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A STUDY TO DEVELOP
AN ARMY MEDICAL DEPARTMENT
WELLNESS PROGRAM

A Graduate Research Project
Submitted to the Faculty of
Baylor University
In Partial Fulfillment of the
Requirements for the Degree
of
Master of Health Administration

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by

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<p>The Army Medical Department, like the entire health care delivery system in the United States, is on the threshold of a change that will increasingly focus health care on wellness rather than on only the treatment of injuries and diseases. This study develops an AMEDD wellness program for implementation. Its components include: personal responsibility, nutritional awareness, physical fitness, stress management, and environmental sensitivity. Its goal is optimal physical, emotional, and mental health. The program includes four phases and requires joint cooperation between the AMEDD and unit leaders to be fully implemented.</p> <p><i>Keywords: medical services, health care, military medicine</i></p>			
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I. INTRODUCTION

Development of the Problem

Conditions Which Prompted the Study

The significance of lifestyle upon the health status of Americans is profound. A recent study showed that 53 percent of all deaths of Americans under sixty-five were attributable to the individuals' lifestyles.¹ Individual lifestyle, physiological inheritance, social condition and physical environment essentially determine our health status and life expectancy. Yet these dimensions of well-being are ones to which our traditional health care system seldom relates.² The American health care delivery system, rather than concerned with health maintenance and disease prevention, is focused on the diagnosis and treatment of disease. This orientation of the medical establishment has led many Americans to expect practically all of their health needs to be met by the miracles of modern medical science.

A close examination of the history of mankind reveals, however, that health levels have risen mainly because of improved economic and social conditions and not as a result of medico-technological advances. As Dr. Steven Jonas has observed, historical evidence clearly shows that it is prevention rather than treatment, that has been the key to improving health levels.³

The major reasons for improvement in health levels in the 18th and 19th centuries were improved nutrition that was brought about by increases in the amount of

food that became available and an improved food distribution system. Later, improvements in health levels were brought about by better sanitary conditions. In the 20th century, immunization has been a major factor in the improvement of health levels. Nutrition and sanitary conditions have continued to improve. Also, since the beginning of the industrial revolution, general standards of living have gotten better. It is through these means that human beings have conquered the infectious diseases that ravaged populations in earlier times.⁴

Now that infectious diseases have been brought under control, Americans must face the threats of chronic diseases. Today, heart disease, cancer, stroke, respiratory diseases and accidents are the principal causes of premature death and disability among adults.⁵ In dealing with these health threats, more available medical care such as that provided by our health care system does not mean better health. The best estimates are that the health care system today affects only about 10 percent of the usual indices for measuring health such as infant mortality, adult mortality, and days lost due to sickness. The remaining 90 percent are determined by factors over which the health care system has little or no control, such as individual lifestyle, social conditions, physiological inheritance, and physical environment.⁶ This evidence supports the view of Aaron Wildavsky and many others that most of the unhealthy things that happen to people are at present beyond the reach of medicine.⁷

This realization of the limited significance of medical intervention has been coupled with the growing recognition of the importance of individual lifestyle, physical environment, physiological inheritance and social conditions. These aspects are gradually moving to the center of our national concerns about

health. While this is a radical departure from our current national health policies, there are definite signs that Americans and the American health care delivery system are moving in that direction.

The most prominent example today of this philosophical shift can be found in the wellness movement. Wellness is a lifestyle approach to the pursuit of optimal physical, emotional and mental/spiritual health by means of (1) personal responsibility, (2) nutritional awareness, (3) physical fitness, (4) stress management, and (5) environmental sensitivity.⁸ This approach, which offers everyone the opportunity to attain optimal individual health, appears to be outside a health care system like our own which is overwhelmingly oriented to the treatment of disease and injury. Many in the American health care delivery system are recognizing, however, that they have a vital role to play in creating supportive environments which will sustain individuals in their pursuit of wellness.⁹

American Hospital Association President Alex McMahon, speaking recently on wellness in primary care, stated that half of the hospitals in the United States have already taken the first steps in providing wellness programs. Wellness, he said, expands the philosophy of hospital care by helping people approach optimal well-being and not simply avoid illness.¹⁰ McMahon stated further that hospital involvement in wellness is a philosophical extension of primary care involvement and a natural extension for hospitals.

It is highly appropriate that civilian hospitals are moving in this direction because consumer demand for health care is shifting from a complaint-response orientation to one of health

promotion. Consumers are becoming increasingly aware that control of the present major health problems in the United States depends directly on modification of their individual behavior and habits of living.¹¹

The trend to wellness is being manifested in many ways. Every day, for example, nearly half of the American adult population is practicing some form of physical fitness.¹² Americans are demanding more nutrition, quality and variety in their food.¹³ They are enrolling in health maintenance organizations at an increasing rate and leaders of business and industry are demanding that the American health care system give more emphasis to health promotion and less to curative medicine.^{14,15} Corporate America is increasingly becoming aware that, even though the United States has one of the world's best health care systems, preventable diseases are exacting a heavy toll. Companies are developing wellness programs at an ever-accelerating rate to protect and improve the health of their employees. Corporations, insurance companies, universities and hospitals have invested millions of dollars in wellness programs for their employees while growing numbers of wellness centers are available to the general public.¹⁶

The Army Medical Department also owes every soldier on active duty an opportunity to understand the significance of lifestyle to the prevention of disease. Since diseases like heart disease, cancer, stroke, respiratory diseases and other chronic illnesses are the major threats to the health of Americans today, it is important for the Army Medical Department to be involved in

insuring that every soldier understands how to maintain and improve his health. It is equally important that every soldier be given support in implementing changes in his lifestyle which are desirable and gradual. Providing this understanding and support is a great challenge for the Army as a whole and for the Army Medical Department in particular.

The health status of American soldiers essentially mirrors the health status of all Americans. The Army has a relatively young population but fundamentally the health of the American soldier is highly similar to that of American civilians.¹⁷ Although soldiers in combat units are usually involved in regular physical fitness training, they have essentially the same dietary habits and abilities in managing stress as do their civilian counterparts. The need for wellness in the military community is the same as the need in the civilian community because the same diseases which threaten the American population as a whole threaten America's soldiers.

Improving the health status of American soldiers, like improving the health status of all Americans, will depend greatly on the design and application of programs which place major emphasis on the preventable aspects of human disease. Recognition of this has spurred the development of wellness programs in the civilian sector of the health care industry and must similarly give rise to wellness activities in the military. The Army Medical Department, long a leader in preventing disease and pioneering methods of protecting the soldier's health, must reassess its

commitment to the health of the soldier in the light of the wellness approach to health care.

The military medical community already possesses the wide spectrum of medical and allied health specialties necessary for a wellness program. Expertise in dietetic counseling, physical fitness improvement, and stress management is waiting to be tapped. In addition, the rest of the military community offers facilities for physical fitness and social support systems which can be channeled to promote total well-being. The Army has the capability to meet the wellness program needs of its people and must only bring together the many positive elements already available for promoting health.

Just as American society is looking to the health care system to provide leadership and offer services in wellness, so too are American soldiers looking to the Army Medical Department to provide leadership and meet the wellness needs of the Army community. The Army Medical Department, like any organization responsible for the health of its constituent community, must focus on the problems soldiers are having in taking better care of themselves and in preventing disease. The responsibility for the health of the soldier has always been shared among the soldier himself, his commander, and the Army Medical Department. In designing and applying a program which places major emphasis on preventing disease and promoting health, however, the Army Medical Department can meet the challenge of promoting immediate and long-term improvement in the soldier's health by developing an Army Medical Department wellness program.

Statement of the Problem

The problem was to develop an Army Medical Department (AMEDD) wellness program for implementation by Army medical treatment facilities and the units they support.

Statement of Research Objectives

The objectives of this research project are:

1. To identify the appropriate components of an AMEDD wellness program.
2. To assess current AMEDD programs and practices as well as other Army programs and practices which should be incorporated into an AMEDD wellness program.
3. To identify who should develop and implement a wellness program.
4. To determine soldier acceptance of a wellness program.
5. To propose an AMEDD wellness program meeting established program standards.

Criteria

The criteria of this research are:

1. Components of a wellness program as determined through reviewing the literature and analyzing current civilian wellness programs.
2. Health care providers to participate in wellness programs as evidenced by comparisons of current operational wellness programs.

3. Health care providers and others directing and managing a wellness program based on consultation with experts and reviewing the literature.

4. Degree of acceptance by soldiers as determined by program design and civilian program experiences.

5. Standards for the critical review of wellness programs to include program formulation, program goals, program content, program resources, program evaluation and program management.

Statement of Limitations

For the purposes of this study the researcher established several limitations to the study:

1. Only five Army medical centers (MEDCEN's) and ten Army Medical Department activities (MEDDAC's) were surveyed. This was necessary to allow for manual compilation and review of the data obtained.

2. Only ten individuals at each MEDCEN or MEDDAC were surveyed. This was also necessary to enable the researcher to manually compile and review the data obtained. The following individuals were surveyed at each facility:

- a. Commander
- b. Executive Officer
- c. Chief, Professional Services
- d. Chief, Department of Nursing
- e. Chief, Preventive Medicine
- f. Chief, Community Mental Hygiene Activity
- g. Chief, Department of Medicine

- h. Chief, Department of Surgery
- i. Chief, Department of Primary Care and Community Medicine.
- j. Administrative Resident

The first nine were selected because of their overall influence in the management of health services at each MEDCEN or MEDDAC. The administrative residents were included because of their familiarity with current hospital management practices and public health issues as well as their present participation in the residency phase of the U.S. Army-Baylor University Program in Health Care Administration. Chiefs of food service and physical therapy were not included for two reasons: first, their activities already incorporate, as a general rule, counseling on nutritional awareness or physical fitness for many of their patients and they are presently engaged in promoting components of wellness; second, those officers are subordinates of officers already being surveyed and their involvement in a wellness program is significantly influenced by their superiors' support or lack of support for wellness.

3. Of the 150 surveys provided to the five MEDCEN's and ten MEDDAC's, 137 were completed and returned. This sample size was deemed appropriate to reflect perceptions about wellness among health services managers in the Army Medical Department.

4. One hundred basic trainees and permanent party personnel were surveyed to indicate what active duty soldiers know about maintaining their health as well as to indicate ways the AMEDD can help soldiers learn to take better care of themselves. The number

of questionnaires was necessarily limited to allow for manual compilation and review of the responses. All of the 100 surveys provided were completed and returned.

Statement of Additional Limiting Factors

In view of the current state of development of most wellness programs, studies to measure the health benefits of wellness are still incomplete. Consequently, a fundamental question about the benefits of wellness remains in the minds of many. The lack of studies supporting the benefits of wellness severely restricts quantitative evaluation of wellness programs. This is not a surprising problem, however, in view of the long-standing difficulty of measuring health status quantitatively. Identifying risk factors, determining degrees of risk among segments of the population, and deciding which conditions predispose people to specific risks are all relatively new endeavors for scientific research.

Nevertheless, there is significant evidence, as will be shown later in this study, that the value of wellness programs can be great. Furthermore, within this year the results of a five-year University of Arizona investigation into the efficacy of health-hazard appraisals in stimulating healthier behavior will be available.¹⁸ A much broader six-year evaluation is now in its second year. This study, which may become the definitive wellness study, will assess specially mounted wellness efforts among the 75,000 residents of Pawtucket, Rhode Island, comparing their health to that of residents in an unspecified city of comparable size not exposed to such efforts.¹⁹

Although data showing the benefits of wellness are still relatively scanty, medical authorities agree that exercise, stress management, weight control, and other aspects of sensible living are crucial to health.²⁰ Studies performed around the world clearly indicate that improved worker productivity, lower absenteeism and better morale can be realized through employees who have healthy lifestyles.²¹

Assumptions

Assumptions which were made in this study were:

1. Soldiers have a need for health information and a program for assisting them in modifying their lifestyles to promote their health and prevent disease.
2. The need identified above is not currently being met in any coordinated manner either effectively or consistently.
3. The Army Medical Department desires to promote wellness and will undertake a wellness program once developed.
4. An Army Medical Department wellness program will benefit all soldiers and promote the overall health of the Army.

Review of the Literature

Research Applicable to the Problem

The literature was reviewed for primarily three reasons: first, to examine the definition of wellness; second, to review current civilian and military wellness programs; and third, to identify the generally accepted components of wellness programs.

Wellness

As defined earlier, wellness is a lifestyle approach to the pursuit of optimal physical, emotional and mental/spiritual health. This total approach encompasses (1) personal responsibility, (2) nutritional awareness, (3) physical fitness, (4) stress management, and (5) environmental sensitivity.²² This definition, in the judgment of this researcher, is the best of many because it is both a compilation and distillation of definitions by wellness researchers such as Ardell, Dunn, and Travis. Additionally, this definition of wellness clearly presents the idea of a balance of several important elements. Wellness, in the context of this study, must be viewed as a concept for the whole person which includes all, not just some, of the five elements contained in the definition.

This view of wellness is not the only view, however. The term wellness is a nebulous one in the minds of many and is often confused with health promotion--another term which evokes a variety of perceptions and definitions. The American Hospital Association has defined health promotion as the process of fostering awareness, influencing attitudes, and identifying alternatives so that individuals can make informed choices and change their behavior in order to achieve an optimum level of physical and mental health.²³ Health promotion, as defined in this generally accepted definition, is certainly not equivalent to wellness. Yet, health promotion has been used instead of wellness because some believe the term wellness might alienate certain medical staff, business persons, and others with whom wellness program operators might wish to work.²⁴

The term wellness is also used in programs which focus only on one aspect of wellness. For example, an important component of wellness is physical fitness. It is not unusual to see the physical fitness component be transformed by program directors into a "wellness" program unto itself. Although development of expertise in wellness necessarily requires expertise in each wellness component, it is equally important to remember the interdependence of the different components of wellness in order for an individual to achieve his highest potential for well-being. The American Lung Association, in their highly successful smoking cessation program, has recognized this and integrate specific smoking cessation endeavors into a total wellness lifestyle approach.²⁵ This is essential because the synergistic effect of the components of wellness are key to the achievement of optimal well-being. Organizations with experience in selected wellness components are building an appreciation of the need for integration of wellness components into a wellness lifestyle approach. Although many wellness activities still do not address all five wellness components, many are expanding their programs to cover the full spectrum of wellness.

