ACCESS TO HEALTH

SIXTEENTH EDITION

MINDFULNESS EDITION

Rebecca J. Donatelle

BRIEF CONTENTS

Motivate students to become actively engaged in their own health

Access to Health combines scientifically valid research and the most current information to encourage healthy life choices. As a teacher, mentor, and researcher, author Rebecca J. Donatelle uses her friendly writing style to address students' concerns and motivate them to be savvy, critical consumers of health information. The **16th Edition** integrates mindfulness research, tools, and practices throughout the text; a new chapter on difference, disparity, and health equity; and now provides access to MyDietAnalysis—a diet and activity tracking tools that gives students an easy way to analyze their daily nutrient intake and physical activity—in Mastering™ Health at no extra charge.

Pearson

Help students connect what they read in their textbook . . .

MINDFULNESS AND YOU

Mindfulness as Mental Health Treatment

Imagine going to the doctor's office and being prescribed mindfulness instead of medication. This may happen in the future, as research shows that mindfulness practices have positive effects on treating mental health problems.

Millions of Americans have mental health issues, anxiety and depression being among the most common. Today, some mindfulness training, such as **mindfulness-based stress reduction (MBSR)** and **mindfulness-based cognitive therapy (MBCT)**, show promising results as therapies to treat anxiety and depression. Mindfulness therapies emphasize an acceptance of the present moment without ruminating over past events or catastrophizing over future events.

In a recent study comparing the efficacy of mindfulness-based therapy to that of the standard cognitive-based therapy for individuals with depression and anxiety, mindfulness-based therapy was determined to be as effective as traditional therapy in reducing depression and anxiety. The authors of that study concluded that mindfulness-based therapy is a viable alternative to more traditional therapies and may be less

expensive and easier to implement. It may also be very helpful for individuals who do not respond to medications.

Mindfulness practice shows lasting changes in the brain. After an 8-week MBSR course, participants showed increased gray matter volume in some parts of the brain (such as the hippocampus) and decreased gray matter volume in other areas (such as the amygdala), supporting the idea that mindfulness increases the encoding of current experiences and decreases automatic responses to immediate emotional events. Recent research indicates that health related positive benefits of mindfulness-based interventions in community settings lasts over 12 months post intervention if individuals continue to practice MBSR at least 3 times per week!

If you're interested in mindfulness-based therapy, contact your school's counseling center. Some centers have their own mindfulness group sessions; other centers can refer you to a counselor that specializes in mindfulness-based therapy.

Sources: National Institute of Mental Health, "Major Depression among Adults," Accessed April 2017, www.nimh.nih.gov/health/statistics/prevalence/major-depression-among-adults.shtml; National Institute of Mental Health, "Any Anxiety Disorder among Adults," Accessed April 2017, www.nimh.nih.gov/health/statistics/prevalence/any-anxiety-disorder-among-adults.shtml; National Institute of Mental Health, "Any Anxiety Disorder among Children," Accessed April 2017, www.nimh.nih.gov/health/statistics/prevalence/any-anxiety-disorder-among-children.shtml; J. Sundquist et al., "Mindfulness Group Therapy in Primary Care Patients with Depression, Anxiety and Stress and Adjustment Disorders: Randomised Controlled Trial," *British Journal of Psychiatry* 206, no. 2 (2015): 128–35; L. Juilliard, et.al. "Effectiveness of Mindfulness-based Stress Reduction in a Self-selecting and Self-paying community setting," *Mindfulness*, 2017, 1-11.

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NEW! Mindfulness and You boxes focus on mindfulness research and applications in relation to high interest topics such as sleep, technostress, mental health, sexual dysfunction, etc.
In addition, a mindfulness theme has been integrated throughout the text and is signaled by a new mindfulness icon.

NEW! Focus on Difference, Disparity and Health Equity chapter challenges students to think about issues of diversity and health equity, and the actions they can take as individuals and as a society to begin to remove barriers and promote access to health for all.

FOCUS ON

DIFFERENCE, DISPARITY, AND HEALTH: ACHIEVING HEALTH EQUITY

LEARNING OUTCOMES

- LO1 Define health equity and explain why it has become a critical issue in twenty-first-century America.
- LO2 Identify the populations most vulnerable to health disparities in the United States, and provide examples of health disparities recognized in these groups.
- LO3 Identify the social determinants of health that most strongly influence health disparities in the United States.
- LO4 Discuss specific actions you can take to promote health equity on campus, in your community, and in your personal life, including how to use mindfulness to examine your biases and increase your respect for difference.
- LO5 Describe the systemic changes required to enable the United States to progress toward good health for all, and provide examples of national and community-based initiatives currently underway toward achieving this goal.

WHY SHOULD I CARE?

Health disparities lead to preventable disease and premature death. They cost our economy billions of dollars annually, while depriving us of the full participation of each member of our society. In contrast, working toward health equity challenges your assumptions, hones your interpersonal skills, and generally expands your world. Importantly, moving populations toward improved health and greater opportunity ultimately benefits all of us while helping control health care costs.

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to themselves and their communities

WHY SHOULD I CARE?

Mental health problems on today's college campuses are reaching epidemic proportions, potentially outstripping the ability of campus counseling centers to effectively provide fast, essential support. Record numbers of students reporting difficulties with depression, anxiety, stress, sleep difficulties, and more serious problems such as violence and self-injury have raised significant concerns among campus leaders and counseling centers about how best to meet increasing demands. Mental health problems can affect every aspect of a person's life, including relationships, academics, career potential, and overall well-being. Stigma surrounding mental illness keeps many people from reaching out for help. Knowing the signs and symptoms of someone who is struggling (including yourself) and where to go for help is key to avoiding serious problems.

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Why Should I Care? opens each chapter and addresses the relevance of health issues to students' lives by presenting information on the effects poor health habits have on them in the here and now.

Making Changes Today boxes give students situation-specific techniques for making lasting changes to health behaviors.

MAKING **CHANGES TODAY**

Challenge the Thoughts That Sabotage Change

Are any of the following thoughts holding you back? If so, challenge them with the strategies below:

- **"I don't have enough time!"** Chart your hourly activities for 1 day. What are your highest priorities and what can you eliminate? Plan to make time for a healthy change next week.
- **"I'm too stressed!"** Assess your major stressors right now. List those you can control and those you can change or avoid. Then identify two things you enjoy that can help you reduce stress now.
- **"I'm worried about what others may think."** Ask yourself how much others influence your decisions about drinking, sex, eating habits, and the like. What is most important to you? What actions can you take to act in line with these values?
- **"I don't think I can do it."** Just because you haven't done something before doesn't mean you can't do it now. To develop some confidence, take baby steps and break tasks into small segments of time.
- **"I can't break this habit!"** Habits are difficult to break, but not impossible. What triggers your behavior? List ways you can avoid these triggers. Ask for support from friends and family.

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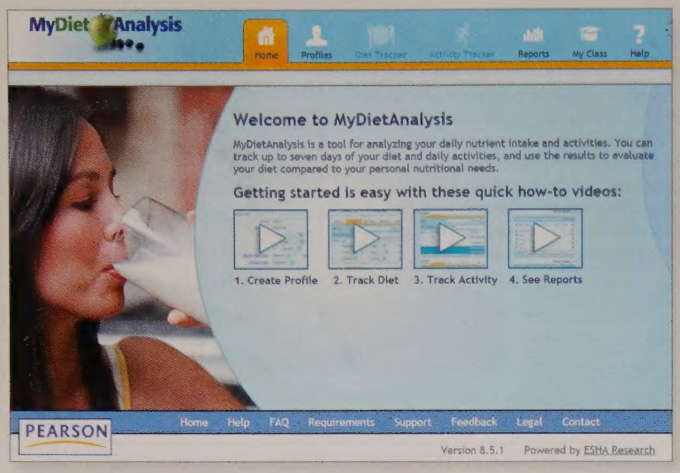
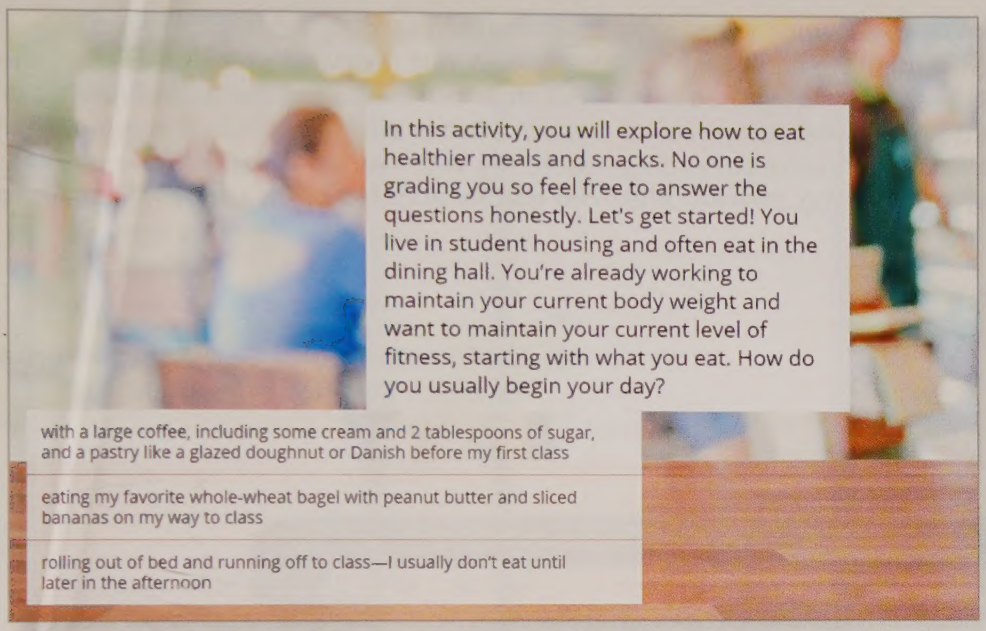
Help students make healthy eating choices . . .



