

LOOKING AHEAD

After reading this chapter, you should be able to

- Describe the six dimensions of wellness and a wellness lifestyle
- Identify major goals of the national Healthy People initiative
- Explain the importance of personal decision making and behavior change in achieving a wellness lifestyle
- Describe the steps in creating a behavior management plan to change a health-related behavior
- Describe the influence of gender, ethnicity, income, and disability on health
- Discuss the available sources of health information and how to think critically about them

Taking Charge of Your Health

TEST YOUR KNOWLEDGE

1. In 1900, infectious diseases such as pneumonia and tuberculosis were responsible for more than one-third of all deaths in the United States.
True or false?
2. The leading cause of death among Americans age 15–25 years is unintentional injuries (accidents).
True or false?
3. Which of the following lifestyle factors is the leading preventable cause of death for Americans?
 - a. alcohol abuse
 - b. cigarette smoking
 - c. poor dietary habits and lack of exercise
4. If you have a family history of heart disease or cancer, there's not much you can do to lower your risk of getting these diseases.
True or false?
5. More than two-thirds of all college students make which of the following positive lifestyle choices?
 - a. using safety belts
 - b. not drinking and driving
 - c. using contraception (if sexually active)
 - d. eating two or fewer high-fat foods per day
 - e. not using tobacco

1

ANSWERS

1. TRUE. A century later, infectious diseases cause only about 2% of all deaths; heart disease, cancer, and stroke are now responsible for more than 50% of all deaths among Americans.
2. TRUE. Homicide and suicide round out the top three leading causes of death for 15–25-year-olds; in this age group, the death rate for males is more than twice that of females.
3. B. Smoking causes more than 400,000 deaths each year; poor diet and inactivity are responsible for more than 300,000 deaths, and alcohol, more than 100,000.
4. FALSE. Lifestyle factors such as diet, exercise, and not smoking play a significant role in preventing these diseases, even for those with a family history of them.
5. ALL FIVE. However, the majority of students do not exercise regularly, do not wear bicycle helmets, and eat few fruits and vegetables. There are many areas in which college students can change their behavior to improve their health.

A first-year college student resolves to meet the challenge of making new friends. A long-sedentary senior starts riding her bike to school every day instead of taking the bus. A busy graduate student volunteers to plant trees in a blighted inner-city neighborhood. What do these people have in common? Each is striving for optimal health and well-being. Not satisfied to be merely free of major illness, these individuals want more. They want to live life actively, energetically, and fully, in a state of optimal personal, interpersonal, and environmental well-being. They have taken charge of their health and are on the path to wellness.

WELLNESS: THE NEW HEALTH GOAL

Wellness is an expanded idea of health. Many people think of health as being just the absence of physical disease. But wellness transcends this concept of health—for example, when individuals with serious illnesses or disabilities rise above their physical or mental limitations to live rich, meaningful, vital lives. Some aspects of health are determined by your genes, your age, and other factors that may be beyond your control. But true wellness is largely determined by the decisions you make about how to live your life. In this book, we will use the terms *health* and *wellness* interchangeably to mean the ability to live life fully—with vitality and meaning.

The Dimensions of Wellness

No matter what your age or health status, you can optimize your health in each of the following six interrelated dimensions. Wellness in any dimension is not a static goal but a dynamic process of change and growth (Figure 1-1).

Physical Wellness Optimal physical health requires eating well, exercising, avoiding harmful habits, making

responsible decisions about sex, learning about and recognizing the symptoms of disease, getting regular medical and dental checkups, and taking steps to prevent injuries at home, on the road, and on the job. The habits you develop and the decisions you make today will largely determine not only how many years you will live, but also the quality of your life during those years.

Emotional Wellness Optimism, trust, self-esteem, self-acceptance, self-confidence, self-control, satisfying relationships, and an ability to share feelings are just some of the qualities and aspects of emotional wellness. Emotional health is a dynamic state that fluctuates with your physical, intellectual, spiritual, interpersonal and social, and environmental health. Maintaining emotional wellness requires monitoring and exploring your thoughts and feelings, identifying obstacles to emotional well-being, and finding solutions to emotional problems, with the help of a therapist if necessary.

Intellectual Wellness The hallmarks of intellectual health include an openness to new ideas, a capacity to question and think critically, and the motivation to master new skills, as well as a sense of humor, creativity, and curiosity. An active mind is essential to overall wellness, for learning about, evaluating, and storing health-related information. Your mind detects problems, finds solutions, and directs behavior. People who enjoy intellectual wellness never stop learning. They relish new experiences and challenges and actively seek them out.

Spiritual Wellness To enjoy spiritual health is to possess a set of guiding beliefs, principles, or values that give meaning and purpose to your life, especially during difficult times. Spiritual wellness involves the capacity for love, compassion, forgiveness, altruism, joy, and fulfillment. It is an antidote to cynicism, anger, fear, anxiety, self-absorption, and pessimism. Spirituality transcends

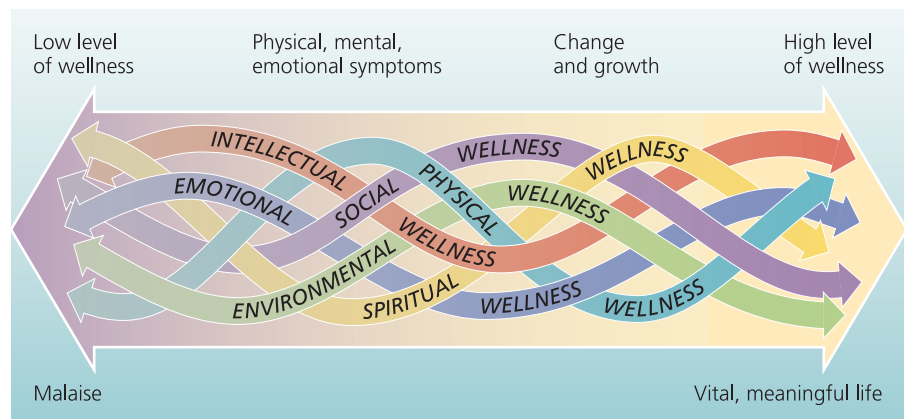


Figure 1-1 The wellness continuum. Wellness is composed of six interrelated dimensions, all of which must be developed in order to achieve overall wellness.



With wellness come health and vitality throughout the life span.

the individual and can be a common bond among people. Organized religions help many people develop spiritual health. Many others find meaning and purpose in their lives on their own—through nature, art, meditation, political action, or good works.

Interpersonal and Social Wellness Satisfying relationships are basic to both physical and emotional health. We need to have mutually loving, supportive people in our lives. Developing interpersonal wellness means learning good communication skills, developing the capacity for intimacy, and cultivating a support network of caring friends and/or family members. Social wellness requires participating in and contributing to your community, country, and world.

Environmental or Planetary Wellness Increasingly, personal health depends on the health of the planet—

from the safety of the food supply to the degree of violence in a society. Other examples of environmental threats to health are ultraviolet radiation in sunlight, air and water pollution, lead in old house paint, and secondhand tobacco smoke in indoor air. Wellness requires learning about and protecting yourself against such hazards—and doing what you can to reduce or eliminate them, either on your own or with others.

The six dimensions of wellness interact continuously, influencing and being influenced by one another. Making a change in one dimension often affects some or all of the others. For example, regular exercise (developing the physical dimension of wellness) can increase feelings of well-being and self-esteem (emotional wellness), which in turn can increase feelings of confidence in social interactions and your achievements at work or school (interpersonal and social wellness). Maintaining good health is a dynamic process, and increasing your level of wellness in one area of life often influences many others (see the box “Ten Warning Signs of Wellness”).

New Opportunities, New Responsibilities

Wellness is a relatively recent concept. A century ago, people considered themselves lucky just to survive to adulthood. A child born in 1900, for example, could expect to live only about 47 years. Many people died as a result of common **infectious diseases** and poor environmental conditions (unrefrigerated food, poor sanitation, air and water pollution). However, over the past 100 years, the average life span has nearly doubled, thanks largely to the development of vaccines and antibiotics to prevent and fight infectious diseases and to public health campaigns to improve environmental conditions (Figure 1-2).

But a different set of diseases has emerged as our major health threat, and heart disease, cancer, and stroke are now the top three causes of death in the United States (Table 1-1). Treating these and other **chronic diseases** has proved enormously expensive and extremely difficult. It has become clear that the best treatment for these diseases is prevention—people having a greater awareness about their own health and about taking care of their bodies.

wellness Optimal health and vitality, encompassing physical, emotional, intellectual, spiritual, interpersonal, social, and environmental well-being.

infectious disease A disease that is communicable from one person to another; caused by invading microorganisms such as bacteria and viruses.

chronic disease A disease that develops and continues over a long period of time; usually caused by a variety of factors, including lifestyle factors.

Terms

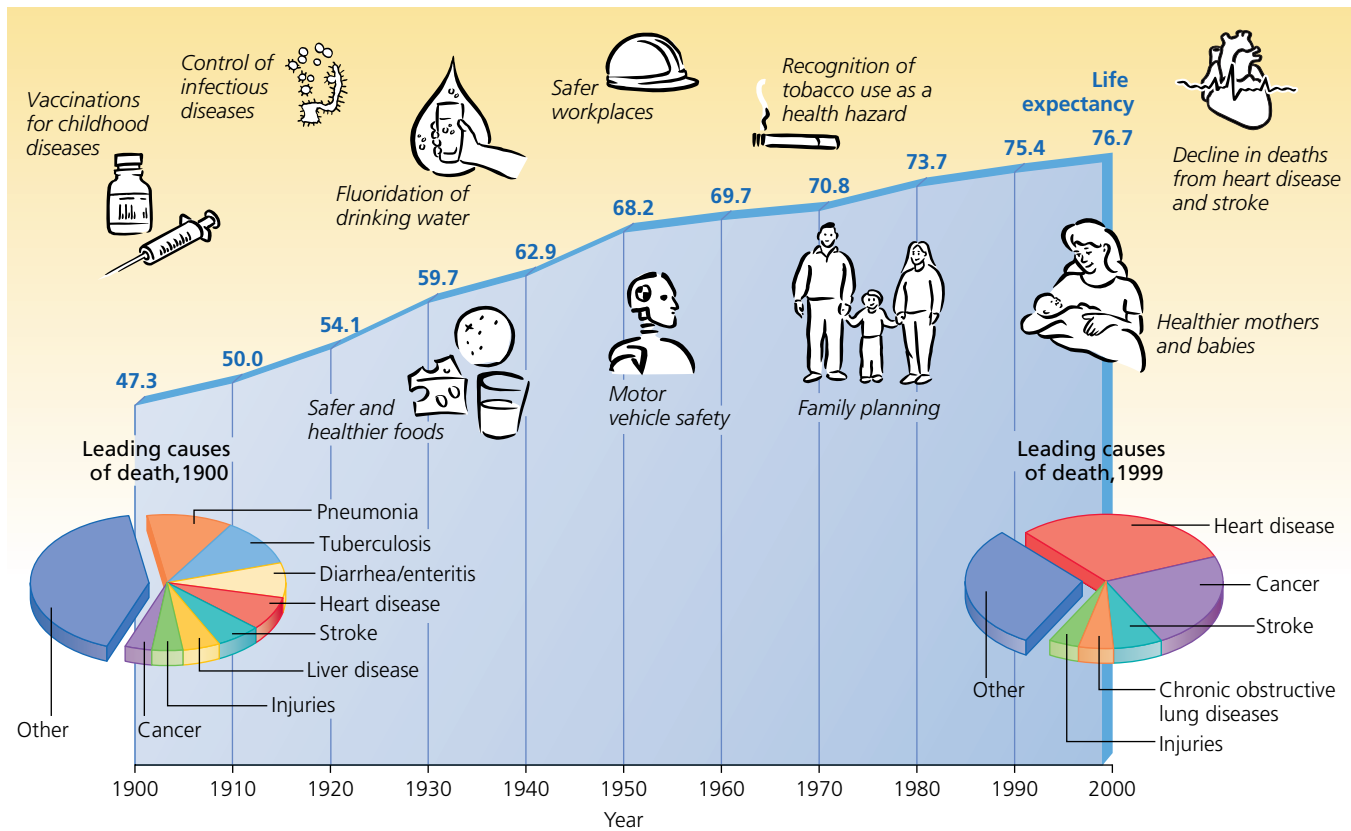




1. The persistent presence of a support network
2. Chronic positive expectations; the tendency to frame events in a constructive light
3. Episodic outbreaks of joyful, happy experiences
4. A sense of spiritual involvement
5. A tendency to adapt to changing conditions
6. Rapid response and recovery of stress response systems to repeated challenges

7. An increased appetite for physical activity
8. A tendency to identify and communicate feelings
9. Repeated episodes of gratitude and generosity
10. A persistent sense of humor

SOURCE: Ten warning signs of good health. 1996. *Mind/Body Health Newsletter* 5(1). Reprinted by permission.



