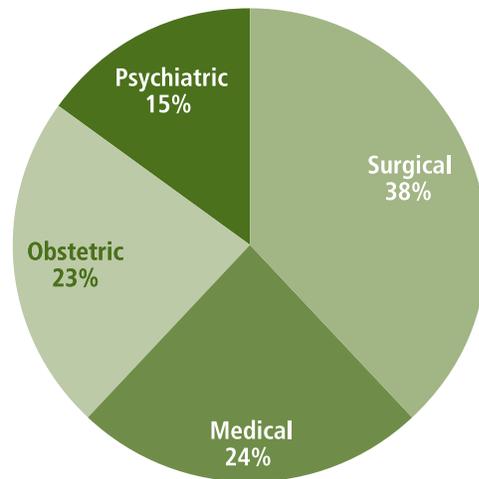




Healthcare Resource Utilization

Hospitalizations

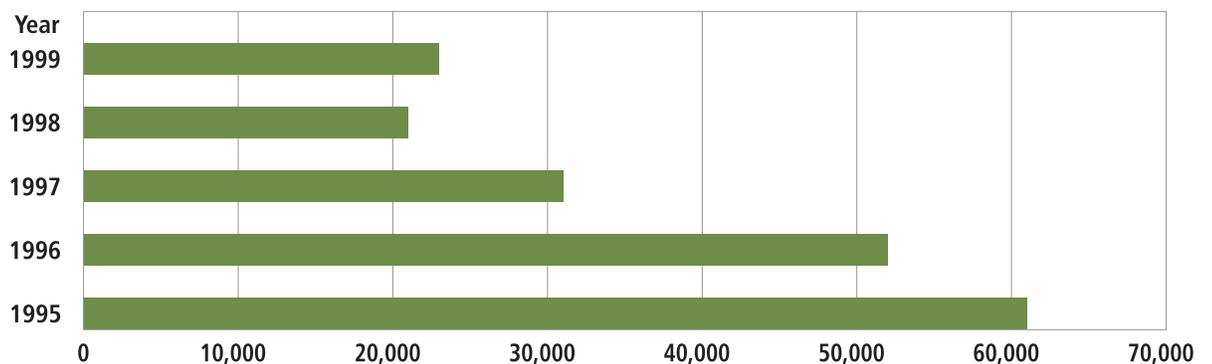
Percent of Total US Army Hospitalizations by Type of Admission



Source: IPDS, 1999.

- Nearly two-thirds of all Army hospital admissions are for surgical and medical reasons.

