A NEW DEFINITION OF HEALTH

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A new concept of health is presented. A third dimension called optimal health-fitness (euexia*) has been added to the conventional concept of normal health. The new concept is based on a different set of health-fitness standards which were derived from studies of population groups with exceptional physical vigor, exceptionally long and vigorous life span, and/or exceptional freedom from cardiovascular and degenerative diseases. A national plan for implementing euexia is proposed.

INTRODUCTION

The United States has perhaps the largest number of highly trained medical professionals in the world and facilities for patient care and research of the highest quality. Each year more and more money is spent on health care: 26 billion in 1960 increasing to 160 billion in 1977. Despite these facts there is widespread dissatisfaction about the state of health in this country—and with good reason. The prevalence of our most common major diseases (cardiovascular and cerebrovascular diseases, cancer, emphysema, hypertension, cirrhosis, mental disease), as well as accidents, remains very high, indeed higher than in many other countries, and the cost of medical care is higher than many can afford. Some observers, particularly those in government, are convinced that the fault lies in our health care delivery system. They point to inefficiencies, lack of uniformity, excessively rising costs, and other deficiencies of medical care.

The objectives of this presentation are to point out that the fault lies in our concept of health rather than our health care delivery system, and to describe a different concept of health with a plan that can achieve what we cannot by our present system.

THE CONCEPT OF NORMAL HEALTH

Conventional medical education and practice are oriented to the detection and treatment of disease. The public is conditioned to consult the physician when symptoms of illness develop. The physician is trained to perform a large variety of examinations and tests which indicate abnormality (disease) or normality (absence of disease). The type of abnormality pinpoints the disease and this is treated in the appropriate manner. If the tests yield normal results, the patient is assured that nothing serious is wrong (or that he is well) and is advised to return for a periodic checkup. This approach is very effective with diseases such as in-

*An ancient Greek word meaning the best of health or condition.

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TABLE 1. LIVING HABITS AND DISEASE

Faulty Habits	Diseases
1. Wrong diet	Obesity Hypertension Atherosclerosis Lipid disorders
2. Sedentary life	Diabetes Cancer
3. Smoking	Cancer Cardiovascular Diseases Emphysema
4. Drugs (Alcohol, etc.)	Accidents Cirrhosis Heart Disease Brain Disease
5. Destructive Beliefs	Suicide Homocide Mental Diseases

fections and traumatic injuries. It is inadequate with most of the major diseases we face today. The prime example is atherosclerosis which is responsible for the majority of the deaths in the form of heart attacks and strokes. It is widely accepted that atherosclerosis begins in early life before the individual or physician can detect any signs or symptoms. In about half the cases of myocardial infarction, the infarct itself is the first indication that coronary heart disease is present. About 60 percent of deaths from heart attacks occur before medical care can be obtained and of those who reach the hospital alive about 15-20 percent die there despite the best available therapy. Those who survive hospitalization are subject to a high probability of recurrence, disability, or premature death. Thus, by the time coronary heart disease becomes evident, it is so far advanced that the most sophisticated therapy available is in the position of fighting a costly delaying action in a battle that has already been lost. A similar situation exists with other common diseases including strokes, cirrhosis, emphysema, and certain cancers. With these diseases the only effective approach is a program of prevention beginning before the disorder becomes manifest, ie, when the individual feels entirely well. The clue to prevention is the relationship between these diseases and living habits as depicted in Table 1. These relationships are based on studies of many population groups worldwide in which living habits have been correlated with disease prevalence and mortality rates.[1-5] The findings suggest that faulty living habits are key factors in the etiology of more than 80 percent of our common major diseases.

Accepting this postulate, it follows that modification, enlargement or improvement in efficiency of our present system of health care can do little to improve the health of the public. Improvements in diagnosis and treatment of established disease, although gratifying, do not decrease the incidence of disease.

THE BASIC FAULT

The basic fault of our health care system is our current concept of health. We live in a "normal" world. Being normal is considered safe, desirable, and healthy. Normal health is defined as the absence of disease as determined by normal examinations and tests. All of our health resources and personnel are focused on a minority of our population who have detectable diseases. The large majority, who are normal, are of little interest to the health professions.