Current Civilian Wellness Programs

There are over 2000 hospitals in the United States which offer health education programs to their communities.²⁶ These traditional health education programs have served as frameworks for designing a variety of wellness programs for specific segments of the communities served. Hospitals have been successful in expanding health education programs to include more components of

wellness. Many have developed wellness classes which deal with health enrichment and which offer information in all five wellness areas.²⁷

Some of the first hospitals to utilize the wellness approach have established health services for community business and industry.²⁸ Occupational health services have promoted employee wellness while providing guidance on the designs for healthful work environments. Other examples of hospital wellness programs designed to meet business and industry's needs include weight control, stress management and cardiac risk reduction programs. Hospitals also offer community fitness programs. These usually include initial physical examinations, a fitness regime and special consultation as needed.

Perhaps the greatest wellness service hospitals provide are activities that support wellness program participants as they pursue their optimal health lifestyle. The success of a participant in any wellness program ultimately depends on the individual. Nevertheless, peer support and other supportive frameworks can be essential if initial enthusiasm for total fitness is to be developed into a lifelong commitment to a wellness-oriented lifestyle.

Other civilian organizations besides hospitals have begun wellness programs. Insurance companies are well aware of the relationship of lifestyle and longevity and have begun promoting wellness among their employees and the employees of their corporate clients. Corporations are also instituting wellness programs in an effort both to help their employees feel better as well as reduce the cost of sickness and absenteeism.

New York Telephone last year rang up \$5.5 million for its wellness programs but, as a result, cut expenses caused by employee illness by an estimated \$8.2 million. Control Data, General Foods, IBM, Xerox, and some four hundred other companies offer wellness programs.²⁹

Although many of the corporations limit wellness program participation to executives, more progressive companies include employees as well as spouses and children. An example of the benefits of a wellness program is shown by one large corporation--Johnson & Johnson. After only one year of a wellness program at Johnson & Johnson, most of the three thousand people involved in the company's wellness activities lost more weight and got significantly more exercise than their non-participating colleagues.³⁰

Business coalitions are also addressing themselves to promoting employee health. Business coalitions and health care providers are working together to improve community health through wellness. Stop-smoking clinics, exercise and fitness classes, weight reduction programs, hypertension screening programs, and wellness centers are activities endorsed by business coalitions.³¹

Current Military Wellness Programs

Although wellness programs in the military have not grown as rapidly or have not been as widely accepted as civilian wellness programs, recent evidence strongly suggests that wellness is a concept whose time has come in the military. Wellness activities in the military come in essentially two forms. One form is the Army-wide programs such as those on physical fitness and weight control. The second form is the locally instituted programs which have more closely dealt with wellness as defined earlier in this study.

The Army-wide programs currently in effect are not wellness programs in the complete sense of wellness. Rather, they are outgrowths or modifications of traditional military concerns with physical fitness and appearance. Recent changes in the Army physical readiness training program reveal a positive concern for aerobic exercises as well as a better understanding of the differences in male and female exercise physiology.³² The program, which purports to be "a complete program extending into all areas of Army life," is principally concerned only with physical fitness and weight control standards, however.³³

The Army continues to develop a physical training program for soldiers over forty years old. These soldiers, largely neglected until just recently, will be included in the overall Army physical readiness training program. Like the relatively new program for soldiers under forty, the fitness program for over-forty soldiers will emphasize increasing stamina and endurance through aerobic exercise.³⁴ Before participating in the program, over-forty soldiers will be medically screened to assess their risk with respect to factors such as sex, age, cigarette smoking habits, high blood pressure, high blood-sugar content (diabetes), electrocardiogram abnormalities, and high levels of cholesterol.³⁵ The over-forty program continues the Army's move, begun in April 1980, toward establishing new physical fitness standards for the entire Army.³⁶

The Army is currently developing a new physical fitness program which promises to be closer to the wellness concept. The program, which is scheduled to start this summer, goes beyond the present emphasis on physical fitness and weight control. Warmup

and cooldown stretching is to be incorporated into fitness training as well as new body fat rules for determining a soldier's need to participate in weight-reduction programs.³⁷

The Army said a key element of its new physical fitness program will be to get soldiers to eat a proper diet and cut down on their drinking and smoking. The Army Surgeon General is currently reviewing Army menus to make sure that dining facilities don't offer meals which are high in calories, saturated fats, cholesterol and salt. A decision could lead to possible reductions in "fast food" menus now offered.

"The fitness program must not only foster a positive lifestyle and addiction to exercise, it must provide a climate or environment which moves people in the right direction--sort of like the ramp heading up the freeway," the Army said.³⁸

The changes in the Army-wide physical readiness training program and the weight control program reflect the increasing impetus from local commanders to develop more modern and comprehensive approaches to establishing and maintaining soldier readiness. In his article, "The 'Daily Dozen' Just Won't Do It," Colonel Frank A. Partlow expresses a commander's desire for the Army to set and enforce simple straightforward standards for soldier readiness.³⁹ As he observes, the Army has yet to provide its field commanders with key information on the rationale and philosophy behind physical training as it is currently to be conducted.⁴⁰ He points out that the Army must decide that its physical readiness training system is designed primarily to achieve and maintain prescribed levels of individual physical readiness. Then, the Army must develop programs and training literature designed to accomplish that end.⁴¹

Another commander who has sought innovative approaches to soldier wellness is Colonel James C. Blewster, Commander of the Transportation School Brigade at Fort Eustis, Virginia. Blewster decided to assist overweight soldiers in his command to lose weight by instituting a program entitled Lifestyle '81.⁴² Designed by his operations officer working in conjunction with the dietician and flight surgeon at McDonald U.S. Army Community Hospital, Blewster's program is an intensive ten-week program of diet, exercise, and health education. Lifestyle '81 yielded results even beyond Blewster's expectations for the fifty-four participants.

The soldiers had lost an average of 20.5 pounds. Of the 27 with high blood pressure, only one still had slightly elevated pressure readings. Only six of the 22 who had had elevated blood fats still had higher than normal readings. More than ⁴³90 percent scored "fair" or better on physical fitness.

Army Medical Department activities are implementing their own wellness programs as well as assisting troop commanders in implementing them. Walter Reed Army Medical Center in Washington, D.C., has sponsored a Wellness Center directed by Chaplain (Lieutenant Colonel) Carl R. Stephens.⁴⁴ Although the primary emphasis of this program is to enable patients and their families to participate in their own healing, Stephens points out that the center's objective is to teach people to stay healthy also.

Another wellness program operated by the Army Medical Department Activity (MEDDAC) at Fort Knox more closely resembles wellness programs at many civilian hospitals. The Wellness Clinic, Ireland Army Community Hospital, Fort Knox, Kentucky, provides a wellness program to fifteen participants each week.⁴⁵ The program

includes a blood sample, a health risk quiz, a discussion on health risks, and half-hour classes on nutrition, stress management, and physical fitness. Skin fold caliper measurement is also provided for each participant to determine percentage of body fat. Follow-up measurements, which include weight, cholesterol, and skin fold caliper measurements, are made on each participant at six-week and six-month intervals.⁴⁶

This program grew out of research by Major George J. Gisin who studied the need for wellness clinics at Army health care facilities in 1981. Gisin's research clearly demonstrates that wellness initiatives in the military must be continued.⁴⁷ Currently, his wellness clinic concept appears to this researcher to be the best wellness program available in the Army.

Wellness Program Components

Wellness, as this researcher has defined it, is a total approach to a healthy lifestyle which includes (1) personal responsibility, (2) nutritional awareness, (3) physical fitness, (4) stress management, and (5) environmental sensitivity. As evidenced by the variety of civilian and military interpretations of wellness and wellness programs, it appears that the number of these five wellness components which are found in wellness programs may range from one to five, depending on whose wellness program is examined.

Of the five components, physical fitness is probably the most prevalent among wellness programs. Physical fitness activities have served as the basis for many expanded corporate programs now dealing with wellness. The most ambitious corporate programs

have often been the invention of top executives who are fitness buffs.⁴⁸ Recently, most physical fitness programs have broadened their scope of activities to include other areas of wellness like offering health screening services and health education classes covering a wide variety of health-related topics.⁴⁹

With the recognition by exercise program proponents of the relationship between diet and physical fitness, the nutrition component of wellness has increasingly been included in employee fitness programs. As Dr. Kenneth Cooper, author of The Aerobics Way, has observed:

You obviously can't lose very much weight through exercise alone, unless you're a lumberjack, a longshoreman, or a marathon runner. It is clear that the more rapid and sensible way to lose weight is by decreasing food intake while simultaneously increasing physical activity.⁵⁰

Along with nutrition, many programs have included special stress management classes to enable executives, many of whom were the target of corporate wellness programs initially, to better handle high level decision-making.

All of the three components just discussed, if internalized by individuals who have not yet achieved their optimal health, lead inevitably to lifestyle change. Lifestyle changes have traditionally been oriented to specific changes such as weight control, smoking cessation, and treatment of alcoholism. Physicians and health educators have realized, however, that success in those specific areas often is not achieved or sustained without a general change in one's approach to his health.

Consequently, the components of true wellness programs must include all five of those already stated in this study's definition of wellness. Although specific behavioral changes (like smoking cessation) must always be addressed by wellness programs if the programs are to serve the needs of all participants, the total approach inherent in high-level wellness continues to be the most appropriate method for enabling individuals to make a lifelong, total commitment to achieving and maintaining optimal physical, emotional and mental/spiritual health.

To this end, wellness researchers like Dunn, Travis, and Ardell have consistently demonstrated the importance of self-responsibility and environmental sensitivity as well as nutrition, physical fitness, and stress management. These two components, which will be discussed later in this study, are increasingly being included in expanding wellness programs and are necessary for the synergistic effect of high-level wellness to be realized.

Conclusion

This researcher, in view of extensive research, concludes that wellness must be understood as a total lifestyle approach-- an approach based on self-responsibility, nutritional awareness, physical fitness, stress management, and sensitivity to one's environment. Studies of current civilian and military wellness programs reveal that most programs do not encompass all five areas at this time. However, there are strong indications that many programs are pending revision as a result of the advent of new programs which do include all five components. Wellness and

wellness programs must be examined in the light of all five components being included. To do otherwise is to prevent the benefits of wellness from being achieved completely and fully.

Research Methodology

Research methodology for this project was divided into the following three steps: data collection, data recording, and data evaluation.

Data Collection

All applicable Department of the Army and Health Services Command regulations and directives pertaining to wellness and health promotion were reviewed. This review included regulations and directives which impacted on wellness such as the Department of the Army regulation for the Army Medical Department (see Selected Bibliography).

A survey was administered to ten selected staff members of five Army medical centers (MEDCEN's) and ten Army Medical Department activities (MEDDAC's) to determine their views on needed components of an Army Medical Department (AMEDD) wellness program and on the implementation of such a program (see Appendix A).

Wellness programs operated by civilian hospitals and other institutions were reviewed to determine what components of such programs were applicable to an AMEDD wellness program (see Selected Bibliography).

A survey of one hundred basic trainees and permanent party personnel at Fort Jackson, South Carolina, was conducted to assess soldiers' knowledge about the relationship of lifestyle to disease

prevention and health maintenance. These individuals were also surveyed about their desire for and acceptance of a wellness program (see Appendix B).

A comprehensive review of the literature was completed to assess the dimensions of the problem identified and to appropriately design survey instruments as well as the total program (see Selected Bibliography).

Data Recording

All documents used are referenced as appropriate. Responses from surveys have been compiled and incorporated into the study where applicable. Interviews with civilian wellness program managers have been evaluated and incorporated into this study.

Data Evaluation

The Department of the Army and Health Services Command regulations and directives have been compared with actual AMEDD practices with respect to identified wellness program components. Data from the surveys of Health Services Command medical facilities' staff members have been used to determine wellness program components as proposed by those personnel. Data from the surveys of basic trainees and permanent party personnel at Fort Jackson have been used to indicate the need for an AMEDD wellness program. In addition, data from interviews of civilian wellness program managers have been evaluated in view of proposed AMEDD wellness program requirements and goals as well as in view of standards identified during the literature review.

Footnotes

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II. DISCUSSION

To develop an Army Medical Department (AMEDD) wellness program, information on current civilian and military wellness programs has been carefully reviewed. This information has been evaluated in accordance with the criteria established for this study. In this section essential wellness program components have been identified and discussed. Second, considerations about health care providers and others who should manage the program have been examined. Third, the degree with which the program is anticipated to be accepted by soldiers has been addressed. Finally, the proposed wellness program has been presented fully along with program standards to insure the objectives for this study and for the proposed program were met.

Program Components

The Army Medical Department wellness program proposed herein encompasses the five components of personal responsibility, nutritional awareness, physical fitness, stress management, and environmental sensitivity. All five are integral parts of a lifestyle approach whose goal is optimal physical, emotional and mental/spiritual health. Basic information about each component is discussed below and a bibliography is provided for each component as an appendix.

Personal Responsibility

Personal responsibility is the key component in the wellness program. This is due to the fact that the control of the threats to health posed by chronic diseases depends directly on lifestyle modification. Also, personal responsibility is essential to maintain motivation in leading a lifestyle of high-level wellness.

In view of the reliance of so many Americans on medicine to cure or prevent all of their ills, demonstrating to American soldiers their responsibility for their health will require a presentation of documented evidence illustrating the significance of personal health habits on longevity. One of the best examples of such information is the research of Breslow, Belloc, and Enstrom. Their studies of nearly 7,000 adults over nine and one-half years showed that life expectancy and health are significantly related to the following basic health habits:

- (1) three meals a day at regular times and no snacking;
- (2) breakfast every day;
- (3) moderate exercise two or three times a week;
- (4) adequate sleep (7 or 8 hours a night);
- (5) no smoking;
- (6) moderate weight;
- (7) no alcohol or only in moderation.^{1,2}

By incorporating these seven habits into one's lifestyle, for example, one can expect to live more than ten years longer than his peer who only practices three or less of these wellness habits. Information such as this and other evidence available which has

already been discussed in this study must be presented to soldiers so they can gain an appreciation of how significant personal responsibility is to maintaining their health. Effective health education is needed to expose soldiers to the role each individual plays in maintaining his own health and in promoting a wellness lifestyle. It is equally important that health education be targeted specifically on discovering and promulgating ways to motivate program participants to accept responsibility for their health and not focus on negative messages that can cause people to avoid acceptance of their own accountability.³

Changes in behavior are certainly not easy to achieve. Program participants will not be transformed from dependent personalities to self-reliant ones quickly. Behavioral change with respect to wellness must, however, begin with information on each person's capabilities to preserve his health. This, coupled with a clearer perception of what medical science can and cannot do, enables each person to assess how he must manage his own lifestyle to promote his health and allow him to achieve his optimal state of well-being. The current slogan of the Army Recruiting Command is "Be All You Can Be." The message within this slogan is that the Army intends to provide a setting in which the soldier, through personal initiative and commitment, can achieve his total potential. So, too, must the wellness program set the stage for each participant to achieve the highest level of health possible for each individual.

