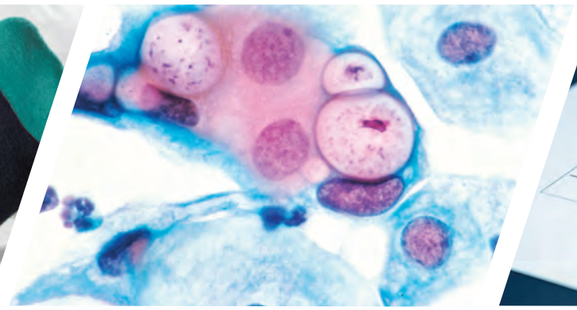
HEALTH OF THE FORCE

Create a **healthier force** for tomorrow.

NOVEMBER 2015

U.S.ARMY

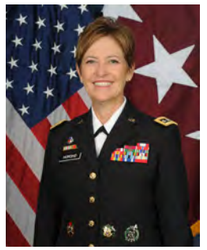
Approved for public release, distribution unlimited



CONTENTS

1 Introduction
3 Performance Triad
9 Sleep
13 Activity
17 Nutrition
21 Installation Health Index
31 Medical Readiness
35 Health Outcomes
49 Health Factors
69 Healthcare Delivery
72 Installation Profile Summaries
102 Appendices

Strengthen the Health of Our Nation



WE CAN STRENGTHEN THE HEALTH OF OUR NATION by improving the health of our Army. The Army is enhancing health readiness by ensuring the Total Force has the required physical, emotional, and cognitive health and fitness to win in environments that are complex, unknown, and constantly changing. As leaders, we must have the knowledge and resources to influence cultural change that best facilitates personal health readiness and creates environments where the healthy choice is the easy choice.

The "Health of the Force Report" is the Army's first attempt to review, prioritize, and share best health practices at the installation level. Senior Army Leaders now have the "Health of the Force" to track the health of the Army, installation by installation, and to share lessons learned for those installations on different ends of the health spectrum. This effort is in direct concert with the U.S. Surgeon General's recent plan to establish national goals and objectives for improving the health of all Americans through leading health Indicators in an attempt to facilitate sharing of best health practices. Ultimately we want to improve the health readiness of the Total Force with the intention to compel leaders to improve the environment, infrastructure, and nutrition offerings on our installations. By exploring and illuminating emerging and best practices, we are aggressively responding to a national call-to-action regarding health.

The inaugural "Health of the Force Report" ushers in an era of reporting that promotes health and prevention rather than just the treatment of chronic illness, injury and disease. For the Army community to achieve meaningful change in health readiness, it must first understand related objective data. As an initial foray into such understanding, I hope this product highlights the Army's current successes and serves as motivation to achieve great personal health readiness at the individual, unit, and community levels. Our Soldiers, Civilians, and Families deserve nothing less.

Serving to Heal…Honored to Serve!

Lt. Gen. Patricia D. Horoho
43rd U.S. Army Surgeon General
and Commander, U.S. Army Medical Command

Why Measure Health of the Force?

THE 2015 "HEALTH OF THE FORCE REPORT" provides a snapshot of the health of active component Soldiers on U.S.-based installations during 2014. It was influenced by the Army Unit Status Report and the U.S. Department of Health and Human Services (HHS) periodic report that tracks Leading Health Indicators (LHI) across the United States.[1] The report aligns with the Army's Ready and Resilient mission and other programs such as Army's Human Dimension, DoD's Operation Live Well, the Military Health System's Quadruple Aim, the Veterans Administration's Whole Health Initiative, and HHS's National Prevention Strategy.

The "Health of the Force Report" presents summaries of key Performance Triad (P3) measures and creates an overall Installation Health Index (IHI). This first effort, still in its infancy, is part of the Army's movement toward creating improved transparency regarding population-level information on health, wellness, and the built environment. The intention is for the Army to use to the information to better understand variation among the installations as they relate to the presence or absence of health outcomes, or unhealthy behaviors, based on LHIs. It is also a means to improve key P3 measures (sleep, activity, and nutrition). Future versions will not only refine existing measures and indices, but will also incorporate additional installations and new data as they become available.

We will continue the pursuit of innovative solutions through rigorous analyses, and by leveraging growing partnerships in a spirit that ensures the healthy choice is the easy choice where Soldiers, Civilians, and Families live, work, and play.

Mr. John J. Resta
Deputy Chief of Staff-Public Health (Acting)

1 https://www.healthypeople.gov/

REPORT HIGHLIGHTS

PERFORMANCE TRIAD

In 2014, Global Assessment Tool (GAT) data suggest that Soldiers could improve their personal health readiness through changes in their sleep, activity, and nutritional habits. No installations reached the current targeted score of 85 or above out of 100 possible points on sleep, activity, or nutrition.

Additionally, a cross-section of 2014 GAT data revealed that only 15%, 38%, and 13% of Soldiers met all of the recommended P3 targets for sleep, activity, and nutrition, respectively.

- **SLEEP**
  The overall installation score for optimal sleep levels (e.g., sleep duration, satisfaction, and being bothered by poor sleep) among Active Duty (AD) Soldiers was 67 out of 100. Scores ranged from 64 to 74 across installations.
- **ACTIVITY**
  The overall installation score for optimal physical activity as assessed by Body Mass Index (BMI), moderate or vigorous activity levels, resistance training and low intensity activity was 81 out of 100. Scores ranged from 79 to 85 across installations.
- **NUTRITION**
  The overall installation score for optimal nutritional intake (e.g., healthy eating, breakfast, recovery snacks, water consumption) among AD Soldiers was 69 out of 100. Scores ranged from 67 to 75 across installations.

MEDICAL READINESS

Medical readiness within 72 hours was not achieved by 17% of AD Soldiers. One-third of those not medically ready were Soldiers with overdue dental or medical exams.

INJURIES

Injuries affect nearly 300,000 Soldiers annually; some individuals experience multiple injuries in a single year, impacting personal readiness and increasing the burden on medical systems. Approximately 1,295 new injuries per 1,000 AD Soldiers were diagnosed in 2014.

BEHAVIORAL HEALTH

Roughly 15% of AD Soldiers had a diagnosed behavioral health disorder (range: 9 to 20% across installations). Among behavioral health diagnoses, adjustment disorder, mood disorders and anxiety disorders were more common.

CHRONIC DISEASE

Among the AD Soldiers evaluated, approximately 14% had one or more diagnosed chronic conditions (range: 12 to 21% across installations). Cardiovascular conditions were the most common condition assessed, followed by arthritis, asthma and chronic obstructive pulmonary disease (COPD).

OBESITY

Obesity remains a concern for military readiness as 13% of Soldiers were classified as obese during Army Physical Fitness Tests (APFTs). Prevalence ranged from 9 to 18% across installations.

TOBACCO

Approximately 32% of AD Soldiers reported tobacco use (smoke or smokeless), with use ranging from 13 to 40% across installations.

SLEEP DISORDERS

Approximately 10% of AD Soldiers had a diagnosed sleep disorder (range across installations: 5 to 14%).

SUBSTANCE ABUSE

Approximately 2% of AD Soldiers had a diagnosed substance abuse disorder (range across installations: 1 to 3%).

CHLAMYDIA

Approximately 16.7 chlamydia infections were reported per 1,000 AD Soldiers.

HOSPITAL ADMISSIONS

Preventable hospital admissions were low (2%) among AD personnel.

INSTALLATION HEALTH INDEX

Installation scores were not significantly different from the Army average, indicating that installations were similar to each other across evaluated health measures.

PERFORMANCE TRIAD

- *Overview*
- *Sleep*
- *Activity*
- *Nutrition*

Sleep, activity and nutrition (SAN) are critical for achieving optimal physical, mental, and emotional health and wellbeing. They are integral to maximizing Soldier performance and are the cornerstones of the Performance Triad (P3). P3, which is rooted in the Army's adaptation of the McKinsey Global Institute's model (see Appendix I), integrates the best available SAN sports science to improve squad overmatch and Soldier performance in tactical environments. It includes messaging, curriculum and training, policy development, technology, leader development, and changes within the built installation environment to make the healthy choice the easy choice. P3 strives to improve and sustain healthy SAN knowledge, attitudes, behaviors, and associated outcomes among Soldiers and Army beneficiaries.

The Global Assessment Tool (GAT) is a survey tool designed to assess an individual's behaviors with regard to these triad components and other key elements which can impact wellbeing. In 2014, approximately 85,000 Active Duty Soldiers completed the survey each quarter, on average; this amounts to roughly 340,000 Soldiers or two thirds of the Active Duty Soldier population completing the GAT over the course of the year.

GAT-derived SAN summary scores available in the Strategic Management System (SMS) were used for this review; the maximum possible score for each metric was 100. Quarterly installation scores were averaged to generate 2014 estimates. These estimates were then collated to generate an installation P3 index (IPI), reflecting overall deviations from the Army average. The IPI assessment revealed that only 1 installation had a statistically significant deviation, and that deviation was indicative of positive P3 health behaviors.

See Installation Profile Summary Pages for installation P3 scores and Appendix II for additional details regarding methodology.

Performance Triad Return on Readiness

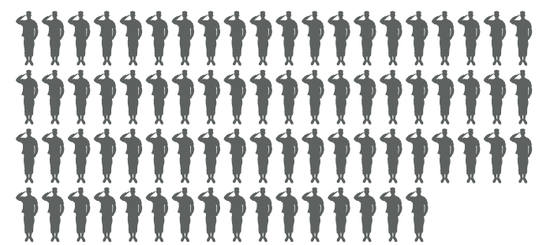
Just **one sleepless night (<4 hours)** can impair performance as much as **0.10% blood-alcohol level**	43K active duty (~12 BCTs) are non-deployable due to medical profiles	10% decrease in overweight Soldiers enables FORSCOM 90% deployable goal	$137M annually to replace Soldiers discharged due to weight control ($75.9K per new recruit)
Under 7 hours sleep for 3+ days correlates to a 20% decrease in cognitive ability (memory & decision-making)	$4.2B to train and replace all Soldiers BMI >30* (currently 78,734 active duty Soldiers) who are 36% less likely to deploy	5+ fruit & vegetables is associated with a 5-fold increase in mental well-being compared to 1 portion	Programs to improve health can result in a $3.27 return on investment for every prevention
Fatigue was a contributing factor in 628 Army accidents and 32 Soldier deaths (FY11–14)	10 million limited days of duty of COMPO 1 Soldiers on duty limited profiles	Overweight recruits are 47% more likely to become injured and use 49% more healthcare resources in first 90 days	Performances Triad Pilot study baseline reports 99.6% of Soldiers do not meet all target behaviors

Performance Triad: Optimizing Human Performance & Unit Readiness

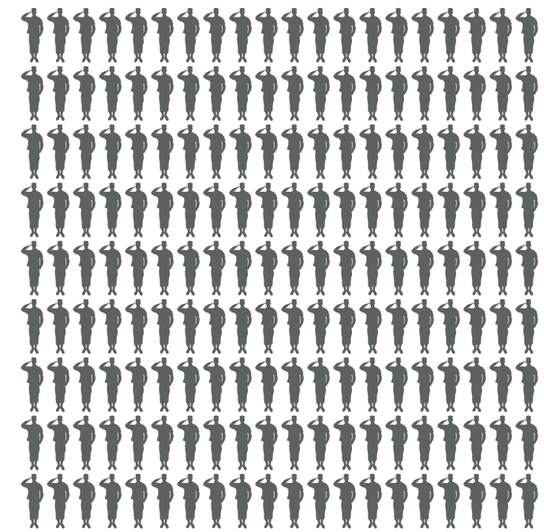
Poor sleep, activity and nutrition have been associated with the top 5 challenges to personal readiness:*

1) medically non-deployable status
2) first term attrition
3) obesity and nutrition
4) musculoskeletal injury (MSKI)
5) fatigue

20,000 (36%) of newly accessioned Soldiers do not complete their first term of enlistment.*



78,000 Active Duty Soldiers are considered clinically obese (Body Mass Index > 30) and are less likely to be medically ready to deploy.*



180,000 Active Duty Soldiers have at least one musculoskeletal injury (MSKI) per year, resulting in over 10 million limited duty days. MSKI accounts for 76% of the medically non-deployable population.*

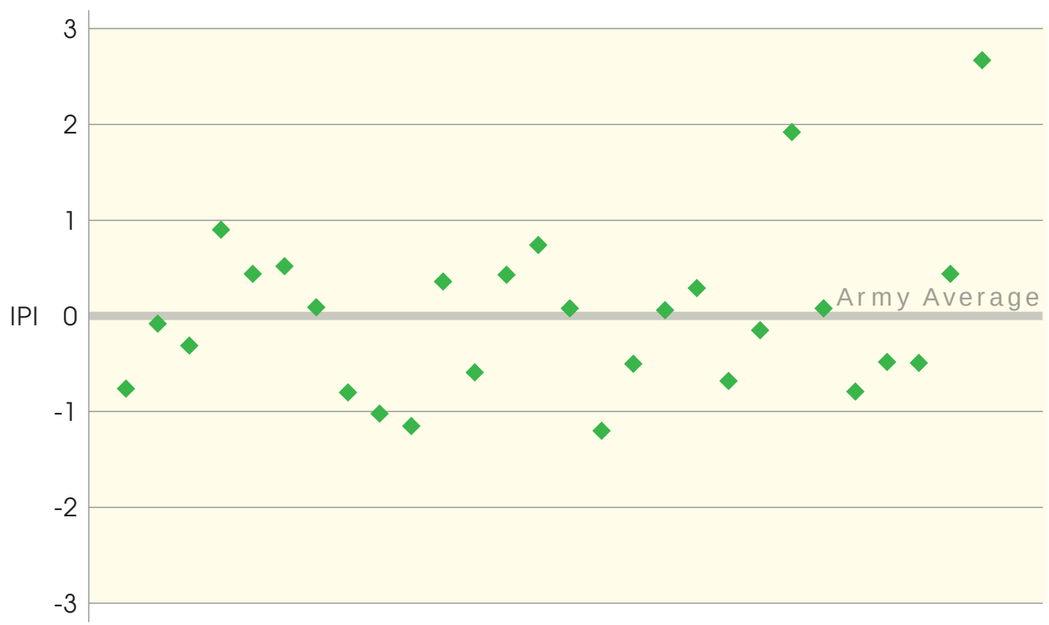
**Adapted from System for Health Playbook, OTSG July 2015*

"All three elements of the Performance Triad are equal in importance. The command emphasis on nutrition and sleep must match the emphasis on physical training."

— FORSCOM Command Training Guidance , 19 October 2015
General Robert B. Abrams, Commander, U.S. Forces Command, United States Army

For this review, each of the P3 behaviors were assessed individually, after which an overall installation P3 index (IPI) which collated the measures was computed. Each installation was assessed against the average for the installations evaluated to determine potentially significant standard deviations. Overall, the installations were relatively comparable, with only 1 installation reporting statistically significant positive P3 behaviors.

IPI Scores*

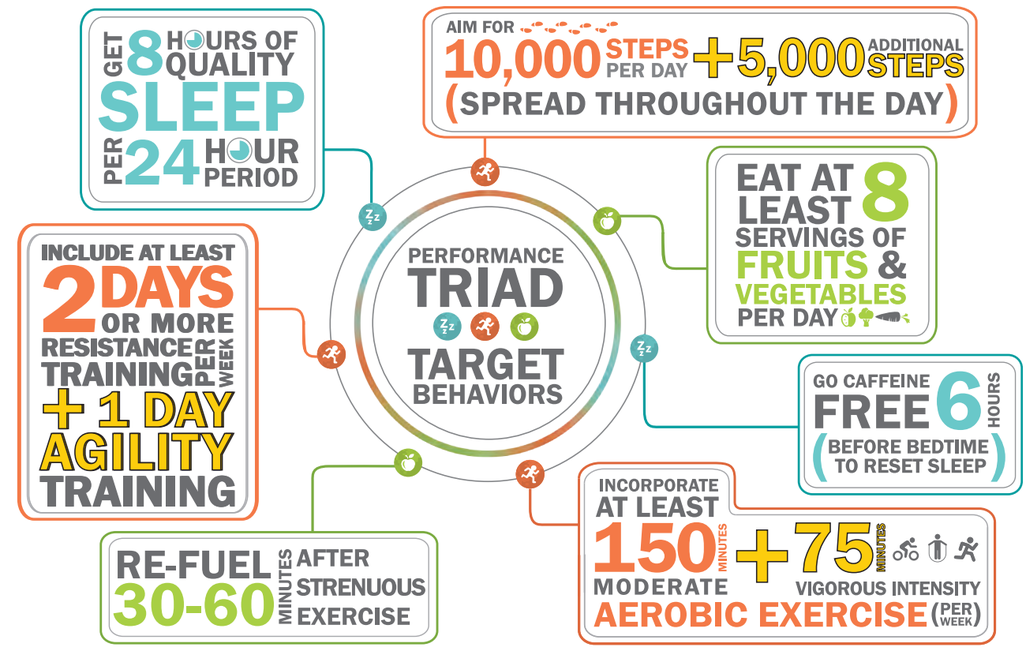


Variation by Installation

* Positive IPI scores indicate higher collective sleep, activity, and nutrition scores; Scores ≤ -2 or ≥ 2 represent statistically significant differences from the Army average (0)

Performance Triad Target Card

FOR PEAK PERFORMANCE, REACH ALL TARGETS AND + GOALS



"WE MUST ALSO BEGIN TO VIEW HEALTH AS MORE THAN SIMPLY HEALTHCARE, AND TRANSITION THE ARMY TO AN ENTIRE SYSTEM FOR HEALTH THAT EMPHASIZES THE PERFORMANCE TRIAD—SLEEP, ACTIVITY AND NUTRITION—AS THE FOUNDATION OF A READY AND RESILIENT FORCE."

—The Army Posture Statement, 25 March 2014

Honorable John M. McHugh, Secretary of the Army
& General Raymond T. Odierno, Chief of Staff United States Army

Sleep

Optimal sleep is critical to mission success. In training and on the battlefield, inadequate sleep impairs essential abilities such as reaction times, the ability to detect and engage the enemy, and squad tactic coordination. When interviewed about the connections between sleep and mission readiness, Soldiers and military leaders consistently associate lack of sleep with accidents, poor morale, and impaired judgment. However, despite mission degradation resulting from sleepiness, a culture of suboptimal sleep and a perception that lack of sleep is "the Army way" prevails in the force.

The P3 curriculum and its targets focus on improving performance while addressing root causes of poor sleep and fatigue. The P3 curriculum incorporates goals from the clinical practice guidelines for insomnia established by the American Academy of Sleep Medicine and leverages technology to allow Soldiers and leaders to effectively monitor and improve sleep. P3 provides tactical sleep techniques and specific information on how to use caffeine/energy drinks to improve performance while minimizing their impact on sleep. In conjunction with these strategies, the P3 team is striving to empower leaders to make policy and environmental changes to enable their Soldiers to obtain adequate sleep each night in garrison and plan for sleep while on field missions.

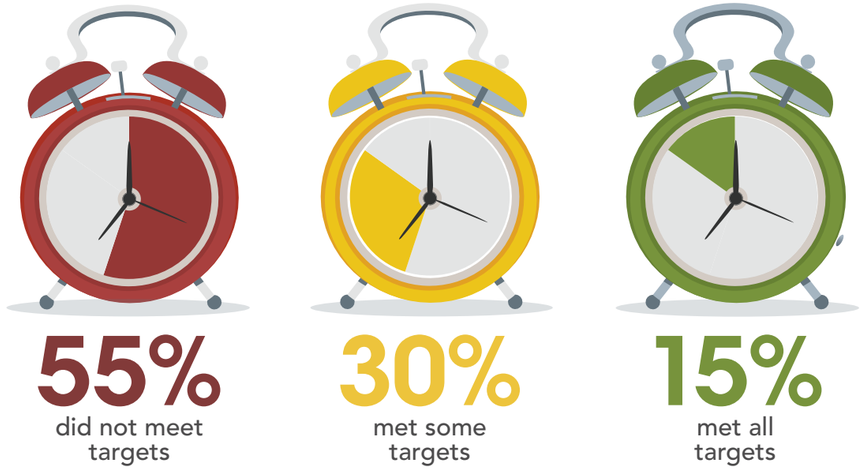
Overall, installations had an average sleep score of 67 out of 100 based on Soldier responses to GAT questions assessing sleep duration, sleep satisfaction, and being bothered by poor sleep.

Scores ranged from 64 to 74 across installations.

1 in 20 ACTIVE DUTY SOLDIERS ARE PRESCRIBED SLEEP MEDICATIONS

THESE SOLDIERS ARE **LESS LIKELY** TO BE MEDICALLY READY TO DEPLOY**

Percent of AD Soldiers Meeting National Goals and Standards for Sleep∓



***Adapted from System for Health Playbook, OTSG July 2015*
∓ Based on a cross-section of GAT surveys completed by AD Soldiers in 2014 (n=175,612)

A sleep-deprived individual is not aware of his/her own impairments and is more at risk to develop symptoms of **depression**, **anxiety**, and **PTSD**.*

Individuals who routinely get 5–6 hours of sleep perform much like a person with a **blood alcohol content of 0.08**.*

Sleep is likely to be limited in continuous operations, depending on operational tempo and mission demands. **Leaders are responsible** for implementing deliberate **sleep management strategies** and must ensure these are included in **mission planning**.*

Nearly **1/3 of Soldiers get 5 hours of sleep or less** per night, an amount linked to increased risk of behavior health disorders, illness, and musculoskeletal injuries.Ŧ

Almost **62% of Soldiers get less than 7 hours of sleep** per night.Ŧ

Almost half of service members have a clinically significant sleep problem that results in **33% of service members reporting fatigue 3–4 days/week** with **16.9% reporting sleep problems** that impair their daytime military functions.Ŧ

* *Performance Triad Challenge Guide, 2015*
Ŧ *System for Health Playbook, OTSG July 2015*

"SLEEP IS IMPORTANT TO PUBLIC HEALTH, WITH SLEEP INSUFFICIENCY LINKED TO MOTOR VEHICLE CRASHES, INDUSTRIAL DISASTERS, MEDICAL AND OTHER OCCUPATIONAL ERRORS."

— CENTERS FOR DISEASE CONTROL AND PREVENTION

Activity

Physical fitness and activity are crucial to ensuring Soldiers are able to perform the duties and responsibilities of their jobs. Practicing principles of safe and effective training enables Soldiers to maintain physical readiness and health. Soldiers and leaders across the Army agree that activity and fitness are essential to being a strong warfighter. Although Soldiers are generally more physically active than civilians, they are frequently at risk for overtraining and resulting injuries. Profiles and Army Physical Fitness Test failures are both associated with medical non-deployability. And, despite obtaining some activity through structured unit physical readiness training, many Soldiers are then sedentary over the course of the day, which can lead to adverse health outcomes over time.

Based on the unique physical requirements and demands of today's Soldier athletes, P3 provides information and strategies to ensure our force obtains optimal, balanced activity. The curriculum and targets inform Soldiers and leaders on how to practice safe running, use proper resistance training techniques, prevent overtraining, and increase daily physical activity. By leveraging principles of functional fitness, balanced training approaches, targeted athletic development, and movement throughout the day, P3 promotes the best available evidence to support Soldiers in meeting the physical and mental demands of their missions.

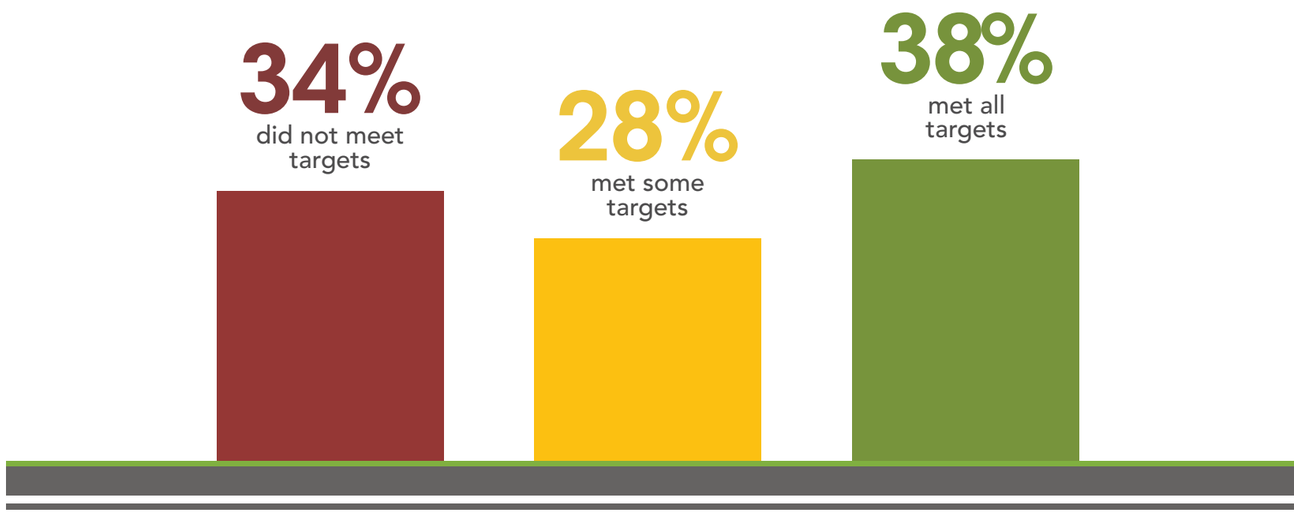
81 Overall, installations had an average activity score of 81 out of 100 based on Soldier responses to GAT questions assessing exercise frequency, exercise intensity, resistance training, and BMI.

Scores ranged from 79 to 85 across installations.

1 in 20 ACTIVE DUTY SOLDIERS FAIL THE APFT ANNUALLY

THESE SOLDIERS ARE ALMOST **3 TIMES LESS LIKELY** TO BE MEDICALLY READY TO DEPLOY**

Percent of AD Soldiers Meeting National Goals and Standards for ActivityŦ



***Adapted from System for Health Playbook, OTSG July 2015*
Ŧ Based on a cross-section of GAT surveys completed by AD Soldiers in 2014 (n=175,615)

Exercise and movement help build key mental abilities—memory, reaction time, attention span, and learning. These are **essential for Soldiers** to perform their best and **to accomplish any mission.***

Being a Soldier can be a stressful job. Exercise and activity help you **manage stress, perform at your best**, and stay in the fight. Exercise helps you keep your **mental edge!***

Soldiers using **strength** and **cross-training** have up to **50% fewer injuries** and do better on functional testing.*

Only **68.8% of Soldiers get at least 150+ minutes** of moderate aerobic endurance training/week and **57% get at least 75 minutes** of **vigorous aerobic endurance** training/week.Ŧ

Only **47% of Soldiers get 3 or more days** of strength training/week.Ŧ

** Performance Triad Challenge Guide, 2015*
Ŧ System for Health Playbook, OTSG July 2015

"NOTHING IS MORE CONDUCIVE TO KEEPING AN ARMY IN GOOD HEALTH AND SPIRITS THAN EXERCISE; THE ANCIENTS USED TO EXERCISE THEIR TROOPS EVERY DAY. PROPER EXERCISE, THEN, IS SURELY OF GREAT IMPORTANCE FOR IT PRESERVES YOUR HEALTH IN CAMP AND SECURES YOUR VICTORY IN THE FIELD."

— NICCOLO MACHIAVELLI
THE ART OF WAR, 1521

Nutrition

Eating or fueling for performance enables Soldier training, increases energy and endurance, shortens recovery time between activities, improves focus and concentration, and helps leaders and Soldiers look and feel better. Although Soldiers and leaders frequently understand the connections between nutrition and mission readiness, they also cite numerous barriers to obtaining optimal nutrition. These barriers include lack of access to healthy foods, time constraints arising from working through meals or working late, monetary constraints, and low motivation to make healthy choices. Specifically, when interviewed on what affects their nutrition, many Soldiers cited military dining facility hours, cost, location, and limited healthy options as barriers to making the healthy choice. Others indicated the prevalence of unhealthy on-base fast food options detracted from their ability and motivation to make optimal food selections.

As part of the institutional agility elements of the Army adaptation to the McKinsey model (Appendix I), P3 is working hard to facilitate changes within the nutrition environment on Army installations via policy changes and facility improvements. The intent of making the healthy, performance-oriented choice the easy choice is to reduce identified barriers to optimal nutrition. In conjunction with modifying the Army nutrition environment, P3 nutrition curriculum teaches Soldiers about nutrients needed to complete mission tasks, describes refueling techniques, and details strategies for creating a nutrition plan. Specific areas of focus include hydration, nutrient timing, dietary supplements, field nutrition, and healthy weight maintenance.

69

Overall, installations had an average nutrition score of 69 out of 100 based on Soldier responses to GAT questions assessing healthy eating, breakfast, recovery snacks and water consumption.

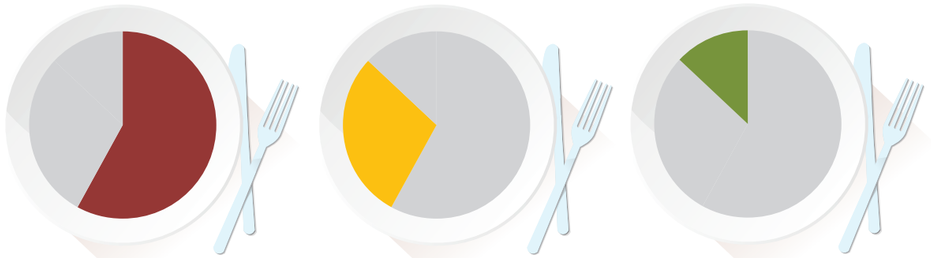
Scores ranged from 67 to 75 across installations.

33%

ONE-THIRD OF SOLDIERS REPORT THAT HEALTHY FOODS ARE TOO EXPENSIVE.

30% OF SOLDIERS REPORT NOT HAVING ENOUGH TIME TO PREPARE HEALTHY FOODS.

