

CIVILIAN FITNESS: A READINESS ENABLER

BY

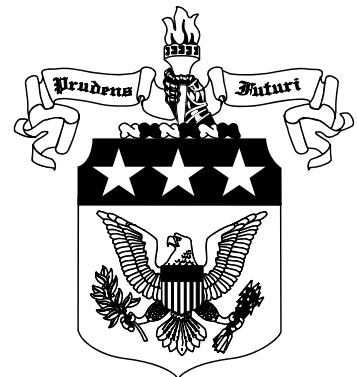
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USAWC STRATEGY RESEARCH PROJECT

CIVILIAN FITNESS: A READINESS ENABLER

by

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ABSTRACT

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The expectation and value of Soldier fitness is inculcated in service culture from initial entry through retirement. Yet, leaders very rarely emphasize the physical fitness of their civilian employees. The increasing operational tempo and pace of change drives the need for unprecedented readiness and adaptability by all members of the Total Army Force Structure. As part of this team, civilians, too, must be Army Strong.

There is mounting evidence why the Army should do an “about face” with respect to civilian fitness and build initiatives that achieve this end. Increasing obesity and decreasing physical activity in the U.S. youth and adult populations signal a call for action. If predictions of the future materialize, we can expect to have more obese and less physically active employees working for longer periods of time. The resulting short- and long-term costs impact funding for critical Army initiatives. This research discusses numerous aspects of civilian fitness as an Army readiness enabler and addresses the links between fitness and workforce sustainability. It provides a business-case analysis of the advantages associated with this important aspect of human resources

management and concludes with concrete recommendations, which if implemented, will result in a healthier Total Army force.

CIVILIAN FITNESS: A READINESS ENABLER

Your health is preventative medicine that will have a profound payoff in the future. You will not only live a richer and more meaningful life, but you will set a positive example for everyone with whom you serve.¹

—Major General David H. Huntoon, Jr.
Director, Army Staff

In June 2006, Secretary of the Army, Dr. Francis Harvey, formally recognized the importance of the civilian workforce by elevating it to the “Army Civilian Corps” and established a civilian creed that mirrors the Soldiers Creed.² The Army Civilian Corps title befits the people that represent a key “force multiplier” in today’s volatile, uncertain, complex and ambiguous national security environment. Civilians earned this distinctive title as a result of their 230-year record of vital service to the Nation and the Army.

Like their uniformed counterparts, members of the Army Civilian Corps are an integral component of the Total Army Force Structure and are committed to selfless service in the performance of their duties. Today’s Army civilians (whether appropriated, non-appropriated, or host-nation employees) must possess an unprecedented level of adaptability to keep the Army at a high state of readiness. “Readiness” is the mantra of Army leaders to ensure that forces, always “on point for the Nation,” are prepared to answer the call when needed. From a holistic perspective, it is a state or quality of being ready that includes fitness, technical competence, discipline and cohesion, both individually and collectively, and that preserves the strength of the Army’s team. This team includes the civilian workforce.

As they carry out the Army’s missions, the Army Civilian Corps, too, must be *Army Strong*.³ This “branding” should begin at the earliest stages of the civilian career and must be reinforced, mentored, and supported by leaders throughout the lifecycle of

the Army civilian employee. For *Army Strong* to be inculcated into the civilian force requires an increase in awareness, leader involvement, strategies, and action.

This paper posits that a physically “ready” civilian workforce is critical to meeting the operational needs of the Army. To ensure that civilians are prepared for the complex assignments at home and abroad, it is critical that they are experienced, trained, flexible, adaptable, and physically capable of performing assigned duties. Army Field Manual (FM) 6-22, Army Leadership, stresses that “...fitness, while crucial for success in battle, *is important for all members of the Army team*, not just Soldiers.”⁴ Several Army definitions of “fitness” are contained in FM 6-22 and AR 600-63, Army Health Promotion. Combining the Army definitions, “fitness” means having sound health, strength, and endurance, which sustain emotional health and conceptual abilities under prolonged stress, and enables one to cope with the physical demands of a job.⁵

When serving the Army, in uniform or business attire, physical readiness is a strategic imperative to ensure the Army can defend our Nation and preserve its vital interests. The daily “battles on the home front,” whether in the office, depot, arsenal, or schoolhouse, are also an aspect of today’s force readiness. The increased operational tempo and need for maximum utilization of all members of the team, more than ever before, demands that the Army also focus on civilian fitness in order to meet the increasing needs for readiness. As demonstrated in the paper, workers entering our force in this decade are less physically active and more overweight than in the past. The cost of these health indicators will impact funding for other Army priorities.

To incite fervor for change by Army leaders, this paper will raise awareness of the importance of fitness as a readiness enabler for civilians to be mission-ready to

support the military and respond to emerging threats, now and in the future. A business-based approach is presented that identifies the key elements that contribute to return on investment of resources spent in development and implementation of initiatives that promote employee health and fitness. The Army has in place the critical building blocks to influence the needed change which will minimize the resource investment. What the Army must do now is connect the available data, strategies, resources, and leadership commitment that will drive action and measurable results. This paper provides recommendations for assembling those building blocks into a strong institutional “house” that will sustain a ready, fit *Army Strong* civilian workforce today and in the future.

A “Force Multiplier”

The Department of Army Civilian (DAC) workforce is a force multiplier that has been established as an integral and vital part of the Total Force Structure. As missions evolved and became more complex, so have the roles of DACs. Civilians now perform duties that were traditionally performed by Soldiers until the Army began converting thousands of positions from military to civilian earlier in this decade. They increasingly serve in theater during military operations as an efficient and effective use of resources and play critical roles in virtually every functional area of combat support, combat service support, and in security, stability, transition and reconstruction operations. This trend will increase in the 21st century, especially as DoD implements the planned civilian expeditionary force to alleviate the need to depend on volunteers for the in-theater assignments.⁶ As the forward line of troops blurs, civilians frequently serve “in harm’s way” and a number of them have made the ultimate sacrifice in non-combat roles.⁷

DoD policy dictates that the civilian workforce will be prepared to respond to meet mission requirements for all contingencies and emergencies.⁸ DoDD 1404.10 provides for assignment of civilian employees to positions as may be necessary to meet exigencies when unforeseen contingencies occur.⁹ Theoretically, any civilian may be directed to an assignment to meet worldwide mission requirements during periods of national emergency, mobilization, war, military crisis, or other contingency.¹⁰

While there is no completely accurate count of the number of Army civilians who have been deployed in support of the Global War on Terror, the Army's Deployed Theater Accountability System (DTAS) tracks approximately 17,650 civilians in theater from FY 2003-2007. Over 13,500 of those were deployed in FY 05-07, and this portends an increasing reliance on civilians as a force multiplier.¹¹ If we accept this premise, then the need for a more "ready" standing-by civilian force should become a strategic priority for the Department of Army and improving the health and fitness of civilians must be a component of its strategic plans.

In a 1994 report, the General Accounting Office (GAO) recognized that thousands of civilians supported Operations Desert Shield, Desert Storm and Joint Endeavor (Bosnia).¹² The report identified problems with the medical fitness of deployed civilians including severe heart problems, lung and kidney disorders and also strongly recommended that commanders ensure emergency-essential civilians be trained and *otherwise prepared* to deploy to combat areas where needed.¹³ This would include training to be prepared for the physical challenges that accompany deployment to hostile areas with extremes of geography, climate, weather, and living conditions.

Even prior to the GAO report, DoD had established a civilian “Emergency-Essential” (E-E) program to provide critical in-theater support. The E-E employees have to affirm that they understand the commitment of their positions and that they will execute their duties while other civilians are evacuated from combat areas.¹⁴ Positions, not employees, are designed as E-E. Most of these positions are in overseas locations or are transferred overseas during a crisis situation which requires temporary deployment in support of a military operation. While the DoD policy in no way restricts command authority to direct involuntary deployment of any (E-E or other) employee when necessary to accomplish the military mission, the Army seeks generally volunteers to fill these mission needs.

At the beginning of FY 07, there was a meager 1581 E-E positions formally identified in the Army’s Civilian Personnel Data File (CPDF), of which, the Army Materiel Command (801 employees) and the Army Installation Management Command (121 employees) had the greatest representation.¹⁵ This number is consistent with previous years, but due to recent increased emphasis by Army for its commands to validate their data, the Army staff believes this number is low.¹⁶ I am personally aware that the numbers for the Army Installation Management Command (IMCOM) are understated as a result of recent command policy to designate all key garrison positions as E-E.¹⁷ This would account for an increase of roughly 1300 additional positions in the E-E inventory.

In the ongoing Operations Enduring Freedom and Iraqi Freedom, most needs for deployed civilian are filled through the Worldwide Individual Augmentation System (WIAS) or through job vacancy announcements posted on Army’s Civilian Personnel Online (CPOL) to solicit volunteers. At the writing of this paper in February 2008, there

were over 330 job announcements posted on CPOL that covered functions ranging from all types of engineering and construction, contracting, public affairs, project management, logistics and supply, information technology, budget and finance, real property, personnel security, human resources, and administration.¹⁸ This high number of job postings significantly reflects the wide range of need for civilians to be deployed in physically challenging austere, extreme conditions of Afghanistan and Iraq.

DoD has established pre-deployment medical requirements for civilians which are based on the job duties to be performed in the theater. The determination of medical readiness is made by a government administered physical examination, using a standardized checklist, at the home station prior to deployment. Currently, emphasis is placed on diagnosing existing medical conditions which “may preclude performing the functional duties of the job.”¹⁹ The examinations may not adequately take into account the full range of physical and environmental conditions of the assignment. However, only the real extremes and special conditions (such as a history of diabetes, sleep apnea, and psychiatric disorders) “flag” a civilian as not ready for deployment. Potentially non-deployable conditions also include the inability to wear personal protective equipment, conditions which prohibit required immunizations, pre-existing severe medical diagnoses and diseases.²⁰ The real key to success is a strong set of physical standards, requiring maintenance, to set the azimuth for improving the immediate readiness of civilians who are subject to deployment.