A sense of individual responsibility and the health education received by each soldier, in conjunction with reasonable,

effective techniques for changing behavior, will serve as the philosophical keystone for the other four components of the wellness program. A health lifestyle often means changing harmful health habits and learning ways and techniques for effectively changing one's behavior to promote individual health. It is essential, therefore, that each soldier make the connection in his own mind between positive health habits and the benefits of those habits. Most soldiers will relate better to immediate effects such as an improved self-image, better physical appearance, or increased vitality. Long term effects of wellness are highly important also, however, and it is necessary for soldiers to be aware of the relationship of the wellness lifestyle to the total range of benefits which wellness offers everyone.

The connections between good health habits and health take time to establish. The establishment of the connections will be nurtured through an understanding and participation in the other aspects of the program. Each component of the program serves an individual purpose and also serves the total purpose of the wellness lifestyle. (Sources for developing instruction on personal responsibility are provided in Appendix C. That list provides an appropriate beginning for this component of the AMEDD wellness program and is intended to be used as a resource for the initial phase of the proposed program. Appendix D is a topical outline for the instruction on personal responsibility.)

Nutritional Awareness

Nutritional awareness is a vital component of the proposed wellness program. Each soldier must understand his nutritional needs, examine his eating habits, and determine whether his diet is balanced and appropriate to his energy demands. Having done this, each program participant can explore ways to modify eating behaviors which may be resulting in over-consumption as well as under-nutrition.

To begin with, soldiers must be taught basic information about their bodies' nutritional requirements. They must be provided with simple guidelines about nutrient needs for health and how to select foods to meet those needs. This instruction goes beyond simply a discussion of the basic food groups. Soldiers must be educated about menu planning, label reading, and food storage so that food selection is in line with their nutritional and other needs. A basic understanding of protein, carbohydrates, and fat is needed as well as information on sugar and salt in their diet.

Soldiers must be made aware of the importance of food preparation also. Many calories can be eliminated through careful preparation. Separation of fats from foods can make meals more nutritious and sugar substitutes can reduce excess sugar in food preparation. Portion control is another effective method of preparing food. Diets free of excess calories are possible with attention to portion size and weight. Special recipes are also available which have been designed to promote health and to be appropriate for persons requiring special diets.

A number of techniques can also be learned to alter food serving style so that good nutritional habits can be established. Food portions can be reduced, for instance, by the use of smaller serving utensils and smaller dishes. Changing the food serving environment can help eliminate unnecessary food intake. Examples of this include measures such as serving food restaurant-style rather than family style (no second helpings) and never eating food out of containers in which the food was purchased. Eating in only designated eating areas is one method of separating eating and non-eating environments to reduce psychological urges for food. Finally, improving the appearance of food portions can contribute to psychological satiation before over-consumption. Simple techniques like setting an attractive table and garnishing food can increase psychological satiation while maintaining appropriate levels of food intake.

Eating style skills should also be discussed so program participants can learn to modify their eating behaviors as appropriate. Concentration on taste and smells of foods eaten, increased chewing of foods, and taking mid-meal breaks are just a few illustrations of simple ways to affect eating style behavior change. These skills, in addition to all of those already discussed and many more which have not, can be used by soldiers to develop their own unique nutrition awareness plan.^{4,5}

Like each of the five wellness program components, nutrition awareness must be individualized to be internalized by the program participant. The process of individualization, however, must essentially be effected by the individual participant for he

alone must analyze the information presented to him and tailor this aspect of wellness to best enable him to achieve total well-being. Wellness program operators must assist the participants individually to facilitate this individual process by making clinical dieticians available for consultation as needed. This is not envisioned by this researcher to create significantly greater demand on AMEDD personnel resources because individuals with special problems, such as obesity, are already being counselled by dieticians when such special problems exist.

A plan of nutritional awareness must be a plan based on generally applicable guidelines but one which recognizes individual differences. It must also be based on a positive approach which emphasizes rewards for pro-health behavioral changes rather than a negative approach relying on punishment techniques to effect behavior change. Since there is often no dramatic, immediate effects of nutritional behavior changes, behaviors conducive to nutrition awareness must be reinforced rather than just the outcome of such positive behavior. Each person in the program must evaluate his food intake and set objectives to reinforce positive behaviors and extinguish negative ones. The program is designed to help the participant make changes in his personal behavior and in his environment. By assisting in these ways, the wellness program will help maximize the individual's health potential within the individual's own value system. (Sources recommended for developing the instruction discussed are provided in Appendix E. Appendix F provides a topical outline for nutritional awareness instruction. Appendix G contains an outline for

instruction on nutrition and exercise. Appendix H covers a recommended weight control behavior modification plan.)

Physical Fitness

In its regulation on physical fitness and weight control, the Army clearly states that physical conditioning pays high dividends in soldier efficiency, morale, self-confidence, and overall physical well-being.⁶ The relationship of physical fitness and health has long been recognized and, as such, physical fitness must be a vital component of the wellness program proposed by this study. Research conducted to date definitely shows that physical conditioning helps to prevent or reduce the development of serious health problems like cardiovascular disease, coronary artery disease and obesity.

Many Americans, aware of the positive health benefits of physical activity, have turned to physical fitness to reduce the risk of disease as well as to enhance the quality of their lives. To realize all the benefits which physical conditioning has to offer, however, requires that each person examine four basic aspects of an individualized fitness plan. These aspects are: (1) choosing the right mode of exercise for the outcome desired; (2) exercising with the appropriate frequency; (3) exercising for the appropriate duration; and (4) exercising with the proper intensity.⁷

Choosing the right mode of exercise to reduce risk of heart disease and other diseases, to maintain proper weight, and to simply feel better is the aim of the physical fitness component

of wellness. Aerobic exercises are excellent with those outcomes in mind. Aerobic exercises include a wide variety of exercises which stimulate heart and lung activity for a time period sufficiently long to produce beneficial changes in the body.⁸ Primary aerobic exercises include jogging, swimming, cycling, cross-country skiing, and walking. Secondary aerobic exercises include racquetball, handball, basketball, rope-skipping, tennis, and aerobic dancing. The differences between primary and secondary aerobic exercises are (1) more time is required for secondary aerobic exercises to generate the same physiological affect as primary aerobic exercises, and (2) there is more difficulty in controlling the intensity in the secondary activities than in the primary ones.

Frequency of exercise is also an important aspect of physical conditioning. Three sessions per week, for example, is appropriate for beginning a conditioning program. Gradual progression in exercise is absolutely essential since the body simply does not tolerate rapid, abrupt change effectively. As the fitness plan participant progresses, frequency of exercise should be increased up to five periods per week or more, depending on individual needs and desires.

Time for exercise, another basic aspect of fitness, depends on whether primary or secondary aerobic exercises are performed. Primary aerobic exercises should begin with ten to fifteen minutes duration and increase up to thirty minutes duration to maintain a reasonably high level of fitness. Secondary aerobic exercises require approximately twice as much time as the primary exercises because of the variability of exercise intensity.

Since many Americans in general and many soldiers specifically drop out of exercise plans because of lack of time, time available for exercise is an aspect which must always be considered.

Finally, intensity of exercise is significant. Although the aim of exercise is not to exhaust a person, it is certainly true that where there is no effort, there is also no benefit. From a qualitative standpoint, exercising with moderate intensity is appropriate for maintaining fitness. Quantitatively speaking, however, intensity of exercise is best measured in relation to heart rate.⁹ One method for determining appropriate heart rate for exercise is provided in Appendix I.

In addition to the four basic aspects discussed above, an effective exercise situation must be designed so that impediments to exercise can be overcome. Each participant in the wellness program must honestly determine when, where, and with whom he can perform his exercises. A realistic assessment of potential obstacles to one's fitness plan is crucial because otherwise, effective exercise will not be possible.

Pushups, bent-leg sit-ups and a two-mile run are highly appropriate exercises for soldiers. These exercises, done in the appropriate frequency, duration, and intensity, can be an effective fitness plan when coupled with adequate warm-up and cool-down periods. Stretching muscles prior to and immediately after exercising is necessary for proper conditioning to occur and this needs more emphasis in current Army physical fitness training.

Participants in a properly supervised fitness plan can experience dramatic changes which foster the acceptance of other

wellness behaviors. An effective fitness plan helps a person believe he has control over his health which promotes personal responsibility and the other components of wellness. The Army recognizes that individuals differ in their capacity for physical training and can achieve physical conditioning at widely different rates. The Army has already designed an effective program for fitness which must, however, be promoted by local commanders if it is to be successful Army-wide. Inclusion of Army physical fitness guidelines and current sports medicine research in an AMEDD wellness program will promote the total well-being of Army personnel as well as add to the readiness of soldiers to meet their often physically demanding duty responsibilities. (Additional sources of information on fostering an understanding of the benefits of physical fitness are contained in Appendix J. The Army's Field Manual 21-20 on Physical Readiness Training is a good source for information for physical fitness instruction.)

Stress Management

Stress has always been a part of life, but it has only been in the last few years that stress has been linked to diseases. In fact, the incidence of diseases attributed to stress is steadily rising.¹⁰ Although nearly everyone thinks that he knows what stress is, in reality few of us truly appreciate the significance of stress as a factor in our health.

Research about stress began in 1936 by Hans Selye, who also created the definition of stress as "the nonspecific response of the body to any demand upon it."¹¹ Selye discovered the organic

changes caused by stress and he was able to observe and measure the changes of the stress syndrome. He also defined stress as the physiologic response itself rather than the stimulus or stressor.¹² Stress, then, is really our body's reaction to circumstances in our lives.

In view of the growing complexity of the modern world and the competitive, achievement-oriented society in which we live, it is easy to see the increasing importance of managing stress. Stress has been related to heart attacks, stroke, hypertension, diabetes mellitus, and other disorders.¹³ Yet, most organizations have failed to recognize stress as a problem or to institute plans to assist employees in stress management.

The United States Army is certainly a complex organization. To accomplish its assigned missions, the Army must be a highly competitive organization with total commitment to achieving the goals and objectives which it is given. Consequently, soldiers must deal with the stressful nature of their duties and the Army leaders must provide soldiers with information and education on managing stress.

Like the other components already discussed, stress management is a life-long learning process. Stress management must be incorporated into each soldier's lifestyle and practiced continuously. This is essential because the circumstances which invoke a physiologic response, whether they be physical stressors or psychological stressors, are constantly changing. Stress management, just as the other components central to wellness, has to be viewed as a part of a lifestyle approach to total well-being.

Since lifestyle changes are inevitably gradual ones if they are to be lasting ones, each individual must make a long-term commitment to understanding and managing stress just as a long-term commitment to the other wellness components must be made.

Beyond informing each wellness program participant about the significance of stress on health, the program must teach participants effective stress-management techniques. One of these techniques for alleviating stress is the relaxation response. This technique requires a quiet environment, a comfortable posture with minimal muscular activity, a mental device to shift the mind away from logical, externally-oriented thought, and a mentally passive attitude--a feeling of "let it happen."¹⁴ Other techniques for managing stress through relaxation exercises include prayer, meditation, yoga, autogenic training, progressive relaxation, and biofeedback.

In addition to the relaxation exercises for dealing with stress, there are other stress management techniques which are highly appropriate for coping with constant stressors. One technique is simply to assess individual stress patterns. Wellness program participants who are unaware of their stress responses may need a structured system of self-observation to assess such patterns. Various methods can be used for that ranging from heightening one's awareness of the symptoms of stress to a detailed monitoring and recording process.¹⁵ Reviewing expectations, anticipating stressors, developing coping methods, changing one's environment, and simply slowing down are all effective techniques for managing stress.¹⁶

All of the techniques presented above and a thorough understanding of the five components of wellness enable wellness program participants to exert more control over their lives and begin to take advantage of the synergy which wellness offers. Soldiers, like all Americans, deserve to be exposed to the different ways of managing stress. Each individual, given basic stress management skills, can develop his own guidelines on dealing with stress. Everyone needs to develop ways of changing his reaction to stress as well as assessing and changing life patterns which subject him to distressing circumstances.

Stress management can have many positive aspects for the organization which is concerned about understanding stress and its origins. Stress management helps to reduce internal conflict, to improve internal communication, and to strengthen an organization as a whole. The benefits of managing stress certainly demonstrate that the investments for stress management education can pay significant dividends to every organization. (For sources of information for instruction on stress management see Appendix K. Appendix L is a topical outline for instruction on stress management.)

Environmental Sensitivity

The total approach to well-being which is the heart of the wellness program would be incomplete without an appreciation of and a sensitivity for our environment. Every person depends on his environment for survival and concern for health must include the healthy and unhealthy elements of the environment in which we live.

Our environment can be viewed as consisting of three aspects--the physical, the social, and the personal.¹⁷ During recent years there has been a great deal of concern about the possible deterioration of our physical environment. Due to the rise of industrialization throughout most of the world, we have seen an alarming increase in environmental pollution. Environmental pollutants have been shown to have a number of adverse health effects. The number of pollutants continues to grow as more industrial compounds are identified as asphyxiating pollutants, systemic poisons, carcinogens and other disease-producing agents.¹⁸ Despite numerous instances of pollutants affecting health, many continue to disregard the hazards which we face. These hazards can range from minor eye irritations in smoggy Los Angeles to acute heart failures like those that occurred during the Meuse Valley disaster. Wherever hazards are suspected to exist in our physical environment and whatever degree of danger to health is thought to be present, everyone concerned with wellness must remain vigilant and insist on realistic investigation of pollution hazards.

