

Points of Attack for Raising the Levels of Wellness*

HALBERT L. DUNN, M.D., Ph.D.

Chief, National Office of Vital Statistics, Public Health Service, U.S. Department of Health, Education and Welfare, Washington, D. C.

THE CONCEPT OF WELLNESS

THE concept of "wellness" is nothing new in the history of public health and medicine. In the early history of medicine, illness was regarded as something which represented an affliction suffered because of divine purpose. It was not until scientific medicine began to appear that understanding came about as to the causes of illness. Although the concept of wellness, as something very much more than just the absence of sickness, has been behind the thinking of many doctors and health workers in the first half of the 20th century, nevertheless the curing of disease and the saving of lives has been the primary preoccupation both of physicians and health workers. A definition of health as absence of illness is negative in character and scarcely suitable for a dynamic program to improve the levels of wellness. Such a dynamic concept of wellness has, in recent years, been termed positive health.

Probably nowhere has this concept been so well expressed as in the Constitution of the World Health Organization, which, in its preamble, states that "Health is a state of complete physical, mental, and social well being and not merely the absence of disease or infirmity."¹ It goes on to say that "The enjoyment of the highest attainable standard of health is one of the fundamental rights of every human being without distinction of race, religion, political belief, economic or social condition" and that "The health of all peoples is fundamental to the attainment of peace and security and is dependent upon the fullest cooperation of individuals and States." It specifically states that the "Healthy development of the child is of basic importance; the ability to live harmoniously in a changing total environment is essential to such development."

In 1953, the President's Commission on the Health Needs of the Nation set forth its view of degrees and grades in health.²

Implicit in the expression promotion of health is the idea that there are gradations of health, that everyone not affected by a specific disease or disability is not equally healthy. This idea is now generally accepted, though interest in its significance to the health problems of the people is of fairly recent origin. At present, gradations of health in this positive sense are not measurable, but the concept has definite, understandable meaning. A healthy individual has been described as a well-integrated individual, both as to his physical structure and as to his physiological and psychological functioning.

Even so, sometimes when a person is said to be well he is not nearly as healthy as he could be. A steady, glowing health is the goal. Cheerful people, full of vital strength and practicing the decorum of kindly behavior, accomplish more than grumblers and grouchers who snarl at each other. A completely healthy person meets trouble with equanimity. He has time and inclination for sociability and recreation.

... In time men may come to recognize by name and learn to overcome what are now considered merely lower grades of well-being. Bad humor, good humor, energy or the lack thereof often have a physical basis. There is also the microclimate of family life. A man may not function properly because he is emotionally disturbed, following a fight with his wife or sweetheart.

Health is not a condition; it is an adjustment. It is not a state but a process. That process adapts the individual not only to our physical but also to our social environment. Social life or community life is just another name for interpersonal relations. The science of health is a branch of the wider science of human ecology.

In recent years, prevention has become an important element in the practice of medicine. Substantial advances have been made in this field, and it has become a major subject of the medical curriculum. Meeting in a national conference at Colorado Springs in November 1952, the concept of positive health has been reaffirmed by the professors of preventive medicine in medical schools. They declared:³

The goal of health now at mid-century calls for not only the cure or alleviation of disease. It calls for even more than the prevention of disease. Rather, it looks beyond, to strive for maximum physical, mental and social efficiency for the individual, for his family and for the community.

While the profession has given lip service to this concept of positive health for a great many years, it has done very little about it.

* Read before the Médico-Chirurgical Society of the District of Columbia, March 28, 1957.

It is the purpose of this article to point out some of the concrete points of attack for raising existing levels of wellness. If the way to take hold of the problem can be clarified, perhaps the concept can mature and receive the attention of health workers and physicians throughout the country and the world. Actually, what we have is a broad highway, leading toward good health, on which many persons are laboring. Doctors, health and social welfare workers, and a variety of other disciplines are treading this highway. Almost without exception, their eyes are turned in one direction, fixed on sickness and death—conditions which they are trying to alleviate. When they turn their gaze in the opposite direction, they will see that wellness is not just a single condition but a complex made up of overlapping levels of wellness. If these levels could be clearly seen and measured, it might well be found that the majority of persons who are not "sick" in the conventional sense are actually existing on a very low level of wellness.

POPULATION GROWTH FACTORS

Before considering the points of attack and the methods which might be used to come to grips with this problem of recognizing and classifying levels of wellness, it is essential to examine certain demographic trends which make the solution of the problem increasingly urgent. These facts have been reviewed in more detail in a publication titled *Health and Demography*, published by the U. S. Department of Health, Education, and Welfare, and issued in October 1956 as Public Health Service Publication No. 502. "Building America's Health"² also contains much factual data.

The first important fact to understand is that our *population is growing*. True, one could hardly travel the highways in and out of town without realizing this fact. However, Fig. 1 shows strikingly the growth of the U. S. population from 1790 to the present time and also indicates the anticipated increase in population up to 1975. All parts of the country have, of course, not grown at the same rate, since the eastern seaboard was settled first. During the last century, however, the north central and western areas of the country have enjoyed more rapid rates of growth than the eastern and southern regions.