Total Hospitalizations Within the US Army by Year

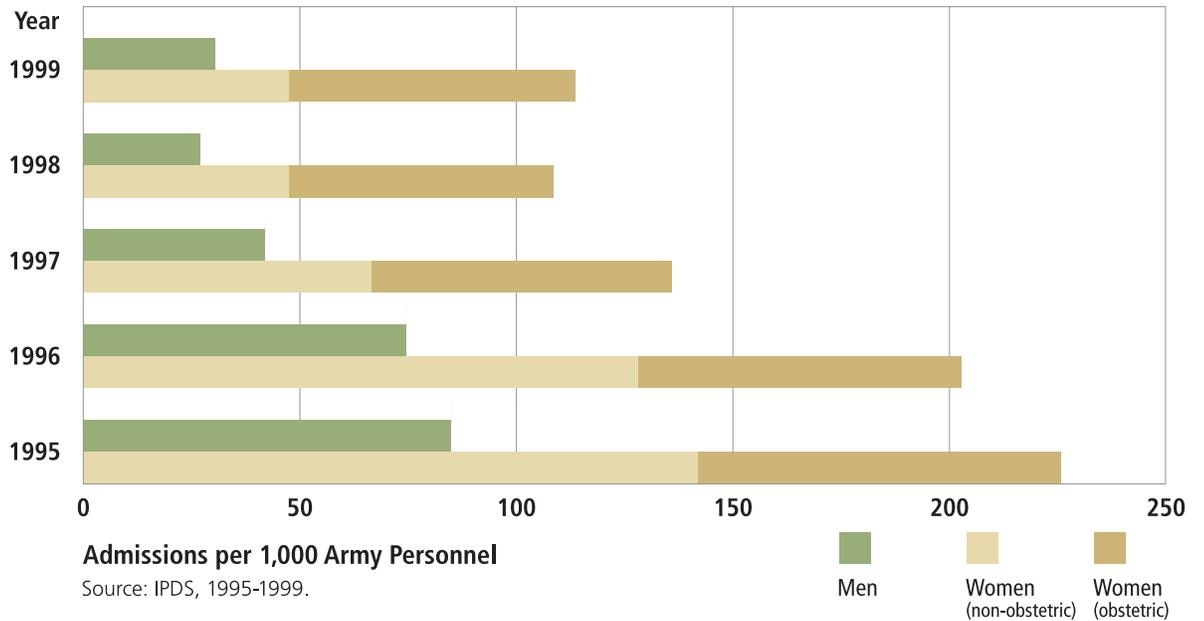


Total Admissions

Source: IPDS, 1995-1999.

- From 1995 through 1999, Army hospital admissions decreased 62%, a dramatic change in just five years. In 1999, there were 23,169 admissions.

Hospitalizations per 1,000 US Army Personnel by Gender by Year



- Even excluding obstetric hospitalizations, admission rates for women exceeded those for men in every year between 1995 and 1999.
- From 1995 through 1998, hospitalizations per 1,000 Army personnel decreased yearly for servicemen and servicewomen (non-obstetric).
- In 1999, hospital admission rates for US Army servicemen and servicewomen (non-obstetric) were 31 and 47 per 1,000 service members, respectively.

Inpatient Utilization Measures Among US Army Personnel

Utilization Measure	Total Army
Total hospital admissions	23,169
% of Army personnel with at least 1 hospital stay	3.7
Average number of admissions per year per hospitalized member	1.2
Average length of stay in days	5.2
% of hospitalizations with readmission within 15 days	4.2

Source: IPDS, 1999.

- 3.7% (19,913) of active-duty Army personnel had at least 1 hospital stay in 1999. The average length of stay (LOS) was 5.2 days.
- 4.2% of all hospital admissions were readmitted within 15 days of initial hospital discharge.

Top-Ranked Hospital Discharge Diagnoses Among US Army Personnel Aged 17 to 39 Years by Gender

Rank	Men (% of Discharges)	Women* (% of Discharges)
1	Adjustment reaction (9)	Adjustment reaction (4)
2	Internal derangement of knee (4)	Affective psychoses (2)
3	Affective psychoses (3)	Uterine leiomyoma (1)
4	Alcohol dependence syndrome (3)	Dentofacial anomalies (1)
5	Other derangement of joint (3)	Infections of kidney (1)
6	Acute appendicitis (3)	Inflammatory disease of ovary, fallopian tube, pelvis, peritoneum (1)
7	Intervertebral disc disorders (3)	Other symptoms involving abdomen and pelvis (1)
8	Dentofacial anomalies (2)	Pain and other symptoms of female genital organs (1)
9	Fracture of ankle (2)	Non-inflammatory disorders of ovary, fallopian tube, and broad ligament (1)
10	Other cellulitis and abscess (2)	Alcohol dependence syndrome (1)

Source: IPDS, 1999.

* Excludes obstetric-related diagnoses.

Medical conditions
 Psychiatric conditions

- Among Army servicemen and servicewomen aged 17 to 39 years, adjustment reaction is the most frequent hospital discharge diagnosis, accounting for 9% of all hospital discharges among men in this age group, and 4% of total hospital discharges among these women. This condition is the most frequent hospital discharge among all hospitalized Army personnel, accounting for 6% of total hospital discharges.
- Other psychiatric, medical, and musculoskeletal disorders round out the top reasons for hospitalizations among younger service personnel in 1999.