The wellness program must also include an examination of the social aspect of environment so program participants can expand their understanding of its relationship to our health. The cultural, economic, and governmental dimensions of our social system must be recognized as the important elements that they are. Their effects upon us can either enhance or limit our health and well-being. A greater appreciation of these dimensions can serve to strengthen each program participant's commitment to a lifestyle

dedicated to total well-being. Wellness can be seen as not just taking responsibility for one's own health, but for being concerned for the health of society at large.

Although the physical and social aspects of environment must necessarily be included in wellness instruction and activity, the focus of the environmental sensitivity component of wellness should be on the personal aspect of environment. The personal aspect of the environment refers to the extent to which our immediate surroundings either affirm or deny, or facilitate or inhibit, our efforts to pursue wellness.¹⁹ Since to a large extent, the physical and social aspects of our environment are beyond individual control, wellness program concern should primarily be about ways each program participant can design the personal component of his environment.

Instruction about the personal aspects of environment should concentrate on personal work environments and home environments. Program participants should be shown ways to assess their personal environment, understand what is important to them, and arrange their environment so that it enriches their life. The ability to understand the ways one can shape his personal environment and the ways he cannot relates to the component of stress management. Motivation to make desired environmental changes and the ability to make those changes relates to personal responsibility. Environmental sensitivity complements the other four components of wellness. It is a vital component of the wellness program because it enlarges the participant's concern for health beyond himself and his immediate organization. It links the

individual to the larger society and thus sets the stage for the realization of the benefits of wellness in a total sense. Together with the other components of wellness, environmental sensitivity enables a firm foundation upon which to base a lifestyle approach to total well-being which will be enhanced and refined throughout an individual's life. (Sources recommended for developing instruction on environmental sensitivity are provided in Appendix M. Appendix N is a topical outline for instruction on environmental sensitivity.)

Considerations in Program Management

To establish how an AMEDD wellness program should be managed and who should manage it was a principal concern to this researcher. Although there is a great deal of information about civilian wellness program management, there is very little information available on the military's experience in managing wellness activities because of the relative scarcity of such activities. In order to have a better indication of how a military wellness program should be designed and managed, a survey of 137 health care providers and managers at five MEDCEN's and ten MEDDAC's was administered. This survey, discussed earlier and included as Appendix A, provided valuable information about the health providers and others who should manage the proposed AMEDD wellness program.

Nearly 84 percent of the survey respondents were familiar with wellness and over 75 percent believed that the AMEDD should develop and implement a wellness program. With respect to wellness components, 80 percent or more of the respondents said that

advice and instruction on nutrition, physical fitness, and stress management should be an AMEDD mission and would, therefore, be appropriate for inclusion in the proposed program of wellness.

Although more than 77 percent of the respondents felt that the AMEDD should be concerned with health promotion and not only health education, only about 60 percent stated that they thought the AMEDD mission should include wellness clinics. Over 72 percent said that the goals of the wellness program were in concert with the goals of their medical treatment facility and over 64 percent indicated that their facilities currently have some wellness program components in operation. Nearly 60 percent also believed that wellness activities would be improved by an AMEDD policy on wellness.

The survey results presented above clearly point out that many AMEDD health care providers and managers recognize the need to develop and implement an AMEDD wellness program. The AMEDD personnel surveyed fundamentally agree with this researcher on the components needed in the wellness program. (Although the respondents were not surveyed about the components of self-responsibility and environmental sensitivity, this researcher believes that the reasons already presented strongly support the importance of these two components. In addition, the weight of evidence on civilian wellness programs as well as a number of programs personally observed by this researcher supports this view.)

The AMEDD personnel surveyed also indicated a growing interest and concern for health promotion. This is a reflection of the development of wellness activities in half of the hospitals

in the United States which is due to the growing philosophical extension of primary care involvement. Nearly 65 percent of the respondents stated that greater efforts should be expended to develop and implement an AMEDD wellness program. It is also important to note that the majority of the respondents indicated a need for the AMEDD to formulate a policy on wellness. An AMEDD policy would affirm the widespread interest in wellness as well as demonstrate the AMEDD's recognition of the value and importance of the concept and components of wellness.

The survey provided especially valuable information on wellness program management. For instance, nearly 85 percent of the respondents felt that the key to a successful wellness program is having the right leader or leaders. Certainly leadership is the key to the successful implementation of a new program, but the high percentage recorded indicates to this researcher that command emphasis is essential for effective program implementation. This view was further supported by the fact that nearly half of the respondents believed that hospital commanders should be involved in the direction of the wellness program.

The survey revealed no consensus on whether the wellness program should be directed by one person or a group. However, the respondents (91 percent) overwhelmingly indicated that elements outside the MEDCEN/MEDDAC should be included in both the direction and operation of the program. Although the respondents favored the inclusion of a variety of people outside the MEDCEN/MEDDAC such as recreation and food services personnel, the most important people for inclusion in the respondents' opinion were major unit commanders

and command sergeant majors. Once again, the significance of command emphasis was underscored.

Perhaps the single most important question answered by the respondents pertained to staffing required for the wellness program. Nearly 80 percent of the respondents pointed out the need for additional personnel to operate a wellness program if it were to be operated solely by AMEDD personnel. In view of the ever-present constraints on personnel resources, the need for additional staff for wellness activities is a crucial consideration in the design of the proposed wellness program.

The respondents also provided their opinions about who on the hospital staff should be involved in the wellness program. In addition to the commander, the hospital staff members designated included the chief of professional services, the dietician, the physical therapist, and community mental health activity personnel. Other staff members were included if the respondents believed they were interested in wellness program components or wellness activities in general.

Based on the survey, three conclusions were reached about wellness program management. First, staff members with professional expertise about wellness components should be included in the operation and direction of the wellness program. Second, command emphasis is needed from both the medical facility on each post as well as from the other major units on the post in order for the wellness program to be successful. Third, an effective wellness program requires personnel beyond that currently available to post medical treatment facilities. In view of this, this researcher has

designed the proposed wellness program so that unit officers and noncommissioned officers can operate practically the entire program at unit level.

Soldier Acceptance

To obtain an indicator of soldier acceptance of the wellness program, a hundred basic trainees and permanent party personnel at Fort Jackson, South Carolina were surveyed. This survey, previously discussed and included as Appendix B, was useful also to indicate the soldiers' knowledge about self-care responsibilities.

From a list of ten diseases, the survey respondents accurately selected three chronic diseases which pose the greatest threats to Americans today. This is an indication that these soldiers are aware of the principal causes of premature death and disease among adults in modern industrialized nations like the United States. It also indicates that efforts in health education are reaching Americans and that the young Americans surveyed realize the significance of chronic disease on their health.

The survey results also indicate that the soldiers surveyed recognize their responsibility for their own health. Out of all the respondents, 96 percent stated that they believe each individual is responsible for his health. Only 1 percent did not believe in personal responsibility and 3 percent were undecided. All of the respondents noted also that lifestyle was important to their overall health. In fact, 94 percent said that their lifestyle was very important to their overall health.

When asked about the importance of the seven basic health habits identified by researchers like Breslow, the majority of the respondents indicated that they recognized the importance of at least five of the habits to increase life expectancy. Over 90 percent indicated that they believe information and instruction from the Army Medical Department about exercise, nutrition, and stress management would be helpful to them in maintaining or improving their health status. Highly significant was the fact that 92 percent of the soldiers responding to the survey said that they would like to see the Army Medical Department implement a wellness program.

Another interesting question posed by the survey asked the soldiers if they would participate in a wellness program if it were operated by the post hospital and offered during duty hours. Eighty-four percent of the respondents said they would participate while an even greater percentage (86 percent) said they would participate if the same wellness program were offered by their own unit. When queried about wellness program participation after duty hours, a majority of the respondents still said they would participate on their own time whether the program was operated by the hospital or by their unit.

The final survey question asked the respondents what classes they would like to have offered as part of the wellness program. Most soldiers indicated a desire for classes on nutrition awareness, physical fitness, and stress management. They also said they would like instruction on cardiac risk reduction, weight control, and cardiopulmonary resuscitation. Forty-five

percent also desired smoking cessation clinics.

Although the survey conducted reached a limited number of soldiers, this researcher believes that the survey does indicate that the wellness program proposed would be widely accepted by Army personnel. Today's soldiers realize that they are responsible for their health but they also are aware that advice, instruction, and support for positive health behaviors are needed by them to develop a lifestyle consistent with a desire for total well-being. The soldier's desire for wellness, like the desire for wellness which more and more Americans are manifesting, is a strong one--so strong that the majority of those surveyed are willing to participate in a wellness program on their own time.

Proposed AMEDD Wellness Program

Standards for critically reviewing a proposed program are useful for insuring that program goals and objectives are successfully met. For this reason, the following areas of program design and evaluation will be addressed in this discussion of the proposed AMEDD wellness program: program formulation; program goals; program content; program resources; program evaluation; and program management.²⁰

Program Formulation

This study has presented a thorough examination of the relationship of chronic disease to the overall health of American soldiers as well as the significance of that relationship. This study has also discussed current civilian and military wellness programs. In view of the importance of the relationship of

lifestyle and chronic disease occurrence, the Army Medical Department must develop a comprehensive wellness program for implementation by Army medical treatment facilities. The wellness program must focus on facilitating the development by each participant of a lifestyle approach to total well-being. In addition to promoting the achievement of high-level wellness, the program must also provide information which can be used by program participants to minimize their risks of premature death and disease.

Program Goals

The overall goal of the AMEDD wellness program is to enable every soldier to develop a lifestyle approach to the pursuit of optimal physical, emotional and mental/spiritual health. This broad goal encompasses other goals of providing soldiers with basic information about personal responsibility, nutritional awareness, physical fitness, stress management and environmental sensitivity. Additionally, program goals include providing support groups for program participants, insuring command emphasis for the program, and identifying existing barriers to wellness program success.

The wellness program is designed to promote wellness by emphasizing positive health benefits obtainable from the wellness lifestyle. This is to be the major thrust of program instruction and program leaders rather than the traditional approach of pointing out the negative aspects of certain habits like smoking and alcohol consumption.

Each part of the wellness program instruction must establish specific facts or ideas which program participants are to learn. The achievement of these objectives by the participants must be measured by the program leaders. Measurable outcomes include measuring the learning of information about positive health habits and the incorporation of such information into a participant's lifestyle. For example, both understanding of the significance of physical fitness by a participant and the incorporation of a fitness plan into a participant's lifestyle can be determined. Except where objectives have already been established by the Army (as in the physical readiness training test, for example), the objectives for each element of the wellness program must be reasonably accomplished in the framework of the program and in the context of each participant's capabilities.

Program Content

The AMEDD wellness program proposed must first include basic information on the whole concept of wellness and instruction on each of the five components of wellness. This initial phase would consist of:

- (1) Two hours of instruction on the wellness concept;
- (2) Three hours of instruction on personal responsibility;
- (3) Four hours of instruction on nutritional awareness;
- (4) Four hours of instruction on physical fitness;
- (5) Four hours of instruction on stress management; and
- (6) Three hours of instruction on environmental sensitivity.

This instruction should be developed as videotapes with accompanying

lesson plans using the guidelines presented in the previous discussion and in the applicable appendices. There are materials which are commercially available and feasible for use in the program. This researcher suggests, however, that recognized subject matter experts within the Army Medical Department as well as other experts be tasked to develop these lessons so that they are targeted at the soldier audience. The previous discussions on program components, the outlines, and the bibliographies on each component should serve as the basis for developing the lessons and tapes.

Once the fundamental wellness information has been provided in the first phase, the second phase of the program can begin. This phase must emphasize the beginning of lifestyle changes by the program participants. This will be possible if three elements are included. First, participants must begin to apply the facts and ideas which they have learned even if only on a limited basis. Evidence of such behavior change could be the implementation of a regular physical fitness plan by the participant, for example. Second, techniques for changing behavior like relaxation exercises for managing stress, must be taught since there is insufficient time in the initial phase for them to have been completely explained. In addition, techniques must be practiced and evaluated by the participants so they can begin to assess the benefits of the various wellness practices introduced to them. Third, support groups and support group counselors must be established. Unit officers and noncommissioned officers should be support group counselors and unit organizational elements like

squads or sections should be used as support groups whenever possible. Program success will depend in part on the sharing of experiences in the wellness activities with support group members. The support group counselor acts as a point of contact for organizational leaders and the support group members. The support group counselor should be knowledgeable about wellness and desire to be the counselor for his group.

This second phase of the wellness program should consist of approximately twenty hours also. The focus must be on actual demonstration of lifestyle changes, but additional information on wellness components must also be available on videotapes. These tapes should, however, concentrate on techniques for behavior change. These tapes should also begin to address specific areas, such as weight control, so that program participants can begin to tailor their activities to those areas of most immediate interest to them. This phase is relatively unstructured to permit a wide range of individual experimentation.

The third phase is the phase when each participant should formulate personal goals and plans to achieve those goals. The importance of gradual change rather than drastic change must be emphasized by program leaders and support group counselors. The information presented in the previous two phases should enable each participant to develop his plans with only minimal assistance from the support group counselors and program leaders.

Each participant should establish goals for himself in each of the five wellness components. These goals can be as simple as reading one article each week on the environment or as

complex as beginning and continuing the Army's "Run For Your Life" program. All five components must be addressed in the goals because all five are essential elements for total wellness.

(Appendix O contains a sample of the wellness goals for one participant established during the third phase.)

The fourth phase is a continuing one because at this point program participants are striving to maintain and build upon the level of health established. Since an understanding of wellness and the development of total well-being is a life-long process, the participant should continue to learn and practice wellness techniques and behaviors. The program leaders, at the fourth phase, must maintain a continuing education program on wellness components. The fourth phase also should be used to demonstrate program outcomes and highlight the successes of program participants. Participant goals should be reviewed monthly by participants and quarterly by support group counselors.

All four phases are designed to relate to program goals and objectives. The methods presented should be appropriate for the soldiers for whom the program has been designed. In addition, the length of the program has been kept to a minimum because of recognized limitations on available time. The barriers to the wellness program are essentially barriers related to resources availability. This critical area is discussed below.

