

personal HEALTH

A POPULATION PERSPECTIVE

Michele Kiely, DrPH

Associate Dean for Research

City University of New York Graduate School of Public Health and Health Policy
New York, New York

Meredith G. Manze, MPH, PhD

Assistant Professor

Department of Community Health and Social Sciences
City University of New York Graduate School of Public Health and Health Policy
New York, New York

P. Christopher Palmedo, PhD, MBA

Associate Professor

City University of New York Graduate School
Department of Community Health and Social Sciences
City University of New York Graduate School of Public Health and Health Policy
New York, New York



JONES & BARTLETT
LEARNING



World Headquarters

Jones & Bartlett Learning
5 Wall Street
Burlington, MA 01803
978-443-5000
info@jblearning.com
www.jblearning.com

Jones & Bartlett Learning books and products are available through most bookstores and online booksellers. To contact Jones & Bartlett Learning directly, call 800-832-0034, fax 978-443-8000, or visit our website, www.jblearning.com.

Substantial discounts on bulk quantities of Jones & Bartlett Learning publications are available to corporations, professional associations, and other qualified organizations. For details and specific discount information, contact the special sales department at Jones & Bartlett Learning via the above contact information or send an email to specialsales@jblearning.com.

Copyright © 2020 by Jones & Bartlett Learning, LLC, an Ascend Learning Company

All rights reserved. No part of the material protected by this copyright may be reproduced or utilized in any form, electronic or mechanical, including photocopying, recording, or by any information storage and retrieval system, without written permission from the copyright owner.

The content, statements, views, and opinions herein are the sole expression of the respective authors and not that of Jones & Bartlett Learning, LLC. Reference herein to any specific commercial product, process, or service by trade name, trademark, manufacturer, or otherwise does not constitute or imply its endorsement or recommendation by Jones & Bartlett Learning, LLC and such reference shall not be used for advertising or product endorsement purposes. All trademarks displayed are the trademarks of the parties noted herein. *Personal Health: A Population Perspective* is an independent publication and has not been authorized, sponsored, or otherwise approved by the owners of the trademarks or service marks referenced in this product.

There may be images in this book that feature models; these models do not necessarily endorse, represent, or participate in the activities represented in the images. Any screenshots in this product are for educational and instructive purposes only. Any individuals and scenarios featured in the case studies throughout this product may be real or fictitious, but are used for instructional purposes only.

The authors, editor, and publisher have made every effort to provide accurate information. However, they are not responsible for errors, omissions, or for any outcomes related to the use of the contents of this book and take no responsibility for the use of the products and procedures described. Treatments and side effects described in this book may not be applicable to all people; likewise, some people may require a dose or experience a side effect that is not described herein. Drugs and medical devices are discussed that may have limited availability controlled by the Food and Drug Administration (FDA) for use only in a research study or clinical trial. Research, clinical practice, and government regulations often change the accepted standard in this field. When consideration is being given to use of any drug in the clinical setting, the health care provider or reader is responsible for determining FDA status of the drug, reading the package insert, and reviewing prescribing information for the most up-to-date recommendations on dose, precautions, and contraindications, and determining the appropriate usage for the product. This is especially important in the case of drugs that are new or seldom used.

09966-9

Production Credits

VP, Product Management: David D. Cella
Director of Product Management: Michael Brown
Product Manager: Sophie Fleck Teague
Product Specialist: Danielle Bessette
Associate Production Editor: Alex Schab
Senior Marketing Manager: Susanne Walker
Production Services Manager: Colleen Lamy
Manufacturing and Inventory Control Supervisor: Amy Bacus
Composition: codeMantra U.S. LLC

Cover Design: Kristin E. Parker
Text Design: Kristin E. Parker
Director of Rights & Media: Joanna Gallant
Rights & Media Specialist: Merideth Tumas
Media Development Editor: Shannon Sheehan
Cover Image (Title Page, Chapter Opener):
© Hero Images/Getty Images
Printing and Binding: LSC Communications
Cover Printing: LSC Communications

Library of Congress Cataloging-in-Publication Data

Names: Kiely, Michele, author. | Manze, Meredith, author. | Palmedo, Chris, author.
Title: Personal health: a population perspective / Michele Kiely, Meredith Manze, and Chris Palmedo.
Description: First edition. | Burlington, Massachusetts: Jones & Bartlett Learning, [2019]
Identifiers: LCCN 2018023089 | ISBN 9781284099652 (paperback)
Subjects: LCSH: Health. | BISAC: MEDICAL / Public Health.
Classification: LCC RA776 .K4856 2019 | DDC 613—dc23
LC record available at <https://lcn.loc.gov/2018023089>

