From Disease Prevention to Health Promotion

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TODAY, THE PHRASE "DISEASE PREVENTION AND HEALTH PROmotion" is commonly encountered. The idea of disease prevention alone is quite clear: "Primary prevention means averting the occurrence of disease . . . [and] . . . secondary prevention means halting the progression of a disease from its early unrecognized stage to a more severe one."[1]

During this century, disease prevention has changed largely from focusing on reducing environmental exposures over which the individual had little personal control, such as providing potable water, to emphasizing behaviors such as avoiding use of tobacco, fatty foods, and a sedentary lifestyle. Although individuals have a choice in these matters, as early as 1952 the President's Commission on Health Needs of the Nation noted that such individual responsibility for health can be fully effective only if society ensures access to necessary education and professional services.[2] More recent reviews also have cited the need for social support for individual health initiatives.[3]

Disease prevention accomplishments such as smallpox eradication and the recent decline in lung cancer incidence and mortality[4-6] are better known than the failures such as the more than 330 000 US women who have died of cervical cancer since 1946, when the knowledge of how to prevent such deaths has been available, and the 1989-1990 measles epidemic.[4-6] Disease prevention is thus quite well delineated and understood.

Health promotion, however, is a more recent and elusive concept that has appeared prominently in the health lexicon only during the latter part of the 20th century. This article considers some common definitions of health promotion; explores reasons they have emerged; discusses the need to rethink the whole idea; presents a view of health promotion that is more explicit than the usual ones; and finally, makes suggestions for who should promote health.

Concepts of Health Promotion

Henry E. Sigerist, a medical historian, remarked that "health is promoted by providing a decent standard of living, good labor conditions, education, physical culture, means of rest and recreation . . . [and that]. . .[h]ealth is not simply the absence of disease: it is something positive, a joyful attitude toward life, and a cheerful acceptance of the responsibilities that life puts upon the individual."[7,8]

Subsequent to Sigerist's delineation of the general social conditions responsible for health, epidemiological studies from 1950 to 1975 identified certain habits of eating, physical activity, and tobacco and alcohol use as largely responsible for the chronic disease epidemic that was then under way. Health educators, largely trained in individual psychology, adopted the term *health promotion* to mean their approach to modifying behavior. In 1979, an official US Public Health Service document[9] promulgated a similar view of health promotion, stating that "it seeks the development of community and individual measures which can help [people] to develop lifestyles that can maintain and enhance the state of well-being." The emphasis was on developing healthful lifestyles. That may reflect the influence of individual psychology on American health education with a priority placed on personal motivation and responsibility. Also, the report stopped short of defining health, merely renaming it "well-being" as a consequence of lifestyles.

A 1991 US document about health promotion refers to "functional independence . . . enhancing quality of life at each stage of life . . . cardiorespiratory fitness . . . muscular strength, endurance and flexibility," and lists ways of achieving these states. Mention of such ways, however, is interspersed with specific attention to preventing "coronary heart disease, hypertension, diabetes, osteoporosis and depression."[10] Clearly, it has been difficult to disentangle health promotion from disease prevention.

The Ottawa Charter for Health Promotion,[11] sponsored by the World Health Organization, recognized the importance of defining health in seeking health promotion. After delineating health promotion as "the process of enabling people to increase control over, and to improve their health," it defined health as "a resource for everyday life . . . a positive concept emphasizing social and personal resources as well as physical capabilities." The elements of that resource as applicable to individuals should be delineated. Returning to Sigerist's concept, the Ottawa Charter also stated that "the fundamental conditions and resources for health are peace, shelter, education, food, income, a stable eco-system, sustainable resources, social justice and equity."

Thus, the Ottawa charter defines health as a "resource for everyday life" and also outlines the social conditions needed for it. Individuals' capacities also should be considered as a resource for everyday life and should be emphasized.

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Why Concepts of Health Promotion Have Emerged

Before examining further the nature of health promotion and who should be responsible for it, consider briefly why the concept has emerged. The notion of health promotion has evidently appeared in the latter half of the 20th century because people are living longer than previously and with greater freedom from the threat of disease. Longevity in the United States has increased from less than 50 years in 1900 to more than 75 years now.[12] This greater-than-50% increase during the 20th century probably has been the greatest life extension in the history of mankind. While curtailment of mortality at younger ages dominated the trend during the century's first half, increase in longevity after age 60 years has been relatively greater during recent decades. The population may, in fact, be approaching the human life span, the "natural" duration of life. A mouse can live for about 2 years; a dog, 20 years; and a human, probably 85 to 100 years, with only a few individuals becoming centenarians. Furthermore, an increasing proportion of the current 70- to 85-year human life span, particularly its earlier portion, is not encumbered by disease, suggesting the advent of an era of "the compression of morbidity."[13] Also, many of the same factors responsible for premature mortality are just as highly associated with disability.[14]

Thus, it is possible to turn more attention to the nature of health and regard it, as the Ottawa Charter proposes, as a resource for living. People seem more and more hopeful of minimizing disease and impairment during their lifetimes. They seem to be thinking not only about how to avoid being sick, a negative, but also about how to expand the potential for living, a positive view of health. This point of view is penetrating medical thinking; for example, Nuland[15] recently wrote, "Medicine has moved from a focus mainly on cure toward one increasingly concerned with life enhancement," and noted that events are "turning the eyes of medical scientists increasingly toward the basic mechanisms of life, rather than disease and death."