It is also important to realize that population growth over the last 300 years has been a general

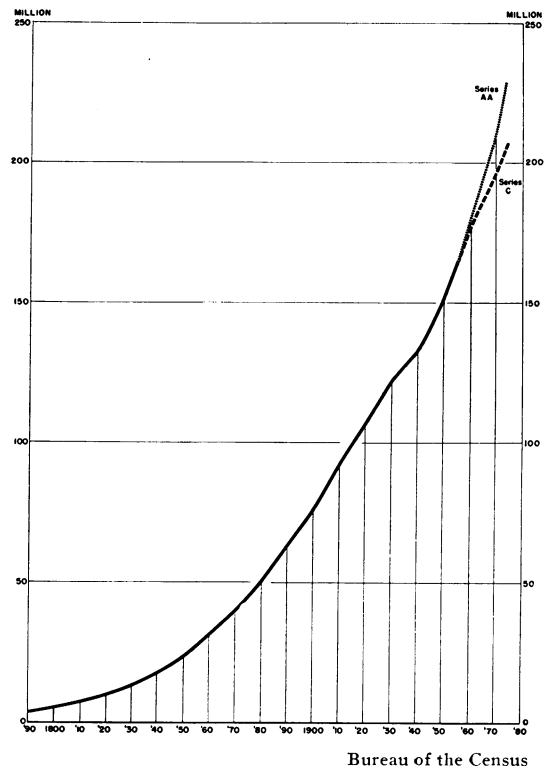


Fig. 1—Population of the United States: 1790 to 1955—Projected to 1975.

phenomenon for the whole world, although certain regions of the world have grown at a faster rate than others. In 300 years, the world population has grown from approximately 550 million to a level almost five times this number—i.e., to 2,500,000,000. Three hundred years—just a second of time in the history of the world—have brought about a five-fold increase in world population, a situation which Raymond Pearl was wont to describe as an "epidemic of population growth." This rate of increase, if continued, has appalling implications for the future, which we cannot continue to ignore.

It is also important to realize that the position of North America has been unique in this picture. When our forefathers commenced settlement of the North American continent, it was very sparsely occupied by Indians, who, due to their culture and their way of life, numbered probably not more than half a million persons. This meant that the population in North America could expand very rapidly, because there was plenty of unoccupied land for all. In addition, ways to improve the output from agriculture were found which made

food yields more abundant. The revolution in agricultural methods took place before the great increase and development along industrial lines. Consequently, displaced persons from the farms, who in the early years far outnumbered those in the cities, were able to come into the cities and thus make possible the huge growth of industry and the creation of an urban population which is required for such an industrial development.

In the United States, the saving of life brought about by the growth of the science of medicine and health took place after the industrial revolution was well under way. Quite a different sequence of events is occurring in the densely populated areas of Asia and Africa. There, the medical and health revolution is taking place in already densely populated areas and prior to the agricultural and industrial revolution. People in dire need of food and goods are increasing in numbers and overflowing the living areas of their countries.

The primary reason why the population is growing is that the birth and death rates are no longer in balance. Except for the 1918 influenza epidemic, the trend of the death rate in the United States has been steadily downward (Fig. 2). Prior to 1940, the birth rate also was falling, giving rise to the belief that the population might soon become stabilized in this country. Since that time, however, the wave of higher birth rates has caused our population to surge upward and is now re-

Factors in Population Growth.

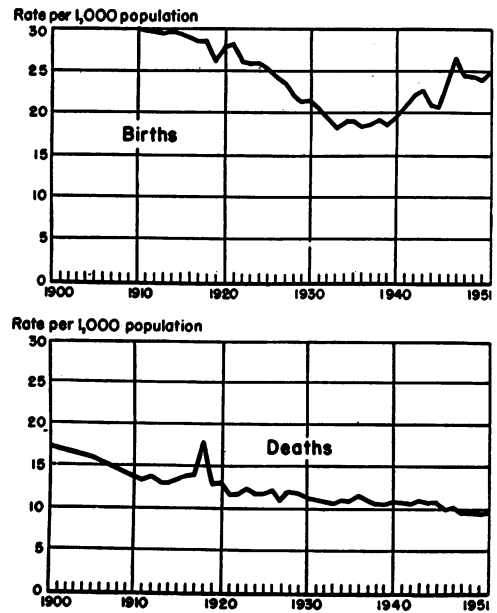
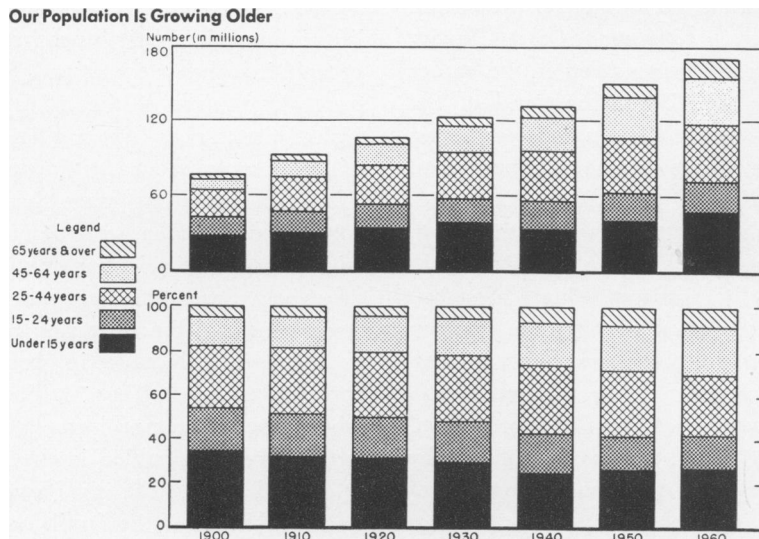


Fig. 2—Birth and Death Rates, United States, 1900-51.