6048

Printed in the United States of America

22 21 20 19 18 10 9 8 7 6 5 4 3 2 1

To our families

Brief Contents

Chapter 1	Health: An Introduction	1
Chapter 2	Starting With Food: Nutrition and Health	41
Chapter 3	Let's Get Moving! Active Living for Better Health	73
Chapter 4	Keep Calm and Carry On: Complementary, Alternative, and Spiritual Approaches to Health	107
Chapter 5	Beyond the Birds and the Bees: Sexual and Reproductive Health	135
Chapter 6	Minding Your Mental Health	199
Chapter 7	This Is Your Brain on Addiction: Substance Use and Addictive Behaviors	235
Chapter 8	Don't Share These With Your Friends: Infectious Diseases	281
Chapter 9	The Bandage Brigade: Injuries and Accidents	333
Chapter 10	Be On the Right Side: Prevent Violence	383
Chapter 11	Environmental Health: Nurture Nature	445
Chapter 12	Aging, Dying, and Death	513
Chapter 13	A Growing Challenge: Chronic Diseases	543
Chapter 14	Getting Covered: Healthcare Policy and Health Insurance	589
Chapter 15	Global Health: We Are the World	611
Chapter 16	From Information to Action	641
Glossary		667
Index		677

Contents

Acknowledgments xv

Foreword xvii

Reviewers xix

How to Use This Book xxi

Chapter 1 Health: An Introduction 1

Personal Health Choices in a Societal Context 2

Theories of Health 6

 Social-Ecological Model 6

 The Health Belief Model 8

 Theory of Reasoned Action 10

 Theory of Planned Behavior 10

 Social Cognitive Theory 11

 The Transtheoretical Model 12

Health Across the Life Span 13

 Children 14

 Teen Pregnancy 14

 Adults 15

Social Determinants of Health and

 Health Inequities 17

 Health and Wealth 18

 Race 18

 Race and Income 20

 Black Lives Matter: A Public Health Issue? 21

 Social Justice 24

 Why Is Change Important? 25

Location, Location, Location: The Importance

 of Where We Live 27

 Noise Pollution 27

 Move to Opportunity Experiment 28

What Is Happiness? 29

 It's Partly Your Genes 29

 Being Rich 29

 Spending Time With Good Friends 29

 Getting Your Room/Apartment Organized 30

 Losing Weight 30

 Smile! 30

 Happiness and a Meaningful Life 30

Key Health Concepts 31

 Rates Versus Numbers 31

 Incidence Versus Prevalence 32

 Randomized Controlled Trials 32

 Statistical Significance 33

 Screening 33

 Inequities 34

In Summary 35

Key Terms 36

Student Discussion Questions and Activities 36

References 36

Chapter 2 Starting With Food: Nutrition and Health 41

Digestion and Absorption: What Happens

 When You Eat or Drink? 43

 Early Stages of Digestion 43

 Through the Gut 45

 Breaking Down and Building Up:

 The Metabolic Process 46

 Into the Colon and Then Out 47

Macronutrients and Other Key

 Components of Nutrition 47

 Carbohydrates 47

 Glycemic Index and Glycemic Load 47

 Insulin 48

 Fiber 49

 Lipids 49

 Proteins 50

 Water—The Most Essential Nutrient of All 52

Micronutrients—Necessities in Small Bits 53

Eating Wisely—As Individuals and Communities 56

 Getting Your Nutrients From Food 56

 Sugar: More Important to Avoid Than Ever 57

 Liquid Sugar: Soda, Sports Drinks, and Juice 58

 Selective Diets: The Common Good ... and the Bad ... 59

Moving Ahead to Parenthood:

 The First Thousand Days 61

Societal Choices: How Do We Improve

 Nutritional Options for Everyone? 65

 Addressing Food Subsidies 66

 Confronting Food Marketing 66

 Menu Labeling 67

Taxation	67
Procurement	68
In Summary	68
Key Terms	69
Student Discussion Questions and Activities	69
Food Journal	69
References	70

Chapter 3 Let's Get Moving! Active Living for Better Health 73

Fitness or Exercise: What's the Difference?	75
Why Are We Less Active Now Than We Once Were?	77
Getting Started: What's Best for Me? What's Best for Us?	77
The Changing Nature of Physical Activity in the United States	78
Finding Your Own Path to Fitness	80
Starting From Within	81
Physical Activity: Recommendations for Adults	81
The Components of Health-Related Fitness	82
Cardiorespiratory Endurance	83
Muscular Strength	86
Muscular Endurance	91
Flexibility	93
Body Composition	97
You're Good to Go! But What Does Our Population Data Show?	99
Increasing Access to Places for Physical Activity ...	100
Improving Our Built Environment	101
In Summary	102
Key Terms	102
Student Discussion Questions and Activities	103
References	103

Chapter 4 Keep Calm and Carry On: Complementary, Alternative, and Spiritual Approaches to Health 107

Understanding the Key Concepts	107
Complementary and Alternative Health Approaches: Benefits and Risks	109
Supplements	110
Special Diets	111
Chiropractic and Osteopathic Manipulation	111

Massage	112
Acupuncture	113
Cupping	114
Mind–Body Techniques	114
How Do Mind–Body Techniques Affect Health? ..	123
CAM Across Cultures	124
Paying for Integrative Health Approaches	125
Keeping the Faith: How Do Religion and Spirituality Influence Our Health?	127
Why Don't We Know More About How CAM Affects Health?	129
CAM and Population Health	130
In Summary	131
Key Terms	131
Student Discussion Questions and Activities	131
References	131