Top-Ranked Hospital Discharge Diagnoses Among US Army Personnel Aged 40 to 65 Years by Gender

Rank	Men (% of Discharges)	Women* (% of Discharges)
1	Intervertebral disc disorders (7)	Uterine leiomyoma (12)
2	Respiratory and other chest symptoms (6)	Respiratory and other chest symptoms (5)
3	Other chronic ischemic heart disease (3)	Affective psychoses (5)
4	Affective psychoses (3)	Disorders of menstruation (4)
5	Cardiac dysrhythmias (2)	Pain and other symptoms of female genital organs (3)
6	General symptoms (2)	Intervertebral disc disorders (3)
7	Osteoarthritis (2)	Genital prolapse (2)
8	Diseases of esophagus (2)	Inflammatory disease of ovary, fallopian tube, pelvis, peritoneum (2)
9	Other complications of procedures, NEC [†] (2)	Other complications of procedures, NEC [†] (2)
10	Peripheral ligament, tendon disorders (2)	Endometriosis (1)

Source: IPDS, 1999.

* Excludes obstetric-related diagnoses.

† Not elsewhere classified.

■ Medical conditions ■ Psychiatric conditions

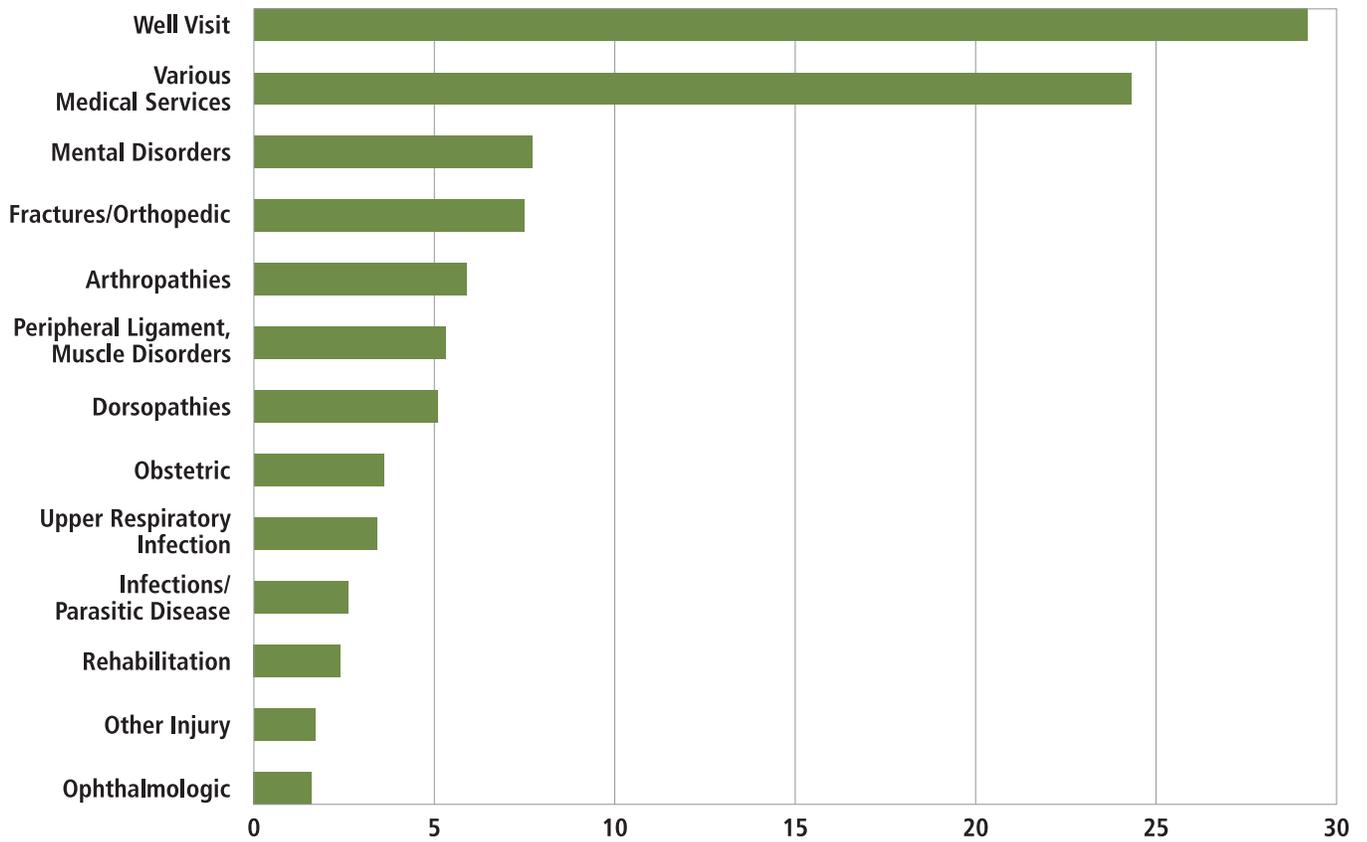
- Older Army personnel are admitted to the hospital primarily for medical and musculoskeletal disorders, and less so for psychiatric conditions.
- Among Army servicemen aged 40 to 65 years, intervertebral disc disorders is the most frequent diagnosis given at discharge, accounting for 7% of all discharges, followed by respiratory and other chest symptoms with 6% of total hospital discharges.
- Among servicewomen aged 40 to 65 years, uterine leiomyoma is the first-ranked discharge diagnosis, accounting for 12% of hospital discharges among women in this age group, and respiratory and other chest symptoms is ranked second, accounting for 5% of all discharges in this age group.