Several individuals interviewed during my research reported a concern about the fitness level of civilians deployed during OEF/OIF; however, lack of empirical evidence prevents validation of these concerns. It is difficult to nail down reliable data for a

number of reasons including privacy of individuals, turnover of personnel in theater, and reporting priorities of medical facilities since DA civilians represent such a small proportion of the total deployed force. However, of the 1129 civilians processed through the CONUS Replacement Center at Fort Benning in FY 07, the Commander could not recall anyone who did not deploy due to the published medical requirements²¹ This would suggest that the current requirements were inadequate for the conditions of the position, the pressure to fill the vacancy outweighed the risk associated with the deployment, or individuals who deployed were physically suited or accommodated in theater.

We must assume that the trend for civilian deployments will increase, but can we safely assume that the individuals assigned to those positions are physically capable of performing the in-theater duties? Since the operational needs of the Army will fluctuate over time and these positions and individuals will continue to represent a relatively small percentage of the total Army civilian workforce, why is the topic of fitness important and worthy of action now for the Army Civilian Corps?

A National Concern

Health and fitness of U.S. citizens is an issue of national concern. The Army civilian workforce is not exempt from the U.S. trends evidenced by the statistics contained in this paper. As such, health and fitness for civilian employees should be a priority concern for Army senior leaders. The leading health indicators that reflect the major public health concerns of the United States Government (USG) are identified by the Department of Health and Human Services (DHHS) based on their relevance to

broad public health issues. Physical Activity and Overweight/Obesity are ranked as the top two indicators (among ten) used to reflect a snapshot of the health of the nation.²²

Obesity rates are inching up around the world, but in America are they skyrocketing. In 2004, the U.S. had the highest prevalence of obesity in the world with approximately 65 percent of the population obese or overweight.²³ In 2007, the percentage had grown another five percent and was ten percent higher than the United Kingdom which followed in second place.²⁴ This trend is of strategic concern because it is widely known that surplus body weight is associated with elevated risk of heart disease, diabetes, some types of cancer and also increases the severity of disease associated with hypertension, arthritis, and other musculoskeletal problems.

Without action, the hope for improvement for the next generation is bleak. Children are well on their way to becoming heavier and more sedentary than today's adult population. An obese and sedentary life-style developed as a child will likely manifest itself into an adult problem since early health behaviors are generally perpetuated throughout life.²⁵ This defines the root problem. We (Army leaders) must begin now to put in place the strategies, plans and actions that focus on disease prevention as the best means to minimize the impact of these trends within our future workforce.

The benefits of physical activity have been reported within the U.S. for years, but supportive scientific evidence only began to accumulate in the second half of the 20th century and it continues to mount to this day. However, despite common knowledge of the benefit, more than 60 percent of American adults are not regularly active, and 25 percent are not active at all.²⁶ There is sufficient evidence to suggest that regular

exercise, even in moderation, reduces the risk of heart disease, diabetes, and hypertension by approximately 50 percent and improves symptoms associated with musculoskeletal conditions and mental health conditions, such as depression and anxiety.²⁷ The mortality rates for those leading sedentary lives are reported to be 60 percent higher compared to those more physically active.²⁸

Daily habits make the difference. It is a fact that exercise does not have to be continuous. Accumulating even 20 to 30 minutes of exercise, such as walking, at convenient times throughout the day can be as beneficial in reducing risks as devoting concentrated periods. Furthermore, even a relatively small increase in activity is associated with measurable health benefits. Since light to moderate physical activity is more readily adopted and maintained than vigorous physical activity, even a limited but consistent daily increase in moderate activity makes a difference.²⁹

Organizations have a tremendous role to play in establishing a culture of fitness that promotes health and fitness for its workforce. As one of the largest employers in the United States, the Army has a responsibility to support the DHHS national objectives to reduce overweight/obesity and increase physical activity through aggressive employee health promotion and wellness programs. What can and should the Army do now as an institution to promote health and fitness especially for its civilians that will be working beyond the next five years? What is the business case for doing so?

The Business Case

The research and evaluation literature on health promotion and wellness programs in workplace settings is vast and complex. The literature includes more than 450 formal program evaluation studies, a growing number of well-designed scientific

studies of evaluation findings, a large number of descriptions of program results, and a variety of summary articles reviewing studies for programs implemented in the workplace.³⁰ The research, coupled with scientifically developed cost models, provide the evidence that supports the recommendations of this paper. This section will provide substantial and recent evidence on the economic return on investment associated with worksite health promotion and wellness programs.

Throughout this paper, the terms “health promotion” and “wellness” programs are used interchangeably. Data and results provided herein are based upon national trends as reported by USG or other studies and articles that meet accepted standards of rigorous scientific inquiry and research. Collectively, the argument is compelling that now is the time to focus efforts and resources on health and fitness as a business strategy for future readiness and sustainability of the Army Civilian Corps.

In considering the business case associated with workplace health promotion programs, leaders should be aware of the value and benefits across a number of dimensions. Advantages include cost savings through decreased health care utilization; reduced sick and medical leave; fewer on-the-job accidents, occupational medical costs, and disability claims; incentives for recruitment and retention; and increased productivity and worker morale. These critical areas could easily be included in strategic planning documents at all organizational levels of the Army. Extensive data exist upon which to establish goals and measure results, but identifying the correlations and trends over time often go without attention in Army planning and evaluations.

Measuring effectiveness of health promotion and wellness programs has historically been a challenge for many employers and results are often not based on

empirical evidence. This is partly because of the difficulty in determining the proper metrics for effectiveness, the uncertainty of how other variables affect the results, and the challenge in collecting and monitoring the data. To aid leaders in this challenge, the next section of this paper will focus on answering the question, “Can health promotion programs really improve employee health and impact the bottom line?”

After reviewing the information provided below on the potential savings in health care costs, productivity, workers’ injury compensation, and sick leave usage associated with improved employee health and fitness, most leaders will be convinced that health promotion programs do make a difference. The challenges and expected costs associated with the next generation of workers who will quickly represent a sizable portion of the Army civilian workforce should be convincing to achieve a resounding response of “Yes” to the question posed above.

Supporting data and documentation are available in workplace files and reports; survey instruments, results and patterns over time; business and industrial management studies; social psychology and business literature based upon targeted labor markets; worksite health promotion studies and survey data from national organizations and trade/industry associations; studies of early medical or disability retirement trends and claims; risk management and safety literature; occupational health literature and payroll system data.³¹ While research on the data points vary depending upon population studied, demographic groups, time and length of study, factors considered, and methodology used, the “bottom line” of organizations is nonetheless impacted by employees that are out of shape.

Cost of Physical Inactivity

One internationally recognized expert on health management who also serves as a consultant to the U.S. Army and Air Force, asserts that, “Studies have ultimately shown that worksite wellness programs, in one way or another, are capable of producing significant improvements in employee health” which affects the organization’s costs.³² In Proof Positive: An Analysis of the Cost-Effectiveness of Worksite Wellness, the author documents a meta-evaluation process of 42 studies of worksite programs that were validated based on criteria of research design, sample adequacy, quality of baseline delineation, quality of measurements used, use of appropriate and replicable interventions, length of observational period, and experimental time period. In the 42 studies covering 343,926 subjects, sick leave days were reduced by an average of 28.3 percent (19 studies), health costs reduced by an average 26.1percent (23 studies), and worker compensation/disability average costs reduced 30 percent (4 studies).³³

Of these studies, the ten with the most rigorous results are used in this section to document the economic benefit of health promotion programs. A population of 287,985 subjects comprised the top ten studies.³⁴ An overview of the findings is provided below.

- The studies are current. Of the ten, only one was published before 1990.
- They were robust. The population represented 53.5 percent of the subjects involved in all of the 42 studies.
- They were time based. Average length of the study period was 3.3 years. This average means that the number of man-years of observation was over 1.1 million. This represents a significant amount of observation and experimentation by any standard.

- They were statistically significant. “Health care costs” were used as an economic factor in nine of the studies and “sick leave absenteeism” was used in five of them. Four studies considered both factors. In all but two studies, statistical significance was found prevalent in most of the parameters measured.³⁵

Figure 1 depicts details of the studies contained in the 2003 research report and note significant reductions in sick leave and health costs. The last row provides the return on investment for each program. Overall, these studies provided undeniable evidence of the average 1:3 cost to benefit ratio reported in traditional program models. When the author updated his research in 2005, he noted that studies conducted in the last ten years utilized newer prevention technologies, including web-based health information, telephonic high-risk intervention coaching, benefits-linked financial incentives, and mandatory health-risk appraisals. Programs incorporating the latest prevention technologies were found to yield a 1:6.3 cost to benefit ratio.³⁶

Composite Assessment of Top Ten Evaluation Studies ³⁷										
Attribute	1	2	3	4	5	6	7	8	9	10
Study Ranking	1	2	3	4	5	6	7	8	9	10
Company	California Public Retire System	City of Birmingham (AL)	Johnson & Johnson	Providence Everett Medical	Blue Shield of Calif	City of Meza (AZ)	Bank of America Retiree	Travelers Insurance	Bank of America	Citibank N.A
Years	1	5	5	10	1	2	2	5	1	3.2
Report	1994	1993	1986	2002	1998	1993	1993	1992	1992	1999
# Subjects	54,902	4,000	8,451	1,424	2,586	340	3,102	36,000	3,779	11,194
# Controls	2,366	NA	2,955	7,200	89,652	340	1,610	NA	1,907	11,644
Sick Leave	NA	NA	NA	-49.1%	-23.3%	NA	-35.2%	-19.0%	-12.1%	NA
Health Costs	-30.4%	-50.1%	-7.4%	-32.5%	-26.7%	-16.0%	-48.8%	NA	-32.0%	-41.0%
Cost-Benefit	NA	1:19.4	NA	1:6.52	1:6	1:3.6	1:5.96	1:3.4	1:4.73	1:4.64

Figure 1.

