

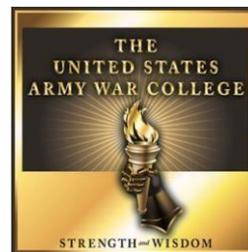
Strategy Research Project

Future Readiness and the System for Health: A Way Forward

by

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Abstract

The health of the force is among the most important indicators of Army readiness and is critical to both the present and future readiness of the force. The Army defines individual medical readiness (IMR) as the ability to achieve medical fitness standards within 72 hours of deployment. Future health readiness focuses on Soldier wellness, maximization of holistic health, and prevention of chronic disease and injury. Improvements in future health readiness should increase rates of IMR, improve the health of the force, and decrease DoD and Army healthcare costs. Army doctrine, systems, and programs such as the System for Health, the Performance Triad, and the Army Wellness Centers provide a strong framework for Army health promotion. Improvements in Army doctrine, systems, programs, and policies as well as further alignment with wellness industry best practices will increase future health readiness in the Army and provide cost savings to the Military Health System.

Future Readiness and the System for Health: A Way Forward

Readiness for ground combat is, and will remain, the Army's number one priority. Readiness is number one and there is no other number one.

—General Mark A. Milley¹

The health of the force is among the most important indicators of Army readiness and is critical to both the present and future readiness of the force. Present health readiness, defined as a Soldier's ability to meet medical fitness standards 72 hours prior to deployment, is measured by key metrics and reported through the Medical Protection System (MEDPROS) as Individual Medical Readiness (IMR).² IMR provides commanders a prime indicator of the current health and deployability of their Soldiers. Medical issues that take time to resolve, such as musculoskeletal injuries, hospitalization, post-surgical care and recovery, behavioral health issues, and pregnancy as well as incomplete or overdue medical and dental screenings lower IMR. These concerns constitute the greatest challenges to present health readiness.³ The Army well understands these areas of concern and devotes considerable attention and support to mitigate their significant impact on IMR.

By contrast, future health readiness is not as well understood and the Army has not given it the same priority. Future health readiness measures the wellness of the force. Wellness is defined as "the state of being healthy" and encompasses the gamut from simply being free from disease to achieving total holistic health.⁴ Wellness is primarily a behavioral discipline through which individuals make healthy choices to positively affect their state of health. Promotion of wellness lessens the development of chronic disease, improves future health readiness through the prevention of illness and injury, and lowers healthcare costs.⁵ Suboptimal wellness decreases future IMR of

senior service members, produces unhealthy family members and retirees, and increases Department of Defense (DoD) healthcare costs for the treatment of chronic disease. In 2012, the DoD spent \$52 million on healthcare accounting for 10% of the entire Defense budget.⁶ Rising DoD healthcare costs remain a significant concern in a limited budgetary environment threatening the military's ability to train and modernize the force.

Unfortunately, the Army does not currently utilize a system to effectively monitor or materially shape future health readiness. Though MEDPROS is an excellent data system, it includes very few metrics that indicate a Soldier's level of wellness, chronic disease, or future health readiness. Incorporating future health readiness metrics into MEDPROS would provide a better overall measure of a unit's total health readiness and allow commanders to both accurately gauge the true health of their unit and individually engage Soldiers to adopt behaviors that lead to better health. Without an accurate picture of total health readiness, the Army risks future readiness and increased healthcare costs. To improve the health of the force and lower DoD healthcare costs, how can the Army best measure and increase future health readiness?

This paper examines the need for an improved future health readiness posture in the Army. It evaluates current readiness standards, health statistics and healthcare costs for both the American public and the Army, recognized best practices for individual and organizational health promotion, and the Army's System for Health initiative. It then offers recommendations to improve future health readiness through holistic change in Army systems, programs, and regulations.

Readiness

Army Regulation 525-30 (*Army Strategic Readiness*) defines readiness as the ability to “provide sufficient, capable units to support the national military strategy.”⁷ The Army assesses readiness through measurement of preparation in six areas: manning, training, capacities and capabilities, equipping, sustaining, and installations. The health of the force is one of the leading indicators of Army manning readiness and is reliant on the medical fitness of the Army’s Soldiers measured through IMR.⁸ Though there is no commonly recognized definition for “medical readiness” or “medical fitness” in civilian health literature, Army Regulation 40-501 (Standards of Medical Fitness) establishes criteria that Army medical providers use to judge the medical fitness of Soldiers. Soldiers must meet the standards listed in Table 1 to be considered medically fit.

Table 1. General Standards of Medical Fitness (per AR 40-501)⁹

1. Free from contagious diseases, medical conditions, and physical defects that could endanger the health or well-being of other Soldiers
2. Free from medical conditions or physical defects that would require significant lost duty time for treatment or hospitalization
3. Free from medical conditions or physical defects that would likely result in separation from service for medical unfitness
4. Medically capable of satisfactorily completing required training and performing military duties
5. Medically adaptable to the military environment without geographic limitations
6. Medically capable of performing military duties without compromising or aggravating existing physical defects, medical conditions, health, or well-being
7. Dependence on certain medications, appliances, or dietary restrictions, frequent special treatments, or requirements for frequent clinical monitoring must not compromise or aggravate existing physical defects, medical conditions, health, well-being, or ability to perform military duties

Ensuring the health of the force is an individual responsibility of Soldiers and a command responsibility of unit commanders supported by the Army Medical Department (AMEDD). Individual medical readiness for each Soldier is evaluated

regularly and reported through MEDPROS. Table 2 outlines the categories of IMR reported through MEDPROS.