NEW! MyDietAnalysis is included with Mastering Health at no additional charge, and offers an up-to-date, accurate, reliable, and easy-to-use program for your students' diet analysis needs. Featured is a database of nearly 50,000 foods and multiple reports. Students can track their diet and activity intake accurately—anytime and anywhere—from any device!

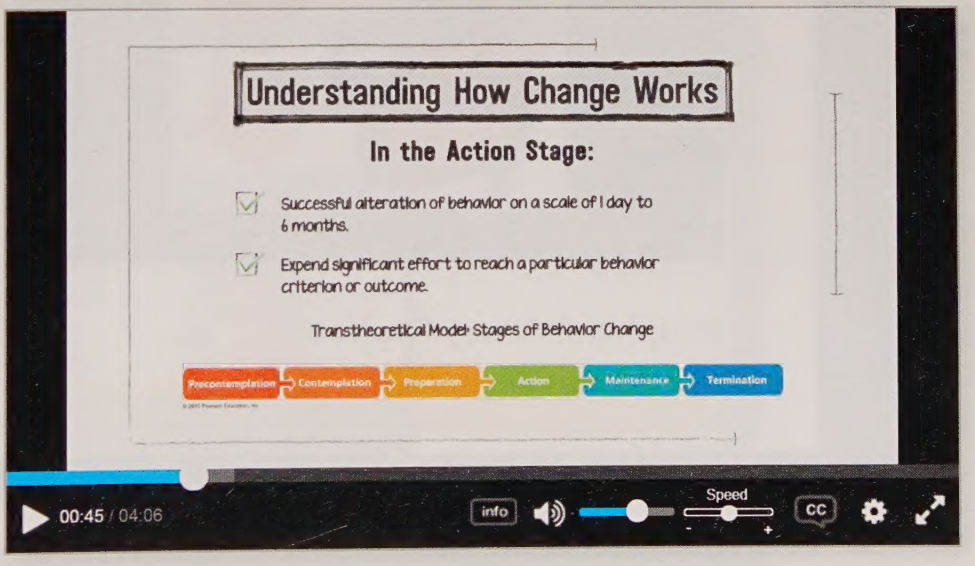
UPDATED! NutriTool Activities in the nutrition chapter allow students to combine and experiment with different food options and learn firsthand how to build healthier meals.

and encourage behavior change



Which Path Would You Take? Behavior Change Activities allow students to explore various health choices through an engaging, interactive, low-stakes, and anonymous experience. These activities show students the possible consequences of various choices they make today on their future health. They are assignable in Mastering Health with follow-up questions.

Behavior Change Videos guide students through the best tips and practices to put better decision making into action and review basic fitness concepts. These concise whiteboard-style videos help students with the steps of behavior change, covering topics such as setting SMART goals, identifying and overcoming barriers to change, planning realistic timelines, and more. All videos include assessment activities and are assignable in Mastering Health.

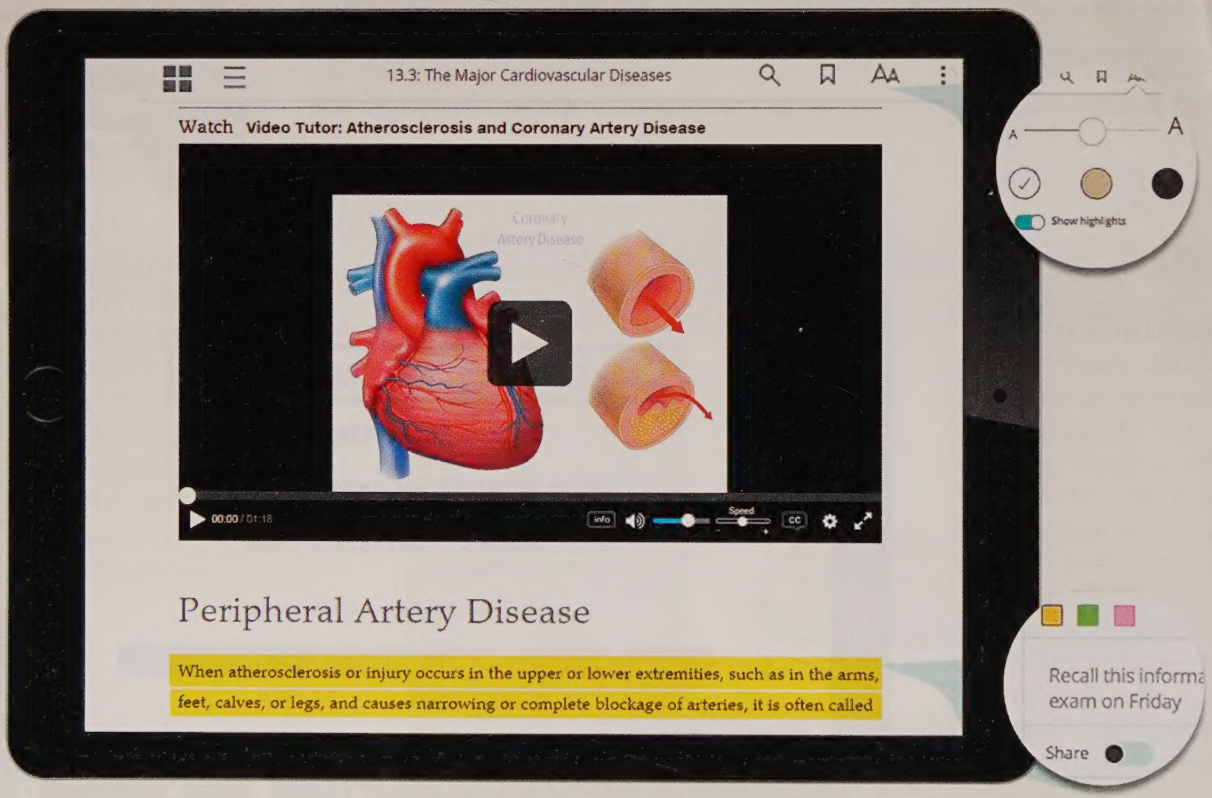


Give students anytime, anywhere access with Pearson eText

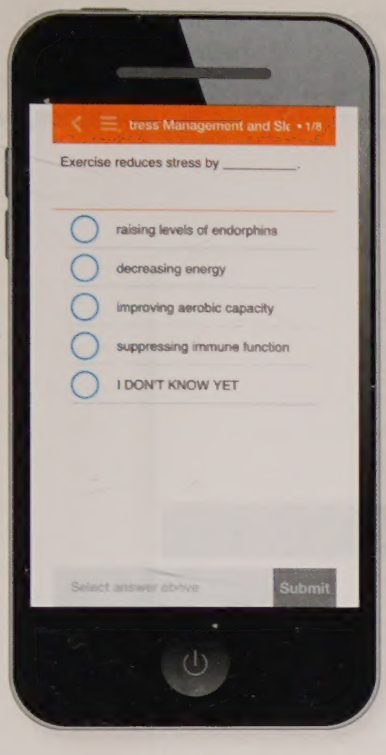
Pearson eText is a simple-to-use, mobile-optimized, personalized reading experience available within Mastering. It allows students to easily highlight, take notes, and review key vocabulary all in one place—even when offline. Seamlessly integrated videos and other rich media engage students and give them access to the help they need, when they need it. Pearson eText is available within Mastering when packaged with a new book; students can also purchase Mastering with Pearson eText online.