WV VITAL STATISTICS

Figure 1-2 Public health achievements of the twentieth century. During the twentieth century, public health achievements greatly improved the quality of life for Americans, and life expectancy rose from 47 to 77. A dramatic shift in the leading causes of death also occurred, with deaths from infectious diseases declining from over 33% of all deaths to just 2.2%. Heart disease, cancer, and stroke are now responsible for over 50% of all deaths among Americans. SOURCES: National Center for Health Statistics. 2000. *Health, United States, 2000, with Adolescent Health Chartbook*. Hyattsville, Md.: National Center for Health Statistics. Centers for Disease Control and Prevention. 1999. Ten great public health achievements—United States, 1900–1999. *Morbidity and Mortality Weekly Report* 48(50): 1141. National Center for Health Statistics. 2001. United States life tables, 1998. *National Vital Statistics Reports* 48(18): 29–34.

Table 1-1 Leading Causes of Death in the United States

Rank	Cause of Death	Number of Deaths	Percent of Total Deaths	Female/Male Ratio*	Lifestyle Factors
1	Heart disease	724,859	31.0	51/49	D I S A
2	Cancer	541,532	23.2	48/52	D I S A
3	Stroke	158,448	6.8	61/39	D I S
4	Chronic obstructive lung diseases	112,584	4.8	49/51	S
5	Unintentional injuries	97,835	4.2	36/64	S A
	Motor-vehicle-related	(43,501)	(1.9)	33/67	
	All others	(54,334)	(2.3)	37/63	
6	Pneumonia and influenza	91,871	3.9	55/45	S
7	Diabetes mellitus	64,751	2.8	54/46	D I S
8	Suicide	30,575	1.3	20/80	A
9	Kidney diseases	26,182	1.1	52/48	D
10	Chronic liver disease and cirrhosis	25,192	1.1	35/65	A
	All causes	2,337,256			

Key: **D** Cause of death in which diet plays a part. **I** Cause of death in which an inactive lifestyle plays a part.
S Cause of death in which smoking plays a part. **A** Cause of death in which excessive alcohol consumption plays a part.

*Ratio of females to males who died of each cause. For example, an equal number of women and men died of heart disease, but only about half as many women as men died of motor-vehicle-related injuries.

SOURCE: National Center for Health Statistics. 2000. Deaths: Final data for 1998. *National Vital Statistics Reports* 48(11).

The good news is that people do have some control over whether they develop heart disease, cancer, and other chronic diseases. People make choices every day that either increase or decrease their risks for these diseases—lifestyle choices involving such behaviors as exercise, diet, smoking, and drinking. When researchers look at the lifestyle factors that contribute to death in the United States, it becomes clear that individuals can profoundly influence their own health risks (see the last column in Table 1-1). Smoking is the leading preventable cause of death among Americans, responsible for over 400,000 deaths each year; it is followed by poor diet and inactivity (over 300,000 deaths per year) and alcohol use (over 100,000 deaths per year). From these figures, it is clear that wellness cannot be prescribed; physicians and other health care professionals can provide information, advice, and encouragement—but the rest is up to each of us.

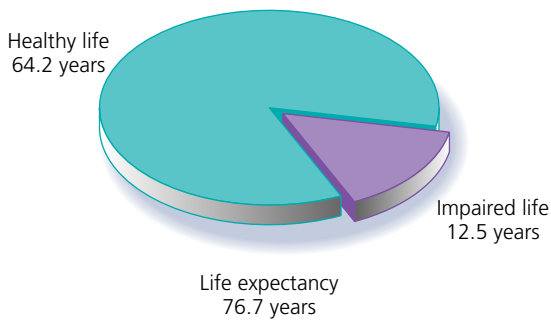
WV National Wellness Goals: The Healthy People Initiative

You may think of health and wellness as personal concerns, goals that you strive for on your own for your own benefit. But the U.S. government also has a vital interest in the health of all Americans. A healthy population is the nation’s greatest resource, the source of its vitality, creativ-

ity, and wealth. Poor health, in contrast, drains the nation’s resources and raises national health care costs. As the embodiment of our society’s values, the federal government also has a humane interest in people’s health.

The U.S. government’s national Healthy People initiative seeks to prevent unnecessary disease and disability and to achieve a better quality of life for all Americans. Healthy People reports, published first in 1980 and revised every decade, set national health goals based on 10-year agendas. Each report includes both broad goals and specific targets in many different areas of wellness. The latest report, *Healthy People 2010*, proposes two broad national goals:

- *Increase quality and years of healthy life.* The life expectancy of Americans has increased significantly in the past century; however, people can expect poor health to limit their activities and cause distress during the last 15% of their lives (Figure 1-3). Health-related quality of life reflects a personal sense of physical and mental health and the ability to react to factors in the physical and social environments. It calls for a full range of functional capacity to enable people to work, play, and maintain satisfying relationships. This national goal stresses the importance of health status and quality of life, not just longevity.



WV VITAL STATISTICS

Figure 1-3 Quantity of life versus quality of life. Years of healthy life as a proportion of life expectancy in the U.S. population. SOURCES: U.S. Department of Health and Human Services. 2000. *Healthy People 2010*. 2nd ed. Washington, D.C.: DHHS. National Center for Health Statistics. 2000. Deaths: Final data for 1998. *National Vital Statistics Reports* 48(11).

- *Eliminate health disparities among Americans.* Many health problems today disproportionately affect certain American populations—for example, ethnic minorities, people of low socioeconomic status or educational attainment, and people with disabilities. *Healthy People 2010* calls for eliminating disparities in health status, health risks, and use of preventive services among all population groups within the next decade.

Giving substance to these broad goals are hundreds of specific objectives—measurable targets for the year 2010—in many different focus areas that relate to wellness, including fitness, nutrition, safety, substance abuse, health care, and chronic and infectious diseases. Specific Healthy People targets serve as the basis for national monitoring and tracking of the health status and health risks of Americans and our use of health services. They encompass individual actions as well as larger-scale changes in environment and medical services. Examples of health promotion objectives from *Healthy People 2010*, as well as estimates of our progress toward these targets, appear in Table 1-2.

Healthy People 2010 reflects the changing attitude of Americans: an emerging sense of personal responsibility as the key to good health. This new perspective is seen in our concern about smoking and drug abuse, for example; in our emphasis on physical and emotional fitness; in our interest in good nutrition; and in our concern about the environment. The primary concerns of *Healthy People 2010* are the principal topics covered in this book. In many ways, personal wellness goals are not different from the national aspirations.

WV Health Issues for Diverse Populations

Americans are a diverse people. Our ancestry is European, African, Asian, Pacific Islander, Latin American, and

Native American. We live in cities, suburbs, and rural areas and work at every imaginable occupation. In no other country in the world do so many diverse people live and work together every day. And in no other country is the understanding and tolerance of differences so much a part of the political and cultural ideal. We are at heart a nation of diversity, and, though we often fall short of our goal, we strive for justice and equality among all.

When it comes to health, most differences among people are insignificant; most health issues concern us all equally. We all need to eat well, exercise, manage stress, and cultivate satisfying personal relationships. We need to know how to protect ourselves from heart disease, cancer, sexually transmitted diseases, and injuries. We need to know how to use the health care system.

But some of our differences, as individuals and as members of groups, do have important implications for health. Some of us, for example, have a genetic predisposition for developing certain health problems, such as high cholesterol. Some of us have grown up eating foods that raise our risk of heart disease or obesity. Some of us live in an environment that increases the chance that we will smoke cigarettes or abuse alcohol. These health-related differences among individuals and groups can be biological—determined genetically—or cultural—acquired as patterns of behavior through daily interactions with our families, communities, and society. Many health conditions are a function of biology and culture combined. A person can have a genetic predisposition for a disease, for example, but won't actually develop the disease itself unless certain lifestyle factors are present, such as stress or a poor diet.

When we talk about health issues for diverse populations, we face two related dangers. The first is the danger of stereotyping, of talking about people as groups rather than as individuals. It's certainly true that every person is an individual with a unique genetic endowment and unique life experiences. But many of these influences are shared with others of similar genetic and cultural background. Statements about these group similarities can be useful; for example, they can alert people to areas that may be of special concern for them and their families.

The second danger is that of overgeneralizing, of ignoring the extensive biological and cultural diversity that exists among peoples who are grouped together. Groups labeled Latino or Hispanic, for example, include Mexican Americans, Puerto Ricans, people from South and Central America, and other Spanish-speaking peoples. Similarly, the population labeled American Indian includes hundreds of recognized tribal nations, each with its own genetic and cultural heritage. It's important to keep these considerations in mind whenever you read about culturally diverse populations.

Health-related differences among groups can be identified and described in the context of several different

Table 1-2

Selected *Healthy People 2010* Objectives

Objective	Estimate of Current Status (%)	Goal (%)
Increase the proportion of people age 18 and older who engage regularly, preferably daily, in moderate physical activity for at least 30 minutes per day.	15	30
Increase the proportion of people age 2 and older who consume at least three daily servings of vegetables, with at least one-third being dark-green or orange vegetables.	3	50
Increase the prevalence of healthy weight among all people age 20 and older.	42	60
Reduce the proportion of adults 18 and older who use cigarettes.	24	12
Reduce the proportion of college students reporting binge drinking during the past 2 weeks.	39	20
Increase the proportion of sexually active persons who use condoms.	23	50
Increase the proportion of adults who take protective measures to reduce the risk of skin cancer (sunscreens, sun-protective clothing, and so on).	47	75
Increase the use of safety belts by motor vehicle occupants.	69	92
Increase the number of residences with a functioning smoke alarm on every floor.	87	100
Increase the proportion of persons with health insurance.	83	100

SOURCE: U.S. Department of Health and Human Services. 2000. *Healthy People 2010*. 2nd ed. Washington, D.C.: DHHS.

dimensions. Those highlighted in *Healthy People 2010* are gender, ethnicity, income and education, disability, geographic location, and sexual orientation.

Gender Men and women have different life expectancies, different reproductive concerns, and different incidences of many diseases, including heart disease, cancer, stroke, and cirrhosis of the liver. Men are more likely to develop heart disease in middle age. They have higher rates of deaths from injuries, suicide, homicide, and HIV/AIDS. Women are more affected by issues involving contraception and reproductive choices. They are at greater risk for Alzheimer's disease and for major depression. They live longer than men, and they are more likely to be poor.

Ethnicity Some genetic diseases are concentrated in certain gene pools, the result of each ethnic group's relatively distinct history. Sickle-cell disease occurs almost exclusively among people of African ancestry. Tay-Sachs disease afflicts people of Eastern European Jewish heritage. Cystic fibrosis is more common among Northern Europeans. In addition to biological differences, many cultural differences occur along ethnic lines. Ethnic groups may vary in their traditional diets; their patterns of family and interpersonal relationships; their attitudes toward tobacco, alcohol, and other drugs; and their health

beliefs and practices. For more on the health concerns of specific ethnic groups, see the box "Health Disparities Among Ethnic Minorities."

Income and Education Inequalities in income and education underlie many of the health disparities among Americans. Income and education are closely related, and groups with the highest poverty rates and least education have the worst health status. People with low incomes and less education have higher rates of infant mortality, traumatic injury and violent death, and many diseases, including heart disease, diabetes, tuberculosis, and HIV infection. They are more likely to eat poorly, be overweight, smoke, drink, and use drugs. They are exposed to more stressors and have less access to health care services. Poverty and low educational attainment are far more important predictors of poor health than any ethnic factor. However, they are often mixed with other factors in a way that makes it difficult to distinguish what causes what.