Table 2. Elements of Individual Medical Readiness (per AR 40-501)¹⁰

1. Health assessment (measured by the Periodic Health Assessment every 15 months)
2. Deployment limiting medical conditions (including hospitalization, pregnancy, permanent and temporary non-deployable conditions, and Soldiers in Warrior Transition Units)
3. Dental readiness
4. Immunizations
5. DNA specimen
6. Current HIV status
7. Hearing readiness
8. Vision readiness
9. Women's readiness

Soldiers are considered “ready” if they meet all medical requirements or can meet requirements within 72 hours.¹¹ IMR is a gauge of present health readiness, a measure of the Army’s ability to deploy a healthy force capable of accomplishing missions in a global environment. In 2014, active-duty Army IMR was 83%. One-third of Soldiers who were not medically ready had overdue or incomplete medical and dental readiness requirements, categorized as Medical Readiness Category 4 (MRC4) in MEDPROS. Of the two-thirds of Soldiers who were not medically ready due to diagnosed medical or dental conditions, 75% were still not medically ready in the following 30 days, categorized as MRC3B in MEDPROS.¹² Present health readiness is a difficult metric to materially improve due to population dynamics and the natural course of presentation, treatment, and recovery inherent to medical conditions. Significant improvements to IMR have been achieved through command engagement and resolution of MRC4 populations and utilization of organizational medical assets. For instance, physical therapists embedded in operational units make significant

improvements in injury prevention, return to duty, and overall IMR rates compared to units with no physical therapist present.¹³ IMR remains a complex issue negatively impacting present health readiness and is currently under study by senior Army leadership.¹⁴

Future health readiness can be considered in two important aspects: the future health of the force and the economic impact of rising healthcare costs on DoD budgets.

Future Health of the Force

Due to the medical fitness standards required to enter military service, the Army is typically a collection of young, healthy individuals. The requirements of military service generally lead to habits that promote health, such as daily physical fitness training, maintenance of healthy weight, physical and virtual social networks, and periodic health assessments through readily accessible healthcare services. Table 3 summarizes a comparison of behaviors and measurements between active-duty Soldiers and civilian estimates.

Table 3. Health Measures Comparison between Active-Duty Soldiers and U.S. Civilian Population

Measure	Army	U.S. Population
Physical Activity ¹⁵	79.6%	43.5%
Weight, Healthy Weight (BMI 19-25) ¹⁶	30.8%	30.8%
Weight, Overweight (BMI 25.1-29.9) ¹⁷	52.6%	33.3%
Weight, Obesity (BMI >30) ¹⁸	16.1%	33.9%
Nutrition, Fruits 3x/day ¹⁹	10.8%	13.1%
Nutrition, Vegetables 3x/day ²⁰	12.9%	8.9%
Sleep, >7 hours/night ²¹	38.1%	65.2%
Chronic Disease, High Blood Sugar ²²	1.9%	12.3%
Chronic Disease, High Cholesterol ²³	14.7%	29.5%
Chronic Disease, High Blood Pressure ²⁴	17.9%	32.2%
Tobacco, Smoking ²⁵	27.0%	20.6%
Tobacco, Smokeless ²⁶	13.7%	2.3%
Alcohol, Binge Drinking ²⁷	31.8%	27.1%

**BMI = Body Mass Index

Conversely, many Soldiers report unhealthy habits including improper nutrition, tobacco use, alcohol misuse, risky behaviors, and poor sleep habits.²⁸ If not monitored and engaged, Soldiers and their Families may acquire unhealthy behaviors that lead to poor health, development of preventable chronic disease, and decreased future health readiness.

Age plays a multifactorial role in IMR: 12% of Soldiers aged 45 and older are MRC3B while only 7% of Soldiers aged 25 and younger are MRC3B.²⁹ Myriad age-related factors place older service members at higher risk for non-readiness including higher rates of injury, behavioral health issues, chronic illness, obesity, and sleep disorders.³⁰ Chronic disease and obesity place Soldiers at increased risk for musculoskeletal injuries, poor physical conditioning that negatively impacts mission accomplishment, and non-deployability due to health conditions that cannot be supported medically in austere environments. Table 4 compares the incidence of conditions that risk future non-deployability by Soldier age group and gender.