Health Care Costs

As noted above, there are undeniable business reasons for the Army to aggressively promote and resource health promotion programs for its civilian force. The U.S. spends more on health per capita than any other country and spending continues to escalate rapidly. Much of the cost is for care that controls or reduces the impact of chronic diseases. A survey conducted by Mercer, a leading human resources consultant firm, revealed that large employers expect their health care costs to increase by approximately 9 percent in 2008.³⁸ The current average annual increase in health care costs across the United States is about \$160 billion each year – on par with the cost of the war in Iraq.³⁹ Figure 1 above suggests that the Army could potentially reduce the health care costs of its civilian workforce by more than 25 percent over current expenditures.⁴⁰ Persistent escalation of health care cost will continue and make this economic variable a significant factor for Army resource planners. Since this cost growth is a result of many factors, even a slowing of the increase would reap tremendous savings.

As costs rise, corporations and government agencies, including DoD, are becoming more concerned about employee wellness. The outdated model of focusing resources exclusively on treating those who are sick cannot be justified in an era of shrinking budgets and rapidly increasing costs of treatment.⁴¹ Many companies now focus on preventive health care services as part of their business plan. While the Army acknowledges benefits gained from a healthier workforce, there is little visible evidence that they value civilian fitness, given the limited attention in written policies, websites, and leader training. We (the Army) have clearly overlooked the need to identify a physically ready Army Civilian Corps as a strategic issue in our “business plan.”

Sustainability

The Army can be well served by shifting towards a sustainability model of employee health and fitness. Broadly defined, “sustainability” means long-term cultural, economic, and ecologic health and vitality and denotes programs that are holistic, strategic in focus, practical, results-oriented, and inclusive.⁴² Army commanders are very familiar with the concept of sustainability with respect to infrastructure and the environment. This paper suggests to commanders that the concept of investing today for tomorrow’s needs is equally relevant to our civilian human resources.

Since the civilian payroll is the greatest portion of the Operations & Maintenance Army (OMA) budget, it makes sense to attend to employee sustainability. For the purposes of this paper, this includes the ability to sustain the Army for future missions through its human resources. There are problems in measuring the results of any sustainability initiative, especially ones that are not readily seen or easily linked to outcomes. How do we measure lost productivity when people are sick? How do we compute avoidance costs for averted injuries, of replacing people who die, retire on disability, or leave because they find another employer who promotes employee well-being as a priority?

One cost that is too rarely quantified, much less factored into decisions at the organizational level, is the mounting expense associated with a physically inactive workforce. A Physical Inactivity Cost Calculator has been developed by East Carolina University and Active Living Leadership with funding from outside sponsors. The latest available data from the medical costs, workers’ productivity and workers’ compensation fields of research were used to develop a science-based formula that calculates the financial cost of physical inactivity for user-identified adult populations.⁴³ The tool gives

policymakers and organizational leaders an estimate of medical care, workers' compensation and lost productivity costs associated with physical inactivity in a specified population and provides evidence for resourcing programs and infrastructure that promote emphasis on this health indicator.

In order to obtain an Army estimate from the calculator to demonstrate these costs, I extracted data on DACs who work at installations in the State of Virginia from the Office of Personnel Management's Central Personnel Data File (CPDF), the official USG federal-wide employment database.⁴⁴ To feed the calculator, simple information was provided, including: 1) Total number of appropriated fund Army civilian employees working in Virginia (20,409); 2) Average salary for the Virginia population (\$76,618); and 3) Percentage of employees 65 years or older (574, or 2.8 percent).⁴⁵ The tool estimates a percentage of workers who are physically inactive based on state-specific data and trends. In the case of Virginia, 72.5 percent of the adult population is physically inactive. To avoid over-projecting cost savings, I modified this factor to reflect 50 percent inactivity which is slightly less than the U.S. trends previously reflected in this paper and should account for the significant percentage of former military in the civilian workforce.

The results of this tool reveal significant, often transparent costs, associated with the lack of physical activity in our civilian workforce. Based on the information entered, physical inactivity of DACs in Virginia costs the Army an estimated \$63.8 million (about \$3,128 per person) and is equivalent to the salary of approximately 830 full-time employees. The tool projected that if only 5 percent of the inactive employees would become physically active, it could save an estimated \$3.2 million per year in health

care, lost productivity, and costs associated with injuries -- enough to fund the salary cost of approximately 50 employees. Then, I applied the tool to the larger Army-wide population that includes 236,805 total DACs at an average salary of \$60,300, with 2.5 percent of the population aged 65 or above, using the same percentage of inactivity (50 percent). The calculated total cost for this population is \$590.7 million annually or about \$2,494 per employee.

The difference between average cost per person from the State of Virginia and Army-wide data is attributed primarily to the tool. This tool was designed to be used by states, communities, and businesses and requires that the user pick a state rather than a larger geographic area so data for variables differ. The specific categories of all the costs and projected savings if only five percent of the inactive workforce become active are provided in Figure 2 below. The key cost-benefit factors are lost productivity and costs associated with worker compensation for injuries.

Population	# DACs	Average Salary	% Age 65+	Medical Costs ⁴⁶	Lost Productivity	Work Comp ⁴⁷	Total	Per DAC	Potential Savings ⁴⁸
State of VA	20,409	76,618	2.8 %	\$ 3.1M	\$ 60.7 M	\$ 82 K	\$ 63.8 M	\$3,128	\$ 3.2 M
Total Army	236,805	60,300	2.5 %	\$ 35.3 M	\$ 554.5 M	\$ 952 K	\$ 590.7 M	\$2,494	\$ 29.5 M

Figure 2. Costs of Physical Inactivity of Army Civilian Employees

So how can we put this information into perspective for use? Clearly, not all “savings” result in dollars to be spent elsewhere. Theoretically, the total \$590.7 million in costs of physical inactivity could buy approximately 9,800 civilian positions Army-wide. Any cost savings could otherwise be cross-leveled to force readiness and modernization accounts, used to off-set costs of elements to increase fitness and health

programs, and/or “reimburse” the Army for providing additional excused absence to civilian employees to increase their activity levels.

Sustainability also includes the need to prevent or reduce the number of employees injured on the job. Such injuries are covered by the Federal Employees' Compensation Act (FECA). FECA provides monetary compensation, death benefits, medical care and assistance and vocational rehabilitation to all Federal employees who sustain disabling injuries, including occupational disease or illness, as a result of their employment. FECA is financed by the Employees' Compensation Fund which consists of funds appropriated by Congress through a “chargeback” to the various agencies. Each year, the Army includes FECA costs in its budget requests and subsequently reports the actual costs. Since no extra money is given to agencies to cover these costs, the degree to which they can be reduced increases buying power for the Army for other strategic needs.

In 2006, the total DoD FECA cost was almost \$616.7 million (a daily cost of \$1.69 million) which represented an increase of 2.8 percent over the previous year. The Army's share of the 2006 total was almost \$180.3 million -- of which \$126.9 million was for pay and compensation for lost hours of productivity. In FY 07, 64,000 lost work days resulted in another \$180 million⁴⁹ which are not reflected in Army short-term sick leave usage costs (see the third aspect of sustainability below). This area alone projects an opportunity for significant reduction in costs for the Army. Additionally, the cost of long-term unemployment compensation can be “sticker shock” when long range projections are revealed. As an example, a 35-year old, GS-7 step 5 employee without dependents, will receive over \$1.6 million in compensation (salary adjusted for inflation) if he lived to

70 and never returned to work. With dependents, that amount grows to \$1.8 million and does not include medical expenses associated with the disabling injury.⁵⁰

Historically, slips, trips, falls, and back strain are the most prevalent job injuries in the Army, and the single leading cause of lost workdays.⁵¹ They are also the ones most likely to be reduced by physical activity and strengthening exercises. Physical activity increases balance, flexibility and bone strength and can provide a quick return on investment -- not just for injuries obtained on the job. Injuries due to accidents at home and in vehicles, as well as from recreation, show up in health costs and sick leave usage. The degree to which all injuries can be reduced increases the “readiness” of the workforce for mission accomplishment.

A third, and perhaps most costly, aspect of sustainability, is the need for a reduction in sick leave usage. This is a key factor in civilian readiness that costs the Army man-years in lost productivity each fiscal year (FY). Business-based reasons for addressing this component are best illustrated using Army-wide data provided by the Defense Financial and Accounting Service (DFAS). At my request, DFAS provided FY 06 and FY 07 Army-wide sick leave usage for all commands, subcommands, field operating agencies and direct reporting units. Data included total sick leave hours used and actual salary cost of those hours at each level by fiscal year. The results reveal some astounding trends that senior leaders should ponder.

In FY 06, civilians used 15,032,824 hours of sick leave which is equivalent to 1,879,103 lost days (or 7227 full-time employees) at a salary cost of over \$408.6 million. In FY 07, the workforce increased less than one percent (+0.67 percent) and the usage of sick leave dropped, by a modest -2.85 percent, for a total of 14,604,622 hours taken.

This equated to 1,825,578 lost days (7021 full-time employees). The FY 07 lost salary cost for this leave was \$411.5 million and reflected a slight (+0.7 percent) increase over FY 06 due to the change in workforce size and the government-wide annual salary adjustment.

An alarming trend was discovered for both years and warrants additional review and analysis by the Army staff. Based upon fiscal year end strength, employees used more sick leave hours collectively than actually earned each year. If every DAC on the rolls at the end of the year worked a full year, 72 hours of sick leave per employee was earned. Using this assumption for FY 06, employees used 121 percent of all sick leave earned and in FY 07, employees used 117 percent of all sick leave earned collectively as a body.⁵² Importantly, leaders must remember that this sick leave is not included in the total compensated lost-time as a result of on-the-job injuries covered by FECA.

The use of earned sick leave is an employee entitlement but leaders can influence the trends identified above by promoting health and fitness by their employees. Given the reported success identified by several models included in this paper, if the Army was able to reduce the use of sick leave by as little as ten percent over FY 07 trends, we would save over 700 equivalent lost years of productivity. A reduction of even 15 percent over FY 07 usage would save over 1050 equivalent years of lost productivity. This evidence should be sufficiently strong to focus leaders' attention on the value of a physically fit workforce.

