

# An Invitation to Health

————— *Taking Charge of Your Health* —————

Dianne Hales



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## Taking Charge of Your Health

Dianne Hales

19th Edition



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Australia • Brazil • Mexico • Singapore • United Kingdom • United States

***An Invitation to Health: Taking Charge  
of Your Health, 19th Edition***  
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# Preface

Any college course may expand knowledge, broaden perspective, and deepen understanding in some way. Personal health and wellness courses do even more than that: They can change a life and shape a future.

Other courses cover subjects that range from anthropology to mathematics to zoology. But health and wellness are not topics that instructors simply “teach” and undergraduates merely “study.” They are essential parts of living every day to the fullest and creating the foundation for a fulfilling future. This is why we chose “Taking Charge of Your Health” as the theme for this edition of *Invitation to Health*.

Every chapter not only presents the latest medical knowledge and health information, but goes beyond the facts to provide step-by-step guidance on how students can incorporate what they are learning into how they are living. The lessons learned in health and wellness courses, as research has confirmed, can influence choices and habits that have a lifelong impact.

Today’s students are more diverse than ever before. A growing percentage are older than the traditional ages of undergraduates. Many have a wide range of life experiences, such as full-time employment and military service. Although the specific circumstances of their day-to-day lives may vary greatly, students in health and wellness courses share a commitment to realizing their full potential.

If you are a student, this course is our invitation to live what you learn and to make the most of your health—now and in the future. By using *An Invitation to Health: Taking Charge of Your Health* as an owner’s manual for your body and mind, you can acquire a special type of power—the power to make good decisions, to assume responsibility, and to create and follow a healthy lifestyle. If you are an instructor, I look forward to working with you as you explore the dimensions of health and how they relate to your students’ daily lives. I welcome feedback from any and all of you at [www.cengage.com/health](http://www.cengage.com/health).

Stay well,  
Dianne Hales

## What’s New in *An Invitation to Health: Taking Charge of Your Health*

As in previous editions, this *Invitation* presents up-to-date, concise, research-based coverage of all the dimensions of health. It also continues to define health in the broadest sense of the word—not as a self-contained entity, but as an integrated process for discovering, using, and protecting all possible resources within the individual, family, community, and environment.

Every chapter begins by engaging students with a **What Do You Think?** feature, with four questions that stimulate students to evaluate what they already know—or think they know—about a subject. We ask the same questions under the heading of **What Did You Decide?** at the end of each chapter to see whether and how the material they’ve studied may have changed students’ perspective, and we follow those questions with a **Reflection** that invites students to adopt healthier habits based on the reading.

Every chapter includes updated statistics, research findings, and guidelines on topics such as nutrition, physical activity, and

immunizations. An interactive feature, **Snapshot: On Campus Now**, showcases the latest research on student behavior, including sleep habits, stress levels, and safe sex practices. **Health Now!** presents practical, ready-to-use tips related to real-life issues such as making healthier fast-food choices, protecting yourself from infection, and recognizing substance abuse. **Consumer Alert** explores subjects such as dubious diets, fitness monitors, and e-cigarettes.

Each of the 20 chapters, reordered in response to reviewers’ suggestions, concludes with **Taking Charge of Your Health**, a checklist that students can use to assess their current status as well as work toward specific goals, whether by getting in better shape, taking charge of their alcohol intake, or caring for Mother Earth.

Because health is an ever-evolving field, this edition includes many new, expanded, and updated topics, as detailed in the following chapter-by-chapter summaries.

### Chapter 1: Taking Charge of Your Health

Updated statistics on health in America; updated statistics on college students’ health; new research on older students and health-care issues related to age, race, gender, and living arrangements; a new section, “Informing Yourself,” includes guidance on evaluating online health information, evidence-based medicine, outcomes research, and practice guidelines.

### Chapter 2: Psychological and Spiritual Well-Being

Latest findings from the science of subjective well-being; expanded coverage of student self-care; review of research on the benefits and components of happiness; impact of growing up in a religious family; science linking gratitude and health; insomnia’s effects on quality of life; sleep health on college campuses.

### Chapter 3: Caring for Your Mind

Latest research and statistics on student mental health; mental health disparities among college students of color; mental health issues for LGBTQIA students; mental health issues for athletes and veterans; impact of depression on health; depression, anxiety, and attention disorders on campus; suicidal thoughts and behaviors among students; campus counseling after student deaths.

### Chapter 4: Stress Management

Updated statistics on student stress from the ACHA-National College Health Assessment; latest findings from the American Psychological Association’s Stress in America survey; new section, “Managing Your Money,” includes behavioral strategies such as organizing financial files, making a budget, frugal living, banking basics, avoiding debit and credit card stress, and digital financial management; expanded coverage of stress for specific student groups, including first-generation students, minority students, student athletes, and military veterans; updated research on student vulnerability to stress and coping techniques such as mindfulness.