Percent of AD Soldiers Meeting National Goals and Standards for Nutrition∓



58% did not meet targets

29% met some targets

13% met all targets

***Adapted from System for Health Playbook, OTSG July 2015*
∓ Based on a cross-section of GAT surveys completed by AD Soldiers in 2014 (n=175,611)

Poor sleep and activity **decrease brain function** related to making good decisions. Studies show that this reduced function increases cravings and **intake of high-calorie junk foods.***

Making **poor nutrition choices** and not fueling regularly throughout the day can **decrease alertness** and your **ability to think clearly** and concentrate.*

Deployments and field operations **demand a properly fueled body.** Proper fueling can mean the difference between **top performance** and **mission failure.***

Only **10.8% if Soldiers eat 3 or more servings** of fruits per day.Ŧ

Only **12.9% of Soldiers eat 3 or more servings** of vegetables per day.Ŧ

** Performance Triad Challenge Guide, 2015*
Ŧ System for Health Playbook, OTSG July 2015

"THE PRESERVATION OF A SOLDIER'S HEALTH SHOULD BE THE COMMANDER'S FIRST AND GREATEST CARE."

— Regulation for Order and Discipline of the Troops, 1779

INSTALLATION HEALTH INDEX

- *Overview*
- *Medical Readiness*
- *Health Outcomes*
- *Health Factors*
- *Healthcare Delivery*

Installation Health Index (IHI)

Health indices are widely used in civilian settings to gauge the health of populations. They offer an evidence-based tool for making valid comparisons of leading health indicators (LHIs) across communities and inform community health needs assessments.

Health indices have been examined at the state level by the United Health Foundation for 25 years and more recently by the Robert Wood Johnson Foundation (RWJF) at the county level. A shared objective between these organizations is the generation of health rankings for the communities evaluated. The ultimate goal of using rankings is to create positive change in health. Rankings drive health improvements in a community by stimulating interest across groups, including social media and decision makers. By providing an effective and intuitive means of summarizing complex information, rankings can also support funding and resources to support health needs and motivate communities to take actions to improve their health.

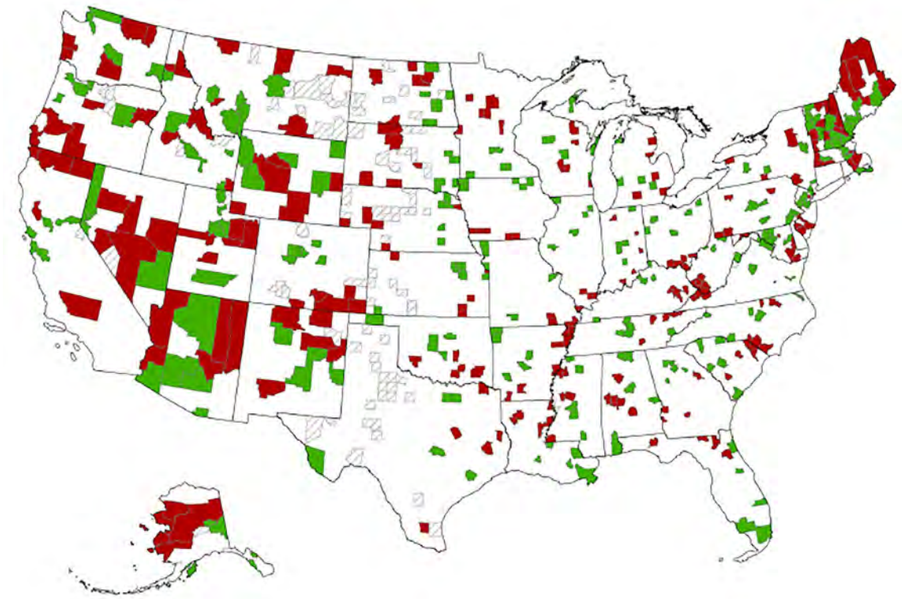
The Installation Health Index (IHI) follows in the footsteps of these successful initiatives. The LHIs selected were prioritized based on a review of measures recommended by the United Health Foundation, RWJF and other nationally recognized public health authorities. Indexing techniques were likewise modelled after established practices, and selected measures were adapted as needed for relevancy to the Soldier population.

The 10 core measures included in this report were prioritized as LHIs for the Active Duty Soldier population based on the prevalence of the condition or factor, the potential health or readiness impact, the validity of the data, supporting evidence, and the importance to Army leadership. Data availability ultimately limited which measures could be included in this initial assessment and which installations could be evaluated.

Each measure was individually assessed by installation against the Army average for the U.S.-based installations evaluated and collated into the IHI. Negative differences from the Army reference values indicated lower levels of adverse health and readiness outcomes and behaviors, while positive deviations indicated higher levels; therefore, lower index scores reflect better overall health.

While health indices provide a comprehensive measure of health that may help identify populations that could potentially benefit from enhanced prevention measures, they may hide some of the driving factors. A review of the individual measures from which the index is derived is necessary to identify and effectively target key outcomes or behaviors that are the most significant health and readiness detractors for each installation.

See Installation Profile Summary Pages for IHI scores and Appendix II for additional details regarding methodology.



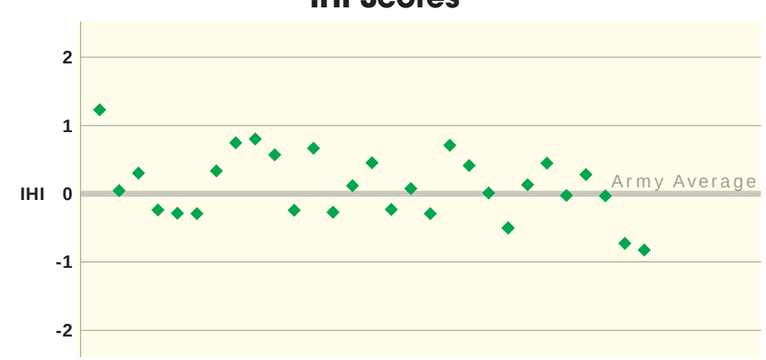
Healthiest and Least Healthy Counties within each State, County Health Ranking 2014

Least Healthy | Most Healthy | Unranked County

REFERENCE: Remington PL, Catlin BB, Gennuso KP. The County Health Rankings: rationale and methods. Population Health Metrics (2015) 13:11, published online: 17 April 2015

The assessment revealed a rather homogeneous Active Duty force in terms of health, with the majority of installations categorized as relatively healthy when compared to other installations. None of the installations evaluated had statistically significant deviations from the Army average as determined by the IHI.

IHI Scores*



Variation by Installation

* Negative scores indicate less adverse health measures and better overall health; Scores ≤ -2 or ≥ 2 represent statistically significant differences from the Army average (0)

Medical Readiness

Medically Non-Ready
Percent of Soldiers not medically ready within 72 hours based on the following medical readiness classifications: MRC3A (deficiencies resolvable >72 hours, <31 days), MRC3B (deficiencies resolvable >30 days), and MRC4 (unknown status due to overdue dental/medical exams)

Data Source: Medical Operational Data System (MODS)

Installation measures were adjusted by age

Health Outcomes

Injury Incidence
Number of new injuries diagnosed per 1,000 Soldiers

Data Source: Defense Medical Surveillance System (DMSS), accessed via Public Health 360 (PH360)

Behavioral Health Disorders
Percent of Soldiers with one or more of 7 diagnosed behavioral health conditions: mood disorders, adjustment disorders, anxiety, personality disorders, substance disorders, Post-Traumatic Stress Disorder (PTSD), and psychoses

Data Source: MHS Data Repository (MDR), accessed via PH360

Chronic Disease
Percent of Soldiers with one or more of 6 diagnosed chronic conditions: cardiovascular disease, cancer, arthritis, asthma, Chronic Obstructive Pulmonary Disease (COPD), and diabetes

Data Source: MDR accessed via PH360

Installation measures were adjusted by gender and age

"No single measure can possibly capture the health of the nation. A true measure would have to include indicators reflecting a broad range of factors that together create a picture of the nation's population."

—Institute of Medicine (IOM) State of the USA Health Indicators: Letter Report, Dec 2008

Health Factors

Obesity
Percent of Soldiers with a body mass index (BMI)>30; BMI was determined by height and weight measurements at the time of the Army Physical Fitness Test (APFT)—medical records were used when APFT measures were unavailable

Data Source: Medical Readiness Assessment Tool (MRAT)

Tobacco
Percent of Soldiers reporting tobacco use (smoking or smokeless tobacco products) during dental exams

Data Source: Corporate Dental System (CDS)

Sleep Disorders
Percent of Soldiers with a diagnosed sleep disorder

Data Source: MRAT

Substance Abuse Disorders
Percent of Soldiers with a diagnosed substance abuse disorder

Data Source: MDR, accessed via PH360

Chlamydia Incidence
Number of new infections reported per 1,000 Soldiers

Data Source: Disease Reporting System internet (DRSi), accessed via PH360

Installation measures were adjusted by gender and age

Healthcare Delivery

Preventable Hospital Admissions
Percent of hospital admissions among enrolled Soldiers considered preventable per Agency for Healthcare Research and Quality (AHRQ) guidelines

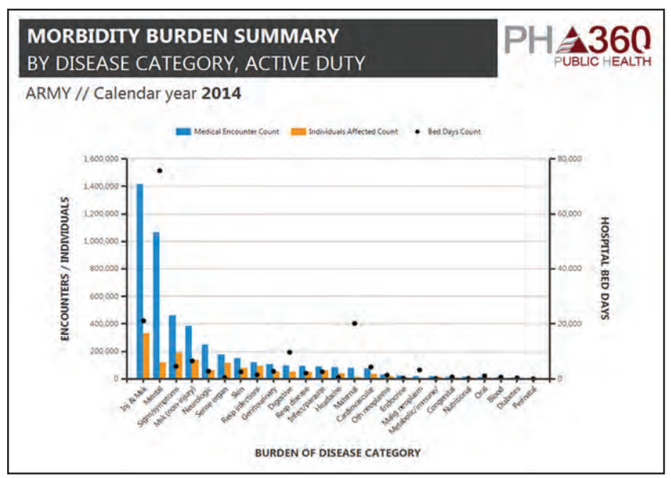
Data Source: Command Management System (CMS)

SPOTLIGHT

PUBLIC HEALTH 360

In 2010, the Army Public Health Center (APHC) recognized a need for actionable, evidence-based indicators of health within Army communities, which could ideally be tracked across installations with a user-friendly dashboard tool. Although the Army tracks a variety of health and readiness metrics, a comprehensive, prioritized list of health outcome-focused measures most relevant to Army public health professionals did not exist. Available measures were tracked in a multitude of disparate and often non-intuitive systems which complicated community health assessment.

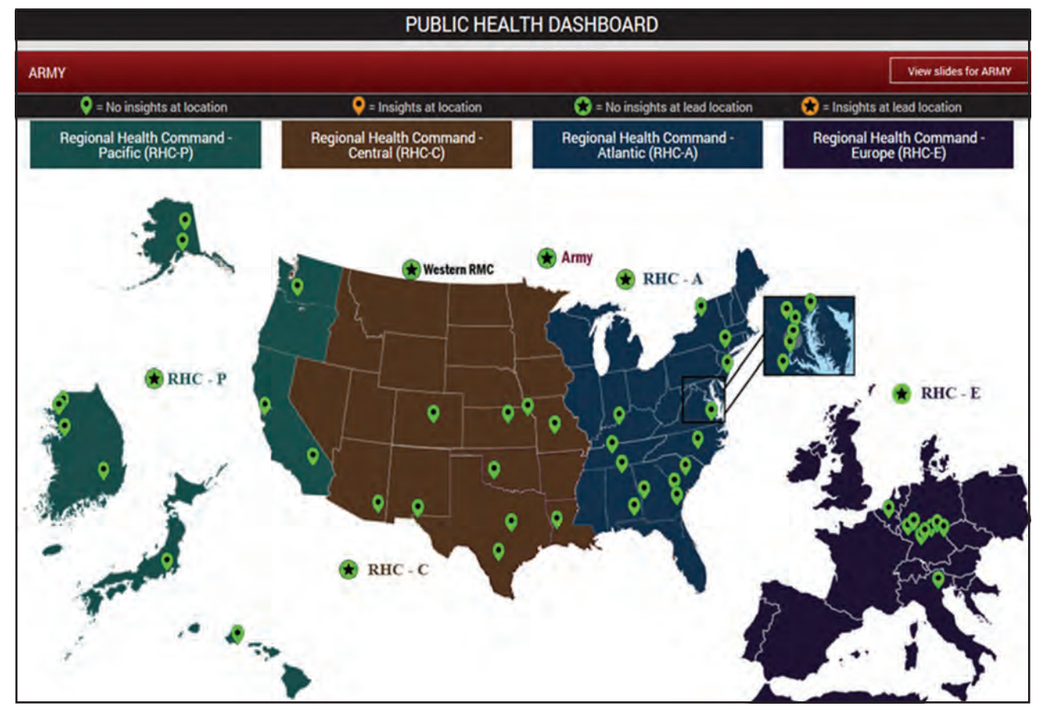
Subsequently, an APHC panel of subject matter experts was formed, identifying approximately 40 leading health indicators/metrics from which a subset of key health-outcome, demographic and morbidity burden metrics were selected for an inaugural 'Community Health Status Report' released in 2013. Metrics were selected based on a review of published health indicators and health-related metrics commonly tracked both nationally and within the Army, with some measures adapted to be more relevant to the active duty population. The report served as a template for the resulting Public Health 360 (PH360), an application which is part of the MEDCOM 360 application suite developed by the Patient Administration System and Biostatistics Activity (PASBA). PH360 provides annual installation health summaries and served as a resource for this report, supporting 5 of the 10 core measures.



PH360 metric example

PH360 offers a viable platform from which to incorporate the health indicators tracked for the Health of the Force initiative. Not only are half of the core measures derived from PH360 data, but many of the additional metrics included in this report are also part of the broader list of 40 metrics identified by the APHC panel for future integration into PH360. Adding the additional data summaries, and statistical analyses covered in this report to PH360 will enhance the application and provide a user-friendly tool for installations to access their information as updates become available.

CAC-enabled website: https://pasba.army.mil/MEDCOM360/Dashboard/Map/PH360



THE COMMUNITY HEALTH PROMOTION COUNCIL (CHPC):

The Strategic Integrating Platform at the Installation

THE ARMY'S FUTURE OPERATIONAL ENVIRONMENT requires our leaders, Soldiers, Army Civilians and Family Members to be resilient and sustain personal readiness. Personal readiness is an individual's physical, psychological, social and spiritual preparedness to achieve and sustain optimal performance in supporting the Army mission. Through a partnership with the G1-Army Resiliency Directorate and the Army Public Health Center (APHC), a coalition-building model of integration was developed to meet the challenges of this future environment.

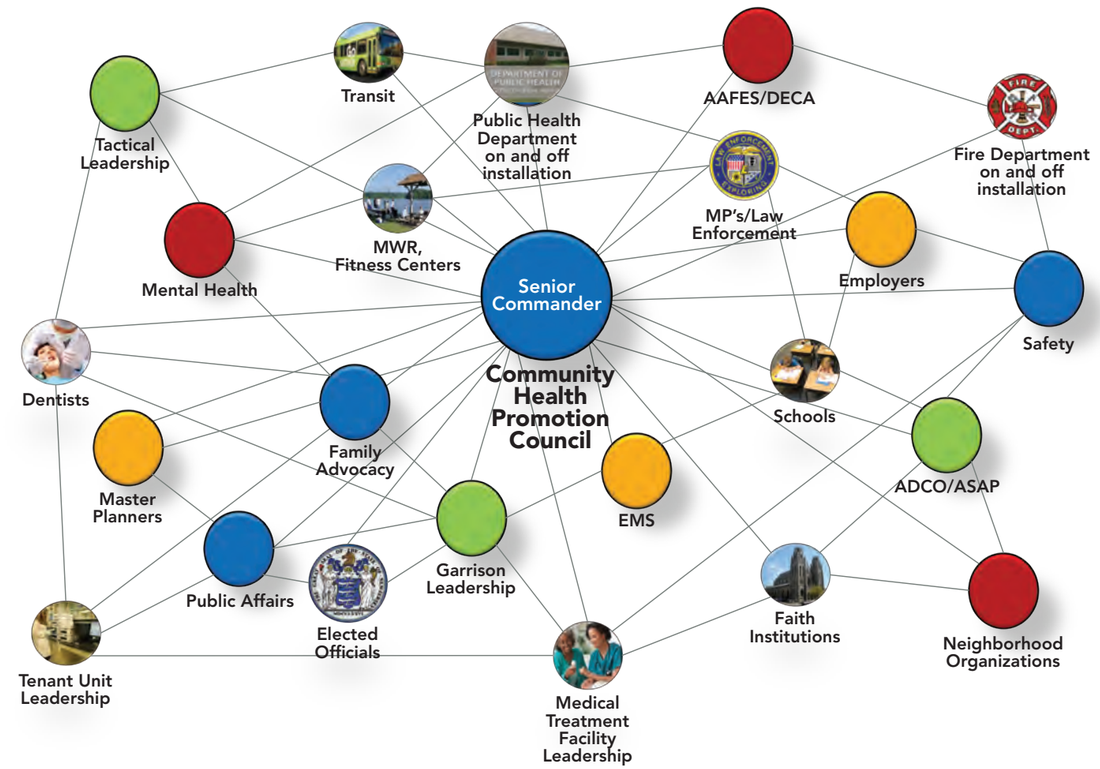
Solutions to the Army's unique challenges require data-driven programming and decision making at the installation level, bringing stakeholders together to integrate and synchronize health promotion and ready and resilient activities among the tactical, medical, and garrison leadership. The Community Health Promotion Council (CHPC) provides a platform for this sychronization. The CHPC provides linkages from the Senior Commander down to individual units to directly impact Soldiers and Families and ensure the process is driven based on identified issues and trends. Over the years the key message in every Inspector General report focused on Soldiers and Family Member programs was that people didn't even know what was available to them. The Institute of Medicine (IOM) report backs up this finding and reports that failures in system capabilities are often a result of how public health services are organized and delivered across communities. Often the systematic errors are poor reporting and communication of population health trends rather than technical failures. These concerns led the Army to look at the widespread need for a strong and integrated system where leaders of all agencies on an installation meet regularly to look at gaps and overlaps of support services on an installation, to include what is and is not working to meet the intended outcome the program was designed to achieve.

The essential standard for the CHPC is that it is chaired at the highest level of leadership on an Army installation (the Senior Commander (SC) or the Senior Responsible Officer (SRO)). The SC or SRO champions and leads the CHPC, providing the authority to influence the programs, policies, and environments that affect the installation's health. The CHPC is directed by AR 600-63, Army Health Promotion and centrally managed by a team of experts at APHC that trains and provides continuous technical guidance to all Health Promotion Officers (HPOs) and Health Promotion Program Assistants (HPPAs) at Army installations, assigned as special staff to the Senior Commander. Their full-time responsibility is to facilitate the CHPC and ensure it is consistent with the Ready and Resilient Campaign (R2C) which directs Senior Commanders to establish CHPCs to synchronize R2C activities. The CHPC also supports AR 600-20, which requires Commanders to: "promote and safeguard the morale, the physical well-being, and the general welfare of the officers and enlisted persons under their command or charge." This coordinated and integrated council process ultimately elevates installation-level council findings into the overall Army Health Promotion Council process chaired by the Vice Chief of Staff of the Army. R2 Governance facilitates communication and provides the opportunity to evaluate and implement change rapidly throughout the Army to increase and sustain personal and unit readiness and resilience.

> "...promote and safeguard the morale, the physical well-being, and the general welfare of the officers and enlisted persons under their command or charge."
>
> **—AR 600-20**

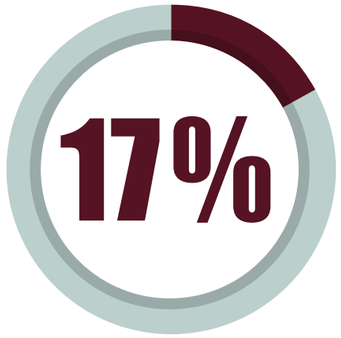
Integration and synchronization within the Ready and Resilient/System for Health/ Public Health System is the first and most critical step in improving and safeguarding the Readiness, Resiliency, and Health of the Force at the installation level.

Community Health Promotion Council



MEDICAL READINESS

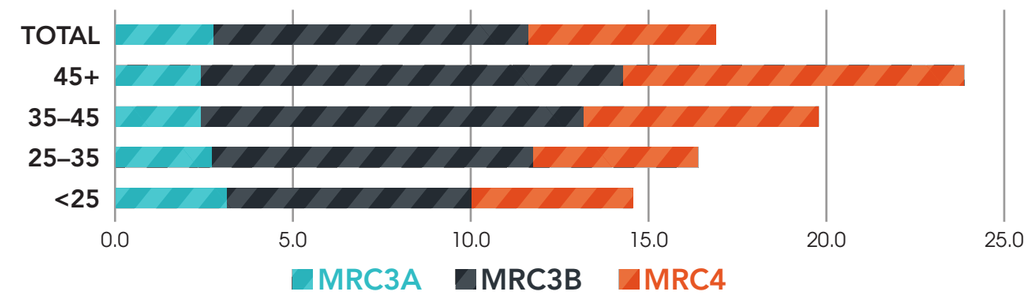
Medical readiness is a priority for the U.S. Army; it can have a significant impact on mission completion. Soldiers with medical deficiencies that are not resolvable within 72 hours are a greater cause for concern, and are assigned a medical readiness classification (MRC) of 3 or 4. Approximately 17% of AD Soldiers were considered not medically ready within 72 hours in 2014. The proportion not medically ready ranged from 12% to 23% across installations. Close to half were classified as MRC3B, which is indicative of deficiencies requiring more than 30 days to resolve. One-third of those not medically ready were classified as MRC4 due to overdue dental and medical exams. The proportion not ready was correlated with age, ranging from roughly 15% for Soldiers under 25 years to 24% for Soldiers 45 years and older.



Overall, 17% of Soldiers were classified as not medically ready.

Non-readiness ranged from 12% to 23% across installations.

Percent Not Medically Ready by Medical Readiness Classification (MRC) and Age, AD Soldiers, 2014



MRC3A: deficiencies resolvable >72 hours and <31 days; MRC3B: deficiencies resolvable >30 days; MRC4: unknown status due to overdue dental/medical exams

"If we don't get our arms around the non-deployable population, and the biggest population is the MNR [medically not ready] population, we're going to have a significant problem manning our units to get them downrange. The Soldier is the center of our formations, so if the Soldier is not ready to go, then the unit is not ready to go."

—**MG Brian Lein** • Commanding General, MRMC

SPOTLIGHT

MEDICAL READINESS ASSESSMENT TOOL

The Medical Readiness Assessment Tool (MRAT) is a set of electronic decision support and screening tools developed by the Innovative Clinical Analytics (ICA) team at the OTSG. The MRAT leverages best practices from programs in civilian health systems shown to improve the health and readiness of our Soldiers.

The primary objective of the MRAT is to enable identification and management of Soldiers with risk factors affecting future medical readiness at an earlier point than was previously feasible. The MRAT uses a regression model-based approach to project the risk of a medically non-available (MNA) status in the following 12 months.

The MRAT provides both clinical and leader tools to support medical and command teams in proactively identifying and supporting Soldiers at risk for becoming MNA. Commanders can use the readiness related graphs to identify and share best practices from units with lower risk levels. The MRAT assists clinicians in carrying out the Commander's intent to improve unit readiness and health at the individual level. The MRAT screening tool structure and sorting functions support providers by guiding them to the most at-risk Soldiers and facilitating holistic patient insight.

MRAT access is granted based on role and users must complete self-paced or in-person training prior to use to ensure accurate interpretation and appropriate use of displayed information. For more information on the MRAT, please contact the Innovative Clinical Analytics Group at the Office of The Surgeon General, Falls Church, VA at 703-681-4563 or at usarmy.ncr.hqda-otsg.mesg.innovative-clinical-analytics@mail.mil. Information may also be located at the MRAT Milbook site: https://www.milsuite.mil/book/groups/medical-readiness-assessment-tool-mrat

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Soldiers are part of a very elite group—less than 1% of the U.S. population earns the privilege of military service. Being a Soldier and a member of the Profession of Arms requires intensive preparation, specialized education and continuous learning, and skill development.

Unfortunately, approximately **1,400 Soldiers become medically non-available each month**, limiting the ability of the Army to accomplish its missions.

Source: MRAT Handbook: Medical Readiness Assessment Tool How-To Use Manual. 20 March 2015. Innovative Clinical Analytics, Operational Research and Modeling Cell, Office of The Surgeon General, Falls Church, VA.

Injury

Injury is a significant contributor to the Army's healthcare burden, impacting medical readiness and Soldier health. Over one million medical encounters and roughly 10 million days of limited duty occur annually as a result of injuries and injury related musculoskeletal conditions, affecting close to 300,000 Soldiers or roughly 55% per year. Additionally, musculoskeletal injuries account for 76% of the medical non-deployable population.

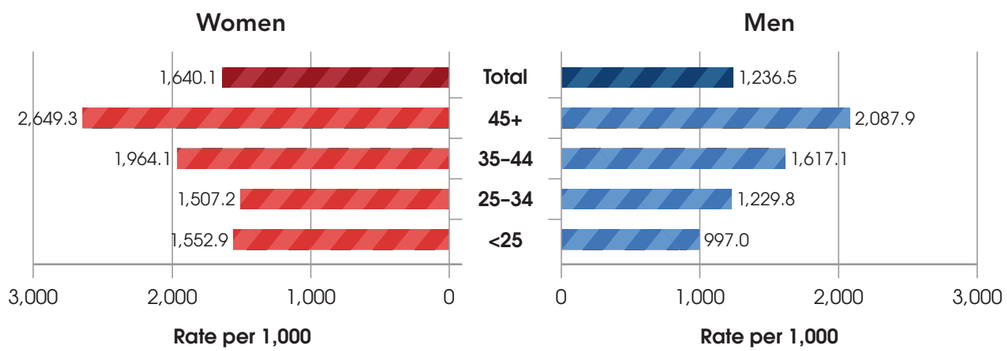
Among the Active Duty Soldiers evaluated, injuries were common with approximately 1,300 new injuries diagnosed per 1,000 Soldiers in 2014; the high rate reflects multiple injuries occurring among affected Soldiers. Rates ranged from 1,062 to 1,648 per 1,000 across the installations. Roughly half of all injuries were related to overuse. Injury rates were 1.2 to 1.5 times higher among women than men, depending on the age group.

Rates were substantially higher among Soldiers 45 years and older. Injury trends varied by age. While rates have been increasing for Soldiers 35 years and older, rates have been declining for younger Soldiers. Overall rates have remained fairly stable. Leading causes of injury as indicated on medical records were overexertion (27%), falls (15%), and being struck by or against an object (15%).

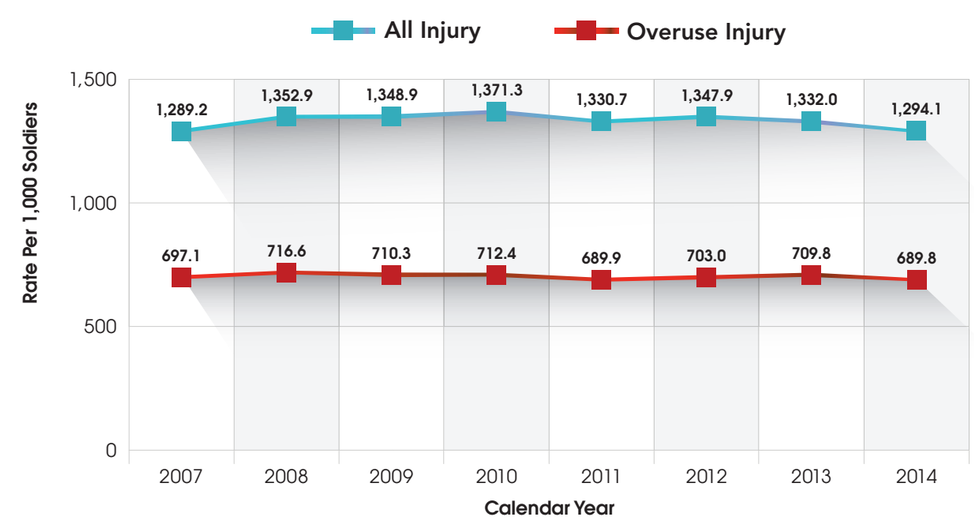
Overall, 55% of Soldiers were diagnosed with an injury. Roughly 1,295 new injuries were diagnosed per 1,000 Soldiers.

Injury rates ranged from 1,062 to 1,648 per 1,000 across installations.