Chapter 5 Beyond the Birds and the Bees: Sexual and Reproductive Health ... 135

Sexual and Reproductive Anatomy	135
Female Reproductive System	135
Male Reproductive System	137
Sexual Arousal and Pleasure	138
What Is "Sex"?	139
Gender Identity and Sexual Orientation	139
What Makes a Relationship "Healthy"?	141
Sexual Assault	142
Reproductive and Sexual Health Care	142
Sexually Transmitted Diseases	143
Preventing Pregnancy: What You Need to Know ...	156
Abortion	170
Getting Pregnant: Reproductive and Maternal Health	176
Preconception Health	176
Conception and Pregnancy	178
Birth	181
After Birth: Postpartum	184
Infertility	185
Sex and Politics	186
The Bigger Picture: Public Health Campaigns and Reproductive Justice	191
In Summary	192
Key Terms	193
Student Discussion Questions and Activities	193
Resources	193
References	193

Chapter 6 Minding Your Mental Health ... 199

Understanding Mental Health 200
 Treatment of Mental Illness 202
 Prison and Mental Illness 204
 Stigma: An Undue Burden 204
 Stress and Mental Health 205
 The Importance of Sleep 208
 Anxiety Disorders 208
 Generalized Anxiety Disorder 209
 Panic Disorder 209
 Posttraumatic Stress Disorder 210
 Depression 211
 Bipolar Disorder 213
 Schizophrenia 214
 Personality Disorders 216
 Borderline Personality Disorder 216
 Paranoid Personality Disorder 217
 Self-Injury: Cutting and Other Self-Injurious
 Behaviors and Suicide 217
 Suicide: At the Edge of the Abyss 218
 Obsessive-Compulsive and Related Disorders ... 219
 Obsessive-Compulsive Disorder 219
 Body Dysmorphic Disorder 220
 Eating Disorders 222
 Anorexia Nervosa 222
 Bulimia Nervosa 224
 Binge Eating Disorder 224
 Neurodevelopmental Disorders 225
 Autism Spectrum Disorder 225
 Attention Deficit Hyperactivity Disorder 226
 Addiction and Substance Use 227
 Mental Illness Affects You, Your Family,
 Your Community, and Beyond 227
 The Trouble With Mental Health Care 228
 In Summary 229
 Key Terms 230
 Student Discussion Questions and Activities 230
 Resources 230
 References 230

**Chapter 7 This Is Your Brain on Addiction:
 Substance Use and Addictive
 Behaviors 235**

The What, How, and Why of Substance Use 235
 Legal (but Dangerous) Drugs 239

Stimulants and Depressants 239
 Stimulants 252
 Pharmaceutical Drugs 253
 Marijuana 259
 Food 262
 Illegal Drugs 263
 Stimulants 263
 Opioids 266
 Hallucinogens and Dissociative Drugs 269
 Harm Reduction 270
 Behavioral Addictions 271
 Gambling 271
 Exercise 272
 Sex 273
 Technology 274
 In Summary 275
 Key Terms 276
 Student Discussion Questions and Activities 276
 Resources for Treatment 276
 References 276

**Chapter 8 Don't Share These With Your
 Friends: Infectious Diseases 281**

Transmission of Infections 282
 Contact Transmission 282
 Noncontact Transmission 283
 Infections Versus Contagious Diseases 284
 What Can Infect You? 284
 Bacteria 285
 Viruses 289
 More on Bacteria and Viruses 289
 Fungi 290
 Parasites 290
 More on How Are Diseases Spread:
 Or, Your Mother Was Right, Wash Your Hands! ... 292
 Host Susceptibility 295
 Preventing and Treating Infectious Diseases 298
 Antibiotics 298
 Vaccines and Vaccine-Preventable Diseases 301
 Herd Immunity 307
 Important Infectious Diseases 307
 Malaria 308
 Tuberculosis 309
 Zika Virus 309
 West Nile Virus 310
 Lyme Disease 311
 Infectious Diseases on College Campuses 311
 Is It a Cold or the Flu? 312

Eradication of Infectious Diseases 312
 Subclinical Infections 319
 Slow Viruses and Atypical Slow Viruses 319
 Epidemics and Pandemics 320
 Epidemics and Pandemics in the Past 320
 Modern Pandemics 322
 In Summary 327
 Key Terms 327
 Student Discussion Questions and Activities 327
 References 328