### Chapter 5: Personal Nutrition

Recommendations for most recent dietary guidelines; updated research on college students’ food choices and diets; comprehensive review of research on the benefits of fiber; new findings on vitamin D, fish oil supplements, and calcium; gluten-free diets; latest research on the health benefits of the Mediterranean diet; coverage of “food insecurity” on campus; impact of sugar-sweetened

beverages; update on nutrition labels; recent findings on benefits of organic food; update on use of dietary supplements.

## Chapter 6: Weight Management and the Obesity Epidemic

New section and focus on the obesity epidemic; most recent statistics on overweight and obesity in the United States; updated research on the causes of obesity; updated statistics on college students' weights; new section on body composition; new research on the efficacy of various diets; latest findings on non-sugar sweeteners; coverage of ethnic differences in eating disorders among young women.

## Chapter 7: Physical Activity and Fitness

New section on the dangers of inactivity and excess sitting; findings on "screen time" and physical activity in college students; updated statistics on exercise on campus; updated, expanded coverage of the recently revised federal Physical Activity Guidelines; official definitions of types of recommended exercises; updates on latest research on the benefits of various levels of physical activity and exercise; comparison of benefits of aerobic, resistance, and combination training; new findings on the health benefits of resistance and strength training; new coverage of the "extreme exercise hypothesis"; new research on the impact of exercise on the brain, including mood, symptoms of depression and anxiety, and cognitive functioning at different ages; new section on smartwatches as fitness trackers; update on performance-enhancing supplements; update on nutrition for athletes.

## Chapter 8: Communicating and Connecting

New chapter, "Communicating and Connecting"; includes updated statistics on student loneliness, shyness, and social anxiety; new research on the digital life of college students; positive and negative impact of Facebook and social networks; new section, "Digital Dating"; cyberbullying on college campuses; impact of problematic Internet/smartphone use on college students; how falling in love affects the immune system; intimate partner violence and depression; impact of parental divorce on college students; need for financial aid and child care for students with young children.

## Chapter 9: Sexual Health

Updated statistics on the sex lives of college students; new and expanded section, "The Gender Spectrum," includes latest on LGBTQIA community; new section, "Sex on Campus," includes latest on hooking up (prevalence, pros, cons) and friends with benefits; latest research on treatments for premenstrual syndrome; new research on benefits of circumcision; new research on prevalence and treatment of erectile dysfunction in young men.

## Chapter 10: Reproductive Options

New statistics on contraception on campus; update on Affordable Care Act coverage of birth control and related state legislations; latest CDC report on contraception in the United States; updates on risks and benefits of contraceptives; expanded coverage of LARCs; new section, "Digital Birth Control" (fertility awareness apps); new section on fertility issues for transgender individuals; update on state restrictions on abortions.

## Chapter 11: Sexually Transmitted Infections

Latest statistics on STI incidence globally and nationally; newest recommendations for screening for STIs; updated section, "STIs on Campus"; updated coverage of HPV, including vaccinations and outcomes; updated coverage of herpes, chlamydia, gonorrhea and syphilis; extensively revised and updated sections on HIV/AIDS, including latest statistics, stages of infection, and advances such as PrEP and PEP.

## Chapter 12: Major Diseases

Updated statistics on major diseases; updated statistics on college students diagnosed with various diseases; importance of physical activity for cardiometabolic health of young people; latest research on enhancing cardiometabolic health; newly recognized risk factors for cardiometabolic diseases; new guidelines on high blood pressure diagnosis and treatment; latest findings on the impact of supplements, blood fats, and active and passive smoking on cardiovascular health; updated statistics on cancer in America, including cancer rates, survival, and deaths; new coverage of male breast cancer; latest findings on skin cancer risks and prevention; asthma update.

## Chapter 13: Infectious Diseases

Updated statistics on infectious diseases in America; updated data on vaccinations of college students; latest recommendation for immunizations of various age groups and for adults in general; updated discussion of autoimmune disorders; coverage of controversy over vaccinating children; updated statistics on influenza; latest findings and recommendations on meningitis vaccinations; latest findings and recommendations for hepatitis A, B and C; updates on the Zika virus and Lyme disease.

## Chapter 14: Consumer Health

The most recent available status of the Affordable Care Act; controversial provisions in the ACA; the boom in mHealth apps and devices; research on benefits of mHealth for consumers and patients; increase in cosmetic surgery among young adults and minorities; growth of interest in and use of CAM; risks and cautions related to yoga.