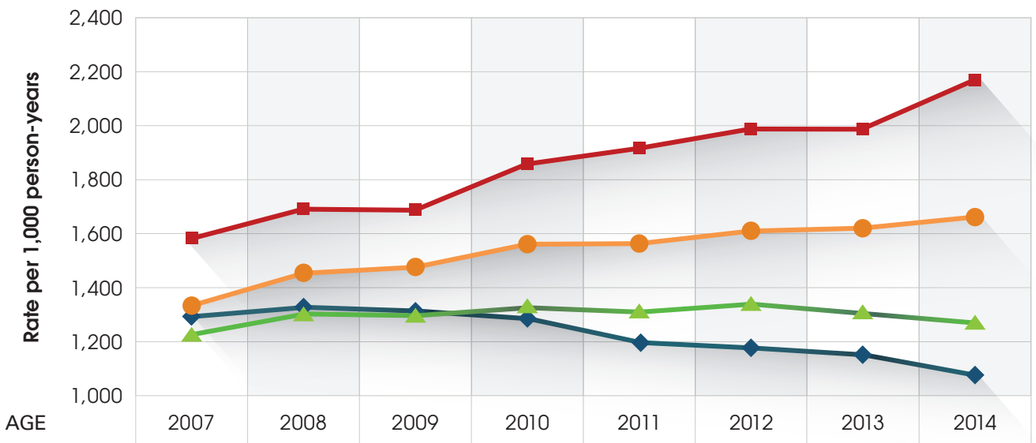
Rate of Injuries by Gender and Age, AD Soldiers, 2014



Annual Injury Rates, AD Soldiers, 2007–2014



Annual Injury Rates by Age, AD Soldiers, 2007–2014

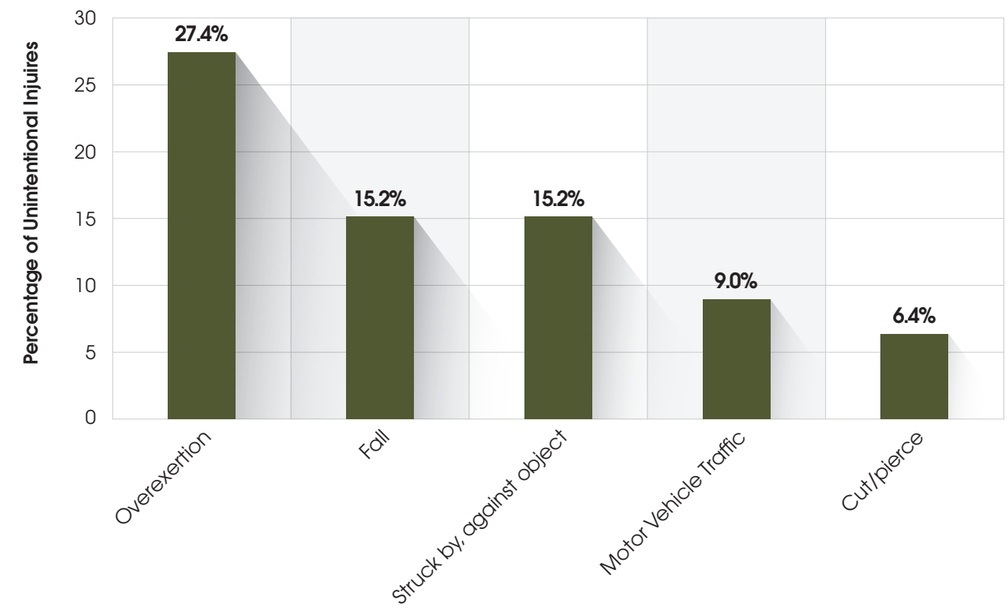


AGE	2007	2008	2009	2010	2011	2012	2013	2014
<25	1,293.2	1,327.3	1,313.2	1,284.6	1,196.9	1,176.2	1,150.8	1,075.4
25–34	1,227.0	1,302.8	1,296.5	1,326.0	1,309.5	1,339.3	1,304.5	1,269.3
35–44	1,333.5	1,453.5	1,476.1	1,561.2	1,563.2	1,609.7	1,620.4	1,661.5
45+	1,582.1	1,690.6	1,686.8	1,858.2	1,915.9	1,987.7	1,987.0	2,167.7

"Young men and women coming in the Army today are not as fit or as skeletally sound…even in basic training, before we load the soldier with the gear that eventually they will have to learn to bear, we have these same kind of musculoskeletal injuries."

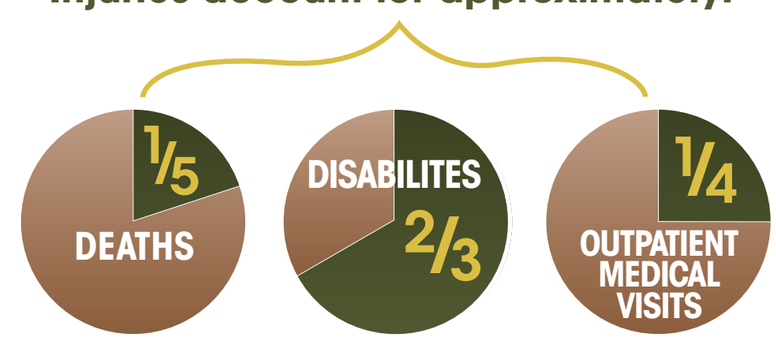
–GEN Martin Dempsey
2011 testimony to Senate Appropriations Committee

Top 5 Causes of Unintentional Injury, AD Soldiers, 2014



Percentages based on cause coded outpatient records

Injuries account for approximately:



» **50%** of injuries are associated with physical training and sports

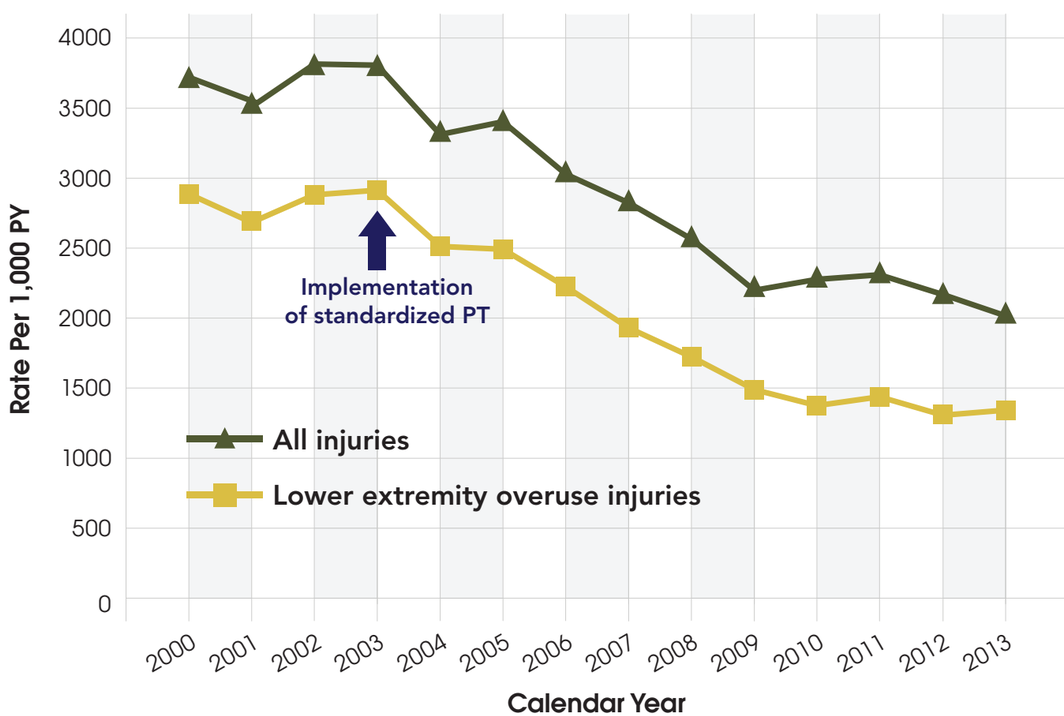
» **76%** of Soldiers non-medically ready to deploy have musculoskeletal injuries (MSKI) that prevent deployment

SPOTLIGHT

PHYSICAL TRAINING DURING BASIC COMBAT TRAINING

Physical training (PT) is necessary to develop and maintain the fitness required to accomplish military missions, but is also known to cause injury. In 2003, the Army evaluated a new standardized physical training program designed to enhance fitness while minimizing injuries through avoidance of overtraining. An evaluation group implemented the new standardized program and a control group conducted traditional PT (running, calisthenics, push-ups, and sit-ups). After 9 weeks of basic combat training (BCT), the evaluation group had fewer injuries and a higher APFT pass rate. In 2004, the new standardized PT program was mandated for all BCT units across the Army. It was also incorporated into Army physical training doctrine. From 2003 to 2013, a 46% decrease in all injuries and a 54% decrease in lower extremity overuse injuries among Army trainees was observed.

U.S. Army Trainee Injury and Lower Extremity Overuse Injury Rates, 2000–2013



Elements of standardized PT program implemented to prevent overtraining and avoid injury*:

- Reduced total miles run
- Conducted distance runs by ability groups
- Added speed drills
- Executed warm-up exercises instead of pre-exercise stretching
- Progressed training amount and intensity gradually
- Provided wider variety of exercises

* These elements are now contained in Field Manual 7-22: Army Physical Readiness Training (Department of the Army, October 2012)

DID YOU KNOW?

SHOE TYPE

It is a common belief that athletic shoes should be selected based on foot shape. Most athletic shoe companies manufacture a variety of "motion control," "cushioned," and "stability" shoes aimed to address varying arch heights. In 2007, studies were conducted in Army, Marine, and Air Force basic training to determine if injury risk was lower when athletic shoes were selected based on foot shape. A group of basic trainees were provided shoes based on arch height (the experimental group), while another group received a stability shoe regardless of arch height (the control group). Results of the three investigations were the same: assigning athletic shoes on the basis of foot arch height did not reduce injuries.

Behavioral Health

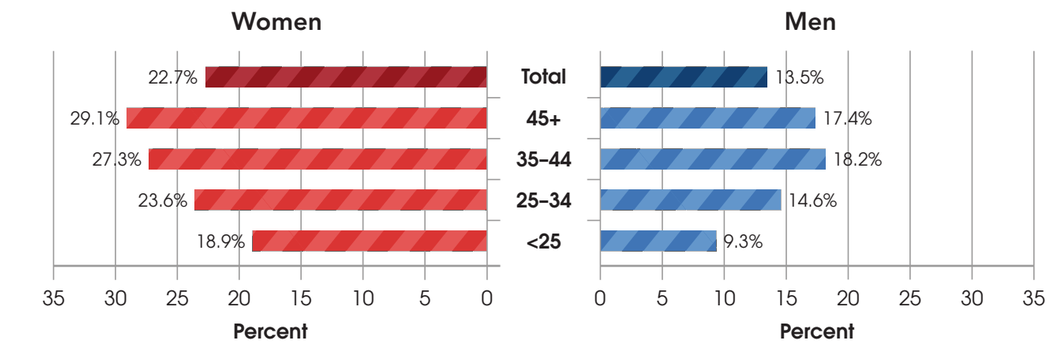
The stressors of military life can have a profound impact on the psychological well-being of Soldiers and Families. Behavioral health (BH) disorders such as depression, Posttraumatic Stress Disorder (PTSD), and substance use are risk factors for a number of negative outcomes for Soldiers, including being medically not ready for duty, early discharge from the Army, and suicidal behavior. Behavioral health disorders also result in a substantial healthcare burden. Among the roughly 80,000 Soldiers seeking care for BH conditions each year, over one million medical encounters and 80,000 hospital admission days occur.

An examination of BH diagnoses for mood disorders, PTSD or other anxiety disorders, adjustment disorders, substance use disorders, personality disorders, or psychosis indicated that approximately 15% of Active Duty Soldiers had one or more conditions diagnosed in 2014, with adjustment disorders being the most common. The proportion affected ranged from 9% to 20% across installations. Conditions were generally more prevalent among female Soldiers, affecting 23% of women as compared to 14% of men. The proportion affected increased with age.

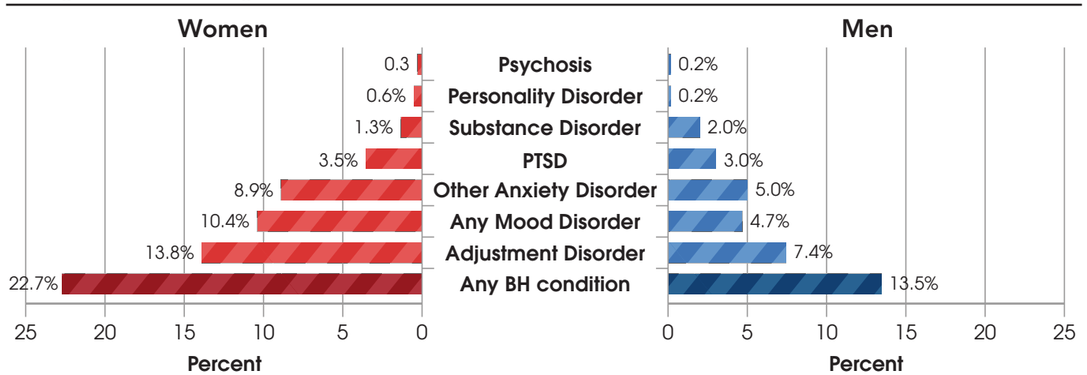
Overall, 15% of Soldiers were diagnosed with a behavioral health disorder.

Behavioral health disorder rates ranged from 9% to 20% across installations.

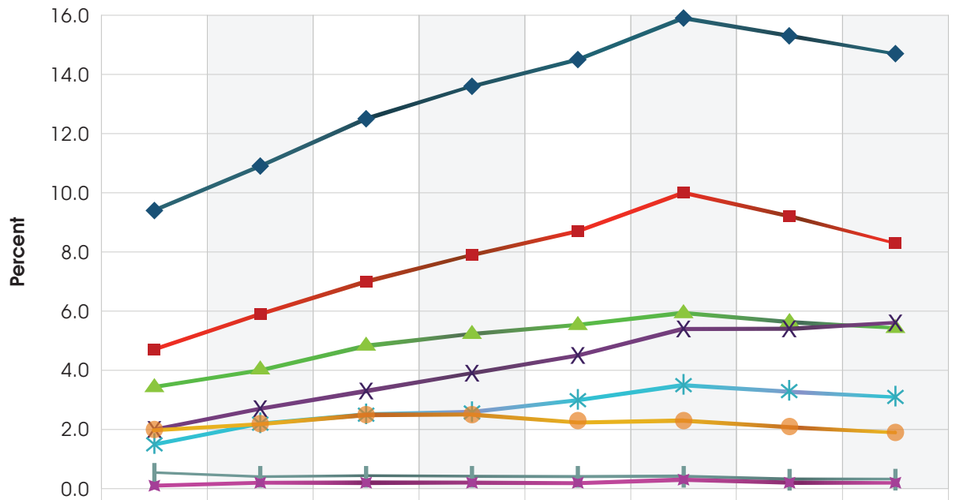
Percent Diagnosed with Selected Behavioral Health Disorders by Gender and Age, AD Soldiers, 2014



Percent Diagnosed with Behavioral Health Disorders by Gender and Diagnosis Category, AD Soldiers, 2014



Percent Diagnosed with Behavioral Health Disorders by Diagnosis Category, AD Soldiers, 2007–2014



	2007	2008	2009	2010	2011	2012	2013	2014
Any BH Disorder	9.4	10.9	12.5	13.6	14.5	15.9	15.3	14.7
Adjustment Disorder	4.7	5.9	7.0	7.9	8.7	10.0	9.2	8.3
Mood Disorder	3.5	4.1	4.9	5.3	5.6	6.0	5.7	5.5
Other Anxiety Disorder	2.0	2.7	3.3	3.9	4.5	5.4	5.4	5.6
PTSD	1.5	2.2	2.5	2.6	3.0	3.5	3.3	3.1
Substance Disorder	2.0	2.2	2.5	2.5	2.3	2.3	2.1	1.9
Personality Disorder	0.5	0.4	0.4	0.4	0.4	0.4	0.3	0.3
Psychosis	0.1	0.2	0.2	0.2	0.2	0.3	0.2	0.2

"No nation has ever survived, and no nation ever will survive, whose people are not physically, mentally, and morally fit for survival."

—Studies in Citizenship For Recruits – 1922

SPOTLIGHT

CHILD AND FAMILY BEHAVIORAL HEALTH SYSTEM (CAFBHS)

Family readiness is an integral part of Soldier readiness. Although measures of Family health are not presented in this edition of Health of the Force, the Army's Comprehensive Behavioral Health System of Care incorporates initiatives to improve the way behavioral health needs of Family members are addressed and treated. Child and Family Behavioral Health System (CAFBHS) is the Army's comprehensive behavioral health (BH) model designed to support the needs of Army Children and Families by aligning and collaborating with Army Medical Homes (AMHs) and other Family Member oriented clinics. CAFBHS is a transition from legacy Child and Family BH programs into a consultative, integrated, collaborative care model in support of AMHs. The program utilizes best practices and recognizes BH functioning as integral to overall health and well being, and is based on standardized evidence-based training for providers, treatment, and follow-up. The CAFBHS School Behavioral Health (SBH) embeds BH providers in on-post schools to provide services in a child's academic environment, improving access, enhancing resiliency and reducing stigma. Today, SBH operates in 47 schools on 10 installations and will grow over the next two years to nearly 100 schools on 18 installations.

SPOTLIGHT

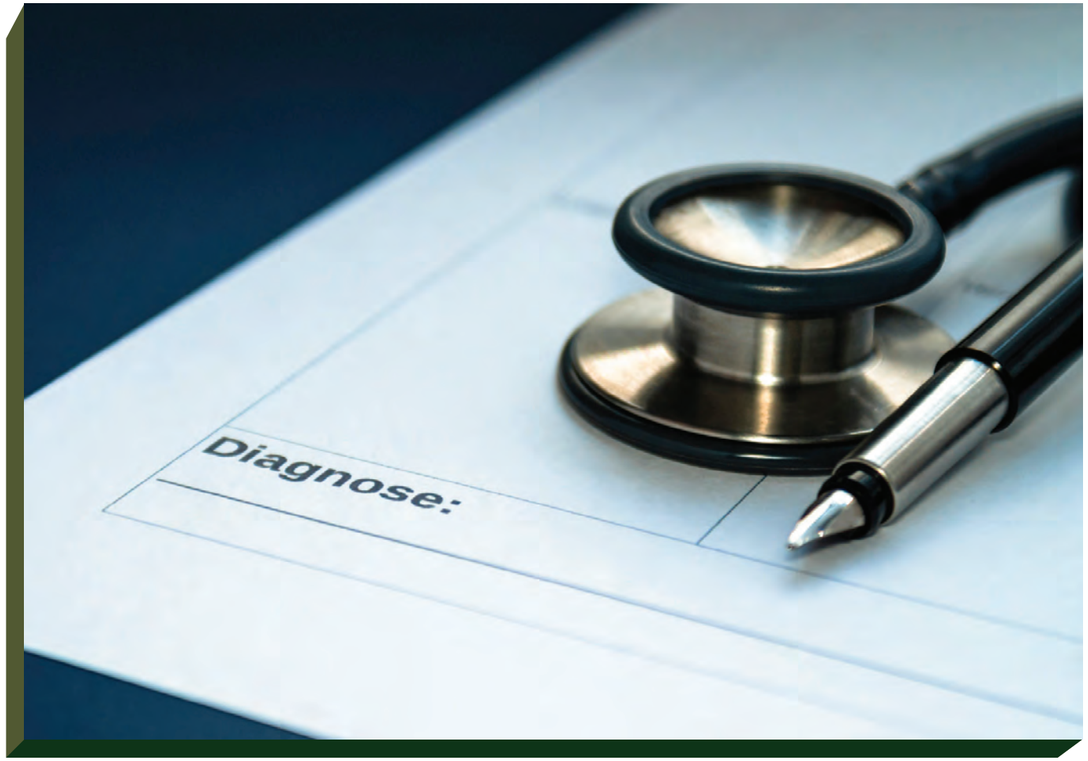
INTENSIVE OUTPATIENT PROGRAM (IOP)

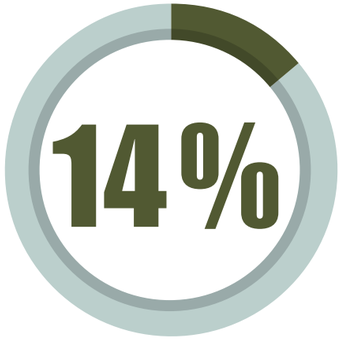
To more effectively and efficiently meet comprehensive behavioral healthcare needs, in JAN 2015, Army Medical Command (MEDCOM) directed medical treatment facilities to establish and realign Intensive Outpatient Programs (IOPs). IOPs provide an intermediate level of behavioral health care, reduce the need for hospitalization, and result in the same or similar outcomes in treatment efficacy as inpatient treatment. Continuity of care is also enhanced, as promoted by the Substance and Mental Health Society of America's (SAMHSA) endorsement of IOPs as part of a continuum of care that provides robust, multidimensional treatment options. During the IOP experience patients live in their natural environment during treatment and are able to apply learning and relapse prevention training and address critical concerns in a supportive environment. The ultimate goal is for Soldiers to apply what they have learned to real-world scenarios outside of the treatment environment.

Chronic Disease

Chronic disease exacts a toll on one's quality of life, requiring sustained clinical management to avoid severe health outcomes or complications. The six chronic conditions assessed (cardiovascular conditions, cancer, asthma, arthritis, chronic obstructive pulmonary disease (COPD), and diabetes) were ranked as one of the top 20 leading indicators of health by the Institute of Medicine.

Among Active Duty Soldiers, chronic medical conditions can also impact medical readiness, since they may decrease Soldiers' ability to support more physically demanding mission requirements or to deploy to remote locations where healthcare resources may be more limited. Approximately 14% of Active Duty Soldiers were diagnosed with one or more of these conditions in 2014. The proportion affected ranged from 12% to 21% across installations. Cardiovascular conditions comprised the majority of diagnoses, followed by arthritis, asthma, and COPD. Chronic disease strongly correlated with age, with roughly 45% of Soldiers 45 years and older being diagnosed. Female Soldiers also experienced higher rates (18% overall as compared to 14% of males).

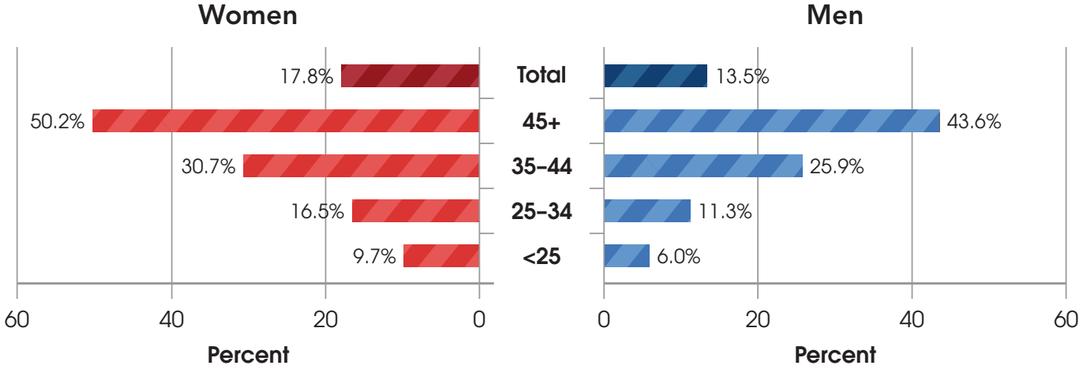




Overall, 14% of Soldiers were diagnosed with a chronic condition.

Chronic disease rates ranged from 12% to 21% across installations.

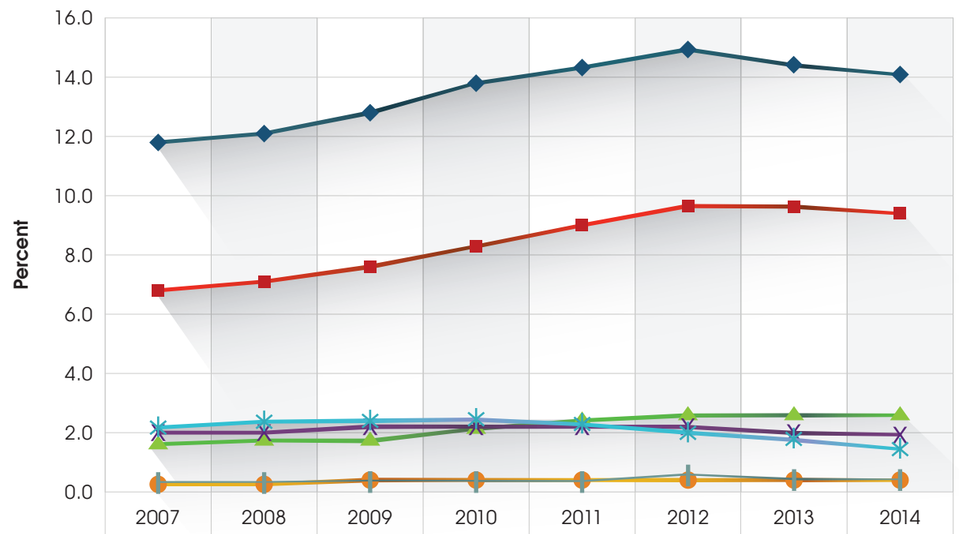
Percent Diagnosed with Selected Chronic Diseases by Gender and Age, AD Soldiers, 2014



"Army Medicine is transforming from a healthcare system to a system for health. Army Medicine will consistently deliver evidenced-based value added services to our beneficiaries, improve existing healthcare programs and services, and develop new processes and initiatives to improve the health of the populations entrusted to our care. We will engage people where they live, work, and play (i.e., the Lifespace) in addition to traditional patient care settings, to affect the determinants of health and improve Army readiness."

–LTG Patricia Horoho
43rd Surgeon General of the United States Army

Percent Diagnosed with Chronic Disease by Diagnosis Category, AD Soldiers, 2014



	2007	2008	2009	2010	2011	2012	2013	2014
Any	11.8	12.1	12.8	13.8	14.4	14.9	14.6	14.1
Cardiovascular	6.8	7.1	7.6	8.3	9.0	9.7	9.6	9.4
Arthritis	1.7	1.8	1.9	2.2	2.5	2.7	2.7	2.7
Asthma	2.0	2.0	2.2	2.2	2.2	2.2	2.0	1.9
COPD	2.3	2.4	2.4	2.5	2.3	2.0	1.8	1.5
Cancer	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.4
Diabetes	0.3	0.3	0.4	0.4	0.4	0.5	0.4	0.4

The Institute of Medicine (IOM) identified the 6 chronic conditions measured collectively above as one of 20 key indicators of health.

Source: Institute of Medicine (IOM) State of the USA Health Indicators: Letter Report, Dec 2008

SPOTLIGHT

ARMY WELLNESS CENTERS

The leading preventable causes of death in America have been called lifestyle mediated diseases—meaning individual behaviors contribute greatly to the health of our nation. As part of the shift from a healthcare treatment system to a System for Health, the Army Surgeon General directed implementation of 37 Army Wellness Center (AWC) facilities across the Army enterprise to a defined standard of operation for a consistent patient experience. There are currently 26 AWCs in the communities where people live, work, and play—in their Life-space.

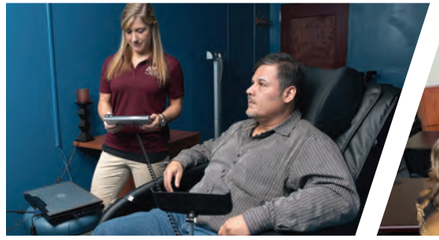
The AWCs are an extension of the Patient Centered Medical Home, delivering standardized evidence-based primary prevention programs designed to promote enhanced and sustained healthy lifestyles, thus improving the overall well-being of the Army Family. Abundant evidence suggests that management of sleep, activity, nutrition, stress, and tobacco use reduces disease, improves overall health, resilience, and readiness, and reduces long term healthcare costs. AWCs provide tailored health assessments with a one-on-one individualized health and wellness plan, health education, and specific health coaching to reduce disease risk factors and promote healthy behaviors. Through collaborative and synchronized efforts, AWCs represent an actionable platform supporting the Ready and Resilient Campaign, the Performance Triad, the Healthy Base Initiative, and Comprehensive Soldier and Family Fitness across the Army.

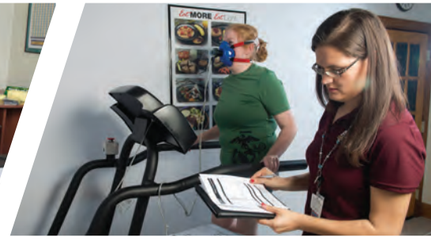
AWCs utilize advanced technology to measure the four components of physical fitness: cardiorespiratory function, body composition, muscular fitness, and flexibility). This service is part of a beneficiary's medical benefits; a similar assessment and follow-on education costs in excess of $3000 in the U.S. healthcare system.

Data currently collected across the enterprise indicates statistically significant improvements in health behaviors, aerobic capacity, decreased body fat, and decreased body mass index for those beneficiaries who use the Army Wellness Centers.

"Army Wellness Centers, the Ready and Resilient Campaign and the Performance Triad will improve health and help prevent disease and injury…We need to challenge how we look at wellness from different perspectives. If [Soldiers] know why they should do it, they will change behaviors."

—LtGen Patricia D. Horoho
43rd U.S. Army Surgeon General and Commander
U.S. Army Medical Command





Obesity

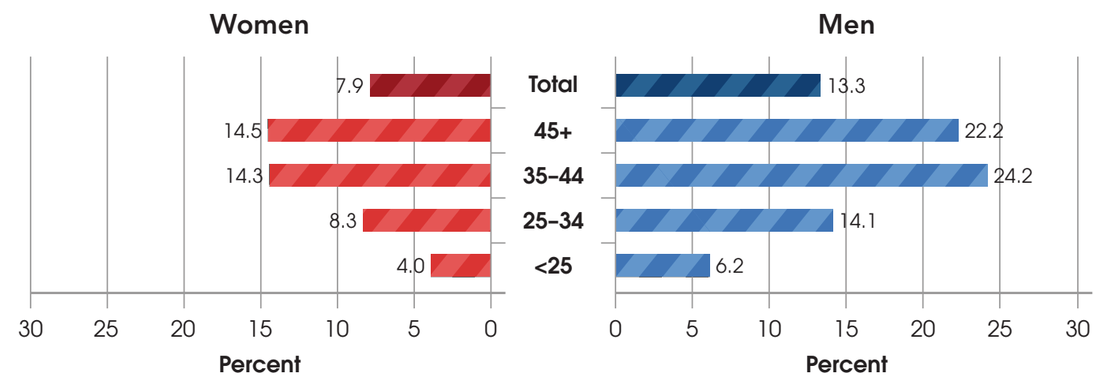
Obesity has a noticeable negative impact on health, increasing the risk of heart disease, type 2 diabetes, cancer, stroke, and high blood pressure. It is also a leading factor in preventable death. Obesity has become increasingly prevalent in the U.S., more than doubling since 1990 to affect approximately 29% of adults in 2013. Because the Army has strict physical fitness requirements for Soldiers, obesity is less common than it is in the general U.S. population.

Prevalence of obesity was determined by the body mass index (BMI) calculated during a Soldier's Army Physical Fitness Test (APFT). Despite Army Body Composition Standards, roughly 13% of Soldiers were obese in 2014. The proportion classified as obese ranged from 9% to 18% across installations. Obesity rates were higher among men (13%) compared to women (8%). Age strongly influenced rates of obesity, with higher levels observed with increasing age.

