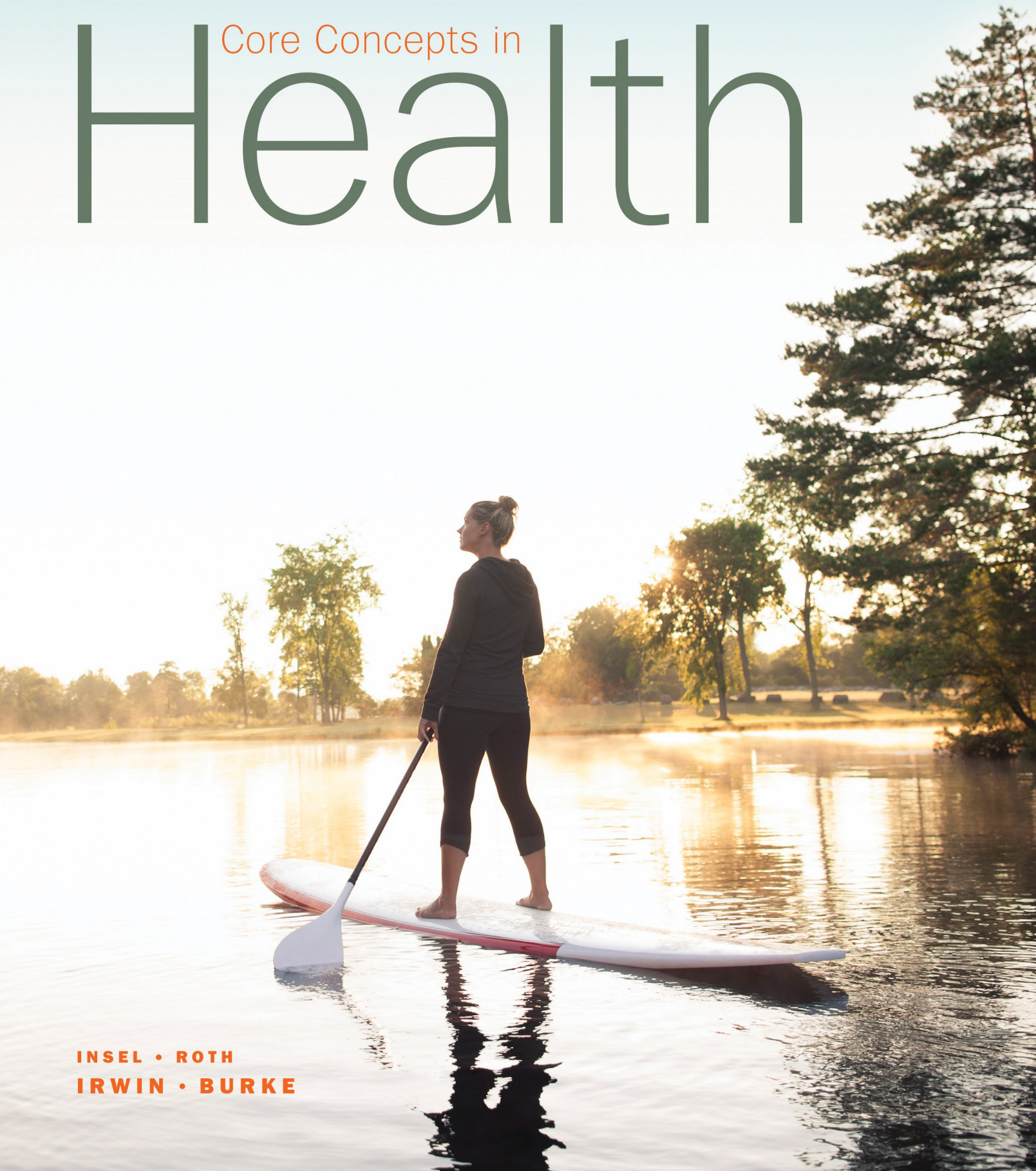


Core Concepts in Health



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Core Concepts in Health

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CORE CONCEPTS IN HEALTH
Second Canadian Edition

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Dedication

For Don, Lily, and Benjamin, and to each and every student who has and will cross our paths; you inspire us to live fully, choose wisely, and be well. This book is for you.