## Chapter 15: Addictive Behaviors and Drugs

New section, "The Opioid Epidemic"; updated statistics on drug use on campus; trends in drug use in America; caffeine and health; impact of medical marijuana legalization; new research on gambling disorders; new section on CBD; update on treatment options for drug addiction.

## Chapter 16: Alcohol

Updated statistics on alcohol in America; newest data on drinking in college; impact of social norms on student drinking; drinking behavior through the college years; social anxiety as a motive for student drinking; secondhand dangers of alcohol for students; long-term impact of college drinking after graduation; alcohol and cardiovascular health; alcohol's impact on women.

## Chapter 17: Tobacco

Latest statistics on smoking in America; update on smoking on campus; new section, "E-Cigarettes and Vaping"; dangers of electronic cigarette smoke; patterns of e-cigarette use; vaping and use of illicit drugs; college students' beliefs about e-cigarettes; updates on hookah use; cigar smoking prevalence; medications for quitting smoking.

## Chapter 18: Personal Safety

Updates on statistics on motor vehicle accidents and safety; new data on drowsy driving; effect of texting-while-driving bans on emergency department visits; preventing musculoskeletal disorders in the workplace; impact of sit-stand stations on activity and health; mobile phone use and neck pain; expanded section on gun violence; updated statistics on campus shootings; impact of concealed carry laws on campus crime; updated data on intimate partner and sexual violence; updated section on sexual victimization and violence; cyberbullying research; revised definition of sexual harassment; sexual violence on campus; revictimization of college student sexual violence survivors; risk factors for sexual violence in dating

relationships; campus sexual violence statistics; new coverage of changing the college sexual culture and #MeToo; college services for sexual assault survivors.

## Chapter 19: A Healthier Environment

New **Snapshot: On Campus Now: How Students View Climate Change**; updated sections on climate change and global warming; updated coverage of health risks of climate change; updated coverage of air pollution; health risks of outdoor exercise in polluted air; new section, “Green Space”; updated coverage of household air pollution and its impact on health; environmental tobacco smoke and cardiovascular disease; heavy metal and nanoplastic contamination; health risks of mobile phone use; updated coverage of hearing loss.

## Chapter 20: A Lifetime of Health

Updated statistics on longevity and life expectancy; fatal drug overdoses as an increasing cause of death in young adults; increase in suicides among the young; functional impairment and decline in middle age; impact of healthy behaviors on life expectancy; benefits of high-intensity exercise for older adults; anxiety and depression in perimenopause; treatments for menopause symptoms; changes in immunity over time; cognitive training for the aging brain; preventing/treating frailty in the elderly; factors influencing cognitive decline and Alzheimer’s disease; calcium supplements for bone health; low-dose and transdermal hormone therapy for osteoporosis; where people die; new **Snapshot** data on **Dying Young: Leading Causes of Death**.

## Supplemental Resources

### MindTap for *An Invitation to Health: Taking Charge of Your Health*

MindTap is an outcomes-driven application that propels students from memorization to mastery. MindTap is the platform that gives you complete control of your course—to craft unique learning experiences that challenge students, build confidence, and elevate performance. [cengage.com/mindtap](http://cengage.com/mindtap)

### Cengage Unlimited

Cengage Unlimited saved students over \$60 million in its first year. One subscription includes access to every Cengage online textbook and platform, along with study tools and resources that help students explore careers and gain the skills employers want. [cengage.com/unlimited/instructor](http://cengage.com/unlimited/instructor)

### Diet & Wellness Plus

Diet & Wellness Plus helps you understand how nutrition relates to your personal health goals. Track your diet and activity, generate reports, and analyze the nutritional value of the food you eat. Diet & Wellness Plus includes over 82,000 foods as well as custom food and recipe features. The Behavior Change Planner helps you identify risks in your life and guides you through the key steps to make positive changes. Diet & Wellness Plus can also be accessed from the app dock in MindTap.

### Instructor Companion Site

Everything you need for your course in one place! This collection of book-specific lecture and class tools is available online via [www.cengage.com/login](http://www.cengage.com/login). Access and download PowerPoint presentations, images, an instructor’s manual, and more.

## Cengage Learning Testing Powered by Cognero

This flexible online system allows the instructor to edit and manage test bank content from multiple Cengage Learning solutions; create multiple test versions in an instant; and deliver tests from an LMS, a classroom, or wherever the instructor wants.

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Dianne Hales is a widely published and esteemed journalist and author. In addition to more than 30 editions of college textbooks related to health, she is the author of 16 trade books, including *La Passione: How Italy Seduced the World*; *Mona Lisa: A Life Discovered*; *La Bella Lingua*; *Just Like a Woman*; and *Caring for the Mind*. Her books have been translated into many languages, including Chinese, Japanese, Italian, French, Spanish, Portuguese, German, Dutch, Swedish, Danish, and Korean.