Overall, 13% of Soldiers were classified as obese.

Obesity ranged from 9% to 18% across installations.

Percent Classified as Obese by Gender and Age, AD Soldiers, 2014

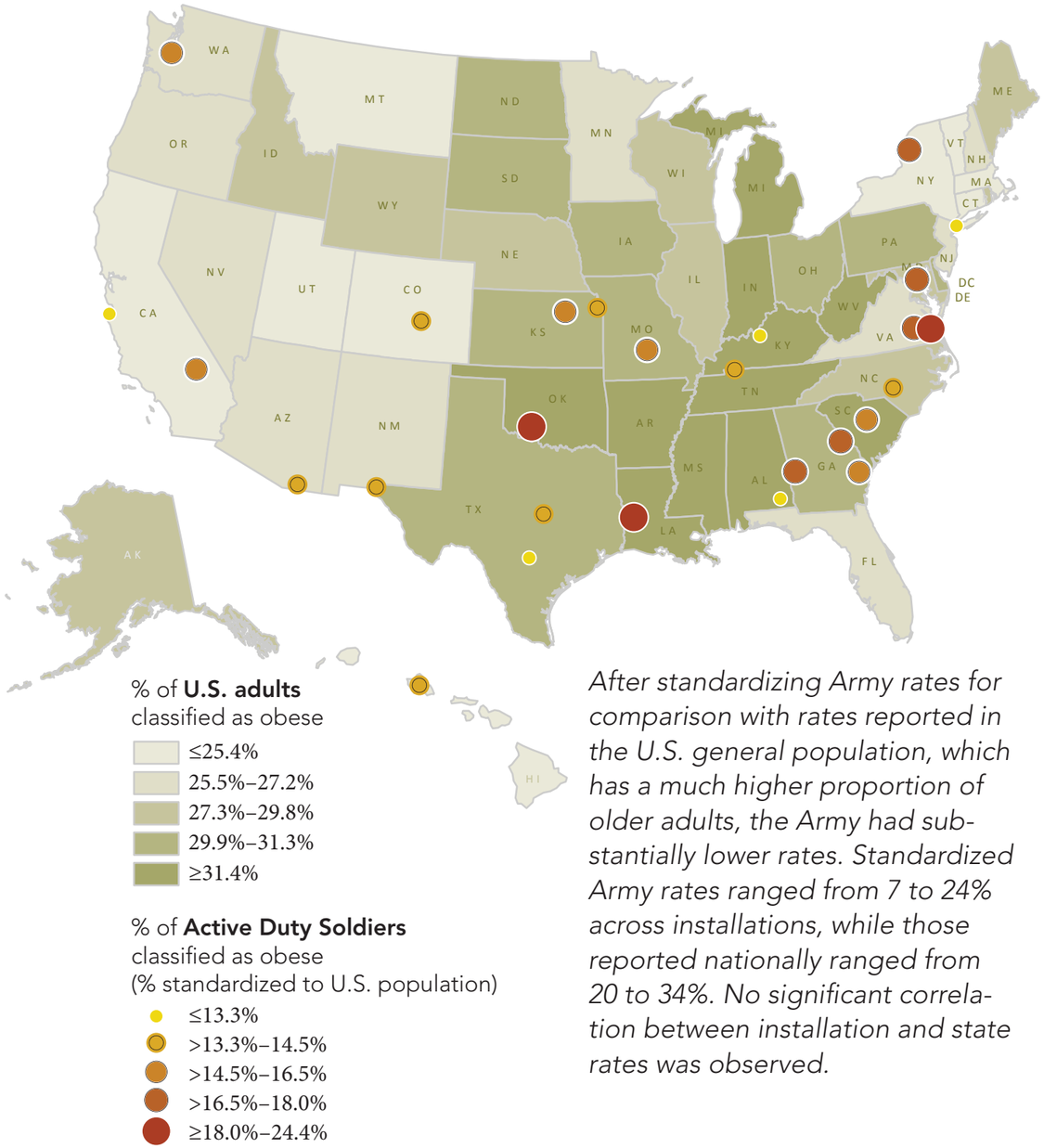


"The obese service members in the brigade in Afghanistan were 40% more likely to experience an injury than those with a healthy weight, and slower runners were 49% more likely to be injured."

—Mission Readiness Report

"Retreat is Not an Option: Healthier School Meals Protect our Children and Our Country." - Page 14

Geographic Comparison of Obesity: Army Installation and U.S. State Rates*



After standardizing Army rates for comparison with rates reported in the U.S. general population, which has a much higher proportion of older adults, the Army had substantially lower rates. Standardized Army rates ranged from 7 to 24% across installations, while those reported nationally ranged from 20 to 34%. No significant correlation between installation and state rates was observed.

S P O T L I G H T

CREATING ACTIVE COMMUNITIES AND HEALTHY ENVIRONMENTS (CACHE)

Where people live, work, and play affects their health!

Have you ever wondered about the food choices on your installation, what choices your vending machines offer, or if sidewalks connect on your installation so you can take a safe walk on your lunch break or after work? How do you create an environment where the healthy choice is the easy choice…and likely?

Leading public health organizations, including the World Health Organization, the Institute of Medicine, the International Obesity Task Force, and the Centers for Disease Control and Prevention have identified environmental and policy interventions as the most promising strategies for creating population-wide improvements in health behaviors to include healthy eating, physical activity, and tobacco use.

The Army Public Health Center (APHC), in partnership with Operation Live Well and the Healthy Base Initiative, developed a toolkit, Creating Active Communities and Healthy Environments (CACHE), as a strategic initiative to address chronic disease prevention in the military by transforming installations into healthy living communities. CACHE consists of three tools: the Promoting Active Communities (PAC) assessment, the Military Nutrition Environmental Assessment Tool (m-NEAT), and the Quantitative Indicators of Tobacco Systems (QITS). These tools assess an installation's environment and policies related to the promotion and support of physical activity, healthy eating, and tobacco-free living. Assessment results define improvement areas and guide implementation of policies and environmental changes around healthy living strategies.

The Community Health Promotion Council (CHPC), chaired by the Senior Commander on the installation—and comprised of the Garrison and MTF Commanders, Master Planners, AAFES, DeCA, leads from all service agencies, tenant unit commanders, and other ad hoc members—then work together to use CACHE results and identify target areas that the council will address to improve the built/healthy environment on the installation via an action plan.

Using the CACHE to spark intentional environmental change demonstrates an installation's commitment to wellness, and increases awareness of the community's vision and assets related to healthy living. Results can be compared to installations across the enterprise, and installations can learn from each other where successful change has occurred. The toolkit enhances collaboration on the installation as CHPC members develop new partnerships and enhance existing partnerships as a result of working together to complete the assessment. Finally, a key and essential benefit of using the CACHE is the opportunity for installations to monitor their progress and show positive change over time.

CACHE

Creating Active Communities and Healthy Environments

Tobacco

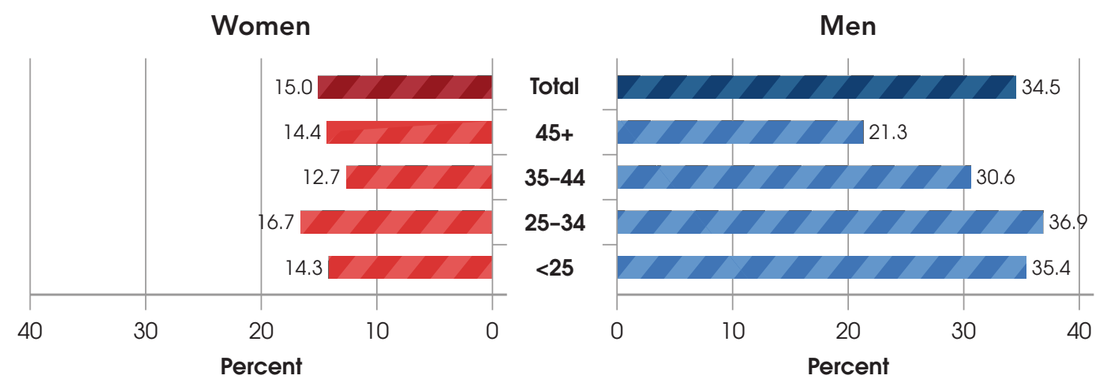
Tobacco use can cause a wide variety of negative health outcomes, including organ damage, respiratory disease, heart disease, stroke, cancer, and premature death. Smokers have also been shown to have an increased risk for injuries, and smoking inhibits wound healing. U.S. prevention campaigns have had some success in lowering smoking rates over the years, with a 36% decrease in national rates since 1990, reaching a low of 19% in 2013. The Army, too, has taken a strong stance to reduce tobacco use with health promotion efforts such as the recent launch of tobacco-free campus campaigns.

Smoking rates as determined from Soldier dental exams revealed that 23% of Active Duty Soldiers smoked exclusively, 13% used smokeless tobacco exclusively and 4% used both, bringing the total tobacco usage to roughly 32%. Tobacco use ranged from 13 to 40% across installations. Tobacco use among AD Soldiers is most common among males; usage by men was more than twice that of women.

Overall, 32% of Soldiers reported tobacco use.

Tobacco use ranged from 13% to 40% across installations.

Percent Reporting Tobacco Use by Gender and Age, AD Soldiers, 2014



"This year alone, nearly one-half million adults will still die prematurely because of smoking. Annually, the total economic costs due to tobacco are now over $289 billion. And if we continue on our current trajectory, 5.6 million children alive today who are younger than 18 years of age will die prematurely as a result of smoking."

—Kathleen Sebelius,
Secretary of Health and Human Services (2014)

TOBACCO-FREE WORKSITES

Tobacco-free worksites reduce tobacco use of employees. The more stringent policies show the greatest impact on employees' tobacco habits. Policies that have been in place for longer periods of time reduce tobacco use among employees further.

- Tobacco use is costly for the DOD; one study estimates that the Department spends an extra $564 million annually on medical care as a result of tobacco use.
- There is no safe level of exposure to secondhand smoke (SHS).
- The negative health effects of SHS exposure include lung cancer, lower respiratory tract infections, asthma, cardiovascular disease, and nasal irritation.

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Pirkle JL, Bernert JT, Caudill SP, Sosnoff CS, Pechacek,TF. Trends in the exposure of nonsmokers in the US population to secondhand smoke: 1988-2002. Environmental Health Perspectives, 2006; 853-858.

Pickett MS, Schober SE, Brody DJ, et al. Smoke-free laws and secondhand smoke exposure in US non-smoking adults, 1999 2002. Tob Control 2006 Aug;15(4):302-307.

"I, for one, am happy because I don't have to be exposed to that every day. I don't go home with my clothes smelling like cigarettes and that sort of thing."

—MEDCOM employee following the implementation of a tobacco free medical campus policy

SPOTLIGHT

MEDCOM TOBACCO-FREE LIVING (TFL) WORKFORCES AND TOBACCO-FREE MEDICAL CAMPUSES

Tobacco use and smoking-related diseases are the leading causes of devastating, yet preventable and reversible health-related diseases in the United States. The Army Medical Command (MEDCOM) continues its commitment to beneficiaries as a System for Health in support of the 2020 Department of Defense (DOD) goal for creating tobacco-free workforce and installations.

In May 2015, TSG announced her intent and plan to promote Tobacco-Free Living (TFL) workforces and Tobacco-Free Medical Campuses (TFMC) via OPERATIONS ORDER 15-48 (Medical Command (MEDCOM) Tobacco-Free Living). TFL and TFMCs provide safe environments for patients to receive their care. TFL includes tobacco prevention, incremental tobacco reduction, and control. TFL will be implemented across the enterprise in order to create a tobacco-free community that promotes the overall health of military personnel, Family members, retirees, and all employees on MEDCOM campuses. The overarching goal of the MEDCOM TFL OPORD is to improve the health, wellness and productivity of the Army Family.

OPORD 15-48 specifically states that no MEDCOM personnel will use any tobacco products during the duty day. This includes military, civilians, contractors and local national employees. It also calls for the removal of designated tobacco use areas, smoking areas or smoking shelters and states that personnel, persons seeking health care, and visitors are prohibited from using any form of tobacco on or within the medical campus, as established by the AR 600-63, 16 Apr 15.

An evaluation of the first tobacco-free medical campus policy found a significant reduction in MEDCOM employee second hand smoke exposure and a significant increase in employee satisfaction with their workplace tobacco policy. Through the implementation of such policies across the enterprise, MEDCOM is leading the way to a healthier workforce and Army.

TOBACCO STATISTICS

An estimated 23% of the AD Soldiers evaluated for this report were identified as current smokers during dental visits. This estimate is slightly lower than that reported on the 2011 DOD Health-related Behaviors Survey administered to AD members, from which roughly 27% of Soldiers were determined to be current smokers.

National prevalence estimates are lower, with 19% of the general adult population classified as current smokers. Published studies also confirm higher rates among the U.S. military in comparison to the U.S. general population.

- A CDC assessment of National Health Interview Surveys collected from 2007 to 2010 revealed that cigarette smoking prevalence was higher among people currently serving in the military than among the civilian population.
- The Institute of Medicine (IOM), which has published guidance for tobacco cessation in military and veteran populations, also reports that cigarette smoking prevalence is even higher among military personnel who have been deployed, with smoking rates up to 50% higher among veterans returning from Afghanistan and Iraq.

References:
CDC http://www.cdc.gov/tobacco/campaign/tips/resources/data/cigarette-smoking-in-united-states.html
IOM http://iom.nationalacademies.org/Reports/2009/MilitarySmokingCessation.aspx
DoD HRB http://prevent.org//data/files/actiontoquit/final%202011%20hrb%20active%20duty%20survey%20report-release.pdf

Sleep Disorders

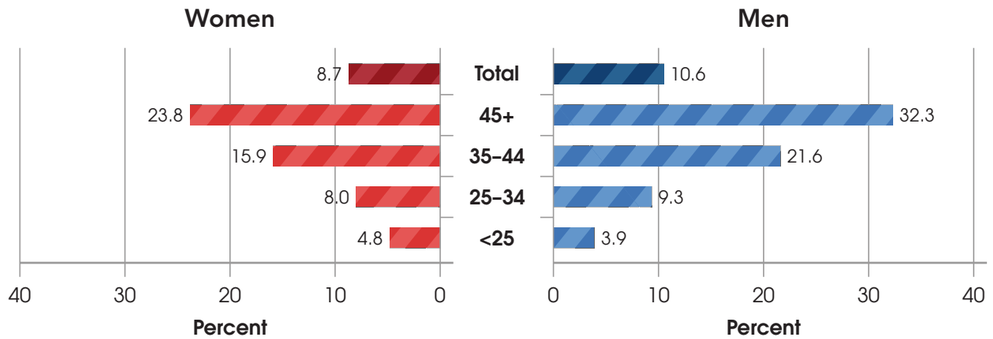
Sleep is critical in achieving optimal physical, mental, and emotional health, but the demands of one's job often make it difficult to get sufficient sleep. In training and on the battlefield, inadequate sleep impairs many abilities that are essential to the mission, including detecting and appropriately determining threat levels and coordinating squad tactics. Getting optimal sleep starts with learning and practicing good sleep habits. There are many ways in which leaders and Soldiers can eliminate sleep distractors and practice proper sleep hygiene to ensure that optimal, healthy sleep is achieved.

Approximately 10% of AD Soldiers had a diagnosed sleep disorder in 2014. The proportion affected ranged from 5% to 14% across installations. Rates were higher among men as compared to women and increased for both genders with increasing age. For example, rates were almost 5 times higher for women 45 and older than for women under 25; likewise, rates were roughly 8 times higher for men 45 and older compared to men under 25.

Overall, 10% of Soldiers were diagnosed with a sleep disorder.

Sleep disorder rates ranged from 5% to 14% across installations.

Percent Diagnosed with a Sleep Disorder by Gender and Age, AD Soldiers, 2014



"Sleep is . . . important to public health, with sleep insufficiency linked to motor vehicle crashes, industrial disasters, and medical and other occupational errors. Unintentionally falling asleep, nodding off while driving, and having difficulty performing daily tasks because of sleepiness all may contribute to these hazardous outcomes. Persons experiencing sleep insufficiency are also more likely to suffer from chronic diseases such as hypertension, diabetes, depression, and obesity, as well as from cancer, increased mortality, and reduced quality of life and productivity."

—Centers for Disease Control and Prevention

SPOTLIGHT

THE IMPORTANCE OF EFFECTIVE LEADERSHIP IN PROMOTING SOLDIERS' OPTIMAL SLEEP

In the FY2014 Performance Triad Pilot, 86% of participating Soldiers indicated that getting enough sleep was very or critically important to their physical performance and 90% indicated that getting enough sleep was very or critically important to their mental performance. Soldiers and leaders easily recognized the association between quality sleep and outcomes such as increased alertness, improved decision making, improved morale, decreased stress, increased safety, and increased focus and/or brain function. They also noted that lack of sleep negatively impacts their relationships with other Soldiers and their Family members.

Despite recognizing the importance of quality sleep and the troublesome impact of poor sleep, more than four in five Soldiers indicated experiencing barriers to optimal sleep. The most commonly reported barriers to sleep included an inability to sleep (31%), job responsibilities (31%), home and family responsibilities (30%), and a need to unwind before going to sleep (25%). In focus groups, Soldiers elaborated on what leads to their sleeplessness. They mentioned guard and staff duty (24-hour duty), late night text messages from Leaders, early morning PT, work schedules and work-related stress, video games, time management, and personal choice to do other things as sleep barriers. Soldiers further explained that lack of sleep is "the Army way" and spoke to a pervasive culture of sleeplessness and sleep deprivation within the military.

> Less than half of Soldiers participating in the FY14 Performance Triad pilot agreed or strongly agreed that their leaders modeled positive sleep behaviors and only 40% agreed that their leader coached them on how to obtain adequate sleep.
>
> –FY2014 Performance Triad Pilot Program Evaluation

Insufficient sleep and sleep disorders are a threat to mission success. Challenging a military culture that has historically discounted sleep is critical to ensuring Soldiers are getting the sleep they need to perform at their best. While there are many resources that provide individuals with tips related to achieve good sleep hygiene, individual education and behavior modifications are not enough. What can leaders do to support Soldiers in getting better sleep?

- **Recognize signs of insufficient sleep and sleep disorders in Soldiers.** Educating yourself about sleep and sleeplessness is a critical first step in better understanding how to support Soldiers. More information can be located on the "10 effective sleep habits for adults" tip card or the Army Wellness Center Healthy Sleep Habits presentation. Links to these resources can be found in the references below.

- **Communicate with Soldiers about sleep.** Many leaders perceive that sleep is a Soldier's individual responsibility and don't engage in conversations with their Soldiers about how they are sleeping. Open the door to communication and prepare yourself with strategies and resources to assist Soldiers who may be having trouble. If a Soldier is showing signs of problems sleeping or a potential sleep disorder, refer him or her to an Army Wellness Center or patient centered medical home for assessment and treatment.

- **Set conditions in which Soldiers are able to obtain adequate sleep.** Staff duty or 24-hour shift work is not conducive to alertness and safety. While staff duty is a necessary part of any unit, consider innovative ways to avoid 24-hour shifts, such as dividing the time into shorter shifts? Consider providing a mandatory day off after staff duty and/or providing transportation to Soldiers for staff duty responsibilities so they do not drive home sleep-deprived.

- **Facilitate a healthy sleep environment in Soldiers' barracks.** Enforcing quiet times and lights out can help Soldiers increase sleep time. Dark, quiet and cool barracks with noise and light discipline not only helps Soldiers sleep but also trains them to manage sleep for training and for sustained operations.

- **Integrate sleep science into mission planning.** Research on sleep banking and sleep planning can be incorporated into Army missions. These tactics can help Soldiers prepare for and recover from sustained operations or longer training events such as those at the National Training Center or Joint Readiness Training Center.

- **Serve as a role model.** Soldiers are always watching their leaders, and leaders should exemplify readiness. Being knowledgeable is an important first step, but demonstrating your own good sleep habits will set the best example for Soldiers to follow.

References:
Centers for Disease Control and Prevention. (2015). Sleep and Military. http://www.cdc.gov/features/sleep-military/index.html. Retrieved 8 October 2015.

U.S. Army Public Health Center. (2013, December). 10 effective sleep habits for adults tip card. Retrieved from https://usaphcapps.amedd.army.mil/HIOShoppingCart/viewItem.aspx?id=531

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U.S. Army Public Health Command (USAPHC). (2013, August). The Activity, Nutrition, and Sleep Context within the 3rd Squadron, 38th Calvary Regiment at Joint Base Lewis-McChord, Washington and Associated Recommendations for Performance Triad Pilot Program Implementation, September 2013. Public Health Assessment Report No. S.0011581-13. USAPHC: Aberdeen Proving Ground, MD.

Substance Abuse

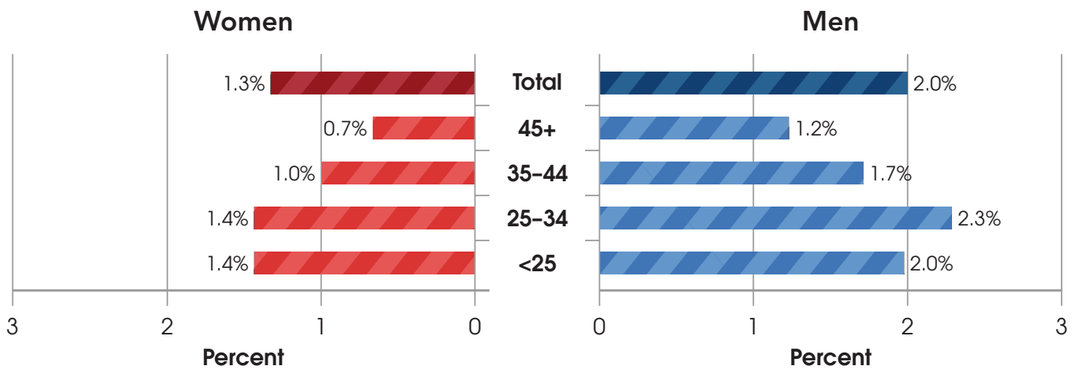
The misuse and abuse of alcohol, prescription medication, and other drugs detract from individual health and unit readiness, and negatively impact the lives of Army Families and the community at large. The accidental or intentional overdose of alcohol or drugs is a major cause of morbidity and mortality; it is also the most common method of suicide attempt among Soldiers. In addition, substance abuse disorders are associated with domestic violence and sexual harassment/assault incidents, which are threats to public health and safety.

Approximately 2% of AD Soldiers had a diagnosed substance abuse disorder in 2014. The proportion affected ranged from 1 to 3% across installations. Men were disproportionately affected (2.0% compared to 1% for women), and prevalence was highest among Soldiers under 35 years of age.

Overall, 2% of Soldiers were diagnosed with a substance abuse disorder.

Rates ranged from 1% to 3% across installations.

Percent Diagnosed with a Substance Abuse Disorder by Gender and Age, AD Soldiers, 2014



SPOTLIGHT

Army Substance Abuse Program (ASAP)

The Army Substance Abuse Program (ASAP) is responsible for providing guidance and leadership on all non-clinical alcohol and other drug policy issues; developing, establishing, administering, and evaluating non-clinical alcohol and other drug (AOD) abuse prevention, education, and training programs; overseeing the Military, Drug Free Workplace and Department of Transportation biochemical (drug) testing programs; and for the oversight of local Army Substance Abuse Programs (ASAP) worldwide.

The primary goal of the ASAP website is to provide soldiers, commanders, ASAP personnel, Unit Prevention Leaders (UPL) and all other members of the Army community with an informative, user-friendly online environment. Those utilizing the site have access to a multitude of information on our Biochemical (drug) Testing Programs, Risk Reduction Program (RRP), Soldier Assistance Program (SAP), Employee Assistance Program (EAP), alcohol and drug abuse prevention training materials, as well as general information about our Agency. https://acsap.army.mil/

"Grappling with the public health crisis of substance use and misuse within the ranks of the armed forces will require the DOD to consistently implement prevention, screening, diagnosis, and treatment services and take leadership for ensuring that these services expand and improve."*

—Institute of Medicine

A 2012 Institute of Medicine report prepared for the Department of Defense recommended ways of addressing the problem of substance use in the military. Recommendations included increasing the use of evidence-based prevention and treatment interventions and expanding access to care.

Army leaders have recently expressed interest in a single, integrated training to prevent substance abuse, sexual assault, and suicide. A systematic review of evidence supporting the integration of substance abuse, suicide prevention, and sexual assault trainings found that, to date, there is not enough data to draw conclusions regarding the effectiveness of integrated primary prevention in these areas (that is, an evidence-based single training to reduce substance abuse, sexual assault, and suicide does not exist). However, the review highlighted evidence-based best practices associated with substance abuse prevention. Characteristics of effective training practices associated with substance abuse reduction include:

- They are interactive, time insensitive, and universal
- They incorporate principles of positive psychology and social learning
- They address changes to the environment

These principles should be incorporated whenever possible into substance abuse prevention trainings for Soldiers.

References:
Soole et al., 2006, Hersh et al., 2000, Deitz et al, 2005, Englander-Golden et al., 1996, Wambeam, 2013

STAND-TO! Edition: Monday August 19, 2013. Ready and Resilient Campaign: Polypharmacy. Retrieved at http://www.army.mil/standto/archive_2013-08-20/

White Paper: Behavioral and Social Health Outcomes Program (BSHOP) Proposal for Polypharmacy and Overdose Medical Education (POME) Training Program

S P O T L I G H T

POLYPHARMACY AND OVERDOSE MEDICAL EDUCATION (POME)

An example of an Army training developed to reduce substance misuse and abuse among warfighters is the Polypharmacy and Overdose Medical Education training.

Polypharmacy is defined as:

- Prescriptions for 4 or more of any type of medication, including one or more opioid within the previous 30 days.
- Prescriptions for 4 or more medications from the 7 categories of psychotropics and Central Nervous System Depressants within the previous 30 days.
- Three or more ER visits in the past year in which an opioid was prescribed at each visit.

Recognizing the need to train medical providers on polypharmacy and how to prevent it, the U.S. Army developed POME. POME is a comprehensive, interactive training module for healthcare providers who prescribe medication. It describes the doctor shopping phenomenon and how to handle patients who seek narcotics from multiple sources, characteristics of polypharmacy, and strategies like medication reconciliation to enhance patient safety. This module was developed in consultation with the Uniformed Services University of the Health Sciences and the Pharmacy Consultant to TSG.

A specific video training for Warrior Transition Unit (WTU) staff (i.e., cadre, nurse case managers, and social workers) also illustrates how to recognize signs and symptoms of medication misuse and abuse, and a communication tool called "Look, Listen, and Act" is applied to real life scenarios. This module was developed in consultation with the Psychiatry Consultant to TSG, the Addiction Consultant to TSG, WTU nurse case managers, licensed clinical social workers, clinical pharmacists, and pain management providers.

Per OTSG/MEDCOM Policy Memo 13-032 (Guidance for Managing Polypharmacy and Preventing Medication Overdose in Soldiers Prescribed Psychotropic Medications and Central Nervous System Depressants, dated 21 May 2013), MEDCOM currently has a goal of 90% completion of the initial and annual polypharmacy training by healthcare providers, pharmacists, and other healthcare professionals.

"Members of the armed forces are not immune to the substance use problems that affect the rest of society. Although illicit drug use is lower among U.S. military personnel than among civilians, **heavy alcohol and tobacco use**, and especially **prescription drug abuse**, are much more prevalent and are **on the rise**."*

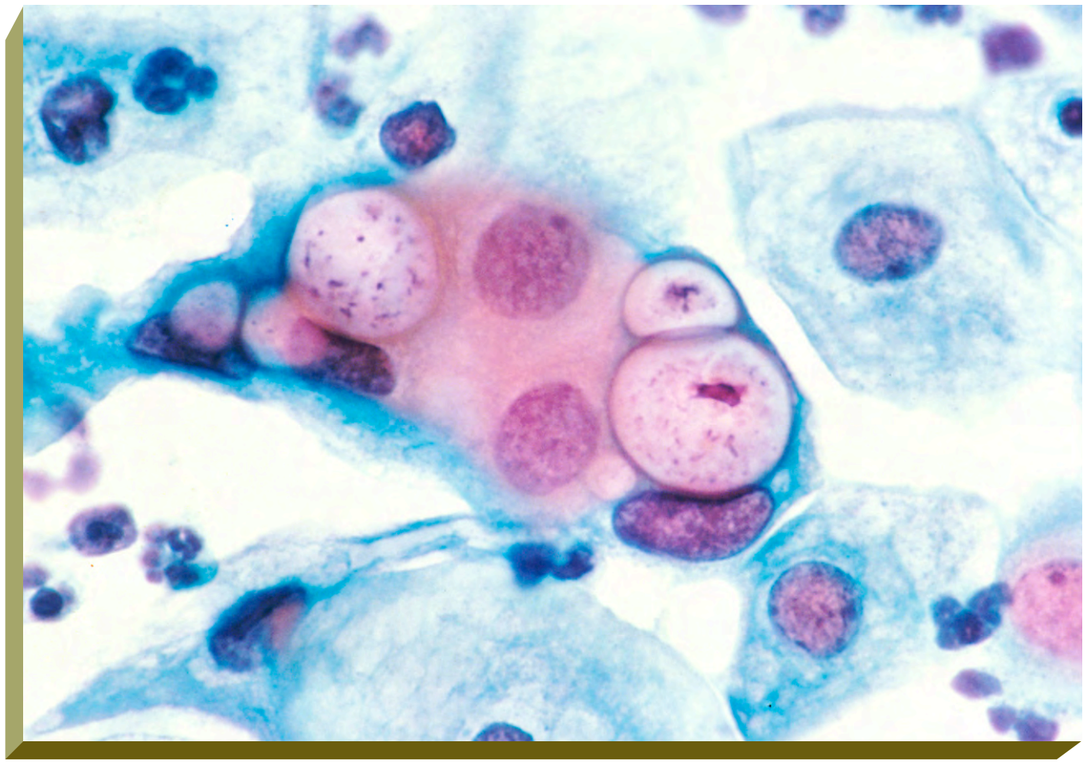
—National Institute of Drug Abuse

*Source: https://www.drugabuse.gov/publications/drugfacts/substance-abuse-in-military

Chlamydia

Sexually transmitted infections such as chlamydia can impact medical readiness and Soldier well-being. Most people infected with chlamydia are unaware because they have no symptoms. If left untreated, chlamydia may cause severe health complications, particularly among women, who may experience pelvic inflammatory disease, ectopic pregnancy, and infertility. Therefore, it is recommended that pregnant women, sexually active women under 25 years old, and older women with risk factors get screened annually for chlamydia.

