

USAWC CIVILIAN RESEARCH PROJECT

**Transforming the Army National Guard Health Promotion Policy – Meeting
the Challenges of a “Fit to Fight” Army National Guard in the 21st Century**

by

Lieutenant Colonel Denise T. Rooney
Army Nurse Corps

Mr. John J. Fittipaldi
Project Advisor

The views expressed in this academic research paper are those of the author and do not necessarily reflect the official policy or position of the U.S. Government, the Department of Defense, or any of its agencies.

U.S. Army War College
CARLISLE BARRACKS, PENNSYLVANIA 17013

ABSTRACT

AUTHOR: Lieutenant Colonel Denise T. Rooney

TITLE: Transforming the Army National Guard Health Promotion Policy – Meeting the Challenges of a “Fit to Fight” Army National Guard in the 21st Century

FORMAT: Civilian Research Project

DATE: 22 May 2006

PAGES: 39

CLASSIFICATION: Unclassified

The Army National Guard (ARNG) has become an operational force vital to the successful achievement of the Army’s strategic goals. This new role has propelled the ARNG into frequent deployments of extended duration’s of time. The ARNG soldier has met the challenges of “going to war” and will need to remain capable to meet the future challenges of anticipated redeployments. The mission capable soldier requires an extensive investment to maintain and sustain fitness for duty throughout the deployment cycle and the soldier’s military career.

ARNG medical readiness programs should play a proactive role in soldier health preservation. Presently, ARNG health promotions (HP) programs have not evolved to meet the present operational tempo and address subsequent soldier health demands, injuries and illnesses.

To this date, the ARNG has not adopted a relevant health promotion strategy or a strategic management system.

This paper will examine present HP policies, address challenges, and purpose solutions to ensure an ARNG force fit to fight.

ACKNOWLEDGEMENTS

I would like to thank the Army Environmental Policy Institute (AEPI) for affording me this truly enriching fellowship opportunity. In particular, I would like to thank my mentor, Mr. John Fittipaldi, whose guidance and insight greatly enhanced my fellowship experience and research accomplishments. I would also like to extend my sincere gratitude to Mr. Michael Cain, Director, AEPI, for his support throughout this year.

TABLE OF CONTENTS

Abstract.....	iii
Acknowledgements.....	iv
Transforming the Army National Guard Health Promotion Policy – Meeting the Challenges of a “Fit to Fight” Army National Guard in the 21st Century.....	1
Transforming from a Strategic Reserve to an Operational Force.....	1
The Toll on Soldier Medical Readiness.....	2
Disparate Strategies - Department of Defense, Army Strategy, and ARNG Health Promotion Strategies.....	5
Challenges.....	6
Short-Sighted Medical Readiness Screening Focus.....	6
Segregated ARNG Medical Readiness Programs.....	9
Lack of Decision Support Systems.....	10
Fitness Determination.....	10
HP/Medical Readiness Initiatives.....	13
Lack of HP Program Evaluation.....	16
A “One Size Fits All” Approach.....	17
Lack of HP Strategy and Strategic Management Systems.....	19
Limited Personnel and Fiscal Resources.....	20
Recommendations.....	21
Conclusion.....	28
Endnotes.....	30
Bibliography.....	34

Transforming the Army National Guard Health Promotion Policy – Meeting the Challenges of a “Fit to Fight” Army National Guard in the 21st Century

The focus of this paper is Army National Guard (ARNG) health promotion strategy. General Peter Pace, United States Marine Corps, Chairman of the Joint Chiefs of Staff stated that “good health” is a force multiplier.¹ For health promotion to have relevancy within the ARNG, a paradigm shift in the medical policy-maker community is required to seamlessly compliment the present goals and objectives of the Army and ARNG. The goal of this paper is to examine the present Department of Defense and ARNG health promotion policies, identify challenges and purpose recommendations for a future ARNG health promotion strategy.

Future health promotion (HP) activities must speak to the commanders, soldiers, families and ultimately maintain, sustain and increase the number of “ready” soldiers throughout all phases of the deployment cycle. Throughout this document, military mission applicability will remain foremost in the consideration of any HP strategy or initiative. The HP program should have interrelated HP/ARNG mission specific program elements and objectives that contribute to the successful accomplishment of overall Army and ARNG strategic initiatives.

Transforming from a Strategic Reserve to an Operational Force

The nature of the protracted Global War on Terror, combined with Army transformation presents many challenges to the ARNG. The ARNG has transformed from a strategic reserve force to an operational force and plays a critical and active role in the successful achievement of today’s Army strategic goals and mission. The Army National Guard makes up more than one-half of the total Army’s ground combat forces and one-third of its support forces.² Over 240,000 Guard members have been mobilized since September 11, 2001³, and at the time of writing this

paper, 113,000 Army National Guard soldiers are serving on active duty.⁴ Forty percent of the forces on the ground in Iraq are Guard and Reserve, and that proportion is set to grow in the future.⁵ Cumulatively, over 51 percent of Army Guard personnel have been alerted or activated for federal homeland security missions or overseas missions related to the Global War on Terrorism.⁶ The Department of Defense's (DOD) operations in time of war or national emergency are currently dependent upon sizeable National Guard and Reserve involvement and DOD expects future use of the reserve force to remain high.⁷ The new Army Force Generation Model (ARFORGEN) projects an operational cycle of deployment every six years for the reserve components.

The ARNG soldier has transitioned from a reserve soldier who rarely deployed and when deployed, was deployed for short periods of time, to our current soldiers that will deploy for at least a year on a regular basis (every six years). The present operational tempo of increased frequency and duration places unparalleled demands/stressors on the ARNG soldier. This requires physically fit soldiers during all operational phases, and health promotion programs that prevent "soldier" injuries and illness during training, on the battlefield and post-deployment. The present ARNG health promotion policies and programs have not transformed to provide the necessary services to support and maintain fit soldiers and contribute to overall medical readiness and Army mission success.

The Toll on Soldier Medical Readiness

Army leadership has recognized in numerous posture statements, memorandums and policies the value of the soldier.⁸ The soldier has been defined as "being the Army"⁹ and the center of transformation. Presently, there is limited data on ARNG soldier fitness for duty issues

and health outcomes of the present situational climate. Additionally, there are no medical readiness program projections based on current and future operational requirements. A few current studies identify that there are medical readiness issues affecting mission capabilities today.¹⁰ If unaddressed, these issues and additional unresolved post-deployment medical issues will adversely affect future capabilities during the anticipated second and third ARNG deployment rotations.

Current issues include, declining war-fighting readiness on non-deployed ARNG units due to the necessary personnel transfers (71,000 soldiers) from non-deploying units to units deploying to Iraq,¹¹ wounded soldiers (Operation Iraqi Freedom - 16,742 and Operation Enduring Freedom - 688),¹² high rates of non-combat injuries¹³, medical issues identified at the mobilization site, and on-going post-deployment medical conditions (i.e., Post Traumatic Stress Disorder, tuberculosis program management, dental status).

When evaluating medical conditions affecting ARNG soldiers, one must collect and review data from all phases of the deployment cycle. This would include; pre-mobilization at home station, at the mobilization site, during combat, and post-deployment. Pre-deployment data is not currently available. A recent GAO study (October 2005) compiled data on medical conditions identified at mobilization sites. More than 50,000 medical referrals were made on the pre-deployment health assessments from November 2001 through June 2005 for both active and reserve soldiers. The top three medical referrals for the reserve components were “other”, “dental” and “eye”.¹⁴ The “other” category comprised the majority (39%) of the referrals, but is not detailed enough to determine the type of medical conditions requiring referral nor the medical reasons for non-deployment. Future health assessments should eliminate the “other”

category, and list specific medical conditions. This would assist the ARNG in initiating relevant HP programs that reduce the number of mobilization site disqualifying conditions.

