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Report to the Chairman, Subcommittee  
on Military Personnel and  
Compensation, Committee on Armed  
Services, House of Representatives

June 1991

DEFENSE HEALTH  
CARE

Health Promotion in  
DOD and the  
Challenges Ahead



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Human Resources Division

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June 4, 1991

The Honorable Beverly B. Byron  
Chairman, Subcommittee on Military  
Personnel and Compensation  
Committee on Armed Services  
House of Representatives

Dear Madam Chairman:

This report responds to your request for information on the Department of Defense's (DOD's) health promotion program. The report describes (1) how DOD's program components relate to the services' major health concerns, (2) how DOD's program and selected private health promotion programs compare with respect to content and organization, (3) to what extent prior health promotion studies have analyzed the costs and benefits of health promotion, and (4) how DOD's program may need to be enhanced to meet future needs.

## Results in Brief

DOD's health promotion program consists of activities that address the military's major health concerns, including heart disease, cancer, and alcohol abuse. The activities are categorized under six areas: (1) early identification of hypertension, (2) physical fitness, (3) alcohol and drug abuse prevention, (4) smoking cessation and prevention, (5) nutrition, and (6) stress management.

The health promotion programs we reviewed at three military installations appeared comparable to those of the four private sector firms we contacted. We found similarities in the programs' content and a high degree of management commitment to achieving health promotion objectives. Just as in the private sector, however, the comprehensiveness of health promotion programs varies across DOD.

Although cost-benefit studies of private sector health promotion programs have been conducted, certain common design problems limit the representativeness of the studies and the extent to which they were able to quantify and link benefits to health promotion interventions. Thus, how cost beneficial health promotion efforts are, remains largely an open question. Cost-benefit studies have not been made of DOD programs. One obstacle is that DOD has not accumulated cost information on its health promotion activities.

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DOD's health promotion program will be an important part of its efforts to attain recently adopted health goals for the year 2000, but the program will need certain enhancements. For example, DOD needs to develop baseline program data on the health status and behavior of its target groups (active duty members, retirees, dependents, and DOD civilian employees). DOD is devising program strategies to meet these goals.

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## Scope and Methodology

In conducting this study we obtained information from a number of sources. Specifically, we (1) interviewed DOD officials at various levels about the health promotion program content, organizational structure, resources, and evaluations, (2) reviewed documents such as health promotion policy statements, budget materials, minutes of health promotion coordinating committee meetings, and internal DOD assessments of local programs, (3) reviewed health promotion literature and cost-benefit studies, (4) obtained the views of private sector health care consultants on key features of recognized health promotion programs in the private sector, (5) spoke with representatives of four private sector firms—Johnson and Johnson, Pacific Bell, AT&T, and Coors—reputed as being among the leaders in health promotion regarding the principal components of their programs, and (6) visited three DOD installations—Ft. Hood, Texas; Naval Station and Naval Hospital, San Diego, California; and Lackland Air Force Base, Texas—with programs generally considered to be among DOD's best.

Our work was conducted between December 1989 and January 1991 in accordance with generally accepted government auditing standards.

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## Background

Health promotion represents combinations of health education activities and interventions designed to facilitate behavior changes that will improve or protect health. Most commonly, such activities include smoking prevention and cessation, physical fitness, nutrition, stress management, alcohol and drug abuse prevention, and early identification of hypertension.

DOD has been involved for many years in such health promotion activities as physical fitness and alcohol and drug abuse programs, particularly for those on active duty. In 1986, DOD began to incorporate these and other health promotion related efforts into a more focused health promotion program that included its active duty members, civilian employees, retirees, and dependents.

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Designing and administering a comprehensive health promotion program presents more of a challenge in DOD than in most private sector firms because DOD's work force is extremely large and is dispersed over thousands of locations, including some in remote areas.

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## DOD Programs Address Health Concerns and Are Comparable to Private Programs

DOD's health promotion programs address many of its primary health concerns, including heart disease, alcohol dependency, hypertension, obesity, and cancer. DOD uses the top 10 causes of morbidity, mortality, and hospitalization, compiled by each of the services, as an indication of its population's health problems. (App. I provides this information for each service.)

DOD's health promotion program components are similar to those of private sector health promotion programs—nutrition, stress management, early detection of hypertension, drug and alcohol abuse prevention, and smoking cessation. Also, DOD's programs, like those in the private sector, offer many services and activities related to developing and maintaining physical fitness. Both the DOD facilities we visited and private sector firms we contacted run fitness centers with high-quality exercise equipment staffed by qualified personnel, such as exercise physiologists. DOD and the private firms may also offer stress tests, weight control programs, aerobics, other exercise classes, and athletic activities, including softball, running, cycling, and swimming. (App. II contains a more complete list of the activities offered in DOD and by private sector firms.)