Outpatient Clinic Visits

In 1999, 87% (467,498) of all active-duty Army personnel had at least 1 outpatient clinic visit. In total, there were 4.1 million outpatient clinic visits during that year. Well visits, consisting of general medical examinations, and various medical services, including follow-up and preventive services such as hearing tests and vaccinations, make up more than half of all clinic visits.



Percent of US Army Outpatient Clinic Visits by Diagnostic Clinic Service



Percent of Clinic Visits

Source: SADR, 1999.

- After well visits and visits for various medical services (e.g., immunizations), outpatient visits for mental disorders are most frequent (8% of all visits).
- Other common reasons for outpatient clinic visits among Army personnel include fractures and orthopedic injuries (8% of all visits), and arthropathies (6% of all visits).

The most common diagnoses at ambulatory care visits (excludes obstetric-related and well visits) among active-duty personnel include: joint disorders (4% of all clinic visits); back disorders (4% of all clinic visits); soft tissue disorders (2% of all clinic visits); and peripheral ligament and tendon disorders (2% of all clinic visits).

Most Frequent Diagnoses at Outpatient Clinic Visits Among US Army Servicemen by Age

Rank	Age 17 to 39 (% of Visits*)	Age 40 to 65 (% of Visits*)
1	Joint disorders (5)	Back disorders (5)
2	Back disorders (4)	Joint disorders (3)
3	Soft tissues disorders (2)	Peripheral ligament, tendon disorders (3)
4	Peripheral ligament, tendon disorders (2)	Disorders of refraction and accommodation (3) (vision disorders, adjustment)
5	Family circumstances† (2)	Soft tissues disorders (2)
6	Acute upper respiratory infection (2)	Essential hypertension (2)
7	Nondependent abuse of drugs (2)	Allergic rhinitis (1)
8	Disorders of refraction and accommodation (2) (vision disorders, adjustment)	Care involving rehabilitation (1)
9	Alcohol dependence syndrome (1)	Disorders of cervical region (1)
10	Sprains/strains of knee and leg (1)	Respiratory and other chest symptoms (1)

Source: SADR, 1999.

* Excludes well visits.

† Counseling, etc.

Medical conditions Psychiatric conditions

- The top two ranked conditions diagnosed at outpatient clinics among Army servicemen are joint and back disorders, accounting for 9% of all ambulatory care visits among servicemen aged 17 to 39 years, and 8% of all outpatient visits among servicemen aged 40 to 65 years.
- Three of the top 10 reasons for outpatient visits among active-duty Army men aged 17 to 39 years are for mental disorders.
- Essential hypertension accounts for 2% of all outpatient visits among Army servicemen aged 40 to 65 years.