Additionally, the same GAO study identified reasons for reserve component “medical holdover”. The most prevalent reasons being orthopedic (56%), internal medicine (16%) and neurological (8%). This data indicates potentially preventable medical conditions that are affecting mission. At a minimum, these statistics justify further investigation, analysis and cause for action by the ARNG medical community. In addition to mobilization site medical readiness issues, medical conditions occurring during combat operations also need to be considered.

At the Army hospital in Landstuhl, Germany, where most soldiers injured “downrange” go for medical treatment, more troops arrive with non-combat injuries than fighting wounds. Eight out of ten soldiers airlifted from battle zones since the beginning of the war in Iraq were treated for non-combat injuries.¹⁵ At the top of the list of ailments is chest pain, followed by back pain and hernias. Dr. (COL) Randolph Modlin, Chief of Cardiology at Landstuhl stated, “We have never gone to war with guys as old as this before.” In 2004 alone, Landstuhl physicians treated 559 soldiers who suffered from heart disease or chest pain. The physicians at Landstuhl stated several combat specific environmental factors/health habits may contribute to this high rate of heart ailments. These include heavy protective gear, heat, combat stress, poor diet and smoking.

Additional ongoing studies are required to identify the specific medical conditions affecting the ARNG soldiers throughout all phases of the deployment cycle to establish HP program target areas. At a minimum, the aforementioned non-combat injuries/illness should be the present target of progressive HP programs.

Even though leadership and policy makers have recognized the true mission value of a fit and healthy soldier, little has been done to mitigate the most prevalent medical conditions that have taken a toll on ARNG soldier readiness. Thorough policy review and revision is required to develop a strategy that will meet the present and future health needs of the ARNG soldier.

Disparate Strategies - Department of Defense, Army Strategy, and ARNG Health Promotion Strategies

The present overall Army strategic goal is to remain relevant and ready, today and tomorrow. Even though the stated purpose of the DOD, Department of the Army (DA) and ARNG Health Promotion programs are related to Army strategy, the subsequent policies, goals, objectives and requirements do not address Army strategy. There is a disconnection between policy and purpose. The purpose of all of these strategies/programs include; the enhancement of mission readiness, unit performance, health and fitness of military personnel and the promotion, improvement, conservation and restoration of physical and mental well-being. However, the policy, per Department of Defense Directive, 1010.10, is to support the achievement of the Department of Health and Human Services' Healthy People Goals and Objectives (Healthy People 2010).¹⁶ This DOD policy focus negates the stated primary purpose of "enhancement of mission readiness."

Specifically, Healthy People 2010 has two overarching goals for the Nation; increase years of healthy life (prevention of chronic disease) and the elimination of health disparities.¹⁷ Healthy People 2010, DOD, Army and ARNG HP policies place emphasis on the *Healthy People Leading Health Indicators*. These are: physical activity, overweight and obesity, tobacco use, substance abuse, responsible sexual behavior, mental health, injury and violence, and environmental quality.

The prevention of chronic disease and the elimination of health disparities although relevant for public health policy, do not speak to Army strategic goals and soldier medical readiness issues. The 2010 goals were not only established for the “general public”, they were also established prior to September 11th, the GWOT and Army transformation. Additionally, the present Army and ARNG health promotion regulations and commander resources are outdated, written in 1996 and 1997 respectively. Army/ARNG mission and HP best practice strategies have changed. These regulations are not component specific even though the reserve component benefits/services and day-to-day operations are very different from the active components. Relevant HP strategy must be current and also must link “health promotion” initiatives with current institutional outcomes – performance, readiness, retention, and recruiting.

In addition to the stated policy issues, numerous additional challenges exist today that need to be considered when establishing an effective ARNG HP strategy.

Challenges

Short-Sighted Medical Readiness Screening Focus

The present increased operational tempo and frequent ARNG deployments has led to a medical readiness system (top-down) mainly focused on individual medical readiness (IMR) requirements. The IMR’s requirements include; immunizations, deoxyribonucleic acid (DNA) and human immunodeficiency virus (HIV) status, dental readiness, periodic physicals, medical and limited duty profiles, non- deployable medical profiles, occupational protection and equipment status, and men and women health issues. Additionally, a recently revised Army Regulation 220-1, Unit Status Reporting (dated 12 December 2005), has been fielded and has added eleven IMR’s to the report. The intent of AR 220-1 is to establish “a single source

document for obtaining an assessment of the status of Army and ARNG units in terms of their personnel, equipment and training.”¹⁸ In the medical arena, if any of the 11 IMR requirements are not completed, the soldier is categorized as “unavailable” for deployment. The regulations focus on disease status rather than health status, treatment vs. prevention, short term vs. long term, reactionary versus proactive, and misrepresents the percentage of soldiers that are truly “unavailable”. The IMR’s are intended to be basic “fitness-for-duty” requirements that may or may not (except for “non-deployment medical profile”) ultimately indicate a soldier’s capability to perform his or her duties. For example if a soldier does not have certain immunizations at home station, he/she would be categorized as “unavailable”, when in fact that soldier could be fit for duty and receive the required immunizations during the mobilization process (the same is true for the DNA, and dental readiness). Adding this checklist to the AR 220-1 requires the commanders to be IMR focused and can inaccurately affect the overall readiness rating of the entire unit.

Determinations need to be made as to the prognosis of medical conditions within the context of the deployment cycle. Will the soldier require time for treatment and/or rehabilitation to become fit (medially disqualified) or is it a matter of baseline screening prior to deployment (i.e. audiograms, TST, DNA), administrating immunizations or having glasses issued for poor vision? The baseline screening and “quick-fix” issues can be addressed during the final phases of the pre-deployment cycles and do not need to be screened for annually, nor part of the unit status report. Planners also need to consider the yearly unit training requirements and assist in the facilitation of meeting screening requirements and unit mission accomplishment.

Presently, there is repetition during the home station and mobilization site soldier review

process (SRP). Stream-lining these requirements would free up time for soldiers to train, conserve expenditures, and allow medical personnel to address other readiness issues. Consideration needs to be given as to what can be done at the mobilization station (i.e. baseline screenings) and when and where annual requirements can be met (during drills, annual training, and additional training dates)?

Most importantly, the intent of the screening needs to be determined. Is the screening reflective of direct fitness for duty requirements and/or medical conditions that have been identified as affecting soldiers during deployments? Are we interested in capturing deployment related health status changes for medical surveillance purposes and/or potential veteran's administration disability claim justification? What are the readiness benefits of the present annual screening requirements?

For example, there is no added benefit related to the new requirement for annual hearing tests for the ARNG soldier. The present tests will not capture military duty related hearing loss. Annual hearing tests for reserve soldiers will capture civilian occupation related hearing loss. Hearing tests for the reserve soldier capture military related hearing loss when administered pre and post military mission.

Another consideration is the required follow-up medical and dental care recommended during screening. What are the plans to address clinical findings for the uninsured reservist? What is the benefit of the required annual dental examinations, if there are no resources to repair the teeth and change the deployment status of the soldier?

An example of the financial toll is the annual dental examination. The approximate cost of an annual dental exam is \$100.00 per soldier. For an average State, with 5,500 ARNG

soldiers, the annual cost would be \$550,000 for contracted services. This is for a revolving service (annual) that only identifies dental problems, designates the soldier with dental issues to be “unavailable” for deployment, affecting the unit status report and ultimately, not correcting the soldier’s dental problem.