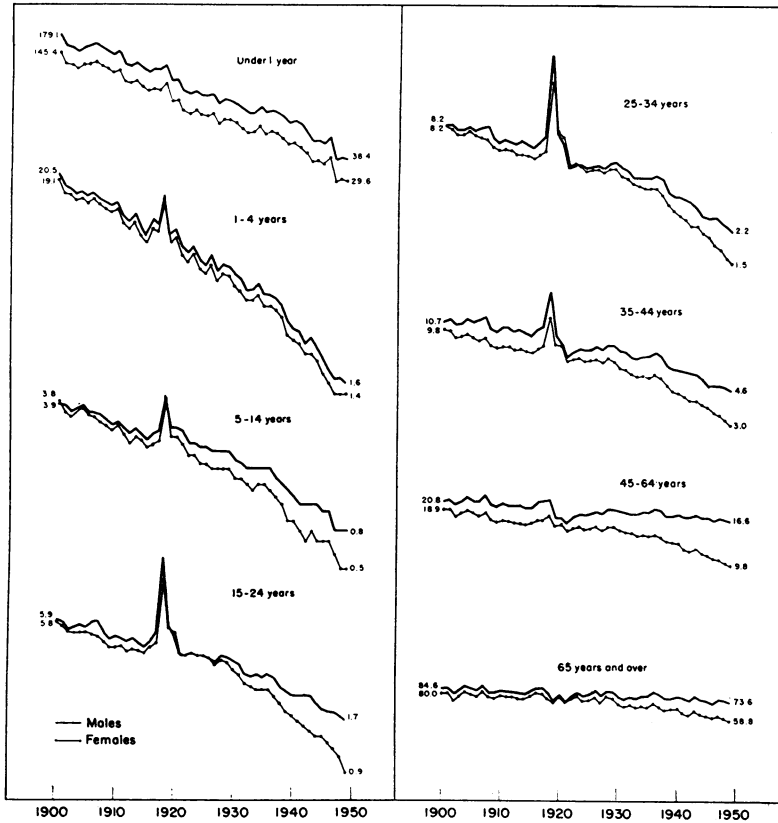
flected in crowded schools and bulging cities.

The population of the country is not only growing, but it is *growing older* (Fig. 3). The Bureau of the Census conservatively estimates that by 1975 there will be 20,655,000 persons living in the United States 65 years of age or older of whom 58 per cent will be women.



Bureau of the Census

Fig. 3—Population and Percentage Distribution, by Age, United States, 1900-50 and 1960 Projected.



Note: Death rates plotted on logarithmic scale so that slope of curve indicates rate of change. Rates for 1900 and 1949 are designated for each curve. Source based on data from National Office of Vital Statistics.

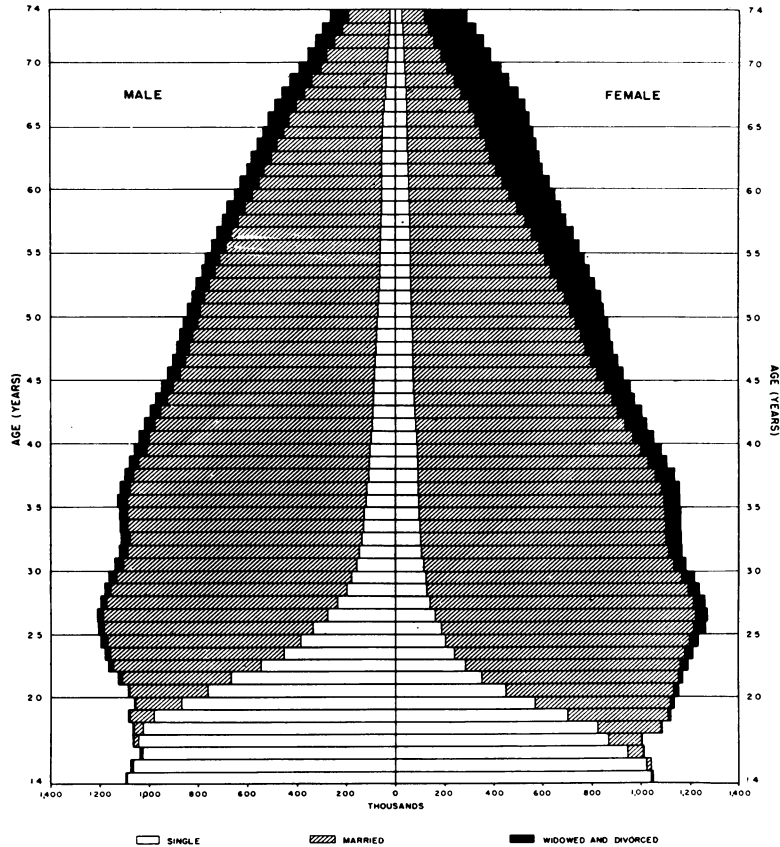
Fig. 4—Death Rates per 1,000 Population, by Age and Sex, Death-Registration States, United States, 1900-49.