About the Authors



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Jennifer D. Irwin is an Associate Professor in the Faculty of Health Sciences at Western University. She received her BA from Wilfrid Laurier University, MA from Dalhousie University, and PhD from the University of Waterloo. She specializes in health promotion from a behavioural perspective. In particular, her work focuses on behaviour change from a positive and empowering approach. Dr. Irwin is passionate about teaching and has received numerous accolades, including the Edward G. Pleva Award for Excellence in Teaching and Western University's Student Council/Alumni Teaching Award of Excellence. She is equally passionate about research and has authored or co-authored research papers and book chapters related to physical activity, obesity, stress, body image, nutrition, smoking cessation, and motivational interviewing/health-related coaching.



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Preface

Core Concepts in Health has maintained its leadership position in the field of personal health education for more than 30 years. Since Insel and Roth pioneered the concept of self-responsibility for personal health in 1976, millions of students have used the American-based book to become active, informed participants in their own health care. This history of excellence, combined with our own high opinion of the book, motivated us to create *Core Concepts in Health*, Second Canadian Edition. What follows is a book that we are both proud of and excited to use in our own classrooms.

Our Goals

Our goals and principles for *Core Concepts in Health*, Second Canadian Edition, are the following:

- To present scientifically based, accurate, up-to-date Canadian information in an accessible format
- To involve Canadian students in taking responsibility for their health and well-being
- To instill a sense of competence and personal power in Canadian students

The first of these goals means making expert knowledge about health and health care available to the individual. *Core Concepts in Health*, Second Canadian Edition, brings the most current, scientifically based, and accurate information to students about Canadian topics and issues that concern Canadians: exercise, stress, nutrition, weight management, contraception, intimate relationships, HIV infection, drugs, alcohol, and a multitude of others. Current, complete, and straightforward coverage is balanced with user-friendly features designed to make the text appealing. Written in an engaging, easy-to-read style and presented in a colourful, open format, *Core Concepts in Health*, Second Canadian Edition, invites students to read, learn, and remember. Boxes, tables, artwork, photographs, and many other features highlight areas of special interest throughout the book.

Our second goal is to involve students in taking responsibility for their health. *Core Concepts in Health*, Second Canadian Edition, uses innovative pedagogy and unique interactive features to get students thinking critically about how the material they are reading relates to their lives. We invite them to examine their emotions about the issues under discussion, consider their personal values and beliefs, develop their critical thinking skills, and analyze their health-related behaviours. Beyond this, for students who want to change behaviours that detract from a healthy lifestyle, we offer guidelines and tools, ranging from samples of health journals and personal contracts, to detailed assessments and behaviour change strategies.

Our third goal is perhaps the most important: to instill a sense of competence and personal power in students who read the book. Everyone has the ability to monitor, understand, and affect his or her health. Although medical and health professionals possess impressive skills and have access to a vast body of knowledge that benefits everyone in our society, people can help to optimize their health and minimize the amount of professional care they require in their lifetime by taking care of themselves—taking charge of their health—from an early age. Our hope is that *Core Concepts in Health*, Second Canadian Edition, will help Canadians make this exciting discovery—that they have the power to shape their futures.

Text Organization

The book is divided into seven parts. Part One, Establishing a Basis for Wellness, includes chapters on taking charge of your health (Chapter 1), psychological health (Chapter 2), and stress (Chapter 3).

Part Two, Getting Fit, includes a detailed discussion of weight management (Chapter 4), nutrition (Chapter 5), and exercise (Chapter 6).

Part Three, Protecting Yourself from Disease, deals with the most serious health threats facing Canadians today: cardiovascular disease (Chapter 7), cancer (Chapter 8), and infectious diseases (Chapter 9).