The present medical readiness focus on screening, assessments, and tracking these requirements is consuming valuable resources and leaving no time to assess process and make subsequent improvements. This “checklist” approach has driven the entire medical readiness program at the expense of current proactive programs which could prevent and/or reduce the number of non-deployable soldiers and soldiers with non-combat injuries while deployed.

Segregated ARNG Medical Readiness Programs

Currently, medical readiness (MR), occupational health (OH) and health promotion (HP) programs are segregated within the ARNG. Again this policy was created prior to GWOT and the ARNG’s transition to an operational force. This may have functioned well in the past, however, today’s medical mission priority is the soldier going to war, at war, or returning home from war. These programs should be integrated for numerous reasons.

Daily, new medical readiness requirements/initiatives are being placed on ARNG medical units and soldiers. Integration would conserve resources, consolidate databases and management systems, clarify roles and responsibilities, and address present MR/OH/HP related medical issues that are the result of deployments. This integration would also serve as an opportunity for synergy, consistency and collaborative efforts to meet soldier health needs. Several medical issues have already surfaced separately from IMR’s that require collaborative efforts due to their multidiscipline nature. These medical issues include TB program

management, hearing conservation, post traumatic stress disorder (PTSD) and a comprehensive and effective soldier medical surveillance program. Medical surveillance should include injury and illness tracking (during all operational phases), assessments, interventions and re-evaluations. In the future, occupational health should play a key role in the management of “soldier” related health programs.

The ARNG medical team has an established medical readiness goal; however, the relationship of being “medically ready”, occupational health, health promotion, and “deployment capable” has not been established.

Lack of Decision Support Systems

Continual assessment of medical readiness programs, methods and outcomes is critical in sustaining and increasing the number of fit soldiers. A comprehensive data collection system would identify prevalent health conditions that are causing ARNG soldiers to be unfit for duty, assist in establishing preventive countermeasures, and measure the effectiveness of interventions. Two priority program areas that require solid evidence based initiatives are “fitness determination” and medical readiness initiatives.

Fitness Determination

The present methods for determining fitness for duty include; medical examinations, annual medical screenings, annual Army physical fitness test’s (APFT) and bi-annual weigh-in’s. A review of the current literature reveals a significant lack of data to support a link between most of these screening requirements and fitness for duty determination. In fact, according to a recent Governmental Accountability Office (GAO) report¹⁹, some ARNG commanders of deploying units have challenged this assumption by disregarding the APFT requirements. ARNG

commanders are choosing to disregard these requirements because, based on command/unit experience, the soldiers can accomplish the mission (regardless of passing the APFT) and their skill level is required to meet the mission.

This should cause one to question the correlation of these requirements with capability to perform one's mission during war. Measuring compliance of the medical examination and APFT is not the best method of identifying significant fitness-for-duty issues for the deployed soldier. The same GAO study indirectly supports the ARNG commander's assertion by stating that the reserve forces in actuality are very similar to the active component in the percentage of soldiers determined to be deployable and have less medical referrals than the active component. Moreover, upon post-deployment, 89.07% of the ARNG personnel stated that they were in good to excellent health.²⁰

Given that the Army is functioning with the constraints and limitations of an all volunteer force, every soldier should deploy unless they are truly not fit for duty. The present fitness for duty screening system is based on assumption (not evidence based), has been challenged by commanders and requires further assessment for effectiveness. An effective model presently used for fitness determination is the ARNG occupational health (OH) medical surveillance program.

The intent of the OH medical surveillance program is to monitor fitness for duty throughout one's career. Job-related health hazards are identified by Industrial Hygienists (physical, chemical, biological, etc.) on an annual basis, and this information in turn is reviewed by medical professionals to determine appropriate physical examinations/screenings for the final fitness-for-duty determination. This process, when applied to soldier's, would lead to screening

activities that affect the bottom line – the mission capable soldier.

An example of this type of assessment within a military context is the recent implementation and analysis of a new medical system within the Royal Netherlands Army (RNLA). In November 1998, the RNLA introduced a new medical examination system, the RNLA Basic Medical Requirements, to replace the previous system. The new system is based on the “workload-capacity” model and focuses on the job requirements, whereas the old system was focused on diagnosis and assessed recruits on the basis of the detection of diseases and infirmities.²¹ Soldiers cleared for duty using the new system showed a statistically significant higher number of days fit-for-duty and incurred significantly lower medical costs than soldiers approved using the old system.²² Adjustments for other personal characteristics had no effect on these differences.²³ The study also identified additional factors which influenced fitness for duty and medical costs: education, injuries, and actual operational deployment.²⁴

This study illustrates the potential benefits of a workload-capacity medical examination system within a military organization and the necessity to consider other fitness determination variables.

Another fitness screening tool presently required, per NGR 600-63, Army National Guard Health Promotion Program (1 July 1997), is the health risk appraisal (HRA). Its purpose is to determine both unhealthy lifestyle practices (smoking, lack of exercise, poor dietary habits, etc) which may impact the readiness of military personnel and also determine positive behaviors and trends. The HRA considers uncontrollable risk factors such as age, sex, family history, and ethnicity as well as controllable risk factors such as health and safety habits, and with this information provides a report to the individual that identifies positive and negative lifestyle

habits. The HRA is the sole data collection tool identified in NGR 600-63. Assessment begins during Individual Entry Training (IET) and Officer Basic Course (OBC) and continues throughout a soldier's career. The data is to be entered into the military personnel data base and utilized by program coordinators and the unit commanders to "allocate resources, revise programs, and monitor progress of the unit readiness posture."

Presently, one has to question the value of this tool for several reasons. A direct link between questions on the HRA about lifestyle/health habits and fitness-for-duty needs to be established for mandatory programs. More than one source of data collection is recommended as a best practice²⁵ tool to develop a comprehensive program addressing the priority preventive medicine issues. Multiple sources are also needed to conduct a thorough re-assessment of needs, and subsequent policy and program revision. There are presently additional health assessment tools that should be reviewed and considered as a primary source of subsequent data collection for managing HP programs. These would include the Annual Medical Certificate (DA Form 7349-R), the pre- and post- deployment health assessments (DD Form 2795 and DD Form 2796) and the newly fielded post- deployment health re-assessment (DD Form 2900) questionnaires. Again, a fitness-for-duty relationship should be identified as part of the prioritization process of program development, and assessment tools.

In addition to fitness determination methods, a comprehensive data collection system can drive HP program initiatives that directly affect ARNG mission accomplishment.

HP/Medical Readiness Initiatives

Injury and Illness data collection and analysis provides critical information for establishing relevant organizational health needs. Important data would include any

medical/dental condition incurred/identified during the home station mobilization processing, pre-mobilization processing station, mobilization, post-mobilization processing station, home station demobilization and any “line of duty” (LOD) medical care costs outside of this cycle. A valuable tracking tool during deployments is the “diseases and non-battle injuries (DNBI)” report. This report identifies medical conditions by category, specific medical issues, visits, light duty and lost work days. Preventive medicine countermeasures can be developed for deployed soldiers and initiated based on this data. This information should also be reviewed and analyzed to determine which prevention programs should be integrated into a comprehensive HP program at home station. Commanders will be interested and more inclined to invest in these “battlefield” based HP initiatives. This data would need to be specific to the ARNG, cross-service assumptions cannot be made due to the differences in demographics and home-station factors unique to a reserve force vs. an active force (i.e. resources, training time, fitness time, etc.) that may affect individual fitness levels and definitely affects the types and methods of program implementation.