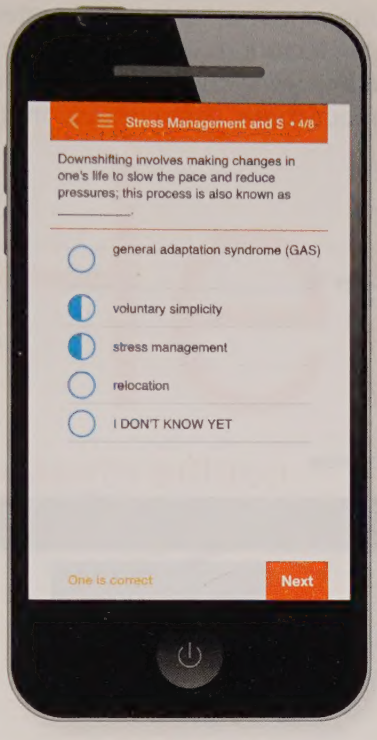
For instructors not using Mastering, Pearson eText can also be adopted on its own as the main course material.

NEW! Interactive Self-Assessments are now embedded in the eText.



Improve learning with Dynamic Study Modules



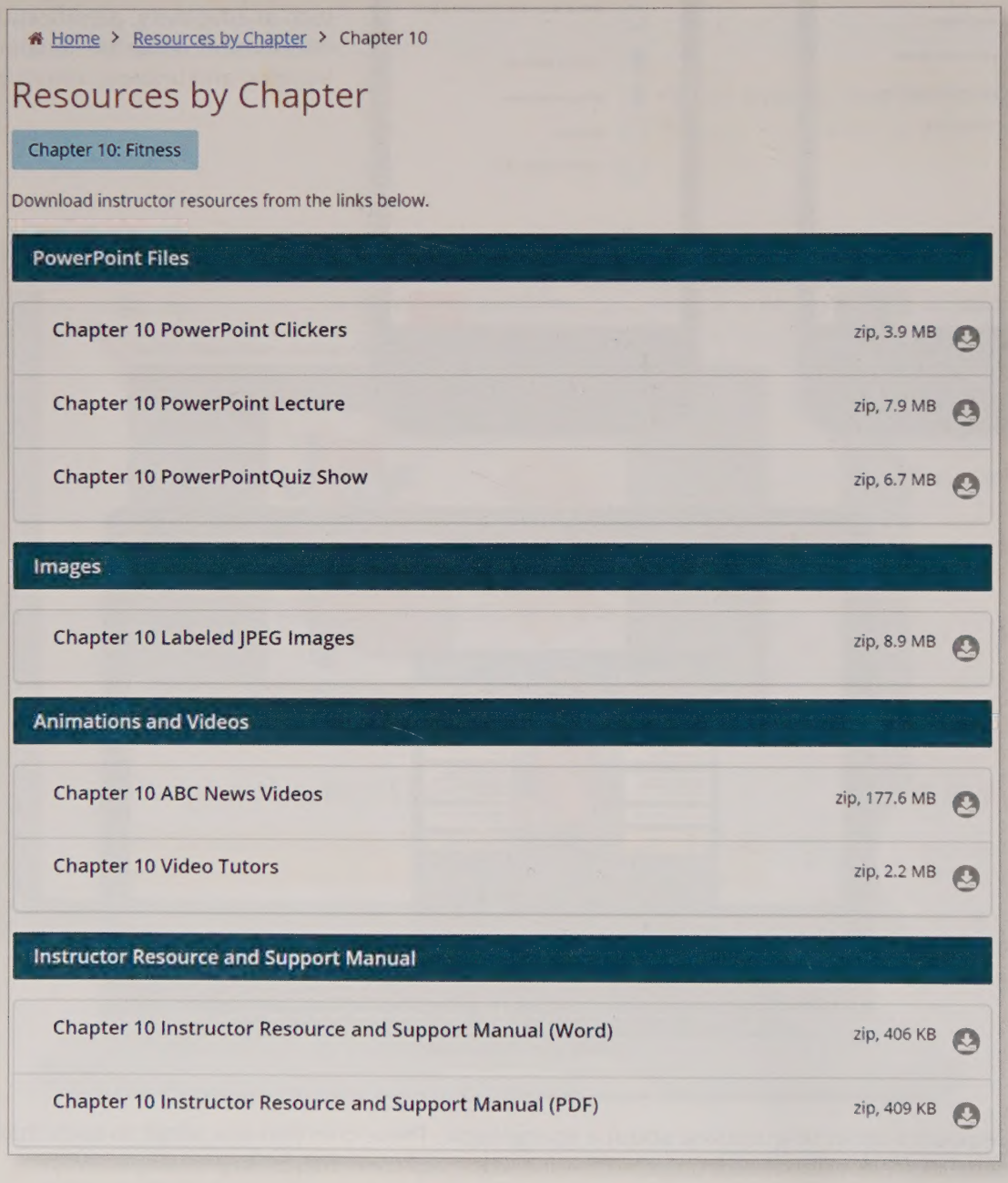


Dynamic Study Modules in Mastering Health help students study effectively—and at their own pace—by keeping them motivated and engaged. The assignable modules rely on the latest research in cognitive science, using methods—such as adaptivity, gamification, and intermittent rewards—to stimulate learning and improve retention.

Each module poses a series of questions about a course topic. These question sets adapt to each student's performance and offer personalized, targeted feedback to help them master key concepts. With **Dynamic Study Modules,** students build the confidence they need to deepen their understanding, participate meaningfully, and perform better—in and out of class.

Instructor support you can rely on

Access to Health includes a full suite of instructor support materials in the Instructor Resources area in Mastering Health. Resources include lecture outlines, clicker questions, and quiz show questions in PowerPoint; animations, videos, and images to show in class; a test bank; and an instructor resource and support manual with class discussion questions, video discussion questions, critical thinking questions, web resources, and more.



Access to Health

sixteenth edition

Rebecca J. Donatelle, Ph.D.

Pearson

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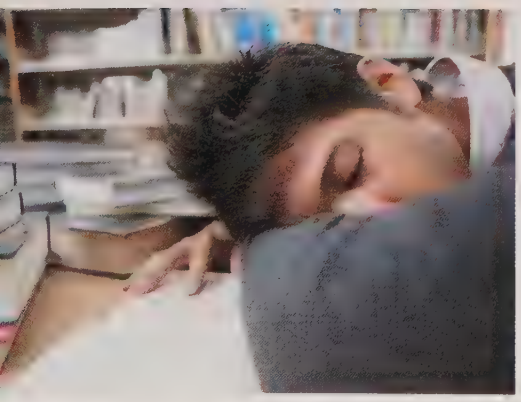

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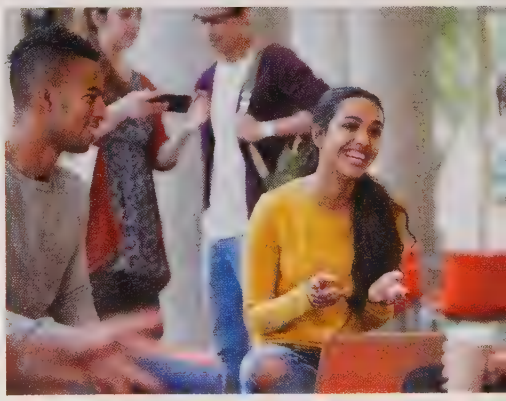

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HEALTH IN A DIVERSE WORLD

MAKING CHANGES TODAY

TECH & HEALTH

ASSESS YOURSELF

The Assess Yourself activities are available online at **MasteringHealth**. Go to the **MasteringHealth** Study Area to find the chapter you want in the drop-down menu, and there you will see the **Assess Yourself** activities. Print them or save the PDF to your computer.

PREFACE

Got Health? If you are like most people, "health" is a subliminal message that is constantly playing in the back of your mind. When you sit down for dinner and think about whether you should eat that bacon cheeseburger, the health tape is playing. When you ride the elevator instead of walking up the stairs, it is there, gently nudging you to do the "better" thing and find the stairway. Whether it be the latest news headline or the latest app that pops up on your mobile device, giving you tips about diet, exercise, stress, or sleep, it is hard to avoid those healthy messages. Increasingly, you are tracked, analyzed, or reminded about whether you are living your best life and what you should be doing. Seemingly, with all that media bombardment and expert advice, getting healthy and staying healthy would be easy and we'd be the healthiest nation on Earth! Yet, soaring rates of obesity, increases in mental health issues, rapidly rising violence rates, skyrocketing cases of drug abuse, and evidence of devastating effects of human-influenced climate change all indicate that we are not doing better when it comes to health. In fact, even though we spend the most on health care of any nation, even though we pride ourselves on promoting health and well-being and provide amazing opportunities for people to change behaviors and get healthy, too many of us are not heeding those messages. Although we often know what we "should" do, many of us find it difficult to get there. Why? The answer to this is multifaceted. For many, the issues and information seem complex and contradictory, and the pleasures of continuing certain behaviors trump the effort needed to be healthy. Others lack the resources and supports necessary to change. Still others don't believe they are at risk and/or don't have the knowledge necessary to make choices that will promote health and prevent disease. Whether by geography, genetics, illness, disability, or physical and social environment, some face overwhelming risks. The facts are clear. Getting healthy and staying healthy are challenges for most of us. There is no quick fix. It takes recognition of risks, knowledge, motivation, and support systems to make positive health changes. The more of each, the better! The good news is that no matter where you are right now in terms of health, you can make the changes that will work for you and enhance your chance for a healthy future. You can also serve as an agent for change within your family, your social networks, and your community. That opportunity starts now.