The principal reason for the greater proportion of *older persons in the population* is that a higher proportion of lives are being saved in the earlier years of life (Fig. 4). While the trend of the death rate is downward at all ages, it is decreasing at a relatively faster rate in the younger years. Furthermore, *at all ages*, the female death rates are declining more rapidly than those of the males. The impact of these factors on the family structure becomes dramatically apparent (Fig. 5) when marital status is considered for men and women at various ages. At the older ages, more women are widowed or divorced (mostly widowed) than are married. The average length of life for women, now estimated at 73 years, exceeds that of men by more than six years. The problem of large numbers of women living alone, particularly those at the advanced ages, represents a social, medical, and health problem which we have not, up to this time, clearly recognized.

The impact of industrialization on the way of life is probably best visualized by the steady growth in urban population (Fig. 6). Approximately two-thirds of the total population of the United States now live in cities or on the fringe of cities; only about one-third are on the farm. Predictions are being made that this process will continue until urban areas of one city will merge with those of its neighbor, resulting eventually in urban areas several hundred miles in length.

As a part of the increasing tempo of industry, an astonishing increase in women in the labor force is occurring (Fig. 7). For the country as a whole, the percentage increase of women in the labor force has doubled in the ten years between 1940 and 1950. The significance of this factor on the wellness of the family and the child needs careful evaluation.

Of great interest in this short review of the demographic picture is the situation of the Negro.



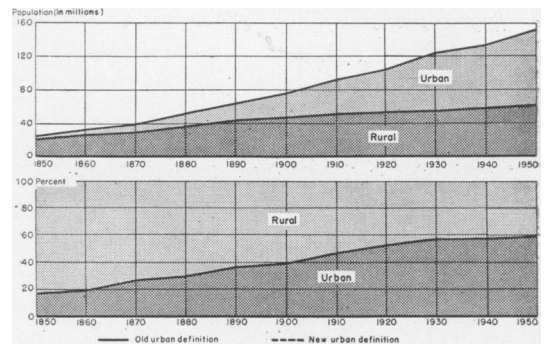
Bureau of the Census

Fig. 5—Marital Status of Persons 14-74 Years Old, by Single Years of Age and Sex, for the United States: 1950.

The proportion of Negroes living in the various States, according to the 1950 Census of Population, is given in Fig. 8, and the considerable shift in the Negro population toward the west and northwest is apparent in Fig. 9. Positive health calls for good living conditions and sufficient medical care for all. Yet, the President's Commission on the Health Needs of the Nation brings out the fact that "The United States [now] has only about 4,000 Negro physicians. In 1948 there was one Negro physician for each 3,680 Negroes, as compared to about 1 physician for every 735 people for the Nation as a whole. The ratio of Negro physicians to population has become less favorable during the past 20 years."*

The aging of the population, its concentration in urban areas, and the problems of modern living in a heavily industrialized society are bringing about conditions in which levels of wellness are

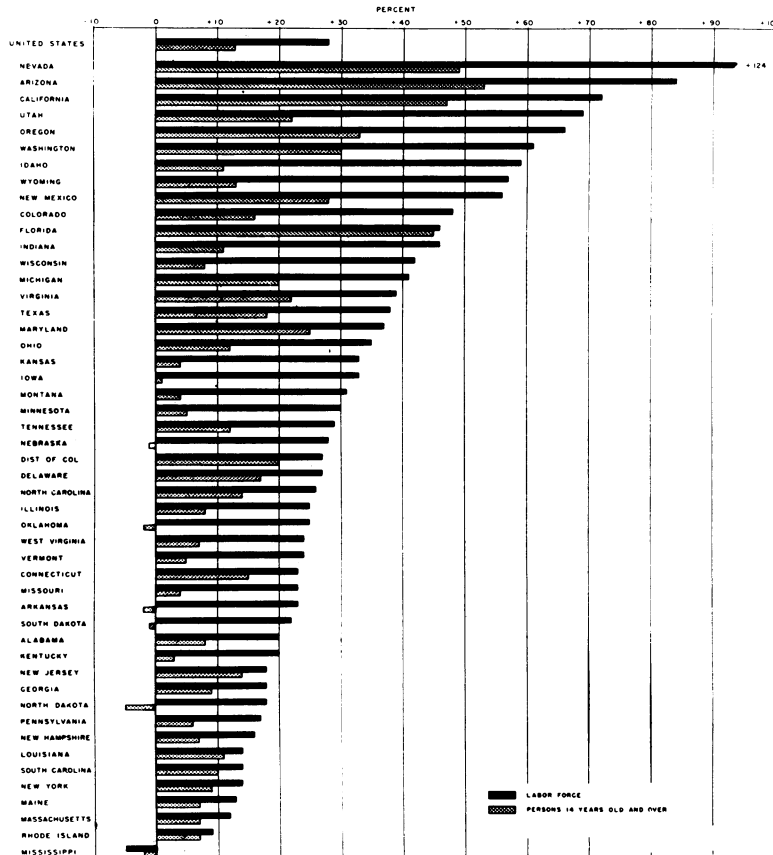
of great importance to all of us. Who can doubt, for instance, that the problems of elder citizens involve much more than just the saving of life or curing chronic disease? The great challenge at the older ages is how to keep a person fit until he dies, functioning as a dynamic unit in the population and contributing to society so that he can



Bureau of the Census

Fig. 6—Population and Percentage Distribution, Urban and Rural, United States, 1850-1950.