Hales is a former contributing editor for *Parade*, *Ladies' Home Journal*, *Working Mother*, and *American Health*, and she has written more than 1,000 articles for national publications. She has received writing awards from the American Psychiatric Association and the American Psychological Association; an EMMA (Exceptional Media Merit Award) for health reporting from the National Women's Political Caucus and Radcliffe College; three EDI (Equality, Dignity, Inclusion) awards for print journalism from the National Easter Seal Society; the National Mature Media Award; and awards from the Arthritis Foundation, California Psychiatric Association, CHADD (Children and Adults with Attention-Deficit/Hyperactivity Disorder), Council for the Advancement of Scientific Education, and New York Public Library.



Julia Hales





# An Invitation to Health



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## LEARNING OBJECTIVES

After reading this chapter, you should be able to:

- |   |   |
|---|---|
| 1.1 Define health and wellness.                                       | 1.7 Evaluate health information for accuracy and reliability.                 |
| 1.2 Outline the dimensions of health.                                 | 1.8 Explain the influences on behavior that support or impede healthy change. |
| 1.3 Assess the current health status of Americans.                    | 1.9 Identify the stages of change.  |
| 1.4 Discuss health disparities based on gender and race.              |   |
| 1.5 Evaluate the health behaviors of undergraduates.                  |   |
| 1.6 Describe the impact of habits formed in college on future health. |   |

## WHAT DO YOU THINK?

- |   |   |
|---|---|
| <ul style="list-style-type: none"><li>• What does “health” mean to you?</li><li>• How healthy are today’s college students?</li></ul> | <ul style="list-style-type: none"><li>• Is online health information generally accurate?</li><li>• Can people successfully change their health behaviors?</li></ul> |
|---|---|

# 1

## Taking Charge of Your Health

**K**eisha always thought of health as something you worry about when you get older. Then her twin brother developed a health problem she'd never heard of: prediabetes (discussed in Chapter 12), which increased his risk of diabetes and heart disease. At a health fair on campus, she found out that her blood pressure was higher than normal. She also learned that young adults with high blood pressure could be at greater risk of heart problems in the future.<sup>1</sup>

"Maybe I'm not too young to start thinking about my health," Keisha concluded. Neither are you, whether you're a traditional-age college student or, like an ever-increasing number of undergraduates, years older.

**An Invitation to Health** is both **about** and **for** you; it asks you to go beyond thinking about your health to taking charge and making healthy choices for yourself and your future. This book includes material on your mind and your body, your spirit and your social ties, your needs and your wants, your past and your potential. It will help you explore options, discover possibilities, and find new ways to make your life worthwhile.

What you learn from this book and in this course depends on you. You have more control over your life and well-being than anything or anyone else does. Through the decisions you make and the habits you develop, you can take charge of your health and influence how well—and how long—you will live.

Simple changes in your lifestyle can add more than a decade to your life expectancy—and enhance your well-being through all the years of your life.<sup>2</sup>

The time to start is **now**. Every day, you make choices that have short- and long-term consequences for your health. Eat a high-fat meal, and your blood chemistry changes. Spend a few hours slumped in front of the television, and your metabolism slows. Chug a high-caffeine energy drink, and your heart races. Have yet another beer, and your reflexes slow. Text while driving, and you may weave into another lane. Don't bother with a condom, and your risk of sexually transmitted infection (STI) skyrockets.

Sometimes making the best choices demands making healthy changes in your life. This chapter shows you how—and how to live more fully, more happily, and more healthfully. This is an offer that you literally cannot afford to refuse. Your life may depend on it—starting now. <



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# Health and Wellness

By simplest definition, **health** means being sound in body, mind, and spirit. The World Health Organization defines *health* as “not merely the absence of disease or infirmity” but “a state of complete physical, mental, and social well-being.” Health involves discovering, using, and protecting all the resources within your body, mind, spirit, family, community, and environment.

Health has many dimensions: physical, psychological, spiritual, social, intellectual, environmental, occupational, and financial. This book integrates these aspects into a *holistic* approach that looks at health and the individual as a whole rather than part by part.

Your own definition of health may include different elements, but chances are you and your classmates would include at least some of the following:

- A positive, optimistic outlook.
- A sense of control over stress and worries, time to relax.
- Energy and vitality, freedom from pain or serious illness.
- Supportive friends and family, and a nurturing intimate relationship with someone you love.
- A personally satisfying job or intellectual endeavor.
- A clean, healthful environment.

✓ **check-in** How would you define health?