The final aspect of sustainability addressed in this paper is the need to "Win the Global War for Talent," which includes attracting and retaining a healthy, fit and ready workforce. Previous aspects demonstrated that healthier employees reap long-term

savings in health care costs, workers' compensation, and sick leave; yet, these are only a portion of the cost "savings." What is the intangible cost to an organization of a shorter career due to chronic disease or injury and what is the cost of training a new employee? In reality, organizations with a "wellness culture" also realize costs savings in recruitment and retention.⁵³ In an increasingly competitive labor market, employers need to distinguish themselves above their competitors to attract new employees as well as ensure long-term workers remain healthy.

The "Baby Boomer" generation's (1946-1964) race towards retirement from the Federal workforce is a strategic concern for human resource planners. Using time series modeling techniques, the OPM now projects that about 50 percent of the federal workforce will leave the government during the next five years, mostly due to retirement.⁵⁴ The Army population mirrors this trend. With the looming talent shortage quickly approaching, health promotion programs can be a key ingredient for workforce recruiting for the Army markets itself as an "employer of choice."

"Generation Y" (born 1977-2000) number more than 70 million Americans; they are the fastest-growing segment of the workforce and represent the labor pool for our future force.⁵⁵ The research of psychologists and social scientists reveal that this age cohort is enticed by flexibility and balance in their daily life. They desire to work for companies that foster strong workplace relationships and inspire a sense of balance in life that includes family, friends, fitness, and fun.⁵⁶

In 2005-2006, the Hay Group, a Philadelphia-based consulting firm, surveyed 435 large employers regarding company wellness programs and found that 75 percent provided a program for employees. Besides the aim to reduce benefits costs through

sustained improvements in workforce health, wellness programs are frequently used by prospective employers to boost their “menu” of compensation, benefits and perks.⁵⁷ As an example, over 20 years ago Tenneco opened an \$11 million exercise complex in Houston, Texas primarily as a means to recruit and retain employees. A fitness complex was seen as a bonus to make working out convenient and facilitate work/life balance. This was secondary to the hope that a fitness program would produce healthier employees and help control their escalating medical costs.⁵⁸

Important to this research project is that the members of Generation Y are also the fastest-growing in weight. Information on new hires demonstrates that younger applicants actually have a greater prevalence for obesity than those over the age of 40.⁵⁹ Current weight data for ages 25 to 44 reveals an 11 percent increase in overweight and obesity (now 62.9 percent of the population) since 1988; almost ten percent of this increase was in the category of “obesity.”⁶⁰ The increase in obesity in the younger population translates to long-term trends within the U.S. adult population⁶¹ In addition to the increasing weight, only 19 percent of all high school students today are moderately active. Data on physical activity for ages 25 to 44 reveals nearly a 6 percent drop in regular physical activity and strengthening in only three years between 2002 and 2005.⁶² The data predicts that future generations will be plagued with similar tendencies for chronic diseases and tendencies for physical inactivity described in the previous section of this paper.

It is also important to bear in mind that the employees of 2020 are predicted to have longer careers than previous generations. This is primarily due to higher education levels that invigorate individuals to remain employed coupled with the nature of the work

to be performed. To support this, data indicates that 20 percent of men over the age of 65 who are college graduates remain employed while less than ten percent of those with a high school diploma continue to work.⁶³ Due to trends in the evolution of work driven by technological advances and predicted outsourcing and privatization of jobs, by 2020 the Army Civilian Corps will be significantly “knowledge based” workers⁶⁴ with higher education levels department-wide. If the predictions reported in this paper come to fruition, we can expect to have more obese, less physically active employees for a longer period of time with all the associated costs. This clearly indicates a need for Army organizations to begin now to develop plans so that we are prepared with a culture of fitness when the next generation of knowledge workers sweeps into our organizations.

Since employees spend at least one-third of their day at work, the workplace is an important place to institute changes in behavior. It is at the job site where opportunities, mentors, reinforcement, and support can yield results. Our Army Civilian Corps is a large, discrete population that can be easily targeted to influence changes in behavior. The Army as an institution can make a difference by providing a supportive environment and leveraging existing services and infrastructure to offer low-cost, yet effective, intervention programs.

Building Blocks for Success

The health-risk challenges of the workplace cannot be successfully fought at the individual level -- actions must occur at the organizational and institutional levels. The essential building blocks for improving the future fitness in the Army civilian workforce are in place, but remain fragmented. Regulations, Army culture, civilian leader

education, infrastructure, installation personnel, and strategic plans can be woven together to establish a model program.

In May 2007, AR 600-63, Health Promotion Program, was published to replace a 1996 version. The objectives of the Army Health Promotion Program (now referred to as the Community Health Program) are to “maximize readiness, war fighting ability, and work performance” and enhance the “well-being of all Soldiers, Army civilians...” and encourage “lifestyles that improve and protect physical, behavioral, and spiritual health.”⁶⁵ The regulation should serve as a catalyst for new momentum by Army senior leaders and commanders to revitalize programs that pursue civilian fitness and well-being as a strategic objective.

AR 600-63 restates the rules that apply to civilians participating in formal fitness programs, including the use of installation facilities and administrative leave. It leaves in place the authority for civilian employees to use three hours of duty time per week, not to exceed six months, to participate in physical exercise training, monitoring, and/or education provided the activities are an integral part of a total fitness program as an introduction to healthy lifestyles.⁶⁶ According to the regulation, after the six month period, employees should be encouraged to continue their fitness programs using annual leave or flexible work schedules. The AR provides authority for employees in jobs that require fitness standards for satisfactory performance (i.e., firefighters) to participate in exercise programs as part of their regular duty day.⁶⁷

There are a number of issues with this regulation that potentially restrict it from serving as a real catalyst for change. Simply re-issuing a regulation that embeds a very small section on civilian employees will not likely create significant change in the

programs, or interest in them for that matter, without well-planned initiatives and attention by Army leaders. Absent endorsements and strong command policy statements, the update of the regulation will likely go unnoticed. As most know what gets checked gets done. In order to achieve results, there is a need to establish mechanisms to promote awareness of this issue, monitor change in employee and leader behavior, and evaluate trends over time. Army proponents should determine the most effective measurement devices that will work positively to establish a viable, enduring, and accountable program that achieves desired, measurable results.

The regulation is not clear on which employees are eligible to use duty time for fitness activities beyond the initial six-month “introductory” period. The identification of E-E employees requires them to be “ready” for deployment to austere, physically demanding positions even though normal responsibilities do not require that fitness standards be met for satisfactory job performance. Strict interpretation of this regulation would appear to exclude them from taking a reasonable period of time to maintain a fitness level to meet possible missions.

There are also employees that already maintain a regular fitness routine. Do they qualify for, or will supervisors be willing to allow time off, as permitted by the regulation, to pursue a six-month program “introduction” to healthy lifestyles? Not likely. Yet, if the research is correct and the models accurately predict savings, then these are the very employees that should be rewarded for their commitment to fitness. It is this type of permanent behavioral change that will achieve the results needed to improve readiness and sustainability; therefore, the Army should reconsider its limits on administrative time

and provide for a permanent provision for fitness activity. As previously demonstrated, this modest cost in time away from the desk would yield benefits in productivity.

Another needed flexibility could permit the use of sick leave for regular fitness activities, with supervisory approval, but would require legislative change. This would be similar to use of sick leave for regular doctor's visits for preventive care and is not unreasonable to pursue through Unified Legislative and Budget (ULB) process given the number of flexible "non-sick" uses of sick leave already afforded by Congress to federal employees. This is an important incentive for the majority (over 67 percent) of the civilian workforce covered under the Federal Retirement System (FERS)⁶⁸ who, unlike those covered by the Civil Service Retirement System, can not credit unused sick leave hours towards a federal retirement annuity. This "use or lose it" difference in benefits seems to encourage FERS employees to use more sick leave than those covered by the older system.⁶⁹ This may account in part for the FY 06-07 sick leave usage trend identified previously in this paper. To the extent that a physically fit workforce results in significant tangible and intangible benefits to the organization, it makes strategic business sense to permit the use of sick leave as a proactive prevention of health issues and is legislation worth pursuing for the future.

Formal training and education programs are critical to embedding any desired behavior changes in a group of people. AR 350-1, Army Training and Leader Development, requires the Army schools to conduct initial military training for Soldiers, officers, *and DA civilians* that instills common values, ethics, and Warrior Ethos to *produce* highly motivated, disciplined, *physically fit individuals*.⁷⁰ This regulation provides authority for civilians to be formally educated in the basics of physical fitness

as part of an institutional curriculum. The Army's Civilian Education System (CES) provides one of the best opportunities for accomplishing this charter; unfortunately, it falls short of the mark.

CES provides the Army Civilian Corps institutional leader development training through resident and distance learning experiences. It was officially unveiled in January 2007 as the Army's progressive and sequential approach to provide and sustain enhanced leader development for civilians throughout their careers. The marketing claims that Army civilians will become leaders of the 21st Century who personify the *warrior ethos in all aspects*, from war-fighting support to statesmanship, to business management. The courses, in sequence, include the Foundation (for new employees) and the Basic, Intermediate, and Advanced (for leaders). Attendance at the courses is connected to events, assignments, and grades depicted in Figure 3 below.



Figure 3. Army Civilian Education System⁷¹

Unfortunately, except for Senior Service Schools, the entire suite of courses is virtually silent on importance of health and physical fitness. A discussion with

representatives at the Army Management Staff College indicated that as the 13-week Sustaining Base Leadership and Management Course (SBLM) was phased out and replaced by the CES suite of courses, the previous emphasis on health and fitness in SBLM also disappeared. The legacy SBLM course provided instruction on health, fitness and nutrition and students were actively involved in a personal fitness training program during their four months in residence. From personal knowledge, many of the civilians who attended SBLM continued their fitness programs after graduation.