* Ref. 2, p. 121.



Bureau of the Census

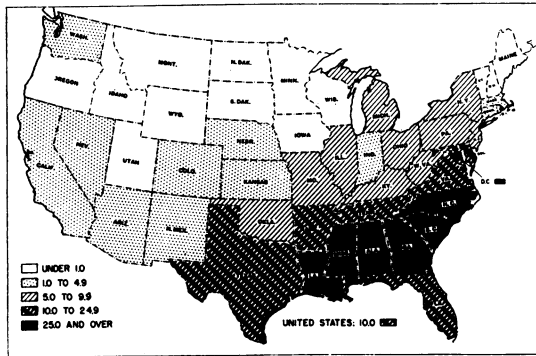
Fig. 7—Per cent Change, 1940 to 1950, in the Number of Females in the Labor Force and in the Number of Females 14 Years Old and Over, by States.

maintain his sense of value and dignity. It is quite possible that much of chronic disease could be eliminated if physicians knew how to recognize various levels of wellness. If, as seems certain, in the lower levels of wellness exist the precursors of future illness, it becomes increasingly important that we be able to recognize levels of wellness. What is top-level wellness? How can one recognize the persons possessing it at the various ages? Can therapy be designed to raise the individual's level of wellness?

RESEARCH ON LEVELS OF WELLNESS
IN THE INDIVIDUAL

Such questions call for an extensive, continuing, well-financed program of research. Such research should be conducted not only in health programs but in the laboratories of our medical schools and in private clinics which have resources for research available to them.

The principal disciplines contributing to research on the levels of wellness of the individual would be the basic medical sciences with which we study disease conditions, particularly anatomy and cytology, biochemistry, physiology, psychology, and psychiatry. In the field of physiology, extensive contributions on the subject of stress already have given promise of transforming the entire character of medical practice. Through the work of Hans Selye,⁴ a theory of stress has been developed which is now being investigated by extensive research in many parts of the world. This research shows that the body as an organized whole has a pattern of defending itself, a pattern which is both local and general and which interlinks physical-chemical processes, the nervous system, and the endocrine glands in a complex structure of reaction to dangers and tensions. In the future, the physician will need to take into account while treating a patient not only specific



Bureau of the Census
 Fig. 8—Percentage of Negroes in the Total Population, by States: 1950.

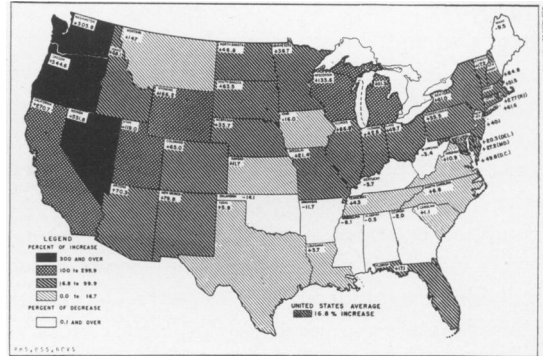


Fig. 9—Per cent of Change in Negro Population, by State: 1940 to 1950.

therapies for illness but also how to stimulate the most effective general body defense reaction. In the research on levels of wellness, stress research will undoubtedly be of great importance, particularly in the development of therapy aimed at raising the level of wellness.

Research directed toward understanding body tensions will probably be fully as important as research on stress. Sustained high tensions are recognized as dangerous to both body and mind, yet at times and for short periods they are necessary for self-preservation. Some tension is essential to life. Without a certain degree of tension, we would not be able to perform useful work. It is the proper balance between tension and stress, between the facing of problems and the satisfaction of achievement, between the physical and the spiritual, between activity and rest that becomes important in maintaining high levels of wellness.

Research in psychology and psychiatry probably offers the greatest promise for understanding levels of wellness. As brought out in "Building America's Health,"

"... diseases, particularly mental diseases, represent a disturbance of the dynamic equilibrium between stress and the reaction to conflict which is always taking place. The behavioral environment contains large numbers of forces to which the individual reacts. This dynamism with its constant changes taxes the human capacity to grasp the interacting variables and to see the final forces. Overcoming some of these forces might result in the maintenance of health rather than the precipitation of disease."

As pointed out by Dunn,⁵

Maintenance of one's ego is largely a struggle to maintain balance in understanding and to express one's self. Personal motivation is involved. In general, we like those things that help us maintain a sense of personal unity

and dislike those things which tend to tear down this unity.

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To the physician, it is apparent that much mental illness comes from frustration to the mind and spirit. The human brain is required to solve problems as they arise in daily life. The brain is so constructed that it will come up with correct solutions if it can. It does its work well to the degree that it has access to the information it needs for the solution of the problem in hand. But erroneous beliefs fixed in the mind, hate and prejudices, and the lack of essential information keep the brain from doing its job and, in the course of time, bring about mental and physical illness."