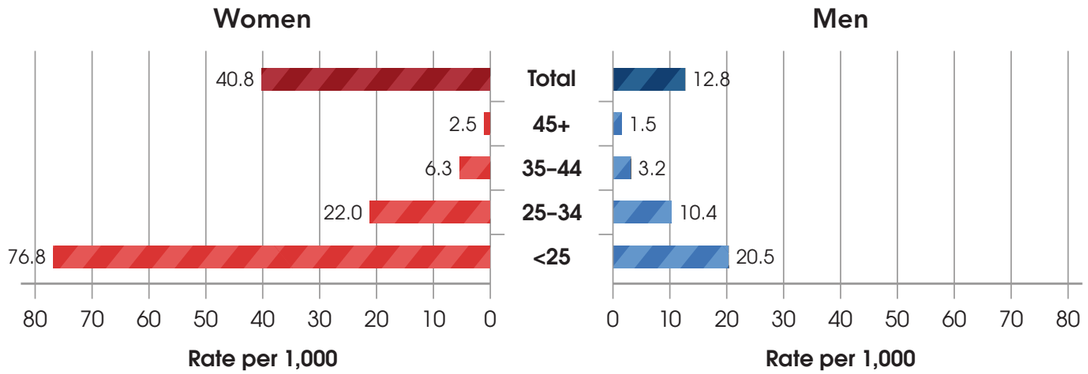
Approximately 16.7 chlamydia infections per 1,000 Soldiers were reported in 2014. Rates ranged from 9.5 to 25.9 per 1,000 across the ranked installations. Rates were nearly four-fold higher among women, particularly women under 25 years of age, where 76.8 infections per 1,000 were reported. This may be partially due to increased screening among this demographic. Higher reported rates as well as higher screening compliance have been documented among Soldiers as compared to similar demographic cohorts in the U.S. population.



Overall, 17 new chlamydia infections were reported per 1,000 Soldiers.

Reported chlamydia rates ranged from 7 to 28 per 1,000 across installations.

Rate of Chlamydia Reported by Gender and Age, AD Soldiers, 2014



Annual chlamydia screening for sexually active females <25 years was ranked by the National Commission on Prevention Priorities as one of the 10 most beneficial and cost-effective prevention services.

—Macioseket al, Am J PrevMed 2006

S P O T L I G H T

AMEDD's Promote Responsible Personal and Social Behavior (PRPSB) Program

The Army Medicine 2020 Campaign Plan outlines objectives to promote responsible sexual behavior. As a result, the Promote Responsible Personal and Social Behavior (PRPSB) program was established. The PRPSB takes a multi-faceted approach that incorporates a variety of measures to improve STI surveillance, prevention, and treatment. As part of this initiative, monthly rates of two reportable STIs (chlamydia and gonorrhea), STI reporting timeliness, and STI follow-up (e.g., contact tracing) are monitored at Army installations. A standardized educational briefing has been developed for implementation across Army installations, and other educational and prevention resources and policies continue to be developed. The PRPSB program guide was released in October 2015.

S P O T L I G H T

Disease Reporting System internet (DRSi)

Chlamydia is the most prevalent reportable disease for the U.S. and the U.S. military. Reported cases are routinely tracked both nationally and within the Army. This type of surveillance is beneficial for identifying and targeting high-risk groups for disease prevention which can also reduce the transmission of other sexually transmitted infections (STIs). However, rates are considered conservative given that the majority of infections are asymptomatic and go undetected. Under-reporting is also problematic, further limiting estimates.

Due to surveillance enhancements with the military's Disease Reporting System internet (DRSi), under-reporting can now be more readily explored. Using a relatively new DRSi case-finding module which detects probable cases from laboratory data, a significant reporting issue was discovered, affecting roughly half of the installations evaluated. These installations had less than 60% of identified probable cases reported through DRSi which diminished the confidence of the reported rates. These case-finding estimates are preliminary and warrant further investigation to determine underlying causes, and suggest the need for additional education regarding reporting.

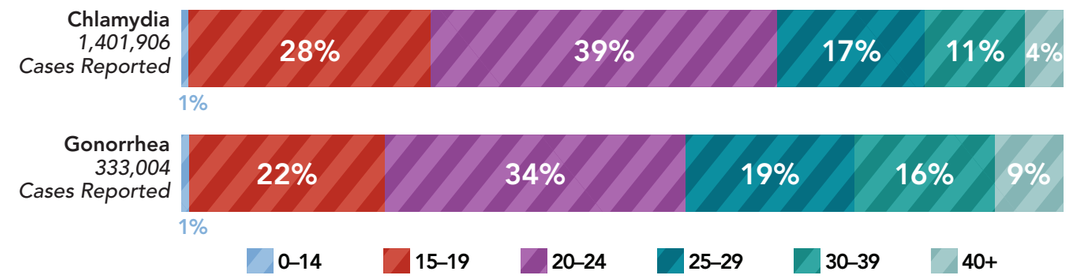
Improved education will allow clinicians and public health professionals to use DRSi and the new case-finding resource effectively. Additional information can be obtained at: http://phc.amedd.army.mil/topics/healthsurv/de/Pages/DRSiResources.aspx

STI Statistics

The CDC estimates there are **20 million new** sexually transmitted infections (STIs) in the U.S. each year, and more than **110 million total** STIs (new and old infections).

$ STIs COST THE AMERICAN HEALTHCARE SYSTEM NEARLY $16 BILLION IN DIRECT MEDICAL COSTS ALONE. $

Roughly half of all new STIs in the U.S. occur among 15–24 year olds.



Percentages may not add to 100 because ages were unknown for a small number of cases

Nearly 40% of AD Army Soldiers are under 25 years of age; by age alone, many AD Soldiers are at higher risk for STIs.

Prevention Tips

Common STIs include human papillomavirus (HPV), chlamydia, trichomoniasis, gonorrhea, herpes simplex virus (HSV), syphilis, hepatitis B and human immunodeficiency virus (HIV).

STIs often have no noticeable symptoms. Chlamydia, for example, fails to show symptoms in about 80% of infected women and 50% of infected men. And having an STI can make it easier to become infected with another. Periodic STI testing is often the best way to identify infections.

All STIs are preventable, many are curable and all can be treated. Effective ways to reduce risk include:

- Using a condom correctly every time when engaging in oral, vaginal or anal sex
- Reducing the number of sexual partners and the number of high-risk partners, situations and sex acts
- Being in a mutually monogamous relationship with an uninfected partner
- Talking to a medical provider about getting tested (every three to six months)
- Getting the HPV and Hepatitis B vaccines

Preventable Hospital Admissions

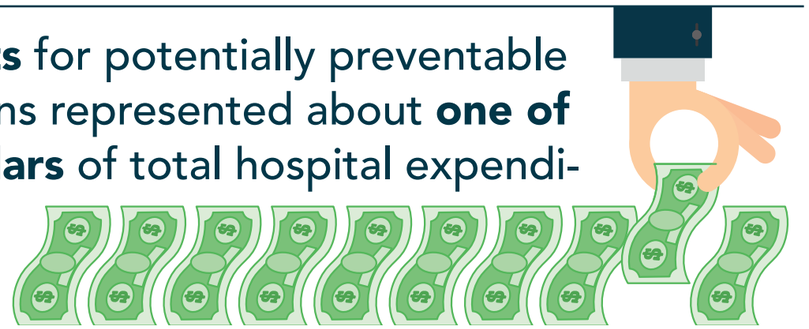
Preventable admissions include those for acute illness, such as dehydration or urinary infections, and for exacerbated chronic conditions, such as diabetes, that could have been avoided with appropriate outpatient care. These admissions reflect an avoidable and costly healthcare burden and suggest sub-optimal quality of outpatient care or overuse of hospitals as a primary source of care.

The Army Medical Command (MEDCOM) tracks these rates monthly for Army Active Duty enrollees. Rates are reported via the Command Management System (CMS) along with the MEDCOM target, which is currently set at 3.5%. The U.S.-based Army installations evaluated fell well below this target at 2%. The proportion of hospitalizations affected ranged from 1% to 5% across installations. However, there is room for improvement given that three installations exceed this target, with percentages approaching 5%.

Overall, 2% of Soldier hospital admissions were classified as preventable.

Rates ranged from 1% to 5% across installations.

Hospital costs for potentially preventable hospitalizations represented about **one of every 10 dollars** of total hospital expenditures in 2006.



Source: Agency for Healthcare Research and Quality

"PROGRAMS TO PREVENT CHRONIC DISEASES GENERATE SAVINGS BY LOWERING RATES OF HOSPITALIZATIONS. FOR EXAMPLE, PATIENT-CENTERED MEDICAL HOMES GENERATE MOST OF THEIR SAVINGS BY REDUCING HOSPITALIZATIONS."

— CENTERS FOR DISEASE CONTROL AND PREVENTION

SPOTLIGHT

COMMAND MANAGEMENT SYSTEM (CMS)

The Army MEDCOM tracks preventable admission rates on a monthly basis for most of its military treatment facilities (MTFs) on the Command Management System (CMS). The CMS provides a timely means to assess outcomes, identify needs and improve efficiency. An MTF's performance for this and other healthcare delivery metrics may be monitored at: https://cms.mods.army.mil/cms/

Potentially **preventable hospitalizations** are admissions to a hospital for certain acute illnesses or worsening chronic conditions that might have been **avoided with the delivery of high-quality outpatient treatment** and disease management. They can serve as potential **markers of health system efficiency.** Lack of access to healthcare and poor-quality care can lead to increases in these types of hospitalizations.

Hospital care represents the **largest component of overall healthcare expenditures**. Thus, reducing the frequency of potentially preventable hospitalizations would be an effective strategy for lowering costs while improving quality of care and patient outcomes.

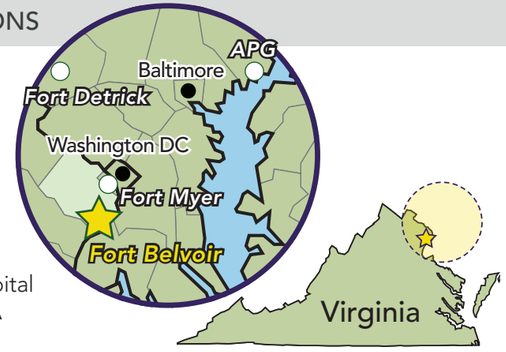
Source: Agency for Healthcare Research and Quality

INSTALLATION HEALTH INDEX

INSTALLATION PROFILE SUMMARIES*

** Installation profile summaries are provided in alphabetic order*

Fort Belvoir



Installation Profile (2014):

Population: Approximately 3,500 Active Duty Soldiers: 50% under 35 years old, 21% female
Main Healthcare Facility: Dewitt Army Community Hospital
Affiliated County: Fairfax **Closest City:** Alexandria, VA

INSTALLATION HEALTH INDEX (IHI) MEASURES*

MEASURE	VALUE	REFERENCE ARMY VALUE	VALUE RANGE
Medical Readiness			
Medical readiness classification (% not ready)	23.3	16.9	11.7–23.3
Health Outcomes			
Injury incidence (rate per 1,000)	1,276.7	1,294.8	1,062.4–1,648.3
Behavioral health diagnoses (%)	20.3	14.7	9.3–20.3
Chronic disease diagnoses (%)	18.0	14.2	12.3–21.4
Health Factors			
Obesity (%)	NA	12.6	8.8–17.5
Tobacco use (%)	25.4	31.8	12.9–40.4
Sleep disorder diagnoses (%)	NA	10.3	5.0–14.3
Substance abuse diagnoses (%)	3.0	1.9	0.6–3.1
Chlamydia infection incidence (rate per 1,000)	26.9φ	16.7	7.3–27.6
Healthcare Delivery			
Preventable hospital admissions (%)	NA	2.1	0.9–4.9
IHI Score**	1.2	0	-0.8–1.2

* See Appendix II for details regarding measure computations
** The IHI Score reflects standard deviations from the Army average for the collective adverse health measures. Negative values indicate better overall health status. Scores ≤-2 or ≥2 reflect statistically significant differences.
φ Value should be interpreted with caution as preliminary case-finding estimates were <60%

PERFORMANCE TRIAD SCORES

Score: 68.2
Army average: 66.8
Army range: 64–74

Score: 78.7
Army average: 81.4
Army range: 79–85

Score: 68.9
Army average: 69.0
Army range: 67–75

STRENGTHS:

- Lower rate of tobacco use

CHALLENGES:

- Higher proportion not medically ready
- Higher rates of diagnosed behavioral health disorders, substance abuse disorders, and chronic disease
- Lower P3 activity scores
- Low confidence in reported chlamydia infections

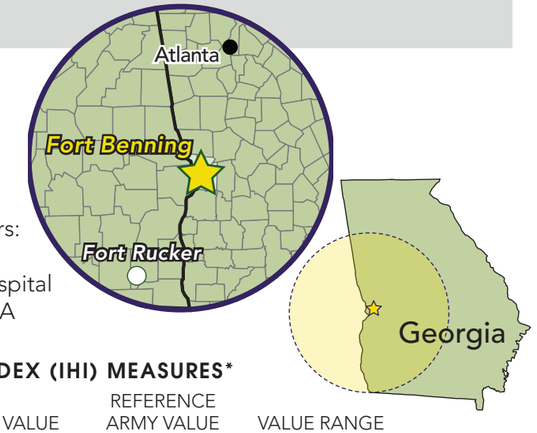
Community Health

Virginia ranked 21st in overall health out of 50 states in 2014. The state reported an obesity rate of 28% and smoking prevalence was estimated at 18%.

Compared to the state of Virginia, Fairfax County, in which Fort Belvoir is located, had lower levels of obesity (22%) and smoking (11%).

REFERENCES: America's Health Rankings, Robert Wood Johnson Foundation County Health Rankings, Public Health 360

Fort Benning



Installation Profile (2014):

Population: Approximately 21,700 Active Duty Soldiers: 85% under 35 years old, 7% female
Main Healthcare Facility: Martin Army Community Hospital
Affiliated Counties: Chattahoochee and Muscogee, GA
Closest City: Columbus, GA

INSTALLATION HEALTH INDEX (IHI) MEASURES*

MEASURE	VALUE	REFERENCE ARMY VALUE	VALUE RANGE
Medical Readiness			
Medical readiness classification (% not ready)	15.7	16.9	11.7–23.3
Health Outcomes			
Injury incidence (rate per 1,000)	1,432.8	1,294.8	1,062.4–1,648.3
Behavioral health diagnoses (%)	15.0	14.7	9.3–20.3
Chronic disease diagnoses (%)	16.5	14.2	12.3–21.4
Health Factors			
Obesity (%)	11.6	12.6	8.8–17.5
Tobacco use (%)	32.6	31.8	12.9–40.4
Sleep disorder diagnoses (%)	10.9	10.3	5.0–14.3
Substance abuse diagnoses (%)	1.5	1.9	0.6–3.1
Chlamydia infection incidence (rate per 1,000)	7.4φ	16.7	7.3–27.6
Healthcare Delivery			
Preventable hospital admissions (%)	2.2	2.1	0.9–4.9
IHI Score**	0	0	-0.8–1.2

* See Appendix II for details regarding measure computations
** The IHI Score reflects standard deviations from the Army average for the collective adverse health measures. Negative values indicate better overall health status. Scores ≤-2 or ≥2 reflect statistically significant differences.
φ Value should be interpreted with caution as preliminary case-finding estimates were <60%

PERFORMANCE TRIAD SCORES

Score: 64.9
Army average: 66.8
Army range: 64–74

Score: 81.4
Army average: 81.4
Army range: 79–85

Score: 69.5
Army average: 69.0
Army range: 67–75

STRENGTHS:

- Lower proportion not medically ready
- Lower obesity rate

CHALLENGES:

- Higher rates of injury and chronic disease
- Lower P3 Sleep score
- Low confidence in reported chlamydia infections

Community Health

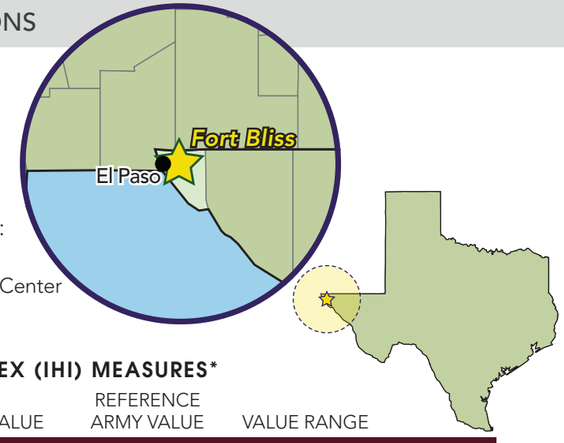
Georgia ranked 38th in overall health out of 50 states in 2014. The state reported an obesity rate of 29%, and smoking prevalence was estimated at 18%.

Compared to the state, Chattahoochee County, in which Fort Benning is predominantly located, had higher levels of obesity (31%). Muscogee County also had higher levels of obesity (36%) and smoking (23%).

Obesity levels (17%) among Fort Benning's Active Duty Soldiers were substantially lower than U.S. levels (29%) after standardizing to the U.S. adult population by age and gender. Smoking rates reported at Fort Benning averaged 22%.

REFERENCES: America's Health Rankings, Robert Wood Johnson Foundation County Health Rankings, Public Health 360

Fort Bliss



Installation Profile (2014):

Population: Approximately 27,100 Active Duty Soldiers: 79% under 35 years old, 13% female
Main Healthcare Facility: William Beaumont Army Medical Center
Affiliated County: El Paso **Closest City:** El Paso, TX

INSTALLATION HEALTH INDEX (IHI) MEASURES*

MEASURE	VALUE	REFERENCE ARMY VALUE	VALUE RANGE
Medical Readiness			
Medical readiness classification (% not ready)	17.4	16.9	11.7–23.3
Health Outcomes			
Injury incidence (rate per 1,000)	1,248.5	1,294.8	1,062.4–1,648.3
Behavioral health diagnoses (%)	17.4	14.7	9.3–20.3
Chronic disease diagnoses (%)	14.4	14.2	12.3–21.4
Health Factors			
Obesity (%)	12.9	12.6	8.8–17.5
Tobacco use (%)	34.9	31.8	12.9–40.4
Sleep disorder diagnoses (%)	12.4	10.3	5.0–14.3
Substance abuse diagnoses (%)	2.9	1.9	0.6–3.1
Chlamydia infection incidence (rate per 1,000)	21.0[φ]	16.7	7.3–27.6
Healthcare Delivery			
Preventable hospital admissions (%)	1.7	2.1	0.9–4.9
IHI Score**	0.3	0	-0.8–1.2

* See Appendix II for details regarding measure computations
** The IHI Score reflects standard deviations from the Army average for the collective adverse health measures. Negative values indicate better overall health status. Scores ≤-2 or ≥2 reflect statistically significant differences.
φ Value should be interpreted with caution as preliminary case-finding estimates were <60%

PERFORMANCE TRIAD SCORES

Score: 65.9
Army average: 66.8
Army range: 64–74

Score: 81.7
Army average: 81.4
Army range: 79–85

Score: 67.6
Army average: 69.0
Army range: 67–75

STRENGTHS:

- Similar to the Army average for medical readiness, injury, chronic disease and obesity

CHALLENGES:

- Higher rates of substance abuse disorders, sleep disorders, behavioral health disorders and tobacco use
- Low confidence in reported chlamydia infections

Community Health

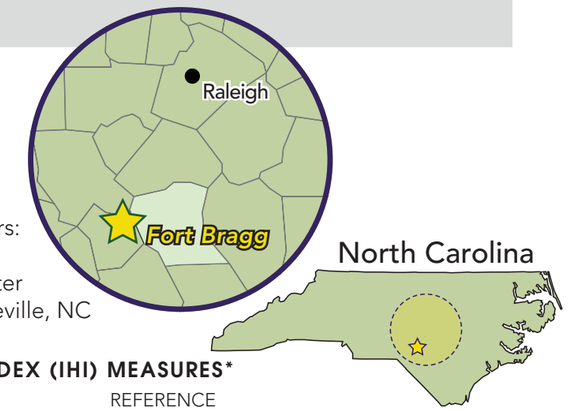
Texas ranked 31st in overall health out of 50 states in 2014. The state reported an obesity rate of 29%, and smoking prevalence was estimated at 17%.

Compared to the state, El Paso, the county in which Fort Bliss is located, had lower levels of obesity (23%) and smoking (15%).

Obesity levels (14%) among Active Duty Soldiers at Fort Bliss were substantially lower than U.S. levels (29%) after standardizing to the U.S. adult population by age and gender. Smoking rates reported at Fort Bliss averaged 27%.

REFERENCES: America's Health Rankings, Robert Wood Johnson Foundation County Health Rankings, Public Health 360

Fort Bragg



Installation Profile (2014):

Population: Approximately 46,000 Active Duty Soldiers: 79% under 35 years old, 12% female
Main Healthcare Facility: Womack Army Medical Center
Affiliated County: Cumberland **Closest City:** Fayetteville, NC

INSTALLATION HEALTH INDEX (IHI) MEASURES*

MEASURE	VALUE	REFERENCE ARMY VALUE	VALUE RANGE
Medical Readiness			
Medical readiness classification (% not ready)	17.3	16.9	11.7–23.3
Health Outcomes			
Injury incidence (rate per 1,000)	1,080.3	1,294.8	1,062.4–1,648.3
Behavioral health diagnoses (%)	10.9	14.7	9.3–20.3
Chronic disease diagnoses (%)	12.3	14.2	12.3–21.4
Health Factors			
Obesity (%)	11.5	12.6	8.8–17.5
Tobacco use (%)	31.9	31.8	12.9–40.4
Sleep disorder diagnoses (%)	7.6	10.3	5.0–14.3
Substance abuse diagnoses (%)	2.5	1.9	0.6–3.1
Chlamydia infection incidence (rate per 1,000)	18.6	16.7	7.3–27.6
Healthcare Delivery			
Preventable hospital admissions (%)	2.6	2.1	0.9–4.9
IHI Score**	-0.2	0	-0.8–1.2

* See Appendix II for details regarding measure computations
** The IHI Score reflects standard deviations from the Army average for the collective adverse health measures. Negative values indicate better overall health status. Scores ≤-2 or ≥2 reflect statistically significant differences.

PERFORMANCE TRIAD SCORES

Score: 67.9
Army average: 66.8
Army range: 64–74

Score: 82.4
Army average: 81.4
Army range: 79–85

Score: 71.2
Army average: 69.0
Army range: 67–75

STRENGTHS:

- Lower rates of injury, behavioral health disorders, sleep disorders, chronic disease, and obesity
- Higher P3 activity and nutrition scores

CHALLENGES:

- Higher rates of reported chlamydia infection and diagnosed substance abuse disorders
- Lower P3 Sleep score

Community Health

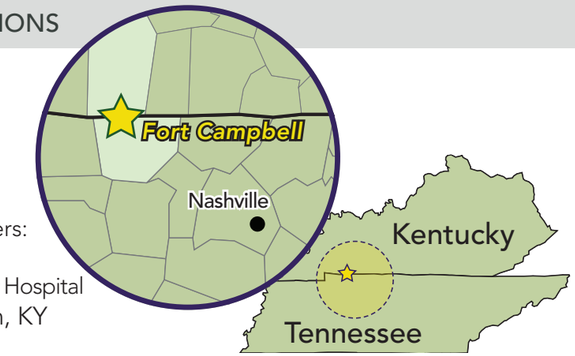
North Carolina ranked 37th in overall health out of 50 states in 2014. The state reported an obesity rate of 29%, and smoking prevalence was estimated at 20%.

Compared to the state of North Carolina, Cumberland County, in which Fort Bragg is located, had higher levels of obesity (34%) and smoking (22%).

Obesity levels (14%) among Fort Bragg's Active Duty Soldiers were substantially lower than U.S. levels (29%) after standardizing to the U.S. adult population by age and gender. Smoking rates reported at Fort Bragg averaged 21%.

REFERENCES: America's Health Rankings, Robert Wood Johnson Foundation County Health Rankings, Public Health 360

Fort Campbell



Installation Profile (2014):

Population: Approximately 30,300 Active Duty Soldiers: 82% under 35 years old, 11% female
Main Healthcare Facility: Blanchfield Army Community Hospital
Affiliated Counties: Montgomery, TN and Christian, KY
Closest Cities: Clarksville, TN and Hopkinsville, KY

INSTALLATION HEALTH INDEX (IHI) MEASURES*

MEASURE	VALUE	REFERENCE ARMY VALUE	VALUE RANGE
Medical Readiness			
Medical readiness classification (% not ready)	14.5	16.9	11.7–23.3
Health Outcomes			
Injury incidence (rate per 1,000)	1,272.5	1,294.8	1,062.4–1,648.3
Behavioral health diagnoses (%)	12.7	14.7	9.3–20.3
Chronic disease diagnoses (%)	12.4	14.2	12.3–21.4
Health Factors			
Obesity (%)	12.3	12.6	8.8–17.5
Tobacco use (%)	38.8	31.8	12.9–40.4
Sleep disorder diagnoses (%)	9.5	10.3	5.0–14.3
Substance abuse diagnoses (%)	1.8	1.9	0.6–3.1
Chlamydia infection incidence (rate per 1,000)	15.2	16.7	7.3–27.6
Healthcare Delivery			
Preventable hospital admissions (%)	1.6	2.1	0.9–4.9
IHI Score**	-0.3	0	-0.8–1.2

* See Appendix II for details regarding measure computations
** The IHI Score reflects standard deviations from the Army average for the collective adverse health measures. Negative values indicate better overall health status. Scores ≤-2 or ≥2 reflect statistically significant differences.

PERFORMANCE TRIAD SCORES

Score: 66.8
Army average: 66.8
Army range: 64–74

Score: 82.7
Army average: 81.4
Army range: 79–85

Score: 69.1
Army average: 69.0
Army range: 67–75

STRENGTHS:

- Lower proportion not medically ready
- Lower rates of behavioral health disorders, chronic disease and reported chlamydia infection
- Higher P3 activity score

CHALLENGES:

- Higher rate of tobacco use

Community Health

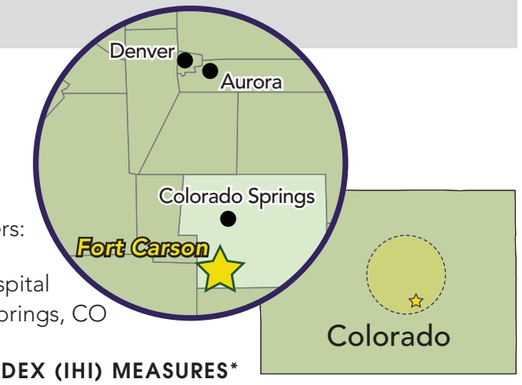
Tennessee ranked 45th in overall health out of 50 states in 2014. The state reported an obesity rate of 32%, and smoking prevalence was estimated at 23%. Kentucky ranked 47th in overall health with an obesity rate of 33% and smoking rates estimated at 26%.

Montgomery County, TN and Christian County, KY, the two counties which surround Fort Campbell, had the same level of obesity (32%). Montgomery County, TN had a higher proportion of smokers (28%) than the state of Tennessee, while Christian County, KY had a similar proportion of smokers (25%) than the state of Kentucky.

Obesity levels (14%) among Fort Campbell's Active Duty Soldiers were substantially lower than U.S. levels (29%) after standardizing to the U.S. adult population by age and gender. Smoking rates reported at Fort Campbell averaged 27%.

REFERENCES: America's Health Rankings, Robert Wood Johnson Foundation County Health Rankings, Public Health 360

Fort Carson



Installation Profile (2014):

Population: Approximately 26,300 Active Duty Soldiers: 83% under 35 years old, 11% female
Main Healthcare Facility: Evans Army Community Hospital
Affiliated County: El Paso **Closest City:** Colorado Springs, CO

INSTALLATION HEALTH INDEX (IHI) MEASURES*

MEASURE	VALUE	REFERENCE ARMY VALUE	VALUE RANGE
Medical Readiness			
Medical readiness classification (% not ready)	16.1	16.9	11.7–23.3
Health Outcomes			
Injury incidence (rate per 1,000)	1,147.4	1,294.8	1,062.4–1,648.3
Behavioral health diagnoses (%)	13.4	14.7	9.3–20.3
Chronic disease diagnoses (%)	12.7	14.2	12.3–21.4
Health Factors			
Obesity (%)	11.1	12.6	8.8–17.5
Tobacco use (%)	37.4	31.8	12.9–40.4
Sleep disorder diagnoses (%)	10.4	10.3	5.0–14.3
Substance abuse diagnoses (%)	2.0	1.9	0.6–3.1
Chlamydia infection incidence (rate per 1,000)	14.5φ	16.7	7.3–27.6
Healthcare Delivery			
Preventable hospital admissions (%)	1.6	2.1	0.9–4.9
IHI Score**	-0.3	0	-0.8–1.2

* See Appendix II for details regarding measure computations
** The IHI Score reflects standard deviations from the Army average for the collective adverse health measures. Negative values indicate better overall health status. Scores ≤-2 or ≥2 reflect statistically significant differences.
φ Value should be interpreted with caution as preliminary case-finding estimates were <60%

PERFORMANCE TRIAD SCORES

Score: 67.6
Army average: 66.8
Army range: 64–74

Score: 82.8
Army average: 81.4
Army range: 79–85

Score: 69.1
Army average: 69.0
Army range: 67–75

STRENGTHS:

- Lower rates of injury, chronic disease, behavioral health disorders and obesity
- Higher P3 activity score

CHALLENGES:

- Higher rate of tobacco use
- Low confidence in reported chlamydia infections

Community Health

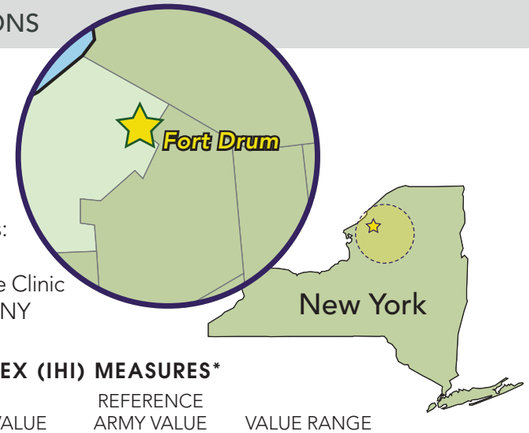
Colorado ranked 8th in overall health out of 50 states in 2014. The state reported an obesity rate of 20%, and smoking prevalence was estimated at 17%.