Only the Foundation Course, a “greening” for new employees, includes a very small module on developing self-awareness of personal health. It is exclusively distance learning with an estimated 56 hours for completion⁷² of which an estimated two hours, or less, is devoted to health and fitness. While any employee may take this distance learning course, it is primarily designed for and marketed as the initial socialization and orientation to the world of working for the U.S. Army; thus, many current employees will never be exposed to this instruction. Since managers and supervisors have their own questions and concerns about health-related issues and how to mentor their new employees in these areas, it is equally important for other CES leadership courses to incorporate them. As CES continues to evolve, required changes will be made to the curricula and policies will be refined in future revisions of AR 350-1.⁷³ Now is the time to begin to plan to incorporate appropriate modules, tailored for new employees as well as new and seasoned supervisors and managers, on the importance of health and fitness, both personally and professionally.

The Army’s Physical Fitness Research Institute (APFRI) located at Carlisle Barracks, Pennsylvania provides a comprehensive health and fitness assessment and

improvement program for students attending the U.S. Army War College (Senior Service College), the Sergeants Major Academy (SMA), and Army Officers' Intermediate Level Education (ILE). While over 1200 service members are assessed in these courses annually, less than 35 civilians receive the opportunity.⁷⁴ As part of the assessment, extensive blood analysis is conducted which reveals risk factors associated with fitness and weight as well as high cholesterol and glucose for cardiovascular disease and for diabetes. Of the 310 military officers in the Army War College Academic Year 2008 class, 225 (or 72.5 percent) received reports of elevated risks for these diseases and 23 out of the 31 civilians (74 percent) received similar results.

The APFRI Director reports that the results from the most recent round of assessments at SMA and ILE were worse than expected, given the younger age of those populations.⁷⁵ Just as active duty military are prone to these health risks and warrant intervention at earlier stages in their careers, so do Army civilians. As the Army begins to push down the APFRI assessments routinely into lower levels of military leader education, similar (even modified) assessments should be incorporated into the CES courses. It will take intervention by Army senior leaders and strategically placed champions and advocates on the Army staff in order for this to happen.

Leaders make the difference. They serve as “coaches” and mentors that are the critical link to creating a culture of fitness through strategy, managing needed change, and leading by example. In 1987, a student at the Army War College tackled the issue of “Civilian Corporate Fitness in the Department of the Army” and posited that it represented the newest dimension of civilian personnel management.⁷⁶ This was,

according to my research, the last time the topic of civilian fitness was addressed by an Army War College student. In his 20-year old essay, the author correctly prophesied that unless civilian corporate fitness was kept at a high level of DA priority over the next ten years, “the Department’s corporate fitness program, particularly as it pertains to civilians, will for the majority, continue to be tomorrow’s promise.”⁷⁷ The essay addressed marketing, the expected labor-relations issues, program implementation challenges, and the rational reasons why the program should clearly be supported. Unfortunately, it failed to place sufficient strength to the argument that program success depends on leader action and linkage to strategic plans. Rather, the focus on his proposals was that civilian human resource management professionals should be the responsible lead for ensuring adequate implementation.

The Army institutional culture values fitness; yet, leaders rarely focus on the civilian part of the team. Culture is generally defined as the “collection of ideas, customs, beliefs, and values that guide behavior and thought in a particular group at a particular point in time.”⁷⁸ The U.S. Army is such a group and whether the culture of fitness is a condition of employment, or personal commitment, it is a foundational element of the Army leader’s mental model of the organization. This foundation should be strengthened to include the same desires for civilian employees. Culture change requires a systematic approach that includes shared ownership and commitment by leaders and employees. I propose that key to leader “buy-in” is the recognition that investing in employees’ health and fitness is an important business strategy, not simply a human resources initiative or “perk.” To fully embrace this, leaders should carefully consider the costs outlined in the previous sections of this paper.

Leaders are the most influential cog in shaping culture, institutionalizing changes in policies and processes, and influencing the work environment and conditions in which employees either survive or thrive. This includes sharing a wellness vision, serving as a role model, modifying the organization's environment to promote desired behavior, and recognizing success. Most literature on the subject of employee "wellness" focuses on what leaders need to do to promote a program, but what is necessary to motivate employees to change? How do work environments influence workers' fitness? Intuitively, managers understand that caffeine-pumped employees and those that have skipped vacation because of work are not working at "peak" capacity. Yet, today's operational tempo, coupled with the prevalence of electronic gadgets that keep people engaged in their job around the clock, seem to be a constant icon for managers and employees alike.

Many argue that working extra hours are needed to just get the job done. Yet, today's employees accomplish more in a day than ever before with the help of the Internet, cell phones, e-mail, fax machines, and voice mail. This "arsenal of efficiency" makes it even more difficult to leave the workplace behind which is directly linked to employees' excuses for not having enough time to focus on fitness.⁷⁹ Without visible support by key leaders from the top of the organization to the unit level, there is little hope of achieving the needed result. As an example, the Army successfully won the war on smoking primarily by its institutional reinforcement of the ideal image of the non-smoking Soldier. Without determined leaders who set an example, it is doubtful that such a reduction of smoking among the military would have ever occurred, regardless of individual level of motivation to quit smoking.⁸⁰

Subtle endorsement of programs is common practice through the existence of gyms, fitness facilities and staff at installations. Visible endorsement of such programs such as through senior leader memoranda and policy statements does not exist -- nor does a "champion" for civilian fitness in the Army. While many leaders, both military and civilian, are personally committed to their own fitness, it does not translate to strong expectation of their employees to do the same. In my research on this project, a startling discovery provided evidence of this. Each May, workplaces all over the nation celebrate Employee Health and Fitness Month, an event that coincides from the President's National Physical Fitness and Sports Month. As part of the Healthier Feds Campaign, OPM established 2007 as the "Year of the HealthierFed" and promoted a federal government wide "HealthierFed Activity Challenge" which concluded on 1 April 2007. Recognition was granted to Federal agencies for their participation.⁸¹

Total participation numbered nearly 40,000 employees from more than 50 Federal agencies. Army civilians were included in DoD's total participation (1480) which represented a paltry .02 percent of the Defense civilian population.⁸² The rate of participation was miniscule compared to that of much smaller agencies, including Departments of Agriculture, Commerce, Homeland Security, Health and Human Services and the Social Security Administration.⁸³

It is uncertain whether this challenge was promoted in any measurable way, but from extensive Internet and library database searches, I found no evidence that it was ever publicized at the Headquarters Army, Major Command, or Direct Reporting Unit levels. There were, however, two Department of Army employees within the Tank Automotive Command highlighted as leaders who promoted the program and a healthy

worksite. It is clear to the author that absent top-driven actions and linkage to strategic plans, the trend described above will continue.

Linking to Strategic Plans

Health strategies for civilians are directly linked to Army expectations for readiness and sustainability. For the most part, today's leaders generally consider health and fitness to be their employees' business and motivation based on personal initiative. To the extent that unhealthy employees detract from mission accomplishment and productivity, it is a leadership issue. While healthier employees can be encouraged by relationships with leaders and installation support professionals, real culture change will not occur at that level. It must start at the top.

According to a May 2007 report published by the U.S. Chamber of Commerce and the Partnership for Prevention, top executives in many companies are beginning to make a healthy, productive workforce as a core part of their organizations' strategic business plans.⁸⁴ There are a number of existing federal and agency documents that can be used to link civilian employee fitness to Army strategic plans.

In August 2003, the Department of Defense Directive 1010.10, subject: Health Promotion and Disease/Injury Prevention, updated policy and responsibilities to support the Department of Health and Human Services' Healthy People 2010 goals and objectives. This directive places emphasis on ten health indicators, of which Physical Activity and Overweight and Obesity were the top two listed. It also charges top DoD leaders to enhance mission readiness, unit performance and the health and fitness of military and civilian personnel within the department through the creation of a culture that values health and fitness and empowers individuals and organizations to actualize

those values.⁸⁵ The evidence of the business case contained in this paper and its recommendations are food for thought as Army senior leaders implement this directive.

The Army Safety and Occupational Health Strategic Plan is another good example where direct linkages exist.⁸⁶ One of the FY 08 objectives requires a 40 percent reduction from the FY 06 accident data for commands. This would include instances of fatalities, injuries, and lost work days as examples of areas of improvement. The evidence provided herein that links physical inactivity and obesity to the cost of occupational injuries is worth considering in developing plans to meet the goals of this strategic plan.

For human resource planners with Army G1 and commands, the DoD Civilian Human Capital Strategic Plan (CHCSP) 2006-2010 provides a strong springboard for connecting department goals and objectives to the importance of civilian health and fitness. The document was designed to meet the challenge outlined in the Quadrennial Defense Review Report which required that “In a reconfigured Total Force, a new balance of skills must be coupled with greater accessibility to people so that the right forces are available at the right time. Both uniformed and civilian personnel must be readily available to joint commanders.”⁸⁷ Goal 2 of the DoD plan is to ensure a mission-ready, capable workforce characterized by agility, flexibility, diversity, and seamless integration with the Total Force. Several objectives clearly align with a vital focus on civilian fitness and focus on the need to: 1) determine and fulfill requirements for the civilian workforce to support the national defense in a joint environment; 2) ensure needed flexibilities to deploy the civilian workforce; and 3) become an employer of choice and promote work life balance.⁸⁸

Strategic plans and supporting objectives of the Army Installation Management Command (IMCOM) and its sub-command, Family Morale Welfare and Recreation Command (FMWRC), provide numerous linkages to this topic. A few examples include Garrison Commander responsibilities for installation-wide programs and services, including safety program management oversight, facilities and infrastructure, and quality of life. As experts in developing performance measures for installation services, IMCOM and FMWRC are encouraged to use the data contained in this paper as a starting point for health promotion plans. The data contained herein can also be used by Garrison Commanders to better articulate the impacts and importance of civilian health promotion programs when executing their assigned responsibilities under AR 600-63.

Motivating the Civilian Workforce

It all sounds positive, but a real issue will be motivating the workforce to take advantage of health promotion programs. In 1993, a survey was conducted by Peter D. Hart Research Associates on behalf of the President's Council on Physical Fitness and Sports in an attempt to assess American attitudes toward physical activity and fitness. The assessment was conducted through a national telephone survey of over 2000 adults who classified themselves as "less active" or "more active."