Compared to the average American, Soldiers exercise twice as often and experience half as much chronic disease and obesity. Unfortunately, Soldiers exceed American averages for tobacco use and binge drinking while failing to get recommended amounts of sleep twice as often as the public. Increased rates of obesity and chronic disease in older Soldiers are a significant concern to future health readiness. As they age, Soldiers demonstrate three to seven-fold increases in rates of obesity and chronic disease. Half of all Army retirees seen clinically in military treatment facilities (MTF) are obese based on BMI measurements far exceeding national norms for comparable age groups.³¹

Table 4. Health Condition Incidence among Active-Duty Soldiers by Age & Gender

Condition	Age < 25		Age > 45	
	Male	Female	Male	Female
Injuries per 1,000 Soldiers ³²	997.0	1,552.9	2,087.9	2,649.3
Behavioral Health Disorders ³³	9.3%	18.9%	17.4%	29.1%
Chronic Disease ³⁴	6.0%	9.7%	43.6%	50.2%
Obesity (BMI > 30) ³⁵	6.2%	4.0%	22.2%	14.5%
Tobacco Use ³⁶	35.4%	14.3%	21.3%	14.4%
Sleep Disorder ³⁷	3.9%	4.8%	32.3%	23.8%
Substance Abuse Disorder ³⁸	2.0%	1.4%	1.2%	0.7%
Chlamydia per 1,000 Soldiers ³⁹	20.5	76.8	1.5	2.5

The Army is a representative microcosm of the American population and current Army health trends are a reflection of larger health issues in our society. According to the Centers for Disease Control and Prevention (CDC), chronic disease, namely heart disease including stroke, cancer, diabetes, and lung disease, accounts for the majority of health-related morbidity, disability, mortality, and cost in the United States.⁴⁰ In 2012, half of all Americans had at least one chronic medical condition and 25% had two or more. In 2010, seven out of the top ten causes of death in America were attributed to chronic disease with 48% of all deaths occurring from heart disease or cancer.⁴¹ Significant morbidity and disability are attributable to diabetes and arthritis.

Five purely behavioral elements significantly increase an individual's risk for the development of chronic disease: obesity, lack of physical activity, diets both low in fruits and vegetables and high in sodium and saturated fat, excessive alcohol use, and tobacco use and exposure.⁴² Independently, high blood pressure also increases the risk of developing chronic disease. In 2011, the CDC estimated that one in three Americans are clinically obese, defined as a BMI greater than 30. Fifty-two percent of Americans do not get enough aerobic activity and 76% do not get enough muscular activity. Ninety percent of Americans consume excessive amounts of salt and approximately one-third

eat fruits and vegetables less than once daily. Twelve percent of Americans binge drink more than four times per month accounting for 88,000 deaths annually. Tobacco use is the leading cause of preventable death in the United States accounting for 480,000 deaths annually. Forty-seven percent of Americans have at least one major risk factor for heart disease or stroke including uncontrolled blood pressure, uncontrolled elevated low-density lipoprotein also referred to as LDL cholesterol, or smoking.⁴³

Economic Impact of Rising DoD Healthcare Costs

Much of the healthcare provided in later life surrounds treatment of preventable chronic diseases. As active-duty and retiree populations age, the incidence of these diseases and their associated costs to DoD grow. Ever rising DoD healthcare costs in an environment of budgetary constraint, constant operations tempo, and pressing requirements to train and modernize the force place significant and potentially unsustainable strain on Army budgets and priorities.

In 2012, DoD spent \$52 billion on military healthcare (MHC) providing insurance coverage through TRICARE and medical services to 10 million eligible beneficiaries. MHC spending in 2012 accounted for 10% of the total DoD budget. The MHC budget is comprised of the Defense Health Program (DHP), Military Personnel (MP), and military construction (MILCON). The DHP finances TRICARE, operations and maintenance, civilian pay and benefits, Research, Development, Test, and Evaluation, and procurement and was funded at \$32.3 billion accounting for 61% of the MHC budget in 2012. Military personnel finances TRICARE for Life (TFL) and military pay and benefits and was funded at \$18.9 billion accounting for 36% of the MHC budget in 2012. MILCON was funded at \$1.1 billion in 2012 accounting for 2% of the MHC budget. In 2012, DHP paid \$15 billion for healthcare provided in MTF, also known as the direct

care system, and \$15.4 billion for healthcare purchased in the TRICARE network outside MTF.⁴⁴ At least \$1B of annual DoD healthcare expenditures pay for the medical effects of overweight and obese patients.⁴⁵

Multiple factors are responsible for the rising cost of MHC including expansion of TRICARE benefits (namely the TFL program), increased utilization of TRICARE by eligible beneficiaries, and, to a lesser extent, costs associated with the conflicts in Iraq and Afghanistan.⁴⁶ Created in 2002, TFL provides cost-free supplemental insurance for outpatient healthcare to Medicare-eligible military retirees who pay premiums through Medicare Part B. The TFL costs DoD \$10 billion annually, accounts for 20% of MHC spending, and primarily covers outpatient treatment of chronic disease.⁴⁷ Economic factors drive increased utilization of TRICARE as the health insurance payer of choice for eligible beneficiaries. Americans who participate in employer-sponsored health insurance spend approximately \$6,000 annually in premiums and co-pays per family compared to \$1,000 per family for beneficiaries receiving similar benefits through TRICARE.⁴⁸