My goal in writing *Access to Health* is to provide students with just what that title says: access to health information and strategies designed to help them on their journey toward reaching their health potential. This book provides the most scientifically valid information available to help students be smarter in their health decision making, more positively involved in their personal health, and more active as advocates for healthy changes in their communities. Change isn't something that just happens. Let's face it—if it were easy to lose weight, maintain a healthy diet, manage stress, and exercise regularly, we wouldn't have one of the costliest and overburdened health care systems in the world, along with epidemic rates of obesity, drug misuse, and other problems. However, the good news is that governmental agencies, communities, schools, and increasing numbers of individuals are taking steps (both small and large) to enhance, preserve, and protect our health. The key is to know where to look for accurate information, which information you can trust, and how to use the information to make the best choices for you and others. In short, it takes knowledge, preparation, and effort; therefore, this book places emphasis on empowering students to identify their health risks, create plans for reducing those risks, and make healthy lifestyle changes part of their daily routines.

Access to Health is designed to help students quickly grasp the information presented and understand its relevance to their own lives and the lives of others. Exciting revisions have been made to the art and design of the book in this new edition, with the purpose of capturing students' interest, engaging them in the subject matter, helping them find the most reliable resources available, and assisting them in weighing their options as they face health challenges today and in the future. In addition, there are six Focus On chapters that delve into areas of health that are of practical importance to college students but are not always given sufficient coverage in typical personal health texts. These Focus On chapters include two exciting newcomers to the personal health text field: *Difference, Disparity, and Health: Achieving Health Equity*; and *Mindfulness, Spiritual Health, and Spiritual Intelligence*—each reflective of critical, emerging areas recognized as being important to improving health today. In addition, we have enhanced and updated **Focus On** chapters on body image, addiction, diabetes, and unintentional injuries—all chapters of high interest and relevance to today's college students

Looking back to the time when I taught my first Personal Health course as a teaching assistant in graduate school and remembering the years of teaching countless numbers of students in classes like this, I am amazed that we are now in the 16th edition of *Access to Health*. Over the years, this text has morphed considerably, as we have focused on meeting the needs of an increasingly savvy student population facing increasingly challenging and newer health threats. As I look back at all of the efforts by so many health and publishing professionals, I am filled with overwhelming gratitude for the many contributions that have helped make this book one of the most successful in the field. With each edition of the text, I have listened to the thoughtful suggestions of instructors and to the feedback from my own students and colleagues in keeping the book relevant, timely, interesting, and accessible.

I hope that this edition's rich foundation of scientifically valid information, its wealth of technological tools and resources, and its thought-provoking features will stimulate you to share my enthusiasm for personal health and to become actively engaged in behaviors that will lead to better health for all.

NEW TO THIS EDITION

Access to Health, 16th edition, maintains many features that the text has become known for, while incorporating several major revisions and exciting new features. The most noteworthy changes to the text as a whole include:

- **New! Focus On Difference, Disparity, and Health: Achieving Health Equity chapter** challenges students to think about issues of diversity and health equity, and the actions they can take as individuals and as a society to begin to remove barriers and promote access to health for all.
- **New! Mindfulness Theme,** including why this topic is so important to health, how to practice it, and potential current and long-range benefits, has been added as feature boxes as well as integrated throughout the narrative and signaled by a new mindfulness icon.
  - **New! Mindfulness and You boxes** focus on mindfulness research and applications in relation to high-interest topics such as sleep, technostress, mental health, sexual dysfunction, and so on.
  - **Expanded! Focus On Mindfulness, Spiritual Health, and Spiritual Intelligence** chapter has expanded to include an introduction to mindfulness as well as the definition of and recent research surrounding spiritual identity.

New to Mastering Health

- **New! MyDietAnalysis is included with Mastering Health at no additional charge,** and offers an up-to-date, accurate, reliable, and easy-to-use program for your students' diet analysis needs. Featured is a database of nearly 50,000 foods and multiple reports. Students can track their diet and activity intake accurately—anytime and anywhere—from any device!
- **Pearson eText** is a simple-to-use, mobile-optimized, personalized reading experience available within Mastering. It allows students to easily highlight, take notes, and review key vocabulary all in one place—even when offline. Seamlessly integrated videos and other rich media engage students and give them access to the help they need, when they need it. Pearson eText is available within Mastering when packaged with a new book; students can also purchase Mastering with Pearson eText online.
  - **Updated NutriTools Coaching Activities** in the nutrition chapter allow students to combine and experiment with different food options and learn firsthand how to build healthier meals.
  - **Updated end-of-chapter Study Plans** tie all end-of-chapter material (including Chapter Review, Pop Quiz, and Think About It! questions) to specific numbered Learning Outcomes and Mastering assets. Assignable study plan items contain at least one multiple-choice question per Learning Outcome and wrong-answer feedback.
  - **Updated Prebuilt Assignments with 20 Pre-lecture Reading Questions per chapter** ensure that students come prepared for lecture by answering multiple-choice questions related to content within the text.

Chapter-by-Chapter Revisions

Access to Health, 16th edition, has been updated line by line to provide students with the most scientifically valid, comprehensive, and current information from well-designed professional sources. We painstakingly review studies, compare conflicting results, and provide a balanced and thorough overview of each topic as well as an overview of areas needing further study. Health research is dynamic and ever-changing, and we strive to be as up-to-date as possible as we go to press. In addition, we have enhanced and reorganized portions of the text to improve the flow of topics; provided more thought-provoking scenarios; and added, updated, and improved all figures, tables, feature boxes, and photos to enhance the learning experience. The following is a chapter-by-chapter listing of some of the many "other" noteworthy changes, updates, and additions.

Chapter 1 Accessing Your Health

- New learning outcome addresses health benefits and general practice of mindfulness
- New section on "How Does Mindfulness Influence Health?"
- Updated information on health disparities
- Updated information and statistics on causes of death in the United States
- New information on abuse of prescription and illegal drugs
- Updated examples of enabling and reinforcing factors for behavior change
- Updated table of leading causes of death by age group

Chapter 2 Promoting and Preserving Your Psychological Health

- New research on the connection between loneliness and social media use
- New research on social isolation
- Updated numbers of prevalence of PTSD among American adults
- Updated statistics pertaining to suicide rates globally
- New **Mindfulness and You** box on potential positive effects of mindfulness practice and mental health problems

Focus On Mindfulness, Spiritual Health, And Spiritual Intelligence

- Expanded chapter focuses on the health benefits of mindfulness and spirituality

- New information on the role of mindfulness in cancer coping and recovery
- New figure showing how meditation affects the body
- New mindfulness apps for students to explore

Chapter 3 Managing Stress and Coping with Life's Challenges

- Updated figure on stress levels by age
- Updated figure and statistics on major causes of stress
- New information on biology and differences in stress response
- Newly expanded section on stress in college students, particularly as it relates to adjusting to change

Chapter 4 Improving Your Sleep

- Updated information on the most sleep-deprived states and age groups
- Updated information on sleep deprivation on campus
- New information on emerging treatments for obstructive sleep apnea
- New **Mindfulness and You** box on how mindfulness-based stress reduction and how mindfulness strategies can improve your sleep

Chapter 5 Nutrition: Eating for a Healthier You

- Updated learning outcome on strategies for healthful eating, including how to read food labels, the role of vegetarian diets and dietary supplements, eating mindfully, and eating healthfully on campus
- Updated information on protein consumption guidelines
- Updated research on the health effects of saturated fats and *trans* fats
- Updated information on consumption of vitamins and other dietary supplements
- Updated statistics on consumption of sodium
- New research on the health impacts of taking calcium supplements
- New information on probiotics
- New research on vegetarian diets and reduced risks for health problems
- Updated information on the health and safety of organic foods
- Updated information on the causes and prevalence of foodborne illnesses
- New information on the safety of genetically modified foods
- New **Mindfulness and You** box with tips for mindful eating

Chapter 6 Reaching and Maintaining a Healthy Weight

- Updated information on the prevalence of obesity worldwide
- Updated information on the health risks of excess weight
- New information on the relationship between leptin levels and weight gain, particularly as it relates to food-finding behaviors
- New research on "social contagion" and social and behavioral factors of weight gain
- New section on mindless eating and being mindful of eating triggers
- Updated information on the latest weight loss apps and the characteristics of individuals successful at losing weight