**Chapter 9 The Bandage Brigade:
 Injuries and Accidents 333**

Sports Injuries 333
 RICE/PRICE 338
 Traumatic Brain Injury 339
 Injuries in the Streets: Car Crashes and
 Pedestrian, Bicycle, and Motorcycle Injuries 342
 Cell Phones and Driving 345
 Bicycles 345
 Motorcycles 347
 Pedestrian Safety and Injuries: Walk With Care 349
 Motor Vehicle Traffic–Related Pedestrian Deaths .. 350
 Drowning 350
 Burns 351
 Tanning 352
 Be Safe in Your Home: House Fires 353
 First Aid 355
 Thunder and Lightning 356
 Poisonings 358
 Preventing Poisoning due to Medicines 359
 Carbon Monoxide Poisoning 360
 Drug Poisoning, Intoxication, and Overdose 360
 Drug Overdose Overview 363
 Overuse and Repetitive Motion Injuries 363
 Achilles Tendinopathy 363
 Tendinosis 364
 Bursitis 364
 Patellofemoral Pain Syndrome 364
 Plantar Fasciitis 365
 Rotator Cuff Disorders 365
 Tennis Elbow (Lateral Epicondylitis) 365
 Final Thoughts on Overuse and
 Repetitive Motion Injuries 365
 Falls 366
 Biological Risk Factors 366
 Environmental Risk Factors 367
 Behavioral Risk Factors 368

Occupational Falls 368
 Hearing Loss and Music 369
 How to Protect Your Hearing 369
 How Much Time Can You Safely Be Exposed
 to Noise Without Harm? 369
 When to Call the Doctor 371
 Fashionable Feet at Any Price? 371
 Do You Have to Give Up Your Heels? 372
 Work Can Be Dangerous to Your Health:
 Sweatshops 373
 What Is a Sweatshop? 373
 College Students Are Powerful 374
 Why Are Injuries a Public Health Issue? 374
 Race/Ethnicity and Injuries 375
 In Summary 376
 Key Terms 376
 Student Discussion Questions and Activities 376
 References 377

**Chapter 10 Be On the Right Side:
 Prevent Violence 383**

Social-Ecological Model of Violence 384
 Individual Level 384
 Relationship/Interpersonal Level 385
 Community Level 385
 Societal Level 386
 Violence Across the Lifespan: Child Abuse,
 Intimate Partner Violence, and Elder Abuse 387
 Child Maltreatment 387
 Child Abuse 389
 Child Maltreatment Around the World 391
 Intimate Partner Violence 395
 Victimization in the LGBTQ Community 398
 Violence in Immigrant Communities 398
 Elder Abuse 400
 Unhealthy Relationships:
 Dating Violence and Date Rape 401
 Unhealthy Relationships 401
 Abusive LGBTQ Relationships 402
 How to Leave an Abusive Relationship 402
 Revenge Porn 403
 Rape 403
 Stalking 410
 Bullying: The Power Imbalance 411
 Children Involved in Bullying 412
 Young Adults 413
 Hazing 413
 Gun Violence: Too Many Guns? 414

How Prevalent Is Gun Violence in America? 414
 Who Owns Guns? 415
 Alcohol and Guns 417
 Does Conceal and Carry Actually Work? 418
 Shootings on School Property 419
 Gun Violence as a Public Health Issue 422
 Police Use of Force 423
 When Police Use Fatal Force 424
 Murder and Capital Punishment 425
 Homicides by Race and Ethnicity 427
 Those Left Behind 427
 Capital Punishment 428
 Serial Killers 429
 Violence in the Name of Hate 431
 Hates Crimes 431
 Diversity Builds Acceptance 434
 Genocide: Mass Violence Because of Hate 435
 In Summary 438
 Key Terms 438
 Student Discussion Questions and Activities 438
 Resources 439
 References 440

**Chapter 11 Environmental Health:
 Nurture Nature 445**

Sources of Energy 445
 Fossil Fuels 446
 Solar Power 446
 Wind Power 447
 Nuclear Energy 448
 Food Safety: What Can Go Wrong from
 the Farm to the Table 452
 Irrigation and Wash Water 452
 Risks From Animals: Manure, Feathers,
 Fur, and Skin 453
 Harvester and Handler Health and Hygiene 455
 Once You Get Food Home: Preventing
 Foodborne Illness 456
 Food Waste 457
 Pesticides: Agricultural Hazards (What Are
 Workers Exposed To? What Are We Eating?) 458
 How Risky Is It to Eat Pesticides? 460
 Water Quality and Quantity 462
 Bottled vs. Tap: Think About What You Drink 462
 Is Bottled Water Safer Than Tap Water? 462
 Water Quality 464
 Environmental Impact of Plastic 466
 Too Many Plastic Bottles 466

Global Warming/Climate Change:
 We Are the Problem 470
 Causes of Change 472
 Projected Climate Change 473
 Health Effects of Climate Change 478
 Air Quality: Indoors and Outdoors 481
 Indoor Air Pollution 481
 Outdoor Air Pollution 486
 Toxic Exposures and Sequelae 490
 Little Things Matter 494
 Natural Disasters and Emergency
 Preparedness 495
 Landslides and Mudslides 496
 Tornadoes 497
 Mold 499
 Earthquakes 499
 Floods 500
 Hurricanes 500
 Lightning 501
 Tsunamis 501
 Wildfires 501
 Volcanoes 502
 Environmental Justice 503
 A Federal Response to Issues of
 Environmental Health Disparities 504
 A Health Activist Fights Back 504
 In Summary 505
 Key Terms 505
 Student Discussion Questions and Activities 505
 References 506