Both military and private sector programs we contacted also offer health education and counseling programs. These include classes and promotional activities related to weight control, nutrition, smoking, alcohol, drugs, hypertension, and stress. Highlights of these programs include

- nutrition classes focused on home meal preparation,
- dining facilities that offer and identify healthful foods,
- smoke-free buildings or designated smoking areas,
- displays of anti-smoking literature, smoking cessation classes, and participation in the "Great American Smokeout,"<sup>1</sup>
- alcohol and drug abuse classes that identify the dangers of abuse, offer counseling, and provide rehabilitation,

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<sup>1</sup> A smoking cessation promotional campaign sponsored by the American Cancer Society that asks smokers to refrain from smoking for 24 hours on the third Thursday in November each year.

- stress management classes that discuss how to identify sources of stress and manage them, and
- cholesterol and blood pressure tests offered at fitness centers, clinics, hospitals, and health fairs to help identify hypertension early.

As in the private sector, DOD's health promotion programs vary in comprehensiveness. According to a National Survey of Worksite Health Promotion Activities, nearly 66 percent of the nation's worksites with 50 or more employees offer at least one health promotion activity. While all DOD health promotion programs are required by internal directive to offer the six basic components—(1) early identification of hypertension, (2) physical fitness, (3) alcohol and drug abuse prevention, (4) smoking cessation and prevention, (5) nutrition, and (6) stress management—the intensity with which they are implemented varies from installation to installation.

Dependents and retirees in both DOD and private companies as well as DOD civilian employees are eligible to participate in health promotion activities, but their participation rates are lower. Officials in the private sector and DOD stated that it is more difficult to include these populations in their programs. Dependents and retirees are harder to reach because many do not live near the worksite where fitness or education facilities are located and where health promotion information is disseminated.

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## Resource and Management Commitments

Because of inadequate data, it is not possible to compare DOD and private sector resource commitments for health promotion. DOD does not maintain data on the resources it invests in the program, but private sector firms with well-defined programs do. DOD and private sector programs seem similar, however, with respect to the commitment their leadership and top managers make to health promotion. This, according to experts, is a key ingredient of successful programs.

While there are a few full-time health promotion personnel at headquarters levels throughout DOD and limited funding is provided, usually health promotion activities are not separately budgeted for. Limited funding is provided for such things as promotional materials, travel, and conferences. Health promotion programs within DOD are basically decentralized, with services provided by a variety of organizations as part of their many responsibilities. The bulk of programs and activities take place at military installations and are integrated with the medical and personnel functions. These organizations do not view health promotion

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as a separate program and do not specifically allocate resources for the health promotion services they provide. Similarly, the facilities used for physical fitness programs are not funded or maintained as part of a health promotion program. Therefore, no data exist on the overall resource commitment made to health promotion in DOD.

Corporate officials and private health promotion consultants stated that top management interest and support is crucial in putting together health promotion programs and motivating individuals to participate. Military commanders at the installations we visited appear to be strongly committed to health promotion. They provide personnel and encourage employee participation and volunteerism.

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## Health Promotion Cost-Benefit Studies Have Limitations

Although several studies have concluded that health promotion is cost beneficial, even those using sophisticated methodologies have had to qualify their conclusions extensively. Several methodological and data problems common among such studies need to be overcome.

First, research designs frequently do not employ randomly selected study samples representative of the populations served. Participants in health promotion cost-benefit studies often become involved voluntarily. Therefore, such demographic variables as medical expenses, socioeconomic class, sex, and race in the study samples often are not fully representative of the populations served.

Second, health promotion benefits are difficult to quantify. Cost-benefit analysis used in health promotion research attempts to express benefits in dollar terms and then compare these amounts to the costs of implementing the program. However, the difficulty of assigning dollar values to such variables as increases in morale and productivity makes cost-benefit analyses imprecise and requires that they be highly qualified.

Third, health promotion studies have been conducted before sufficient time has elapsed to obtain stable data. Because health promotion research is essentially longitudinal, researchers state that stable and reliable data needed for analysis may require that programs be in place and changes be monitored for at least 5 to 10 years or longer. Many of the current studies and projections by private companies are based on the early years of program implementation.

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As a result of the long-term evaluation requirements, health promotion cost-benefit studies can be expensive. Some experts believe that conducting cost-benefit research on the programs can often cost more than the programs themselves. Thus, private firms have been somewhat reluctant to finance such studies.

DOD has not conducted cost-benefit studies of its health promotion program. To do so, DOD would have to accumulate data on the resources it has committed to the program. DOD would also likely encounter research limitations similar to those that have affected other studies.