These considerations would contribute to the development of an active and dynamic relationship between leaders, units and soldiers and the medical community and subsequent successful HP program development, management and implementation. Additional benefits to “data” specific programs would be the potential reduction of medical care costs within the TRICARE and VA health care systems.

A recent Congressional Budget Office study ²⁶ projected VA medical care costs for the year 2025. According to this study, in recent years, the Department of Veterans Affairs (VA) has faced an increase in demand for its medical services that has driven rapid expansion in its

budget. VA medical budgets have increased in real (inflation-adjusted) terms from \$16 billion in 1990 to nearly \$28 billion in 2004, even though the number of veterans in the United States has been falling by 1 percent to 2 percent a year. Since the enrollment system was established in 1999, the number of veterans enrolled in the VA health system has increased rapidly, reaching 7.4 million in 2004.

Furthermore, a recent article by the American Forces Press Service stated Defense Department health and personnel officials told members of Congress that “the rising medical costs and the expansion of health benefits for retirees, Guardsmen and Reservists, and their families, are putting a strain on the military health care system.”²⁷ Dr. William Winkenwerder Jr., Assistant Secretary of Defense for Health Affairs stated that expenses for TRICARE have grown rapidly, doubling over the past five years from \$18 billion to nearly \$36 billion this year. He also stated that if the current trends continue, the program’s total budget could top \$50 billion within five years.²⁸

Data collection and evaluation is a critical component in the subsequent design, implementation and evaluation phases of HP program development. It is instrumental in a results-oriented and value added strategic and operational initiatives. According to the Wellness Council of America (WELCOA), “...you now have objective data to make critical decisions and create responsive programs which relate to the real needs and interests of your employees and business”.²⁹

Given the present operational tempo, and protracted nature of the GWOT, now more than ever, all programs must play a synergistic role in relationship to the military mission and

operations. In developing strategy for the ARNG, policy makers should be asking for this objective data prior to allocating additional resources and directing actions to be taken by commands, units and soldiers. The data collection reports assist in driving the direction and content of the interventions. The ARNG HP strategy should be one that requires solid data driven interventions that speak to the unique characteristics of the ARNG organizational requirements, structure, mission and operations.

Lack of HP Program Evaluation

There are no reports that address the effectiveness of the present ARNG HP program requirements. Nor is there ARNG data that correlates the present initiative's with an increase in the number of soldiers fit for duty. HP is presently separate from other readiness initiatives and speaks more to traditional civilian wellness programs which focus on chronic disease reduction and prevention. There are however, reporting requirements within the DOD. The DODI 1308.3, "DOD Physical Fitness and Body Fat Programs Procedure's," November 5, 2002, requires the DOD components to: 1) establish a data repository for their Military Service Physical Fitness and Body Fat Programs; 2) maintain a data repository that provides initial or baseline statistics and a tracking mechanism that monitors physical fitness and body fat results; and 3) provide an annual report to the Under Secretary of Defense (Personnel and Readiness), not later than March 31, that assesses Service physical fitness, body fat, and health promotion programs. These reports were due for the first time on March 31, 2005. The Army requested an extension to this reporting requirement until March 31, 2007 when the Army expects to be able to imbed reporting of this data within the Defense Integrated Military Human Resources System (DIMHRS).³⁰ If reporting through DIMHRS is not on line by September 2006, the Army agreed to submit a

manual report until DIMHRS becomes viable for reporting this data.³¹

Notably, in the foreseeable future, leaders, soldiers and medical readiness personnel will be spending numerous hours creating these reports for the DOD. One could argue that these reports will reflect compliance over effectiveness (value added) for the Army/ARNG. Under the current intense operational tempo, one could also argue time would be better spent on programs that directly benefit the organization.

A “One Size Fits All” Approach

Present DOD and DA HP strategies are a “one shoe fits all” approach that dictates mandatory interventions. The interventions are general in nature for all components (active and reserve) and outdated (AR 600-63, April 1996, NGR 600-63 July 1997). There are several significant differences among Army components that affect all aspects of program management, intervention and ultimately effectiveness.

An effective HP requires knowing the intended organization/population. Considerations are not made for the limited duty hours of the drilling soldier and/or the lack of resources (facilities, health care personnel) that are normally available on an active duty installation. Additional challenges for the reserve components include, health/dental care benefits, time management (dual careers’), lack of programs for families to assist the soldier with planned interventions, the inability to conduct fitness activities during the soldier’s normal work hours (as a civilian) as an active duty soldier is normally allowed, and the commander’s/leadership influence on a daily basis. The ARNG soldier has limited available drill time with competing military requirements (i.e., training, administrative, education, medical). A few of the demographic differences include 9 out of 10 soldiers in the ARNG are enlisted; the majority are

single, with significantly less females and minorities than the active-duty Army and Reserves.³² Twenty-six percent of the ARNG population is greater than 40 yrs old, with an average age of 33 yrs old.³³ There is a disparity in access to medical and dental care, with 40% of the lowest enlisted grades uninsured.³⁴ The frequent deployments have added additional stress to the ARNG soldiers lives. Examples include; an unemployment rate of 15.6% among combat veterans,³⁵ 55% of married Guard members and reservists report a loss of income over civilian jobs with 51% citing this loss as a reason to leave the military.³⁶ This added stress has also resulted in leaving the military; with 71 % citing family burdens, 57% citing too many activations and 65% citing lengthy activations.³⁷ There is also a lack of overall benefits and services that is available to the active duty soldier and family on military bases. These “ARNG” unique factors need to be considered when developing a strategy, determining the “how” of the interventions and the allocation of resources.

Presently, ARNG commanders are instructed to utilize active component tools for program compliance. “The Active Army Fit-to-Win program provides the means to begin integrated and coordinated implementation of the State Health Promotion Program.”³⁸ However, the Army’s “Fit to Win”, Commanders Guide, DA Pamphlet 600-63-2 is dated September 1987. Relevancy is timely and best practice is also evolving. Recommended screenings and interventions change based on ongoing scientific studies. To offer commanders a guide from 1987, does not speak to today’s command medical readiness issues, current medical standards and recommendations, nor appropriate resources. Additionally, the guide was designed for the active component, making recommendations that only apply within the context of an active duty installation during the active duty soldier’s normal work week.

The component differences must be identified and considered at the strategic level when developing HP policy and at the operational level during HP program development and management

Lack of HP Strategy and Strategic Management Systems

The ARNG does not have a HP strategy or strategy management system. The ARNG health promotion program is solely operational and is outlined in the outdated National Guard Regulation 600-63, Army National Guard Health Promotion Program, 1 July 1997. This regulation's goals and objectives mirror AR 600-63, which are based on the Healthy People Goals and Objectives. The Army does not have a specific HP strategy, but does have an Army Well-Being Strategic Plan. This plan defines well-being as "personal-physical, material, mental, and spiritual-state of Soldiers (Active, Reserve, Guard, Retirees, Veteran), civilians, and their families that contributes to their preparedness to perform and support The Army's mission." Presently, there is not an ARNG Well-Being Strategic Plan.

The National Guard Bureau, Surgeons Office, briefed plans at the 2005 Force Health Protection Conference (12 August 2005) and The Association of Military Surgeons Conference (2 November 2005) to initiate "The Decade of Health". According to NGB, this is a major health promotion campaign which will focus, through media and marketing, upon a single health topic annually. The program is to remain consistent with other national public health efforts, Steps for a Healthier US, Healthy People 2010, OSD health promotion and the Army Well-Being program.³⁹ Again, this is operational in nature, lacking thorough evidence based initiatives and is based on the health needs of the general population versus soldier health needs.