Chapter 12 Aging, Dying, and Death 513

Aging 514
 Our Health as We Age 515
 Dementia 516
 Depression 518
 Healthy Aging 520
 Being Organized for the Future 521
 Getting Things in Order 521
 Parental Wishes 523
 Estate Planning 524
 The Path to Acceptance: Palliative Care
 and Hospice 528
 Palliative Care 529
 Hospice Care 529
 Medicare and Insurance and Hospice 530
 Body and Organ Donation 531

Whole Body Donation 531
 Organ Donation 532
 Donation Process 532
 Funeral Arrangements 533
 What Does the Average Funeral Cost? 533
 Green Burials 534
 Cremated Remains 534
 Make Sure You Know Your Loved
 One’s Wishes 535
 When a Loved One Dies 535
 After We Die 538
 Good Grief? 539
 In Summary 540
 Key Terms 540
 Student Discussion Questions and Activities 540
 Resources 541
 References 541

**Chapter 13 A Growing Challenge:
 Chronic Diseases 543**

Cancer: A Collection of Related Diseases 544
 Cancer Incidence and Mortality 544
 Common Forms of Cancer 547
 Survival Rates by Type 547
 Classification and Stages of Cancer 547
 Stages of Cancer 548
 Causes of Cancer 549
 Cancer Treatment 549
 Reducing Cancer Risk: In Individuals
 and in Societies 551
 Cardiovascular Diseases 551
 Coronary Heart Disease 555
 Cerebrovascular Disease 558
 Diabetes 560
 Type 1 Diabetes 561
 Type 2 Diabetes 564
 Diabetes in the United States 571
 Social Determinants of Health
 and Diabetes 573
 Chronic Respiratory Diseases 573
 Asthma 573
 Chronic Obstructive Pulmonary Disease 582
 In Summary 585
 Key Words 585
 Resources 586
 Student Discussion Questions and Activities 586
 References 586

**Chapter 14 Getting Covered: Healthcare
 Policy and Health Insurance ... 589**

The U.S. Health System in Historical Context 590
 Healthcare Providers and Medical Professionals .. 594
 Physicians 594
 Nurses 595
 Hospitals and Healthcare Facilities 596
 Prescription Drugs 596
 Time to Get Covered: Where to Start 597
 Private Insurance and the Evolution
 to Managed Care 598
 Prior-Authorization and Networks: The
 Fundamental Concepts of Managed Care 599
 Types of Managed Care Plans 600
 Health Maintenance Organizations (HMOs) 600
 Preferred Provider Organization (PPO) 600
 Point-of-Service (POS) and Exclusive Provider
 Organization (EPO) Plans 600
 Government Health Insurance 602
 Veterans Administration 602
 Medicare 602
 Medicaid 603
 Acquiring Health Insurance: How to
 Navigate the System 603
 Options for College Students and Young Adults ... 603
 State Marketplaces 605
 Precious Metals: What’s the Right Choice? 605
 Certified Application Counselors Navigators 606
 What’s Ahead: Improving Quality,
 Satisfaction, and Affordability 607
 In Summary 608
 Key Terms 609
 Student Discussion Questions and Activities 609
 References 609

**Chapter 15 Global Health:
 We Are the World 611**

What Is Global Health? 611
 Why Global Health? 612
 Understanding and Measuring Global Health 614
 Women in the World: A Global Health
 Challenge and Opportunity 615
 Refugees and Migrant Health:
 60 Million People in Need 615
 Leading Causes of Death Worldwide and
 Among the Poor 617

Childhood Underweight and Malnutrition 617
 HIV/AIDS 617
 Tuberculosis 619
 Malaria and Mosquito-borne Diseases 620
 Other Communicable Diseases 622
 Chronic Noncommunicable Diseases:
 No Longer a “First World” Problem 624
 Heart Disease, Cancer, and Other
 Noncommunicable Diseases 624
 Road Accidents 626
 The Social Causes of Disease 626
 Poverty and Income Inequality 626
 War and Conflict 627
 Political Infrastructure 630
 Weather and Climate Change 630
 Corporate Practices 631
 Global Health: The Good News 632
 Who Is Making a Difference? 632
 International Agencies 633
 Social Entrepreneurial Organizations 633
 Foundations 634
 Nongovernmental and Nonprofit Organizations 634
 Research and Academic Institutions 635
 Individuals 635
 It’s Your World: Make a Difference! 637
 In Summary 637
 Key Terms 637
 Student Discussion Questions and Activities 637
 References 638

Chapter 16 From Information to Action... 641

Revisiting the Social-Ecological Model 641
 Cultural Competence and Respect 642

Organizations That Shape Health 644
 Governmental Organizations 644
 Quasi-Governmental Organizations 649
 Nongovernmental Organizations 650
 Improving Social Determinants of Health 651
 Determinants of Health 652
 So Why Aren’t We Redirecting Healthcare
 Dollars to Prevention? 653
 A Social-Ecological Approach to Health and
 Health Interventions 653
 Advocacy and Community Organizations 654
 Community-Based Organizations 654
 Advocacy 654
 Change for Health 657
 How Technology May Help Change Behavior 658
 We May Be More Capable of Changing
 Than You Think 658
 Happiness 659
 Be Thankful 660
 Strive 660
 Empathize 660
 Give 661
 In Summary 661
 Key Terms 662
 Student Discussion Questions and Activities 662
 References 662