Disability People with disabilities are those who have activity limitations, need assistance, or perceive themselves as having a disability. About one in five people in the United States has some level of disability, and the rate is rising, especially among younger segments of the population. People with disabilities are more likely to be inactive and overweight. They report more days of



Compared to the U.S. population as a whole, American ethnic minorities have higher rates of death and disability from many causes. These disparities result from a complex mix of genetic variations, environmental factors, and health behaviors, and it is often difficult to separate factors related to ethnicity from those associated with socioeconomic status and educational attainment. Achieving the *Healthy People 2010* goal of eliminating all health disparities will require a national effort to identify and address the underlying causes of these disparities, including poverty, lack of access to quality health care, environmental hazards in homes and neighborhoods, and the need for disease prevention programs tailored to specific community needs.

The federal government collects population and health information on five broad ethnic minority groups in American society: blacks, or African Americans; Hispanics, or Latinos; Asian Americans; American Indians and Alaska Natives; and Native Hawaiian and other Pacific Islander Americans. Each group has some specific health concerns.

Blacks, or African Americans

On the 2000 census, about 12.9% of the population reported that they were either African American or African American *and* one or more other races. (Census 2000 allowed respondents to choose more than one race, so percentages reflect both those who reported only one race and those who reported two or more races.) Although African Americans are represented in every socioeconomic group, nearly 30% live below the poverty line. The health status of blacks lags behind that of the total population in several areas, including life expectancy and incidence of chronic and infectious diseases.

The leading causes of death among African Americans are the same as for the general population, but blacks have a higher infant mortality rate and a lower suicide rate. The death rate for HIV infection and homicide among blacks is about six to eight times the rate for whites. African Americans also die from stroke at almost twice the rate of whites. Strokes are related to high blood pressure, which is much more common among blacks than in the general population. Diabetes, another risk factor for cardiovascular disease, is a special concern for black women, especially those who are overweight. African American men face a 60% greater risk of prostate cancer than whites, giving them the highest prostate cancer risk of any group in the world.

Hispanics, or Latinos

About 12.5% of the population reported that they were of Spanish/Hispanic/Latino origin on Census 2000. They are a diverse group, with roots in Mexico, Puerto Rico, Cuba, and South and Central America. Many Latinos are of mixed Spanish and American Indian descent or of mixed Spanish, Indian, and African American descent.

Overall, the leading causes of death for Latinos are the same as those for the general population—heart disease and cancer—but Latinos tend to have lower rates of death from heart disease and cancer than non-Hispanic whites and African Americans. Hispanics have higher rates of death from diabetes, homicide, HIV infection, and infant mortality than non-Hispanic whites, but they have lower rates of death from suicide and lung cancer. Some special concerns are diabetes, gallbladder disease, and obesity, all probably related to American Indian

descent. The birth rate among Latinos is higher than that of the general population, and contraceptive use is relatively low.

Asian Americans

About 4.2% of the population reported that they were Asian American, alone or in combination with one or more other races. They include people who trace their ancestry to countries in the Far East, Southeast Asia, or the Indian subcontinent, including Japan, China, Vietnam, Laos, Cambodia, Korea, the Philippines, India, and Pakistan. Numbering 11.8 million people, they speak more than 30 different languages and represent a similar number of distinct cultures.

Asian Americans have lower death rates overall than does the general population. For example, the death rate for coronary heart disease is 40% lower for Asian American men than for white men. However, health differences exist among these groups. For example, Southeast Asian men have higher rates of lung cancer, smoking, and liver cancer than the rest of the population; Vietnamese American women have higher rates of cervical cancer. Among recent immigrants from Southeast Asia, tuberculosis and hepatitis B are serious health problems. Many Asian Americans lack health insurance, and more than 20% have no regular source of health care.

American Indians and Alaska Natives

American Indians and Alaska Natives, alone or in combination with one or more other races, represent about 1.5% of the population. Most embrace a tribal identity, such as Sioux, Navaho, or Hopi, rather than the identity of American Indian or Alaska Native. American Indians and Alaska Natives have lower rates of death from heart disease, stroke, and cancer than the general population, but they also have high rates of early death. For those under 45, leading causes of death include unintentional injuries, homicide, suicide, and cirrhosis; many of these problems are linked to alcohol abuse. Smoking rates are also high. Diabetes is prevalent, occurring at twice the rate for the general population; in some tribes, more than 20% of all adults are affected, and the Pimas of Arizona have the highest known prevalence of diabetes of any population in the world. American Indians and Alaska Natives have a high teen birth rate and a high infant mortality rate; more than 10% of children and 20% of adults have no regular source of health care.

Native Hawaiian and Other Pacific Islander Americans

Native Hawaiians and other Pacific Islander Americans trace their ancestry to the original peoples of Hawaii, Guam, Samoa, or other Pacific Islands; they represent less than 1% of the total population. Native Hawaiians have a higher overall death rate than whites and higher rates of many diseases, including hypertension, diabetes, lung cancer, stroke, and asthma. The high rate of smoking and high prevalence of overweight and obesity among Native Hawaiians and other Pacific Islander Americans may contribute to these conditions. In addition, many Native Hawaiians and other Pacific Islander Americans lack health insurance and access to regular health care. Among some Pacific Islander populations, the rate of infant mortality is more than double that of the general population.

depression and fewer days of vitality than people without activity limitations. Many people with disabilities also lack access to health care services.

Geographic Location About one in four Americans currently lives in a rural area—a place with fewer than 2500 residents. People living in rural areas are less likely to be physically active, to use safety belts, or to obtain screening tests for preventive health care. They have less access to timely emergency services and much higher rates of injury-related death than people living in urban areas. They are also more likely to lack health insurance.

Sexual Orientation The 1–5% of Americans who identify themselves as homosexual or bisexual make up a diverse community with varied health concerns. Their emotional wellness and personal safety are affected by factors relating to personal, family, and social acceptance of their sexual orientation. Gay, lesbian, and bisexual teens are more likely to engage in risky behaviors such as unsafe sex and drug use; they are also more likely to be depressed and to attempt suicide. HIV/AIDS is a major concern for gay men, and gay men and lesbians may have higher rates of substance abuse, depression, and suicide.

In this book, topics and issues in health that affect different American populations are given special consideration. Look for these discussions in the text and in boxes labeled Dimensions of Diversity. Also discussed in Dimensions of Diversity boxes are health issues and practices in other parts of the world. Explorations beyond the borders of the United States broaden our view, showing us both what we share with people in other societies and how we differ—our common concerns and our divergent solutions. All these discussions are designed to deepen our understanding of the core concepts of wellness in the context of ever-growing diversity.

CHOOSING WELLNESS

Each of us has the option and the responsibility to decide what kind of future we want—one characterized by zesty living or one marked by symptoms and declining energy. The message of this book is that wellness is something everyone can have. Achieving it requires knowledge, self-awareness, motivation, and effort—but the benefits last a lifetime. Optimal health comes mostly from a healthy lifestyle, patterns of behavior that promote and support your health now and as you get older. In the pages that follow, you'll find current information and suggestions you can use to build a better lifestyle. You'll also find tools for assessing yourself, for improving your communication skills, and for planning and carrying out specific behavior changes. You can use this book as a guide for taking charge of your health and improving the quality of your life.

Factors That Influence Wellness

Scientific research is continuously revealing new connections between our habits and emotions and the level of health we enjoy. For example, heart disease, the nation's number one killer, is associated with cigarette smoking, high levels of stress, habitually hostile and suspicious attitudes toward people and the world, a diet high in fat and low in fiber, and a sedentary way of life. Other habits are beneficial. Regular exercise, for example, can help prevent heart disease, high blood pressure, diabetes, osteoporosis, and depression and may reduce the risk of colon cancer, stroke, and back injury. A balanced and varied diet provides the energy and nutrients we need to live a vital life and also helps prevent many chronic diseases. As we learn more about how our actions affect our bodies and minds, we can make informed choices for a healthier life.

Of course, behavior isn't the only factor involved in wellness. Our heredity, the environment we live in, and whether we have access to adequate health care are other important influences. These factors, which vary for both individuals and groups, can interact in ways that produce either health or disease. For example, a sedentary lifestyle combined with a genetic predisposition for diabetes can greatly increase a person's risk of developing the disease. If this person also lacks adequate health care, he or she is much more likely to suffer dangerous complications from diabetes and have a lower quality of life.

But in many cases, behavior can tip the balance toward good health, even when heredity or environment is a negative factor. For example, breast cancer can run in families, but it also may be associated with being overweight and inactive. A woman with a family history of breast cancer is less likely to develop and die from the disease if she controls her weight, exercises regularly, performs breast self-exams, and has regular mammograms.

Similarly, a young man with a family history of obesity can maintain a normal weight by being careful to balance calorie intake against activities that burn calories. If your life is highly stressful, you can lessen the chances of heart disease and stroke by learning ways to manage and cope with stress. If you live in an area with severe air pollution, you can reduce the risk of lung disease by not smoking. You can also take an active role in improving your environment. Behaviors like these enable you to make a difference in how great an impact heredity and environment will have on your health. (For more about the effects of heredity on health risks, see the box "Deciphering the Human Genome.")

A Wellness Profile

What does it mean to be healthy today? A basic list of important behaviors and habits includes the following:

- Having a sense of responsibility for your own health and taking an active rather than a passive stance toward your life



In June 2000, government and private-sector researchers announced that they had completed a rough draft of the human genome. Their findings pave the way for many potential health benefits but also raise many difficult ethical issues.

Genome Basics

Your genome consists of the complete set of genetic material in your cells—the master blueprint for all cellular structures and activities. The nucleus of each cell contains 23 pairs of chromosomes, which are made up of tightly packed coils of deoxyribonucleic acid (DNA). DNA consists of two long strands wound around each other in a spiral, ladderlike structure referred to as a double helix. The rungs of the ladder are made from pairings of four different nucleotide bases: adenine, thymine, cytosine, and guanine, or A, T, C, and G. When researchers say they have mapped the genome, they mean they have sequenced the entire string of billions of A's, T's, C's, and G's.

A gene is a smaller unit of DNA made up of a specific sequence of hundreds or thousands of nucleotide base pairs. You have two copies of each gene—one inherited from each parent. Each of the estimated 30,000–40,000 genes in your DNA controls the production of a particular protein. Proteins serve both as the structural material for your body and as the regulators of all chemical reactions and metabolic processes. Many diseases are thought to be caused or promoted by an absence or excess of particular proteins. About 3% of the total human genome is made of genes; the function of the other 97%, called “junk” DNA, isn't completely understood.

Further work is needed to transform the draft of the genome into information useful for improving human health. Once the sequence is completed and checked, the next step will be to locate genes and identify the structure and function of the proteins they make. Researchers will also look closely at variations among individuals. Humans differ from one another at the rate of only about one base in every thousand (0.1%). Most of these differences occur in junk DNA and have no effect on health. However, some variations occur at critical spots that cause a gene to make the wrong protein. By sequencing the genomes of many individuals, it should be possible to identify the specific gene variations linked to increased risk for particular diseases.

Vast Promise

Researchers hope to use the deciphered human genome to improve health and quality of life for all people. Some likely developments include the following:

- *Personalized risk assessment:* A study of your genes could replace family history and other indirect clues as a means of determining your risk of particular diseases. Individualized lifestyle and medical screening advice may someday replace blanket public health recommendations.
- *Pharmacogenomics:* Genetic information could help physicians prescribe medications based on individual drug sensitivities and the likelihood that a particular disorder will respond to a particular drug.
- *Gene therapy and other new treatments:* Gene research will help develop new therapies that will directly affect the underlying biological mechanisms—genes and proteins—of serious disorders such as asthma, diabetes, and cancer.

Limitations and Troubling Questions

Despite the many potential benefits of knowledge of the genome, there are limitations to what this information can do for human health. Errors in our genes are responsible for an estimated 3000 to 4000 clearly hereditary conditions, including sickle-cell disease, Huntington's disease, and cystic fibrosis. Altered genes also play a part in heart disease, cancer, stroke, diabetes, and many other common conditions. However, in these more common and complex disorders, genetic alterations serve only to increase an individual's risk. The disease itself results from the interaction of many genes with environmental and behavioral factors. It will be much more difficult to develop tests and therapies for disorders with complex causes.

In addition, access to information about the human genome and the genes of individuals raises many difficult ethical issues. Privacy and discrimination are key concerns. If genetic testing can identify years in advance who will get sick and who will not, employers and health insurance companies could save millions of dollars by not hiring or enrolling people whose genes show them to be at increased risk for disease. This is especially troubling because it is likely that tests for genetic susceptibility to many conditions will be available years, perhaps decades, before any gene-based treatments are developed. Chapter 16 has more information on genetic testing.