Program Resources

Realistic assessment of resources required for the activities of the proposed wellness program is a critical standard by

which to gauge the future successfulness of the program. For this reason, human resources, facilities and material resources, time allotments, and financial resources have been examined closely.

Human resources are a vital consideration in the proposed AMEDD wellness program. As presented earlier, this researcher strongly believes that any wellness program designed for soldiers should be designed by the Army's experts in exercise physiology, nutritional awareness, and stress management. The Army's experts in these wellness components and the other components of wellness are found in the Army Medical Department. There is, of course, considerable talent outside the AMEDD which must be tapped for wellness program success. But the fundamental design of the program activities must be established by qualified AMEDD personnel like psychologists, dieticians, physical therapists, environmental scientists, physicians and others.

Designing the activities of the wellness program should not pose any significant difficulties in view of the relatively short duration of the program as discussed under program content. However, operation of the program by AMEDD personnel for the entire Army simply is not possible within current staffing levels. This researcher has proposed videotapes and other instructor resources to eliminate significant commitments of AMEDD personnel resources at the local level. Indeed, in this researcher's opinion, properly prepared videotapes and lesson plans should eliminate the need for AMEDD personnel to actually operate the program at the unit level. Even the counseling for support group members is envisioned to be on such an elementary level that AMEDD

personnel participation need not be required. AMEDD personnel at the local post level should be available as resource persons. At least one local AMEDD officer would have to be designated as the point of contact for units on a post to contact if AMEDD expertise or guidance had to be coordinated. The duties of the AMEDD point of contact officer are not envisioned by this researcher to necessitate more than just the designation as such as an additional duty. It is important to point out, however, that this researcher has already noted the continuing requirement for active command emphasis on the wellness program if the program is to be successful.

Facilities and material resources for the proposed program are minimal. Classrooms and unit dayrooms for instruction on wellness are readily available. Equipment for showing videotapes is also easy to obtain. Techniques for changing behavior can easily be taught in existing classrooms, gymnasiums and dining facilities. In fact, the facilities available for physical fitness on military posts are often the equal of many civilian facilities.

Time allotments are perhaps a greater consideration than even human resources. Time for mission essential training and maintenance is always a matter of primary concern to every unit commander. For this reason, the proposed wellness program is designed to use as many existing Army programs as possible. For instance, time is already devoted to physical readiness training. The physical fitness component is designed to be used in place of, rather than in addition to, the regularly used "daily dozen" exercises used throughout the Army. The three events of the physical readiness training test (bent-leg sit-ups, pushups, and the

2-mile run) can be used for the physical fitness component. In addition to the three events, warm-up techniques for stretching muscles before exercise as well as cool-down techniques should be included. The fundamental consideration is to insure that aerobic conditioning is established and continues on a regular basis. This should not pose new requirements for time. The other wellness components can be effectively incorporated into available time for command information classes for the most part. Although some areas like stress management may require blocks of time up to four hours, time requirements overall should be managed easily by each unit commander because, wherever possible, flexibility has been designed into the program.

Time needed for support group counselors to discuss each participant's progress with the participant should also be minimal. In most cases, support group counselors would be the existing unit officers or noncommissioned officers. Utilizing these personnel would reinforce unit command structure and take advantage of the support framework for wellness activities which Army units offer.

The financial resources required for the proposed program are also minimal. The costs of preparing the videotapes and lesson plans are the major financial requirements. Such costs would represent a small investment to achieve the expected health benefits of the wellness program.

Program Evaluation

Program evaluation is a necessary part of the proposed AMEDD wellness program. As a minimum, program evaluation must

include an assessment of the achievement of program objectives. First, the level of information which each program participant has attained after instruction on the wellness components must be evaluated. This should be done either through a written test or an oral test administered either by program instructors or support group counselors. Techniques learned for physical fitness, stress management, and other wellness components must also be evaluated by instructors or counselors observing program participants, wherever possible, actually performing the techniques. Evaluating program participant learning of techniques may be a long-term process because of differing individual capabilities and also because of limited time available for instructors and counselors to perform evaluation. Support group counselors will be primarily responsible for evaluating each participant's progress in the third and fourth phases of the program. The counselors must assess the formulation of personal goals and the plans to achieve those goals. Then they must also monitor each participant's progress in making behavior changes which increase the participant's wellness level.

A highly important aspect of program evaluation must be command responsibility. Since command emphasis is essential to program success, each unit commander must evaluate the overall operation of the program in each of the four phases. This evaluation should essentially consist of monitoring the instructors and counselors to insure they are completing their duties in the program. This should be relatively simple to do because the commander

will also be a program participant and because other unit officers and noncommissioned officers can assist in this evaluation.

The unit commander must also evaluate each program participant's progress toward wellness. This assessment should basically be limited to judging whether or not each program participant supports the wellness program. Since wellness deals fundamentally with behavioral changes, each commander must temper his evaluation of each participant with a knowledge of the degree of difficulty and amount of time that behavioral change may entail.

Many civilian wellness programs use health risk appraisals and a battery of laboratory tests as part of their program. These are not essential elements of the proposed wellness program, however, they could be valuable tools for evaluating the program. Increases in life expectancy due to changes in behavior brought about by the wellness program could be measured during the first year of the program by comparing the results of health risk appraisals at the beginning and at the end of the year. Laboratory tests of cholesterol level in the blood could be similarly used for before and after evaluations. Since several civilian studies are currently underway to provide more hard data supportive of wellness, the Army need not duplicate these studies by implementing total use of health risk appraisals and laboratory analyses of blood samples. On the other hand, a statistically significant sample of participants could be useful to demonstrate the value of the proposed AMEDD wellness program. (These items are not considered necessary for the AMEDD Program for two reasons. First, the general health and youth of the Army population is such that

beginning wellness activities, if done in accordance with guidelines already found in existing Army regulations, poses no direct threat to health. Second, the cost of both items could be a barrier to implementation of the program Army-wide.)

Two other aspects of evaluating the program must also be addressed. First, the program participants must be surveyed after the fourth phase is well underway to determine their overall reaction to the program. They should be questioned on the value of the instruction on the wellness components to them. They should also be questioned about their perceptions of the importance of the techniques which they have learned. In addition, their suggestions for improving the program should be solicited as well as any criticisms of the proposed program as implemented.

A second aspect of evaluation not yet addressed concerns evaluation of the program by the AMEDD and the Department of the Army. Once implemented, the wellness program must be periodically evaluated to insure it continues to be based on current wellness information and practices. Units must have also been evaluated as to their implementation of the program and their support of the program. Documentation of the progress of the wellness program should be kept to a minimum but should be available to support each unit's progress toward assisting individual soldiers in their pursuit of the wellness lifestyle.

Program Management

Since the mission of the Army Medical Department is to maintain the health of the Army and to conserve its fighting

strength, the AMEDD is the proper Army department to design and implement the proposed wellness program. The AMEDD has the skill and knowledge to establish wellness as an important element in the United States Army. Together with information from unit commanders and civilian wellness authorities, the AMEDD can provide a wellness program using the model proposed in this study.

As pointed out previously in the discussion of program management considerations, the AMEDD by itself does not have sufficient personnel to operate the program for the Army. The involvement of commanders of units at all levels is essential and command emphasis will ultimately determine the success or failure of this or any program proposed to facilitate each soldier's pursuit of wellness. The AMEDD must establish program format and content as well as produce the instructional materials and lesson plans. This is essential for the dissemination of wellness information and for the teaching of techniques for behavioral changes. Commanders of AMEDD treatment facilities must promote the program actively by establishing close coordination and communication between unit commanders and the post's health care services facilities and personnel.

Unit commanders must operate the wellness program at the unit level. Although initially this may appear as one more burden on the commander's shoulders, the wellness program offers many ways in which the commander's job can be made easier and his command can become more effective. The unit commander who involves himself in wellness activities will quickly see that they help his

unit personnel become more fit, more responsible, and better able to deal with stress in their lives.

The unit wellness instructors will have materials provided to them which have been developed by skilled AMEDD personnel. These materials will provide all the basic information necessary to present complete wellness instruction to the unit personnel as well as to assist the support group counselors in guiding the individual program participants. Many Army units are organized so that they promote the availability of support groups. The support groups (consisting of five to ten people) are extremely valuable in providing the assistance program participants need in maintaining their personal motivation and commitment to wellness.

The decentralized nature of the proposed wellness program operation insures that local management can be attentive and responsive to the soldiers which the program is designed to help. Unit commanders have the flexibility to tailor aspects of the program to their unit's training schedule. Unit commanders can also control the phases of the wellness program to fit the needs of individuals or individual groups within their command. Finally, unit commanders have the necessary control to properly integrate the wellness program activities into their unit's overall operational setting.

Footnotes

¹Nedra B. Belloc and Lester Breslow, "Relationship of Physical Health Status and Health Practices," Preventive Medicine 1 (August 1972): 409-421.

²Lester Breslow and James E. Enstrom, "Persistence of Health Habits and Their Relationship to Mortality," Preventive Medicine 9 (July 1980): 469-483.

³Donald B. Ardell, High Level Wellness (Emmaus, Pennsylvania: Rodale Press, 1977), p. 97.

⁴John Ureda, "Nutrition: Self and Family," A seminar for the Carolinas' Primary Prevention Conference, March 14 - 17, 1982, Myrtle Beach, South Carolina.

⁵John Ureda, "Nutrition: Client and Community," A seminar for the Carolinas' Primary Prevention Conference, March 14 - 17, 1982, Myrtle Beach, South Carolina.

⁶U.S. Department of the Army, The Army Physical Fitness and Weight Control Program (2 November 1981): 1-1.

⁷Russell R. Pate, "Physical Fitness: Self and Family," A seminar for the Carolinas' Primary Prevention Conference, March 14 - 17, 1982, Myrtle Beach, South Carolina.

⁸Kenneth H. Cooper, The New Aerobics (New York: M. Evans and Company, 1970), p. 15.

⁹Russell R. Pate, "Physical Fitness."

¹⁰Ann Howell and Mickey Jackson, Stress--Instructor's Manual (Irvine, California: Concept Media, 1979), p. 9.

¹¹Hans Selye, Stress Without Distress (New York: Signet, 1974), p. 111.

¹²Howell and Jackson, p. 10.

¹³Herbert Benson, The Relaxation Response (New York: Avon, 1975), p. 29.

¹⁴Howell and Jackson, p. 97.

¹⁵Ibid., p. 109.

¹⁶Ibid., pp. 110-116.

¹⁷Ardell, p. 163.

¹⁸George L. Waldbott, Health Effects of Environmental Pollutants (Saint Louis, Missouri: C. V. Mosby Company, 1978).

¹⁹Ardell, p. 163.

²⁰Adapted from "Health Promotion and Health Education Program Standards," Health Promotion and Education Section, Colorado Department of Health, December 1981.

III. CONCLUSIONS AND RECOMMENDATIONS

Conclusions

The Army Medical Department, like the entire health care delivery system in the United States, is on the threshold of a change that will increasingly focus health care on wellness rather than on only the treatment of injuries and diseases. The goal of this project was to develop an Army Medical Department wellness program for implementation. This goal has been achieved.

The appropriate components of an AMEDD wellness program have been identified. Personal responsibility, nutritional awareness, physical fitness, stress management, and environmental sensitivity are the components of a lifestyle approach to the pursuit of optimal physical, emotional and mental/spiritual health. Current AMEDD programs and practices essentially do not address wellness in its totality. Current programs sponsored by the AMEDD and the Army deal only with fragments of wellness and fail, therefore, to offer the full spectrum of benefits which wellness offers.

AMEDD personnel needed to design and assist in the operation of the proposed wellness program include physicians, psychologists, dieticians, physical therapists, environmental scientists and others with an interest or expertise in wellness. Due to the need to implement a wellness philosophy Army-wide, the AMEDD cannot provide all the people needed to direct the wellness program.

Consequently, the proposed AMEDD wellness program must be implemented jointly by AMEDD personnel and by unit level officers and noncommissioned officers. MEDCEN/MEDDAC commanders and their staff must assist all units at every Army post to implement wellness. This is essential in view of the recognized need for wellness which this and other studies have demonstrated.

The proposed AMEDD wellness program should consist of the four phases identified. The first phase provides basic information about wellness and sets the stage for soldiers to make lifestyle changes. The second phase stresses the techniques which program participants can utilize to gradually change health adverse behaviors and to strengthen positive health habits. The third phase requires each soldier to establish realistic goals to enable him to begin his self-directed pursuit of optimal physical, emotional, and spiritual/mental health. The fourth and final phase of the program is really a continuing process in which each soldier, together with his unit commander and his local health care advisors, strives to maintain and enhance a lifestyle of wellness.

The soldier, the unit commander, and the health care professionals at each Army post will determine the success of the proposed program. Each soldier, once given wellness education and provided with assistance in changing his behavior, must set his own course for achieving his optimal health level. The unit commander must promote the soldier's progress in addition to incorporating wellness behaviors into his own lifestyle. Army health

care providers must give program guidance as well as help unit program leaders when special assistance is needed.

Establishing wellness support groups at the unit level and insuring command emphasis on the program are crucial elements in program success. Behavioral changes are difficult and soldiers embarking on a lifestyle of wellness will need the support of their peers to overcome the barriers to such changes and to stick with positive changes once made. The commander must insure that his soldiers have the supportive environment which these groups can provide to each program participant. The commander must also maintain his commitment to the program which, in essence, is a commitment to his people both in terms of unit mission accomplishment and in terms of the total well-being of his soldiers.

The proposed AMEDD wellness program at the very least will raise the consciousness of active duty personnel and facilitate the development of healthier lifestyles by increasing numbers of soldiers. This program, when fully implemented, promises far more than that, however. Implementation of this program Army-wide can enable the Army to have soldiers who are more responsible, more fit, more aware, and better able to deal with the challenges faced in defending this country and preserving world peace. The AMEDD must accept the challenges of leading the Army in the development of this wellness program. The AMEDD cannot afford to deny its leadership role in this vital aspect of health care.

Recommendations

This study recommends that the proposed AMEDD wellness program be adopted. In addition, it is recommended that several steps be taken to fully implement the program.