The conclusion of the President's Commission is that "Support for mental health research should be aimed at a level approaching that of all other medical research combined."[†]

In using the medical sciences to conduct research on levels of wellness in the individual, typical problems facing the investigator are: How do we diagnose and classify degrees of wellness? What research can we conduct through these various disciplines on the individual? What are levels of wellness at all ages of growth? What are levels of wellness in terms of the sexes? Are there racial differences which affect these levels of wellness?

Probably the most baffling feature of this type of research will be that there is no easy way to recognize a particular level of wellness in and of itself. We do not seem to have any way in which to recognize a cluster of individuals so that we can say, "This particular group of persons is at a peak level of wellness." Or, "Here is a group of persons who are not sick but are at a minimum level of wellness."

[†] Ref. 2, p. 237.

However, ways will be found to segregate groups of individuals whose level of wellness is more or less self-evident. For instance, all of us know persons between 80 and 90 years of age who are physically well, contributing actively to the society in which they live, and who seem to be alive to their finger tips. Would not this be a group of extremely well individuals at this age level? Would it not be possible to persuade such individuals to undergo the necessary biochemical, physiological, and psychological tests so as to ascertain their characteristics? Once measures have been made on such a group, it would tend to calibrate an upper point in the scale of wellness for an older age group. Through such approaches, research would ultimately make it possible to classify various levels of wellness in terms of chemistry, physiology, and psychology. Once a yardstick for wellness has been calibrated, it would become practical for physicians to recognize such levels by subjecting individuals to laboratory tests. This would give the profession a powerful new tool to recognize low-level wellness and, through research, to develop therapies aimed at raising low levels of wellness to higher ones. As we learn how to diagnose and treat such conditions, research emphasis will probably shift toward the measurement and improvement of the internal balance between body and mind in order to bring about maximum wellness through a continuum of change and adjustment.

RESEARCH ON LEVELS OF WELLNESS IN GROUPS OF INDIVIDUALS

It is impossible to consider the individual in a vacuum. As stated in "Building America's Health,"‡

With this concept of positive health, the areas for social action to promote health include any conditions in the external environment that may impose some stress, such as availability and quality of food, housing, working conditions, opportunity to earn a living, to have an education, to enjoy recreation, and to obtain medical care. Promotion of health also includes those areas which influence the knowledge and attitudes of an individual, thereby affecting his ability to maintain a healthful internal environment—nutritional, emotional, or psychological."

This means that a major part of the research program needed for establishing patterns favorable

to high-level wellness lies in the area commonly known as social science research: Human ecology, genetics, cultural anthropology, administration and group dynamics, and psychology and psychiatry. To the average person, these social sciences do not seem to qualify as bona fide science as do the basic medical sciences. Social sciences are handicapped by the dilemma that human beings must serve simultaneously in the roles of investigator and guinea pig. It is difficult for any of us to subject our own pet ideas and biases to the test of experimentation. Yet, this needs to be done if we are to acquire the tools which must be used and sharpened in order to solve the problem in hand.

It is worth noting that a very great advantage will be enjoyed in the use of social science techniques as soon as it becomes possible to recognize, measure, and classify levels of wellness in the individual through objective laboratory tests. Family or community research would then be able to select samples of individuals upon whom tests of levels of wellness could be made and thus establish the effect of experimentation in social living or industrial management design.

Among the principal classes of research on groups of individuals are:

1. *Interpersonal research*—aimed at establishing the principles and practices essential to wholesome relationships between individuals.

There is a large body of information already in existence on this subject, and it is a matter of deep concern to industry and to social groups. Obviously, the wellness of the individual is linked to satisfactory interpersonal relationships, because no individual can possibly be well if he is living in complete aloneness.

2. *Family research*—aimed at establishing patterns of family living compatible with high-level wellness of the family as a whole and of its members as individuals.

The most important group in society is the family. Without a well family, it is almost impossible to have high-level wellness of the individual. How much of the juvenile delinquency with which we are concerned has its roots within maladjusted family living? What scars are left on the adult personality when discord breaks up the family as a unit?

3. *Community research*—aimed at developing

‡ Ref. 2, p. 14.

designs, standards, and methods of community living conducive to high-level wellness in the individual and the family.

Can families be well in sick communities? What sort of housing facilities do we need to meet the special requirements of older persons? Should not they be designed so as to be a part of the community group, so that children can have oldsters with whom they can visit? Should not we have a development of adequate health and sanitation codes which underlie building codes and give them reason? Otherwise, how can we hope to have community designs which are favorable to healthy families and healthy individuals?

4. *Administration and group dynamics research*—aimed at developing patterns of administration in which individuals may maintain a high level of wellness within the framework of their daily tasks.

Is it possible to run organizations in such a way that individuals working within them can find a high degree of personal satisfaction for themselves? The great proportion of the worker's time is spent either on the job or with his family. Most of us must realize the satisfactions of work life and the patterns within which we live at home if we are to find them at all. Consequently, the finding of such satisfactions in job and home is probably the all-important element in maintaining the balance needed for a top-level degree of wellness.

5. *Population research*—aimed at the study of population growth, characteristics, and distribution, in relation to resources, industry, and culture, the results of which would provide guidelines for a high level of wellness generally.