Part Four, Understanding Sexuality, opens with an exploration of communication and healthy relationships, including friendship, intimate partnerships, marriage, and family (Chapter 10) and then moves on to

discuss physical sexuality, contraception, and abortion (Chapter 11), pregnancy and childbirth (Chapter 12), and sexually transmitted infections (Chapter 13).

Part Five, Making Responsible Decisions: Substance Use and Abuse, opens with a discussion of addictive behaviour and the different classes of psychoactive drugs (Chapter 14), followed by chapters on alcohol (Chapter 15) and tobacco (Chapter 16).

Part Six, Accepting Physical Limits, looks at aging (Chapter 17) and dying and death (Chapter 18).

Part Seven, Living Well in the World, explores conventional and complementary medicine (Chapter 19), personal safety (Chapter 20 on Connect), and environmental health (Chapter 21 on Connect).

Finally, the appendix (Nutritional Content of Popular Items from Fast-Food Restaurants) provides links to information on popular Canadian fast-food restaurants. Students can use this handy resource for making healthy food choices when eating out.

Taken together, the text content provides Canadian students with a complete guide to promoting and protecting their health, now and throughout their entire lives.

CHAPTER-by-CHAPTER CHANGES

Chapter 1

- Use of the most up-to-date Canadian statistics and information on the dimensions of wellness and major health challenges currently facing Canadians
- Inclusion of Social Determinants of Health
- Additional background on the Ottawa Charter for Health Promotion

Chapter 2

- Evidence-based information about psychological health, including self-esteem, and constructive approaches for dealing with issues of loneliness and anger
- Inclusion of new information from the Mental Health Commission of Canada

Chapter 3

- Updated information from Canada's campus survey of university and college students' experiences of stress
- More examples of challenges across Canadian college and university campuses

Chapter 4

- New information added on concepts such as the built/obesogenic environment, endocrine disrupting chemicals, and circumference measures

Chapter 5

- Inclusion of updated information reflecting current trends on dietary intake of proteins and sugars
- Additional relevant information about popular gluten-free diets and health implications of choosing to follow a gluten-free diet if not diagnosed with Celiac disease

Chapter 6

- Inclusion of updated physical activity and exercise guides for Canadians of all ages
- New information on high intensity interval training

Chapter 7

- New cholesterol guidelines and the inclusion of important CPR information
- Updated information about heart disease and stroke

Chapter 8

- Enhanced critical thinking and self-reflection opportunities
- Updated information about steps to reduce cancer risks and promote optimal health

Chapter 9

- New relevant information about immunity and reducing the spread of infection

Chapter 10

- Practical information about healthy relationships relevant for college and university students

Chapter 11

- New critical thinking and reflection questions to encourage students to think about their own views and decisions pertaining to healthy sexuality and sexual activity

Chapter 12

- Updated statistics and examples

Chapter 13

- New “In Focus” box including information from the Public Health Agency of Canada related to monitoring infections in Canada
- New photographs to provide a more realistic visual representation of many sexually transmitted infections (STIs)

Chapter 14

- New information pertaining to addiction, including an updated Canadian definition
- Updated information related to gambling disorder and substance use disorder from the Diagnostic and Statistical Manual of Mental Disorders, 5th Edition (DSM-5, 2013)
- New information regarding the use of “study drugs” by university students, as well as synthetic recreational drugs

Chapter 15

- Additional information related to alcohol use disorder (new in the DSM-5)
- Updated information about Canada’s Low-Risk Alcohol Drinking Guidelines
- Updated Quick Stats boxes
- New section related to caffeinated alcoholic beverages (CABs)

Chapter 16

- Updated statistics
- New section on e-cigarettes

Chapter 17

- New brief “sexual functioning” section
- Additional information about dementia (symptoms, Lewy body dementia) and life expectancy for Canada’s Aboriginal populations

Chapter 18

- Updated information related to physician-assisted death and palliative sedation
- New information about what students can do to support older family members as well as a new section, “When A Young Adult Loses a Friend”