**Wellness** can be defined as purposeful, enjoyable living or, more specifically, a deliberate lifestyle choice characterized by personal responsibility and optimal enhancement of physical, mental, and spiritual health. In the broadest sense, wellness is:

- A decision you make to move toward optimal health.
- A way of life you design to achieve your highest potential.
- A process of developing awareness that health and happiness are possible in the present.
- The integration of body, mind, and spirit.
- The belief that everything you do, think, and feel has an impact on your state of health and the health of the world.

✓ **check-in** What does wellness mean to you?

Health is the process of discovering, using, and protecting all the resources within our bodies, minds, spirits, families, communities, and environment.

**health** A state of complete well-being, including physical, psychological, spiritual, social, intellectual, and environmental dimensions.

**wellness** A deliberate lifestyle choice characterized by personal responsibility and optimal enhancement of physical, mental, and spiritual health.

## The Dimensions of Health

By learning more about the dimensions of health, you gain insight into the complex interplay of factors that determine your level of wellness. The following are the most commonly recognized dimensions of health and wellness, but some models treat emotional, cultural, or financial health as separate categories rather than aspects of psychological, social, or occupational health.

✓ **check-in** What do you consider the most important or relevant dimensions of health?

**Physical Health** The 1913 *Webster's Dictionary* defined *health* as “the state of being hale, sound, or whole, in body, mind, or soul, especially the state of being free from physical disease or pain.” More recent texts define physical health as an optimal state of well-being, not merely the absence of disease or infirmity. Health is not a static state but a process that depends on the decisions we make and the behaviors we practice every day. To ensure optimal physical health, we must feed our bodies nutritiously, exercise them regularly, avoid harmful behaviors and substances, watch for early signs of sickness, and protect ourselves from accidents.

**Psychological Health** Like physical well-being, psychological health, discussed in Chapter 2, encompasses our emotional and mental states—that is, our feelings and our thoughts. It involves awareness and acceptance of a wide range of feelings in oneself and others, as well as the ability to express emotions, to function independently, and to cope with the challenges of daily stressors.

**Spiritual Health** Spiritually healthy individuals identify their own basic purpose in life; learn how to experience love, joy, peace, and fulfillment; and help themselves and others achieve their full potential. As they devote themselves to others' needs more than their own, their spiritual development produces a sense of greater meaning in their lives.

**Social Health** Social health refers to the ability to interact effectively with other people and the social environment, to develop satisfying interpersonal relationships, and to fulfill social roles. It involves participating in and contributing to your community, living in harmony with fellow human beings, developing positive interdependent relationships, and practicing healthy sexual behaviors. (See Chapter 8.)

**Intellectual Health** Every day, you use your mind to gather, process, and act on information; to think through your values; to make decisions; set goals; and figure out how to handle a problem or challenge. Intellectual health refers to your ability to think and learn from life experience, your openness to new ideas, and your capacity to question and evaluate information. Throughout your life, you'll use your critical thinking skills, including your ability to evaluate health information, to safeguard your well-being.

**Environmental Health** You live in a physical and social setting that can affect every aspect of your health. Environmental health refers to the impact your world has on your well-being. It involves protecting yourself from dangers in the air, water, and soil, as well as in products you use—and working to preserve the environment itself. (See Chapter 19.)

**Occupational and Financial Health** Even a part-time job can have an impact on your health. Freshmen who worked more than 10 hours a week are more likely to smoke and drink than those who aren't employed.<sup>3</sup> However, they may be gaining valuable experience in managing their time, setting priorities, and finding a healthy balance in their lives.

After graduation, you will devote much of your time and energy to your career. Ideally, you will contribute your unique talents and skills to work that is rewarding in many ways—intellectually, emotionally, creatively, and financially. College provides the opportunity for you to choose and prepare for a career that is consistent with your personal values and beliefs and to learn how to manage your money and safeguard your financial well-being.

**Community Health** Educators have expanded the traditional individualistic concept of health to include the complex interrelationships between one person's health and the health of the community and environment. This change in perspective has given rise to a new emphasis on **health promotion**, which educators define as “any planned combination of educational, political, regulatory, and organizational supports for actions and conditions of living conducive to the health of individuals, groups, or communities.”<sup>4</sup> Examples on campus include establishing smoke-free policies for all college buildings, residences, and dining areas; prohibiting tobacco advertising and sponsorship of campus social events; ensuring safety at parties; and enforcing alcohol laws and policies.



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Your choices and behaviors during your college years can influence how healthy you will be in the future.

## Health in America

.....  
✓ **check-in** Do you exercise regularly?  
.....  
Eat nutritious meals? Maintain a healthy  
weight? Avoid smoking? If you answer  
yes to all four questions, you're among the  
2.7 percent of Americans who do so.  
.....