Focus On Enhancing Your Body Image

- Updated statistics on body dissatisfaction, dieting, and cosmetic procedures
- New information on the relationship between social media and body dissatisfaction
- New information on weight bullying
- Updated information on body dysmorphic disorder
- Updated statistics on other specified feeding or eating disorders
- New information on treatments for eating disorders and exercise disorders

Chapter 7 Improving Your Personal Fitness

- New coverage of the *WHO Global action plan on physical activity and health 2018–2030: More active people for a healthier world*
- Updated information on the correlation between sitting and colorectal cancer
- Updated information on the correlation between physical activity and reduced inflammation
- New figure on the perceived exertion scale
- New suggestions for mindfully incorporating physical activity into daily life
- New figure charting 60-minute cardiorespiratory workout plan

Chapter 8 Connecting and Communicating in the Modern World

- New **Mindfulness and You** box on how mindful listening can improve relationships
- Expanded information on social capital
- Expanded information on passive, selective, and active listening
- New information on digital communication and social media
- Updated statistics on differences in gender roles
- Updated information on marriage, cohabitation, gay and lesbian relationships, and singlehood

Chapter 9 Understanding Your Sexuality

- Expanded dimensions of sexuality, from cultural to sociocultural
- New **Mindfulness and You** box on using mindfulness to deal with sexual dysfunction

- Updated statistics pertaining to abstinence and a variety of sexual behaviors among college students
- Updated information on drugs and sex
- Updated coverage of responsible and satisfying sexual behavior, including health benefits

Chapter 10 Considering Your Reproductive Choices

- Reorganized chapter in a more logical sequence, to discuss contraceptive methods before discussing pregnancy and childbirth
- New **Mindfulness and You** box discusses treatment of depression during pregnancy
- Updated information and tables on all contraceptive methods
- Photo and information on the new Hex condom
- Expanded discussion of new IUDs on the market
- Updated information on emergency contraception
- Updated information on the legal, physical, and emotional aspects of abortion
- Revised chart on when women have abortions
- New information on the importance of paternal health for a healthy child
- New information on the triple marker screen prenatal test

Focus On Recognizing and Avoiding Addiction

- Updated terminology on process addictions
- New **Mindfulness and You** box on mindfulness-based relapse prevention for addiction recovery
- Updated discussion of psychological dependence
- Expanded discussion of gambling among college students
- Expanded discussion of technology addiction

Chapter 11 Drinking Alcohol Responsibly

- New **Mindfulness and You** box on using mindfulness techniques to maintain sobriety
- Updated statistics on drinking habits of men and women, including college students
- New information on the link between excessive drinking and heart damage
- New statistics on the link between drinking alcohol and breast cancer in women
- Expanded discussion of fetal alcohol syndrome and fetal alcohol spectrum disorder
- Expanded discussion of how drinking alcohol can affect academic performance
- New information on pre-gaming, binge drinking, and calorie "saving" among college students
- New statistics on alcohol-related accidents
- Updated table on reported alcohol use by men and women during the previous 30 days
- New graph of fatally injured drivers with blood alcohol levels greater than or equal to 0.08 percent

Chapter 12 Ending Tobacco Use

- New **Mindfulness and You** box on using mindfulness techniques for smoking cessation
- Updated statistics on smoking and tobacco usage in the United States among different age groups
- Updated information on tobacco advertising expenditures and the impacts on various population groups
- Expanded discussion of electronic cigarettes
- Updated discussion of cancer, cardiovascular disease, gum disease, macular degeneration, Alzheimer's disease, and other health conditions linked to tobacco
- Updated information on smoke-free municipalities and how smoking bans improve the health of non-smokers
- Updated graph on trends in smoking among college students
- Updated table on the prevalence of smoking among various population groups
- New table on coping strategies for common smoking withdrawal problems

Chapter 13 Avoiding Drug Misuse and Abuse

- Updated information on opioid abuse and overdose
- Updated information and statistics on the use and abuse of over-the-counter and prescription drugs
- Updated statistics and information on all categories of illegal drugs
- Updated information on caffeine consumption among college students
- New information on legalization and use of marijuana, including its relationship to accidents
- Expanded discussion of heroin and fentanyl
- New information on social, recreational, and social media support systems for recovering addicts
- New information on vaccines for addictive drugs
- Updated information on using naloxone to treat opioid overdose

Chapter 14 Protecting Against Infectious Diseases

- Updated recommended vaccination schedule
- Updated coverage of the prescription of antibiotics, prevalence of antibiotic resistance, and new developments in antibiotic drugs
- Updated statistics on the prevalence of *C. diff.*, meningitis, and tuberculosis
- New section on the potential benefits of mindfulness practices in fighting off infectious diseases

Chapter 15 Protecting Against Sexually Transmitted Infections

- Updated figure and information on estimates of new HIV diagnoses in the United States for the most affected subpopulations
- Updated statistics surrounding the prevalence of major STIs, particularly among student populations
- New coverage of genital ulcerative disease

- New section on bacterial vaginosis
- New recommendations for HIV testing, as well as coverage of emerging diagnostics

Chapter 16 Reducing Your Risk of Cardiovascular Disease

- Updated figure and statistics on the percentage breakdown of deaths attributable to cardiovascular disease
- New coverage of the social, economic, and individual burden of cardiovascular disease
- New and alarming figures pertaining to declines in the numbers of Americans with ideal cardiovascular health
- Updated CHD prevalence data
- Discussion of the distinction between stable and unstable angina
- Updated MetS prevalence data
- Updated information about the changing recommendations for the use of omega-3 fatty acids in reducing CVD risk

Focus On Minimizing Your Risk for Diabetes

- Updated figure and statistics on the percentage and number of the U.S. population with diagnosed diabetes
- Updated information on the costs and prevalence of diabetes in the United States and globally
- New section on latent autoimmune diabetes in adults, or "type 1.5 diabetes"
- Updated information on the relationship between short sleeping and type 2 diabetes
- Updated information on the relationship between obesity and children and type 2 diabetes in adults
- Updated section on gestational diabetes
- New research in the battle to cure type 2 diabetes
- New **Mindfulness and You** box on mindfulness-based interventions as complementary strategies for reducing the risk of diabetes

Chapter 17 Reducing Your Cancer Risk

- Updated statistics pertaining to new cancer cases and cancer deaths in the United States
- New information on the relationship between obesity and cancer
- Updated recommendations for the use of mammograms
- Coverage of new breast cancer detection methods, including 3D mammograms and breast ultrasound
- New section on molecular breast imaging
- New research on functional foods as health enhancers
- Updated information on changing recommendations for routine PSA tests
- New **Mindfulness and You** box on mindfulness interventions and survivor care

Chapter 18 Reducing Risks and Coping with Chronic Conditions

- Updated statistics and figure on the proportion of college students diagnosed with or treated for chronic conditions
- Updated statistics and figure on asthma prevalence by age, sex, and race/ethnicity
- Updated statistics on individuals with COPD and rates among women
- New coverage of aspirin-induced allergies
- New research on the relationship between excessive cell phone use and headaches
- New section on multiple sclerosis
- New section on Parkinson's disease
- Updated **Mindfulness and You** box on ways to relieve pain with mindfulness

Chapter 19 Making Smart Health Care Choices

- New coverage of how long-term mindfulness meditation can improve the structure and function of the brain
- Expanded information on patient rights and informed consent
- Updated statistics on the use of prescription drugs
- Updated statistics and information on complementary, alternative, and holistic health approaches
- Updated discussion of mind and body practices
- Updated and expanded discussion of health insurance
- Updated discussion of the Affordable Care Act
- Updated table on the benefits and risks of common dietary supplements

Chapter 20 Preventing Violence and Abuse

- New discussion of meanness
- Updated violent crime statistics
- Updated information on substance abuse and violent crime
- Updated information on the jarring discrepancy between reported numbers of hate- and bias-motivated crime and anonymous surveys of the same
- New coverage of the Nationwide Suspicious Activity Reporting Initiative
- New coverage of "yes means yes" policies rolled out in a number of states
- New **Mindfulness and You** box on strategies for cooling off

Focus On Reducing Your Risk of Unintentional Injury

- Expanded coverage of unintentional injuries, now the third leading cause of death in the United States
- New discussion of the opioid overdose epidemic
- Expanded guidelines for preventing unintentional poisoning
- Expanded coverage of motor vehicle injuries
- Updated discussion of the risks of distracted driving and texting while driving
- Updated information on skateboarding, snowboarding, and skiing injuries
- Expanded coverage of the role of alcohol in boating injuries
- Updated statistics on falls and fires

Chapter 21 Preserving and Protecting Your Environment

- Updated statistics on global population growth
- New **Mindfulness and You** box on environmental mindfulness
- New **Health Headlines** box on the effects of single-use plastics
- Updated coverage of indoor air quality, particularly as it relates to schools
- Updated research on potential health effects of radio-frequency waves