Since 1996, DoD's annual costs to administer and provide health insurance coverage through TRICARE tripled from approximately \$4,000 to \$12,000 per family. Over the same period, TRICARE beneficiary fees experienced no growth.⁴⁹ Over the past 20 years, the TRICARE benefit has advanced with the private sector, often surpassing it, while the beneficiary's financial obligation to share the responsibility of that coverage has remained flat. The TRICARE beneficiaries effectively receive three times the benefit of 20 years ago while paying 84% less for their health coverage than the average American. The burden for maintaining this outstanding health benefit falls

primarily on the DoD. From 2000-2012, DoD healthcare expenditures grew 130% after growing only 14% in the preceding ten years.⁵⁰ The Congressional Budget Office estimates that MHC will account for 11% of DoD spending by 2028 and could go higher if DoD budgets decrease and MHC costs continue without restrictions.⁵¹

Consistent with trends experienced by DoD, costs for the management of chronic disease in the U.S. population are staggering. In 2010, 86% of all healthcare dollars were spent on people with one or more chronic illness.⁵² Chronic healthcare conditions and their associated costs to the U.S. healthcare industry are listed in Table 5.

Table 5. U.S. Healthcare Costs by Chronic Condition from CDC⁵³

Chronic Condition	Healthcare Costs
Heart Disease and Stroke	\$315.4 B
Cancer	\$157 B
Diabetes	\$245 B
Arthritis	\$128 B
Obesity	\$147 B
Smoking	\$289 B*
Alcohol, excessive use	\$223.5 B*

*Includes healthcare expenses and lost productivity

Best Practices for Individual and Organizational Health Promotion

Wellness fosters optimal health and is directly related to healthy behavior and individual choice supported by organizational and environmental factors. To improve wellness, prevent chronic disease and injury, and reduce healthcare costs, the Army must ensure that its health promotion practices are founded on evidence-based methodologies and industry best practices that achieve these goals.

In its 2015 report, *From Evidence to Practice: Workplace Wellness that Works*, the Institute for Health and Productivity Studies (IHPS) at Johns Hopkins University's

Bloomberg School of Public Health published a list of health measures and best practices that organizations should emulate to improve employee wellness through effective health promotion program design. Table 6 lists recognized best practices and recommendations for maximizing individual health promotion.

Table 6. IHPS Best Practices for Individual Health Promotion

Individual Best Practice	Recommendation
Physical Activity ⁵⁴	-Moderate-intensity physical activity for a minimum of 150 minutes per week or high-intensity physical activity for 75 minutes per week (adults aged 18-55)
Healthy Nutrition and Weight Management ⁵⁵	-Eat 4-5 cups of fruit daily -Eat 4-5 cups of vegetables daily -Limit intake of solid fats, added sugars, and refined grains
Sleep ⁵⁶	-At least 7 hours of quality sleep each night
Tobacco Cessation ⁵⁷	-Do not use tobacco in any form
Alcohol Moderation ⁵⁸	-Do not exceed 4 alcoholic drinks in any one day -Women should not exceed 7 drinks per week -Men should not exceed 14 drinks per week
Stress Management ⁵⁹	-Minimize stress as much as possible, especially at work
Social Connectedness ⁶⁰	-Build and maintain numerous robust social connections
Clinical Preventive Screening ⁶¹	-Perform regular recommended clinical preventive screenings

Adults should undergo clinical preventive screenings as outlined by the United States Preventive Services Task Force (USPSTF). The USPSTF recommends age-based or annual screening by condition where significant preventive benefit of the intervention is demonstrated through recognized medical evidence.⁶² In military-aged adults, the USPSTF recommends screening and intervention for 27 preventable or supportive conditions. Each of these USPSTF recommendations is based on clear medical evidence demonstrating clinical efficacy, preventive health benefit, economic value, and statistical relevance. Table 7 lists the USPSTF “A” and “B” level recommendations applicable to military-aged adults.

Table 7. USPSTF Screening Recommendations⁶³

Recommendation	Men	Women	Special Population
Alcohol Misuse Screening	X	X	
Aspirin for Prevention of Cardiovascular Disease	X	X	Men > age 45 Women > age 55
Bacteriuria Screening		X	Pregnancy
BRCA Cancer Screening		X	BRCA Family History
Breast Cancer Preventive Medications		X	> Age 35 with risk factors
Breast Cancer Screening		X	> Age 40-50
Breastfeeding Counseling		X	Pregnancy and postpartum
Cervical Cancer Screening		X	> Age 21
Chlamydia Screening		X	< Age 24 sexually active and others at risk
Colorectal Cancer Screening	X	X	> Age 50
Depression Screening	X	X	At every clinical visit
Diabetes Screening	X	X	For chronic blood pressure >135/80
Folic Acid Supplementation		X	Fertile women
Gestational Diabetes Screening		X	Pregnancy
Gonorrhea Screening		X	< Age 25 sexually active and others at risk
Hepatitis B Screening		X	Pregnancy
Hepatitis C Screening	X	X	Born between 1945 and 1965 and others at risk
High Blood Pressure Screening	X	X	At every clinical visit
HIV Screening	X	X	All age 15-65, pregnancy, and others at risk
Intimate Partner Violence Screening		X	Childbearing age
Iron Deficiency Anemia Screening		X	Pregnancy
Lipid Screening	X	X	All men > age 35 and men and women at risk > age 20
Obesity Screening	X	X	At every clinical visit...refer BMI >30 to behavioral interventions
Sexually Transmitted Infection Counseling	X	X	Sexually active at increased risk
Skin Cancer Counseling	X	X	< Age 24
Syphilis Screening		X	Pregnancy
Tobacco Counseling	X	X	At every clinical visit

Enterprise commitment to provide leadership, resources, programs, and environments that foster healthy behavior and well-being bolsters individual wellness. Table 8 lists recognized best practices and criteria for organizational health promotion.