Hence, society seems to be entering a third "public health revolution." Terris[16] has noted that the first public health revolution dealt with communicable diseases, and the second with chronic, noncommunicable diseases. While neither of these revolutions has accomplished its full potential, such remarkable progress against disease has been made that some energy can now be devoted to advancing health in the sense of maximizing it as a resource for living.

Rethinking the Idea of Health Promotion

Thus far, health agencies and professionals generally have looked on health promotion as a process undertaken to maintain group health. Goals have been enunciated, for example, to achieve the following by the year 2000:

- Increase moderate daily physical activity to at least 30% of people
- Reduce cigarette smoking prevalence to no more than 15% of adults
- Reduce alcohol use by children aged 12 to 17 years to less than 13%[10]

These are certainly worthy objectives but do not constitute direct measures of health being promoted in the sense of greater capacities for living. Rather, such goals typically are considered as dealing with risk factors for coronary heart disease, lung cancer, alcoholism, and other diseases.

Regarding health as a resource for everyday life, however, requires consideration of how to delineate and even measure the personal capacities that constitute a resource for life. Most people apparently want life to include being able to move about freely, enjoying food and sex, feeling good, remembering things, and having family and friends. In achieving health as a resource for such aspects of living, acute and chronic diseases must be prevented because they impair the potential for life. But now, to reach the full potential of living, it is becoming clear that specific capacities must be developed and maintained. This is clearly beyond disease prevention and illustrates the importance of considering the nature of health promotion.

A More Explicit Concept of Health Promotion

The World Health Organization formulation of health as "physical, mental and social well-being, not merely the absence of disease and infirmity" constituted an important step in elaborating a new concept of health that could serve as the basis for health promotion.[17] A publication by the International Epidemiological Association and the World Health Organization, in another step, describes 2 aspects of health: health balance and health potential.[18] Health balance is essentially the Hippocratic notion of dynamic equilibrium between the human organism and its environment, a basically stable relationship of a person with the world outside. On the other hand, health potential consists of reserves—an individual's capacity to cope with environmental influences that jeopardize health balance. This concept goes beyond the idea of immunity to harmful microbiological agents; it includes the capacity for withstanding the adverse effects of the factors causing atherosclerosis, the loss of a loved one, or myriad other injurious circumstances of living.

Health is a phenomenon of individuals just as disease is a phenomenon of individuals. Each person has a certain degree of health that may be expressed as a place in a spectrum. From that perspective, promoting health must focus on enhancing people's capacities for living. That means moving them toward the health end of the spectrum, just as prevention is aimed at avoiding disease that can move people toward the opposite end of the spectrum.

Measuring progress in the third public health revolution entails going beyond counting diseases, their indicators, and risk factors. It requires delineating and measuring health in individuals, just as diseases are delineated (diagnosed) in individuals. Then the aggregate health in populations can be addressed for public health purposes.

To describe an individual's health quantitatively to deal with it scientifically requires specification of various functional ca-

pacities for living and measurement of their extent in individuals, just as various functional impairments (ie, disabilities) are now specified and measured. In assessing the chronic disease problem of the past several decades, Katz[19] listed 6 "activities of daily living" that are necessary for minimal free living, to avoid dependence. Subsequently, lesser degrees of disability have been delineated and measured.[20,21] The importance of defining and measuring disability has been recognized, both for individual and population approaches to better lives. Now is the time to proceed in a similar fashion to deal quantitatively with higher degrees of health for living, not limiting health measurement to such things as the absence of disability.

It is thus possible now in health endeavors to move beyond disease prevention, ie, the effort to avoid or minimize pathological conditions. Individuals can aim for more than freedom from those physical and mental disturbances that are listed in disease nomenclature. With equal emphasis, the energy and reserves of health that permit a buoyant life, full of zest and the eager ability to meet life's challenges, should be sought. Considerable health of this kind can be enjoyed, even while having some handicapping conditions.

Accepting that health means both (1) the current state of a human organism's equilibrium with the environment, often called health status, and (2) the potential to maintain that balance, health promotion aims to maintain and expand human function generally by building reserves against forces adverse to health. Since each person's degree of health may be found somewhere on the continuum, one important difference between health promotion and disease prevention is whether the main emphasis lies in seeking movement toward the positive (health) end of the spectrum or simply on resistance to movement toward the negative (infirmity) end. Promotion of health means facilitating at least the maintenance of a person's current position on the continuum and, ideally, advancing toward its positive end. Disease prevention, on the other hand, means avoiding specific diseases that carry one toward the negative end.