Chapter 22 Preparing for Aging, Death, and Dying

- Updated statistics on life expectancy and causes of death
- Updated information on health care costs and living arrangements for older Americans
- Expanded discussion of osteoporosis
- New discussion of age-related hearing loss
- New research on how meditation may affect the aging brain
- New information on trusts and organ donation
- New chart showing the increase in the number of Americans aged 65 and older from 1900 to 2060

TEXT FEATURES AND LEARNING AIDS

Access to Health, 16th edition, includes the following special features, all of which have been revised and improved upon for this edition:

- Numbered learning outcomes at the beginning of each chapter are tied to each major chapter section, helping students navigate each chapter and measure their progress against specific learning goals and helping instructors assess the key information and skills students are meant to take away from each chapter.
- **What Do You Think?** critical thinking questions within the chapter prompt students to reflect on personal and societal issues relating to the material they have just learned.
- **Mindfulness and You** boxes focus on mindfulness research and applications in relation to high-interest topics such as sleep, technostress, mental health, and sexual dysfunction.
- **Why Should I Care?** feature now opens every chapter and leads students to recognize the relevance of health issues and the upcoming chapter content to their own lives in the here and now.
- **Did You Know?** figures call attention to statistics that are relevant to the lives of college students in a fun and informative format.
- **Assess Yourself callouts at the end of every chapter** direct students to online self-assessment worksheets in Mastering Health, where they can assess their current health behaviors to better set goals and follow through on behavior change.
- **Making Changes Today** boxes give students specific strategies for making lasting changes to their health behaviors.
- **Tech & Health** boxes cover key new technology innovations, from medical tests to calorie-counting smartphone apps and other devices that can help students stay healthy.
- **Student Health Today** boxes offer current data and information about health trends specific to college students, including potential risks and safety issues that affect students' lives.
- **Health Headlines** boxes highlight new discoveries and research, as well as interesting trends in the fields of public and personal health.
- **Health in a Diverse World** boxes expand discussion of health topics to diverse groups within the United States and around the world, as well as spurring discussion about key disparity issues facing many populations.
- A **running glossary** in the margins defines terms where students first encounter them, emphasizing and supporting understanding of material.
- **Media callout boxes** indicate when podcasts, videos, and assessments are available online in Mastering Health for use with the book.
- The end-of-chapter **Study Plans** help students target their studying and master key chapter concepts by explicitly tying the chapter learning outcomes to the **Chapter Review** points that wrap up chapter content, the **Pop Quiz** multiple-choice questions and **Think About It!** discussion questions that encourage students to evaluate and apply new information, and the **Accessing Your Health on the Internet** sections offer more opportunities to explore areas of interest.
- The **appendices** at the end of the book include practical information on providing emergency care and a table of nutritive values for selected foods and fast foods.
- A **Behavior Change Contract** for students to fill out is included in the back of the book.

SUPPLEMENTARY MATERIALS

Available with *Access to Health,* 16th edition, is a comprehensive set of ancillary materials designed to enhance learning and to facilitate teaching.

Instructor Supplements

- **Mastering Health with Pearson eText**
  Mastering Health is the teaching and learning platform that empowers you to reach *every* student. By combining trusted author content with digital tools developed to engage students and emulate the office-hour experience, Mastering personalizes learning and improves results for each student. With a variety of activities available, students can actively learn, understand, and retain even the most difficult personal health concepts.

- **Before class**, assign adaptive Dynamic Study Modules and pre-lecture reading questions to ensure that students come prepared to class, having done the reading.
- **During class**, Learning Catalytics, a "bring your own device" student engagement, assessment, and classroom intelligence system, allows students to use their smartphone, tablet, or laptop to respond to questions in class. With Learning Catalytics, you can assess students in real time using open-ended question formats to uncover students' misconceptions and adjust lectures accordingly.
- **After class,** assign an array of engaging assignments, such as Which Path Would You Take? activities, *ABC News* Videos, Video Tutors, Behavior Change Videos, and much more. Students receive wrong-answer feedback personalized to their answers, which will help them get back on track.

For more information on Mastering Health, please visit www.masteringhealth.com.

Instructional Resource Materials (download only)

The following supplements are available for download from the Mastering Instructor Resource Area. Contact your Pearson rep for access information and instructions if you don't have a Mastering account.

The Instructor Resource Materials enable instructors to prep for their course and deliver a dynamic lecture. These valuable downloadable resources include the following:

- **Video Tutors, *ABC News* Health and Wellness Lecture Launcher Videos, and Behavior Change Videos.**
  - Twenty-five brief Video Tutors, plus 51 *ABC News* Videos, each 5 to 10 minutes long, and 10 whiteboard-style Behavior Change Videos, help instructors stimulate critical discussion in the classroom.
  - Media-Only PowerPoint slides for easy importing of videos, animations, and NutriTools
  - Video introduction to Learning Catalytics
  - Clicker questions
  - Quiz Show questions
  - PowerPoint Lecture Outlines
  - PowerPoint step-edit Image Presentations
  - Files for all illustrations and tables and selected photos from the text
- ***Instructor Resource and Support Manual.*** Easier to use than a typical instructor's manual, this key guide provides a step-by-step visual walk-through of all the resources available to you for preparing your lectures. Also included are tips and strategies for new instructors, sample syllabi, and suggestions for integrating Mastering Health into your classroom activities and homework assignments. Microsoft Word and PDF files for the Instructor Resource and Support Manual are available for downloading.
- **Microsoft Word, PDF, and RTF files for the Test Bank**
- **TestGen** Computerized **Test Bank,** which includes all the questions from the printed test bank in a format that allows instructors to easily and intuitively build exams and quizzes
- ***Teaching with Student Learning Outcomes.*** This feature provides essays from 11 instructors who teach using student learning outcomes. They share goals and suggestions for developing good learning outcomes and give tips and suggestions for how to teach personal health in this manner.
- ***Teaching with Web 2.0.*** From Facebook to Twitter and blogs, students are interacting with technology constantly. This handbook gives tips on how to incorporate technology in your course.
- ***Great Ideas! Active Ways to Teach Health & Wellness.*** This manual provides ideas for classroom activities related to specific health and wellness topics, as well as suggestions for activities that can be adapted to various topics and class sizes.
  - User's Quick Guide with easy instructions for both experienced and new faculty members to get started with the various instructor resource materials and Mastering Nutrition

Student Supplements

- **Mastering Health Student Study Area** also provides students with self-study material like access to the Pearson eText, practice quizzes, flashcards, videos, MP3s, and much more to help them get the best grade in your course at their own pace.
- **Dynamic Study Modules in Mastering Health** assess students' performance and activity in real time. They use data and analytics that personalize content to target students' particular strengths and weaknesses. And, because we know students are always on the go, Dynamic Study Modules can be accessed from any computer, tablet, or smartphone.
- ***Behavior Change Log Book and Wellness Journal.*** This assessment tool helps students track daily exercise and nutritional intake and create a long-term nutrition and fitness prescription plan. It includes behavior change contracts and topics for journal-based activities.
- ***Eat Right! Healthy Eating in College and Beyond.*** This handy, full-color booklet provides students with practical guidelines, tips, shopper's guides, and recipes that turn healthy eating principles into blueprints for action. Topics include healthy eating in the cafeteria, dorm room, and fast-food restaurants; planning meals on a budget; weight management; vegetarian alternatives; and how alcohol affects health.
- ***Live Right! Beating Stress in College and Beyond.*** This booklet gives students useful tips for coping with a variety of life's challenges both during college and for the rest of their lives. Topics include sleep, managing finances, time management, coping with academic pressure, relationships, and a closer look at advertised products that promise to make our lives better.
- **Digital 5-Step Pedometer.** Take strides to better health with this pedometer, which measures steps, distance (miles), activity time, and calories and provides a time clock.
- **MyDietAnalysis.** Powered by ESHA Research, Inc., MyDietAnalysis features a database of nearly 50,000 foods and multiple reports and is available via single sign-on in Mastering Health at no extra charge. It allows students to track their diet and activity using up to three profiles and to generate and submit reports electronically.

ACKNOWLEDGMENTS

Looking back, it is hard for me to believe that *Access to Health* is in its 16th edition! Thinking about how this book has evolved since the first edition, and how the personal health textbook market has undergone remarkable changes, I am excited and humbled to know that through the work of so many outstanding professionals, this one may be the best one yet! Whereas this edition of *Access To Health* remains a foundation and springboard for information, the ability to communicate with students through the Internet and a wide range of other media and devices, such as smartphones and tablets, provides textbook authors and publishers entirely new and exciting ways of teaching, sharing and building upon text information, motivating students to become actively engaged in the learning experience, and covering up-to-the-minute health topics in every class. Today's text offers opportunities for student engagement and thought-provoking exercises that do more than test basic factual data. *Access to Health* is also designed to help students understand complex issues surrounding health so they can make better decisions related to health care and behaviors.