Table 8. IHPS Best Practices for Organizational Health Promotion⁶⁴

Organizational Best Practice	Criteria
Leadership Commitment and Support	<ul style="list-style-type: none"> -Leaders model desired behaviors -Leaders demonstrate strong commitment to health promotion -Leaders establish work environment promoting healthy lifestyles -Leaders provide resources for health programs
Create a “Culture of Health”	<ul style="list-style-type: none"> -Health promotion permeates organizational culture and ethic -Demonstrated by leader commitment and participation -Creation of health promoting organizational policies -Provision of adequate longitudinal resourcing of programs -Employee integration in program creation and maintenance
Strategic Communications	<ul style="list-style-type: none"> -Strategic communications are frequent, informationally varied, multi-media, and specific to the intended audience
Smart Incentives	<ul style="list-style-type: none"> -Employee incentives of gravity, magnitude, and permanence -Examples: lower insurance premiums or robust benefit plans -Incentives of little monetary value rarely produce longitudinal behavior change
Employee Engagement	<ul style="list-style-type: none"> -Active engagement of employees in program design, implementation, participation, and feedback -Creation of wellness committees -Collaboration with unions and employee advocacy groups -Family member involvement
Tailored Programs	<ul style="list-style-type: none"> -Programs address employees’ specific needs, interests, cultural backgrounds, learning styles, and baseline health status -Programs provide multi-modal experiences with internet, digital, and printed information, group learning, and individual coaching
Environmental Support	<ul style="list-style-type: none"> -Establish environments that “make the healthy choice, the easy choice” (based on “choice architecture” theory, which postulates that people will choose a default option that is easiest to choose) -Create healthy choice architecture through organizational policies and physical space that promote exercise, healthy nutrition, and tobacco cessation
Benefit Plan Design	<ul style="list-style-type: none"> -Link health promotion incentives and penalties to health benefits
Measurement & Evaluation	<ul style="list-style-type: none"> -Measure individual progress -Evaluate program processes and outcomes -Compare costs and interventions to outcomes -Use data to improve processes and programs

The Army’s System for Health

In 2013, the Army launched the Ready and Resilient Campaign (R2C) to “synchronize the Army’s efforts to build physical, emotional, and psychological resilience” in Soldiers and their Families. Integral to R2C is the AMEDD’s System for Health, a movement that changes the focus of Army Medicine from one of simply providing healthcare to one of “proactive influence” on the health and behaviors of Soldiers and Families in order to prevent illness and injury, improve health and well-

being, and promote healthy behaviors. The three goals of the System for Health are to maintain health through fitness and prevention, restore health through patient-centered healthcare, and improve health through education and interaction with health professionals.⁶⁵

A key domain of the System of Health is the Lifespace. Lifespace is defined as the time that beneficiaries spend outside of direct engagement with healthcare professionals; it is where people live and make choices that affect their health and it occurs continuously.⁶⁶ The System for Health strives to educate, influence, and support individuals to make healthy choices in their Lifespace.⁶⁷ For example, in 2015, the AMEDD made a strong statement serving as an example for the entire Army by prohibiting healthcare personnel from using tobacco during the duty day or while in uniform and directing MTF commanders to establish tobacco-free medical campuses at all MTF.⁶⁸ This action demonstrates the AMEDD's intent to move beyond passive issuance of health promotion guidance to a more active stance of culture change and enforcement of healthy choices.

The key enabling program of the System for Health is the Performance Triad. The Performance Triad's goal is to promote and inculcate healthy behaviors across the Army that reduce the incidence of disease, illness, and injury thereby fostering health and wellness and increasing future health readiness. The Performance Triad promotes three important concepts that positively affect overall health and wellness: proper nutrition, daily physical activity, and adequate sleep. Nutrition goals include eating at least 8 servings of fruits and vegetables daily and refueling within 60 minutes of vigorous exercise. Activity goals include 10,000 steps per day, 150 minutes of moderate

aerobic exercise per week, and at least 2 days of resistance training per week. Sleep goals include 7-8 hours of quality sleep per 24 hours and elimination of caffeine six hours before bedtime. “Plus Goals” provide additional performance standards to the Activity category adding one day of agility training, 75 minutes of high intensity aerobic exercise, and an extra 5,000 steps per day to further challenge athletic Soldiers and those who wish to increase their level of fitness and performance.⁶⁹

A key enabling resource for the System for Health is the Army Wellness Center. Army Wellness Centers provide screening, counseling, education, and mentoring to empower individuals to improve their health and meet their fitness goals. Army Wellness Centers offer health assessment and screening, physical fitness testing and counseling, and education promoting healthy nutrition, stress management, tobacco cessation, and general wellness.⁷⁰

Comparison of Army Programs to Recognized Best Practices

Identifying areas of improvement in Army health and wellness programs requires a gap analysis between current Army doctrine, health promotion efforts, and readiness monitoring platforms and recognized best practices for individual health and organizational wellness programs. Table 9 outlines compliance of Army doctrine and programs to recognized best practices for wellness.