The "less active" group engaged in vigorous exercise less than two times a week and the "more active" included everyone else. In particular, the survey examined the attitudes and interests in increasing level of physical activity, the perceived barriers to being active, and what kind of information and changes might lead to expanded levels of activity.⁸⁹ The survey results concerning level of activity are consistent with other

trends reported in this paper. In this survey, 43 percent of those surveyed qualify as “less active” and cross educational, age, gender, race and economical lines.⁹⁰

While 59 percent of the “less active” population indicated that they would like to be more physically active, the interviewers found that only 25 percent of them predicted they would be very likely to increase their level of activity. For the most part, this was in spite of the fact that there were few obstacles to them doing so. In fact, 49 percent of this population reported it would be easy to increase their activity level. The research team concluded the prime audience for increased physical activity is the less actives who said they desire to increase activity, would find it easy to do so, and report that they are certain or likely to do so.⁹¹ Members of this group were generally baby-boomers or younger and also indicated that they were informed about what it takes to keep fit.⁹²

The survey participants indicated that “time” was the number one reason for not being active. The proportion of respondents who mentioned time as the primary barrier was far greater than those who gave a response related to health, family responsibilities, lack of motivation, access to facilities, or any other factor. An overwhelming 64 percent of the less active group agreed with the statement, “I would like to exercise more, but I just can’t find the time.” This population included 75 percent of the baby boomers, 76 percent of people with desk jobs, and 76 percent of working women.⁹³ I suggest that the Army would find a similar response pattern in any survey conducted among its civilian force. Flexible use of sick leave for fitness activities as proposed in this paper may be one approach to deal with this barrier.

Respondents to the survey clearly recognized the link between physical activity and job productivity. The single greatest motivating factor for physical activity was

“concern for one’s health and performance” followed closely by “desire for greater strength and energy throughout the day” and “to reduce stress.” The researchers also concluded that there is greater motivation when Americans are informed about benefits of exercise than when told of dangers of inactivity.⁹⁴ Essentially, “hope is stronger than fear” -- another important take-away for Army leaders as we develop strategies to improve the health and fitness levels of our civilians. This summarization of the Hart research is predictive of what obstacles and challenges we may face with the Army civilian workforce and provide important findings as Army leaders plan initiatives to address areas identified in this paper.

Most successful organizations offer a variety of incentives to promote healthy lifestyles. It will be essential for Army installations to utilize a menu of incentives, tailored to specific target populations, to increase physical readiness of civilian employees. Appropriate reasons for using incentives are to gain interest by a target population, enhance the image of a program, create a feeling of competition, encourage regular participation, show appreciation for participant efforts, and recognize successes. Private organizations have more flexibility than public organizations in using case incentives; however, with some thinking out of the box, many of the incentives can be adapted for use at Army installations.

Obviously, making time available to support physical fitness is a primary incentive. Other incentives are often “points” that can be exchanged in a variety of ways. Points may be given for initiating participation, completing a health risk assessment, attending preventive doctors’ appointments, using the fitness center, taking online health education evaluations, attending healthy living lectures.⁹⁵ Every

point earned could equate to a specific dollar amount which might be exchanged for merchandise or gifts at the fitness center or other Army MWR activities. One company implemented a walking program to stimulate participation by both active and sedentary members of its 800-member workforce. In addition to giving pedometers to participants, they provide a kit with a log book that allows walkers to take “virtual journeys” and log miles as they “walk” to various cities to reach goals. For every 100 miles, employees get a choice of notional incentives such as ear muffs, fanny packs, or socks.⁹⁶ This type of program could be easily modified and sponsored by installations where subject to legal review on use of incentives.

Challenges to program implementation include gaining trust of employees and easing their doubts about health assessment privacy, providing wellness programs to geographically diverse or mobile employee population, balancing incentive strategies so that healthy as well as high-risk employees are equally motivated, and spreading the use of limited resources.⁹⁷ Perhaps the Army’s paramount challenge will be to identify the proper metrics upon which measure results and evaluate program effectiveness.

Marketing

The *Army Strong* campaign appeals to Soldiers and targets the recruiting base in the American public. Civilian employees most definitely relate it. With some modification the subtle campaign message of “strength, fitness and purpose” can be used as a key element of shifting towards a culture of fitness in the civilian workforce.

Branding all health initiatives under a single title and logo is a technique common to companies with highly successful programs. In the 1996 version of AR 600-63, the Army instituted a “Fit to Win” theme that was deleted from the language in 2007.

However, the slogan is still used in daily conversation by fitness and health promotion professionals with whom I spoke during the research for this paper. Even if a different slogan is used, the presence of a standard health promotion theme and logo would help to keep wellness on civilian employees' minds and could be translated to posters and other notional promotional items to be displayed in the work setting.

Strong messages across many lines of communication are also critical to a successful marketing campaign. This includes senior leader memoranda, newsletters, direct email, organizational intranet and websites, brochures, health calendars, and special events that would be widely supported and attended by senior leaders of the organization. The Army's "My Medical" page on Army Knowledge Online (AKO) sets an example for how interactive individual record-keeping and information sharing can be used effectively to educate, promote, and track progress of a target audience. A similar page, such as "My Health and Fitness," could be developed and used across the full spectrum of the population for personal awareness and education, to encourage personal responsibility and healthy decision-making. The website should be standardized to reinforce Army key messages regarding civilian fitness and could provide online tools, self-assessments, personal tracking of fitness activities, and other resources to understand health care and ensure Army-wide information was available in one location for employees. Several private corporations specialize in delivering customized health and fitness web pages for clients as low-cost solutions to inform, educate and engage employees.

Recommendations

Woven throughout this paper are numerous recommendations and suggestions to promote civilian fitness that would better posture the Army to deal with the future challenges. Some of them are restated in this section of the paper and other new recommendations are included to deal with findings contained above. While this may appear to be a menu of recommendations, it is not. Rather, it recognizes the vast challenge facing the Army given the dispersion of responsibility for influencing the cultural change needed to achieve results.

First and foremost, the Army should designate a top leader as a “champion” for civilian fitness who will oversee the integration of the critical elements identified in this paper. Senior leaders at HQDA staff and commands should endorse policies that require leaders to value, promote, and strongly encourage employees to participate in civilian health promotion programs. This should include the specific types of desired behaviors including maximum use of duty time and flexible schedules to support fitness activities.

The Army staff should clearly align the business concepts contained in this paper against strategic documents and begin to identify the metrics and data for measuring success. Commanders at every level should incorporate messages about the importance of civilian fitness to their readiness in their memoranda and on organizational websites. They should designate responsible staff elements to focus on data collection, analysis of trends and projections of business impacts of health and fitness initiatives, and link them to relevant strategic planning documents to be reported as a component of readiness.

The Army G1 should pursue legislative change to Title 5, United States Code, to allow civilians to use sick leave for physical fitness activities as a measure of preventive health care. AR 600-63 should be revised to authorize commanders to allow a modest amount of administrative time (two or three hours per week) for employees to pursue physical fitness activities, beyond the initial six-month period currently authorized. The G1 should develop a model and methods for leaders to encourage and reward employees for achieving and sustaining improved fitness levels. The Civilian Personnel Online (CPOL) website should contain emphasis on the importance of civilian fitness and the Army's priority to this end with key links to relevant policies and resource websites. This would also serve as a recruitment and marketing strategy.

The Army G1 and the Army Center for Health Promotion and Preventative Medicine (CHPPM) should develop and aggressively promote a "My Health and Fitness" portal on AKO. This would ensure the availability of Army-wide information in a central location designed to reinforce key Army messages regarding fitness across the full spectrum of users. The site should provide online tools, self-assessments, education and awareness, personal tracking of fitness activities, progress of results, and personal (confidential) data on height, weight and assessment results such as BMI.

The Army G3 and U.S. Army Training and Doctrine Command should revise the CES courses to incorporate APFRI-like health assessments into all civilian leader development courses. The Foundation course could use on-line tools which would allow new employees to log initial health baseline information for use when meeting with local installation personnel in recommending strategies for fitness programs. The Basic, Intermediate and Advanced courses should include physical assessments during the

residential phases and include the development of strategies and plans for improvement upon return to duty station.

The Army Installation Management Command should develop and leverage partnerships with corporations that would allow for online purchases of approved health and fitness items much like the Army provides contracts for personal purchase of approved information technology products at reduced rates. The Garrison Commander (GC) Pre-Command Course should be reviewed and modified, if necessary, to ensure that incoming commanders understand the positive readiness and sustainability impacts of improving the civilian fitness profile within the Army. As champions for installation fitness programs, the GCs are critical to maintaining the vitality of programs, including resources within the fitness centers to keep the local workforce informed about, encouraged, “pumped up” and involved in the installations’ activities.

Conclusion

The Total Army Force is not as *Army Strong* as it could be. Unparalleled agility, flexibility, strength, and adaptability is demanded by the Army Civilian Corp; yet, leaders rarely focus on the linkage of civilian health and fitness as a readiness enabler. The increasing use of civilians in theaters of operation and the potential for savings in health care utilization; compensation and medical costs of on-the-the job injuries; and use of short-term sick leave are all important reasons to develop strategic initiatives to improve the fitness of our civilian force. Enhanced productivity, in terms of increased effectiveness and efficiency, is another vital by-product.

There is mounting evidence sufficient for leaders to do an about-face with respect to the current lack of focus on civilian fitness in the workplace. Obesity rates are

inching up around the world, but only in America are they skyrocketing. Physical inactivity is also noticeably at an all time high and climbing. The civilian workforce is not exempt from the larger U.S. trends and the hope for improvement in the next generation of workers is questionable. If the future brings to fruition the predicted trends, we can expect to have more obese, less physically active employees working for longer periods of time with all the associated costs. We can “Soldier on” as we are, but these trends clearly indicate a need for the Army to prepare now to avoid an “escalating war” on costs. To do so successfully, our tactics, techniques, and procedures must change.

We can change culture, but not without executing a thoughtful strategy designed to modify behaviors. Only through involved leaders, who provide supportive environments that leverage existing infrastructure and resources, can we successfully fight the “battle of the bulge.” The Army has the critical building blocks upon which to construct the frame for a successful program, but we have not successfully aligned health promotion goals to business strategies that will drive action. We clearly lack strong “champions” at the top that ensure strategic command plans address this critical issue. It is the only way measurable results will occur.