Compared to the state, El Paso, the county in which Fort Carson is located, had higher levels of obesity (21%) and smoking (18%).

Obesity levels (14%) among Fort Carson's Active Duty Soldiers were substantially lower than the U.S. levels (29%) after standardizing to the U.S. adult population by age and gender. Smoking rates reported at Fort Carson averaged 28%.

REFERENCES: America's Health Rankings, Robert Wood Johnson Foundation County Health Rankings, Public Health 360

Fort Drum



Installation Profile (2014):

Population: Approximately 17,100 Active Duty Soldiers: 83% under 35 years old, 10% female
Main Healthcare Facility: Guthrie Ambulatory Health Care Clinic
Affiliated County: Jefferson **Closest City:** Watertown, NY

INSTALLATION HEALTH INDEX (IHI) MEASURES*

MEASURE	VALUE	REFERENCE ARMY VALUE	VALUE RANGE
Medical Readiness			
Medical readiness classification (% not ready)	19.2	16.9	11.7–23.3
Health Outcomes			
Injury incidence (rate per 1,000)	1,420.1	1,294.8	1,062.4–1,648.3
Behavioral health diagnoses (%)	16.5	14.7	9.3–20.3
Chronic disease diagnoses (%)	12.9	14.2	12.3–21.4
Health Factors			
Obesity (%)	14.1	12.6	8.8–17.5
Tobacco use (%)	38.9	31.8	12.9–40.4
Sleep disorder diagnoses (%)	9.8	10.3	5.0–14.3
Substance abuse diagnoses (%)	1.7	1.9	0.6–3.1
Chlamydia infection incidence (rate per 1,000)	10.1[φ]	16.7	7.3–27.6
Healthcare Delivery			
Preventable hospital admissions (%)	1.4	2.1	0.9–4.9
IHI Score**	0.3	0	-0.8–1.2

* See Appendix II for details regarding measure computations
** The IHI Score reflects standard deviations from the Army average for the collective adverse health measures. Negative values indicate better overall health status. Scores ≤-2 or ≥2 reflect statistically significant differences.
φ Value should be interpreted with caution as preliminary case-finding estimates were <60%

PERFORMANCE TRIAD SCORES

Score: 67.0
Army average: 66.8
Army range: 64–74

Score: 81.6
Army average: 81.4
Army range: 79–85

Score: 69.0
Army average: 69.0
Army range: 67–75

STRENGTHS:

- Lower rates of preventable admissions and chronic disease

CHALLENGES:

- Higher proportion not medically ready
- Higher rates of tobacco use, injury, behavioral health disorders, and obesity
- Low confidence in reported chlamydia infections

Community Health

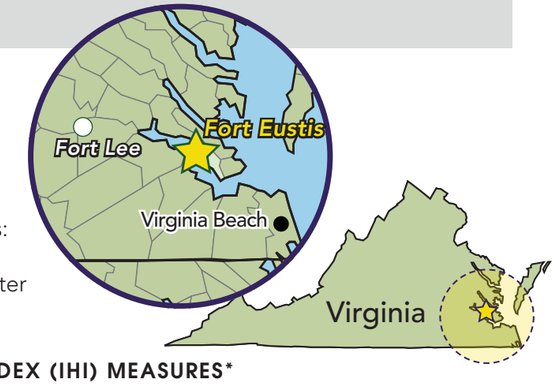
New York ranked 14th in overall health out of 50 states in 2014. The state reported an obesity rate of 24%, and smoking prevalence was estimated at 17%.

Compared to the state, Jefferson, the county in which Fort Drum is located, had higher levels of obesity (29%) and smoking (26%).

Obesity levels (17%) among Fort Drum's Active Duty Soldiers were substantially lower than U.S. levels (29%) after standardizing to the U.S. adult population by age and gender. Smoking rates reported at Fort Drum averaged 28%.

REFERENCES: America's Health Rankings, Robert Wood Johnson Foundation County Health Rankings, Public Health 360

Fort Eustis



Installation Profile (2014):

Population: Approximately 5,100 Active Duty Soldiers: 73% under 35 years old, 18% female
Main Healthcare Facility: McDonald Army Health Center
Affiliated County: Newport News City
Closest City: Newport News, VA

INSTALLATION HEALTH INDEX (IHI) MEASURES*

MEASURE	VALUE	REFERENCE ARMY VALUE	VALUE RANGE
Medical Readiness			
Medical readiness classification (% not ready)	17.9	16.9	11.7–23.3
Health Outcomes			
Injury incidence (rate per 1,000)	1,431.1	1,294.8	1,062.4–1,648.3
Behavioral health diagnoses (%)	17.2	14.7	9.3–20.3
Chronic disease diagnoses (%)	21.4	14.2	12.3–21.4
Health Factors			
Obesity (%)	17.4	12.6	8.8–17.5
Tobacco use (%)	27.6	31.8	12.9–40.4
Sleep disorder diagnoses (%)	9.2	10.3	5.0–14.3
Substance abuse diagnoses (%)	2.0	1.9	0.6–3.1
Chlamydia infection incidence (rate per 1,000)	14.9	16.7	7.3–27.6
Healthcare Delivery			
Preventable hospital admissions (%)	3.3	2.1	0.9–4.9
IHI Score**	0.7	0	-0.8–1.2

* See Appendix II for details regarding measure computations
** The IHI Score reflects standard deviations from the Army average for the collective adverse health measures. Negative values indicate better overall health status. Scores ≤-2 or ≥2 reflect statistically significant differences.

PERFORMANCE TRIAD SCORES

Score: 67.9
Army average: 66.8
Army range: 64–74

Score: 79.2
Army average: 81.4
Army range: 79–85

Score: 68.1
Army average: 69.0
Army range: 67–75

STRENGTHS:

- Lower rates of diagnosed sleep disorders, reported chlamydia infection, and tobacco use

CHALLENGES:

- Higher proportion not medically ready
- Higher rates of injury, behavioral health disorders, chronic disease, obesity, and preventable admissions
- Lower P3 activity score

Community Health

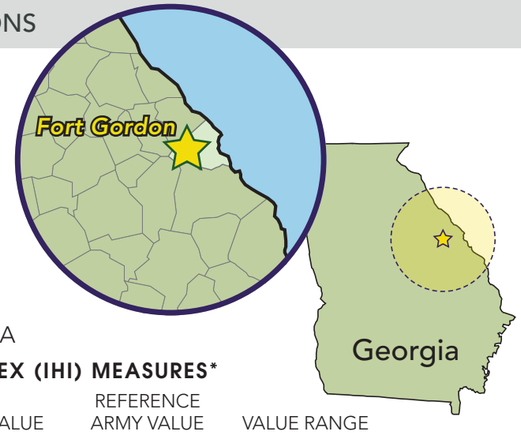
Virginia ranked 21st in overall health out of 50 states in 2014. The state reported an obesity rate of 28%, and smoking prevalence was estimated at 18%.

Compared to the state, Newport News City County, in which Fort Eustis is located, had higher levels of obesity (34%) and smoking (23%).

Obesity levels (19%) among Active Duty Soldiers at Fort Eustis were substantially lower than U.S. levels (29%) after standardizing to the U.S. adult population by age and gender. Smoking rates reported at Fort Eustis averaged 23%.

REFERENCES: America's Health Rankings, Robert Wood Johnson Foundation County Health Rankings, Public Health 360

Fort Gordon



Installation Profile (2014):

Population: Approximately 8,700 Active Duty Soldiers: 77% under 35 years old, 20% female
Main Healthcare Facility: Dwight D. Eisenhower Army Medical Center
Affiliated County: Richmond **Closest City:** Augusta, GA

INSTALLATION HEALTH INDEX (IHI) MEASURES*

MEASURE	VALUE	REFERENCE ARMY VALUE	VALUE RANGE
Medical Readiness			
Medical readiness classification (% not ready)	22.8	16.9	11.7–23.3
Health Outcomes			
Injury incidence (rate per 1,000)	1,537.3	1,294.8	1,062.4–1,648.3
Behavioral health diagnoses (%)	16.2	14.7	9.3–20.3
Chronic disease diagnoses (%)	16.5	14.2	12.3–21.4
Health Factors			
Obesity (%)	16.9	12.6	8.8–17.5
Tobacco use (%)	19.9	31.8	12.9–40.4
Sleep disorder diagnoses (%)	9.9	10.3	5.0–14.3
Substance abuse diagnoses (%)	2.4	1.9	0.6–3.1
Chlamydia infection incidence (rate per 1,000)	18.0	16.7	7.3–27.6
Healthcare Delivery			
Preventable hospital admissions (%)	2.4	2.1	0.9–4.9
IHI Score**	0.8	0	-0.8–1.2

* See Appendix II for details regarding measure computations
** The IHI Score reflects standard deviations from the Army average for the collective adverse health measures. Negative values indicate better overall health status. Scores ≤-2 or ≥2 reflect statistically significant differences.

PERFORMANCE TRIAD SCORES

Score: 65.2
Army average: 66.8
Army range: 64–74

Score: 79.7
Army average: 81.4
Army range: 79–85

Score: 67.6
Army average: 69.0
Army range: 67–75

STRENGTHS:

- Lower rate of tobacco use

CHALLENGES:

- Higher proportion not medically ready
- Higher rates of injury, obesity, chronic disease and behavioral health disorders
- Lower P3 activity score

Community Health

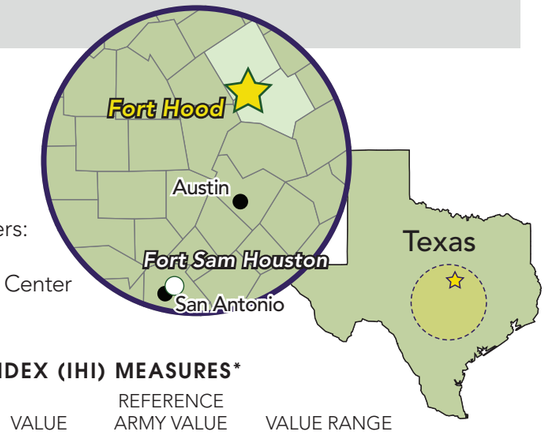
Georgia ranked 38th in overall health out of 50 states in 2014. The state reported an obesity rate of 28%, and smoking prevalence was estimated at 18%.

Compared to the state, Richmond, the county in which Fort Gordon is located, had higher levels of obesity (33%) and smoking (23%).

Obesity levels (24%) among Fort Gordon's Active Duty Soldiers were lower than U.S. levels (29%) after standardizing to the U.S. adult population by age and gender. Smoking rates reported at Fort Gordon averaged 16%.

REFERENCES: America's Health Rankings, Robert Wood Johnson Foundation County Health Rankings, Public Health 360

Fort Hood



Installation Profile (2014):

Population: Approximately 39,900 Active Duty Soldiers: 80% under 35 years old, 15% female
Main Healthcare Facility: Carl R. Darnall Army Medical Center
Affiliated County: Bell **Closest City:** Killeen, TX

INSTALLATION HEALTH INDEX (IHI) MEASURES*

MEASURE	VALUE	REFERENCE ARMY VALUE	VALUE RANGE
Medical Readiness			
Medical readiness classification (% not ready)	19.2	16.9	11.7–23.3
Health Outcomes			
Injury incidence (rate per 1,000)	1,234.6	1,294.8	1,062.4–1,648.3
Behavioral health diagnoses (%)	18.6	14.7	9.3–20.3
Chronic disease diagnoses (%)	14.4	14.2	12.3–21.4
Health Factors			
Obesity (%)	14.3	12.6	8.8–17.5
Tobacco use (%)	34.6	31.8	12.9–40.4
Sleep disorder diagnoses (%)	14.3	10.3	5.0–14.3
Substance abuse diagnoses (%)	3.1	1.9	0.6–3.1
Chlamydia infection incidence (rate per 1,000)	23.2[φ]	16.7	7.3–27.6
Healthcare Delivery			
Preventable hospital admissions (%)	2.0	2.1	0.9–4.9
IHI Score**	0.6	0	-0.8–1.2

* See Appendix II for details regarding measure computations
** The IHI Score reflects standard deviations from the Army average for the collective adverse health measures. Negative values indicate better overall health status. Scores ≤-2 or ≥2 reflect statistically significant differences.
φ Value should be interpreted with caution as preliminary case-finding estimates were <60%

PERFORMANCE TRIAD SCORES

Score: 64.3
Army average: 66.8
Army range: 64–74

Score: 80.3
Army average: 81.4
Army range: 79–85

Score: 66.5
Army average: 69.0
Army range: 67–75

STRENGTHS:

- Similar to the Army average for injury, chronic disease, and preventable admissions

CHALLENGES:

- Higher proportion not medically ready
- Higher rates of behavioral health disorders, substance abuse disorders, sleep disorders, obesity, and tobacco use
- Lower P3 sleep, activity and nutrition scores
- Low confidence in reported chlamydia infections

Community Health

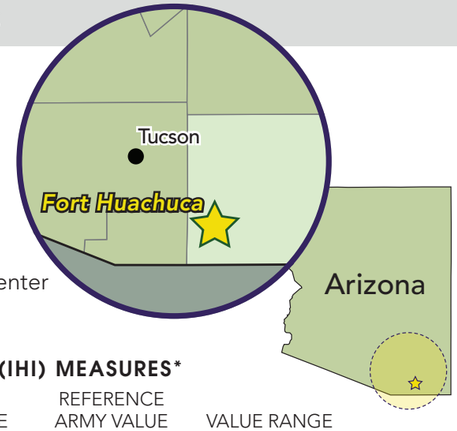
Texas ranked 31st in overall health out of 50 states in 2014. The state reported an obesity rate of 29%, and smoking prevalence was estimated at 17%.

Compared to the state, Bell, the county in which Fort Hood is predominantly located, had the same level of obesity (29%) and higher rates of smoking (19%).

Obesity levels (16%) among Fort Hood's Active Duty Soldiers were substantially lower than U.S. levels (29%) after standardizing to the U.S. adult population by age and gender. Smoking rates reported at Fort Hood averaged 27%.

REFERENCES: America's Health Rankings, Robert Wood Johnson Foundation County Health Rankings, Public Health 360

Fort Huachuca



Installation Profile (2014):

Population: Approximately 4,100 Active Duty Soldiers: 78% under 35 years old, 17% female
Main Healthcare Facility: Raymond W. Bliss Army Health Center
Affiliated County: Cochise **Closest City:** Sierra Vista, AZ

INSTALLATION HEALTH INDEX (IHI) MEASURES*

MEASURE	VALUE	REFERENCE ARMY VALUE	VALUE RANGE
Medical Readiness			
Medical readiness classification (% not ready)	18.6	16.9	11.7–23.3
Health Outcomes			
Injury incidence (rate per 1,000)	1,511.4	1,294.8	1,062.4–1,648.3
Behavioral health diagnoses (%)	11.4	14.7	9.3–20.3
Chronic disease diagnoses (%)	15.9	14.2	12.3–21.4
Health Factors			
Obesity (%)	10.4	12.6	8.8–17.5
Tobacco use (%)	19.5	31.8	12.9–40.4
Sleep disorder diagnoses (%)	9.2	10.3	5.0–14.3
Substance abuse diagnoses (%)	1.1	1.9	0.6–3.1
Chlamydia infection incidence (rate per 1,000)	10.6[φ]	16.7	7.3–27.6
Healthcare Delivery			
Preventable hospital admissions (%)	1.3	2.1	0.9–4.9
IHI Score**	-0.2	0	-0.8–1.2

* See Appendix II for details regarding measure computations
** The IHI Score reflects standard deviations from the Army average for the collective adverse health measures. Negative values indicate better overall health status. Scores ≤-2 or ≥2 reflect statistically significant differences.
φ Value should be interpreted with caution as preliminary case-finding estimates were <60%

PERFORMANCE TRIAD SCORES

Score: 67.8
Army average: 66.8
Army range: 64–74

Score: 81.8
Army average: 81.4
Army range: 79–85

Score: 69.6
Army average: 69.0
Army range: 67–75

STRENGTHS:

- Lower rates of behavioral health disorders, substance abuse disorders, tobacco use, obesity, and preventable admissions

CHALLENGES:

- Higher proportion not medically ready
- Higher rates of injury and chronic disease
- Low confidence in reported chlamydia infections

Community Health

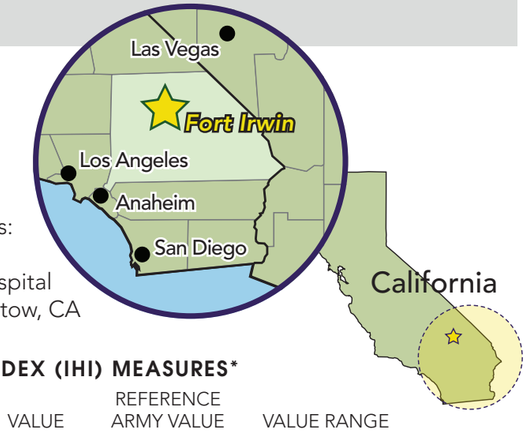
Arizona ranked 29th in overall health out of 50 states in 2014. The state reported an obesity rate of 24%, and smoking prevalence was estimated at 17%.

Compared to the state, Cochise, the county in which Fort Huachuca is located, had higher levels of obesity (25%) and smoking (22%).

Obesity levels (14%) among Fort Huachuca's Active Duty Soldiers were substantially lower than the U.S. levels (29%) after standardizing to the U.S. adult population by age and gender. Smoking rates reported at Fort Huachuca averaged 15%.

REFERENCES: America's Health Rankings, Robert Wood Johnson Foundation County Health Rankings, Public Health 360

Fort Irwin



Installation Profile (2014):

Population: Approximately 3,900 Active Duty Soldiers: 77% under 35 years old, 11% female
Main Healthcare Facility: Weed Army Community Hospital
Affiliated County: San Bernardino **Closest City:** Barstow, CA

INSTALLATION HEALTH INDEX (IHI) MEASURES*

MEASURE	VALUE	REFERENCE ARMY VALUE	VALUE RANGE
Medical Readiness			
Medical readiness classification (% not ready)	13.9	16.9	11.7–23.3
Health Outcomes			
Injury incidence (rate per 1,000)	1,648.3	1,294.8	1,062.4–1,648.3
Behavioral health diagnoses (%)	19.0	14.7	9.3–20.3
Chronic disease diagnoses (%)	19.7	14.2	12.3–21.4
Health Factors			
Obesity (%)	12.7	12.6	8.8–17.5
Tobacco use (%)	36.7	31.8	12.9–40.4
Sleep disorder diagnoses (%)	11.3	10.3	5.0–14.3
Substance abuse diagnoses (%)	2.6	1.9	0.6–3.1
Chlamydia infection incidence (rate per 1,000)	20.1	16.7	7.3–27.6
Healthcare Delivery			
Preventable hospital admissions (%)	2.1	2.1	0.9–4.9
IHI Score**	0.7	0	-0.8–1.2

* See Appendix II for details regarding measure computations
** The IHI Score reflects standard deviations from the Army average for the collective adverse health measures. Negative values indicate better overall health status. Scores ≤-2 or ≥2 reflect statistically significant differences.

PERFORMANCE TRIAD SCORES

Score: 65.7
Army average: 66.8
Army range: 64–74

Score: 80.3
Army average: 81.4
Army range: 79–85

Score: 68.4
Army average: 69.0
Army range: 67–75

STRENGTHS:

- Lower proportion not medically ready

CHALLENGES:

- Higher rates of injury, behavioral health disorders, chronic disease, tobacco use, substance abuse disorders, and reported chlamydia infection
- Lower P3 activity score

Community Health

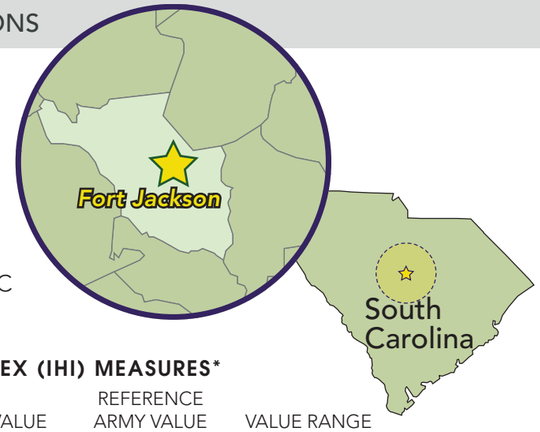
California ranked 17th in overall health out of 50 states in 2014. The state reported an obesity rate of 23%, and smoking prevalence was estimated at 13%.

Compared to the state, San Bernardino, the county in which Fort Irwin is located, had higher levels of obesity (28%) and smoking (16%).

Obesity levels (16%) among Fort Irwin's Active Duty Soldiers were substantially lower than the U.S. levels (29%) after standardizing to the U.S. adult population by age and gender. Smoking rates reported at Fort Irwin averaged 28%.

REFERENCES: America's Health Rankings, Robert Wood Johnson Foundation County Health Rankings, Public Health 360

Fort Jackson



Installation Profile (2014):

Population: Approximately 8,800 Active Duty Soldiers: 83% under 35 years old, 26% female

Affiliated County: Richland **Closest City:** Columbia, SC

INSTALLATION HEALTH INDEX (IHI) MEASURES*

MEASURE	VALUE	REFERENCE ARMY VALUE	VALUE RANGE
Medical Readiness			
Medical readiness classification (% not ready)	17.7	16.9	11.7–23.3
Health Outcomes			
Injury incidence (rate per 1,000)	1,491.8	1,294.8	1,062.4–1,648.3
Behavioral health diagnoses (%)	12.9	14.7	9.3–20.3
Chronic disease diagnoses (%)	13.8	14.2	12.3–21.4
Health Factors			
Obesity (%)	8.8	12.6	8.8–17.5
Tobacco use (%)	19.2	31.8	12.9–40.4
Sleep disorder diagnoses (%)	7.7	10.3	5.0–14.3
Substance abuse diagnoses (%)	1.7	1.9	0.6–3.1
Chlamydia infection incidence (rate per 1,000)	12.3	16.7	7.3–27.6
Healthcare Delivery			
Preventable hospital admissions (%)	3.2	2.1	0.9–4.9
IHI Score**	-0.3	0	-0.8–1.2

* See Appendix II for details regarding measure computations

** The IHI Score reflects standard deviations from the Army average for the collective adverse health measures. Negative values indicate better overall health status. Scores ≤-2 or ≥2 reflect statistically significant differences.

PERFORMANCE TRIAD SCORES

Score: 64.6
Army average: 66.8
Army range: 64–74

Score: 82.1
Army average: 81.4
Army range: 79–85

Score: 70.9
Army average: 69.0
Army range: 67–75

STRENGTHS:

- Lower rates of behavioral health disorders, obesity, tobacco use, sleep disorders, and reported chlamydia infection
- Higher P3 nutrition score

CHALLENGES:

- Higher rates of injury and preventable admissions
- Lower P3 sleep score

Community Health

South Carolina ranked 42nd in overall health out of 50 states in 2014. The state reported an obesity rate of 32%, and smoking prevalence was estimated at 20%.

Compared to the state, Richland, the county where Fort Jackson is located, had lower levels of obesity (31%) and smoking (17%).

Obesity levels (15%) among Fort Jackson's Active Duty Soldiers were substantially lower than U.S. levels (29%) after standardizing to the U.S. adult population by age and gender. Smoking rates reported at Fort Jackson averaged 14%.

REFERENCES: America's Health Rankings, Robert Wood Johnson Foundation County Health Rankings, Public Health 360

Fort Knox

Installation Profile (2014):

Population: Approximately 6,600 Active Duty Soldiers: 76% under 35 years old, 12% female

Main Healthcare Facility: Ireland Army Community Hospital

Affiliated County: Hardin **Closest City:** Louisville, KY

INSTALLATION HEALTH INDEX (IHI) MEASURES*

MEASURE	VALUE	REFERENCE ARMY VALUE	VALUE RANGE
Medical Readiness			
Medical readiness classification (% not ready)	19.0	16.9	11.7–23.3
Health Outcomes			
Injury incidence (rate per 1,000)	1,335.2	1,294.8	1,062.4–1,648.3
Behavioral health diagnoses (%)	15.4	14.7	9.3–20.3
Chronic disease diagnoses (%)	13.9	14.2	12.3–21.4
Health Factors			
Obesity (%)	10.7	12.6	8.8–17.5
Tobacco use (%)	39.3	31.8	12.9–40.4
Sleep disorder diagnoses (%)	10.9	10.3	5.0–14.3
Substance abuse diagnoses (%)	1.6	1.9	0.6–3.1
Chlamydia infection incidence (rate per 1,000)	7.3[φ]	16.7	7.3–27.6
Healthcare Delivery			
Preventable hospital admissions (%)	1.8	2.1	0.9–4.9
IHI Score**	0.1	0	-0.8–1.2

* See Appendix II for details regarding measure computations

** The IHI Score reflects standard deviations from the Army average for the collective adverse health measures. Negative values indicate better overall health status. Scores ≤-2 or ≥2 reflect statistically significant differences.

φ Value should be interpreted with caution as preliminary case-finding estimates were <60%

PERFORMANCE TRIAD SCORES

Score: 68.5
Army average: 66.8
Army range: 64–74

Score: 81.7
Army average: 81.4
Army range: 79–85

Score: 71.2
Army average: 69.0
Army range: 67–75

STRENGTHS:

- Lower rate of obesity
- Higher P3 sleep and nutrition scores

CHALLENGES:

- Higher proportion not medically ready
- Higher rate of tobacco use
- Low confidence in reported chlamydia infections

Community Health

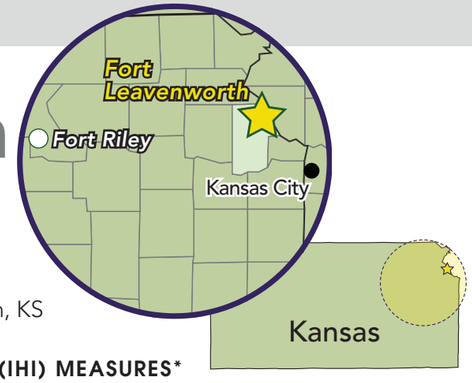
Kentucky ranked 47th in overall health out of 50 states in 2014. The state reported an obesity rate of 33% and smoking prevalence was estimated at 26%.

Compared to the state, Hardin, the county in which Fort Knox is located, had lower levels of obesity (30%) and smoking (23%).

Obesity levels (12%) among Fort Knox's Active Duty Soldiers were substantially lower than U.S. levels (29%) after standardizing to the U.S. adult population by age and gender. Smoking rates reported at Fort Knox averaged 29%.

REFERENCES: America's Health Rankings, Robert Wood Johnson Foundation County Health Rankings, Public Health 360

Fort Leavenworth



Installation Profile (2014):

Population: Approximately 3,500 Active Duty Soldiers: 48% under 35 years old, 14% female
Main Healthcare Facility: Munson Army Health Center
Affiliated County: Leavenworth **Closest City:** Leavenworth, KS

INSTALLATION HEALTH INDEX (IHI) MEASURES*

MEASURE	VALUE	REFERENCE ARMY VALUE	VALUE RANGE
Medical Readiness			
Medical readiness classification (% not ready)	19.3	16.9	11.7–23.3
Health Outcomes			
Injury incidence (rate per 1,000)	1,547.6	1,294.8	1,062.4–1,648.3
Behavioral health diagnoses (%)	17.3	14.7	9.3–20.3
Chronic disease diagnoses (%)	17.0	14.2	12.3–21.4
Health Factors			
Obesity (%)	17.5	12.6	8.8–17.5
Tobacco use (%)	22.0	31.8	12.9–40.4
Sleep disorder diagnoses (%)	11.1	10.3	5.0–14.3
Substance abuse diagnoses (%)	1.0	1.9	0.6–3.1
Chlamydia infection incidence (rate per 1,000)	27.6[φ]	16.7	7.3–27.6
Healthcare Delivery			
Preventable hospital admissions (%)	0.9	2.1	0.9–4.9
IHI Score**	0.5	0	-0.8–1.2

* See Appendix II for details regarding measure computations
** The IHI Score reflects standard deviations from the Army average for the collective adverse health measures. Negative values indicate better overall health status. Scores ≤-2 or ≥2 reflect statistically significant differences.
φ Value should be interpreted with caution as preliminary case-finding estimates were <60%

PERFORMANCE TRIAD SCORES

Score: 69.0
Army average: 66.8
Army range: 64–74

Score: 80.4
Army average: 81.4
Army range: 79–85

Score: 69.9
Army average: 69.0
Army range: 67–75

STRENGTHS:

- Lower rates of substance abuse disorders, preventable admissions and tobacco use
- Higher P3 sleep score

CHALLENGES:

- Higher proportion not medically ready
- Higher rates of obesity, injury, chronic disease and behavioral health disorders
- Lower P3 activity score
- Low confidence in reported chlamydia infections

Community Health

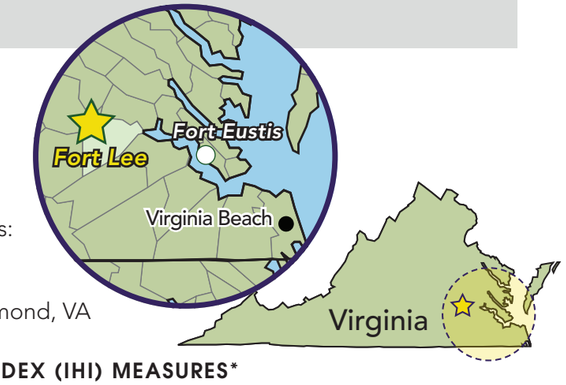
Kansas ranked 27th in overall health out of 50 states in 2014. The state reported an obesity rate of 30%, and smoking prevalence was estimated at 18%.