Glossary 667

Index 677

Acknowledgments

The authors would like to express their gratitude to the many people who contributed to this book. The following individuals provided support, discussed fine points, and willingly gave of their expertise by providing feedback, suggestions, and administrative support: Beth Ansel, Renaisa Anthony, Deana Brooksher, Matthew Caron, Ayman El-Mohandes,

Elizabeth Geltman, Maureen Giese, Sally Guadagno, Jamie Handlovits, Amelia Joy, Eric Joy, Woodie Kessel, John L. Kiely, Danielle Krushnic, Eleni Murphy, Tamar Pacht, Kelly Palmedo, Sage Palmedo, Deepika Rao, Lindsey Sousa, Barry Zitin, and Melinda Zitin. We beg forgiveness if there is anyone whose name we failed to mention.

Foreword

Reading this book and using it as a study guide will be a unique experience for you. The authors of this book have used both the microscope and the telescope to help you understand the risks and opportunities that surround us. These risks and opportunities exist within us, tempered by the world in which we live, and can influence our health in ways that we feel and know—and in other ways that are hidden but are just as important.

Regardless of the area you choose to study or your career direction, broadening your understanding of how to remain healthy and enhance the health of those around you is a skill and an asset that will stay with you indefinitely. This enhanced awareness of health and its implications for an individual's development, the resourcefulness of a community, the well-being of a city, and the resilience of a nation is confirmed both theoretically and empirically. The authors cover many topics, some social, some biological, some cultural. It may surprise you to discover just how many factors affect our health as individuals and populations.

Some of the factors the authors address manifest directly in how you feel about yourself today—how active, how happy, or restful you may be, or how anxious or how tired you may feel. These same characteristics may also apply to your family, your neighborhood, your community, as well as your village or your city.

The authors wrote this book with the intention of building a knowledge base as well as creating a broader understanding of health and well-being. Their focus is on the entire life span, but particularly on college-aged individuals. They explain what is healthful or what may be dangerous for you, as an individual or for the population as a whole. Avoiding health risks and preventing the health challenges is only possible when you know what they are. Making the best choices today for you, your friends, and your family may turn into a habit that you will embrace and practice for many years to come.

You may be taking a health course to fill a distribution requirement or because you intend to choose it as a career. Regardless, this book will help you understand more about the variety of professional domains that serve the health of individuals and populations. This book could be your entry point. It may lead you in the right direction if you want to be a doctor, a nurse, a physical therapist, or another career that supports health needs either in a clinical setting or community. However, careers in the health professions span beyond those in a clinical setting. Examples include health educators, social workers, environmental health specialists, public health officials, and health managers. Many of these professionals treat people who are sick or protect individuals who are healthy. Regardless of their career, they should always have an eye on what health means for larger groups of people and populations. These factors could have an impact not just on health, but also on productivity, well-being, social cohesiveness, and economic productivity. Health is not just about your temperature today or how many calories you have consumed; it is also about how dynamic you may be and how fulfilling your life is. I hope that you will develop new perspectives on many aspects of your life and the society in which we live and how this affects your health. I also hope you develop a deeper understanding of how health behavior and the environment impact your life and future.

This book will increase your curiosity about health and its implications. It will be a stepping stone toward making better choices, remaining aware, and understanding the risks that surround you. Enjoy reading it, and maybe you will keep it as your bedside table companion.

Ayman A. E. El-Mohandes, MD, MPH
Dean

*City University of New York Graduate School of
Public Health and Health Policy
New York, New York*

Reviewers

Ari Fisher, MA

Senior Instructor
Louisiana State University, Baton Rouge
Baton Rouge, Louisiana

Julie Gast, PhD

Professor
Utah State University
Logan, Utah

Eliza MacDonald, MPA, AT, ATC

Affiliate Faculty Member
Grand Valley State University
Allendale, Michigan

Pardess Mitchell, EdD

Assistant Professor, Department Chair
Harper College
Palentine, Illinois

Julianne Murphy, PhD

Department Chair
Triton College
River Grove, Illinois

Yuliya Shneyderman, PhD

Assistant Professor
Borough of Manhattan Community College
New York, New York

How to Use This Book

In addition to including the most current information concerning general health, each chapter includes helpful learning aids for both students and instructors. Utilizing these features for classroom and/or blog discussions and debates, or as individual reflective writing assignments, can help to drive stronger comprehension and retention of core concepts while reinforcing critical thinking skills.

Each chapter begins with a list of **Chapter Objectives** to help you focus on the most important concepts in that chapter.

CHAPTER OBJECTIVES

- Review key concepts to help understand terminology used in this text.
- Define health in the broader context.
- Explain how our environment influences the health choices we make.
- Describe the meaning of health across the life span.
- Review the theories of health behavior.
- Explore the meaning of race and racism and why they are important health issues.