Additionally, an aggressive strategic communication campaign is required to improve the health and fitness of the Army Civilian Corps, of both today and tomorrow, to create the desired effects and savings, tangible and intangible. The challenge is great and there is much work to do. We should analyze what attracts the largest possible population, which strategies are the most effective and efficient and produce lasting results, and what works best at diverse installations around the world.

The time is now to start developing and resourcing programs for the next generation of employees who will enter the Army Civilian Corps during this decade. This is where the real return on investment will occur. Marshalling changes into sustainable, effective programs that integrate physical activity and healthy weight-related behaviors into daily worksite behavior will make a difference. Developing strategic objectives that focus on results will set in place a campaign plan to achieve desired effects to increase civilian readiness and deter the predicted pandemic of obesity and sedentary lifestyles. The recommendations provided in this paper are a good place to start.

Endnotes

¹ MG David H. Huntoon, Jr., Commandant, U.S. Army War College, farewell comments to the Academic Year 2008, 14 January 2008, prior to assuming his new position as Director, Army Staff, cited with permission of MG Huntoon.

² U.S. Secretary of the Army Francis J. Harvey and Army Chief of Staff GEN Peter J. Schoomaker, "The Army Civilian Corps," memorandum for U.S. Department of the Army, , Washington, D.C., 19 June 2006; available from <http://cpol.army.mil/library/general/acc-memo.html>; Internet; accessed 12 November 2007.

³ *Army Strong* is the current Army marketing and recruiting campaign. The campaign video may be accessed by visiting the site at <http://www.goarmy.com/strong>.

⁴ U.S. Department of the Army, *Army Leadership Competent, Confident, and Agile*, Army Field Manual 6-22 (Washington, D.C.: U.S. Department of the Army, 12 October 2006), 5-2.

⁵ Ibid., 5-1.

⁶ Toni B. Wainwright, President, Army Civilian Personnel Alumni Association, "Defense Human Resource Management," lecture, U.S. Army War College, Carlisle Barracks, PA, 14 March 2008, cited with permission of Mrs. Wainwright.

⁷ Lynn G. Norton and Lisa L. Turner, "*Civilians at the Tip of the Spear*," *Air Force Law Review*, Spring 2001 [journal on-line]; available from <http://www.encyclopedia.com/printable.aspx?id=1G1:92044660>; Internet; accessed 7 January 2008.

⁸ U.S. Department of Defense, *DoD Civilian Work Force Contingency and Emergency Planning and Execution*, Department of Defense Directive 1400.31 (Washington, D.C.: U.S. Department of Defense, 28 April 1995), D-1.

⁹ U.S. Department of Defense, *Emergency-Essential (E-E) DoD U.S. Citizen Civilian Employees Overseas*, Department of Defense Directive 1404.10 (Washington, D.C.: U.S. Department of Defense, 10 April 1992); available from <http://www.dtic.mil/whs/directives/corres/html/140410.htm>; Internet; accessed 7 January 2008.

¹⁰ U.S. Department of the Army, Civilian Personnel Online, "Civilian Deployment/Mobilization;" available from <http://cpol.army.mil/library/mobil/civ-mobil.html#sect1a>; Internet; accessed 15 December 2007.

¹¹ James Feagins, Army G1 Human Resources Specialist, e-mail message to author, 3 January 2008.

¹² U.S. General Accounting Office, *DOD Force Mix Issues: Greater Reliance on Civilians in Support Roles Could Provide Significant Benefits: Report to the Chairman, Subcommittee on Readiness, Committee on Armed Services, House of Representatives*. (Washington, D.C.: U.S. General Accounting Office, October 1994), 30.

¹³ Ibid., 39.

¹⁴ U.S. Department of Defense, *Emergency-Essential (E-E) DoD U.S. Citizen Civilian Employees Overseas*.

¹⁵ U.S. Department of the Army, Civilian Human Resources (CHR) FY06 Annual Evaluation. (Washington, D.C.: U.S. Department of the Army, undated), A-7; available from <http://cpol.army.mil/library/civplans/chr-eval/06eval/>; Internet; accessed 20 January 2008.

¹⁶ James Feagins, Army G1 Human Resources Specialist, telephone conversation with author, 4 January 2008.

¹⁷ U.S. Department of the Army, Installation Management Agency, "Standard Garrison Position Descriptions – Directorate Chiefs/Key Garrison Staff," memorandum to Region Directors and Garrison Commanders, Arlington, VA, 12 September 2005.

¹⁸ GWOT Support the Global War on Terrorism, linked from *Army Civilian Personnel Online Employment*; available from <http://acpol.army.mil/employment/gwot.htm>; Internet; accessed 20 January 2008.

¹⁹ U.S. Department of the Army, *DA Civilian Employee Deployment Guide*, Army Pamphlet 690-47 (Washington, D.C.: U.S. Department of the Army, 1 November 1995), 3.

²⁰ Opportunities for DoD Civilians to Serve in Iraq, linked from *U.S. Department of Defense Iraq Provincial Reconstruction Teams (PRTs)*; available from http://www.cpms.osd.mil/gwot/medical_requirements.asp; Internet; accessed 8 December 2007.

²¹ James Brinson, Fort Benning Director of Human Resources, email to author 29 November 2007.

²² Leading Health Indicators, linked from *U.S. Department of Health and Human Services Healthy People 2010*; available from <http://www.healthypeople.gov/LHI/lhiwhat.htm>; Internet; accessed 12 December 2007.

²³ T.G Lohman, S.B. Going, and L. Metcalfe, "Seeing Ourselves through the Obesity Epidemic," *President's Council on Physical Fitness and Sports Research Digest* 5 (September 2004): 2.

²⁴ PricewaterhouseCoopers, "Working Towards Wellness: Accelerating the Prevention of Chronic Disease," (New York City, NY: 2007, 11); available from <http://www.pwc.com/extweb/pwcpublications.nsf/docid/4D1FB58EAEB85B71852572C600707C0C>; Internet; accessed 3 February 2008.

²⁵ John Duncan, Mark A. Vaitkus, and William F. Barko, "The U.S. Army War College and the Road to Executive Health and Fitness," in *Guide to Executive Health and Fitness*, ed. COL William F. Barko and LTC Mark A. Vaitkus (Carlisle Barracks: U.S. Army War College, 2000), 3.

²⁶ U.S. Department of Health and Human Services, *Physical Activity and Health: A Report to the Surgeon General* (Atlanta: U.S. Department of Health and Human Services, 1996), 28.

²⁷ Duncan, 9.

²⁸ Steven N. Blair and Suzanne Brodney, "Effects of Physical Inactivity and Obesity on Morbidity and Mortality: Current Evidence and Research Issues," *Medicine and Science in Sports and Exercise* 31 (1999): S646-62 [database online]; available from Wilson OmniFile; accessed 20 January 2008.

²⁹ Duncan, 9.

³⁰ Larry S. Chapman, *Proof Positive: An Analysis of the Cost-Effectiveness of Worksite Wellness*. (Washington, D.C.: Summex Corporation, 2002),1.

³¹ Larry S. Chapman, "Securing Support from Top Management," *American Journal of Health Promotion* 1 (May/June, 1997): 1-2.

³² Larry S. Chapman, "A WELCOA Expert Interview with Larry Chapman, Principal and Co-founder, Summex from WebMD," interview by Dr. David Hunnicutt, May 2007; available from http://www.welcoa.org/freeresources/pdf/chapman_proofpos_051807.pdf; Internet; accessed 15 December 2007.

³³ Larry S. Chapman, *Proof Positive*, 32.

³⁴ Ibid., 10-15.

³⁵ Ibid., 16-22.

³⁶ Larry S. Chapman, "Meta-Evaluation of Worksite Health Promotion Economic Return Studies: 2005 Update," *The Art of Health Promotion* (July/August 2005): 10.

³⁷ Larry S. Chapman, *Proof Positive*, 27-31.

³⁸ "Wellness Works at SunGard," *Biotech Business Week* (12 November 2007): 2368 [database on-line]; available from LexisNexis; accessed 15 January 2008.

³⁹ Joanne Wojcik, "Employers Spot Link Between Health, Profit: Business Issues Drive Efforts to Ingrain Wellness," *Business Insurance*, 10 December 2007 [journal on-line]; available from <http://www.businessinsurance.com/wellness>; Internet; accessed 15 January 2008.

⁴⁰ Larry S. Chapman, "Meta-Evaluation of Worksite Health Promotion Economic Return Studies: 2005 Update," 10.

⁴¹ U.S. Corporate Wellness, "White Paper: ROI-based Analysis of Employee Wellness Programs;" available from [http://www.uscorporatewellness.com/USCW%20-%20White%20Paper%20\(ROI%20Analysis\).pdf](http://www.uscorporatewellness.com/USCW%20-%20White%20Paper%20(ROI%20Analysis).pdf); Internet; accessed 13 January 2008.

⁴² "Sustainability 101," linked from the *NextStep Home* Page at "Sustainability 101," available from <http://www.nextstep.state.mn.us/article.cfm?articleid=51>; Internet; accessed 9 February 2008.

⁴³ How the Physical Inactivity Cost Calculator was Developed, linked from *College of Health and Human Performance Department of Health Education & Promotion* at "Physical Inactivity Cost Calculator;" available from http://www.ecu.edu/picostcalc/pdf_file/Methods.pdf; Internet; accessed on 5 January 2008. Development of initial calculations were conducted using actual medical care costs obtained from various health insurers (private and public) and employer costs for workers' compensation and lost productivity across seven states and 76 million adult data points. The states covered were California, New York, North Carolina, Massachusetts, Michigan, Texas and Washington. An expert panel from private sector, academia, government, public health and medicine as well as econometrics specialists served as reviewers of the methods and final calculations. To ensure relevancy of the tool, diverse organizations were asked to participate in product development review and in distributing the cost calculator and resource materials. Final steps in refinement of this tool included Beta and Pilot testing in which reliability and usability of the tool were validated. The tool's final cost estimates closely matched the actual results from the original seven states.