In addition to a lack of an applicable strategy, the ARNG has not adopted a strategic

management system. Execution of strategy has been identified as particularly challenging for organizations. Drs. Robert Kaplan and David Norton state that 9 out of 10 organizations fail to execute strategy due to four barriers. These barriers are; the vision barrier – only 5% of the organization understands the strategy, the management barrier – 85% of senior leadership teams spend less than one hour/month discussing strategy, the resource barrier - 60% of organizations do not link budgets to strategy and the people barrier – only 25% of leaders have personal objectives and reward/recognition linked to strategy.⁴⁰

To assist organizations in successful execution of strategy, Drs. Robert Kaplan and David Norton developed the balanced scorecard (BSC) in the early 1990's. This system is a management system that enables organizations to clarify their vision and strategy and translate them into action.⁴¹

Limited Available Personnel and Fiscal Resources

Presently, there are numerous competing demands and requirements for resources within the ARNG to maintain readiness within the context of the GWOT and Army transformation. The current rate of deployments and subsequent increased requirements has placed extensive fiscal and personnel demands upon the medical readiness community within each State. Given this present operational situation, the cultivation of potential resource opportunities is vital to sustain present mission requirements and implement new beneficial programs.

Recommendations

The new and evolving medical readiness issues are the result of the present military situational climate and the challenges of fighting the GWOT while simultaneously transforming. The ARNG must develop an HP strategy to meet these challenges and function synergistically with medical readiness, ARNG and Army strategies. The foundation of the ARNG HP strategy should be based on the prevention and reduction of soldier medical and dental conditions that interfere with meeting mission requirements extending throughout the soldiers military career. To accomplish this strategic goal the following recommendations should be considered:

1. *Disparate Strategies and Lack of ARNG Strategy and Strategic Management System.*

Link DOD HP policy, goals and objectives with the Army and ARNG mission and institutional outcome goals (performance, readiness, recruiting and retention) instead of Healthy People 2010. Allow for component (ARNG) specific HP initiatives in meeting policies, goals and objectives.

Commander perspective is critical in establishing and maintaining this link to mission. To gain commander insight, leadership surveys could be conducted to determine effectiveness, strengths and limitations of present medical readiness/HP programs. Communication with the commander will assist in the development of HP directives/regulations that function synergistically with the commander's unit mission, and training requirements. Operationally, this link would allow for unit specific medical readiness initiatives.

Adopt a strategic management system (i.e. balanced scorecard) to ensure the successful execution of strategy.

The Army has adopted the use of the BSC and the Army Medical Department has followed the Army's lead by also utilizing this system because "the BSC is a proven methodology for organizations to link their vision, strategy, and measurement system."⁴² Additional government agencies that are presently utilizing the BSC strategic management system are the Defense Financial Accounting Service, Federal Aviation Administration Logistics Center, Department of Energy Federal Procurement System and the Department of Energy Federal Personal Property Management Program.

2. *Short Sighted Medical Readiness Screening Focus and Segregated Medical Readiness, Occupational Health and Health Promotion Programs.* Shift the current medical readiness focus from IMR's to a comprehensive phased (deployment cycle) "Fight to Fight" (FTF) program that includes medical readiness, occupational health and health promotion. This multi-discipline approach would address short and long term soldier health related issues proactively and comprehensively.

Conduct a comprehensive review of the present IMR screening programs and design a program that enhances overall mission accomplishment, determines medical readiness factors, and conserves time, monetary and human resources.

At a minimum, subsequent unit status reports should reflect only those medical readiness factors that cannot be addressed and resolved during the mobilization process (i.e. a medical condition that causes a soldier to be non-deployable). A soldier should not be classified as "unavailable" for deployment if it is a matter of the provision of medical testing and/or providing

services that would not prevent mobilization. Maintaining all of the IMR's continuously is a "broad brush" approach to medical readiness that is draining the monetary and personnel resource pools. Another type of reporting could be established to assist the commander during the deployment cycle with IMR compliance through a phased approach. This approach could include the phasing of requirements, assessments, interventions, reporting and fiscal resources.

One example of this approach would be an integration of the medical screening requirements within the context of the new operational cycle, Army Force Generation Model (ARFORGEN). The ARFORGEN process allows commanders to identify predictable deployment windows and manage readiness and training of forces accordingly. These windows are based on the objective cyclic rotation rates of active and reserve component forces defined in July 9, 2003 Secretary of Defense memorandum goals: One operational deployment in three years for the active component, and one operational deployment in six years for the reserve component. Screening requirements can be based on where the unit is in the operational cycle with the subsequent allocation of resources to address findings with treatments for the uninsured soldier. The unit status report could also be reflective of this marriage of the ARGORGEN and phased based medical readiness requirements. The present AR 220-1 is very broad and will categorize soldiers as unavailable for deployment regardless of "type" of medical issue. Mr. Thomas W.L. "Tad" McCall Jr., (former) Deputy Assistant Secretary of the Air Force for Environment, Safety, and Occupational Health, purposed a similar strategy which has an objective of "operationalizing" environment, safety and occupational health (ESOH) activities within the Air Force.⁴³

A detailed assessment should include the determination of screening requirements in

regards to “what, when, where, how, and why”.

3. *Lack of Decision Support Systems and Lack of Program Evaluation.* Develop a decision support system approach to FTF policy and program management. This would include the evaluation of the effectiveness of present fitness assessment tools, on-going programs/requirements, injuries/illness data (to include DNBI's), trend analysis, and prevalent deployment limiting conditions. Consideration of study results combined with desired institutional outcomes are needed to determine direction and content of the ultimate effective HP strategy and strategic management system. Medical evaluation systems, fitness tests, determination of fitness, medical recruiting and retention standards, IMR requirements, weight standards, and specific interventions all need to be studied on a continual basis to ensure relevancy and ultimately serve the soldier, unit, commander, and ARNG credibly.

4. *“One Size Fits All.”* Service component differences must be identified and considered at the strategic level when developing HP policy and at the operational level during HP program development and management. Policies and initiatives should take into account any personnel, mission, and resource variables that are unique to the organization. The operational phase is particularly challenging for the ARNG because the majority of the soldiers are working civilian jobs during the work week and due to the lack of preventive health services available to the ARNG soldier.

5. *Limited Personal and Fiscal Resources.* Appropriate the necessary resources to meet the determined FTF program requirements. Investigate and initiate resource conservation solutions on a continual basis. When addressing resource considerations, fiscal shifts can take

place within the organization based on cost-benefit analysis's, the elimination of costly medical requirements for value based initiatives, the allocation of fiscal resources for requirements based on the operational cycle versus annually, medical follow-up considerations, and focusing on only fitness for duty related screenings. A few examples of creative solutions include:

The initiation of collaborative efforts between State, federal, municipal, community, and local organizations to meet program goals at a "grass roots" level to bring the FTF programs to the reserve soldier on a continuous basis (part of their daily schedule), not just on drill weekends.

An assessment of appropriate agency responsibility is also critical. For example, there have been numerous new post deployment medical assessment requirements for veterans of OIF and OEF. These requirements are mandatory, during duty time, utilizing ARNG medical personnel. One has to question, why post deployment health issues are not a Veteran's Administration responsibility, and which requirements should be voluntary versus involuntary. Post Gulf War, all of the "service-connected" assessments and interventions were performed by the Veteran's Administration.

Partnerships could be established to make resources more economically accessible for soldiers during the normal work week within their communities, close to their homes and work places. An example of this would be to offer reduced/sliding scale rates charged to soldiers at local fitness centers, weight loss programs, community and state medical screening services, and access to wellness services at military treatment facilities in the area.