Most Frequent Diagnoses at Outpatient Clinic Visits Among US Army Servicewomen by Age

Rank	Age 17 to 39 (% of Visits*)	Age 40 to 65 (% of Visits*)
1	Joint disorders (4)	Back disorders (4)
2	Back disorders (4)	Joint disorders (3)
3	Soft tissues disorders (2)	Peripheral ligament, tendon disorders (3)
4	Acute upper respiratory infection (2)	Soft tissues disorders (2)
5	Peripheral ligament, tendon disorders (2)	Disorders of refraction and accommodation (2) (vision disorders, adjustment)
6	Other symptoms involving abdomen and pelvis (2)	Affective psychoses (2)
7	Family circumstances† (1)	Allergic rhinitis (2)
8	Viral and chlamydial infection (1)	Disorders of cervical region (1)
9	Disorders of refraction and accommodation (1) (vision disorders, adjustment)	Care involving rehabilitation (1)
10	Disorders of urethra and urinary tract (1)	Essential hypertension (1)

Source: SADR, 1999.

* Excludes well and obstetric-related visits.

† Counseling, etc.

Medical conditions
 Psychiatric conditions

- As with Army servicemen, joint and back disorders are the most commonly diagnosed conditions among Army servicewomen. These disorders are diagnosed at 8% of all outpatient clinic visits among servicewomen aged 17 to 39 years, and at 7% of all clinic visits among servicewomen aged 40 to 65 years.
- Essential hypertension accounts for 1% of all ambulatory care visits among Army servicewomen aged 40 to 65 years.



Most Frequent Psychiatric Diagnoses at Mental Disorders Outpatient Clinics Among US Army Personnel by Gender

Rank	Men (% of Visits)	Women (% of Visits)
1	Family circumstances* (23)	Family circumstances* (22)
2	Nondependent abuse of drugs (19)	Adjustment reaction (15)
3	Alcohol dependence syndrome (16)	Other psychosocial circumstances (12)
4	Other psychosocial circumstances (9)	Affective psychoses (11)
5	Adjustment reaction (8)	Nondependent abuse of drugs (8)
6	Affective psychoses (6)	Alcohol dependence syndrome (7)
7	Neurotic disorders (4)	Depressive disorder, NEC† (7)
8	Depressive disorder, NEC† (3)	Neurotic disorders (7)
9	Drug dependence (2)	Special symptoms or syndromes (3)
10	Personality disorders (2)	Personality disorders (2)

Source: SADR, 1999.

* Counseling, etc.

† Not elsewhere classified.

- Of the 317,838 outpatient visits to Army psychiatric clinics in 1999, 23% were for family circumstances, where counseling occurs.
- Among Army servicemen and servicewomen, the most frequent mental disorders diagnosed at psychiatric clinic visits differ:
 - Nondependent abuse of drugs and alcohol dependence syndrome together account for 35% of all psychiatric visits among Army servicemen. These diagnoses account for only 15% of all psychiatric visits among Army servicewomen.
 - Affective psychoses accounts for 6% of all psychiatric visits among servicemen and 11% of all psychiatric visits among servicewomen.



Summary

The US Army represents a select population of greater than 511,000 young, healthy adults with equal access to comprehensive medical care. With an average age of 28, the prevalence of many chronic conditions among active-duty personnel is expectedly low.

Musculoskeletal and mental disorders were the primary reasons for seeking healthcare in 1999, accounting for eight of the top 10 most prevalent chronic conditions among active-duty personnel. The most prevalent chronic condition is joint disorders, affecting 15% of total Army personnel and 21% of servicewomen. Seven percent of servicemen and 11% of servicewomen have a diagnosed mental disorder. Adjustment reaction is the most prevalent mental disorder, affecting 2% of all personnel and 4% of servicewomen. This disorder is the third-ranked chronic condition overall, after joint disorders and internal derangement of the knee.

The diagnosed prevalence of hypertension and other chronic conditions increases with advancing age of Army personnel. Seven percent of Army members aged 40 to 65 have diagnosed hypertension and 5% of servicewomen in this age group have diagnosed osteoarthritis.

Behavioral risk factor prevalence differs among Army personnel. Overall, 5% are obese, although this proportion increases to 9% among Army service members aged 40 to 65 years. Self-reported smoking rates are 27% overall, 22% among active-duty women, and 20% among black Army members. Self-reported alcohol consumption (i.e., 20 or more alcoholic drinks per week) is 4% overall, and less than 1% among Army servicewomen. Five percent of total Army personnel report that they rarely exercise.