⁴⁴ U.S. Office of Personnel Management, *Employment – March 2007*; available from <http://www.fedscope.opm.gov/cognos/cgi-bin/ppdscgi.exe?DC=Q&E=/FSe%20-%20Status/Employment%20-%20March%202007&LA=en&LO=en-us&BACK=/cognos/cgi-bin/ppdscgi.exe?toc=%2FFSe%20-%20Status&LA=en&LO=en-us>; Internet; accessed 13 January 2008.

⁴⁵ The percent of worker population over the age of 65 was inserted in the model because adults in this age group tend to have significantly higher medical costs. The researchers included a multiplier of 2.0 to the percentage of adults in this category based on research showing that adults in this age group incur two or more times more health care services and costs than persons under the age of 65.

⁴⁶ Medical care costs reflect estimated inpatient and outpatient claims payments associated with employer-paid health plans and out-of-pocket expenses incurred by patients; cost of prescription and over-the-counter medications were not included.

⁴⁷ In developing the tool, the researchers extracted data from state workers' compensation agencies and the Workers' Compensation Research Institute (a national research clearinghouse). Among all types of worker compensation, musculoskeletal strains and sprains were extracted from each database and isolated for the purposes of model development

because strains and sprains have been closely associated with physical inactivity. To avoid duplication of costs between “medical care” categories and “workers’ compensation,” only claims reportedly paid exclusively by a state-approved workers’ compensation payor organization were classified as workers’ comp payments.

⁴⁸ These projected savings are estimated based on only 5 percent of the inactive population becoming active.

⁴⁹ U.S. Secretary of the Army Pete Geren and Army Chief of Staff GEN George W. Casey, Jr., “Army Safety and Occupational Objectives for Fiscal Year (FY) 2008,” memorandum to U.S. Department of the Army, Washington, D.C., 6 August 2007.

⁵⁰ U.S. Department of Defense, “IC Program Statistics, FY 92 – FY 07” linked from the *Welcome to Injury and Unemployment Compensation Home Page* at “Injury Compensation;” available from <http://www.cpms.osd.mil/ASSETS/4B937741D734456BB02BBCB75983417C/icstats07.ppt#282,23,GOVERNMENT-WIDE FECA COSTS IN BILLIONS OF DOLLARS FY 92 - FY 07>; Internet; accessed 18 January 2008.

⁵¹ U.S. Department of the Army, *Army Health Promotion*, Army Regulation 600-63 (Washington, D.C.: U.S. Department of the Army, 7 May 2007), 16.

⁵² Pansy Chesney, U.S. Army Finance Command, Defense Finance and Accounting System, e-mail attachment to author, 5 March 2008. Computations and analysis of raw data provided by Ms. Chesney were performed by the author of this paper.

⁵³ U.S. Corporate Wellness. *White Paper: ROI-based Analysis of Employee Wellness Programs*.

⁵⁴ Partnership for Public Service, “Where the Jobs Are: Mission Critical Opportunities for America, 2nd Edition – 2007;” available from <http://www.ourpublicservice.org/OPS/publications>; Internet; accessed 2 February 2008.

⁵⁵ Cara Spiro, “Generation Y in the Workplace,” *Defense AT&L* (November-December 2006): 16.

⁵⁶ *Ibid.*, 17.

⁵⁷ Leah Carlson Shepherd, “Employers Increase Wellness Push with New Programs, Incentives,” *Employee Benefit News* (1 July 2006) [database on-line]; available from LexisNexis; accessed 15 January 2008.

⁵⁸ Milt Freudenheim, “Assessing the Corporate Fitness Craze,” *New York Times*, 18 March 1990 [newspaper on-line]; available from <http://www.query.nytimes.com>; Internet; accessed 27 November 2007.

⁵⁹ U.S. Corporate Wellness. *White Paper: ROI-based Analysis of Employee Wellness Programs*.

⁶⁰ U.S. Department of Health and Human Services, National Center for Health Statistics, "Trends in Health and Aging;" available from <http://www.cdc.gov/nchs/agingact.htm>; Internet; accessed 20 November 2007.

⁶¹ Frank W. Booth and Manu V. Chakravarthy, "Cost and Consequences of Sedentary Living: New Battleground for an Old Enemy," *President's Council on Physical Fitness and Sports Research Digest* 3 (March 2002): 2.

⁶² U.S. Department of Health and Human Services, National Center for Health Statistics, "Trends in Health and Aging."

⁶³ Richard W. Judy and Carol D'Amico, *Workforce 2020: Work and Workers in the 21st Century* (Indianapolis: Hudson Institute, 1997), 103.

⁶⁴ Partnership for Public Service, 2.

⁶⁵ U.S. Army Regulation 600-63, 2.

⁶⁶ *Ibid.*, 16.

⁶⁷ *Ibid.*

⁶⁸ "Profile of Federal Civilian Non-Postal Employees," 30 September 30, linked from the *U.S. Office of Personnel Management Home Page*; available from <http://www.opm.gov/feddata/html/prof0903.asp>; Internet; accessed 9 December 2007.

⁶⁹ Stephen Barr, "Bill Would Give Retirees Partial Pay for Unused Sick Leave," *WashingtonPost*, 11 March 2008 [newspaper on-line]; available from <http://www.washingtonpost.com/wp-dyn/content/article/2008/03/10/AR2008031002708.html>; Internet; accessed 12 March 2008.

⁷⁰ U.S. Department of the Army, *Army Training and Leader Development*, Army Regulation 350-1 (Washington, D.C.: U.S. Department of the Army, 3 August 2007), 1.

⁷¹ U.S. Army Management Staff College, "Civilian Leader Development Program," linked from *What is CES*; at "Civilian Leader Development Program;" available from <http://www.amsc.belvoir.army.mil/ces>; Internet; accessed 12 December 2007.

⁷² U.S. Army Management Staff College, "Foundation Course," linked from *Civilian Education System*; available from <http://www.amsc.belvoir.army.mil/ces/fc>; Internet; accessed 2 January 2008.

⁷³ U.S. Department of the Army, "Civilian Education System," *Stand-To!*, 10 December 2007; available from <http://www4.army.mil/news/standto.php?printable&dte=2007-12-10>; Internet; accessed 10 December 2007.

⁷⁴ COL Thomas Williams, Director, Army Physical Fitness Research Institute, e-mail message to author, 9 March 2008.

⁷⁵ COL Thomas Williams, Director, Army Physical Fitness Research Institute, 2008 Class Leadership Meeting, U.S. Army War College, Carlisle Barracks, 24 January 2008, cited with permission of COL Williams.

⁷⁶ Larry E. Segesman, *Civilian Corporate Fitness in the Department of the Army: the Newest Dimension of Civilian Personnel Management*, Student Essay (Carlisle Barracks: U.S. Army War College, 23 March 1987), 1.

⁷⁷ Ibid.

⁷⁸ Larry S. Chapman, *Proof Positive: An Analysis of the Cost Effectiveness of Worksite Wellness*, 142.

⁷⁹ Wendy D. Lynch, "Health Affects Work, and Work Affects Health," *Business & Health* 19 (2001): 36 [database on-line]; available from Wilson OmniFile; accessed 9 December 2007.

⁸⁰ Duncan, 7.

⁸¹ For more information on this initiative, readers may refer to the U.S. Office of Personnel Management Internet website available from <http://www.healthierfeds.gov>.

⁸² U.S. Office of Personnel Management, *Employment – March 2007*; available from <http://www.fedscope.opm.gov/cognos/cgi-bin/ppdscgi.exe?DC=Q&E=/FSe%20-%20Status/Employment%20-%20March%202007&LA=en&LO=en-us&BACK=/cognos/cgi-bin/ppdscgi.exe?toc=%2FFSe%20-%20Status&LA=en&LO=en-us>; Internet; accessed 13 January 2008. As of March 2007, the total Department of Defense civilian appropriated fund population was 662,546.

⁸³ U.S. Office of Personnel Management, "2007 Agency Results," linked from *HealthierFeds*; at "The Challenge;" available from <http://www.healthierfeds.opm.gov/challenge/results/2007/index.asp#results>; Internet; accessed 5 January 2008.

⁸⁴ Wojcik.

⁸⁵ U.S. Department of Defense, *Health Promotion and Disease/Injury Prevention*, Department of Defense Directive Number 1010.10 (Washington, D.C.: U.S. Department of Defense, 22 August 2003), 2.

⁸⁶ U.S. Secretary of the Army Pete Geren and Army Chief of Staff GEN George W. Casey, Jr., "Army Safety and Occupational Objectives for Fiscal Year (FY) 2008," memorandum to U.S. Department of the Army, Washington, D.C., 6 August 2007.

⁸⁷ U. S. Department of Defense, *DoD Civilian Human Capital Strategic Plan, 2006-2010*, (Washington, D.C.: U.S. Department of Defense, 2006); available from http://www.defenselink.mil/prhome/docs/civilianstrat_plan7_9.pdf; Internet; accessed 12 December 2008.

⁸⁸ Ibid., 14.

⁸⁹ Peter D. Hart Research Associates. "American Attitudes Toward Physical Activity and Fitness: A National Survey," (Washington, D.C.: The President's Council on Physical Fitness and Sports, 1993), 1; available from http://www.fitness.gov/council_pubs.htm; Internet; accessed 12 November 2007.

⁹⁰ Ibid., 2.

⁹¹ Ibid., 4.

⁹² Ibid., 5.

⁹³ Ibid., 6.

⁹⁴ Ibid., 7.

⁹⁵ Molly Bernhart, "Wellness Winners Share Their Success Strategies," *Employee Benefit News* (1 September 2006) [database on-line]; available from LexisNexis; accessed 15 January 2008.

⁹⁶ Stephenie Overman, "Many Offer Basic Wellness Initiatives, Few Track Results," *Employee Benefit News* (15 April 2006) [database on-line]; available from LexisNexis; accessed 15 January 2008.

⁹⁷ Bernhart, 1.