According to a national survey of more than 4,700 people, 97.3 percent get a failing grade in healthy lifestyle habits. For the minority who do adapt these health guidelines, the payoff includes a lower risk of many health problems, including type 2 diabetes, heart disease, and cancer. Although few Americans get a perfect health-habit score, a significant number report at least one healthy habit:

- 71 percent do not smoke.
- 46 percent get sufficient amounts of physical activity.
- 38 percent eat a healthy diet.
- 10 percent have a normal body fat percentage (see Chapter 6).

Women are more likely than men to not smoke and to eat a healthy diet but less likely to have adequate physical activity levels. Mexican

**health promotion** Any planned combination of educational, political, regulatory, and organizational supports for actions and conditions of living conducive to the health of individuals, groups, or communities.

Americans are more likely to eat a healthy diet than blacks or whites.<sup>5</sup>

Life expectancy at birth in the United States has declined recently to 76.1 years in men and 81.1 years in women. The major factors contributing to the decline in life expectancy among younger Americans are unintentional injury, including fatal drug overdoses, and suicide.<sup>6</sup>

In fact, the Americans experiencing the greatest health deficits and losing the most years to illness, disability, and premature death are not the elderly but young adults. As a young American, your probability of reaching your 50th birthday is lower than in almost every other high-income nation. The main reasons for the gap in life expectancy between the United States and 12 comparable countries are motor vehicle accidents, firearm-related injuries, and drug poisonings and overdoses.<sup>7</sup>

Quality of life matters as much as quantity. Rather than focus solely on life expectancy, experts are calculating healthy life expectancy (HALE), based on years lived without disease or disability. The average HALE for Americans is considerably shorter than their life expectancy: about 68 years.<sup>8</sup>

.....  
✓ **check-in** How do you think your life expectancy and your healthy life expectancy (HALE) compare?  
.....

## Healthy People 2020

Every decade since 1980, the U.S. Department of Health and Human Services (HHS) has published a comprehensive set of national public health objectives as part of the Healthy People Initiative. The government's vision is to create a society in which all people can live long, healthy lives. Its mission includes identifying nationwide health improvement priorities, increasing public awareness of health issues, and providing measurable objectives and goals.<sup>9</sup> These include:

- Eliminate preventable disease, disability, injury, and premature death.
- Achieve health equity, eliminate disparities, and improve the health of all groups.
- Create social and physical environments that promote good health for all.
- Promote healthy development and healthy behaviors across every stage of life.

.....  
✓ **check-in** What are your personal health objectives?  
.....

## Health Disparities

Americans who are members of certain racial and ethnic groups—including African Americans, American Indians, Alaska Natives, Asian Americans, Hispanics, Latinos, and Pacific Islanders—are more likely than whites to suffer disease and disability, including major depression, poor physical health, functional limitations, and premature death. However, there has been progress in some important areas, including less racial discrepancy in infant death rates, cesarean birth rates, and smoking among women.<sup>10</sup>

Genetic variations, environmental influences, and specific health behaviors contribute to health disparities, but poverty may be a more significant factor. A much higher percentage of blacks (26 percent) than non-Hispanic whites (10 percent) live below the federal poverty level and may be unable to get needed medical treatment.<sup>11</sup> This may be changing for young Americans. The expected lifespan for those under age 20 is less affected by whether they are rich or poor now than in the past.<sup>12</sup>

If you are a member of a racial or ethnic minority, you need to educate yourself about your health risks, take responsibility for those within your control, and become a savvy, assertive consumer of health-care services. The federal Office of Minority Health and Health Disparities ([www.cdc.gov/omhd](http://www.cdc.gov/omhd)), which provides general

## YOUR STRATEGIES FOR PREVENTION

### If You Are at Risk

Certain health risks may be genetic, but behavior influences their impact. Here are specific steps you can take to protect your health:

- **Ask if you are at risk for any medical conditions or disorders based on your family history or racial or ethnic background.**
- **Find out if there are tests that could determine your risks.** Discuss the advantages and disadvantages of such testing with your doctor.
- **If you or a family member requires treatment for a chronic illness, ask your doctor whether any medications have proved particularly effective for your racial or ethnic background.**
- **If you are African American, you are significantly more likely to develop high blood pressure, diabetes, and kidney disease.** Being overweight or obese adds to the danger. The information in Chapters 6 through 8 can help you lower your risk by keeping in shape, making healthy food choices, and managing your weight.
- **Hispanics and Latinos have disproportionately high rates of respiratory problems, such as asthma, chronic obstructive lung disease, and tuberculosis.** To protect your lungs, stop smoking and avoid secondary smoke. Learn as much as you can about the factors that can trigger or worsen lung diseases.

information and the latest research and recommendations, is a good place to start.