TABLE 2. EUEXIA STANDARDS

Standard	Normal	Euexia (Optimal)
1. Diet	Calories,* Fat,* Cholesterol,* Salt,* Sugar,* Protein,** Calcium,** Fiber**	Optimal Amount Nutrients
2. Exercise	O — Occasional	Daily
3. Smoking	Common	None
4. Alcohol	Common	O — Occasional
5. Blood Pressure	100/70-150/95	90/60-120/80
6. Pulse	60-100	35-55
7. Body Fat	12-25%	5-10%
8. Cholesterol	150-300	125-175
9. Triglycerides	30-200	30-100
10. Uric Acid	2.5-8	2.5-6.5
11. O_2 Maximum	20-40	40-80

*In excess
**Deficiency

Because of the crucial significance of the term "normal", we should examine its meaning more clearly. Normal values or standards are established by tests of a suitably large number of apparently healthy people, eg, hospital employees, insurance policy owners, etc. The normal range is derived from an appropriate spread on each side of the mean value for the entire group. This is an acceptable statistical method for characterizing a given population group. It is, however, not necessarily relevant to health or desirability unless the group has been carefully selected for exceptionally good health, vigorous longevity, and/or freedom from the major diseases.

Unfortunately, the normal values in current use are derived from the general American public with its widespread obesity, low level physical fitness, bad eating habits, common usage of drugs (alcohol, cigarettes, etc) and high incidence of the diseases we wish to eradicate. The use of such normal values as standards for good health is illogical, misleading, and contributes to the problem of excessive disease prevalence. The level of blood cholesterol is a good example of this. The normal range widely used is 150-300 mg/dl. Is it safe, desirable or healthy to be in this range? Consider that the risk for an acute coronary event is four times greater with a level of 300 than it is for a level of 150, yet both are considered normal. A similar situation exists with many other normal values.

NEW STANDARDS OF HEALTH

We need an entirely different set of health standards or goals, ie, those associated with the best of health and fitness as well as the greatest freedom from the diseases we are trying to eliminate. To establish such values we used as our models population groups characterized by exceptional physical fitness, exceptional vigor with aging, or by exceptional freedom from atherosclerosis.[1,3,6-9] These populations have certain physical, biochemical, fitness, and psychological characteristics in common. They are our models of optimal health-fitness (euexia) and their values form the basis for our optimal range of values. Table 2 shows a comparison of normal and optimal values. Note the substantial difference between the two sets of standards. Are these new standards attainable by normal individuals? The answer is yes. With proper techniques, supervision, and education they can be reached by the majority of motivated individuals within one year.[3]

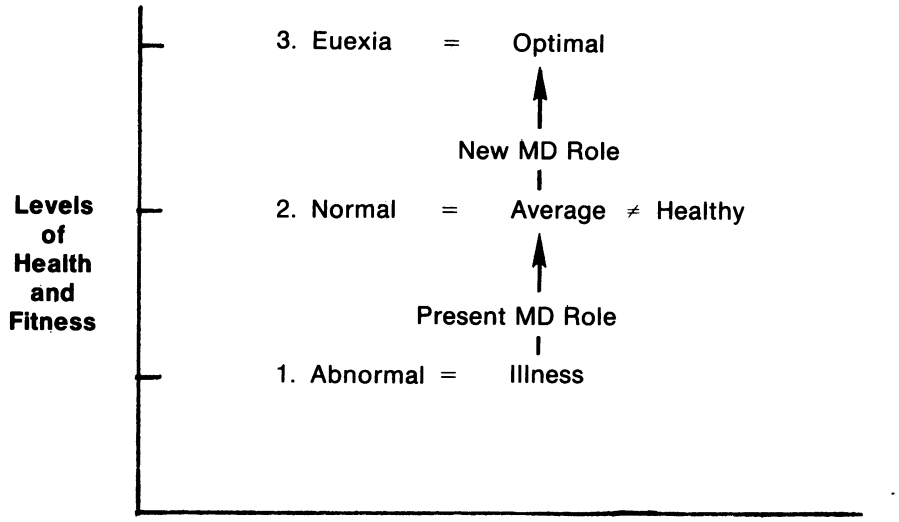

Figure 1. Euexia: Concept Model

THE CONCEPT OF EUEXIA

The optimal health standards are the basis for a different concept of health (Figure 1). Euexia is primarily for normal people, the large majority of our population. These individuals are living a life of average (far below their potential) quality and performance and are undergoing a progressive decrease in physical vigor which leads almost invariably to substantial degrees of impaired multiorgan system function by the age of 70. Yet the medical profession has little to offer them until they show signs of disease. An increasing number of these people are realizing that this common course of events is not inevitable and are seeking alternatives. This is manifested by the popularity of health food stores, health clubs and spas, jogging, tennis, raquetball, cycling, and countless diet and exercise books which promise short cuts to better bodies, better health, "total fitness," or longer life. These developments suggest that the time is ripe for widespread acceptance by the public of a different concept of health and the motivation for the necessary changes in living habits.