Other questions relate to potential uses of tools for altering the genome. Do we have enough information to know how knocking out “bad” genes will affect our species? For example, the gene alteration that causes sickle-cell disease must be present in both copies of the gene for a person to develop the disorder; people with only one copy of the altered gene have an increased resistance to malaria. If the gene for sickle-cell disease were eliminated, would many more people succumb to malaria? What other unknown effects might we cause by tinkering with the genome? In addition, if it becomes easy to change ourselves and our children, will we become less tolerant of people who have such “conditions” as short stature or baldness?

The Role of Behavior and Environmental Factors

Most common disorders result from the complex interaction of many different genes, environmental factors, and lifestyle choices. For example, researchers have identified genes that increase a woman's risk for breast cancer, but these genes explain only a small proportion of cases. Behavior and environment exert a powerful influence on health and the risk of disease. This power can be seen in the 33% increase in the incidence of diabetes that has occurred among Americans since 1990. This huge increase is not due to any sudden change in our genes; it is the result of increasing rates of obesity due to poor dietary choices and lack of physical activity.

It's important not to adopt a position of biological determinism—a belief that your genes inevitably completely control your future health. Genomics research will certainly lead to a better understanding of the underlying causes of disease and to new techniques for diagnosis and treatment. However, your health, both in terms of your lifestyle choices and your use of genetic information, is still in your own hands.

- Learning to manage stress in effective ways
- Maintaining high self-esteem and mentally healthy ways of interacting with other people
- Understanding your sexuality and having satisfying intimate relationships
- Avoiding tobacco and other drugs; using alcohol responsibly, if at all
- Eating well, exercising, and maintaining healthy weight
- Knowing the facts about cardiovascular disease, cancer, infections, sexually transmitted diseases, and injuries and using your knowledge to protect yourself against them
- Understanding the health care system and using it intelligently
- Knowing when to treat your illnesses yourself and when to seek help
- Understanding the natural processes of aging and dying and accepting the limits of human existence
- Understanding how the environment affects your health and taking appropriate action to improve it

Incorporating these behaviors into your daily life may seem like a tall order, and in a sense it is the work of a lifetime. But the habits you establish now are crucial: They tend to set lifelong patterns. Some behaviors do more than set up patterns—they produce permanent changes in your health. If you become addicted to drugs or alcohol at age 20, for example, you may be able to kick the habit, but you will always face the struggle of a recovering addict. If you contract gonorrhea, you may discover later that your reproductive organs were damaged without your realizing it, making you infertile or sterile. If you ruin your knees doing the wrong exercises or hurt your back in an automobile crash, you won't have them to count on when you're older. Some things just can't be reversed or corrected.

COMMUNICATE! To get started thinking and talking about health behaviors, ask some of your close family members what they think wellness is. Are they aware of its many dimensions? Do they know, for example, that spending time with friends, having a spiritual practice, and keeping an active mind all contribute to wellness? Do they have some ideas about wellness that haven't occurred to you? What can you learn from them, and what can they learn from you?

HOW DO YOU REACH WELLNESS?

Your life may not resemble the one described by the wellness profile at all. You probably have a number of healthy habits and some others that place your health at risk. Maybe your life is more like this:

It's Tuesday. Simon wakes up feeling blue, not really wanting to get out of bed. He wishes he knew what he wanted to do with his life. He wishes he'd meet someone new and fall in love. No time for breakfast, so he grabs a cup of coffee to drink during his first class. He hasn't done the reading and stares blankly at the teacher during the lecture. Later he goes to the student union and has a sugary doughnut and some more coffee; he lights up his first cigarette of the day. Lunch is a fast-food cheeseburger, french fries, and a shake. He spends the afternoon at the library desperately researching a paper that's due the next day, finally quitting at 6:00 and heading to the student union for a beer. He meets up with some buddies and joins them for pizza instead of having dinner at the dorm. By 11:00 he's tired, but he's written only one page of his paper, so he takes an "upper" to keep going. It makes his heart race and floods his head with so many ideas he has difficulty sorting them all out. He works feverishly and finally finishes at 4:00 the next morning. Exhausted, he falls asleep in his clothes. The next thing he knows, it's Wednesday morning, time to start a new day.

This is hardly an ideal lifestyle, but it's not unusual. Simon functions OK, meets his commitments, and shows some self-discipline. On the other hand, time gets away from him, and he doesn't get much exercise, doesn't eat as well as he could, and flirts with the dangers of taking drugs. Overall, he is low on energy and has little control over his life. He could be living a lot better.

Simon isn't alone in neglecting or abusing his health; many people fall into a lifestyle that puts their health at risk. Some aren't aware of the damage they're doing to themselves; others are aware but aren't motivated or don't know how to change; still others want to change but can't seem to get started. All of these are very real problems, but they're not insurmountable. If they were, there would be no ex-smokers, recovering alcoholics, or successful graduates of weight-loss programs. People can and do make difficult changes in their lives.

Taking big steps toward wellness may at first seem like too much work, but as you make progress, it gets easier. At first you'll be rewarded with a greater sense of control over your life, a feeling of empowerment, higher self-esteem, and more joy. These benefits will encourage you to make further improvements. Over time, you'll come to know what wellness feels like—more energy; greater vitality; deeper feelings of curiosity, interest, and enjoyment; and a higher quality of life.

Getting Serious About Your Health

Before you can start changing a health-related behavior, you have to know that the behavior is problematic and that you *can* change it. To make good decisions, you need

information about relevant topics and issues, including what resources are available to help you change your behavior. You also need knowledge about yourself—how you relate to the wellness profile and what strengths you can draw on to change your behavior and improve your health.

Examining Your Current Health Habits Have you considered how your current lifestyle is affecting your health today and how it will affect your health in the future? Do you know which of your current habits enhance your health and which detract from it? Begin your journey toward wellness with self-assessment: Think about your own behavior and talk with friends and family members about what they’ve noticed about your lifestyle and your health.

Many people start to consider changing a behavior when they get help from others. An observation from a friend, family member, or physician can help you see yourself as others do and may get you thinking about your behavior in a new way. For example, Jason has been getting a lot of stomachaches lately. His girlfriend Anna notices other changes as well and suggests that the stress of classes plus a part-time job and serving as president of the school radio station might be causing some of Jason’s problems. Jason never thought much about trying to control the stressors in his life, but with encouragement from Anna, he starts noticing what events trigger stress for him.

Landmark events can also get you thinking about behavior change. A birthday, the birth of a child, or the death of someone close to you can be powerful motivators for thinking seriously about behaviors that affect wellness. New information can also help you get started. As you read this text, you may find yourself reevaluating some of your health-related behaviors. This could be a great opportunity to make healthful changes that will stay with you for the rest of your life. To help determine whether your current health habits promote wellness, take the quiz in the box “Wellness: Evaluate Your Lifestyle.” Use the results to identify behaviors you could change to improve your health and well-being.

Choosing a Target Behavior A careful examination of your current lifestyle may reveal a number of habits that are candidates for change. To maximize your chances of success, don’t try to change all your problem behaviors at once—to quit smoking, give up high-fat foods, start jogging, avoid drugs, get more sleep. Working on even one behavior change will make high demands on your energy. Concentrate on one behavior that you want to change, your **target behavior**, and work on it systematically. Start with something simple, like snacking on candy between afternoon classes or always driving to a particular class instead of walking or biking.

Obtaining Information About Your Target Behavior Once you’ve chosen a target behavior, you need to find

out more about it. You need to know its risks and benefits for you—both now and in the future. How is your target behavior affecting your level of wellness today? What diseases or conditions does this behavior place you at risk for? What effect would changing your behavior have on your health?

You also need enough information to set an overall target for change. For some behaviors, this is simple. For example, if your target behavior is smoking, your goal will be to quit. But if your target behavior is something like a poor diet or an inactive lifestyle, you may need additional information to set an appropriate goal. Further investigation can help you determine that you should consume five servings of fruits and vegetables each day, for example, or that you should add 30 minutes of brisk walking to your daily routine.

To evaluate your target behavior and set an appropriate target for change, you’ll need accurate information. As a starting point, use material from this text and from the resources listed in the For More Information section at the end of each chapter. See the box “Evaluating Sources of Health Information” for tips on becoming a critical consumer of health information from a wide variety of sources.

Finding Outside Help Have you identified a particularly challenging target behavior, something like alcohol addiction, excessive overeating, or depression that interferes with your ability to function or places you at a serious health risk? Outside help is often needed for changing behaviors or conditions that may be too deeply rooted or too serious for a self-management approach. If this is the case, don’t be stopped by the seriousness of the problem—there are many resources available to help you solve it. On campus, the student health center or campus counseling center may be a source of assistance. Many communities offer a variety of services through adult education, health departments, and private agencies. Consult the yellow pages, your physician, your local health department, or the United Way; the latter often sponsors local referral services.

Building Motivation for Change

Knowledge is a necessary ingredient for behavior change, but it isn’t usually enough to make people act. Millions of people smoke or have sedentary lifestyles, for example, even though they know it’s bad for their health. To succeed at behavior change, you need strong motivation. Strategies for building motivation include examining the pros and cons of change, boosting self-efficacy, and overcoming key barriers to change.

Examining the Pros and Cons of Change Health behaviors have short-term and long-term benefits and costs associated with them. For example, in the short



Changing powerful, long-standing habits requires motivation, commitment, and a belief that we are in control of our own behavior. To quit smoking, these young women must overcome a habit that is supported by their addiction to nicotine and by their social environment.

term, an inactive lifestyle allows for more time to watch TV and hang out with friends but leaves a person less able to participate in recreational activities. In the long term, it increases risk for heart disease, cancer, stroke, and premature death. For successful behavior change, you must believe that the benefits of changing outweigh the costs. Do a careful analysis of the short-term and long-term benefits and costs of continuing your current (target) behavior and of changing to a new, healthier behavior. Focus on the effects that are most meaningful to you, including those that are tied to your personal identity and values. For example, if you see yourself as an active person who is a good role model for others, then adopting behaviors such as regular physical activity and adequate sleep would support your personal identity. If you value independence and control over your life, then quitting smoking would be consistent with your values and goals. To complete your analysis, ask friends and family members about the effects of your behavior on them. For example, a roommate may tell you that he never ate candy in the evening until he started living with you, or a younger sister may tell you that your smoking habit influenced her decision to take up smoking.

Pay special attention to the short-term benefits of behavior change, as these can be an important motivating force. Although some people are motivated by long-term goals, such as avoiding a disease that may hit them in 30 years, most are more likely to be moved to action by shorter-term, more personal goals. Feeling better, doing better in school, improving at a sport, reducing stress, and increasing self-esteem are common short-term benefits of health behavior change.

You can further strengthen your motivation by engaging your emotions and raising your consciousness about your problem behavior. This will enable you to focus on the current negatives of the behavior and to imagine the consequences if you don't make a change. Ask yourself: What do I want for myself, now and in the future?

For example, Ruby has never worried much about her smoking because the problems associated with it seem so far away. But lately she's noticed her performance on the volleyball team isn't as good as it used to be. Over the summer she visited her aunt, who has emphysema from smoking and can barely leave her bed. Ruby knows she wants to have children and a career as a teacher, and seeing her aunt makes her wonder if her smoking habit could make it difficult for her to reach these goals. She starts to wonder whether her smoking habit is worth the short- and long-term sacrifices.

Social pressures can also increase the motivation to make changes. In Ruby's case, anti-smoking ordinances keep her from smoking in her dorm and in many public places. The inconvenience of finding a place to smoke—and pressure from her roommate, who doesn't like the smoky smell of Ruby's clothes in their room—are among the short-term costs of Ruby's smoking habit that can add to her motivation to quit.

target behavior An isolated behavior selected as the object of a behavior change plan.

Terms





All of us want optimal health. But many of us do not know how to achieve it. Taking this quiz, adapted from one created by the U.S. Public Health Service, is a good place to start. The behaviors covered in the test are recommended for most Americans.

(Some of them may not apply to people with certain diseases or disabilities or to pregnant women, who may require special advice from their physician.) After you take the quiz, add up your score for each section.

Tobacco Use

If you never use tobacco, enter a score of 10 for this section and go to the next section.