To maximize student learning, we sought input from faculty members and experts in technology and e-learning—those who work with students daily and who understand how to engage today's learners with written and visual content. We also interviewed students and asked them about how they used technology in their learning and incorporated their recommendations into our student-centered approach.

Producing a text that students actually want to pick up and read—one that they find interesting and that encourages critical thinking and learning and doesn't just re-hash information that they already know—is no small task. In fact, in addition to having an author and contributors with the professional training and expertise in the scientific foundations of the health field, it takes a small army of publishing professionals and media specialists who take the basic information and make it come alive for the reader. Each step in the planning, the developing, and the marketing and sales of a high-quality textbook and supplemental materials requires a tremendous amount of work from many skilled and dedicated professionals. I often think how fortunate I have been to work with the many gifted and talented professionals who make up the Pearson family. Upon reflection, there have been so many names and faces along the way—from people who have carried a tremendous amount of responsibility from beginning to end to those who have quietly worked behind the scenes on special tasks, in many cases, to make *Access to Health* a resounding success from the first edition to this one. I owe each of them tremendous gratitude, for without their efforts, this book may have languished on the shelves along the way. From my perspective, Pearson personnel personify key aspects of what it takes to be successful in the publishing world: (1) skill and competence; (2) a work ethic exemplifying high standards, drive, and motivation; (3) creativity and commitment to excellence; (4) a vibrant, youthful, and enthusiastic approach; and (5) personalities that motivate an author to continually strive to produce market-leading texts.

In particular, I am indebted to my Content Producer, Deepti Agarwal, who has worked on several editions of *Access to Health* and *Health: The Basics* and has never missed a beat in ensuring that these projects are top-notch works that reflect her outstanding editorial skills, scheduling proficiency, and attention to detail. She is a "rare gem" in the project management area, and her work ethic is among the best of all those great individuals with whom I have worked over the years. Deepti was able to juggle numerous responsibilities and organizational tasks, provide thoughtful recommendations, and problem-solve along the way to keep the team on task to produce a final manuscript on a tight schedule—all the while gently nudging the author (me!), who has a slight tendency to get carried away and want to add more and more in a limited space. In short, Deepti did a fantastic job in making this edition continue as a leading text in the field.

In addition to Deepti, I am thankful to Nic Albert and Alice Fugate, development editors, who did their usual outstanding jobs of editing/organizing material, refining manuscript, recommending changes to manuscript, and all of the other aspects of preparation. Both Nic and Alice provided excellent text refinement, provided great insight on important changes, and worked closely with us to develop a fresh, cutting-edge edition. Their painstaking attention to detail, superb writing/editing skills, and overall contributions were truly amazing. In short, Deepti, Nic, and Alice are part of the "dream team" that makes an author's work both easier and better. Thank you all. I couldn't do it without you!

Joanne Boehme also played a key role in refining material, synthesizing narrative when I got carried away and keeping the text and other manuscript components clean and concise for students. Another key individual whom I would like to acknowledge is someone who has been with my projects either directly or indirectly over many years and editions: Barbara Yien, Courseware Portfolio Director. In so many ways, whether helping with project development, ensuring that the right team is brought in to assist, having a historical perspective that contributes to future decisions, and being a rock-solid, caring individual, Barbara is the glue that holds so many projects together, worrying about the details, helping when issues arise, and providing a solid dose of wisdom and humor when both are needed! Knowing that she is there working behind the scenes to help projects run smoothly is a special bonus that is much appreciated by me and others. Thank you, Barbara, for all the things you have done to make these books a success over the years.

Although many acquisitions editors play a more detached role in project management and development, I was fortunate in being able to work with a hands-on and enthusiastic editor on this edition. Much appreciation and many thanks go to senior acquisitions editor Michelle Yglecias. Whether traveling to assist with adoptions, dealing with issues that inevitably arise in a changing health marketplace, or securing necessary resources to stay on top of a competitive field, Michelle has been key to the success of my books and the health list at the Pearson publishing enterprise. A tireless worker, an enthusiastic advocate for authors and her staff, Michelle has been a driving force in moving the *Access to Health* series into the twenty-first century of technologically savvy textbooks. Clearly, she "gets it" when it comes to keeping a steady hand on the pulse of the personal health market and what instructors are looking for and what students need.

Although these individuals were key contributors to the finished work, many other people also worked on this revision of *Access to Health*. In particular, I would like to thank Sharon Cahill of SPi Global, who put everything together to make a polished finished product. Sharon worked wonders in giving the book an exciting and fresh new look, both inside and out. Editorial Assistant Gillian Perry gets major kudos for supporting the editorial team, as does Timothy Hainley, Senior Rich Media Content Producer, and Rich Media Content Producer Keri Rand, who developed a comprehensive Mastering Health program. Additional thanks go to the rest of the team at Pearson, especially Design Manager Mark Ong and Rights and Permissions Manager Ben Ferrini.

The editorial and production teams are critical to a book's success, but I would be remiss if I didn't thank another key group who ultimately help determine a book's success: the textbook representative and sales group and their leaders, Director of Product Marketing, Allison Rona, and Executive Field Marketing Manager, Mary Salzman. Allison and Mary talk with faculty daily and provide the editorial and author teams with helpful advice and many good ideas. In keeping with my overall experiences with Pearson, the members of the marketing and sales staff are among the best of the best. I am very lucky to have them working with me on this project with each book, and I appreciate their time, skill, and dedication even more. This is truly a great group of publishing professionals. Thank you to every one of you!

CONTRIBUTORS TO THE SIXTEENTH EDITION

Many colleagues, students, and staff members have provided the feedback, reviews, extra time, assistance, and encouragement that have helped me meet the rigorous demands of publishing this book over the years. Whether acting as reviewers, generating new ideas, providing expert commentary, or revising chapters, each of these professionals has added his or her skills to our collective endeavor. I would like to thank other key contributors to chapters in this edition. As always, I would like to give particular thanks to Dr. Patricia Ketcham, who has helped with the *Access to Health* series since its beginnings. As past president of the American College Health Association, former Associate Director of Health Promotion in Student Health Services at Oregon State University, and currently serving as Senior Analyst for the Center for Education Innovation, Evaluation and Research in Oregon, Pat provides a current and unique perspective on key campus challenges and the innovative ways in which campuses are responding to a wide range of student health issues. Her outstanding evaluation skills and knowledge of programming effectiveness help to provide cutting-edge strategies for individual and community health promotion. Although she has been instrumental in the development and updating of several different chapters over the years, for this edition she used her skills in careful revisions of Chapter 8, "Building Healthy Relationships and Communicating Effectively"; Chapter 9, "Understanding your Sexuality"; Focus On, "Recognizing and Avoiding Addiction"; Chapter 11, "Drinking Alcohol Responsibly"; Chapter 12, "Ending Tobacco Use"; Chapter 13, "Avoiding Drug Misuse and Abuse"; and Chapter 22, "Preparing for Aging, Death, and Dying."

Dr. Tanya Littrell is a full-time faculty member and Department Chair in the Fitness Technology and Physical Education Department at Portland Community College in Portland, Oregon. Dr. Littrell has a master's degree in human performance/exercise physiology and a doctoral degree in exercise science/exercise physiology and has been teaching lifetime fitness classes since 1998. As a co-author on *Get Fit Stay Well* with Pearson, Tanya, to our delight, agreed to be a contributing author for Focus On. "Enhancing Your Body Image," and Chapter 7, "Improving Your Personal Fitness," in this edition of *Access to Health*. Tanya has the academic, scientific, and research experience and skills to know what students are looking for in these areas, and her chapters reflect her expertise and detail-oriented approach to improving student

Dr. Susan Dobie, Associate Professor in the Department of Health, Physical Education and Leisure Sciences at the University of Northern Iowa, has worked with our team for several recent editions, providing several outstanding chapter revisions. Susan utilized her expertise in the health promotion and health behavior areas to provide one of the most comprehensive and scientifically accurate chapters in the field in revising Chapter 10, "Considering Your Reproductive Choices." As an educator, mentor, and researcher, Dr. Dobie provided detailed, cutting-edge information in an interesting and well-written update designed to engage students and provide thought-provoking learning experiences.

Finally, Laura Bonazzoli, development editor and author, provided a thorough and timely revision of Chapter 1, "Accessing Your Health"; and used her background and experience in co-developing and writing two innovative and *new to the field* chapters: Focus On, "Difference, Disparity, and Health: Achieving Health Equity," and Focus On, "Mindfulness, Spiritual Health, and Spiritual Identity." Additionally, Laura updated and enhanced Chapter 5, "Nutrition: Eating for a Healthier You"; Chapter 19, "Making Smart Health Care Choices"; and Focus On, "Reducing Your Risk of Unintentional Injury." Laura has worked on *Access to Health* for several years

now, and I am always amazed at her diligence, work ethic, creativity, and attention to detail. It has been a pleasure to work with her in conceptualizing/developing Focus On "Difference, Disparity, and Health: Achieving Health Equity" and watching the chapter come to life under her expert writing and interesting approach to the topic. Likewise, she was able to take existing mindfulness material and meld this material and her own into what is the first real mindfulness chapter in a personal health book. She is the best!