First, the program should be established for all AMEDD personnel. This is essential to demonstrate the AMEDD's belief in the value of wellness to the rest of the Army. AMEDD-wide implementation will also provide for program testing to identify needed modifications. In addition, the period of time for implementing wellness in the AMEDD will allow valuable information to be gathered from Army officers and noncommissioned officers outside the AMEDD. The information may then be utilized to refine the proposed program as necessary so that unit level considerations are fully examined before Army-wide implementation begins.

Second, AMEDD personnel familiar with program operation should teach unit level officers and noncommissioned officers about the wellness program before the program is implemented by the unit leaders. This training could be completed with minimal time (four to eight hours) and would highlight lessons learned from the AMEDD use of the program.

Third, the AMEDD should begin to investigate appropriate ways in which the family members of active duty personnel can be included in parts of the program. Wellness should be shared with the soldier's family because each soldier will need family support in effecting desired lifestyle changes.

APPENDIX A
MEDCEN/MEDDAC STAFF SURVEY

MEDCEN/MEDDAC STAFF SURVEY

Check the appropriate response.

1. Are you familiar with the term "wellness" used to refer to a health program prescribing combinations of exercise, nutrition, and stress management so individuals can make informed choices and change their behavior to achieve an optimum level of physical and mental health?

Yes

No

2. Do you believe the Army Medical Department should develop and implement a wellness program such as described above in Question 1?

Yes

No

3. Is providing the soldier sound advice and instruction on nutrition a mission of the Army Medical Department?

Yes

No

4. Is providing the soldier sound advice and instruction on physical exercise a mission of the Army Medical Department?

Yes

No

5. Is providing the soldier sound advice and instruction on managing stress a mission of the Army Medical Department?

Yes

No

6. The Army Medical Department fosters awareness of chronic diseases, their causes, and applicable preventive measures.

- Strongly agree
 Mildly agree
 Neither agree nor disagree
 Mildly disagree
 Strongly disagree

7. The Army Medical Department actively endeavors to influence attitudes about wellness or health promotion.

- Strongly agree
 Mildly agree
 Neither agree nor disagree
 Mildly disagree
 Strongly disagree

8. The Army Medical Department assists soldiers in making informed choices so they can change their behavior to achieve optimum physical and mental health.

- Strongly agree
 Mildly agree
 Neither agree nor disagree
 Mildly disagree
 Strongly disagree

9. Are you aware that the American Hospital Association has recently established the Center for Health Promotion?

- Yes
 No

10. Have you read or heard of a new publication entitled

PROMOTING HEALTH? Yes No

11. Do you think the Army Medical Department should be concerned with patient education only or should the AMEDD actively promote health or wellness?

 Patient education only Promote health or wellness

12. Do you believe the mission of the Army Medical Department should include wellness clinics?

 Yes No

13. If you think wellness should be part of the Army Medical Department's role, check the components you believe should be included in an AMEDD wellness program:

 Psychophysical assessments Nutrition advice and instruction Exercise program advice and instruction Stress management advice and instruction Support groups to maintain motivation for wellness activities Mass media contact Wellness-oriented social events Other(s) - Please specify _____

14. Does your MEDCEN/MEDDAC have a wellness program?

 Yes No

15. Does your MEDCEN/MEDDAC operate wellness clinics?

Yes, such as _____

No

16. Are the purposes and objectives of a wellness program in concert with those of your facility?

Yes

No

17. Does your MEDCEN/MEDDAC have many of the components of a wellness program (such as psychophysical assessment, one-on-one consultations, group programs, wellness-oriented social events) except that they are not coordinated or integrated into a wellness program?

Yes

No

18. Wellness activities in this MEDCEN/MEDDAC and on this post would be improved if they were guided by an overall AMEDD policy on wellness.

Strongly agree

Mildly agree

Neither agree nor disagree

Mildly disagree

Strongly disagree

19. What percentage of the members of your facility's staff would support the operation of a wellness program if voluntary?

Less than 26%

26 to 50%

51 to 75%

76% or greater

20. What percentage of the members of your facility's staff would support the operation of a wellness program if mandatory?

_____ Less than 26%

_____ 26 to 50%

_____ 51 to 75%

_____ 76% or greater

21. What percentage of the active duty population served by your MEDCEN/MEDDAC would use wellness program services if available?

_____ Less than 26%

_____ 26 to 50%

_____ 51 to 75%

_____ 76% or greater

22. What percentage of the dependent/retiree population served by your MEDCEN/MEDDAC would use wellness program services if available?

_____ Less than 26%

_____ 26 to 50%

_____ 51 to 75%

_____ 76% or greater

23. The operation of a wellness program by AMEDD facilities can be done with the staffs currently authorized if administered properly.

_____ Strongly agree

_____ Mildly agree

_____ Neither agree nor disagree

_____ Mildly disagree

_____ Strongly disagree

24. The operation of a wellness program by AMEDD facilities can be done only if additional personnel are authorized.

- Strongly agree
- Mildly agree
- Neither agree nor disagree
- Mildly disagree
- Strongly disagree

25. In terms of organizational structure, which one(s) of the following staff members should be involved in the direction of a wellness program?

- Commander
- Executive Officer
- Chief, Professional Services
- Chief, Department of Nursing
- Chief, Clinical Support Division
- Chief, Nursing Education and Training Service
- Allied health professional. Please specify _____
- Others. Please specify _____

26. In terms of organizational structure, which one(s) of the following staff members should be involved in the operation of a wellness program?

- Commander
- Executive Officer
- Chief, Professional Services
- Chief, Department of Nursing
- Chief, Clinical Support Division
- Chief, Nursing Education and Training Service
- Allied health professional. Please specify _____
- Others. Please specify _____

27. Does your MEDDAC/MEDCEN have any personnel involved in the direction/operation of a wellness program on a full-time basis?

Yes. Please specify _____

No

28. The key to a successful wellness program is selecting the right person or group of people to direct it.

Strongly agree

Mildly agree

Neither agree nor disagree

Mildly disagree

Strongly disagree

29. Should a wellness program be directed by one person or a group?

One person

A group

30. Greater efforts should be expended to develop and implement an AMEDD wellness program.

Strongly agree

Mildly agree

Neither agree nor disagree

Mildly disagree

Strongly disagree

31. Elements outside the MEDDAC/MEDCEN should be included in the direction and operation of a wellness program (such as unit commanders).

Yes

No

32. If you answered yes to the above question, who should be included:

- Post Commander
- Major unit commanders and command sergeants major
- Recreation Services representatives
- Food Service officers/NCOs
- Civilian Personnel Officers
- Military Personnel Officers
- Others. Please specify _____

33. There is a growing awareness of the need and the value of wellness programs in the population served by this MEDCEN/MEDDAC.

- Strongly agree
- Mildly agree
- Neither agree nor disagree
- Mildly disagree
- Strongly disagree

34. Which of the following components of a wellness program do you believe would be the most difficult ones for the Army Medical Department to provide:

- Psychophysical assessment
- Nutrition advice and instruction
- Exercise program advice and instruction
- Stress management advice and instruction
- Support groups to maintain motivation for wellness activities
- Mass media contact
- Wellness-oriented social events.

35. Which of the following components of a wellness program do you believe would be the least difficult ones for the Army Medical Department to provide?

_____ Psychophysical assessment

_____ Nutrition advice and instruction

_____ Exercise program advice and instruction

_____ Stress management advice and instruction

_____ Support groups to maintain motivation for wellness activities

_____ Mass media contact

_____ Wellness-oriented social events

COMMENTS:

APPENDIX B
TRAINEE AND PERMANENT PARTY
WELLNESS SURVEY

WELLNESS SURVEY

1. Put a check mark (✓) by the diseases you believe are the biggest threat to Americans today:

<input type="checkbox"/> Poliomyelitis	<input type="checkbox"/> Diphtheria
<input type="checkbox"/> Heart disease	<input type="checkbox"/> Stroke
<input type="checkbox"/> Smallpox	<input type="checkbox"/> Meningitis
<input type="checkbox"/> Cancer	<input type="checkbox"/> Chickenpox
<input type="checkbox"/> Influenza	<input type="checkbox"/> Malaria

2. Each individual is responsible for his/her health. (Check one of the responses below to indicate your opinion about this statement.)

Strongly agree

Agree

Don't know

Disagree

Strongly disagree

3. How important is your lifestyle (how you exercise, what you eat, how you handle stress) to your overall health? Check one of the following:

Not important

Only slightly important

Very important

4. Check the following habits which you think are important if you want to increase the number of years you can expect to live:

Three meals a day at regular times instead of snacking

Breakfast every day

Moderate exercise (long walks, bike riding, swimming, garden) two or three times a week

Seven or eight hours sleep a night

_____ No smoking

_____ Moderate weight

_____ No alcohol or in moderation

5. Do you believe that information and instruction from the post hospital about exercise would be helpful to you in maintaining or improving your health?

Check one:

_____ Yes

_____ No

6. Do you believe that information and instruction from the post hospital about nutrition would be helpful to you in maintaining or improving your health?

Check one:

_____ Yes

_____ No

7. Do you believe that information and instruction from the post hospital about stress management would be helpful to you in maintaining or improving your health? Check one:

_____ Yes

_____ No

8. Wellness programs prescribe combinations of exercise, nutrition, and stress management to enable individuals to maintain and improve their health status. In addition, support groups are organized to assist individuals to maintain their motivation for wellness activities. Would you like to see the post hospital implement such a wellness program? Check one:

_____ Yes

_____ No

- 9.a. Would you participate in a wellness program if it were operated by the post hospital and offered during duty hours? Check one:

_____ Yes

_____ No

b. Would you participate in a wellness program if it were operated by your unit during duty hours? Check one:

_____ Yes

_____ No

c. Would you participate in a wellness program if it were operated by the post hospital and offered after duty hours? Check one:

_____ Yes

_____ No

d. Would you participate in a wellness program if it were operated by your unit after duty hours? Check one:

_____ Yes

_____ No

10. Check specific health classes you would like to see offered to you:

_____ Stress management classes

_____ CPR (emergency heart and lung function resuscitation) training

_____ Stop smoking clinics

_____ Cardiac risk reduction programs

_____ Individualized physical fitness programs

_____ Nutrition awareness classes

_____ Others. Please specify _____

APPENDIX C
SOURCES FOR INSTRUCTION ON
PERSONAL RESPONSIBILITY

SOURCES FOR INSTRUCTION ON
PERSONAL RESPONSIBILITY

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setts: Addison-Wesley, 1978.

APPENDIX D
TOPICAL OUTLINE FOR INSTRUCTION
ON PERSONAL RESPONSIBILITY

TOPICAL OUTLINE FOR INSTRUCTION
ON PERSONAL RESPONSIBILITY

- I. First Hour of Instruction - Lifestyle, Health and Personal Responsibility.
 - A. Importance of lifestyle on health.
 - B. Basic health habits.
 - C. Assessing each individual's control of his life (health quiz).
 - D. Limits on medical science.
- II. Second Hour of Instruction - Behavioral Changes.
 - A. Lifestyle change and behavioral changes.
 - B. Pros and cons of lifestyle habits.
 - C. Research on behavioral change.
 - D. Techniques for changing behavior.
- III. Third Hour of Instruction - Personal Responsibility and Wellness.
 - A. Wellness depends on individual.
 - B. Establishing connections between good health habits and wellness.
 - C. Personal responsibility and the other components of wellness.
 - D. Preparation for personal wellness program.

APPENDIX E
SOURCES FOR INSTRUCTION ON
NUTRITIONAL AWARENESS

SOURCES FOR INSTRUCTION ON
NUTRITIONAL AWARENESS

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APPENDIX F
TOPICAL OUTLINE FOR
NUTRITIONAL AWARENESS INSTRUCTION

TOPICAL OUTLINE FOR
NUTRITIONAL AWARENESS INSTRUCTION

- I. First Hour of Instruction - Basic Nutrition.
 - A. Six essential nutrients.
 - 1. Carbohydrates.
 - 2. Proteins.
 - 3. Vitamins.
 - 4. Minerals.
 - 5. Fat.
 - 6. Water.
 - B. Basic food groups to provide nutrients.
 - 1. Milk.
 - 2. Meat/protein rich.
 - 3. Bread and cereal.
 - 4. Fruit and vegetable.
- II. Second Hour of Instruction - Protein, Vitamins and Minerals.
 - A. Protein.
 - 1. Requirements.
 - 2. Sources - animal and vegetable.
 - B. Vitamins and minerals.
 - 1. Requirements and sources.
 - 2. Common inadequacies.
 - 3. Supplements.

III. Third Hour of Instruction - Carbohydrates.

- A. Starches versus sugar.
- B. Sugar.
 - 1. Heart disease.
 - 2. Diabetes.
 - 3. Hypoglycemia.
- C. Whole grains and fiber.
 - 1. Nutrients.
 - 2. Benefits of bulk.

IV. Fourth Hour of Instruction - Salt/Sodium, Fat and Cholesterol

- A. Salt/sodium
 - 1. Function of salt/sodium in the body.
 - 2. Average salt/sodium intake and recommended limits.
 - 3. Sources.
- B. Fat and cholesterol.
 - 1. Sources.
 - 2. Relation to heart disease.

APPENDIX G
OUTLINE FOR INSTRUCTION
ON
NUTRITION AND EXERCISE

THE MAIN INGREDIENTS

NUTRITION
and
EXERCISE



THE MAIN INGREDIENTS - NUTRITION AND EXERCISE

I. Introduction

Good nutrition and regular exercise are the two main ingredients for good health and physical fitness. With a few minutes of meal planning and a half hour of activity each day, you can enjoy good health, and an improved sense of well being.

II. Discussion

A. Proper Nutrition

1. Basic Four - Can you name the four food groups?
 - a. Milk - 2 servings
 - b. Meat - 2 servings
 - c. Bread - 4 servings
 - d. Fruits and Vegetables - 4 servings
2. Recall what you ate yesterday, and see if it met the basic 4.