- | | Almost
Always | Sometimes | Never |
|---|------------------|-----------|-------|
| 1. I avoid using tobacco. | 2 | 1 | 0 |
| 2. I smoke only low-tar/nicotine cigarettes <i>or</i> I smoke a pipe or cigars <i>or</i> I use smokeless tobacco. | 2 | 1 | 0 |

Tobacco Score: _____

Alcohol and Other Drugs

- | | | | |
|---|---|---|---|
| 1. I avoid alcohol <i>or</i> I drink no more than 1 (women) or 2 (men) drinks a day. | 4 | 1 | 0 |
| 2. I avoid using alcohol or other drugs as a way of handling stressful situations or problems in my life. | 2 | 1 | 0 |
| 3. I am careful not to drink alcohol when taking medications, such as for colds or allergies, or when pregnant. | 2 | 1 | 0 |
| 4. I read and follow the label directions when using prescribed and over-the-counter drugs. | 2 | 1 | 0 |

Alcohol and Other Drugs Score: _____

Nutrition

- | | | | |
|---|---|---|---|
| 1. I eat a variety of foods each day, including five or more servings of fruits and vegetables. | 3 | 1 | 0 |
| 2. I limit the amount of fat and saturated fat in my diet. | 3 | 1 | 0 |
| 3. I avoid skipping meals. | 2 | 1 | 0 |
| 4. I limit the amount of salt and sugar I eat. | 2 | 1 | 0 |

Nutrition Score: _____

Exercise/Fitness

- | | | | |
|--|---|---|---|
| 1. I engage in moderate exercise for 20–60 minutes, 3–5 times a week. | 4 | 1 | 0 |
| 2. I maintain a healthy weight, avoiding overweight and underweight. | 2 | 1 | 0 |
| 3. I do exercises to develop muscular strength and endurance at least twice a week. | 2 | 1 | 0 |
| 4. I spend some of my leisure time participating in physical activities such as gardening, bowling, golf, or baseball. | 2 | 1 | 0 |

Exercise/Fitness Score: _____

Emotional Health

- | | | | |
|--|---|---|---|
| 1. I enjoy being a student, and I have a job or do other work that I like. | 2 | 1 | 0 |
| 2. I find it easy to relax and express my feelings freely. | 2 | 1 | 0 |

Boosting Self-Efficacy When you start thinking about changing a health behavior, a big factor in your eventual success is whether you have confidence in yourself and in your ability to change. **Self-efficacy** refers to your belief in your ability to successfully take action and perform a specific task. Self-efficacy varies with each behavior and

depends on many factors, including your level of self-esteem and your past experiences with your target behavior. Strategies for boosting self-efficacy include developing an internal locus of control, using visualization and self-talk, and obtaining encouragement from supportive people. Developing specific skills for change, discussed

	Almost Always	Sometimes	Never
3. I manage stress well.	2	1	0
4. I have close friends, relatives, or others I can talk to about personal matters and call on for help.	2	1	0
5. I participate in group activities (such as church and community organizations) or hobbies that I enjoy.	2	1	0
Emotional Health Score:	_____		

Safety

1. I wear a safety belt while riding in a car.	2	1	0
2. I avoid driving while under the influence of alcohol or other drugs.	2	1	0
3. I obey traffic rules and the speed limit when driving.	2	1	0
4. I read and follow instructions on the labels of potentially harmful products or substances, such as household cleaners, poisons, and electrical appliances.	2	1	0
5. I avoid smoking in bed.	2	1	0
Safety Score:	_____		

Disease Prevention

1. I know the warning signs of cancer, diabetes, heart attack, and stroke.	2	1	0
2. I avoid overexposure to the sun and use a sunscreen.	2	1	0
3. I get recommended medical screening tests (such as blood pressure checks and Pap tests), immunizations, and booster shots.	2	1	0
4. I practice monthly breast/testicle self-exams.	2	1	0
5. I am not sexually active <i>or</i> I have sex with only one mutually faithful, uninfected partner <i>or</i> I always engage in safer sex (using condoms) <i>and</i> I do not share needles to inject drugs.	2	1	0
Disease Prevention Score:	_____		

What Your Scores Mean

Scores of 9 and 10 Excellent! Your answers show that you're aware of the importance of this area to wellness. More important, you are putting your knowledge to work for you by practicing good health habits. As long as you continue to do so, this area should not pose a serious health risk. It's likely that you are setting an example for your family and friends to follow. Since you scored high on this part of the quiz, you may want to focus on other areas where your scores indicate room for improvement.

Scores of 6–8 Your health practices in this area are good, but there is room for improvement. Look again at the items you answered with "Sometimes" or "Never." What changes can you

make to improve your score? Even a small change can often help you achieve better health.

Scores of 3–5 Your health risks are showing! You may need more information about the risks you're facing and about why it's important for you to change these behaviors. Perhaps you need help in deciding how to successfully make the changes you want.

Scores of 0–2 Your answers show that you may be taking serious and unnecessary risks with your health. Perhaps you are not aware of the risks and what to do about them. You can easily get the information and help you need to improve, if you wish. The next step is up to you.

later in this chapter, is also critical for improving self-efficacy.

LOCUS OF CONTROL Who do you believe is controlling your life? Is it your parents, friends, or school? Is it "fate"? Or is it you? **Locus of control** refers to the figurative

self-efficacy The belief in one's ability to take action and perform a specific behavior.

locus of control The figurative "place" a person designates as the source of responsibility for the events in his or her life.

Terms





Making sound choices about your own wellness requires critical thinking. In order to choose and implement healthy behaviors, you must be able to identify accurate information about health in general and your own personal risk factors in particular. You must be able to evaluate health-related products and services such as exercise shoes, fast food, health insurance, and medical treatments. Thinking critically is crucial if you are to take advantage of all the opportunities you have to optimize your health and well-being.

General Strategies

A key first step in sharpening your critical thinking skills is to look carefully at your sources of health information. Critical thinking involves knowing where and how to find relevant information, how to separate fact from opinion, how to recognize faulty reasoning, how to evaluate information, and how to assess the credibility of sources. The following strategies can help you sort through the health information you receive from common sources, including television, newspapers, magazines, books, advertisements, Web sites, and friends and family members.

- *Go to the original source.* Media reports often simplify the results of medical research. Find out for yourself what a study really reported, and determine whether it was based on good science. What type of study was it? Was it published in a recognized medical journal? Was it an animal study or did it involve people? Did the study include a large number of people? What did the authors of the study actually report in their findings? (You'll find additional strategies for evaluating research studies in Chapter 21.)

- *Watch for misleading language.* Reports that feature “breakthroughs” or “dramatic proof” are probably hype. Some studies will find that a behavior “contributes to” or is “associated with” an outcome; this does not imply a proven cause-and-effect relationship. Information may also be distorted by an author’s point of view. Carefully read or listen to information in order to understand its implications.

- *Distinguish between research reports and public health advice.* If a study finds a link between a particular vitamin and cancer, that should not necessarily lead you to change your behavior. But if the Surgeon General or the American Cancer Society advises you to eat less fat or quit smoking, you can assume that many studies point in this direction and that this is advice you should follow.

- *Remember that anecdotes are not facts.* Sometimes we do get helpful health information from our friends and family. But just because your cousin Bertha lost 10 pounds on Dr. Amazing’s new protein diet doesn’t mean it’s a safe, effective way for you to lose weight. Before you make a big change in your lifestyle, verify the information with your physician, this text, or other reliable sources.

- *Be skeptical, and use your common sense.* If a report seems too good to be true, it probably is. Be especially wary of information contained in advertisements. The goal of an ad is to sell

you something, to create a feeling of need for a product where no real need exists. Evaluate “scientific” claims carefully, and beware of quackery (see Chapter 21).

- *Make choices that are right for you.* Your roommate swears by swimming; you prefer aerobics. Your sister takes a yoga class to help her manage stress; your brother unwinds by walking in the woods. Friends and family members can be a great source of ideas and inspiration, but each of us needs to find a wellness lifestyle that works for us.

Internet Resources

More than half of all Internet users report having surfed for health information. Evaluating health information from online sources poses special challenges and requires additional critical thinking skills. When reviewing a health-related Web site, ask the following questions:

- *What is the source of the information? Who is the author or sponsor of the Web page?* Web sites maintained by government agencies, professional associations, or established academic or medical institutions are likely to present trustworthy information. Many other groups and individuals post accurate information, but it is important to look at the qualifications of the people who are behind the site. (Check the home page or click on an “about us” or “who we are” link.)

- *How often is the site updated?* Look for sites that are updated frequently. Also check the “last modified” date of any specific Web page on a site.

- *What is the purpose of the page? Does the site promote particular products or procedures? Are there obvious reasons for bias?* Be wary of information from sites that sell specific products, use testimonials as evidence, appear to have a social or political agenda, or ask for money.

- *What do other sources say about a topic?* Be cautious of claims or information that appears at only one site or comes from a chat room or bulletin board.

- *Does the site conform to any set of guidelines or criteria for quality and accuracy?* Look for sites that identify themselves as conforming to some code or set of principles, such as those set forth by the Health on the Net Foundation or the American Medical Association. These codes include criteria such as use of information from respected sources and disclosure of the site’s sponsors.

Additional strategies for locating and assessing health-related information from the Internet can be found in Appendix C and on the *Core Concepts in Health* Web site (<http://www.mhhe.com/insel9>).

You will find boxes labeled Critical Consumer throughout the text to help you develop and apply your critical thinking skills. In addition, be sure to work through the Critical Thinking Journal Entry activities at the end of each chapter. Developing the ability to think critically and independently about health issues will serve you well throughout your life.

“place” a person designates as the source of responsibility for the events in his or her life. People who believe they are in control of their own lives are said to have an internal locus of control. Those who believe that factors beyond their control—heredity, friends and family, the environment, fate, luck, or other outside forces—are more important in determining the events of their lives are said to have an external locus of control. Most people are not purely “internalizers” or “externalizers”; their locus of control changes in response to the situation.

For lifestyle management, an internal locus of control is an advantage because it reinforces motivation and commitment. An external locus of control can actually sabotage efforts to change behavior. For example, if you believe you are destined to die of breast cancer because your mother died from the disease, you may view monthly breast self-exams and regular checkups as a waste of time. In contrast, an internal locus of control is an advantage. If you believe you can take action to reduce your hereditary risk of breast cancer, you will be motivated to follow guidelines for early detection of the disease.

People who tend to have an external locus of control can learn to view the events in their lives differently and increase their feelings of self-efficacy. If you find yourself attributing too much influence to outside forces, gather more information about your target behavior. Make a list of all the ways that behavior change will improve your health. If you recognize and accept that you are in charge of your life, you’re well on your way to wellness.

VISUALIZATION AND SELF-TALK One of the best ways to boost your confidence and self-efficacy is to visualize yourself successfully engaging in a new, healthier behavior. Imagine yourself turning down cigarettes, going for a regular after-dinner walk, or choosing healthier snacks. Also visualize yourself enjoying all the short-term and long-term benefits that behavior change will bring. Create a new self-image: What will you and your life be like when you become a nonsmoker, a regular exerciser, or a healthy eater?

You can also use self-talk, the internal dialogue you carry on with yourself, to increase your confidence in your ability to change. Counter any self-defeating patterns of thought with more positive or realistic thoughts: “Behavior change is difficult, but if I work at it, I will succeed,” or “I am a strong, capable person, and I can maintain my commitment to change.” Refer to Chapter 3 for more on self-talk.

ROLE MODELS AND OTHER SUPPORTIVE INDIVIDUALS Social support can also make a big difference in your level of motivation and your chances of success. Perhaps you know people who have reached the goal you are striving for; they could be role models or mentors for you, providing information and support for your efforts. Talk to

them about how they did it. What were the most difficult parts of changing their behavior? What strategies worked for them? Gain strength from their experiences, and tell yourself, “If they can do it, so can I.”

In addition, find a buddy who wants to make the same changes you do and who can take an active role in your behavior change program. For example, an exercise buddy can provide companionship and encouragement for times when you might be tempted to skip that morning jog. Or you and a friend can watch to be sure that you both have only one alcoholic beverage at a party. If necessary, look beyond your current social network at possible new sources of help, such as a support group. Later in this chapter, you’ll learn some specific strategies for involving other people in your behavior change program.

Identifying and Overcoming Key Barriers to Change

Have you tried and failed to change your target behavior in the past? Don’t let past failures discourage you; they can be a great source of information you can use to boost your chances of future success. Make a list of the problems and challenges you faced in your previous behavior change attempts; to this, add the short-term costs of behavior change that you identified in your analysis of the pros and cons of change. Once you’ve listed these key barriers to change, develop a practical plan for overcoming each one. For example, if one of your key barriers for physical activity is that you believe you can’t make time for a 40-minute workout, look for ways to incorporate shorter bouts of physical activity into your daily routine. If you always smoke when you’re with certain friends, practice in advance how you will turn down the next cigarette you are offered. Developing strategies to cope with difficult situations is one of the most important factors in successful behavior change. You’ll find additional advice and examples later in the chapter in the section “Developing Skills for Change.”