Furthermore, the ARNG could work with employers in creating workplace fitness

programs, with the ultimate goal of bringing these programs to the soldier during the work-week, which would be mutually beneficial (fit employee's have lower "loss days" from work and injuries).

Additional federal resources could include, joint operations, active duty military facilities/services, unit fitness trainers, regional programs when applicable to conserve resources, and the United States Army Center for Health Promotion and Preventive Medicine. The strategy although general in nature, should require innovation and exploration within the federal systems to link reserve component "needs" with existing federal programs.

One example of a federal program available to the active soldier, but not the reserve soldier is the Armed Services YMCA of the USA (ASYMCA). ASYMCA operates a multitude of educational, recreational, and family programs that support military personnel, their spouses, and their children.⁴⁴ Mr. David S.C. Chu, Undersecretary of Defense for Personnel and Readiness, stated "The ASYMCA is an important complement to our efforts to improve the quality of life of military personnel and their families. I thank them for their work and look forward to a continuing relationship with the ASYMCA that will benefit those who serve our country."⁴⁵

Locations without the ASYMCA's could initiate agreements with local YMCA's. This would bring much needed programs to all ARNG soldier's in all of their towns, communities, states, territories and districts.

This program also provides services to the families of soldiers. "Continued support of

our military personnel and their families are so important to those who serve for our country ... the programs conducted by the Armed Services YMCA are of great comfort and support to those with a deployed family member.”⁴⁶

Regardless of the present strategies that do not make a distinction between active and reserve components, the present “Army of One” concept, and the “operational force” reality, few of the federal resources available to the active duty soldier are available to the non-deployed reserve soldier. Even though the “Army of One” concept “identifies all the different components of the Army, ties together the opportunity the Army represents and serves as the Army brand”⁴⁷ there is not sameness. This brand “will be the same across -- whether it's ROTC program, active duty, Army Reserve, National Guard, so that we amplify the message of what this opportunity is to serve in the Army.”⁴⁸ A shift/sharing of available active component resources and a change of “mind set” in regards to providing for active vs. reserve forces is a necessary component of transformation. Inherent in the increased regular utilization of the reserve forces should include a proportionate increase in resource investment for the reserve soldier.

Within the ARNG, the medical organizational structure (personnel) should be reflective of the evolving medical missions, with appropriate personnel authorizations to insure that the ARNG has skilled personnel to meet present medical mission needs (i.e., dietician, social workers, psychologists, physical assistance, nurse practitioners etc.). Ideally, a new position would be created in each State, an ARNG full-time FTF advocate, to facilitate the programs and liaison between other agencies.

Conclusion

A progressive, “reserve soldier” and command/leadership focused health promotion program can play a key role in meeting ARNG and Army strategic objectives. HP can be an effective tool for the commanders and soldiers to assist them with meeting training, battle, and mission requirements. The present programs do not meet these requirements; they meet the goals set by the US Department of Health and Human Services. Some of these goals may relate to the military mission and soldier health, however, there are presently no studies to support this assumption. Military mission must come first when creating relevant HP strategy and a by-product of this may be meeting wellness goals of other organizations. To accomplish this end-state one must consider a multitude of factors, of which, this document has addressed several.

The present medical readiness focus on screening, assessments, and tracking these “requirements” is consuming valuable resources and leaving no time to assess the process and make subsequent improvements. According to Dr. Stephen Covey, “People and their managers are working so hard to be sure things are done right, that they hardly have time to decide if they are doing the right things.” The biggest barriers to execution are “overwhelming workload”, “lack of resources” and “unclear or shifting work priorities”.⁴⁹

Lacking is a HP strategy and strategic management system. The present military landscape requires a command driven, collaborative, and operational HP strategy. A team of policy makers, health providers, commanders, and soldiers should create “evidence-based” program focus areas, within a strategic management system framework. Developed leading

indicators to measure the health of the ARNG soldier (i.e. physical activity, injuries and illness, loss work days while deployed, retention, etc.) should be monitored over time to ensure effective HP program management. A military mission-based ARNG HP strategy would play a vital, valuable, and proactive role in ensuring a “ready force for today and tomorrow” and sustaining and projecting a force “Fit to Fight”.

ENDNOTES

¹Peter Pace, “The 16th Chairman’s Guidance to the Joint Staff, Shaping the Future”, 1 October 2005, 1.

²United States Government Accountability Office, Washington, DC, *GAO-04-670T, Reserve Forces, Observations on Recent National Guard Use in Overseas and Homeland Missions and Future Challenges*, 29 April, 2004, 2.

³GEN Steven H. Blum, Chief, National Guard Bureau, *2006 National Guard Posture Statement*, available from www.arng.army.mil; Internet; accessed 10 January 2006.

⁴Francis Harvey and General Peter J. Schoomaker *2005 United States Army Posture Statement*, 6 February, 2005, available from www.army.mil/aps ; Internet, accessed 20 November 2005.

⁵Blum.

⁶GAO-04-670T.

⁷United States Government Accountability Office, *GAO-06-105, Reserve Component’s Health*, (Washington, D.C.: United States Government Accountability Office, 27 October, 2005), 1.

⁸Peter Pace, “The 16th Chairman’s Guidance to the Joint Staff, Shaping the Future”, 1 October 2005, 1, and Francis Harvey and General Peter J. Schoomaker *2005 United States Army Posture Statement*, 6 February, 2005, available from www.army.mil/aps ; Internet, accessed 20 November 2005, and GEN Steven H. Blum, Chief, National Guard Bureau, *2006 National Guard Posture Statement*, available from www.arng.army.mil; Internet; accessed 10 January 2006.

⁹Pace.

¹⁰GAO-06-105, 2.

Russ, Rizzo, “With More Older Troops on the Battlefield, Army Sees Rise in Non-Combat Ailments,” *Stars and Stripes*, European edition, 13 March 2005.

¹¹GAO-04-670T

¹²Ibid.

¹³Russ.

¹⁴GAO-06-105.

¹⁵Russ.

¹⁶Department of Defense Directive, Number 1010.10, *Health Promotion and Disease/Injury Prevention*, August 22, 2003.

¹⁷*Department of Health and Human Resources Homepage*, available from <http://www.hhs.gov/>; Internet; accessed 15 December 2005.

¹⁸U.S. Department of the Army, *Unit Status Reporting*, Army Regulation 220-1 (Washington, D.C.: U.S. Department of the Army, 16 March 2006), 153.

¹⁹United States Government Accountability Office, Washington, DC, *GAO-06-105, Top Management Attention Is Needed to Address Long-standing Problems with Determining Medical and Physical Fitness of the Reserve Force*, (Washington, D.C.: United States Government Accountability Office, 27 October, 2005), 2.

²⁰*Ibid.*, 40-41.

²¹John de Raad, RNLA, “Analysis of Health Factors as Predictors for the Functioning of Military Personnel: Study of the Factors That Predict Fitness for Duty and Medical Costs of Soldiers of the Royal Netherlands Army”, *Military Medicine*, 170, 1:14 (2005):14.

²²*Ibid.*

²³*Ibid.*

²⁴*Ibid.*

²⁵*The Wellness Council of America Home Page*, available from <http://www.welcoa.org/>; Internet; accessed 12 December 2005

²⁶Allison Percy and R. Derek Trunkey, “The Potential Cost of Meeting Demand for Veterans Health Care”, Congress of the United States, Congressional Budget Office, National Security Division, available from [http:// www.cbo.gov/](http://www.cbo.gov/); Internet accessed 4 February 2006.