Of course, "Many of the same actions—for example, obtaining adequate exercise and appropriate nutrition—that are aimed at health promotion also achieve specific disease prevention. To the extent that such measures are directed against a particular disease, such as cessation of smoking to minimize the risk of lung cancer, they may be regarded as disease prevention. To the extent that the same measures are aimed at advancing health generally, for example, preserving optimum respiratory and cardiovascular systems, they may be regarded as health promotion."[22]

Defining and Measuring Capacities for Living

Efforts to measure health in a generic sense have tended to focus on the health balance aspect and especially on disequilibrium. Fanshel[23] has proposed 1 category for well-being in the World Health Organization sense and 10 other categories ranging from dissatisfaction and discomfort through disability and confinement to coma and death, indicating health balance or health status.

The notion of building health reserves, the capacities for maintaining optimal function, has received relatively little attention. For a scientific approach to health promotion in that sense, such capacities for living need to be defined and measured.

For instance, in the physical domain, geneticists commonly report and the mass media popularize the identification of genetic markers for specific disease proclivities, and huge resources are now being invested in such investigations. However, little effort seems devoted to seeking genetic indicators of longer and better lives such as the possible function of T-cell telomeres in that regard. Anatomical studies and measurements for health have focused mainly on pathological factors as the bases of diseases such as osteoporosis, arthritis, and dental caries. Should they not be devoted in part to anatomy's role in maintaining health, ie, capacity for living? The exercise treadmill test and other tests of physiological function typically are used to determine the existence and extent of disease, but also can be used as measures of health in the optimal sense, eg, duration of treadmill time, high forced expiratory volume, and glomerular filtration rate. Until recently, patients were given a "pass" with a blood glucose level of less than 7.8 mmol/L (140 mg/dL) and cholesterol of 6.21 mmol/L (240 mg/dL), because these levels allegedly indicated chemically no diabetes and minimal danger from blood lipids. Now lower levels are being marked as hazardous, with diabetes being defined at blood glucose levels above 6.9 mmol/L (125 mg/dL) and only cholesterol readings less than 5.17 mmol/L (200 mg/dL) commonly regarded as "normal."[10] Should not lower levels be sought as optimal for health? Furthermore, inducing immunity to communicable diseases of childhood by vaccination is commonly practiced. However, artificial immunity to communicable diseases of adults needs to be considerably extended, especially to travelers and the elderly. Also, attention should be given to immunity to noncommunicable disease pathogens such as allergens. Sensory perception is, of course, an important capacity for living. In this connection augmentation of an individual's capacity, for example, with glasses or hearing aids, should be considered in health measurement.

Similar items can be noted in the social, mental, and behavioral domains of health. An individual's social network, like health-related behavioral characteristics, is likewise a fundamental basis of health as capacity for living. Both behavior and social network are increasingly recognized for their relationship to health.[24] A positive mood and good memory constitute 2 mental attributes that contribute substantially to living. Negative deviations of those and other mental characteristics constitute the usual areas of medical and psychological concern, but health is far more than their absence. Behavioral characteristics lie outside the usual realm of disease and health measurement. Certain ones, such as no tobacco use; moderate, if any, use of alcohol; and appropriate physical activity nevertheless should be included here as integral parts of the capacity for living, often affecting not only the individuals with these characteristics but others as well.

Crude as some of these illustrations may be, they exemplify the kind of reserves needed not only to maintain balance in life's

exigencies but also to maximize the potential for enjoyment. The latter is true whether one's interests may be reading, climbing mountains, hearing music, spending time with family, enjoying foods, or other participation in life enjoyments.

Who Should Undertake Health Promotion?

Many individuals, especially in more highly educated groups, are already engaging personally in the sort of health promotion envisioned herein. Sometimes their actions appear excessive, for example, in extreme forms of physical activity or bizarre food and food supplement choices. Nevertheless, many people apparently are searching for something in health beyond specific disease prevention. They seek health as a resource for living. As more people contemplate a life 7 to 9 decades long, that tendency may increase.

In response, health professionals and health scientists may want to turn greater attention to how health may be promoted, both for individuals and the public. Examples are geneticists studying chromosomal deviations connected with better health, not just exploring genetic bases of specific diseases; internists and family physicians achieving optimum patient blood glucose and cholesterol levels, not just avoiding the development of diabetes and coronary plaques; dentists aiming at high Oral Index marks for their patients, not just repairing teeth and gums; radiologists emphasizing strong bones, not just diagnosing osteoporosis; and social workers concerned with strengthening family and other social networks, not just helping dysfunctional families.

Such shifts of emphasis by health professionals must, of course, always be examined for possible adverse consequences, for example, generating negative self-image in some persons. Nonetheless, using this concept of health promotion carries considerable potential for advancing health and moving health beyond disease prevention.

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