Based on broad review of current medical literature and evidence-based clinical practices, the Army’s doctrine, training publications, and regulations provide significant guidance promoting the health of the force. Table 10 describes the general health promotion concepts found in Army doctrine.

Army Regulation (AR) 600-63 (Army Health Promotion) provides extensive guidance to directly improve the health of the force. The AR 600-63 establishes

guidelines for implementation and exercise of garrison Community Health Promotion Councils and Suicide Prevention Task Forces. Guidelines for the health of the force include stress management, physical fitness, general health, injury prevention, proper nutrition and healthy weight management, spiritual fitness, responsible sexual behavior, substance abuse, and tobacco control.⁷¹ Though AR 600-63 forbids the use of tobacco by healthcare personnel during the duty day or while in uniform, this policy does not apply to all military and civilian personnel in the Army.⁷²

Table 9. Army Program Compliance with Best Practices⁷³

Best Practice	Army Doctrine	MEDPROS IMR Tracking	System for Health	Performance Triad	AWC
Physical Activity	FM 7-22	No	Yes	Yes	Yes
Healthy Nutrition	AR 40-25	No	Yes	Yes	Yes
Weight Management	AR 600-9	No*	Yes	Yes	Yes
Sleep	ATP 6-22.5	No	Yes	Yes	Yes
Tobacco Cessation	AR 600-63 (Incomplete)	No	Yes		Yes
Alcohol Moderation	AR 600-85	No	Yes		
Stress Management	AR 600-63 ATP 6-22.5	No	Yes		Yes
Social Connectedness	AR 600-63	No	Yes		
Clinical Preventive Screening	AR 40-501	Incomplete	Incomplete		
Leadership Commitment and Support			Yes	Yes	Yes
Create a "Culture of Health"			Incomplete	Yes	Incomplete
Strategic Communications			Yes	Yes	Yes
Smart Incentives			No		
Employee Engagement			Incomplete		Incomplete
Tailored Programs			Incomplete	Yes	Incomplete
Environmental Support			Incomplete		
Benefit Plan Design			No		
Measurement & Evaluation			Incomplete		Incomplete

Blank cells denote "category not applicable"*

Army Regulation 40-25 (Nutrition Standards and Education), establishes nutritional standards for military feeding, operational and restricted rations, calorie,

macronutrient, and hydration requirements for Soldiers, reduced calorie feeding for individuals enrolled in the Army Body Composition Program, and general nutritional education for the force.⁷⁴ Excessive numbers of high-fat, high-calorie food options in Army dining facilities (DFAC), garrison eateries, and local communities as well as the inability to oblige Soldiers to make appropriate dietary choices remain challenges to proper nutrition.

Table 10. Health Promotion Principles in Army Doctrine

Army Doctrine	Health Promotion Principles
AR 600-63 ⁷⁵	Promotion of the health of the force Physical Activity, Healthy Nutrition, and Weight Management Adequate sleep Tobacco Control and Cessation Alcohol Moderation Stress Management and Social Health
AR 40-25 ⁷⁶	Healthy nutrition planning in Army dining facilities (DFAC) Calorie, macronutrient, and hydration guidelines Reduced calorie dietary guidance for overweight Soldiers Nutritional education
AR 40-501 ⁷⁷	Standards of Medical Fitness for deployment to global operational areas Clinical Preventive Screening through Periodic Health Assessment
AR 600-9 ⁷⁸	Weight Management
AR 600-85 ⁷⁹	Alcohol Moderation and Treatment
ATP 6-22.5 ⁸⁰	General Health and Fitness Sleep Stress Management
FM 7-22 ⁸¹	Physical Activity

In addition to establishing medical criteria for entrance into and continued service in the Army, AR 40-501 (Standards of Medical Fitness) provides guidelines for preventive screening through the Periodic Health Assessment (PHA) program. The PHA gathers important wellness information from Soldiers including general health status, tobacco and alcohol use, behavioral health concerns, and personal safety issues. Though AR 40-501 dictates adherence to USPSTF “A” and “B” level recommendations as the cornerstone for individual medical screening, these recommendations are not

fully integrated into PHA online forms, the Army electronic health record, or clinical practice guidelines (CPG).