For the broad patterns of the world and the nation, nothing is more important than population research. The roots of war or revolution are present when populations cannot find the way toward a good life within the framework of their daily living.

6. *Genetics research*—aimed at improving the inheritance of man.

The inheritance of man is biological, cultural, and conceptual. To what degree has the reliance of man on his culture affected his biological inheritance? Are mutations transmitting unfavorable qualities leading toward the eventual downfall of the race of man? To what degree are exposures to radiation affecting mutations and fertility? The

answers to such questions are fundamental for the attainment of a high level of wellness.

POINTS OF ATTACK FOR RAISING THE LEVELS OF WELLNESS

1. *Measures to improve wellness in family living and community life.*

Family living is important to all of us and so also should be the community, since a well family needs a congenial setting. All the types of research available to us should be used, therefore, in establishing patterns of family and community living conducive to high levels of wellness in the individual.

In this area of activity, the physician can be indispensable. As pointed out in "Building America's Health," (Ref. 2).

Physicians, teachers, public health workers, clergymen, marriage counsellors, and hospital administrators are examples of the professional persons who meet large segments of the population and are in a position to influence their mental health for good or for ill. The education of these groups to recognize the factors that promote health and to grasp and use them is the aim of programs for the promotion of mental health. (p. 51).

2. *Education*—measures to teach wisdom.

How can we devise measures to teach wisdom in addition to and as distinguished from knowledge, within the present framework of education? Professor Hans Thirring, a distinguished physicist from the University of Vienna, stated recently:⁶

"People have gained immensely more knowledge but scarcely any more wisdom than their ancestors." He specified certain conditions as necessary for wisdom: first, "to possess the knowledge and the good will for a better understanding of and insight into his own self and his fellow man" and second, "to possess a good sense for a proper order of rank of the various values and human issues, duties, and responsibilities." He maintains that "we have to jettison just five percent of the material taught in schools and replace it by suitably chosen psychological knowledge and ethical principles in order to make a world which could be far better and happier than that of today.

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It would be the duty of experienced people to warn inexperienced youth in time that they cannot expect to meet a mortal who is absolutely free of imperfections, weaknesses, and faults and, moreover, the static view of the world with its black and white pattern into which the individual is more or less helplessly thrown should be replaced by the more realistic and, at the same time, more hopeful dynamic view giving the individual more freedom for actively influencing human relations.

A previous Director of the World Health Organization has told me that in his opinion it is desirable to teach children, even in the kindergarten stage, such simple facts as how to recognize an angry person, how to conduct oneself in the presence of such a person, why a person is angry, etc., and then went on to emphasize the need for the teaching of wisdom at various periods of growth throughout the educational system. Perhaps, one of the best ways to do this would be to introduce the elder citizen into the educational process through finding ways in which he could meet, informally at certain specified periods of the week and outside of the classroom, with small groups of students with whom he could talk, discuss their problems, their ambitions, their desires, and raise with the youngsters those questions which only a mature mind can bring into focus.

3. *Human relations*—measures to develop the understanding and methods of cooperation and adjustment in man's relationships with others throughout life.

Human relations is a subject of great interest to many groups, including industrial management which is constantly faced with problems of personnel adjustment. It is a subject so broad that it enters every phase of life. Upon the understanding of its principles and how they can be applied will depend much of one's happiness in life, the fulfillment of one's aspirations, and the degree of wellness of one's body and spirit.

4. *Leadership*—measures to develop high levels of wellness among those in leadership positions with control over others.

Every person who is in command of an organization, whether it be a small group or a nation, has a leverage position of power over the lives of others. Therefore, it would seem to be common sense that persons in leadership positions be at a high level of wellness when they exercise the responsibilities of their authority. It is not out of the realm of possibility that ultimately we will consider it desirable, as research opens up means by which we can test and enhance the levels of wellness, that our national leaders of industry and government will be required to undergo tests of wellness, and therapy if needed, just as many of them now undergo medical and health tests in order to be sure that they are protected from sickness. If such a safeguard for society in general were in force, would it not be our best insurance

against a Hitler taking over? If such tests to ascertain personal levels of wellness became recognized as a routine health measure, would it not be likely that the public generally would require this as a safeguard from those whom it entrusts with leadership?

5. *Communication and access to information*—systematic study and organized effort to maintain open channels of information and access to the reservoirs of knowledge, especially on controversial subjects.

Perhaps there is nothing more important to a free society and well minds than open channels of communication and access to relevant information. The strength of science rests upon its dedication to the search for absolute truth and upon its discipline of approaching such truth through successive approximations to it, each a little closer than its predecessor. Due to the rapid advance of the physical sciences, heads of organizations, through command of sources of knowledge, science, channels of communication, and temporal power, possess control over a vast network of the social structure. It is also apparent that the mind cannot do a good job of solving daily problems unless it has access to information. Communication channels cannot be closed if we are to have a high level of wellness.

6. *Creative expression*—systematic and continued effort to enhance the importance of creative expression throughout life and society.