Hospitalizations decreased 62% from 1995 through 1999, and in the latter year, the average length of stay was 5.2 days. Adjustment reaction was the most frequent hospital discharge diagnosis (excluding obstetric-related discharges) among active-duty Army personnel aged 17 to 39 years, accounting for 9% of total discharges for servicemen in this age group and 4% of all discharges among these servicewomen.

In 1999, 87% of Army personnel made at least one outpatient clinic visit, and, overall, 4.1 million visits were tallied. Excluding obstetric-related and well visits, 8% of total ambulatory care visits were for joint and back disorders. Family circumstances (e.g., counseling) accounted for 23% of total visits to mental disorders clinics.



Appendix 1: Methods

Data Sources

Total Army Injury and Health Outcomes Database (TAIHOD)
Department of the Army
United States Army Research Institute of Environmental Medicine (USARIEM)
Natick, MA

The Total Army Injury and Health Outcomes Database is a relational database containing occupational and selected health information on all persons on active duty in the US Army at any time since 1980. The database was developed by the Department of the Army and is maintained at the US Army Research Institute of Environmental Medicine (USARIEM), Natick, MA. The cooperation of investigators at USARIEM and Applied Epidemiology Inc., Amherst, MA, is acknowledged.

The database joins numerous data sets containing demographic information, and all inpatient and outpatient records of medical care delivered anywhere in the world. The majority of the healthcare is delivered in military treatment facilities, although some care is delivered in civilian hospitals and clinics.

This analysis includes all persons, aged 17 to 65 years, who were on active duty in the US Army anywhere in the world at any time from 1995 through 2000. Excluded from this analysis are dependents of US Army personnel and Army veterans.

The component data sets of the TAIHOD used in this analysis are:

Defense Manpower Data Center (DMDC) data set providing demographic information on all active-duty US Army personnel. Data from 1995 through 2000 were used in this analysis.

Individual Patient Data System (IPDS) containing medical records of all hospital stays among active-duty US Army members, including discharge information for each episode of care. IPDS is also known as the Standard Inpatient Data Record (SIDR). Hospitalization data from 1995 through 1999 were analyzed.

Standard Ambulatory Data Record (SADR), which includes medical records for each ambulatory care visit among active-duty US Army personnel. Data from 1999 were assessed.

Health Risk Appraisal (HRA) containing survey data on self-reported health habits as well as select physiological measurements among a demographically representative group of Army service members. HRA survey DA form 5675, 1 Feb 92, was used. Behavioral risk factor prevalence using survey results from 1999 are presented and the sample size is 7,797.

- **Obesity:** Obesity was defined by a body mass index (BMI) greater than or equal to 30. BMI is defined by weight in kilograms divided by the square of height in meters.

The Health Status of the United States Army

- Smoking: Smoking rates were captured by the response to the question: “How would you describe your cigarette smoking habits?” Response choices included “Never Smoked”; “Current Smoker”; “Ex-Smoker.”
- Alcohol consumption: Alcohol consumption was captured by a response to the question “How many drinks of alcoholic beverages do you have in a typical week? NOTE: 1 drink = 1 glass of wine or wine cooler = 1 can of beer = 1 shot of liquor = 1 mixed drink.”
- Low exercise: Exercise behavior was captured by a response to the question “How often do you do at least 20 minutes of non-stop aerobic activity (vigorous exercise that greatly increases your breathing and heart rate such as running, fast walking, biking, swimming, rowing, etc...)?” Response choices included “3 or more times a week”; “1 or 2 times a week”; “rarely or never.”

Diagnostic Classifications Used in Tables and Figures

Diagnosed prevalence of chronic conditions for 1999 was determined by an ICD-9-CM (International Classification of Diseases, Ninth Revision, Clinical Modification) code entered on an Army service member’s medical record. True prevalence of disease includes diagnosed and undiagnosed cases of that disease. Because the Army database is based on health claims, it is not possible to assess undiagnosed cases of disease.