The time has come for us to focus a major part of our health care efforts, expertise, and funds on normal people. This is the only way to reduce the incidence of major disease to a significant degree. This is the focus of euexia. Its objective is to help normal people reach optimal health and fitness rather than remain at the level now accepted as normal, a position of mediocrity and high risk for disease.

It is important to point out that euexia is not a synonym for preventive medicine, and that disease prevention per se does not result in euexia. Actually, disease prevention is one of the by-products of euexia. The rewards of euexia go beyond the decrease in disability, premature death, and the excessive expenditures of resources to treat disease. The more immediate benefits are greater enjoyment of life, more and better work performance, and the maintenance of physical and mental vigor with advancing age (Figure 2).

Euexia is a separate and distinct discipline. It differs markedly from medicine in its orientation, standards, goals, methodology, philosophy, and the population groups it is designed to serve. The realm of euexia is the outdoors, the workshop of health and sports, maximal activity and effort, the striving for maximal potential ability, capacity, and performance. In contrast, the realm of medicine is the indoors, the atmosphere of illness and disability, minimal activity and effort, and limited capacity and performance.

Optimal health and fitness are inseparable, one without the other is inconceivable. Fitness is used to mean the ability or capacity to cope with the

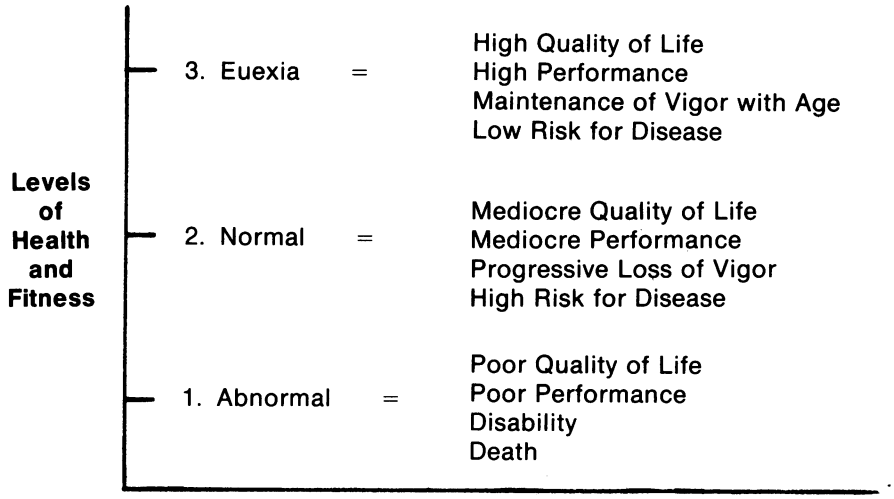

Figure 2. Euexia: Prognosis

entire gamut of life situations. It is the functional measure and evidence of health and has multiple dimensions: physical, intellectual, psychological, and spiritual. Individual optimal (100 percent) levels of fitness vary widely depending on genetic endowment and previous experience (conditioning).

THE IMPLEMENTATION OF EUEXIA

Methods for achieving euexia have been developed over the past 12 years.[3] Changes in daily living habits are required, a difficult but feasible task in our experience. It is made easier by a vigorous community effort with active participation and education of all segments of the community: students of all ages, parents, teachers, and business, professional and workers' groups. It means changing our advertising customs: phasing out the promotion of unhealthy habits (junk foods, cigarettes, alcohol, and other drugs) and more vigorously promoting healthy habits of eating, exercising, and thinking.

Special health centers are needed to provide the leadership, guidance, and research to implement euexia. A practical model for such a facility has been designed[10] and feasibility studies carried out.[3] The construction and maintenance costs are much less than those of a large community hospital. It is proposed that a country-wide network of these centers be gradually established by private enterprise, preferably associated with universities and used to educate teachers and health professionals as well as the general public in the theory and practice of optimal health fitness and primary disease prevention. The first euexia center was established in March 1977. Several similar centers are in various stages of development.

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