Self-talk can also help overcome barriers. Make behavior change a priority in your life, and plan to commit the necessary time and effort. Ask yourself: How much time and energy will behavior change *really* require? Isn’t the effort worth all the short- and long-term benefits?

Enhancing Your Readiness to Change

The transtheoretical, or “stages of change,” model, developed by psychologists James Prochaska and Carlo DiClemente, has been shown to be an effective approach to lifestyle self-management. According to this model, you move through six well-defined stages as you work to change your target behavior. It is important to determine what stage you are in now so that you can choose appropriate strategies for progressing through the cycle of change (see the box “What Stage of Change Are You In?”). Using this approach can help you enhance your readiness and intention to change.



To determine your stage, circle true or false for each of the following statements:

- T F 1. I changed my target behavior more than 6 months ago.
T F 2. I changed my target behavior within the past 6 months.
T F 3. I intend to take action within the next month and have already made a few small changes in my behavior.
T F 4. I intend to take action on my target behavior within the next 6 months.

Find the stage that corresponds to your responses:

- False for all four statements = Precontemplation
True for statement 4, false for statements 1–3 = Contemplation
True for statements 3 and 4, false for statements 1 and 2 = Preparation
True for statement 2, false for statement 1 = Action
True for statement 1 = Maintenance

SOURCE: Prochaska, J. O., C. A. Redding, and K. E. Evers. 1997. The transtheoretical model and stages of change. In *Health Behavior and Health Education: Theory, Research, and Practice*, 2nd ed. San Francisco: Jossey-Bass.

Precontemplation People at this stage have no intention of changing their behavior. They may be unaware of the risks associated with their behavior, or they may deny that their behavior will have any serious consequences for them. They may have tried unsuccessfully to change in the past and may now feel demoralized and think the situation is hopeless. They may also blame others for their problems.

If you are in the precontemplation stage, begin to move forward by raising your consciousness of your target behavior and its effects on you and those around you. Obtain accurate information about your behavior, and ask yourself what has prevented you from changing in the past. Enlist friends and family members to help you become more aware of your behavior and your reasons for continuing an unhealthy habit. Also find out more about the campus and community resources available to help you with behavior change.

Contemplation People at this stage are aware that they have a problem and have started to think and learn about it. They acknowledge the benefits that behavior change will have for them but are also very aware of the costs of changing. They wonder about possible courses of action but may feel stuck and unsure of how best to proceed.

At this stage, it's a good idea to begin keeping a written record of your target behavior—to learn more about it and to use when you begin to plan the specifics of your behavior change program. Work on your analysis of the pros and cons of change: Expand your list of the benefits, and problem-solve to overcome the key barriers on your

list of the costs of changing. To be successful, you must believe that the benefits of change outweigh the costs. Engage your emotions and boost self-efficacy through visualization, self-talk, and the support of other people.

Preparation People at this stage plan to take action within a month and may have already begun to make small changes in their behavior. If you are in the preparation stage, your next step is to create a specific plan for change that includes a start date, realistic goals, rewards, and information on exactly how you will go about changing your behavior. You'll also want to prepare yourself emotionally and socially by practicing visualization and self-talk and by involving the people around you in your efforts at change. A step-by-step plan for developing a successful behavior change program is included in the next section of the chapter.

Action During the action stage, people outwardly modify their behavior and their environment. The action stage requires the greatest commitment of time and energy, and people in this stage are at risk for reverting to old, unhealthy patterns of behavior. If you are in the action stage, you'll need to use all the plans and strategies that you developed during earlier stages. In particular, be sure to plan ahead to overcome temptations and deal with problem situations.

Maintenance People at this stage have maintained their new, healthier lifestyle for at least 6 months. To guard against slips and relapses, they continue with all

the positive strategies they used in earlier stages. Their confidence and self-efficacy increase. The maintenance stage typically lasts from 6 months to about 5 years.

Termination People at this stage have exited the cycle of change and are no longer tempted to lapse back into their old behavior. They have a new self-image and total self-efficacy with regard to their target behavior. This stage applies to some behaviors, such as addictions, but may not be appropriate for others.

Lapses are a natural part of the process at all stages of change. Many people lapse and must recycle through earlier stages, although most don't go back to the first stage. If you lapse, use what you learn about yourself and the process of change to help you in your next attempt at behavior change.

Next, we'll take a closer look at the specific steps and skills involved in creating and implementing a plan for change.

COMMUNICATE! As you begin your study of wellness, it's natural to think about the health behaviors of your friends and family members, especially if someone smokes, drinks irresponsibly, or engages in other behaviors that detract from wellness. If this is the case for you, are you in a position to talk to your friend or relative about the problematic behavior? Can you determine what "stage of change" he or she is at in relation to the behavior (precontemplation, contemplation, and so on)? How do you feel about offering facts or information about the behavior or supporting the person in behavior change?

Developing Skills for Change: Creating a Personalized Plan

Once you are committed to making a change, it's time to put together a detailed plan of action. Your key to success is a well-thought-out plan that sets goals, anticipates problems, and includes rewards.

1. Monitor Your Behavior and Gather Data Begin by keeping careful records of the behavior you wish to change (your target behavior) and the circumstances surrounding it. Keep these records in a health journal, a notebook in which you write the details of your behavior along with observations and comments. Note exactly what the activity was, when and where it happened, what you were doing, and what your feelings were at the time. In a journal for a weight-loss or dietary-change plan, for example, you would typically record how much food you ate, the time of day, the situation, the location, your feelings, and how hungry you were (Figure 1-4). If your goal is to start an exercise program, use your journal to track

your daily activities to determine how best to make time for your workouts. Keep your journal for a week or two to get some solid information about the behavior you want to change.

2. Analyze the Data and Identify Patterns After you have collected data on the behavior, analyze the data to identify patterns. When are you most hungry? When are you most likely to overeat? What events seem to trigger your appetite? Perhaps you are especially hungry at mid-morning or when you put off eating dinner until 9:00. Perhaps you overindulge in food and drink when you go to a particular restaurant or when you're with certain friends. Be sure to note the connections between your feelings and such external cues as time of day, location, situation, and the actions of others around you. Do you always think of having a cigarette when you read the newspaper? Do you always bite your fingernails when you're studying?

3. Set Realistic, Specific Goals Don't set an impossibly difficult overall goal for your program—going from a sedentary lifestyle to running a marathon within 2 months, for example. Working toward more realistic, achievable goals will greatly increase your chances of success. Your goal should also be specific and measurable, something you can easily track. Instead of a vague general goal such as improving eating habits or being more physically active, set a specific target—eating five servings of fruits and vegetables each day or walking or biking for 30 minutes at least 5 days per week.

Whatever your ultimate goal, it's a good idea to break it down into a few small steps. Your plan will seem less overwhelming and more manageable, increasing the chances that you'll stick to it. You'll also build in more opportunities to reward yourself (discussed in step 4), as well as milestones you can use to measure your progress. If you plan to lose 15 pounds, for example, you'll find it easier to take off 5 pounds at a time. If you want to start an exercise program, begin by taking 10- to 15-minute walks a few times per week. Take the easier steps first and work up to the harder steps. With each small success, you'll build your confidence and self-efficacy.

4. Devise a Strategy or Plan of Action Next, you need to develop specific strategies and techniques that will support your day-to-day efforts at behavior change.

OBTAIN INFORMATION AND SUPPLIES Identify campus and community resources that can provide practical help—for example, a stop-smoking course or a walking club. Take any necessary preparatory steps, such as signing up for a stress-management workshop or purchasing walking shoes, nicotine replacement patches, or a special calendar to track your progress.

Date November 5

Day M (TU) W TH F SA SU

Time of day	M/S	Food eaten	Cals.	H	Where did you eat?	What else were you doing?	How did someone else influence you?	What made you want to eat what you did?	Emotions and feelings?	Thoughts and concerns?
7:30	M	1 C Crispix cereal 1/2 C skim milk coffee, black 1 C orange juice	110 40 — 120	3	dorm cafeteria	reading newspaper	eating w/ friends, but I ate what I usually eat	I always eat cereal in the morning	a little keyed up & worried	thinking about quiz in class today
10:30	S	1 apple	90	1	library	studying	alone	felt tired & wanted to wake up	tired	worried about next class
12:30	M	1 C chili 1 roll 1 pat butter 1 orange 2 oatmeal cookies 1 soda	290 120 35 60 120 150	2	cafeteria terrace	talking	eating w/ friends; we decided to eat at the cafeteria	wanted to be part of group	excited and happy	interested in hearing everyone's plans for the weekend

M/S = Meal or snack

H = Hunger rating (0–3)

Figure 1-4 Sample health journal entries.

MODIFY YOUR ENVIRONMENT As you write in your health journal, you gather quite a lot of information about your target behavior—the times it typically occurs; the situations in which it usually happens; the ways sight, smell, mood, situation, and accessibility trigger it. You can probably trace the chain of events that leads to the behavior and perhaps also identify points along the way where making a different choice would mean changing the behavior.

You can be more effective in changing behavior if you control the environmental cues that provoke it. This might mean not having cigarettes or certain foods or drinks in the house, not going to parties where you're tempted to overindulge, or not spending time with particular people, at least for a while. If you always get a candy bar at a certain vending machine, change your route so you don't pass by it. If you always end up taking a coffee break and chatting with friends when you go to the library to study, choose a different place to study, such as your room.

It's also helpful to control other behaviors or habits that seem to be linked to the target behavior. You may give in to an urge to eat when you have a beer (alcohol increases the appetite) or when you watch TV. Try substituting some other activities for habits that seem to be linked with your target behavior, such as exercising to music instead of plopping down in front of the TV. Or, if possible, put an exercise bicycle in front of the set and burn calories while you watch your favorite show.

You can change the cues in your environment so they trigger the new behavior you want instead of the old one. Tape a picture of a cyclist speeding down a hill on your TV screen. Leave your exercise shoes in plain view. Put a chart of your progress in a special place at home to make your goals highly visible and inspire you to keep going. When you're trying to change an ingrained habit, small cues can play an important part in keeping you on track.

REWARD YOURSELF Another very powerful way to affect your target behavior is to set up a reward system that will reinforce your efforts. Most people find it difficult to change long-standing habits for rewards they can't see right away. Giving yourself instant, real rewards for good behavior along the way will help you stick with a plan to change your behavior.

Carefully plan your reward payoffs and what they will be. In most cases, rewards should be collected when you reach specific objectives or subgoals in your plan. For example, you might treat yourself to a movie after a week of avoiding extra snacks. Don't forget to reward yourself for good behavior that is consistent and persistent—such as simply sticking with your program week after week. Decide on a reward after you reach a certain goal, or mark off the sixth week or month of a valiant effort. Write it down in your health journal and remember it as you follow your plan—especially when the going gets rough.

Make a list of your activities and favorite events to use as rewards. They should be special, inexpensive, and



Many actions and behaviors are shaped by cues in the environment. Fast food is quick and widely available, making it a more likely lunch choice for this busy woman than the many healthier alternatives.

preferably unrelated to food or alcohol. Depending on what you like to do, you might treat yourself to a concert, a ball game, a new CD, a long-distance phone call to a friend, a day off from studying for a long hike in the woods—whatever is rewarding to you.

INVOLVE THE PEOPLE AROUND YOU Rewards and support can also come from family and friends. Tell them about your plan, and ask for their help. Encourage them to be active, interested participants. Ask them to support you when you set aside time to go running or avoid second helpings at Thanksgiving dinner. You may have to remind them not to do things that make you “break training” and not to be hurt if you have to refuse something when they forget. To help friends and family members who will be involved in your program respond appropriately, you may want to create a specific list of dos and don'ts. Getting encouragement, support, and praise from important people in your life can powerfully reinforce the new behavior you're trying to adopt.

PLAN AHEAD FOR CHALLENGING SITUATIONS Take time out now to list situations and people that have the potential to derail your program and to develop possible coping mechanisms. For example, if you think that you'll have trouble exercising during finals week, schedule short bouts of physical activity as stress-reducing study breaks. If a visit to a friend who smokes is likely to tempt you to lapse, plan

to bring nicotine patches, chewing gum, and a copy of your behavior change contract to strengthen your resolve.