Compared to the state, Leavenworth, the county in which Fort Leavenworth is located, had higher levels of obesity (32%) and lower rates of smoking (18%).

Obesity levels (13%) among Fort Leavenworth's Active Duty Soldiers were substantially lower than the U.S. levels (29%) after standardizing to the U.S. adult population by age and gender. Smoking rates reported at Fort Leavenworth averaged 14%.

REFERENCES: America's Health Rankings, Robert Wood Johnson Foundation County Health Rankings, Public Health 360

Fort Lee



Installation Profile (2014):

Population: Approximately 6,500 Active Duty Soldiers: 75% under 35 years old, 24% female
Main Healthcare Facility: Kenner Army Health Clinic
Affiliated County: Prince George **Closest City:** Richmond, VA

INSTALLATION HEALTH INDEX (IHI) MEASURES*

MEASURE	VALUE	REFERENCE ARMY VALUE	VALUE RANGE
Medical Readiness			
Medical readiness classification (% not ready)	15.1	16.9	11.7–23.3
Health Outcomes			
Injury incidence (rate per 1,000)	1,385.7	1,294.8	1,062.4–1,648.3
Behavioral health diagnoses (%)	15.5	14.7	9.3–20.3
Chronic disease diagnoses (%)	17.2	14.2	12.3–21.4
Health Factors			
Obesity (%)	12.7	12.6	8.8–17.5
Tobacco use (%)	20.2	31.8	12.9–40.4
Sleep disorder diagnoses (%)	9.5	10.3	5.0–14.3
Substance abuse diagnoses (%)	1.5	1.9	0.6–3.1
Chlamydia infection incidence (rate per 1,000)	10.1	16.7	7.3–27.6
Healthcare Delivery			
Preventable hospital admissions (%)	1.4	2.1	0.9–4.9
IHI Score**	-0.2	0	-0.8–1.2

* See Appendix II for details regarding measure computations
** The IHI Score reflects standard deviations from the Army average for the collective adverse health measures. Negative values indicate better overall health status. Scores ≤-2 or ≥2 reflect statistically significant differences.

PERFORMANCE TRIAD SCORES

Score: 65.6
Army average: 66.8
Army range: 64–74

Score: 79.3
Army average: 81.4
Army range: 79–85

Score: 67.1
Army average: 69.0
Army range: 67–75

STRENGTHS:

- Lower proportion not medically ready
- Lower rates of preventable admissions, reported chlamydia infection and tobacco use

CHALLENGES:

- Higher rate of chronic disease
- Lower P3 activity and nutrition scores

Community Health

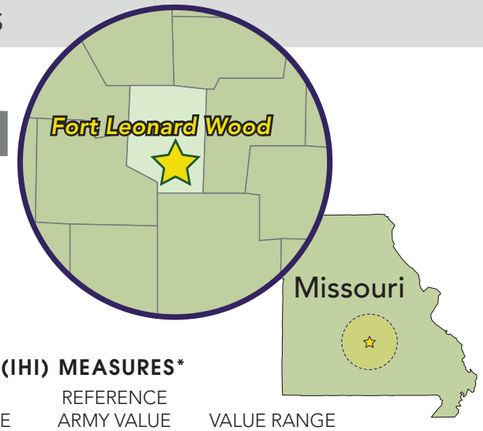
Virginia ranked 21st in overall health out of 50 states in 2014. The state reported an obesity rate of 28%, and smoking prevalence was estimated at 18%.

Compared to the state, Prince George, the county in which Fort Lee is located, had higher levels of obesity (36%) and smoking (25%).

Obesity levels (17%) among Fort Lee's Active Duty Soldiers were substantially lower than U.S. levels (29%) after standardizing to the U.S. adult population by age and gender. Smoking rates reported at Fort Lee averaged 16%.

REFERENCES: America's Health Rankings, Robert Wood Johnson Foundation County Health Rankings, Public Health 360

Fort Leonard Wood



Installation Profile (2014):

Population: Approximately 9,200 Active Duty Soldiers: 82% under 35 years old, 18% female
Main Healthcare Facility: General Leonard Wood Army Community Hospital
Affiliated County: Pulaski **Closest City:** St. Robert, MO

INSTALLATION HEALTH INDEX (IHI) MEASURES*

MEASURE	VALUE	REFERENCE ARMY VALUE	VALUE RANGE
Medical Readiness			
Medical readiness classification (% not ready)	15.4	16.9	11.7–23.3
Health Outcomes			
Injury incidence (rate per 1,000)	1,640.5	1,294.8	1,062.4–1,648.3
Behavioral health diagnoses (%)	14.2	14.7	9.3–20.3
Chronic disease diagnoses (%)	18.2	14.2	12.3–21.4
Health Factors			
Obesity (%)	12.1	12.6	8.8–17.5
Tobacco use (%)	24.8	31.8	12.9–40.4
Sleep disorder diagnoses (%)	9.8	10.3	5.0–14.3
Substance abuse diagnoses (%)	1.3	1.9	0.6–3.1
Chlamydia infection incidence (rate per 1,000)	13.9	16.7	7.3–27.6
Healthcare Delivery			
Preventable hospital admissions (%)	2.5	2.1	0.9–4.9
IHI Score**	0.1	0	-0.8–1.2

* See Appendix II for details regarding measure computations
** The IHI Score reflects standard deviations from the Army average for the collective adverse health measures. Negative values indicate better overall health status. Scores ≤-2 or ≥2 reflect statistically significant differences.

PERFORMANCE TRIAD SCORES

Score: 65.0
Army average: 66.8
Army range: 64–74

Score: 81.4
Army average: 81.4
Army range: 79–85

Score: 67.5
Army average: 69.0
Army range: 67–75

STRENGTHS:

- Lower proportion not medically ready
- Lower rates of tobacco use, substance abuse disorders, and reported chlamydia infection

CHALLENGES:

- Higher rates of chronic disease and injury
- Lower P3 sleep score

Community Health

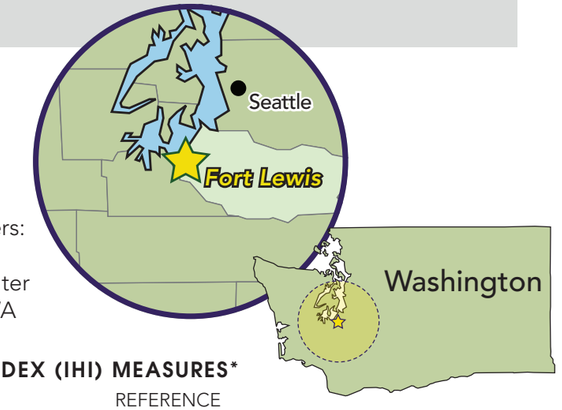
Missouri ranked 36th in overall health out of 50 states in 2014. The state reported an obesity rate of 31%, and smoking prevalence was estimated at 23%.

Compared to the state, Pulaski, the county in which Fort Leonard Wood is located, had a higher level of obesity (34%) and the same level of smoking (23%).

Obesity levels (16%) among Fort Leonard Wood's Active Duty Soldiers were substantially lower than the U.S. levels (29%) after standardizing to the U.S. adult population by age and gender. Smoking rates reported at Fort Leonard Wood averaged 18%.

REFERENCES: America's Health Rankings, Robert Wood Johnson Foundation County Health Rankings, Public Health 360

Fort Lewis



Installation Profile (2014):

Population: Approximately 29,800 Active Duty Soldiers: 81% under 35 years old, 12% female
Main Healthcare Facility: Madigan Army Medical Center
Affiliated County: Pierce **Closest City:** Lakewood, WA

INSTALLATION HEALTH INDEX (IHI) MEASURES*

MEASURE	VALUE	REFERENCE ARMY VALUE	VALUE RANGE
Medical Readiness			
Medical readiness classification (% not ready)	15.4	16.9	11.7–23.3
Health Outcomes			
Injury incidence (rate per 1,000)	1,251.6	1,294.8	1,062.4–1,648.3
Behavioral health diagnoses (%)	15.1	14.7	9.3–20.3
Chronic disease diagnoses (%)	12.3	14.2	12.3–21.4
Health Factors			
Obesity (%)	13.1	12.6	8.8–17.5
Tobacco use (%)	34.9	31.8	12.9–40.4
Sleep disorder diagnoses (%)	10.6	10.3	5.0–14.3
Substance abuse diagnoses (%)	1.1	1.9	0.6–3.1
Chlamydia infection incidence (rate per 1,000)	18.6[φ]	16.7	7.3–27.6
Healthcare Delivery			
Preventable hospital admissions (%)	1.6	2.1	0.9–4.9
IHI Score**	0.1	0	-0.8–1.2

* See Appendix II for details regarding measure computations
** The IHI Score reflects standard deviations from the Army average for the collective adverse health measures. Negative values indicate better overall health status. Scores ≤-2 or ≥2 reflect statistically significant differences.
φ Value should be interpreted with caution as preliminary case-finding estimates were <60%

PERFORMANCE TRIAD SCORES

Score: 65.7
Army average: 66.8
Army range: 64–74

Score: 81.9
Army average: 81.4
Army range: 79–85

Score: 69.1
Army average: 69.0
Army range: 67–75

STRENGTHS:

- Lower proportion not medically ready
- Lower rates of chronic disease and substance abuse disorders

CHALLENGES:

- Higher rate of tobacco use
- Low confidence in reported chlamydia infections

Community Health

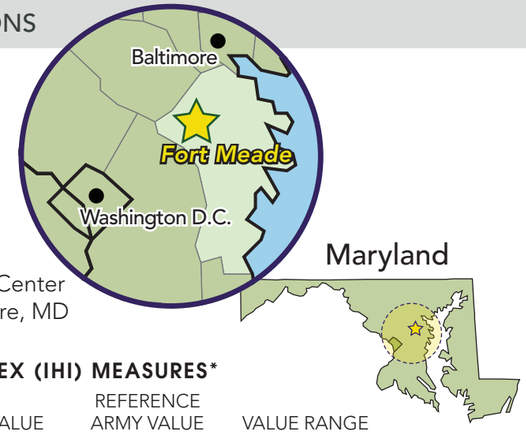
Washington ranked 13th in overall health out of 50 states in 2014. The state reported an obesity rate of 28%, and smoking prevalence was estimated at 16%.

Compared to the state, Pierce, the county where Fort Lewis is located, had higher levels of obesity (31%) and smoking (18%).

Obesity levels (16%) among Fort Lewis's Active Duty Soldiers were substantially lower than the U.S. levels (29%) after standardizing to the U.S. adult population by age and gender. Smoking rates reported at Fort Lewis averaged 25%.

REFERENCES: America's Health Rankings, Robert Wood Johnson Foundation County Health Rankings, Public Health 360

Fort Meade



Installation Profile (2014):

Population: Approximately 3,700 Active Duty Soldiers: 66% under 35 years old, 21% female
Main Healthcare Facility: Kimbrough Ambulatory Care Center
Affiliated County: Anne Arundel **Closest City:** Baltimore, MD

INSTALLATION HEALTH INDEX (IHI) MEASURES*

MEASURE	VALUE	REFERENCE ARMY VALUE	VALUE RANGE
Medical Readiness			
Medical readiness classification (% not ready)	23.1	16.9	11.7–23.3
Health Outcomes			
Injury incidence (rate per 1,000)	1,254.3	1,294.8	1,062.4–1,648.3
Behavioral health diagnoses (%)	18.4	14.7	9.3–20.3
Chronic disease diagnoses (%)	20.0	14.2	12.3–21.4
Health Factors			
Obesity (%)	16.2	12.6	8.8–17.5
Tobacco use (%)	21.7	31.8	12.9–40.4
Sleep disorder diagnoses (%)	11.3	10.3	5.0–14.3
Substance abuse diagnoses (%)	2.8	1.9	0.6–3.1
Chlamydia infection incidence (rate per 1,000)	9.5	16.7	7.3–27.6
Healthcare Delivery			
Preventable hospital admissions (%)	1.6	2.1	0.9–4.9
IHI Score**	0.7	0	-0.8–1.2

* See Appendix II for details regarding measure computations
** The IHI Score reflects standard deviations from the Army average for the collective adverse health measures. Negative values indicate better overall health status. Scores ≤-2 or ≥2 reflect statistically significant differences.

PERFORMANCE TRIAD SCORES

Score: 68.5
Army average: 66.8
Army range: 64–74

Score: 81.3
Army average: 81.4
Army range: 79–85

Score: 69.7
Army average: 69.0
Army range: 67–75

STRENGTHS:

- Lower rates of tobacco use and reported chlamydia infection
- Higher P3 sleep score

CHALLENGES:

- Higher proportion not medically ready
- Higher rates of chronic disease, behavioral health disorders, obesity, and substance abuse disorders

Community Health

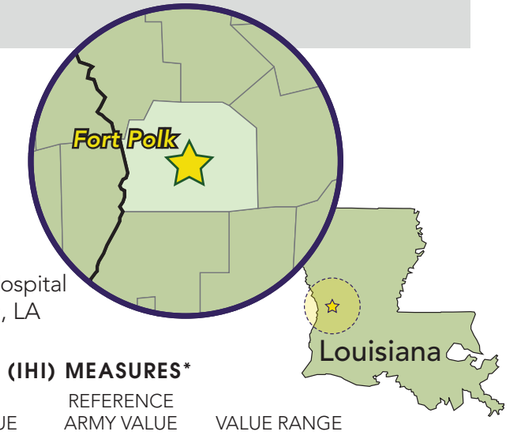
Maryland ranked 16th in overall health out of 50 states in 2014. The state reported an obesity rate of 28% and smoking prevalence was estimated at 15%.

Compared to the state, Anne Arundel, the county in which Fort Meade is located, had similar levels of obesity (28%) and smoking (16%).

Obesity levels (18%) among Fort Meade's Active Duty Soldiers were substantially lower than U.S. levels (29%) after standardizing to the U.S. adult population by age and gender. Smoking rates reported at Fort Meade averaged 17%.

REFERENCES: America's Health Rankings, Robert Wood Johnson Foundation County Health Rankings, Public Health 360

Fort Polk



Installation Profile (2014):

Population: Approximately 7,800 Active Duty Soldiers: 78% under 35 years old, 13% female
Main Healthcare Facility: Bayne-Jones Army Community Hospital
Affiliated County: Vernon Parish **Closest City:** Alexandria, LA

INSTALLATION HEALTH INDEX (IHI) MEASURES*

MEASURE	VALUE	REFERENCE ARMY VALUE	VALUE RANGE
Medical Readiness			
Medical readiness classification (% not ready)	19.0	16.9	11.7–23.3
Health Outcomes			
Injury incidence (rate per 1,000)	1,185.5	1,294.8	1,062.4–1,648.3
Behavioral health diagnoses (%)	17.8	14.7	9.3–20.3
Chronic disease diagnoses (%)	13.7	14.2	12.3–21.4
Health Factors			
Obesity (%)	15.0	12.6	8.8–17.5
Tobacco use (%)	40.4	31.8	12.9–40.4
Sleep disorder diagnoses (%)	11.7	10.3	5.0–14.3
Substance abuse diagnoses (%)	1.6	1.9	0.6–3.1
Chlamydia infection incidence (rate per 1,000)	21.6	16.7	7.3–27.6
Healthcare Delivery			
Preventable hospital admissions (%)	2.8	2.1	0.9–4.9
IHI Score**	0.4	0	-0.8–1.2

* See Appendix II for details regarding measure computations
** The IHI Score reflects standard deviations from the Army average for the collective adverse health measures. Negative values indicate better overall health status. Scores ≤-2 or ≥2 reflect statistically significant differences.

PERFORMANCE TRIAD SCORES

Score: 66.0
Army average: 66.8
Army range: 64–74

Score: 80.7
Army average: 81.4
Army range: 79–85

Score: 67.4
Army average: 69.0
Army range: 67–75

STRENGTHS:

- Lower rate of injury

CHALLENGES:

- Higher proportion not medically ready
- Higher rates of behavioral health disorders, obesity, tobacco use, sleep disorders, reported chlamydia infection, and preventable admissions
- Lower P3 nutrition score

Community Health

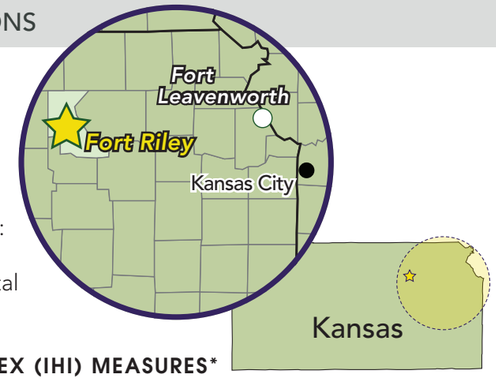
Louisiana ranked 48th in overall health out of 50 states in 2014. The state reported an obesity rate of 34%, and smoking prevalence was estimated at 22%.

Compared to the state, Vernon, the parish in which Fort Polk is located, had higher levels of obesity (38%) and smoking (27%).

Obesity levels (18%) among Fort Polk's Active Duty Soldiers were substantially lower than U.S. levels (29%) after standardizing to the U.S. adult population by age and gender. Smoking rates reported at Fort Polk averaged 30%.

REFERENCES: America's Health Rankings, Robert Wood Johnson Foundation County Health Rankings, Public Health 360

Fort Riley



Installation Profile (2014):

Population: Approximately 17,700 Active Duty Soldiers: 83% under 35 years old, 11% female
Main Healthcare Facility: Irwin Army Community Hospital
Affiliated County: Riley **Closest City:** Ogden, KS

INSTALLATION HEALTH INDEX (IHI) MEASURES*

MEASURE	VALUE	REFERENCE ARMY VALUE	VALUE RANGE
Medical Readiness			
Medical readiness classification (% not ready)	11.7	16.9	11.7–23.3
Health Outcomes			
Injury incidence (rate per 1,000)	1,226.7	1,294.8	1,062.4–1,648.3
Behavioral health diagnoses (%)	16.5	14.7	9.3–20.3
Chronic disease diagnoses (%)	15.2	14.2	12.3–21.4
Health Factors			
Obesity (%)	13.4	12.6	8.8–17.5
Tobacco use (%)	40.0	31.8	12.9–40.4
Sleep disorder diagnoses (%)	7.9	10.3	5.0–14.3
Substance abuse diagnoses (%)	2.2	1.9	0.6–3.1
Chlamydia infection incidence (rate per 1,000)	21.1	16.7	7.3–27.6
Healthcare Delivery			
Preventable hospital admissions (%)	1.9	2.1	0.9–4.9
IHI Score**	0	0	-0.8–1.2

* See Appendix II for details regarding measure computations
** The IHI Score reflects standard deviations from the Army average for the collective adverse health measures. Negative values indicate better overall health status. Scores ≤-2 or ≥2 reflect statistically significant differences.

PERFORMANCE TRIAD SCORES

Score: 66.2
Army average: 66.8
Army range: 64–74

Score: 82.1
Army average: 81.4
Army range: 79–85

Score: 67.6
Army average: 69.0
Army range: 67–75

STRENGTHS:

- Lower proportion not medically ready
- Lower rates of sleep disorders

CHALLENGES:

- Higher rates of behavioral health disorders, chronic disease, tobacco use, and reported chlamydia infection

Community Health

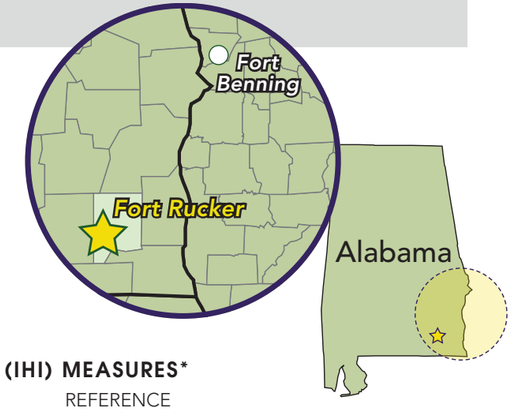
Kansas ranked 27th in overall health out of 50 states in 2014. The state reported an obesity rate of 30%, and smoking prevalence was estimated at 18%.

Compared to the state, Riley, the county in which Fort Riley is located, had lower levels of obesity (27%) and smoking (16%).

Obesity levels (15%) among Fort Riley's Active Duty Soldiers were substantially lower than the U.S. levels (29%) after standardizing to the U.S. adult population by age and gender. Smoking rates reported at Fort Riley averaged 30%.

REFERENCES: America's Health Rankings, Robert Wood Johnson Foundation County Health Rankings, Public Health 360

Fort Rucker



Installation Profile (2014):

Population: Approximately 3,500 Active Duty Soldiers: 71% under 35 years old, 11% female
Main Healthcare Facility: Lyster Army Health Clinic
Affiliated County: Dale **Closest City:** Dothan, AL

INSTALLATION HEALTH INDEX (IHI) MEASURES*

MEASURE	VALUE	REFERENCE ARMY VALUE	VALUE RANGE
Medical Readiness			
Medical readiness classification (% not ready)	18.5	16.9	11.7–23.3
Health Outcomes			
Injury incidence (rate per 1,000)	1,413.3	1,294.8	1,062.4–1,648.3
Behavioral health diagnoses (%)	10.0	14.7	9.3–20.3
Chronic disease diagnoses (%)	15.0	14.2	12.3–21.4
Health Factors			
Obesity (%)	10.7	12.6	8.8–17.5
Tobacco use (%)	17.0	31.8	12.9–40.4
Sleep disorder diagnoses (%)	11.6	10.3	5.0–14.3
Substance abuse diagnoses (%)	0.7	1.9	0.6–3.1
Chlamydia infection incidence (rate per 1,000)	13.5	16.7	7.3–27.6
Healthcare Delivery			
Preventable hospital admissions (%)	1.3	2.1	0.9–4.9
IHI Score**	-0.5	0	-0.8–1.2

* See Appendix II for details regarding measure computations
** The IHI Score reflects standard deviations from the Army average for the collective adverse health measures. Negative values indicate better overall health status. Scores ≤-2 or ≥2 reflect statistically significant differences.

PERFORMANCE TRIAD SCORES

Score: 73.6
Army average: 66.8
Army range: 64–74

Score: 83.4
Army average: 81.4
Army range: 79–85

Score: 71.9
Army average: 69.0
Army range: 67–75

STRENGTHS:

- Lower rates of behavioral health disorders, obesity, tobacco use, substance abuse disorders, reported chlamydia infection, and preventable admissions
- Higher P3 sleep, activity and nutrition scores

CHALLENGES:

- Higher proportion not medically ready
- Higher rates of injury and sleep disorders

Community Health

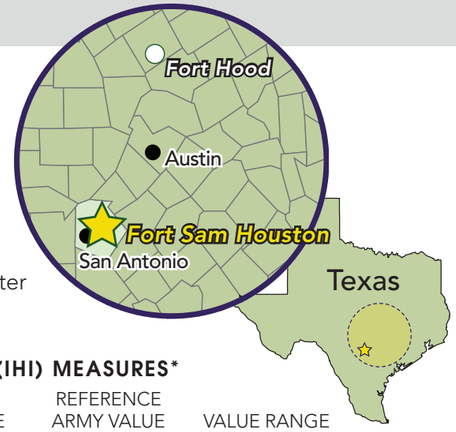
Alabama ranked 43rd in overall health out of 50 states in 2014. The state reported an obesity rate of 33%, and smoking prevalence was estimated at 22%.

Compared to the state, Dale, the county in which Fort Rucker is located, had higher levels of obesity (35%) and a slightly lower rate of smoking (21%).

Obesity levels (12%) among Fort Rucker's Active Duty Soldiers were substantially lower than U.S. levels (29%) after standardizing to the U.S. adult population by age and gender. Smoking rates reported at Fort Rucker averaged 11%.

REFERENCES: America's Health Rankings, Robert Wood Johnson Foundation County Health Rankings, Public Health 360

Fort Sam Houston



Installation Profile (2014):

Population: Approximately 8,500 Active Duty Soldiers: 63% under 35 years old, 27% female
Main Healthcare Facility: San Antonio Military Medical Center
Affiliated County: Bexar **Closest City:** San Antonio, TX

INSTALLATION HEALTH INDEX (IHI) MEASURES*

MEASURE	VALUE	REFERENCE ARMY VALUE	VALUE RANGE
Medical Readiness			
Medical readiness classification (% not ready)	17.2	16.9	11.7–23.3
Health Outcomes			
Injury incidence (rate per 1,000)	1,298.1	1,294.8	1,062.4–1,648.3
Behavioral health diagnoses (%)	17.1	14.7	9.3–20.3
Chronic disease diagnoses (%)	17.8	14.2	12.3–21.4
Health Factors			
Obesity (%)	12.7	12.6	8.8–17.5
Tobacco use (%)	17.0	31.8	12.9–40.4
Sleep disorder diagnoses (%)	13.5	10.3	5.0–14.3
Substance abuse diagnoses (%)	1.1	1.9	0.6–3.1
Chlamydia infection incidence (rate per 1,000)	13.0φ	16.7	7.3–27.6
Healthcare Delivery			
Preventable hospital admissions (%)	4.9	2.1	0.9–4.9
IHI Score**	0.1	0	-0.8–1.2

* See Appendix II for details regarding measure computations
** The IHI Score reflects standard deviations from the Army average for the collective adverse health measures. Negative values indicate better overall health status. Scores ≤-2 or ≥2 reflect statistically significant differences.
φ Value should be interpreted with caution as preliminary case-finding estimates were <60%

PERFORMANCE TRIAD SCORES

Score: 64.6
Army average: 66.8
Army range: 64–74

Score: 81.1
Army average: 81.4
Army range: 79–85

Score: 70.8
Army average: 69.0
Army range: 67–75

STRENGTHS:

- Lower rates of tobacco use and substance abuse disorders
- Higher P3 nutrition score

CHALLENGES:

- Higher rates of behavioral health disorders, chronic disease, sleep disorders, and preventable admissions
- Lower P3 sleep score
- Low confidence in reported chlamydia infections

Community Health

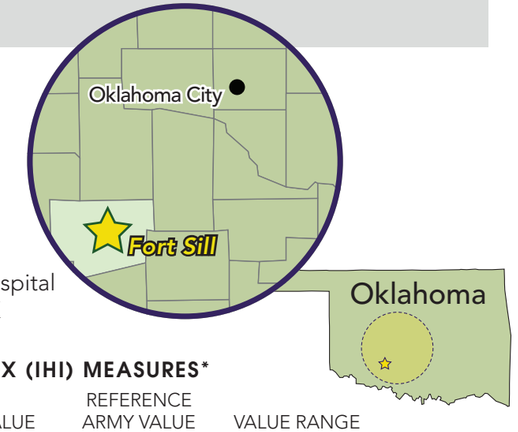
Texas ranked 31st in overall health out of the 50 states in 2014. The state reported an obesity rate of 29%, and smoking prevalence was estimated at 17%.

Compared to the state, Bexar, the county in which Fort Sam Houston is located, had the same level of obesity (29%) and a lower rate of smoking (16%).

Obesity levels (13%) among Fort Sam Houston's Active Duty Soldiers were substantially lower than U.S. levels (29%) after standardizing to the U.S. adult population by age and gender. Smoking rates reported at Fort Sam Houston averaged 13%.

REFERENCES: America's Health Rankings, Robert Wood Johnson Foundation County Health Rankings, Public Health 360

Fort Sill



Installation Profile (2014):

Population: Approximately 10,900 Active Duty Soldiers: 81% under 35 years old, 14% female
Main Healthcare Facility: Reynolds Army Community Hospital
Affiliated County: Comanche **Closest City:** Lawton, OK

INSTALLATION HEALTH INDEX (IHI) MEASURES*

MEASURE	VALUE	REFERENCE ARMY VALUE	VALUE RANGE
Medical Readiness			
Medical readiness classification (% not ready)	17.2	16.9	11.7–23.3
Health Outcomes			
Injury incidence (rate per 1,000)	1,496.5	1,294.8	1,062.4–1,648.3
Behavioral health diagnoses (%)	16.2	14.7	9.3–20.3
Chronic disease diagnoses (%)	14.8	14.2	12.3–21.4
Health Factors			
Obesity (%)	13.3	12.6	8.8–17.5
Tobacco use (%)	29.5	31.8	12.9–40.4
Sleep disorder diagnoses (%)	11.7	10.3	5.0–14.3
Substance abuse diagnoses (%)	2.4	1.9	0.6–3.1
Chlamydia infection incidence (rate per 1,000)	13.0φ	16.7	7.3–27.6
Healthcare Delivery			
Preventable hospital admissions (%)	3.9	2.1	0.9–4.9
IHI Score**	0.4	0	-0.8–1.2

* See Appendix II for details regarding measure computations
** The IHI Score reflects standard deviations from the Army average for the collective adverse health measures. Negative values indicate better overall health status. Scores ≤-2 or ≥2 reflect statistically significant differences.
φ Value should be interpreted with caution as preliminary case-finding estimates were <60%

PERFORMANCE TRIAD SCORES

Score: 64.6
Army average: 66.8
Army range: 64–74

Score: 80.8
Army average: 81.4
Army range: 79–85

Score: 67.2
Army average: 69.0
Army range: 67–75

STRENGTHS:

- Lower rate of tobacco use

CHALLENGES:

- Higher rates of injury, behavioral health disorders, sleep disorders, and preventable admissions
- Lower P3 sleep and nutrition scores
- Low confidence in reported chlamydia infections

Community Health

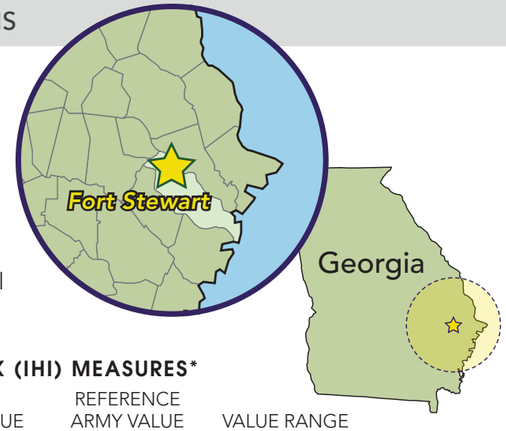
Oklahoma ranked 46th in overall health out of 50 states in 2014. The state reported an obesity rate of 32%, and smoking prevalence was estimated at 24%.