Condition	ICD-9-CM code
Infectious and parasitic diseases	001–139
Viral and chlamydial infection	079
Neoplasms	140–239
Uterine leiomyoma	218
Endocrine, nutritional, and metabolic	240–279
Diabetes	250
Hyperlipidemia	272.4
Mental disorders	290–319
Affective psychoses	296
Neuroses	300
Personality disorders	301
Alcohol dependence syndrome	303
Drug dependence	304
Nondependent abuse of drugs	305
Special symptoms or syndromes, NEC (Not Elsewhere Classified)	307
Adjustment reaction	309
Posttraumatic stress disorder	309.81, 308.3
Depression	311
Family circumstances (counseling, abuse, etc.)	V61
Other psychosocial circumstances	V62
Nervous system and sense organs	320–389
Disorders of refraction and accommodation (vision disorders, adjustment)	367
Heart disease	390–429
Essential hypertension	401
Hypertension	401–405
Ischemic heart disease	410–414
Myocardial infarction	410
Cardiac dysrhythmias	427
Heart failure	428

Diagnostic Classifications Used in Tables and Figures (Cont.)

Condition	ICD-9-CM code
Respiratory system	460–519
Acute upper respiratory infection	465
Allergic rhinitis	477
Chronic obstructive pulmonary disease (excluding asthma)	490–492, 494–496
Digestive system	520–579
Disorders of the oral cavity	520–529
Dentofacial anomalies	524
Diseases of the esophagus	530
Acute appendicitis	540
Diseases of the genitourinary system	580–629
Infections of kidney	590
Diseases of urethra and urinary tract	599
Inflammatory disease of ovary, fallopian tube, pelvis, peritoneum	614
Endometriosis	617
Genital prolapse	618
Non-inflammatory disorders of ovary, fallopian tube, and broad ligament	620
Pain and other symptoms of female genital organs	625
Disorders of menstruation	626
Disease of the skin and subcutaneous tissue	680–709
Other cellulitis and abscess	682
Musculoskeletal system and connective tissue	710–739
Arthropathies and related disorders	710–719
Osteoarthritis	715
Other and unspecified arthropathies	716
Internal derangement of knee	717
Other derangement of joint (joint derangement)	718
Other disorders of joint (joint disorders)	719
Dorsopathies	720–724
Invertebral disc disorders	722
Disorders of the cervical region	723
Other and unspecified disorders of back (back disorders)	724
Enthesopathies (peripheral ligament, tendon disorders)	726
Other disorders of soft tissues	729
Symptoms, signs, and ill-defined conditions	780–799
Respiratory and other chest symptoms	786
Other symptoms involving abdomen and pelvis	789

Diagnostic Classifications Used in Tables and Figures (Cont.)

Condition	ICD-9-CM code
Injury and poisoning	800–999
Fracture of ankle	824
Sprains and strains of knee and leg	844
Sprains and strains of ankle and foot	845
Other complications of procedures, NEC (Not Elsewhere Classified)	998
Factors influencing health status and contact with health services	V01–V82
Care involving rehabilitation	V57



Appendix II: Glossary

Active duty. Currently in service in the United States Army.

Average length of stay (LOS). Average LOS in days is calculated as the total number of bed days of care in a time period divided by the number of hospital discharges in that time period.

Body mass index (BMI). BMI is defined by weight in kilograms divided by the square of height in meters. A BMI greater than or equal to 30 defines obesity.

Enlisted person. A member of the US Army below the grade of a commissioned or warrant officer.

Officer. A commissioned officer who holds grade and office under a commission issued by the president of the United States. In the Army, a person who has been appointed to the grade of second lieutenant or higher.

Prevalence. The term prevalence refers to diagnosed prevalence. In this analysis, it is the proportion of all active-duty Army personnel who have a diagnosed chronic condition at any time in 1999. The ICD-9-CM (International Classification of Diseases, Ninth Revision, Clinical Modification) codes from a serviceperson's medical record (hospital or outpatient) were used for diagnostic classification of disease.

Warrant officer. An officer appointed by warrant by the secretary of the Army, based upon sound level of technical and tactical competence.



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