5. Make a Commitment by Signing a Personal Contract Once you have set your goals and developed a plan of action, make your plan into a personal contract. A serious personal contract—one that commits your word—can result in a higher chance of follow-through than will a casual, offhand promise. Your contract can help prevent procrastination by specifying the important dates and can also serve as a reminder of your personal commitment to change.

Your contract should include a statement of your goal and your commitment to reaching it. Include details of your plan: the date you'll begin, the steps you'll use to measure your progress, the concrete strategies you've developed for promoting change, and the date you expect to reach your final goal. Have someone—preferably someone who will be actively helping you with your program—sign your contract as a witness.

A Sample Behavior Change Plan Let's take the example of Michael, who wants to improve his diet. By monitoring his eating habits in his health journal for several weeks, he gets a good sense of his typical diet—what he eats and where he eats it. Through self-assessment and investigation, he discovers that he currently consumes only about one serving of fruit per week, much less than the recommended two to four servings per day. He also finds out that fruit is a major source of fiber, vitamins, minerals, and other substances important for good health. He sets the target of eating three servings of fruit per day as the overall goal for his behavior change plan. Next, he sets a start date and decides to break his plan into three parts. He'll begin by adding a serving of fruit to his breakfast. Once he successfully reaches this goal, he'll add other servings of fruit, first as part of his lunch and then in place of one of the sodas he typically consumes as a snack.

To help increase his chances of success, Michael decides to make several changes in his behavior and his environment. Since he often eats breakfast and lunch on the run, he decides to stock his small dorm-room refrigerator with a supply of easy-to-carry items such as oranges, apples, and small containers of juice. He empties one of the outside pockets of his book backpack so he has a special place to carry fruit. He also places reminders in several locations so that he remembers to keep both his refrigerator and his backpack stocked. He checks out the places he typically buys meals on campus and makes note of several that sell fruit juice and fruit salad. Finally, Michael decides on some rewards he'll give himself when he meets his goals, choosing things he likes that aren't too expensive.

After Michael has thought through his plan to eat three servings of fruit each day, he's ready to create and sign a behavior change contract. He decides to enlist one of his lab partners as a witness to his contract; he also asks her to check

My Personal Contract for Eating Three Servings of Fruit per Day

I agree to increase my consumption of fruit from one serving per week to three servings per day. I will begin my program on 10/5 and plan to reach my final goal by 12/7. I have divided my program into three parts, with three separate goals.

For each step in my program, I will give myself the reward listed.

1. I will begin to have a serving of fruit with breakfast on 10/5.
(Reward: baseball game)
2. I will begin to have a serving of fruit with lunch on 10/26.
(Reward: music CD)
3. I will begin to substitute fruit juice for soda for one snack each day on 11/16.
(Reward: Concert)

My plan for increasing fruit consumption includes the following strategies:

1. Keeping my dorm room refrigerator stocked with easy-to-carry fruit and fruit juice.
2. Packing fruit in my book backpack every day.
3. Placing reminders to buy, carry, and eat fruit in my dorm room, backpack, and wallet.
4. Buying lunch at a place that serves fruit or fruit juice.

I understand that it is important for me to make a strong personal effort to make the change in my behavior. I sign this contract as an indication of my personal commitment to reach my goal.

Michael Cook 9/28
Katie Lim 9/28

Witness:

Figure 1-5 A sample behavior change contract.

on his progress and offer encouragement (Figure 1-5). Once Michael has signed his contract, he's ready to take action.

You can apply the general behavior change planning framework presented in this chapter to any target behavior. Additional examples of behavior change plans are presented in the Behavior Change Strategy sections that appear at the end of many chapters. In these, you'll find specific plans and advice for overcoming test anxiety (Chapter 2), reducing caffeine consumption (Chapter 9), quitting smoking (Chapter 11), beginning an exercise program (Chapter 13), eating more fruits and vegetables (Chapter 16), and many other positive lifestyle changes.

Putting Your Plan into Action

The starting date has arrived, and you are ready to put your plan into action. This stage requires commitment, the resolve to stick with the plan no matter what temptations you encounter. Remember all the good reasons you have to make the change—and remember that *you* are the boss.

Use all your strategies to make your plan work. Substituting behaviors are often very important—go for a walk

after class instead of eating a bag of chips. Make sure your environment is change-friendly by keeping cues that trigger the problem behavior to a minimum. Be sure to also obtain as much support and encouragement from others as possible.

Use your health journal to keep track of how well you are doing in achieving your ultimate goal. Record your daily activities and any relevant details, such as how far you walked or how many calories you ate. Each week, chart your progress on a graph and see how it compares to the subgoals on your contract. You may want to track more than one behavior, such as the time you spend exercising each week and your weight.

If you don't seem to be making progress, analyze your plan to see what might be causing the problem. Possible barriers to success are listed in the section "Staying with It," along with suggestions for addressing them. Once you've identified the problem, revise your plan.

Be sure to reward yourself for your successes by treating yourself as specified in your contract. And don't forget to give yourself a pat on the back—congratulate yourself, notice how much better you look or feel, and feel good about how far you've come and how you've gained control of your behavior.



Changing behavior takes motivation. But how do you get motivated? The following strategies may help:

- Write down the potential benefits of the change. If you want to lose weight, your list might include increased ease of movement, energy, and self-confidence.
- Now write down the costs of not changing.
- Frequently visualize yourself achieving your goal and enjoying its benefits. If you want to manage time more effectively, picture yourself as a confident, organized person who systematically tackles important tasks and sets aside time each day for relaxation, exercise, and friends.
- Discount obstacles to change. Counter thoughts such as “I’ll never have time to shop for and prepare healthy foods” with thoughts such as “Lots of other people have done it and so can I.”
- Bombard yourself with propaganda. Subscribe to a self-improvement magazine. Take a class dealing with the change you want to make. Read books and watch talk shows on the subject. Post motivational phrases or pictures on your refrigerator or over your desk. Listen to motivational tapes in the car. Talk to people who have already made the change you want to make.
- Build up your confidence. Remind yourself of other goals you’ve achieved. At the end of each day, mentally review your good decisions and actions. See yourself as a capable person, one who is in charge of his or her health.
- Create choices. You will be more likely to exercise every day if you have two or three types of exercise to choose from, and more likely to quit smoking if you’ve identified more than one way to distract yourself when you crave a cigarette. Get ideas from people who have been successful, and adapt some of their strategies to suit you.
- If you slip, keep trying. Research suggests that four out of five people will experience some degree of backsliding when they try to change a behavior. Only one in four succeeds the first time around. If you retain your commitment to change even when you lapse, you are still farther along the path to change than before you made the commitment. Try again. And again, if necessary.

Staying with It

As you continue with your program, don’t be surprised when you run up against obstacles; they’re inevitable. In fact, it’s a good idea to expect problems and give yourself time to step back, see how you’re doing, and make some changes before going on again. If you find your program is grinding to a halt, try to identify what is blocking your progress. It may come from one of these sources.

Social Influences Take a hard look at the reactions of the people you’re counting on, and see if they’re really supporting you. If they come up short, try connecting and networking with others who will be more supportive.

A related trap is trying to get your friends or family members to change *their* behaviors. The decision to make a major behavior change is something people come to only after intensive self-examination. You may be able to influence someone by tactfully providing facts or support, but that’s all. Focus on yourself. If you succeed, you may become a role model for others.

Levels of Motivation and Commitment You won’t make real progress until an inner drive leads you to the stage of change at which you are ready to make a personal commitment to the goal. If commitment is your problem, you may need to wait until the short-term costs of your target behavior make your life more unhappy or unhealthy; then your desire to change it will be stronger. Or

you may find that changing your goal will inspire you to keep going. If you really want to change but your motivation comes and goes, look at your support system and at your own level of confidence. Building these up may be the key to pushing past a barrier. For more ideas, refer to the box “Motivation Boosters.”

Choice of Techniques and Level of Effort Your plan may not be working as well as you thought it would. Make changes where you’re having the most trouble. If you’ve lagged on your running schedule, for example, maybe it’s because you really don’t like running. A group exercise class might suit you better. There are many ways to move toward your goal. Or you may not be trying hard enough. You do have to push toward your goal. If it were easy, you wouldn’t need to have a plan.

Stress Barriers If you’ve hit a wall in your program, look at the sources of stress in your life. If the stress is temporary, such as catching a cold or having a term paper due, you may want to wait until it passes before strengthening your efforts. If the stress is ongoing, try to find healthy ways to manage it. For example, taking a half-hour walk after lunch may help. You may even want to make stress management your highest priority for behavior change (see Chapter 2).

Games People Play Procrastinating, rationalizing, and blaming; even when they want to change, people hold on



A beautiful day and a spectacular setting contribute to making exercise a satisfying and pleasurable experience. Choosing the right activity and doing it the right way are important elements in a successful health behavior change program.

fiercely to what they know and love (or know and hate). You may have very mixed feelings about the change you're trying to make, and your underlying motives may sabotage your conscious ones if you keep them hidden from yourself. Try to detect the games you might be playing with yourself so that you can stop them.

If you're procrastinating ("It's Friday already; I might as well wait until Monday to begin"), try breaking your plan down into still smaller steps that you can accomplish one day at a time. If you're rationalizing or making excuses ("I wanted to go swimming today, but I wouldn't have had time to wash my hair afterward"), remember that the only one you're fooling is yourself, and that when you "win" by deceiving yourself, it's not much of a victory. If you're wasting time blaming yourself or others ("Everyone in that class talks so much that I don't get a chance to speak"), recognize that blaming is a way of taking your focus off the real problem and denying responsibility for your actions. Try refocusing by taking a positive attitude and renewing your determination to succeed.

COMMUNICATE! How do others see your future? Ask a couple of close friends how they see you 5, 10, and 20 years from now. Which of their predictions do you like? For instance, do they see you as happy, healthy, successful? Which predictions do you hope won't come true? What can you do now to control these outcomes?

BEING HEALTHY FOR LIFE

Your first few behavior change projects may never go beyond the planning stage. Those that do may not all succeed. But as you taste success by beginning to see progress and changes, you'll start to experience new and surprising positive feelings about yourself. You'll probably find that you're less likely to buckle under stress. You may accomplish things you never thought possible—winning a race, climbing a mountain, quitting smoking. Being healthy takes extra effort, but the paybacks in energy and vitality are priceless.

Once you've started, don't stop. Remember that maintaining good health is an ongoing process. Tackle one area at a time, but make a careful inventory of your health strengths and weaknesses and lay out a long-range plan. Take on the easier problems first, and then use what you have learned to attack more difficult areas. Keep informed about the latest health news and trends; research is constantly providing new information that directly affects daily choices and habits.

Making Changes in Your World

You can't completely control every aspect of your health. At least three other factors—heredity, health care, and environment—play important roles in your well-being. After you quit smoking, for example, you may still be inhaling smoke from other people's cigarettes. Your resolve to eat better foods may suffer a setback when you can't find any healthy choices in vending machines.

But you can make a difference—you can help create an environment around you that supports wellness for everyone. You can help support nonsmoking areas in public places. You can speak up in favor of more nutritious foods and better physical fitness facilities. You can include nonalcoholic drinks at your parties.

You can also work on larger environmental challenges: air and water pollution, traffic congestion, overcrowding and overpopulation, depletion of the atmosphere's ozone layer, toxic and nuclear waste, and many others. These difficult issues need the attention and energy of people who are informed and who care about good health. On every level, from personal to planetary, we can all take an active role in shaping our environment.

What Does the Future Hold?

Sweeping changes in lifestyle have resulted in healthier Americans in recent years and could have even greater effects in the years to come. In your lifetime, you can choose to take an active role in the movement toward increased awareness, greater individual responsibility and control, healthier lifestyles, and a healthier planet. Your choices and actions will have a tremendous impact on your present and future wellness. The door is open, and the time is now—you simply have to begin.



This retiree spends leisure time hiking and climbing mountains. If you want to enjoy vigor and health in *your* middle and old age, begin now to make the choices that will give you lifelong vitality.

Tips for Today

You are in charge of your health! Many of the decisions you make every day have an impact on the quality of your life, both now and in the future. By making positive choices, large and small, you help ensure a lifetime of wellness.