In all probability, the creative spirit exists in all persons, although it lies dormant in many. If this spirit can find expression in creative effort, it brings satisfaction to the individual and makes it possible for him to become a contributor to society as well as offering a means of finding satisfaction for himself in his daily life. Creative expression arouses the adventuring spirit within us and brings interest and zest to living. It is the opposite of the dullness of boredom. When one expresses one's self in this fashion, he likes to share the things which he has created with his fellows. This, in turn, engenders within his fellow man a spirit of gratitude toward him a spirit which means that his fellow man wishes him well. Hans Selye⁴ has pointed out that such a spirit of gratitude is something which is accumulative throughout life and brings ego security to the individual. To express one's self creatively is important, because it is a

link between the needs of the ego and the altruistic requirements of human relations.

7. *Altruism*—systematic and continued effort to make clear the importance of altruistic expression as a tonic to the spirit of man and as a means of providing ego security among one's fellows.

Traditionally, medicine and health have not considered the area of altruism and love as something which is germane to its domain. However, it would be very unlikely if the laboratory did not eventually prove that a person cannot enjoy a high level of wellness without a substantial element of altruism and love within his daily life. We need to measure what the effect of altruistic expression and the outpouring of love actually does to the levels of wellness in the body. Perhaps study of the effects of altruism on the body and spirit will furnish the bridge between science and the spiritual world which so far we have failed to recognize. Perhaps research in medicine and health will ultimately produce the elements needed for developing an acceptable way of living compatible with wellness of the body and spirit of man.

8. *Maturity*—crystallization of the concept of maturity in all its ramifications and the enhancement of maturity as an ultimate goal throughout growth and development.

We know so little about maturity! Obviously, it is much more than just a stage of growth. Perhaps it might be best conceived as the condition in which an individual finds himself to be self-sufficient and fully contributing to the culture and society which has given him his inheritance and protected him throughout the growth period. To promote and crystallize a concept of wellness, it is essential to concretize maturity and to make it so real in significance that from childhood on each person will struggle to become a mature individual.

9. *Longevity*—extension of the life span, with opportunity to utilize for the benefit of society those who have become fully mature and have reached the highest attainable level of wellness.

Extension of the life span is an increasingly recognizable possibility. So far, we have been lengthening the average duration of the life of man because we have saved younger lives so that they may grow up into the old age period. However, the possibility of extending the span of life draws ever nearer, and its realization will begin to be evident once science starts to work on the

problem in earnest. Obviously, the important thing is that we do extensive research on the vital organs, because, when they fail, it means that the body cannot continue to live. The artery of the brain ruptures, a heart muscle gives out, the kidneys cease to function properly, and without these vital organs the body as an organized whole must die. How can such vital parts be preserved and protected? How can they be replaced when worn out? When it becomes possible to extend the life span, it becomes essential that the life so preserved be that of a fully mature person, one who can truly contribute to his culture and who will have reached the highest attainable level of wellness.

The President's Commission on the Health Needs of the Nation recognized this point:²

The potential worth of this large section of mature and experienced people is still a hidden quantity. The riches of this reservoir have scarcely been tapped, mostly because of social and economic reasons. But in a period of history that relies upon machines to replace brawn, a period characterized by shorter working hours and greater opportunities for leisure and creative enjoyment, the aging should be able to find a pattern of useful life. (p. 89).

SUMMARY

1. The disciplines of medicine and public health have before them the possibility of developing a second major axis of interest, akin to the long-standing one of interest in sickness—an axis which will be oriented toward defining and raising levels of wellness.

2. The key to the full development of such an axis of interest will be research aimed at providing tools appropriate for the task.

3. In the future, the physician and health worker will play a major role in the changing of social conditions in order to create a favorable environment for high-level wellness.

The core elements for this work are sketched in the following terms by the President's Commission on the Health Needs of the Nation, in its report:²

The ideal, of course, is a proper organization of available resources to guarantee that the individual—well or ill—is properly and promptly served. Two elements are essential to such organization: sound health education of the individual so that he has proper information and motivation to initiate action; and a professional person to act as health guide and counselor, to lead the individual through what might otherwise seem a labyrinth of personnel, facilities, and agencies. (p. 241).

(Continued on p. 211)

THE SOLUTION OF THE PROBLEM

Five important measures would immediately reduce the mortality rates among the Negro during anesthesia, during surgery, and during childbirth and in the perinatal period:

1. A program of education directed toward physicians, and especially the Negro physicians, as well as toward the general population, acquainting all groups with the specific areas of major mortality and the unique problems relating to the Negro's health and necessary safeguards.

2. The development as soon as possible of more and better trained Negro physicians, with standard facilities for internships and programs providing both specialists and general practitioners who can perform the best service for the 18,000,000 Negro citizens.

3. Recognize the special hazards confronting the Negro resulting from his skin pigmentation that camouflages cyanosis during anesthesia, surgery and childbirth and infant resuscitation; that masks anemia during physical examination; that obscures the veins and makes more difficult venipuncture, so necessary for instantaneous transfusions during major surgery, shock and following traumatic or obstetrical hemorrhage. Improve his diet, his environmental hygiene, and his socio-economic status.

4. Institute prophylactic oxygen in concentrations of at least 40 per cent during these medical crises to offset the hazards of insidious hypoxia.

5. Develop in the environment of hospitals and clinics an atmosphere of friendliness, tranquillity and fraternity designed to overcome his inherent fear and initial hypertension and epinephrine arousal storms which multiply his hazards during these emergencies.

These problems emphasize the Negro's need for special attention.

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(Dunn, from p. 235)

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