B. Benefits of Exercise

1. Keeps you physically fit.
 - a. Decreased heart rate, blood pressure, improved cardiovascular system
 - b. Increased work capacity, strength, endurance
 - c. You can make it through the day easier.
2. Helps you maintain your weight - a tremendous health benefit.
 - a. Burns calories
 - b. Increases metabolism
 - c. Decreases appetite
3. It's fun.
 - a. Improves mental well being
 - b. Sports and recreation

C. How Much Exercise Should You Do?

1. Determined by your physical condition and health status
 - a. Consult your physician, especially if:
 1. You are over 35
 2. You have any type of heart disease
 3. You have high blood pressure
 4. You smoke
 - b. General guidelines
 1. Start with a small amount and build gradually.
 2. Exercise 3 to 5 times per week.
 3. Goal is to build to 15 to 30 minutes of continuous aerobic exercise each time.
 - c. What is an aerobic exercise?
 1. Gets your blood pumping
 2. Examples - brisk walking, swimming, cycling, jumping rope, aerobic dancing, you name some.
 3. Badminton, tennis, volleyball, golfing, bowling are not aerobic exercises.

D. Activity Sheet

1. Purpose - to monitor your activity and calories spent
2. Starred activities are aerobic exercises.
3. Estimating total calorie needs
 - a. Average values
 - b. Keep a food diary and average your caloric intake

#1
#2
#3
#4

#5

#6
#7
#8

#9

- E. Additional Nutrient Requirements of Exercise
 - 1. Calories - See activity sheet for extra calories spent during exercise
 - 2. Protein - A well balanced diet provides more than enough protein for most exercise programs.
 - 3. Vitamins and Minerals - Follow the basic four and eat a variety of foods.
 - 4. Salt - Not needed unless you sweat a great deal, then you only need a little extra.
- F. Questions?

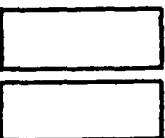
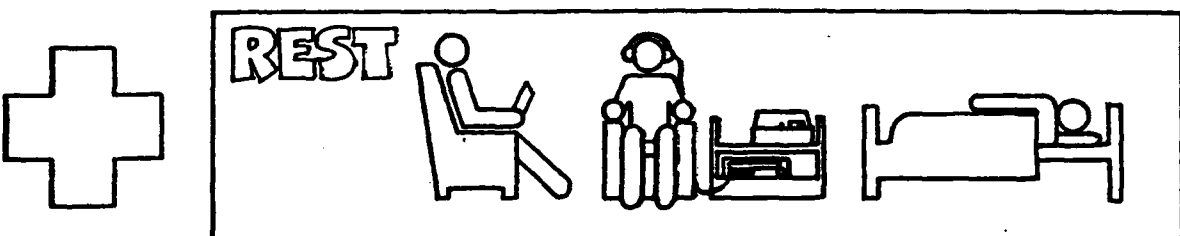
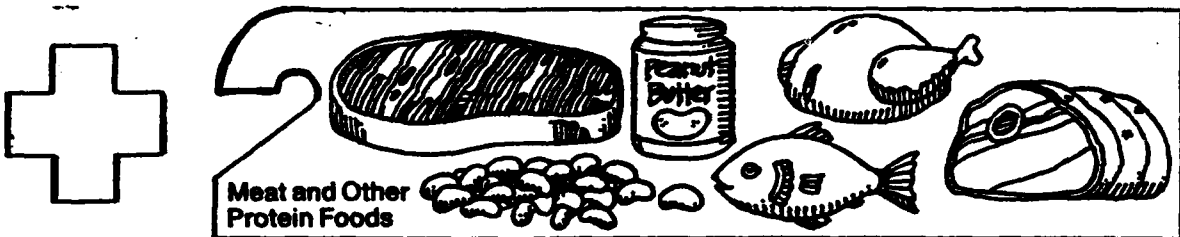
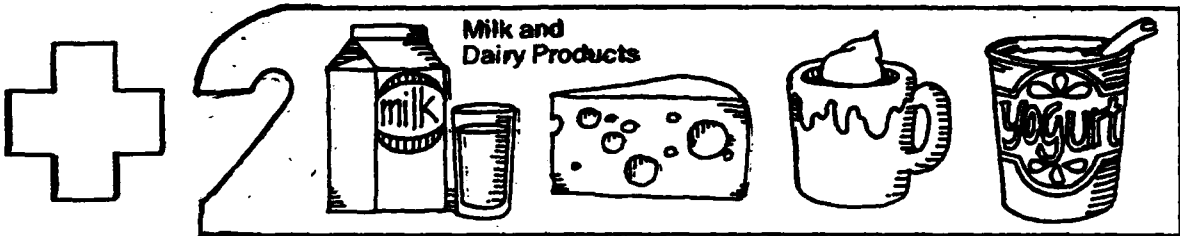
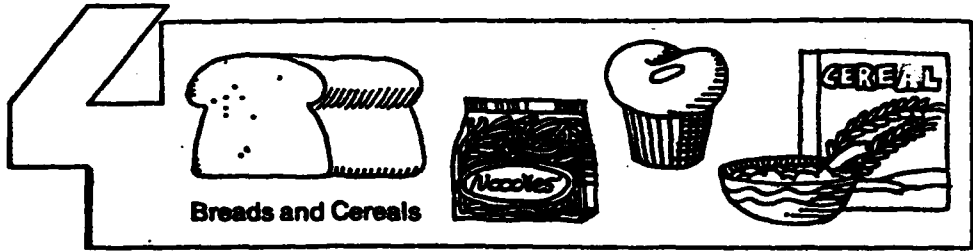
III. Review and Summary

- A. Good Nutrition and Regular Exercise are the two main ingredients to good health
- B. Benefits of Exercise
 - 1. Physical fitness
 - 2. Weight Control
 - 3. Fun
- C. How Much Exercise
 - 1. Determined by health status, and present physical condition
 - 2. Start slow and build gradually
- D. Added Nutritional Requirements
 - 1. Additional calories if not trying to lose weight
 - 2. Follow a well balanced diet
- E. Take another look at your nutrition and exercise quiz, and mark through (don't erase) any answers you want to change. Lets go over the questions.

THE FITNESS FORMULA

TRANSPARENCY 1

A BALANCED DIET (Energy Intake)



THE VERY BEST POSSIBLE YOU

ACTIVITY SHEET

Activity	Calories per min.	Dates (calories)											
		11/1											
Walking 2 mph	3.5	105											
* Walking 4 mph	8.9												
* Walking Upstairs	17.5												
Walking Downstairs	6.7												
* Jogging 5 mph	10.8												
* Running 7 mph	14.1												
Bicycle 5 mph	5.0	100											
* Bicycle 13 mph	10.7												
Volleyball	5.2	156											
Baseball	4.7												
* Basketball	7.0												
Bowling (nonstop)	6.7												
Dancing (moderate)	4.2												
* Dancing (vigorous)	5.7												
* Square Dancing	6.8												
Football	8.3												
Golf	4.0												
Horseback Riding	6.7												
Ping Pong	3.8												
Skating (alpine)	9.6												
* Skating (cross country)	11.7												
* Swimming	4.8												
Tennis	6.7												
* Wrestling	12.9												
Totals		361											

* aerobic exercises

In the example shown in the first column, John walked at a pace of 2 mph for thirty minutes, rode his bicycle for twenty minutes, and played volleyball for thirty minutes for a total of 361 extra calories spent during the day.

Calorie Needs

Estimation:	Sex	Age		
		22-35	35-55	55-75
	Males	2800	2600	2400
	Females	2000	1850	1700

A more accurate determination of your calorie needs can be obtained by taking the average of the calorie totals of the first two weeks of your food diary. This assumes that you maintained your weight during the first two weeks. If you lost weight, the average of the calorie totals would be the calorie level you need to continue to lose weight.

To lose weight gradually (1 - 2 lbs./wk), subtract 500 calories from your maintenance calorie level. This is your calorie goal for each day.

The key to losing weight more rapidly is to increase your activity. Remember to increase your activity gradually and to follow your doctor's advice.

NUTRITION AND EXERCISE

Fact or Fallacy

If the following statements are true, circle T. If they are false, circle F.

- T F 1. Exercise increases appetite.
- T F 2. If you exercise regularly, you should take protein supplements.
- T F 3. If you exercise on a hot day and sweat a great deal, you should take a salt tablet.
- T F 4. You have to become fatigued for exercise to do any good.
- T F 5. The average person requires at least 40 minutes a day of running in order to stay healthy.
- T F 6. A vitamin supplement is necessary when you are getting in shape.
- T F 7. Drinking water before or during exercise will most certainly lead to cramps.
- T F 8. Exercise is not important in losing weight because you have to jog 30 miles to lose 1 pound of fat.
- T F 9. If you have chest pain, or feel light headed, or nauseated while exercising, you should stop.
- T F 10. A proper diet is more important than exercise in keeping fit.
- T F 11. A brisk walk every day will give you all the exercise you need.
- T F 12. Playing tennis or badminton every day will keep you physically fit.
- T F 13. An aerobic exercise is one that must be done outdoors.
- T F 14. Exercising regularly can help to lower your blood pressure.
- T F 15. To stay fit, you must exercise every day.

APPENDIX H
RECOMMENDED WEIGHT CONTROL
BEHAVIOR MODIFICATION PLAN

BEHAVIOR

MODIFICATIONS

for
Weight Control

A WORKBOOK

Calorie Estimator

Fruits and Juices: 50 calories per serving
One serving is equal to:

1 small fresh apple	12 fresh grapes
1/3 cup apple juice	1/4 cup grape juice
1/2 cup apple sauce	1/3 honeydew melon
4 apricot halves	1/2 cup mandarin oranges
1/2 small banana	1 fresh nectarine or orange
1/2 cup blackberries	1/2 cup orange juice
1/2 cup blueberries	1/3 cup papaya juice
1/2 cup raspberries	1/2 cup nectar (any type)
3/4 cup strawberries	1 fresh peach
1/2 cantaloupe	1/2 cup peach slices
10 large cherries	1 fresh pear, or 2 canned halves
1/3 cup cider	1/2 cup pineapple chunks
1/2 cup cranberry juice cocktail	1/3 cup pineapple juice
2 dates	2 tablespoons raisins
1 large fresh fig	1 fresh tangerine
1 small dried fig	1 cup watermelon
1/2 cup fruit cocktail	3/4 cup tomato or V-8 juice
3/4 cup Gatorade	2 plums
1/2 grapefruit	2 prunes
1/2 cup grapefruit juice	1/2 cup prune juice

Fats: 50 calories per serving
One serving is equal to:

1/8 avocado	2 tablespoons gravy
1 slice bacon	10 almonds
1 teaspoon margarine	20 peanuts
1 teaspoon butter	2 pecans or macadamia nuts
2 teaspoons "diet" margarine	6 walnuts or cashews
1 tablespoon cream	15 pistachio nuts
2 tablespoons sour cream	2 tablespoons seeds (sunflower, sesame, poppy, pumpkins, etc.)
3 tablespoons half & half	1 teaspoon cooking oil
1 tablespoon cream cheese	5 small olives
1 tablespoon French dressing	1 tablespoon whipping cream
1 tablespoon Italian dressing	4-5 tablespoons "diet" salad dressings
1 teaspoon mayonnaise	
2 teaspoons mayonnaise-type salad dressing	
2 teaspoons Thousand ISLAND dressing	

Milk Products: 100 calories per serving
One serving is equal to:

1 cup of skim milk
1 cup of buttermilk
1 oz. cheese or 1 slice of cheese
1 cup Plain yogurt
1/2 cup cottage cheese
3/4 cup LOW-FAT milk
1/2 cup Whole Milk
1/3 cup Ice Cream

Starches: 75 calories per serving
One serving is equal to:

1/2 cup macaroni, noodles, or rice	1/2 hamburger or hot dog bun
1 slice bread (whole grains preferred)	1/2 cup crotons
1 bagel	2/3 cup Corn Flakes
1 corn or flour tortilla	1 cup Cherrios
4 Breadsticks (9 inches long)	1/2 cup Grapenuts
1/2 English muffin	1 cup Puffed Rice or Wheat
1 slice raisin bread	1/2 cup Granola-type cereals
1 plain roll	2/3 cup Rice Krispies
3 Tbsp. wheat germ	1 cup Special K
1/3 cup corn	1 large Shredded Wheat biscuit
1/2 cup sweet potato or yam	1/2 cup Chex cereals
1/2 cup lima beans	1/2 cup sherbet
1/2 cup grits	1 small baked potato
1/2 cup hot cooked cereal	1/2 cup mashed potatoes
1/2 cup green peas	1/2 cup pinto beans
2/3 cup parsnips	1/2 cup lentils
3/4 cup pumpkin	1/2 cup baked beans
6 saltine crackers	2 graham cracker square
20 oyster crackers	5 Triscuits
6 Ritz crackers	12 Wheat Thins
1/2 cup Fritos	1/2 cup Navy beans
3 cups popped corn	1/2 cup Jell-O

Vegetables: 25 calories per serving
One serving is equal to 1/2 cup of any of the following:

artichokes	cooked celery	onion
a sparagus	cucumber	cooked peppers
bamboo shoots	egg plant	pimentos
green beans	collard greens	rhubarb
string beans	danielion greens	rutabaga
wax beans	mustard greens	summer squash
bean sprouts	beet greens	spinach
beets	chard	tomatoes
broccoli	kale	tomato juice
brussels sprouts	turnip greens	V-8 juice
cabbage	Kohlrabi	turnips
carrots	mushrooms	zucchini
cauliflower	okra	

Vegetables eaten RAW may be eaten in unlimited quantities.

(Humans can only partially digest RAW vegetables, therefore the calories obtained from RAW vegetables is minimal) EXAMPLES:

lettuce	raw chinese cabbage	raw carrots
radishes	chicory	parsley
pickles	raw celery	raw spinach
raw broccoli	raw cauliflower	alfafa sprouts
raw mushrooms	watercress	escarole

REMEMBER that starchy vegetables such as corn, lime beans, green peas, potatoes, pumpkin, yams, parships, etc. are considered a serving of STARCH rather than a serving of VEGETABLE!

Meat and Protein Rich Foods: 100 Calories per serving
One serving is equal to one ounce of meat

Meat should be cooked by baking on a rack, broiling, or in a microwave on a rack, or on an outdoor grill. AVOID FRYING MEATS...This adds many calories. Included: beef, chicken, turkey, fish, lamb, pork, veal, liver, ham, game. Fish and poultry are lowest in calories.