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## Adopting National Health Goals Will Challenge DOD's Health Promotion Program

DOD recently announced that it has adopted a modified version of the Department of Health and Human Services' (HHS's) national year-2000 health objectives. DOD will use its health promotion program as the principal medium for accomplishing the objectives. The effort is in its early stages, and much remains to be done before the services can identify appropriate health interventions and measure their progress toward achieving the objectives.

HHS's "Healthy People 2000," released in September 1990, outlines a national initiative to improve the health of all Americans during 1990-2000, through a coordinated and comprehensive push toward disease prevention. The primary goals include (1) increasing the span of healthy life, (2) reducing health disparities, and (3) achieving access to preventive services for all Americans. To achieve these broad goals, HHS established specific and quantifiable objectives requiring that the population's health status, behavior, and risks be assessed; interventions be designed; and progress made in achieving the objectives be measured.

In late 1990 DOD announced that it would adopt a modified version of these objectives, tailored to its particular circumstances. Adopting the objectives first required DOD to establish more specific health goals than it has now. For example, a smoking prevention goal under the current health promotion program is to "create a social environment that supports abstinence and discourages use of tobacco products, create a healthy working environment, and provide smokers with encouragement and professional assistance in quitting."

Under the year-2000 objectives, DOD's goal is to reduce the percentage of active duty smokers to 20 by the year 2000. This requires, at minimum, knowledge of the target population's health status or, in this example, the percentage of the population that are smokers. Also needed would

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be interventions to reduce smoking rates and a way to monitor progress toward achieving the goal.

Before it can plan specific strategies for achieving the year-2000 objectives, DOD needs to collect baseline information about the health status, behaviors, and risks of its population. DOD's current health status indicators, the top 10 lists of the causes of morbidity, mortality, and hospitalization, do not provide specific enough data to establish such baselines. For example, HHS, using various sources of data, has determined that in 1987, about 135.2 deaths per 100,000 people occurred as a result of coronary heart disease. It established a national goal for reducing coronary heart disease mortality to no more than 100 per 100,000 by the year 2000. DOD officials currently estimate that they have identified sources to determine the baselines for about 60 percent of their objectives. DOD is investigating other sources, such as HHS's data bases, for obtaining baseline data for the remaining objectives.

Information on health behaviors and risk can assist in identifying the possible causes for a population's health status and can give early warnings of health problems that may occur in the future. Private sector companies and HHS use health risk assessments as a tool for collecting information about individuals' lifestyles. The applicability and reliability of the assessments can vary and may not address all risks, but the objective is to collect information on individuals' smoking, eating, exercise habits, medical history, and background to ascertain the risks of contracting particular illnesses. Armed with information from such assessments, health promotion planners are better able to develop programs to educate individuals about their health risks and encourage behavior modification.

Health risk appraisals are not performed on a widespread basis within DOD. The Army began performing risk appraisals in 1988. It plans to administer such appraisals to all active duty members; as of April 1990, it had completed them for about 39 percent of the active duty population. Appraisals begin during basic training and may be later administered during periodic physical examinations, permanent change of station, by referral, or unit request. All data are automated and used to (1) monitor program status, progress of fitness initiatives, and overall installation and community well-being, (2) ensure that appropriate health promotion programs are initiated, and (3) manage resources necessary to support the program.

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In summary, implementing, monitoring, and evaluating a program to achieve specific health objectives could be difficult and costly. First, a measurable health promotion program is likely to require that epidemiologic studies of the incidence of illness be conducted to identify the health status of the population. Second, appropriate interventions to achieve specific goals and objectives have to be identified. Last, and probably the most challenging, determining the program's success in reducing the burden of disease and disabilities in DOD's population requires that it be evaluated.

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As requested by your office, we did not obtain written agency comments on this report. We did, however, discuss its contents with officials in the Office of the Assistant Secretary of Defense for Health Affairs and representatives of the services and incorporated their comments where appropriate. We are sending copies of this report to the Secretary of Defense, other congressional committees, and other interested parties.

If you have any questions about matters contained in this report or would like to discuss it further, please call me on (202) 275-6207. A list of the key people who worked on this assignment is provided as appendix III.