²⁷Doug Sample, “Military Struggling with Rising Health Care Costs”, *American Forces Press Service*, April 22, 2005, available from [http:// www.defenselink.mil/](http://www.defenselink.mil/); Internet accessed 15 December 2005.

²⁸*Ibid.*

²⁹Well Informed, VOL 1, No. 4.

³⁰GAO-06-105, 69.

³¹GAO-06-105, 69.

³²*Army Profile*, Office of the Army Demographics, available from www.army.mil/references/fy04armyprofile.pdf, Internet; accessed 2 March 2006.

³³*The Post Deployment Health Home Page*, available from <http://www.pdhealth.mil>; Internet; accessed 5 March 2006.

³⁴Howard Berkes, “Health Care Gap Cited for Guard, Reserve,” *NPR*, Morning Edition, 16 March 2005, available from <http://www.npr.org>; Internet; accessed 8 January 2006.

³⁵Winik, Lyric Wallwork, “Help a Veteran”, *The Providence Journal*, Intelligence Report, April 30, 2006, pg 14.

³⁶Howard Berkes and Marisa Penaloza, “The Span of War, Guard, Reserve Service Takes a High Financial Toll” *NPR*, March 28, 2006, available from <http://www.npr.org>; Internet; accessed 8 January 2006.

³⁷*Ibid.*

³⁸*Ibid*, Para 8, 2-14.

³⁹Urbauer, Craig, Chief Surgeon, NGB, “ARNG Health Promotion,” briefing slides, AMSUS, 2 Nov 2005 and FHP, 12 August 2005.

⁴⁰*Balanced Scorecard Home Page*, available from <http://www.balancedscorecard.org/basics/bsc1.html>; Internet; accessed 3 February 2006.

⁴¹*Ibid.*

⁴²*Ibid.*

⁴³Thomas W.L. “Tad” McCall Jr., Deputy Assistant Secretary of the Air Force for Environment, Safety, and Occupational Health, “Interview with Tad McCall” interview by Michael A West, *Federal Facilities Environmental Journal*, (Spring 2000): 9. Mr. McCall states that this strategy makes (ESOH) “actually part of the process of executing the core mission – training, equipping, and mobilizing to win a war.” Mr. McCall recommends policies that assist commanders operationally and connects a compliance requirement into an infrastructure or process improvement.

⁴⁴*The Armed Services YMCA Home Page*, available from <http://www.asymca.org>; Internet; accessed 8 January 2006.

⁴⁵*Ibid.*

⁴⁶*Ibid.*

⁴⁷U.S. Department of Defense, *DOD News*, News Transcript, January 10, 2001, available from www.defenselink.mil/transcripts/2001; Internet; accessed 10 December 2005.

⁴⁸*Ibid.*

⁴⁹Covey, Stephen, *The 8th Habit*, (New York, Free Press, 2004), 373.

BIBLIOGRAPHY

AMEDD Balanced Scorecard Home Page, available from <https://ke2.army.mil/bsc/main>; Internet; accessed 3 February 2006.

Armed Services YMCA Home Page, available from <http://www.asymca.org>; Internet; accessed 8 January 2006.

Army Well Being. "Army Identifies Funding for Well-Being Initiatives, Priorities Supporting an Army at War." Spring 2004. Available from http://www.wblo.org/data/spring_04.pdf. Internet. Accessed 30 August 2005/

Bailey, Sue, M.D., Assistant Secretary of Defense for Health Affairs. *Policy for Put Prevention into Practice*. Washington, DC: Department of Defense (Health Affairs), 1998. Policy Memorandum, Health Affairs Policy 9900002, photocopy.

Balanced Scorecard Home Page, available from <http://www.balancedscorecard.org/basics/bsc1.html>; Internet; accessed 3 February 2006.

Berkes, Howard, "Health Care Gap Cited for Guard, Reserve," *NPR*, Morning Edition, 16 March 2005, available from <http://www.npr.org>; Internet; accessed 8 January 2006.

Berry, Priscilla, COL, AN, USAR, Assistant Director, Medical Readiness and Programs Office of the Assistant Secretary of Defense of Reserve Affairs, "Health Promotion within the Army Reserves: Overcoming Challenges with Actions," briefing with slides, 8th Annual Force Health Protection Conference, August 2005.

Blum, Steven H. Blum, GEN, Chief, National Guard Bureau, *2006 National Guard Posture Statement*, available from www.arng.army.mil; Internet; accessed 10 January 2006.

Blum, Steven H., GEN, National Guard Bureau Chief, "We're a Dynamic Force, We Change Everyday", *National Guard Magazine*, (February 2006): 20.

Census Bureau Home Page, available from <http://www.census.gov/Press->; Internet; accessed 11 March 2006

Center for Disease Control Homepage, available from <http://www.cdc.gov>; Internet; accessed 9 December 2005.

Chu, David S. C., Under Secretary of Defense. "Enhanced Post-Deployment Health Assessments." Memorandum for Secretaries of the Military Departments, Combatant Commanders, Director of the Joint Staff, Washington, D.C., 22 April 2003.

Democratic Policy Committee Home Page, “Senate Democrats Support Our Citizen Soldiers,” March 1 2004, available from <http://www.democrats.senate.gov/>; Internet; accessed 8 January 2006.

Department of the Army Inspector General. *DAIG Special Inspection of Army Mobilization/Demobilization in Support of Recent and On-going Operations*. November 2003-June 2004.

Department of Defense. Office of the Assistant Secretary of Defense, “National Guard and Reserve Mobilized as of September 21, 2005”. News Release, 21 September 2005. Available from <http://defenselink.mil/releases/2005/>. Internet. Accessed 21 September 2005.

Department of the Army, *Army Command Policy*, Army Regulation 600-20. Washington, D.C.: U.S. Department of the Army, 13 May 2002.

Department of the Army. *Personnel Policy Guidance (PPG)*. Available from www.armyg1.army.mil. Internet. Accessed 21 September 2005.

Department of the Army. *Physical Evaluation for Retention, Retirement, or Separation*, Army Regulation 635-40. Washington, D.C.: U.S. Department of the Army, 15 August 1990.

Department of the Army. *Physical Performance Evaluation System*, Army Regulation 600-60. Washington, D.C.: U.S. Department of the Army, 25 June 2002.

Department of the Army. *Standards of Fitness*, Army Regulation 40-501. Washington, D.C.: U.S. Department of the Army, 1 February 2005.

Department of Defense. TRICARE, “Healthy Choices for Life.” 27 January 2005. Available from <http://www.tricare.osd.mil/healthychoices/>. Internet. Accessed 7 September 2005.

Department of Health and Human Resources Homepage, available from <http://www.hhs.gov/>; Internet; accessed 15 December 2005.

Domenic Sammarco, “Medical Readiness,” *Army Reserve Magazine*. Washington: Winter 2000. Vol. 46, Iss. 4; p. 22.

Gilmore, Gary “Facing the Future: Chu Outlines NSPS, Other Initiatives,” *American Forces Information Service*, News Articles, March 23, 2005

Harvey, Francis J., and Peter J. Schoomaker, GEN. *Our Army at War – Relevant and Ready – Today and Tomorrow: Statement on the Posture of the United States Army, Fiscal Year 2005*. Posture Statement presented to the 109th Congress, 1st session. Washington, D. C.: U.S.

Department of the Army, 6 February, 2005.

Headquarters, National Guard, *Army National Guard Health Promotion*, National Guard Regulation 600-63 (Washington, D.C.: U.S. Department of the Army, 1 July 1997), 9.