Army Regulation 600-9 (Army Body Composition Program) establishes weight and body fat standards for Soldiers and mandates screening at least every 6 months.⁸² Army maximum weight tables roughly correlate to a BMI of 27.5 for men and 26 for women.⁸³

Army Regulation 600-85 (Army Substance Abuse Program) establishes sound guidance for the responsible and moderate use of alcohol.⁸⁴ Army Regulation 600-85 outlines procedures for the identification and treatment of Soldiers with alcohol use disorders.⁸⁵

In similar fashion to AR 600-63, Army Techniques Pamphlet (ATP) 6-22.5 (Leader's Guide to Soldier Health and Fitness) provides outstanding guidance regarding Soldier health and wellness. Covering such topics as the Performance Triad, Comprehensive Fitness, medical readiness, and health promotion, ATP 6-22.5 provides specific guidance on adequate sleep and sleep hygiene as well as behavioral health issues such as identification and management of stress, traumatic event management, behavior and personality disorders, and post-traumatic stress disorder.⁸⁶

Finally, Field manual (FM) 7-22 establishes standards for safe and effective Army physical fitness training to improve endurance, strength, and flexibility. Significant focus is placed on proper form, injury prevention, ability group exercise, and the concept of "train as you fight."⁸⁷

Despite significant doctrinal guidance and standards focused on future health readiness, the Army does not holistically track metrics associated with these issues in

MEDPROS. Of the nine individual wellness standards, only two, Weight Management and Clinical Preventive Screening, are partially tracked in MEDPROS. Individual weight and body fat percentage exceeding Army standards is not typically a non-deployable condition and is only tracked in MEDPROS when it produces a non-deployable profile due to an underlying medical condition or physical limitation.⁸⁸ Standardized clinical preventive screenings based on USPSTF recommendations are assumed to be a part of the PHA as directed by AR 40-501, but inclusion of these criteria in every PHA exhibits significant variance across the AMEDD due to a lack of standardized informational inputs, healthcare provider experience and practice, and lack of CPG.

The Army's System for Health (SFH) compares very favorably to industry best practices in individual wellness and enterprise health promotion. SFH utilizes patient-centered primary care clinics (Army Medical Homes), behavioral health clinics, and community health operations inside direct-care MTF as well as Army Wellness Center services and programs to provide wellness evaluation, testing, treatment, education, and support to Soldiers, Family members, and retirees. The Performance Triad serves as the cornerstone to the AMEDD's wellness efforts and provides common-sense, easily understood guidelines that have permeated Lifespace, clinical, and doctrinal domains.

From an enterprise perspective, SFH is well engaged in six of eight industry best practices. Army leader support of SFH as well as Army and AMEDD strategic communication is excellent. The tenets of SFH are reflected in current Army doctrine, senior leaders speak positively and supportively of its programs, and the AMEDD

provides numerous marketing and information products in digital, print, video, and physical formats through its websites.

Creation of a Culture of Health and environmental support of health promotion will take time. Efforts to improve nutrition, tobacco, and alcohol issues experience significant economic and cultural barriers in the Army. Issues such as respect for Soldier's personal options and choices, economic incentives for the Army and Air Force Exchange System referred to as AAFES, with resultant funding of Family, Morale, Welfare, and Recreation programs, individual behavioral readiness for change, and aging facilities and infrastructure provide challenges to full implementation of SFH.

The Army Wellness Center (AWC) serves as a powerful synergistic enabler of health promotion and a significant benefit to TRICARE beneficiaries. Through its standardized, evidence-based design and health technology, AWC offer programs that compare favorably to industry best practices. In FY15, 23 AWCs across the Army provided 79,956 visits to 34,741 unique clients with an overall satisfaction rate of 97% and a no-show rate of only 6%. In limited studies, 51-68% of AWC clients noted improvement in body fat percentage, BMI, cardiorespiratory fitness, blood pressure, and stress reflecting results on par with standards of industry best-practice wellness programs.⁸⁹ Unfortunately, the regulation of AWC design that provides useful standardization of facilities, equipment, and programs across the SFH enterprise inhibits AWCs from meeting some industry best practices. Though AWC programs can be tailored to fit the needs of individual beneficiaries, a combination of minimal staffing, program regimentation, facility separation from MTF, reliance on expensive equipment,

and limitation of community outreach limits access to and effectiveness of AWC services from a population health perspective.

Due to congressionally appropriated funding of DoD healthcare, SFH does not possess significant leverage in offering incentives to individuals participating in wellness programs or in affecting change in healthcare benefit design apart from offering SFH programs through budgeted funding. As future healthcare funding comes under greater scrutiny, the AMEDD may be required to justify its spending on SFH wellness programs to internal and external stakeholders with data that demonstrate efficacy, causation, and acceptable return on investment.

Recommendations

The Army's current health promotion doctrine and enterprise programs such as the System for Health, the Performance Triad, and Army Wellness Centers provide a strong foundation for improving future health readiness. To further improve the health of the force and lower DoD healthcare costs, the Army should consider the following recommendations.