In Summary sections can be found at the end of each chapter to reinforce concepts introduced in the chapter.

In Summary

Every day you make choices that impact your health. Those choices are not made in a vacuum; they are influenced by the environment around you. Researchers have proposed theories of health behavior that attempt to explain how people make decisions about their health behaviors. These theories are helpful because public health practitioners want to understand how to help people make healthier choices.

This chapter introduces key concepts and terms fundamental to understanding health. The concept of health across the life span helps you understand that the choices you make, as well as the external environment around you, affect your health. The concept of race is a social, not biological, construct. The consequences of racism on health are devastating.

We also consider health determinants that are not always obvious. Where you live is important. It influences your sense of well-being, your health, your happiness, and other choices about your life. Furthermore, understanding what will make you happy is critical to living a healthy life.

Key terms are bolded in the text and listed at the end of each chapter. Terms are defined in the margins and in the glossary at the end of the book.

Key Terms

built environment
cancer
congenital anomalies
cutoff value
discrimination
epidemiologists
focus groups
heart disease
incidence

population health
prevalence
race
racism
screening tests
randomized controlled trials
social determinants of health
sudden infant death syndrome (SIDS)

Try It! applies topics from the text to your daily life.

TRY IT!

Create a Budget

Give yourself a "healthy diet" budget. What food choices would you make if you had \$3.00 per day to spend? What about \$6.00 per day? Or \$10.00 per day? Try to come up with a grocery list for a week's worth of groceries based on those numbers. [Hint: Look on the Internet to come up with suggestions if you need to. This is an exercise many have tried!]

Fact vs. Fiction debunks popular health myths and explores controversies.

FACT VS. FICTION

Camera Enforcement of Speed Limits

Myth: Speed cameras are just a way for cities to make money and don't make people slow down.

Fact: Speeding is a factor in most collisions, especially ones where there are injuries and fatalities. Encouraging people to slow down helps to reduce or eliminate injuries and fatalities. Like many cities resorting to cameras to monitor speeding, in 2007, police in Rockville, Maryland, installed two cameras to detect speeders in front of a local high school. It was one of the city's worst speeding locations. About 2,800 vehicles pass the cameras every day. When the cameras were first installed, there were approximately 75 citations issued per day; 2 years later, it is only 16 per day. The cameras in front of the high school were placed there after someone speeding through the school zone killed a student who was crossing the street.

By the Numbers displays relevant—and often surprising—statistics to further your understanding of topics discussed in the text.

BY THE NUMBERS

Heart Attacks in the United States

Every 43 seconds, someone in the United States has a heart attack.²⁹

Up for Debate describes current controversies in public health to engage students in discussions.

UP FOR DEBATE

Should the United States Allow Direct-to-Consumer Advertising?

In the United States, there are several categories of pharmaceutical drugs that require a prescription, and are unavailable for you to purchase off the shelf from the store. And yet, drug companies can still market those products directly to you by advertising on TV, in magazines, and through social media. What do you think about that?

Nearly every other country in the world bans prescription drug companies from marketing directly to consumers. The United States and New Zealand are the only two countries that allow direct-to-consumer advertising (DTC) of prescription drugs. In other nations, if a drug requires a prescription, it cannot be advertised to the public. The reasoning is that because regulations restrict people from buying drugs directly from a store or pharmacy without a prescription, drug companies should not be permitted to "sell" directly to consumers.

Pharmaceutical companies argue that DTC advertising increases knowledge, encourages patient-physician communication, reduces the stigma of certain disorders by placing them widely open in the public, and represents freedom of speech.³⁰

Physicians have indicated that direct-to-consumer advertising has both positive and negative effects on patients and on public health.³¹ In recent years, the physician community has begun to organize in greater opposition to the practice. In 2015, the American Medical Association (AMA) voted to ban DTC advertising, citing concerns about the negative impact of commercially driven promotions, and the role marketing costs play in rising drug prices. The AMA also argued that DTC marketing increased demand for new and more expensive drugs, even when these drugs may not be appropriate.³² Meanwhile, a spokesperson for the pharmaceutical manufacturers trade association (PhRMA) said that DTC advertisers design their advertising to "provide scientifically accurate information to help patients better understand their health care and treatment options."³³

In many cases, drug companies market their products, not to get patients to seek the medication, but to get them to request their particular brand when generic (non-brand name) versions of the drug are available. The generic drugs are less expensive than the brand name ones being advertised.

Along with issues of treatment, DTC advertising has cost implications, both for individuals and the nation's health system. One drug, Neulasta, for example, can cost \$5,000 per injection in the United States, generating \$46 billion in sales in 1 year for its manufacturer, Amgen.³⁴ This level of profit makes the total DTC advertising spending in 2015 of approximately \$5 billion for the entire industry³⁵ seem cost-effective!

What do you think? Should prescription drug ads be banned from the eyes of consumers, or do consumers have the right to receive the most professionally produced and effective communications possible from the manufacturers? After all, the call to action is not to "buy," but to "ask your doctor."