Healthy People 2010. (2001a). *Healthy People 2010*. Available from www.healthypeople.gov/Document/tableofcontents.htm. Internet. Accessed 2 September 2005.

Hunnicut, David, PhD, and Angie Deming, *Building a Well Workplace*, Well informed Vol. 1, No. 1, 1.

Hunnicut, David, PhD and Angie Deming, *Building a Well Workplace*, Well Informed, Vol.1, No. 4, 1-2.

Mathewson-Chapman, Marianne, PhD, ARNP, “Coming Home”, available from http://www.pdhealth.mil/downloads/coming_home/09_mathewson-chapman; Internet; accessed 10 March 2006.

McCall, Thomas W.L. “Tad” Jr., Deputy Assistant Secretary of the Air Force for Environment, Safety, and Occupational Health, “Interview with Tad McCall” interview by Michael A West, *Federal Facilities Environmental Journal*, (Spring 2000): 9.

McHugh, J. “Active vs. Reserves: Who’s More Fit to Fight?” *Army Times*, May 6, 1996: 12-13.

Office of the Assistant Secretary for Public Affairs, *Facing the Future: Meeting the Threats and Challenges of the 21st Century, Highlights of the Priorities, Initiatives, and Accomplishments of the U.S. Department of Defense 2001-2004*, February 2005
United States Department of the Army, *The Army*, FM 1, June 2005

Office of the Secretary of Defense. *Reserve Affairs, 2004*. Available from <http://www.defenselink.mil/ra>. Internet. Accessed 1 September 2005/

Office of the Secretary of Defense. “Total Force Briefing”. Available from the <http://defenselink.mil/ra>. Internet. Accessed 31 August 2005.

Pace, Peter, *The 16th Chairman’s Guidance to the Joint Staff, Shaping the Future*, 1 October 2005, 1.

Percey, Allison and R. Derek Trunkey, “The Potential Cost of Meeting Demand for Veterans Health Care”, Congress of the United States, Congressional Budget Office, National Security Division, available from <http://www.cbo.gov>; Internet accessed 4 February 2006.

Post Deployment Health Home Page, available from <http://www.pdhealth.mil>; Internet; accessed 5 March 2006.

Powell, Gregory, CPT, MC, USA, Dumitur Daniel, MD, MAJ and Jeffery J. Kennedy, FA, "The Effect of Command Emphasis and Monthly Physical Training on Army Physical Fitness Scores in a National Guard Unit," *Military Medicine*, 158 (May 1993): 296.

Prevalence of Physical Activity, Including Lifestyle Activities Among Adults — United States, 2000–2001, *MMWR* August 15, 2003, 52(32):764–769

Raad, de John, RNLA, "Analysis of Health Factors as Predictors for the Functioning of Military Personnel: Study of the Factors That Predict Fitness for Duty and Medical Costs of Soldiers of the Royal Netherlands Army", *Military Medicine*, 170, 1:14 (2005):14.

Reece, Beth. "Is it Boosting Your Readiness?" *Soldiers*. Alexandria: December 2004. Vol. 59, Iss. 12: p. 40.

Rizzo, Russ, "With More Older Troops on the Battlefield, Army Sees Rise in Non-Combat Ailments," *Stars and Stripes*, European edition, 13 March 2005.

Rochelle, Nolte, MD, Shawn C. Franckowiak, Carlos J. Crespo, DrPH and Ross E. Anderson, PhD, "US Military Weight Standards: What Percentage of US Young Adults Meet the Current Standards," *The American Journal of Medicine*, 113 (October 15, 2002): 489.

Sample, Doug "Military Struggling with Rising Health Care Costs", *American Forces Press Service*, April 22, 2005, available from [http:// www.defenselink.mil](http://www.defenselink.mil); Internet accessed 15 December 2005

Stitzer, Richard, "ARNG Individual Medical Readiness Information Briefing," briefing 2 March 2006, available from [http:// www.gko.army.mil](http://www.gko.army.mil); Internet, accessed 15 March 2006.

Urbauer, Craig, COL, Chief Surgeon, NGB, "ARNG Health Promotion," briefing slides, AMSUS, 2 Nov 2005 and FHP, 12 August 2005.

U.S. Department of Health and Human Services, *Healthy People 2010*. 2nd ed. Understanding and Improving Health and Objectives for Improving Health. 2 vols. Washington, DC: U.S. Government Printing Office, November 2000.

U.S. Army Campaign Plan. Available from <<http://www/army.mil/>. Internet. Accessed 6 September 2005.

U.S. Army Medicine Home Page, available from [http:// www.armymedicine.army.mil](http://www.armymedicine.army.mil); Internet; Accessed 20 January 2006.

US Army War College, *Key Strategic Issues List*, July 2005.

U.S. Department of the Army, *Unit Status Reporting*, Army Regulation 220-1 (Washington, D.C.: U.S. Department of the Army, 16 March 2006), 153.

U.S. Department of Defense, *DOD News*, News Transcript, January 10, 2001, available from www.defenselink.mil/transcripts/2001; Internet; accessed 10 December 2005.

U.S. Department of Defense. Office of Force Transformation. *Military Transformation: A Strategic Approach*. Washington: Office of the Secretary of Defense, 2003. Available from <<http://www.of.t.osd.mil/library/>>. Internet. Accessed 10 September 2005.

U.S. Department of Defense Instruction, 6025.19, *Individual Medical Readiness*, Washington, D.C., 3 January 2006, 2.

U. S. Department of Health & Human Services. (2003). *Prevention makes common "cents."* Available from <http://aspe.hhs.gov/health/prevention/>. Internet. Accessed 2 September 2005.

U.S. Executive Office of the President. *The National Security Strategy of the United States of America*. Washington: The White House, 2002. 31 pp. Available from <<http://www.whitehouse.gov/>>. Internet. Accessed 6 September 2005.

United States Government Accountability Office, Washington, DC, *GAO-04-670T, Reserve Forces, Observations on Recent National Guard Use in Overseas and Homeland Missions and Future Challenges*, (Washington, D.C.: United States Government Accountability Office, 29 April, 2004) 2.

United States Government Accountability Office, Washington, DC, *GAO-06-105, Top Management Attention Is Needed to Address Long-standing Problems with Determining Medical and Physical Fitness of the Reserve Force*, (Washington, D.C.: United States Government Accountability Office, 27 October, 2005), 2.

Veterans Administration Home Page, available from http://www.va.gov/about_va/mission.asp; Internet; accessed 6 January 2006.

Weaver, Jeffery Lance, MAJ, MS USAR and William Howard McAlister, LTC, MS, MOARNG, "Vision Readiness of the Reserve Forces of the US Army," *Military Medicine*, 166 (January 2001): 65.

Webb, Joseph G., MG, Deputy Surgeon General, "Medical Screening of Personnel Mobilized for

Deployment or Deployed in Support of Contingency Operations (Pre-deployment Screening Requirements), ” memorandum for Commander, MEDCOM Regional Medical Commands, Falls Church, VA, 7 July 2005.

Wellness Council of America Home Page, available from <http://www.welcoa.org/>; Internet; accessed 12 December 2005

What is Home Page, available from http://searchvb.techtargget.com/sDefinition/0,,sid8_gci498678,00.html; Internet; accessed 13 February 2006.

Woods, Ellen N., “Wounded Warriors,” *Military Officer*, (April 2006): 69.

Wynd, Colonel Christine A., and Lieutenant Colonel Nancy A. Ryan Wenger, “The Health and Physical Readiness of Army Reservists: A Current Review of the Literature and Significant Research Question.” *Military Medicine*, 163, May 1998: 283-287.