First, the Army should add metrics to MEDPROS that measure future health readiness. Specifically, BMI, tobacco use, the AUDIT-C alcohol use score, and the PHQ-2 depression score should be automatically added to MEDPROS from PHA sources. Body Mass Index data serves as a surrogate measure of physical activity and healthy nutrition. Tobacco use serves as a significant predictor of future chronic disease. The AUDIT-C and PHQ-2 scores provide a measure of stress and potentially harmful behavior. Access to this data would allow leaders at all levels to more accurately gauge the future health readiness of their formations, engage Soldiers encouraging them towards healthier habits, and provide them support. Data could be

correlated to a red/amber/green system to mitigate concerns surrounding patient privacy.

Second, the Army's PHA should be reengineered to materially incorporate USPSTF "A" and "B" level recommendations. Part One of the online PHA should tailor itself automatically through demographic information to present questions to the patient based on USPSTF screening recommendations and prompt medical providers to order age and gender specific screening interventions such as laboratory evaluations and screening procedures prior to the visit with the healthcare provider. Part Two of the PHA should be performed with the Soldier's Primary Care Manager (PCM) or an available provider that can complete all medical screening, exams, and procedures at one visit. Utilizing the PCM for routine health maintenance like the PHA supports the tenets of Patient-Centered Care, makes efficient use of both patient and provider time due to previously established continuity of care, and increases the likelihood that all recommended evaluations, treatments, procedures, and plans will be completed in one visit. The USPSTF recommendations should be included on PHA forms and in the electronic medical record to prompt and assist healthcare providers in completion of these requirements.

Third, the DoD should consider developing a Wellness CPG with the Veterans Administration (VA) to better guide healthcare providers in the provision of health promotion. The DoD and the VA have partnered to create 22 active CPGs to assist healthcare providers practice the most efficacious, evidence-based care available. VA/DoD released the "Screening and Management of Overweight and Obesity" CPG in 2014.⁹⁰

Fourth, leaders at all levels should remain engaged with their Soldiers, model desired health behaviors, communicate the tenets of the System for Health and the Performance Triad, and motivate Soldiers towards better health.

Fifth, all leaders should be required to read ATP 6-22.5 (A Leaders Guide to Soldier Health and Fitness) to familiarize themselves with the tenets of health promotion and assist them with training, caring for, and guiding their Soldiers towards better health.

Sixth, the Army should apply the restrictions of Chapter 7-3 d. of AR 600-63 (Army Health Promotion) to all Soldiers and prohibit the use of tobacco during duty hours or while in uniform. All Army posts, camps, and stations should be designated as “tobacco-free campuses” and no tobacco products should be sold on-post.

Seventh, the Army should require measurement of Soldier weight every 90 days to encourage healthy habits and emphasize the importance of proper nutrition and weight management to both readiness and long-term health. Though Soldiers demonstrate half the incidence of obesity as the American public, they exceed national rates of overweight as measured by BMI. In 2011, 68.7% of Soldiers were overweight or obese as measured by BMI.⁹¹

Eighth, Army Wellness Centers should expand their mission to better integrate into the Army Medical Home (AMH), Behavioral Health, and Community Health clinical operations of the MTF. Placing a satellite AWC in Army MTF or increasing access to same-day AWC services would empower primary and behavioral healthcare providers in the longitudinal care of their patients and provide patients with wellness education, services, and coaching while they are motivated to change their behavior. The AWC

staffing and funding should be increased to better support Soldier and community wellness outreach programs. The AWC should participate in community needs assessments and develop programs to support those findings. Innovative opportunities to expand clientele through mandatory assessment of Soldiers during inprocessing, group visits, and support groups promoting healthy weight management and physical fitness should be investigated. Disciplined innovation for the development of new, evidence-based programs in collaboration with AWC, MTF, and Regional Health Commands should be supported and shared. AWC continue to expand services and make positive impacts in the lives of their clients. Assuming, however, that each unique client receiving services in FY15 was an active-duty Soldier, AWC reached no more than 7% of the active force during that timeframe, far below the industry norm of 20%.⁹²

Finally, the AMEDD should continue pursuing the integration of wellness technology into the AMH. Like TRICARE Online and Relay Health, data from digital personal health technologies such as FitBit, the Apple Watch, nutrition, exercise, and sleep tracking apps, and Wi-Fi-enabled scales and blood pressure monitors should be integrated into the next AMEDD electronic health record to allow healthcare providers to better manage patients, promote wellness, and prevent disease. Emerging concepts such as group and virtual visits should be explored to improve access to healthcare and health promotion. Additional time should be designed into clinical appointments to allow nurses and medics to educate patients on wellness concepts.

Conclusion

The Army currently possesses excellent doctrine, systems, and programs that promote future health readiness. Through improved observation and reporting of future health readiness metrics, the Army will empower its commanders to fully understand the

holistic health status of their unit and both engage and motivate their Soldiers towards better health. Promotion, expansion, and revision of Army doctrine and policy, the System for Health, Performance Triad, and Army Wellness Centers will foster stronger alignment with wellness industry best practices and build a Culture of Health in the Army. Continued improvement of Army health promotion will provide Soldiers the information, tools, and support required to encourage healthy choices and achieve individual and Army health goals. These efforts should produce improved health and wellness, prevention of chronic disease and injury, increased future health readiness, and healthcare cost savings for the Army and DoD.

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