✓ **check-in** Are you a member of a racial or ethnic minority? If so, do you think this status affects your health or health care?

**Why Race Matters** If, like many other Americans, you come from a racially mixed background, your health profile may be complex. Here are just some of the differences race makes:<sup>13</sup>

- Black Americans lose substantially more years of potential life to homicide (nine times as many), stroke (three times as many), and diabetes (three times as many) as whites.
- About 1 to 3 Hispanics has prediabetes; only about half of Hispanics with diabetes have it under control.<sup>14</sup>
- Caucasians are prone to osteoporosis (progressive weakening of bone tissue), cystic fibrosis, skin cancer, and phenylketonuria (PKU, a metabolic disorder that can lead to cognitive impairment).
- Native Americans, including those indigenous to Alaska, are more likely to die young than the population as a whole, primarily as a result of accidental injuries, cirrhosis of the liver, homicide, pneumonia, and complications of diabetes.
- The suicide rate among American Indians and Alaska Natives is 50 percent higher than the national rate. The rates of co-occurring mental illness and substance abuse (especially alcohol abuse) are also higher among Native American youth and adults.

**Cancer** Overall, black Americans are more likely to develop cancer than persons of any other racial or ethnic group.<sup>15</sup> As discussed in Chapter 12, medical scientists have debated whether the reason might be that treatments are less effective in blacks or whether many are not diagnosed early enough or treated rigorously enough.

Although blacks continue to have higher cancer death rates than whites, the disparity has narrowed for all cancers combined in men and women, and for lung and prostate cancers in men. However, the racial gap in death rates has widened for breast cancer in women and remained level for colorectal cancer in men.<sup>16</sup>

- African American women are more than twice as likely to die of cervical cancer as are white women, and are more likely to die of breast



Heredity places this Pima Indian infant at higher risk of developing diabetes, but environmental factors also play a role.

cancer than are women of any racial or ethnic group except Native Hawaiians.

- Native Hawaiian women have the highest rates of breast cancer. Women from many racial minorities, including those of Filipino, Pakistani, Mexican, and Puerto Rican descent, are more likely to be diagnosed with late-stage breast cancer than white women.
- Cancer has surpassed heart disease as the leading cause of death among Hispanics in the United States.

**Cardiovascular Disease** Heart disease and stroke are the leading causes of death for all racial and ethnic groups in the United States, but mortality rates from these diseases are higher among African American adults than among white adults. African Americans also have higher rates of high blood pressure (hypertension), develop this problem earlier in life, suffer more severe hypertension, and have higher rates of stroke.

**Diabetes** American Indians and Alaska Natives, African Americans, and Hispanics are twice as likely to be diagnosed with diabetes than non-Hispanic whites.



**Infant Mortality** African American, American Indian, and Puerto Rican infants have higher death rates than white infants.

**Mental Health** American Indians and Alaska Natives suffer disproportionately from depression and substance abuse. Minorities have less access to mental health services and are less likely to receive needed high-quality mental health services.<sup>17</sup> The prevalence of dementia varies significantly among Americans of different racial and ethnic groups, with the highest rates among blacks and American Indians/Alaskan Natives and the lowest among Asian Americans. Hispanics and whites have intermediate rates.<sup>18</sup>

**Infectious Disease** Asian Americans and Pacific Islanders have much higher rates of hepatitis B than other racial groups. Black teenagers and young adults become infected with hepatitis B three to four times more often than those who are white. Black people also have a higher incidence of hepatitis C infection than white people. Almost 80 percent of reported cases affect racial and ethnic minorities.

**HIV/AIDS** Although African Americans and Hispanics represent only about one-quarter of the U.S. population, they account for about two-thirds of adult AIDS cases and more than 80 percent of pediatric AIDS cases.<sup>19</sup>

## Sex, Gender, and Health

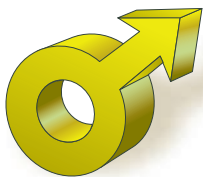
Medical scientists define sex as a classification, generally as male or female, according to the reproductive organs and functions that derive from the chromosomal complement. *Gender* refers to a person's self-representation as male or female or how social institutions respond to a person on the basis of the individual's gender presentation. Gender is rooted in biology and shaped by environment and experience.

The experience of being male or female in a particular culture and society can and does have an effect on physical and psychological well-being. In fact, sex and gender may have a greater impact than any other variable on how our bodies function, how long we live, and the symptoms, course, and treatment of the diseases that strike us (see Figure 1.1).