Compared to the state, Comanche, the county in which Fort Sill is located, had higher levels of obesity (35%) and smoking (30%).

Obesity levels (22%) among Fort Sill's Active Duty Soldiers were lower than U.S. levels (29%) after standardizing to the U.S. adult population by age and gender. Smoking rates reported at Fort Sill averaged 22%.

REFERENCES: America's Health Rankings, Robert Wood Johnson Foundation County Health Rankings, Public Health 360

Fort Stewart



Installation Profile (2014):

Population: Approximately 21,800 Active Duty Soldiers: 82% under 35 years old, 14% female
Main Healthcare Facility: Winn Army Community Hospital
Affiliated County: Liberty **Closest City:** Hinesville, GA

INSTALLATION HEALTH INDEX (IHI) MEASURES*

MEASURE	VALUE	REFERENCE ARMY VALUE	VALUE RANGE
Medical Readiness			
Medical readiness classification (% not ready)	14.3	16.9	11.7–23.3
Health Outcomes			
Injury incidence (rate per 1,000)	1,317.6	1,294.8	1,062.4–1,648.3
Behavioral health diagnoses (%)	16.2	14.7	9.3–20.3
Chronic disease diagnoses (%)	14.5	14.2	12.3–21.4
Health Factors			
Obesity (%)	14.7	12.6	8.8–17.5
Tobacco use (%)	37.2	31.8	12.9–40.4
Sleep disorder diagnoses (%)	10.7	10.3	5.0–14.3
Substance abuse diagnoses (%)	1.3	1.9	0.6–3.1
Chlamydia infection incidence (rate per 1,000)	14.4[φ]	16.7	7.3–27.6
Healthcare Delivery			
Preventable hospital admissions (%)	1.6	2.1	0.9–4.9
IHI Score**	0	0	-0.8–1.2

* See Appendix II for details regarding measure computations
** The IHI Score reflects standard deviations from the Army average for the collective adverse health measures. Negative values indicate better overall health status. Scores ≤-2 or ≥2 reflect statistically significant differences.
φ Value should be interpreted with caution as preliminary case-finding estimates were <60%

PERFORMANCE TRIAD SCORES

Score: 65.1
Army average: 66.8
Army range: 64–74

Score: 81.5
Army average: 81.4
Army range: 79–85

Score: 67.4
Army average: 69.0
Army range: 67–75

STRENGTHS:

- Lower proportion not medically ready

CHALLENGES:

- Higher rates of behavioral health disorders, obesity and tobacco use
- Lower P3 sleep and nutrition scores
- Low confidence in reported chlamydia infections

Community Health

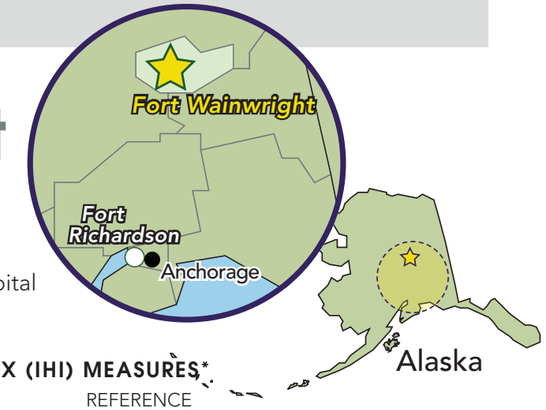
Georgia ranked 38th in overall health out of 50 states in 2014. The state reported an obesity rate of 28%, and smoking prevalence was estimated at 18%.

Compared to the state, Liberty, the county in which Fort Stewart is located, had higher levels of obesity (33%) and smoking (26%).

Obesity levels (18%) among Fort Stewart's Active Duty Soldiers were substantially lower than U.S. levels (29%) after standardizing to the U.S. adult population by age and gender. Smoking rates reported at Fort Stewart averaged 28%.

REFERENCES: America's Health Rankings, Robert Wood Johnson Foundation County Health Rankings, Public Health 360

Fort Wainwright



Installation Profile (2014):

Population: Approximately 5,900 Active Duty Soldiers: 85% under 35 years old, 10% female
Main Healthcare Facility: Bassett Army Community Hospital
Affiliated County: Fairbanks North Star Borough
Closest City: Fairbanks, AK

INSTALLATION HEALTH INDEX (IHI) MEASURES*

MEASURE	VALUE	REFERENCE ARMY VALUE	VALUE RANGE
Medical Readiness			
Medical readiness classification (% not ready)	17.2	16.9	11.7–23.3
Health Outcomes			
Injury incidence (rate per 1,000)	1,309.3	1,294.8	1,062.4–1,648.3
Behavioral health diagnoses (%)	15.6	14.7	9.3–20.3
Chronic disease diagnoses (%)	13.2	14.2	12.3–21.4
Health Factors			
Obesity (%)	NA	12.6	8.8–17.5
Tobacco use (%)	38.6	31.8	12.9–40.4
Sleep disorder diagnoses (%)	NA	10.3	5.0–14.3
Substance abuse diagnoses (%)	1.8	1.9	0.6–3.1
Chlamydia infection incidence (rate per 1,000)	25.9	16.7	7.3–27.6
Healthcare Delivery			
Preventable hospital admissions (%)	2.0	2.1	0.9–4.9
IHI Score**	0.3	0	-0.8–1.2

* See Appendix II for details regarding measure computations
** The IHI Score reflects standard deviations from the Army average for the collective adverse health measures. Negative values indicate better overall health status. Scores ≤-2 or ≥2 reflect statistically significant differences.

PERFORMANCE TRIAD SCORES

Score: 65.7
Army average: 66.8
Army range: 64–74

Score: 81.3
Army average: 81.4
Army range: 79–85

Score: 67.4
Army average: 69.0
Army range: 67–75

STRENGTHS:

- Lower rate of chronic disease

CHALLENGES:

- Higher rates of behavioral health disorders, tobacco use, and reported chlamydia infection
- Lower nutrition score
- Information was not available for 2 core measures (obesity and sleep disorders)

Community Health

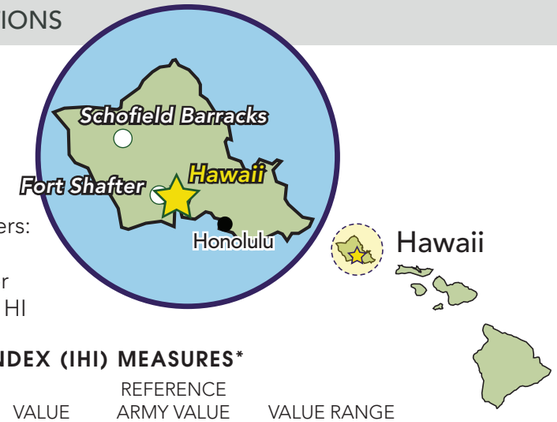
Alaska ranked 26th in overall health out of 50 states in 2014. The state reported an obesity rate of 28%, and smoking prevalence was estimated at 21%.

Compared to the state, Fairbanks North Star Borough, in which Fort Wainwright is located, had a higher level of obesity (29%) but a lower rate of smoking (19%).

Obesity data were unavailable for Fort Wainwright's Active Duty Soldiers. Smoking rates reported at Fort Wainwright averaged 27%.

REFERENCES: America's Health Rankings, Robert Wood Johnson Foundation County Health Rankings, Public Health 360

Hawaii



Installation Profile (2014):

Population: Approximately 21,400 Active Duty Soldiers: 78% under 35 years old, 16% female
Main Healthcare Facility: Tripler Army Medical Center
Affiliated County: Honolulu **Closest City:** Honolulu, HI

INSTALLATION HEALTH INDEX (IHI) MEASURES*

MEASURE	VALUE	REFERENCE ARMY VALUE	VALUE RANGE
Medical Readiness			
Medical readiness classification (% not ready)	16.5	16.9	11.7–23.3
Health Outcomes			
Injury incidence (rate per 1,000)	1,308.4	1,294.8	1,062.4–1,648.3
Behavioral health diagnoses (%)	14.1	14.7	9.3–20.3
Chronic disease diagnoses (%)	14.9	14.2	12.3–21.4
Health Factors			
Obesity (%)	12.2	12.6	8.8–17.5
Tobacco use (%)	33.1	31.8	12.9–40.4
Sleep disorder diagnoses (%)	10.8	10.3	5.0–14.3
Substance abuse diagnoses (%)	1.2	1.9	0.6–3.1
Chlamydia infection incidence (rate per 1,000)	22.6	16.7	7.3–27.6
Healthcare Delivery			
Preventable hospital admissions (%)	1.7	2.1	0.9–4.9
IHI Score**	0	0	-0.8–1.2

* See Appendix II for details regarding measure computations
** The IHI Score reflects standard deviations from the Army average for the collective adverse health measures. Negative values indicate better overall health status. Scores ≤-2 or ≥2 reflect statistically significant differences.

PERFORMANCE TRIAD SCORES

Score: 67.5
Army average: 66.8
Army range: 64–74

Score: 82.4
Army average: 81.4
Army range: 79–85

Score: 69.2
Army average: 69.0
Army range: 67–75

STRENGTHS:

- Lower rate of substance abuse disorders
- Higher P3 activity score

CHALLENGES:

- Higher rates of reported chlamydia infection and tobacco use

Community Health

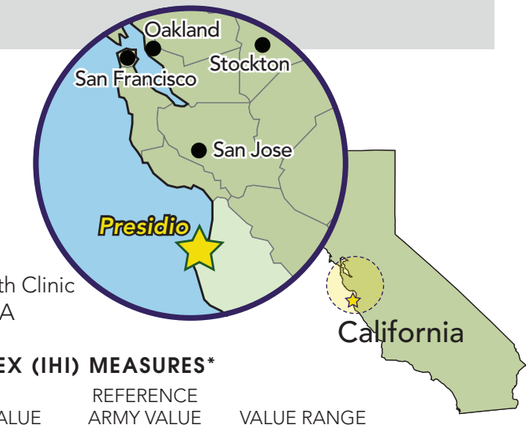
Hawaii ranked 1st in overall health out of 50 states in 2014. The state reported an obesity rate of 22%, and smoking prevalence was estimated at 15%.

Compared to the state, Honolulu, the county in which Schofield Barracks/Fort Shafter is located, had similar levels of obesity (22%) and smoking (15%).

Obesity levels (14%) among Hawaii's Active Duty Soldiers were substantially lower than U.S. levels (29%) after standardizing to the U.S. adult population by age and gender. Smoking rates reported at Hawaii averaged 24%.

REFERENCES: America's Health Rankings, Robert Wood Johnson Foundation County Health Rankings, Public Health 360

Presidio



Installation Profile (2014):

Population: Approximately 1,800 Active Duty Soldiers: 87% under 35 years old, 21% female
Main Healthcare Facility: Presidio of Monterey Army Health Clinic
Affiliated County: Monterey **Closest City:** Monterey, CA

INSTALLATION HEALTH INDEX (IHI) MEASURES*

MEASURE	VALUE	REFERENCE ARMY VALUE	VALUE RANGE
Medical Readiness			
Medical readiness classification (% not ready)	NA	16.9	11.7–23.3
Health Outcomes			
Injury incidence (rate per 1,000)	1,062.4	1,294.8	1,062.4–1,648.3
Behavioral health diagnoses (%)	11.1	14.7	9.3–20.3
Chronic disease diagnoses (%)	14.3	14.2	12.3–21.4
Health Factors			
Obesity (%)	9.1	12.6	8.8–17.5
Tobacco use (%)	NA	31.8	12.9–40.4
Sleep disorder diagnoses (%)	5.0	10.3	5.0–14.3
Substance abuse diagnoses (%)	1.9	1.9	0.6–3.1
Chlamydia infection incidence (rate per 1,000)	10.0[φ]	16.7	7.3–27.6
Healthcare Delivery			
Preventable hospital admissions (%)	NA	2.1	0.9–4.9
IHI Score**	-0.7	0	-0.8–1.2

* See Appendix II for details regarding measure computations
** The IHI Score reflects standard deviations from the Army average for the collective adverse health measures. Negative values indicate better overall health status. Scores ≤-2 or ≥2 reflect statistically significant differences.
φ Value should be interpreted with caution due to the low number of cases reported; estimates based on less than 20 cases are considered less reliable

PERFORMANCE TRIAD SCORES

Score: 71.3
Army average: 66.8
Army range: 64–74

Score: 84.5
Army average: 81.4
Army range: 79–85

Score: 74.6
Army average: 69.0
Army range: 67–75

STRENGTHS:

- Lower rates of injury, obesity, behavioral health disorders, and sleep disorders
- Higher P3 sleep, activity and nutrition scores

CHALLENGES:

- Information was not available for 3 core measures (medical readiness, tobacco use, and preventable admissions)

Community Health

California ranked 17th in overall health out of 50 states in 2014. The state reported an obesity rate of 23%, and smoking prevalence was estimated at 13%.

Compared to the state, Monterey, the county in which Presidio is located, had the same level of obesity (23%) and smoking (13%).

Obesity levels (13%) among Presidio's Active Duty Soldiers were substantially lower than the U.S. levels (29%) after standardizing to the U.S. adult population by age and gender.

REFERENCES: America's Health Rankings, Robert Wood Johnson Foundation County Health Rankings, Public Health 360

West Point

Installation Profile (2014):

Population: Approximately 1,500 Active Duty Soldiers: 60% under 35 years old, 17% female

Main Healthcare Facility: Keller Army Community Hospital

Affiliated County: Orange **Closest City:** Poughkeepsie, NY

INSTALLATION HEALTH INDEX (IHI) MEASURES*

MEASURE	VALUE	REFERENCE ARMY VALUE	VALUE RANGE
Medical Readiness			
Medical readiness classification (% not ready)	15.0	16.9	11.7–23.3
Health Outcomes			
Injury incidence (rate per 1,000)	1,410.9	1,294.8	1,062.4–1,648.3
Behavioral health diagnoses (%)	9.3	14.7	9.3–20.3
Chronic disease diagnoses (%)	12.7	14.2	12.3–21.4
Health Factors			
Obesity (%)	9.6	12.6	8.8–17.5
Tobacco use (%)	12.9	31.8	12.9–40.4
Sleep disorder diagnoses (%)	5.4	10.3	5.0–14.3
Substance abuse diagnoses (%)	0.6	1.9	0.6–3.1
Chlamydia infection incidence (rate per 1,000)	7.9φ	16.7	7.3–27.6
Healthcare Delivery			
Preventable hospital admissions (%)	3.6	2.1	0.9–4.9
IHI Score**	-0.8	0	-0.8–1.2

* See Appendix II for details regarding measure computations

** The IHI Score reflects standard deviations from the Army average for the collective adverse health measures. Negative values indicate better overall health status. Scores ≤-2 or ≥2 reflect statistically significant differences.

φ Value should be interpreted with caution due to the low number of cases reported; estimates based on less than 20 cases are considered less reliable

PERFORMANCE TRIAD SCORES

Score: NA
Army average: 66.8
Army range: 64–74

Score: NA
Army average: 81.4
Army range: 79–85

Score: NA
Army average: 69.0
Army range: 67–75

STRENGTHS:

- Lower proportion not medically ready
- Lower rates of behavioral health disorders, chronic disease, obesity, tobacco use, sleep disorders, and substance abuse disorders

CHALLENGES:

- Higher rates of injury and preventable admissions
- P3 scores were not available

Community Health

New York ranked 14th in overall health out of 50 states in 2014. The state reported an obesity rate of 24%, and smoking prevalence was estimated at 17%.

Compared to the state, Orange, the county West Point is located in, had the same level of obesity (24%) and higher smoking (21%).

Obesity levels (7%) among West Point's Active Duty Soldiers were substantially lower than U.S. levels (29%) after standardizing to the U.S. adult population by age and gender. Smoking rates reported at West Point averaged 9%.

REFERENCES: America's Health Rankings, Robert Wood Johnson Foundation County Health Rankings, Public Health 360

APPENDICES

- *McKinsey Model*
- *Methods*
- *Acknowledgments*

MCKINSEY MODEL

Developing a shared understanding of what shapes and creates change in our Army is necessary for improving health and health readiness. The McKinsey framework (see figure) was adapted from the McKinsey Global Institute Report for application in the Army military environment. Leadership, institutional agility, realistic training, and personal readiness produce the decisive actions that optimize human performance and improve personal readiness. Programs that support health improvement and readiness can be mapped to these factors. Identifying the mechanisms touched on by each program allows a suite of options for motivating change to be developed.

Understanding this framework and how programs within overarching readiness improvement strategies, such as the Performance Triad, map onto each of the mechanisms for change creates a broad sense of how individual programs within each strategy contribute to health improvements in the Army and ultimately improve Soldier readiness.

1. Leadership: Leader engagement is fundamental to driving the cultural changes required to improve Soldier health. Leaders need to model the appropriate behaviors in a deliberate effort to influence unit and Army culture. Leaders influence Soldiers' knowledge, attitudes, and behaviors by developing and shaping perception, judgment, and decision-making.

2. Realistic Training: Training encompasses not only the material being learned but also the delivery model that includes an active and participative process, as well as materials that are tailored to the learner and the environment as much as possible. Education plans must leverage technology, tools, and leading practices in the form of training support packages that facilitate the teaching, learning, retention, and demonstration of knowledge, skills, and abilities.

3. Institutional Agility: Supportive environments (e.g., the "Go for Green" initiative in Army DFACs) can enable action or inaction through availability or convenience. Facilities and policies that leverage behavioral economics and what public health experts refer to as the "built environment" can facilitate behavior change by improving opportunities for physical activity, improved nutrition choices and other healthy changes.

4. Personal Readiness: As a member of the Profession of Arms, Soldiers must be motivated to change their behaviors and set goals that align with the Soldier's Creed and the Profession's standards. They must learn how to internalize incentives and personal motivation. The Performance Triad facilitates goal setting, incentives for change, and commitment to self-development to ensure personal readiness.

Figure: Framework for Army change (adapted from McKinsey Global Institute Report for a military environment)

METHODS

I. Leading Health Indicators (LHI)

The LHIs selected were prioritized based on a review of measures recommended by nationally recognized public health authorities. These measures were adapted as needed for relevancy to the Soldier population. Ranking techniques were modeled after those used by the Robert Wood Johnson Foundation, which employs similar methods for the purposes of generating county health rankings. The United Health Foundation's 'America's Health Rankings' was also consulted throughout the process.

Estimates for all of the LHIs described below were determined for the Active Duty Soldier population assigned to the 29 U.S.-based installations assessed in this report. OCONUS installations were excluded to enable community health comparisons available nationally. Installations had to have data available for at least 6 of the 10 selected LHIs to be included; five installations didn't meet this requirement and were excluded (Aberdeen Proving Grounds, Fort Detrick, Fort Dix, Fort Myer, Fort Richardson, and Redstone Arsenal). When possible, estimates were aggregated by gender and/or age group to allow for standardization with the U.S.-based Army population. This improved the reliability of comparisons across the installations, as demographic differences may have affected rates. Using standard deviations between installation and Army estimates, Z-scores were calculated to assess statistically significant differences and to generate 95% confidence intervals for all estimated values.

Because the measures involved adverse health/readiness outcomes or health behaviors, lower estimates and deviations were indicative of better relative health as compared to installation peers. Installations with Z-scores ranging 1–2 were considered elevated and categorized as amber; those scoring ≥ 2 were considered significantly elevated and categorized as red; and all others scoring < 1 were categorized as green. Installations with a Z-score less than -1 are also noteworthy, indicating a more favorable value for the measure assessed.

a. Medical Readiness: Medical readiness classification (MRC) data were obtained from the Medical Operational Data System (MODS). Non-deployed Active Duty Soldiers with MRCs of 3 or above (3A, 3B, and 4) were identified for the analysis as not medically ready for deployment within 72 hours; trainees, transients, holdees, and students (TTHS) were excluded. These classifications are defined as follows: MRC 3A Soldiers have medical issues requiring 72 hours to 30 days to resolve, MRC 3B have medical issues requiring more than 30 days to resolve, and those with MRC4 have an unknown status due to overdue medical or dental exams. Installation estimates were adjusted by age.

b. Chronic Disease: The prevalence of six chronic conditions of interest (cardiovascular conditions, asthma, arthritis, chronic obstructive pulmonary disease (COPD), cancer, and diabetes) among Active Duty Soldiers was evaluated. Soldiers with one or more of these conditions were identified for the analysis. Estimates were extracted from Public Health 360 (PH360) which includes data processed from the Medical Data Repository (MDR). PH360 assigns Soldiers to a disease category based on ICD9 codes outlined in the Soldier's medical records (direct MTF-based care and purchased care covered by TRICARE claims). Case definitions were adapted from the DHA Armed Forces Health Surveillance Branch morbidity burden assessment. Installation estimates were adjusted by gender and age.

c. Behavioral Health Disorders: The prevalence of seven behavioral health disorders of interest (adjustment disorders, mood disorders, anxiety, PTSD, substance abuse, personality disorders, and psychoses) among Active Duty Soldiers was evaluated. Soldiers with one or more of these conditions were identified for the analysis. Estimates were extracted from PH360 which includes data processed from the MDR. PH360 assigns Soldiers to a disease category based on ICD9 codes outlined in the Soldier's medical records (direct MTF-based care and purchased care covered by TRICARE claims). Case definitions set from Army Public Health Center (APHC) were used. Installation estimates were adjusted by gender and age.

d. Substance Abuse Disorders: The prevalence of substance abuse disorders, a subcomponent of the behavioral health disorder measure, was evaluated for Active Duty Soldiers. As with the behavioral health disorder category, estimates were extracted from PH360 which processed the data from the MDR. PH360 assigns Soldiers to a disease category based on ICD9 codes outlined in the Soldier's medical records (direct MTF-based care and purchased care covered by TRICARE claims). Case definitions from the Army Public Health Center (APHC) were used. Installation estimates were adjusted by gender and age.

e. Injury: The incidence of injury and musculoskeletal conditions resulting from injury was evaluated for Active Duty Soldiers. Estimates were extracted from PH360 which included data processed from the Defense Medical Surveillance System (DMSS). New or incident injuries were identified based on ICD9 codes outlined in the Soldier's medical records (direct MTF-based care and purchased care covered by TRICARE claims) using case definitions from the Army Public Health Center (APHC). Only unique medical visits with injury diagnoses codes included in the case definition were counted; follow-up visits less than 60 days apart were excluded. Rates per 1,000 Soldiers were computed based on Soldier person-time; time deployed was excluded to account for missed cases not identified during deployment. Installation estimates were adjusted by gender and age.

f. Chlamydia: The incidence of reported chlamydia infections was evaluated for Active Duty Soldiers. Estimates were extracted from PH360 which included data processed from the Disease Reporting System internet (DRSi) and the Defense Medical Surveillance System (DMSS). New or incident infections were identified based on case reports submitted through the DRSi using case definitions published by the DHA Armed Forces Health Surveillance Branch. Only unique case reports were counted; follow-up reports less than 30 days apart were excluded. Rates per 1,000 Soldiers were computed based on Soldier person-time extracted from the DMSS; time deployed was excluded to account for missed cases not identified during deployment. Installation estimates were adjusted by gender and age; however, crude estimates were used when fewer than 10 cases were identified (this occurred at Presidio and West Point). While estimates were provided for all installations, installations with fewer than 20 cases or less than 60% reporting compliance as determined by the DRSi case finding module were considered less reliable and should be interpreted with caution.

g. Obesity: The prevalence of obesity was evaluated for Active Duty Soldiers. Obesity was defined as having a body mass index (BMI) greater than 30. BMI data were obtained from the Medical Readiness Assessment Tool (MRAT). The MRAT collects BMI information from height and weight measurements entered during the Soldier's Army Physical Fitness Test (APFT). Installation estimates were adjusted by gender and age. Additional rate adjustment was performed for comparison against rates reported for the U.S. adult population ≥ 18 years of age. Therefore, these estimates differ from the estimates used for comparisons within the Army.

h. Sleep disorders: The prevalence of sleep disorders was evaluated for Active Duty Soldiers. Sleep disorder data were obtained from the Medical Readiness Assessment Tool (MRAT). The MRAT identifies sleep disorders based on ICD9 codes entered in the Soldier's medical record. Installation estimates were adjusted by gender and age.

i. Tobacco Use: The prevalence of tobacco use was evaluated for Active Duty Soldiers. Monthly data extracts were obtained from the Corporate Dental System (CDS) which collects information on tobacco use (smoking and smokeless) during dental exams. Monthly data were averaged to generate annual estimates. Installation estimates were adjusted by gender and age.

j. Preventable admissions: Preventable admission rates for Active Duty Soldiers enrolled for care at MTFs affiliated with U.S.-based installations were assessed. Data were extracted from the Command Management System (CMS) for fiscal year 2014, which served as a proxy for the calendar year used for the remaining measures. Because the data were aggregated and subject to the limitations of the CMS, standardization by age and gender was not possible.

II. Composite Indices

a. Installation Health Index (IHI): For each LHI, installations were compared against the Army average or reference value for that measure to compute a Z-score. The Z-score measures the number of standard deviations below or above the population average for a given installation. Z-scores can range from -4 to +4. Because the LHIs reflect negative health/readiness outcomes or risk factors, negative scores or deviations equated to lower levels of these negative attributes, while positive scores equated to higher levels. Therefore, lower Z-scores were indicative of better health.

For the overall index these measures were collated by summing the Z-scores for the individual measures. Prior to this aggregation, the measures were weighted in a manner that took into account factors such as prevalence, supporting evidence, and mission impact. The medical readiness metric was assigned a weight of 15%, the preventable admissions metric was assigned a weight of 5% and the remaining 8 measures were equally weighted at 10% each. When an installation was missing one or more core measures, metric weights for that installation were adjusted so that the total weight equaled 100%, as it did for installations with a complete measure assessment. The collation of these weighted z-scores provided an overall measure of an installation's health for the key areas evaluated, relative to the U.S.-based Army population used in the comparison.

b. Installation Performance Triad (P3) Index (IPI): Performance Triad (P3) sleep, activity, and nutrition metrics were assessed from the Global Assessment Tool (GAT). Quarterly data were extracted from the Strategic Management System (SMS) and averaged for yearly estimates. The sleep metric was based on GAT survey questions assessing sleep duration, sleep satisfaction, and being bothered by poor sleep. The activity metric was based on GAT survey questions assessing body mass index, moderate/vigorous activity, resistance training, and low intensity activity. The nutrition metric was based on GAT survey questions assessing healthy eating habits, breakfast, recovery snacks, and water consumption. Because each metric was based on multiple survey items with varying degrees of healthy behavior possible, each response was assigned a certain number of points with higher points equal to higher levels of recommended healthy behaviors. These were used to generate percentages of maximum possible points, similar to a test score, with values ranging from 0 to 100%. The percentages reported reflect the installations' overall score for that measure.

The P3 index was computed in a manner similar to the overall installation health index in that P3 metric scores for each installation were compared to the average for the U.S.-based Army installations included in the review, and Z-scores were computed to assess the standard deviation from the Army reported values. Lower scores reflect lower reported installation levels for the desired P3 health behaviors. The individual metric scores were then weighted (20% for sleep, 40% for activity, and 40% for nutrition) and summed for an overall P3 index. Sleep was assigned a lower weight based on prelimi-

nary findings from the Warrior Performance Index (WPI) study, which found a lower correlation between sleep and performance. Lower Z-scores represented lower collective levels of recommended P3 health behaviors.

Data limitations:

- When interpreting the results, it is important to keep in mind that higher estimates for certain metrics may not be indicative of a problem but may instead reflect a higher emphasis on detection and treatment.
- Many measures were based on ICD9 codes entered in patient medical records, which are subject to coding errors. Estimates may also be conservative given that individuals may not seek care or may choose to seek care outside the MHS or TRICARE claims network.
- Measures based on self-reported data (GAT and tobacco use) are limited to a subset of the population and may be more prone to biases.
- The chlamydia measure relies on reporting compliance, for which preliminary DRSi case finding results were used as a proxy to gauge the reliability of the reported estimates. Findings from that review indicated that roughly half of the installations evaluated reported less than 60% of probable cases detected from lab data. There may be valid underlying reasons for the poor reporting compliance, particularly for reference labs. This should be explored further to pinpoint where improvements are needed. Estimates for these installations are provided but should be interpreted with caution.
- It is unclear how comparable the smoking data aquired from dental visits is to data collected nationally. While both assess current smoking rates, the definitions may differ. These potential differences should be explored further.
- Preventable admission data were only available in aggregate, which prevented age and gender standardization, which may diminish comparability across the installations.

Data limitations (continued)**:**

- Medical readiness data were not available by gender, which limited the ability to assess this as a risk factor or provide additional standardization. Inclusion of gender should be explored further given that pregnancy can impact readiness for women.
- GAT data used for the Performance Triad (P3) measures were aggregated which prevented age and gender standarization and demographic comparisons. Additional analysis to explore these factors should be considered.
- Available injury and medical readiness data were aggregated which prevented assessment of associations between musculoskeletal injuries (MSKI) and readiness. Given the strong association these should be explored further.
- Comparable international data were not available to consistently apply community health comparisons across all installations. International data should be explored further to facilitate incorporating OCONUS installation data into future reports.

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