The above contributors were brought on board because of their history of working with college students, as well as their vital, enthusiastic approach to student learning. Importantly, they are all experts in subject-matter content and have proven academic training and research background in related fields. Thank you to each of you for your help in making this edition of *Access to Health* one of the best yet!

REVIEWERS FOR THE SIXTEENTH EDITION

With each new edition of *Access to Health*, we have built on the combined expertise of many colleagues throughout the country who are dedicated to the education and healthy behavioral changes of students. I thank the many reviewers of the past 15 editions of *Access to Health* who have made such valuable contributions. I want you, the instructors who have used and reviewed the book over the years, to know that I am grateful for your support and guidance. You are an essential resource for knowing how to best stimulate students to learn, grow, and tackle the health challenges that lie ahead of them.

For the 16th edition, reviewers who have helped us continue this tradition of excellence include the following:

Linda Romaine, Raritan Valley Community College
Marty Cooper, Itawamba Community College
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Will Stern, University of TN–Chattanooga
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Maria Hrycenko, Monmouth University
Nikki Bonanni, Ithaca College
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Contributors to Instructor Supplements and Mastering Health

Brenda Moore, Ozarks Technical Community College
Laura Bonazzoli, Development Editor
Nic Albert, Development Editor
Pardess Mitchel, Harper College
Nikki Bonanni, Ithaca College
Dr. Ronita Ghatak, Hunter College
Amber Emanuel, University of Florida

Many thanks to all!
Rebecca J. Donatelle, Ph.D.

1 ACCESSING YOUR HEALTH

LEARNING OUTCOMES

LO1 Describe the immediate and long-term rewards of healthy behaviors and the effects that your health choices may have on others.

LO2 Compare and contrast the medical model of health and the public health model, and discuss the six dimensions of health.

LO3 Identify modifiable and nonmodifiable personal, social, and environmental factors that influence your health.

LO4 Describe mindfulness, summarizing its health benefits and general practice.

LO5 Compare and contrast the health belief model, the social-cognitive model, and the transtheoretical model of behavior change, and explain how you might use them in making a specific behavior change.

LO6 Identify your own current risk behaviors, the factors that influence those behaviors, and the strategies you can use to change them.

WHY SHOULD I CARE?

Improving your health enhances your life. Academic and career success, supportive relationships, a zest for living, and reduced risks for disease and disability can help you maximize your "healthy years." Much of who you are and what you will become is in *your* hands!

Got health? That may sound like a simple question, but it isn't. Health is a process, not something we just "get." People who are healthy in their 60s, 70s, and beyond aren't just lucky or the beneficiaries of hardy genes. Most have set the stage for good health by making it a priority in their early years. Whether the coming decades are filled with good health, productive careers, special relationships, and fulfillment of life goals is influenced by the health choices you make—beginning right now.

LO 1 | WHY HEALTH, WHY NOW?

Describe the immediate and long-term rewards of healthy behaviors and the effects that your health choices may have on others.

Every day, the media remind us of health challenges facing the world, the nation—maybe even your campus or community. You might want to ignore these issues, but you can't. In the twenty-first century, your health is connected to the health of people with whom you directly interact, as well as to people you've never met, and to the well-being of your local environment, as well as the entire planet. Let's take a look at how.

Choose Health Now for Immediate Benefits

Almost everyone knows that overeating leads to weight gain or that smoking causes lung cancer. But other choices you make every day may influence your well-being in ways you're not aware of. For instance, did you know that scientific research is increasingly finding that the amount of sleep you get each night can influence your weight, your susceptibility to chronic diseases, your ability to ward off colds, your mental health, your social interactions, and your driving? What's more, inadequate sleep is one of the most commonly reported impediments to academic success (**FIGURE 1.1**). Similarly, drinking alcohol reduces your academic performance and sharply increases your risk of unintentional injuries—not only motor vehicle accidents, but also falls, burns, and drownings. This is especially significant because, for people between the ages of 15 and 44, unintentional injury—whether related to drug overdose, motor vehicle accidents, or any other factor—is the leading cause of death (**TABLE 1.1**).

It isn't an exaggeration to say that healthy choices have immediate benefits. When you're well nourished, fit, rested, and free from the influence of nicotine, alcohol, and other drugs, you're more likely to avoid illness, succeed in school, maintain supportive relationships, participate in meaningful work and community activities, and enjoy your leisure time.

FIGURE 1.1 Top Ten Reported Impediments to Academic Performance—Past 12 Months In a recent survey by the National College Health Association, students indicated that stress, anxiety, poor sleep, and other factors had prevented them from performing at their academic best.

Source: Data are from American College Health Association, *American College Health Association—National College Health Assessment II (ACHA-NCHA II) Reference Group Data Report, Spring 2017* (Baltimore, MD: ACHA, 2017).

TABLE 1.1 | Leading Causes of Death in the United States in 2015, Overall and by Age Group (15 and older)

All Ages	Number of Deaths
Diseases of the heart	633,842
Malignant neoplasms (cancer)	595,930
Chronic lower respiratory diseases	155,041
Accidents (unintentional injuries)	146,571
Cerebrovascular diseases (stroke)	140,323
Aged 15–24	
Accidents (unintentional injuries)	12,514
Suicide	5,491
Assault (homicide)	4,733
Malignant neoplasms (cancer)	1,469
Diseases of the heart	997
Aged 25–44	
Accidents (unintentional injuries)	37,613
Malignant neoplasms (cancer)	14,613
Diseases of the heart	13,909
Suicide	13,883
Assault (homicide)	7,758
Aged 45–64	
Malignant neoplasms (cancer)	159,176
Diseases of the heart	111,120
Accidents (unintentional injuries)	40,987
Chronic liver disease and cirrhosis	22,152
Chronic lower respiratory diseases	21,802
Aged 65+	
Diseases of the heart	507,138
Malignant neoplasms (cancer)	419,389
Chronic lower respiratory diseases	131,804
Cerebrovascular diseases	120,156
Alzheimer's disease	109,495

Source: Data from National Center for Health Statistics, *Health, United States, 2016* (May 2017), www.cdc.gov/nchs/data/hus/hus16.pdf#019.

Choose Health Now for Long-Term Rewards

Successful aging starts now. The choices you make today are like seeds: Planting good seeds means you're more likely to enjoy the fruits of a longer and healthier life. In contrast, poor choices increase the likelihood of a shorter life, as well as a lower quality of life.

mortality The proportion of deaths to population.

life expectancy Expected number of years of life remaining at a given age, such as at birth.

chronic disease A disease that typically begins slowly, progresses, and persists, with a variety of signs and symptoms that can be treated but not cured by medication.

healthy life expectancy Expected number of years of full health remaining at a given age, such as at birth.

Personal Choices Influence Your Life Expectancy According to current **mortality** rates and death statistics—which reflect the proportion of deaths within a population—the average **life expectancy** at birth in the United States is projected to be 78.6 years for a child born in 2016.[1] In other words, we can expect that American infants born today will live to an average age of over 78 years, much longer than the 47-year life expectancy for people born in the early 1900s. That's because life expectancy a century ago was largely determined by our susceptibility to infectious disease. In 1900, three of the four leading causes of death were infectious diseases: Tuberculosis, pneumonia, and diarrhea accounted for nearly 1 out of every 4 deaths.[2]

With the development of vaccines and antibiotics, life expectancy increased dramatically as premature deaths from infectious diseases decreased. As a result, the leading cause of death shifted to **chronic diseases** such as heart disease, cancer, chronic lower respiratory diseases, and cerebrovascular disease (which leads to strokes). At the same time, advances in diagnostic technologies, heart and brain surgery, and radiation and other cancer treatments, as well as new medications, continued the trend of increasing life expectancy into the twenty-first century.

78.6 YEARS
is the **LIFE EXPECTANCY** in the United States.

Unfortunately, life expectancy in the United States has fallen in the past 2 years, from a peak in 2014 of 78.9 years to the current 78.6. This drop might seem insignificant, but public health experts call it "alarming" because other economically developed nations have not seen a decline, and U.S. life expectancy is now several years below that of many comparable nations.[3] What factors are thought to contribute to the decline in U.S. life expectancy? See **HEALTH HEADLINES** on page 4.

Personal Choices Influence Your *Healthy* Life Expectancy Another benefit of healthful choices is that they increase your **healthy life expectancy**, that is, the number of years remaining at a given age without disability,

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