Sincerely yours,



David P. Baine  
Director, Federal Health Care  
Delivery Issues



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## Abbreviations

DOD	Department of Defense
HHS	Department of Health and Human Services



# Principal Causes of Morbidity, Mortality, and Hospitalization in the Military Services, 1988

<b>Army<sup>a</sup></b>	<b>Navy<sup>b</sup></b>	<b>Air Force<sup>c</sup></b>
<b>Morbidity</b>		
Alcohol and drug abuse	Orthopedic conditions	Hypertension
Atherosclerosis/heart disease	Internal medicine problems	Emphysema
Upper respiratory infection/pneumonia	Neurologic conditions	Low back pain
Cancer (all types)	Ophthalmologic conditions	Nutritional
Lower back pain/injury	Dermatologic conditions	Cancer
Inguinal hernia	Urologic conditions	Infectious diseases
Psychiatric/depression	Psychiatric conditions	
Obesity	Surgical conditions	
Gastrointestinal disease	ENT conditions	
Diabetes	Gynecologic conditions	
<b>Mortality</b>		
Cancer	Motor vehicle accidents	Private vehicle accident
Heart disease	Heart	Self-inflicted injury
Accidents	Suicide	Aircraft accident
Chronic pulmonary disease	Aircraft	Motorcycle accident
Infections	Hostile fire	Acute myocardial infarction
Pneumonia	Drowning	Cardiac dysrhythmias
Sudden infant death	Homicide	Other forms of chronic ischemic heart disease
Newborn mortality	Stroke	Bullets/pellets
Alcoholic cirrhosis of liver	Cancer	Poisons/gases
Diabetes	Falls	Drowning
	Gunshot	Other accidents
		Other illness
<b>Hospitalization</b>		
Pregnancy	Alcohol dependence	Disturbances in tooth eruption
Viral infections (upper respiratory)	Hernia repair	Gastroenteritis and colitis, other/unspecified noninfection
Viral infections (gastrointestinal)	Internal derangement, knee	Anomalies of tooth position
Pneumonia	Chickenpox	Unspecified viral infection
Inguinal hernia	Adjustment reaction	Delivery in a completely normal case
Atherosclerosis/heart disease	Cellulitis/abscess	Inguinal hernia, unilateral or unspecified
Alcohol dependency	Personality disorder	Lumbago
Head injury	Orthopedic aftercare	Sterilization
Ophthalmological/ears, nose, throat problems	Back injury	Intestinal infection due to other organism
	Normal delivery	Deviated nasal septum

<sup>a</sup>Includes dependents.

<sup>b</sup>1987 data.

<sup>c</sup>1987 data for mortality and hospitalization.

# Health Promotion Activities Offered in DOD and Private Sector Firms We Contacted

Components	DOD	Private sector
Physical fitness	<p><b>Modern equipment:</b> Weight machines, free weights, rowing machines, exercise bikes, treadmills</p> <p><b>Organized sports and activities:</b> Running, swimming, jogging, boxing, volleyball, judo, karate, scuba, wrestling, bowling</p> <p><b>Exercise activities:</b> Aerobics, floor exercises</p> <p><b>Other activities:</b> Fitness training, tennis, basketball, racquetball, squash, fitness testings, and lifestyle assessments</p>	<p><b>Modern equipment:</b> Weight machines, exercise bikes, treadmills, rowing machines</p> <p><b>Organized sports:</b> Softball, archery, flag football, golf, scuba, walking clubs</p> <p><b>Exercise activities:</b> Aerobics, track, pre- &amp; post-natal exercise classes, individualized exercise program</p> <p><b>Other activities:</b> Submaximal stress test, well-back clinic</p>
Weight control	<p><b>Classes:</b> Community weight control groups, weight loss courses, application of active duty DOD weight standards</p>	<p><b>Classes:</b> Weight management course, support group for people attempting weight loss, weight control groups (Weight Watchers)</p>
Nutrition	Nutrition classes, labeling of healthy foods in commissaries, offering healthier foods in dining halls	Supermarket tour, labeling of healthy foods in dining areas
Stress management	Classes on stress management	Anger/stress management class, relaxation program, stress awareness seminars
Smoking	Smoking cessation classes, including those developed by the American Cancer Society, smoking cessation program (utilizing nicotine gum), designated smoking areas	Hypnosis, smoking cessation clinic, designated smoking areas
Alcohol and drug abuse	Initiatives to reduce incentives to abuse alcohol; e.g. policies to prohibit reduced prices on alcoholic beverages in DOD facilities, sobriety checks, random drug tests, alcohol rehabilitation, course for commanding officers to recognize substance abuse	Video on responsible drinking
Hypertension	Cholesterol screens, blood pressure screens, hypertension patient education program	Cholesterol screens, blood pressure screens, cardiac rehabilitation program
Other	Back care clinic, suicide prevention program, mobile outreach health unit, health promotion course for civilian employees, health promotion course for commanding officers, newsletters, health promotion handbook, healthfairs	Back care clinic, mammography, video library on health and safety, prenatal program, telephone hotline for health concerns, health promotion lecture series, newsletters

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