Going Upstream provides insights to help students think about predisposing factors to health, particularly social determinants of health.

GOING UPSTREAM

Why Are People of Color at Higher Risk for Cardiovascular Diseases?³⁶

Several theories exist as to why people of color, particularly Black men and women, are at higher risk of developing cardiovascular diseases and dying from them. One theory is that this population has higher rates of obesity and diabetes, which can lead to CVD. Another theory is that a gene common among African Americans may make this group more sensitive to salt. However, it is clear that a large part of this disparity exists due to barriers to diagnosis and treatment. Social determinants of health, including inequalities in income, education, and access to care, discussed throughout this book, disproportionately affect people of color and contribute to these barriers to cardiovascular care.

Tales of Public Health are real-life public health stories, to bring a human face to the concepts described.

TALES OF PUBLIC HEALTH

The White Potato: In or Out?

Mashed? Baked? Fried? Boiled? The white potato, or *Solanum tuberosum*, is a member of the perennial nightshade family, which includes tomatoes, eggplant, and chili peppers. Originally from the Andes mountains, it is now cultivated throughout the world, and its place on the American table has been unanimously accepted for centuries.

That changed in 2015, when the simple white potato found itself at the center of a fierce argument in Washington, DC. The debate called into question whether the potato is nutritious enough to be included in the federal nutrition assistance program for pregnant women and their newborn babies.

The Women, Infants, and Children (WIC) program provides nutrition at the crucial time in human development when human growth and cellular resilience are taking shape—in the womb and during the first few years of childhood. The program provides vouchers for mothers, which can be spent only on foods deemed “exceptionally nutritious” by the USDA, such as milk, cereal, eggs, fruits, vegetables, beans, and peanut butter. The USDA takes its guidance from the National Academy of Medicine (NAM), a nongovernmental nonprofit organization that provides unbiased guidance for policy decisions related to health and health care.

In 2006, the medical and nutritional scientists at the NAM determined that potatoes were not healthy enough to be considered a “crucial” food for women and postpartum babies and thus ineligible for WIC reimbursement. For the potato industry, the financial implications were enormous. WIC had distributed around \$7 billion in vouchers in 2006,⁴³ and removing an item from WIC funding has a major effect on jobs and profits for large industrial food producers, as well as small farmers, whether they’re raising potatoes or peanuts.

After a long campaign of communications, lobbying, and financial contributions, the potato industry got what it wanted. In February 2015, the NAM announced that white potato would be returned to the list of approved WIC foods. It was a victory for the potato farmers, but what about the health impact? In the United States, most potatoes are whipped, deep-fried, or processed into chips and other products that are not “crucial” nutrition for pregnant women and new mothers. This was the concern expressed by the American Public Health Association, which protested that this was not a “health” decision but one based on political and financial influence. The American Academy of Pediatrics (AAP) said they were “tremendously concerned” about industry intervening in WIC regulations. The AAP argued that including potatoes would “override the sound scientific judgment of our nation’s leading nutrition science experts.”⁴⁴ New York University nutrition professor Marion Nestle wrote, “I have a hard time believing that WIC recipients are suffering from lack of potatoes in their diets. Potatoes are fine foods, but highly caloric when prepared in the usual ways. Encouraging WIC recipients to choose leafy greens and other vegetables seems like a good idea.”⁴⁴

The food industry has influenced USDA dietary guidelines since the first recommendations in 1894. This influence has been in lobbying Congress, funding nutrition research, and forming partnerships with professional nutrition organizations.

Each sector of American life (governments, companies, nonprofit organizations) has a different perspective on health, and in America, the public and private sectors both have influence on our diets. Reaching a better understanding of these areas through critical discussion and open reporting may help all of us to become healthier eaters, and consequently, healthier people.

Discussion Questions and Activities at the end of each chapter encourage students to discuss, ponder, and critically analyze their own feelings and opinions about the information presented in the book.

Student Discussion Questions and Activities

1. Placing limits on the sale of tobacco and establishing smoke-free workplace laws are two examples of laws and policies intended to reduce cancer rates in the United States. What are some other policies you can think of that may help more people avoid cancer?
2. What would you do or say if a parent or grandparent told you they had cancer? How would you talk to them? Would you feel comfortable making recommendations or offering to help? If so, what might be some ways you might offer to help?
3. Why do you think that CVDs are so highly prevalent in the United States if there are ways to change behavior and lifestyle to effectively reduce one’s risk?
4. Think about what you normally eat. Does it include foods high in sugar, fat, and salt? How hard do you think it would be to change to a healthier diet?
5. Consider changes people need to make to lower their risk of type 2 diabetes. Do you need to make those changes? Design a program for yourself or friends to lower the risk of type 2 diabetes.
6. Imagine you have asthma. How do you control the symptoms?
7. Imagine what a day would be like if you had COPD and had to take an oxygen tank with you everywhere you went. How would that effect what you do every day?

Because of these features, we believe that *Personal Health: A Population Perspective* is particularly user-friendly and will encourage student motivation and learning.