Here are some health differences between men and women:

- Boys are more likely to be born prematurely, to suffer birth-related injuries, and to die before their first birthdays than girls.
- Men around the world have shorter lifespans than women and higher rates of cancer, heart disease, stroke, lung disease, kidney disease, liver disease, and HIV/AIDS.<sup>20</sup> They are four times more likely to take their own lives or to be murdered than women.
- Cardiovascular disease is the leading cause of death for women in the United States, yet

### He:



- averages 12 breaths a minute
- has lower core body temperature
- has a slower heart rate
- has more oxygen-rich hemoglobin in his blood
- is more sensitive to sound
- produces twice as much saliva
- has a 10 percent larger brain
- is 10 times more likely to have attention deficit disorder
- as a teen, has an attention span of 5 minutes
- is more likely to be physically active
- is more prone to lethal diseases, including heart attacks, cancer, and liver failure
- is five times more likely to become an alcoholic
- has a life expectancy of 76 years

### She:



- averages 9 breaths a minute
- has higher core body temperature
- has a faster heart rate
- has higher levels of protective immunoglobulin in her blood
- is more sensitive to light
- takes twice as long to process food
- has more neurons in certain brain regions
- is twice as likely to have an eating disorder
- as a teen, has an attention span of 20 minutes
- is more likely to be overweight
- is more vulnerable to chronic diseases, like arthritis and autoimmune disorders, and age-related conditions like osteoporosis
- is twice as likely to develop depression
- has a life expectancy of 81 years

**FIGURE 1.1** Some of the Many Ways Men and Women Are Different

only about one-third of clinical trial subjects in cardiovascular research have been female.

- Lung cancer is the leading cause of cancer death among women, with increased rates particularly among young female nonsmokers.
- Women are 70 percent more likely than men to suffer from depression over the course of their lifetimes.

✓ **check-in** How do you think your gender affects your health?

Among the reasons that may contribute to the health and longevity gap between the sexes are the following:

- **Biological factors.** For example, women have two X chromosomes and men only one, and men and women have different levels of sex hormones (particularly testosterone and estrogen).
- **Social factors.** These include work stress, hostility levels, and social networks and supports.
- **Behavioral factors.** Men and women differ in risky behavior, aggression, violence, smoking, and substance abuse.
- **Health habits.** The sexes vary in terms of regular screenings, preventive care, and minimizing symptoms.

Sexual orientation can also affect health. LGBTQIA (lesbian, gay, bisexual, transgender, queer or questioning, intersex, and asexual) individuals are more likely to encounter health disparities linked to social stigma, discrimination, and denial of their human and civil rights.<sup>21</sup> Gender-based discrimination increases the risk of psychiatric disorders, substance abuse, and suicide. On campus, transgender students may face similar issues, as well as particular stigma over so-called “bathroom bills” that require them to use public facilities corresponding with the sex designated on their birth certificates.<sup>22</sup> The *Healthy People 2020* initiative has made improvements in LGBTQIA health one of its new goals.

## Health on Campus

As one of an estimated 19.9 million college students in the United States, you are part of a remarkably diverse group. Today’s undergraduates come from every age group and social, racial, ethnic,

economic, political, and religious background. Some 12 million are female; 9 million, male. You may have served in the military, started a family, or emigrated from another country. You might be enrolled in a two-year college, a four-year university, or a technical school. Your classrooms might be in a busy city or a small town—or they might exist solely as a virtual campus. Although the majority of undergraduates are “traditional” age (between 18 and 24 years), more of you than ever before—8 million—are over age 25.<sup>23</sup>

Today’s college students are both similar to and different from previous generations in many ways. Among the unique characteristics of current traditional-age undergraduates are the following:

- They are the first generation of “digital natives,” who’ve grown up in a wired world.
- They are the most diverse in higher education history. About 15 percent are black; an equal percentage are Hispanic.
- They are both more connected and more isolated than their predecessors, with a “tribe” of friends, family, and acquaintances in constant contact through social media but with weak interpersonal, communications, and problem-solving skills.
- More students are working, working longer hours, taking fewer credits, requiring more time to graduate, and leaving college with large student loan debts.
- They face a future in which the pace and scale of change will constantly accelerate.

✓ **check-in** A recent analysis of community college students identified four types of undergraduates: dreamers, drifters, passengers, and planners. Here is some specific advice for each type:

- If you’re a dreamer, seek guidance to fill in the details of your “big picture” goal for college.
- If you’re a drifter, focus on developing specific strategies to reach your educational goals.
- If you’re a passenger, find a mentor or advisor to help you interpret what you learn.
- If you’re a planner, look for help in applying the information you’ve gathered to your unique situation.<sup>24</sup>