Right now you can

- Go for a 15-minute walk.
- Have an orange, a nectarine, or a plum for a snack.
- Call a friend and arrange a time to catch up with each other.
- Start thinking about whether you have a health behavior you'd like to change. If you do, consider the elements of a behavior change strategy. For example,
 - Begin a mental list of the pros and cons of the behavior.
 - Think of one or two rewards that will be meaningful to you as you reach interim goals.
 - Think of someone who will support you in your attempts to make a behavior change—either someone who might want to make the same change you're contemplating or someone you can trust to provide you with encouragement. Talk to that person about your plan, get his or her feedback, and ask for his or her support.

SUMMARY

- Wellness is the ability to live life fully, with vitality and meaning. Wellness is dynamic and multidimensional; it incorporates physical, emotional, intellectual, spiritual, interpersonal and social, and environmental dimensions.
- As chronic diseases have become the leading cause

of death in the United States, people have recognized that they have greater control over, and greater responsibility for, their health than ever before.

- The Healthy People initiative seeks to achieve a better quality of life for all Americans. The broad goals of the *Healthy People 2010* report are to increase quality and years of healthy life and to eliminate health disparities among Americans.
- Health-related differences among people that have implications for wellness can be described in the context of gender, ethnicity, income and education, disability, geographic location, and sexual orientation.
- Although heredity, environment, and health care all play roles in wellness and disease, behavior can mitigate their effects.
- Behaviors and habits that reinforce wellness include (1) taking an active, responsible role in your health; (2) managing stress; (3) maintaining self-esteem and good interpersonal relationships; (4) understanding sexuality and having satisfying intimate relationships; (5) avoiding tobacco and other drugs and restricting alcohol intake; (6) eating well, exercising, and maintaining healthy weight; (7) knowing about diseases and injuries and protecting yourself against them; (8) understanding and wisely using the health care system; (9) knowing when to seek treatment for an illness; (10) understanding and accepting the processes of aging and dying; and (11) understanding how the environment affects your health and working to improve the environment.
- To make lifestyle changes, you need information about yourself, your health habits, and resources available to help you change.
- You can increase your motivation for behavior change by examining the benefits and costs of change, boosting self-efficacy, and identifying and overcoming key barriers to change.
- The stages of change model describes six stages that people move through as they try to change their behavior: precontemplation, contemplation, preparation, action, maintenance, and termination.
- A specific plan for change can be developed by (1) monitoring behavior by keeping a journal, (2) analyzing the recorded data, (3) setting specific goals, (4) devising strategies for modifying the environment, rewarding yourself, and involving others, and (5) making a personal contract.
- To start and maintain a behavior change program you need commitment, a well-developed plan, social support, and a system of rewards.
- Although we cannot control every aspect of our health, we can make a difference in helping create an environment that supports wellness for everyone.

TAKE ACTION

1. Ask some older members of your family (parents and grandparents) what they recall about patterns of health and disease when they were young. Do they remember any large outbreaks of infectious disease? Did any of their friends or relatives die while very young or die of a disease that can now be treated? How have health concerns changed during their lifetime?

2. Choose a person you consider a role model, and interview him or her. What do you admire about this person? What can you borrow from his or her experiences and strategies for success?

Wwv JOURNAL ENTRY

1. Purchase a small notebook to use as your health journal throughout this course. At the end of each chapter, we include suggestions for journal entries—opportunities to think about topics and issues, explore and formulate your own views, and express your thoughts in written form. These exercises are intended to help you deepen your understanding of health topics and your own behaviors in relation to them. For your first journal entry, make a list of the positive behaviors that enhance your health (such as jogging and getting enough sleep). Consider what additions you can make to the list or how you can strengthen or reinforce these behaviors. (Don't forget to congratulate yourself for these positive aspects of your life.) Next, list the behaviors that detract from wellness (such as smoking and eating a lot of candy). Consider which of these behaviors you might be able to change. Use these lists as the basis for self-evaluation as you proceed through this book.

2. Think of the last time you did something you knew to be unhealthy primarily because those around you were doing it. How could you have restructured the

situation or changed the environmental cues so that you could have avoided the behavior? In your health journal, describe several possible actions that will help you avoid the behavior the next time you're in a similar situation.

3. Make a list in your health journal of rewards that are meaningful to you. Add to the list as you think of new things to use. Refer to this list of rewards when you're developing plans for behavior change.

4. Critical Thinking In this book, several Journal Entry items are designed to help you sharpen your critical thinking skills. For your first Critical Thinking journal entry, write a short essay describing your sources of health information. Do you rely on newspaper or magazine articles? On television? On a particular Web site? On friends and family? What criteria do you use to evaluate this information, to assess its credibility, and to make decisions about your health?

FOR MORE INFORMATION

Books

Columbia University's Health Education Program. 1998. *The "Go Ask Alice" Book of Answers*. New York: Henry Holt. Presents answers to a variety of student-oriented health questions from the popular "Go Ask Alice" Web site.

Prochaska, J. O., J. C. Norcross, and C. C. DiClemente. 1994. *Changing for Good: The Revolutionary Program That Explains the Six Stages of Change and Teaches You How to Free Yourself from Bad Habits*. New York: Morrow. Outlines the authors' model of behavior change and offers suggestions and advice for each stage of change.

Ridley, M. 2000. *Genome: The Autobiography of a Species in 23 Chapters*. New York: HarperCollins. Describes the findings from the Human Genome Project and their implications for individuals and society as a whole.

Swartzberg, J. E., and S. Margen. 2001. *The Complete Home Wellness Handbook*. New York: Rebus. Provides information and strategies for promoting health and well-being throughout the life span.

Newsletters

Consumer Reports on Health (800-234-2188; <http://www.ConsumerReports.org>)

Harvard Health Letter (800-829-9045; <http://www.health.harvard.edu/newsletters>)

Harvard Men's Health Watch (800-829-3341)

Harvard Women's Health Watch (800-829-5921)

HealthNews (800-848-9155)

Mayo Clinic Health Letter (800-333-9037)

University of California at Berkeley Wellness Letter (904-445-6414; <http://www.wellnessletter.com>)

Wwv Organizations, Hotlines, and Web Sites

The Internet addresses (also called uniform resource locators, or URLs) listed here were accurate at the time of publication. Up-to-date links to these and many other wellness-oriented Web sites are provided on the links page of the *Core Concepts in Health* Web site (<http://www.mhhe.com/inse19>). Refer to Appendix C for tips on how to search for and evaluate information from the Internet.

Centers for Disease Control and Prevention. Through phone, fax, and the Internet, the CDC provides a wide variety of health information.

404-332-4555 (CDC Infoline); 888-CDC-FAXX (CDC FAX)
<http://www.cdc.gov>

Many other government Web sites provide access to health-related materials:

Agency for Healthcare Research and Quality: <http://www.ahrq.gov/consumer>

National Institutes of Health: <http://www.nih.gov>

National Library of Medicine, MedlinePlus: <http://www.nlm.nih.gov/medlineplus>

U.S. Consumer Gateway—Health: <http://www.consumer.gov/health.htm>

Go Ask Alice. Sponsored by the Columbia University Health Service, this site provides answers to student questions about stress, sexuality, fitness, and many other wellness topics.

<http://www.goaskalice.columbia.edu>

Healthfinder. A gateway to online publications, Web sites, support and self-help groups, and agencies and organizations that produce reliable health information.

<http://www.healthfinder.gov>

Healthy People 2010. Provides information on Healthy People objectives and priority areas.

202-205-8583; 301-468-5960

<http://web.health.gov/healthypeople>

National Health Information Center (NHIC). Puts consumers in touch with the organizations that are best able to provide answers to health-related questions.

800-336-4797

<http://nhic-nt.health.org>

National Women's Health Information Center. Provides information and answers to frequently asked questions.

800-994-WOMAN

<http://www.4woman.org>

NOAH: New York Online Access to Health. Provides consumer health information in both English and Spanish.

<http://www.noah-health.org>

The following are just a few of the many sites that provide consumer-oriented information on a variety of health issues:

InteliHealth: <http://www.intelihealth.com>

Mayo Health Oasis: <http://www.mayohealth.org>

Medscape Healthwatch: <http://healthwatch.medscape.com>

OnHealth: <http://www.onhealth.com>

WebMD: <http://webmd.com>

The following sites provide daily health news updates:

HealthScout: <http://www.healthscout.com>

Yahoo Health News: <http://dailynews.yahoo.com/h/hl>

Your Health Daily: <http://www.yourhealthdaily.com>

See also the listings in Appendix C.

SELECTED BIBLIOGRAPHY

American Cancer Society. 2001. *Cancer Facts and Figures—2001*. Atlanta: American Cancer Society.

American Heart Association. 2001. *2001 Heart and Stroke Statistical Update*. Dallas: American Heart Association.

Baker, C. 1999. *Your Genes, Your Choices: Exploring the Issues Raised by Genetic Research*. Washington, D.C.: American Association for the Advancement of Science.

Centers for Disease Control and Prevention. 1999. Achievements in public health, 1900–1999: Tobacco use, United States. *Morbidity and Mortality Weekly Report* 48(43): 986–993.

Centers for Disease Control and Prevention. 1999. Ten great public health achievements—United States, 1900–1999. *Morbidity and Mortality Weekly Report* 48(50): 1141.

Centers for Disease Control and Prevention. 2000. State- and sex-specific prevalence of selected characteristics—Behavioral Risk Factor Surveillance System. *MMWR Surveillance Summaries* 49(SS-6).

Centers for Disease Control and Prevention, Division of Nutrition and Physical Activity. 1999. *Promoting Physical Activity: A Guide for Community Action*. Champaign, Ill.: Human Kinetics.

Collins, F.S., and V. A. McKusick. 2001. Implications of the Human Genome Project for medical science. *Journal of the American Medical Association* 285(5): 540–544.

Cubbin, C., F. B. LeClere, and G. S. Smith. 2000. Socioeconomic status and the occurrence of fatal and nonfatal injury in the United States. *American Journal of Public Health* 90(1): 70–77.

Glanz, K., F. M. Lewis, and B. K. Rimer, eds. 1997. *Health Behavior and Health Education: Theory, Research, and Practice*, 2nd ed. San Francisco: Jossey-Bass.

Holtzman, N. A., and T. M. Marteau. 2000. Will genetics revolutionize medicine? *New England Journal of Medicine* 343(2): 141–144.

Martin, G., and J. Pear. 1999. *Behaviour Modification: What It Is and How to Do It*, 6th ed. Upper Saddle River, N.J.: Prentice-Hall.

Nathan, D. G., P. B. Fontanarosa, and J. D. Wilson. 2001. Opportunities for medical research in the 21st century. *Journal of the American Medical Association* 285(5): 533–534.

National Center for Health Statistics. 2000. *Health, United States, 2000, with Adolescent Health Chartbook*. Hyattsville, Md.: National Center for Health Statistics.

Office of Hawaiian Affairs. 1998. *Native Hawaiian Databook 1998* (<http://oha.org/databook>; retrieved July 21, 2000).

Pink slip in your genes. 2001. *Scientific American*, January.

Schank, M. J. 1999. Self-health appraisal: Learning the difficulties of lifestyle change. *Journal of Nursing Education* 38(1): 10–12.

Schlicht, J., J. Godin, and D. C. Camaione. 1999. How to help your clients stick with an exercise program: Build self-efficacy to promote exercise adherence. *ACSM's Health and Fitness Journal* 3(6): 27–31.

U.S. Bureau of the Census. 1999. *Poverty 1998* (<http://www.census.gov/hhes/poverty/poverty98/pv98est1.html>; retrieved August 1, 2000).

U. S. Bureau of the Census. 2001. *Census 2000 Brief: Overview of Race and Hispanic Origin*. Washington, D.C.: U.S. Bureau of the Census.

U.S. Department of Health and Human Services. 1999. *Eliminating Racial and Ethnic Disparities in Health* (<http://raceandhealth.hhs.gov/sidebars/sbinitOver.htm>; retrieved July 31, 2000).

U.S. Department of Health and Human Services. 2000. *Healthy People 2010*. 2nd ed. Washington, D.C.: DHHS.

U.S. Department of Health and Human Services, Office of Minority Health. 1998. *Asian Americans and Pacific Islanders: Executive Overview* (<http://www.omhrc.gov/overview2.htm>; retrieved July 31, 2000).

Zimmerman, G. L., C. G. Olsen, and M. F. Bosworth. 2000. A “stages of change” approach to helping patients change behavior. *American Family Physician* 61(5): 1409–1416.