The following may be substituted for 1 ounce of meat:

1 oz. of cheese or 1 slice of cheese	3 medium sardines
1 egg	1 hot dog
$\frac{1}{2}$ cup cottage cheese	2 Tbsp. peanut butter
$\frac{1}{2}$ cup tuna fish	(200 calories)
5 shrimp, clams, or oysters	

Fast Food Items

	<u>Calories</u>		<u>Calories</u>
Hamburger	250	"Whopper"	600
Cheeseburger	300	"Junior Whopper"	350
"Quarter Bunder"	425	"Delux Huskie"	600
"Quarter Bunder" with cheese	525	"Big Twin"	375
"Big Mac"	550	Hot Dog	250
"Filet-O-Fish"	400	French Fries	250
"Egg McMuffin"	350	Arby's Roast Beef	375
Milkshake	350	3-piece Chicken Dinner	850
Apple Pie	300	3-piece Fish Dinner	1200
Medium Cola	100	1-slice Thin Crust Pizza	325
Beer	150	1-slice Thick Crust Pizza	400

"FREE FOODS"--These foods are almost totally free of calories.

boullion	mustard
fat free broth	soy sauce
water	spices and herbs
worcestershire sauce	vinegar
lemon and melon juice	coffee and tea
lime and lime juice	diet soft drinks
horseradish	cranberries (unsweetened)
sugar substitute	extracts and flavorings
"D-Zerta" gelatin	unflavored gelatin
pepper	salt

Contract

The contract is a very good way to make losing weight more rewarding, and to keep you motivated while trying to change your eating habits. Your contracts should be as specific as possible, and your rewards should be non-food related. A sample contract is shown below. Notice that it states exactly what John will do (keep a food diary for eight weeks) in order to get a new shirt. Everyone should try to make a least two contracts, one for keeping a food diary, and one for completing this course. Making contracts with your family and friends is an excellent way to get them involved in what you are doing.

I, John Doe, will keep my food diary for eight consecutive weeks in return for a new shirt.

Signed _____
Signed _____
Date _____

Means of recording used: completed food diary

Bonus Clause: If I succeed in changing one bad habit, I get a new tie.

Ways to Think of a Reward

1. Ask yourself what you would do if you knew you would die tomorrow.
2. If you had three wishes, what would you wish for?
3. If you had 15 extra dollars, what would you buy?

Suggestions

1. Ask a friend to reward you with a night out, or a surprise.
2. Put money aside, and agree to give it to a specified charity if you do not fulfill the contract.
3. Start a hobby.
4. Use a token system. Have a friend agree to give you a token for each day of your diary you keep, and then redeem the tokens for money, or material items.

I, _____, will _____

in return for _____ Signed _____

Signed _____

Date _____

Means of recording to be used: _____

Bonus Clause: _____

I, _____, will _____

in return for _____ Signed _____

Signed _____

Date _____

Means of recording to be used: _____

Bonus Clause: _____

Eating Stimulus Quiz

- | | YES | NO |
|------------------------------------------------------------------------------------------|-----|-----|
| 1. If I watch a movie at home or at the theater, I usually get something to eat. | ___ | ___ |
| 2. I usually have something to eat if others are eating. | ___ | ___ |
| 3. If I have breakfast on Saturday at 11 am, I have lunch around 2 pm. | ___ | ___ |
| 4. I eat more when I'm alone than when I'm with someone. | ___ | ___ |
| 5. If I go out at night and come home around midnight, I usually have something to eat. | ___ | ___ |
| 6. If I'm shopping, and I pass a bakery or ice cream shop, I'm tempted to get something. | ___ | ___ |
| 7. If I'm reading a good novel at night, I usually get something to eat at some point. | ___ | ___ |
| 8. I frequently keep eating even if I'm full. | ___ | ___ |

After keeping your food diary for one week, answer the questions in the quiz below.

Food Diary Quiz

1. What was your average daily calorie intake for the week?

Average Daily Intake = $\frac{\text{Sum of calories for 7 days}}{7}$ = _____ Calories

2. What was your lowest calorie intake for the week? _____ Calories
3. How many times a day did you usually eat? _____
4. Which meal time varied the most? _____
5. Are there any eating places where you experienced unplanned eating, or where you ate a lot of "junk" food? List the places.
6. List the two moods that are associated with the most eating.
7. Look at the times when you ate with a hunger level of 1 or less. List the associated moods, places, time of day and calories.

Your calorie needs vary with your age, height, weight, sex, and activity. In addition to these factors, there is also an individual factor which causes calorie needs to vary from person to person. Because of the wide range of possible calorie needs, it is very difficult to calculate how many calories you should eat in order to lose weight gradually. There are some average standards, however, as shown below.

	<u>AGE</u>		
<u>Sex</u>	<u>22-35</u>	<u>35-55</u>	<u>55-75</u>
Males	2800	2600	2400
Females	2000	1880	1700

After you have kept a food diary for one week and have recorded the number of calories you have eaten each day, it is possible for you to determine your individual calorie needs. Depending on whether you gained, lost or maintained your weight during the first week, use one of the three calculations explained below.

1. For those who gained weight during the first week

$$\frac{\text{Sum of Daily Calorie Totals}}{7 \text{ Days}} - 1000 \text{ Calories} = \text{Calorie Goal per day}$$

2. For those who maintained their weight during the first week

$$\frac{\text{Sum of Daily Calorie Totals}}{7 \text{ Days}} - 500 \text{ Calories} = \text{Calorie Goal per day}$$

3. For those who lost weight during the first week

$$\frac{\text{Sum of Daily Calorie Totals}}{7 \text{ Days}} = \text{Calorie Goal per day}$$

If your calorie goal is below 1000 calories per day, you will not get all the vitamins and minerals you need from the food you eat. Therefore, it is recommended that you increase your activity (will be discussed at week 4) rather than reduce your calorie intake further. Should you decide to eat less than 1000 calories per day, you should begin taking a multivitamin supplement with iron, and consult with your physician on a regular basis.

BEHAVIOR MODIFICATION FOR WEIGHT CONTROL

SLIDE #1: Hi! My name is Alice. You've just caught me in the middle of one of my private parties. I have them quite often. In fact, I have my own private party every night at 8:00 p.m. Actually it's very necessary that I have these parties. You see, they are part of my behavioral modification program. Behavior modification are fancy words, but it's just another name for changing your eating habits. If you are in the habit of snacking a lot at night, eating when you are bored or depressed, or just plain eating too much, a behavior modification program can help you.

It takes a lot of work and determination to change your eating habits, but it can be easier if you use a behavior modification program. You are probably wondering what a behavior modification program involves. Well, much of what it involves is shown right here. Notice that I am having a snack, but also notice that I am seated at my kitchen table. There is also no TV to watch and I'm not reading anything. It's also important to know that I planned this snack so that I don't get too hungry at night.

The main ideas of behavior modification are to enjoy your food as much as possible when you eat, avoid all distractions while eating, and to avoid temptation when you are not eating. Let me show you how you can do all these things and change your eating habits.

SLIDE #2: To avoid distractions while you eat, always eat at the kitchen table. Never read, watch TV, or talk on the telephone while eating. When you avoid these distractions, you can enjoy your food by noticing the taste, texture, and aroma of each bite. As a result of enjoying your food more, you will be satisfied with less, and the memory of eating will last longer, so it will be easier to make it to the next meal.

SLIDE #3: Putting everything you eat on a plate or in a bowl before you eat it will also help you to pay more attention to your food. This includes snacks as well as meals.

SLIDE #4: You can arrange snacks in an appealing, appetizing display to enjoy them as much as possible.

Avoiding distractions while you eat can also help you to avoid temptation when you are not eating. If you make it a point to never eat in front of the TV, eventually, you will no longer be tempted to eat whenever you sit down to watch your favorite TV show. When you make it a point to only eat in the kitchen, the other places in the house will not remind you of eating.

SLIDE #5: You can do other things to avoid temptation. Keep food out of sight so it won't tempt you.

SLIDE #6: Put tempting foods in opaque containers.

SLIDE #7:

SLIDE #8: and store them out of easy reach.

SLIDE #9:

SLIDE #10: Also, remove the light bulb in your refrigerator so the foods inside won't look so appetizing when you open the refrigerator.

SLIDE #11: The foods in your refrigerator should also be stored in non-see through containers or wrappings.

SLIDE #12: When you do become tempted to eat, it's better to snack on low-calorie foods, so have low-calorie snacks readily available. Have carrots and celery cut ready to eat. A low-calorie salad of lettuce, cucumbers, bell peppers and radishes can be made ahead of time for such occasions.

SLIDE #13: There are also many low-calorie beverages which can be used to fill in between meals, or to put the finishing touches on your meals and snacks.

SLIDE #14: Artificially sweetened gelatin or low-calorie puddings are good snack

or dessert items.

SLIDE #15: When you go out, it's also important to avoid temptation. When walking by a bakery, or whenever the smell of food tempts you, walk on and think of something else.

SLIDE #16: Also avoid the junk food section of all the stores you go to.

SLIDE #17: Fast food places are a big temptation. When you eat there, plan the visit as one of your meals, but don't go to them often.

SLIDE #18: Planning is another important part of changing your eating habits. Decide when you are going to eat each meal and snack, and stick to it. Snacks can be very useful when they are planned. They can be used to prevent hunger. If you plan a snack between breakfast and lunch, you will not be as hungry at lunch time, and you will have more control over how much you eat.

SLIDE #19: Decide beforehand what you are going to eat at each eating period. Measure the amounts of the foods that are suggested in your diet plan.

SLIDE #20: It's a good idea to organize your pantry so it will be easier to prepare low-calorie dishes and snacks.

Well, I've been talking quite a bit. It may seem that there is a lot to remember when you are changing your eating habits. The most important things to remember are to enjoy your food as much as possible when you plan to eat. This can be done by avoiding distractions while you are eating. Then avoid temptations when you are not eating. Careful planning is important, but the most important thing you need is determination. Make it your first priority.

APPENDIX I
DETERMINING APPROPRIATE HEART RATE
FOR EXERCISE

DETERMINING APPROPRIATE HEART RATE
FOR EXERCISE

To determine your appropriate heart rate for exercise, you begin with the figure 220--this is an accepted norm or standard maximum heart rate. Then subtract from this rate your age (31 will be used for this example). The result is a maximum attainable heart rate (189). This is the highest pulse rate a person 31 years of age could achieve without losing consciousness. Next, subtract the resting heart rate (another essential part of the calculation which is best determined upon waking from a normal period of sleep) which, in this example, is 50. The subtotal derived (139) is the optimal work load or level of intensity the heart rate which an average person needs to obtain a "training effect" on the heart and related systems. The accepted range is from 60 to 80 percent of the subtotal, so the final step in the calculation is to compute both 60 and 80 percent of the subtotal (83 and 111), and add to these percentages the resting heart rate which, in this example, is 50. Thus the training heart rate range is from 133 to 161.

To summarize (using these figures), the calculations are:

Standard maximum heart rate	220
Minus age	<u>-31</u>
Equals maximum attainable heart rate	189
Minus resting heart rate	<u>-50</u>
Equals level of intensity or subtotal needed to calculate intensity levels	139

To calculate the training heart rate range, simply take 60 percent and 80 percent of the subtotal and then add the resting heart rate to each. Thus:

Subtotal	139	
60 and 80 percent of subtotal	83 and 111	
Plus resting heart rate	<u>+50</u>	<u>+50</u>
Equals the training heart rate range	133 to	161

(Adapted from Donald B. Ardell's High Level Wellness, pages 89-90.)

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PHYSICAL FITNESS

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PHYSICAL FITNESS

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APPENDIX L
TOPICAL OUTLINE FOR
INSTRUCTION ON
STRESS MANAGEMENT

TOPICAL OUTLINE FOR INSTRUCTION ON
STRESS MANAGEMENT

- I. First Hour of Instruction - Stress.
 - A. What it is.
 - B. Stress personalities.
 - C. The costs and effects of stress.
 - D. Awareness.
- II. Second Hour of Instruction - Techniques.
 - A. The first step - breathing exercise.
 - B. Biofeedback.
 - C. Relaxation techniques.
 - D. Autogenic training.
 - E. Transcendental meditation.
- III. Third Hour of Instruction - Physiological Response.
 - A. Pulmonary function response.
 - B. Cardiovascular response.
 - C. Metabolic response.
- IV. Fourth Hour of Instruction - Summary.
 - A. Review of stress information.
 - B. Review of Stress management techniques.
 - C. Individual model development.

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ENVIRONMENTAL SENSITIVITY

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APPENDIX N
TOPICAL OUTLINE FOR
INSTRUCTION ON
ENVIRONMENTAL SENSITIVITY

TOPICAL OUTLINE FOR INSTRUCTION ON
ENVIRONMENTAL SENSITIVITY

- I. First Hour of Instruction - Our Environment.
 - A. A look at our environment.
 1. Pro-health environmental elements.
 2. Health hazards.
 - a. Natural hazards.
 - b. Man-made hazards.
 - B. Our relationship to our environment.
 - C. Aspects of our environment and safety measures.
- II. Second Hour of Instruction - The Physical and Social Aspects of Environment.
 - A. The physical aspect.
 1. How our physical environment promotes our health.
 2. Hazards posed by environmental pollutants.
 - B. The social aspect.
 1. American social system and health.
 2. Limits imposed by social system and personal responsibility.
- III. Third Hour of Instruction - The Personal Aspect of Environment and Summary.
 - A. The personal aspect - what is it?
 - B. Do we promote our own health?
 1. Work environment.
 2. Home environment.

- C. Personal safety.
- D. Making changes in our environment and our relationship to it - review.

APPENDIX O
EXAMPLE OF A PARTICIPANT'S
WELLNESS PROGRAM GOALS ESTABLISHED
DURING PHASE THREE

WELLNESS PROGRAM GOALS

NAME: Michael SmithUNIT: MEDDAC

1. My goal for the personal responsibility component of wellness is to: familiarize myself with the self-care booklet published by the Post MEDDAC.
2. My goal for the nutritional awareness component of wellness is to: maintain a food diary for one month to assess my eating habits.
3. My goal for the physical fitness component of wellness is to: enroll in the Post "Run For Your Life" program and incorporate muscle stretching techniques in warm-up and cool-down periods following running.
4. My goal for the stress management component of wellness is to: practice progressive relaxation at least four times each week.
5. My goal for the environmental sensitivity component of wellness is to: assess my personal work environment as to whether or not it promotes my wellness.

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