Chapter 19

- Updated statistics and examples
- Extensive revisions to evidence-based decision-making guidelines for both conventional and complementary medicine

Chapter 20

- Updated information regarding the American Heart Association/Heart and Stroke Foundation of Canada CPR guidelines
- Additional information about the dangers of distracted driving
- New “Weather-Related Injuries” section and new information about the controversial Anti-Terrorism Act, 2015 (Bill C-51)

Chapter 21

- New “Environmental Threats of Extreme Energy Sources” and “Renewable Energy” sections
- Additional environmental examples, both Canadian and global

Key Features and Learning Aids

Core Concepts in Health, Second Canadian Edition, builds on the features that attracted and held readers’ interest in past editions. One of the most popular features has always been the feature boxes, which allow for the exploration of a wide range of current topics in greater detail than is possible in the text itself. Each type of box is marked with a distinctive icon and label.



In the News boxes focus on current Canadian-related health issues that have recently been highlighted in the media.



Mind/Body/Spirit boxes focus on spiritual wellness and the close connections among people’s feelings, states of mind, and their physical health.



Take Charge boxes challenge students to take meaningful action toward personal improvement.



Critical Consumer boxes help students develop and apply the critical thinking skills they need to make sound health-related choices.



Dimensions of Diversity boxes give students the opportunity to identify specific health risks that affect them as individuals or as members of a group. One or more determinants of health, as defined by the Public Health Agency of Canada, are highlighted in each of these boxes.



Gender Matters boxes highlight key gender differences related to wellness, as well as areas of particular concern to men or women. An overview of important gender-related wellness concerns is provided in Chapter 1.



Assess Yourself boxes give students the opportunity to analyze their behaviour and identify ways that they can change their habits to improve their health.



In Focus boxes highlight current wellness topics of particular interest.



Thinking About the Environment boxes highlight specific environmental issues related to chapter topics.

Several additional features and learning aids are incorporated in the text:

Learning objectives labelled **Looking Ahead** appear on the opening page of each chapter, identifying major concepts and helping guide students in their reading and review of the text.

Each chapter begins with **Test Your Knowledge**—a set of multiple-choice and true-false questions with answers that emphasize important points, highlight common misconceptions, and spark debate on issues of relevance for Canadians.

CHAPTER 1 Taking Charge Of Your Health

LOOKING AHEAD
 After you have read and studied this chapter, you should be able to:

- LO1** Describe the dimensions of wellness
- LO2** Identify major health problems in Canada today
- LO3** Describe the influence of gender, ethnicity, income, disability, family history, and environment on health
- LO4** Explain the importance of personal decision making and behaviour change in achieving wellness
- LO5** List some available sources of health information and explain how to think critically about them
- LO6** Describe the steps in creating a behaviour-management plan to change a health-related behaviour

TEST YOUR KNOWLEDGE

- Which of the following **lifestyle factors** is the leading preventable cause of death for Canadians?
 a. excess alcohol consumption b. cigarette smoking c. obesity
- The terms **health and wellness** mean the same thing.
 True or false?
- Which of the following **health-related issues** affects the greatest number of university and college students each year?
 a. stress b. colds/flu/sore throat c. sleep problems
- A person's **genetic makeup** determines whether he or she will develop certain diseases (such as breast cancer), regardless of that person's health habits.
 True or false?

ANSWERS

- b. Smoking causes about 37 000 deaths per year; obesity-related disorders are responsible for more than 4500; and alcohol, approximately 5000.
- FALSE. Although the words are used interchangeably, they actually have different meanings. The term **health** refers to the overall condition of the body or mind and to the presence or absence of illness or injury. The term **wellness** refers to optimal health and vitality, encompassing all the dimensions of well-being.
- a. Nearly 40 percent of university and college students suffer so much stress that it affects their academic performance. High stress levels affect overall health and wellness, making it important to manage stress.
- FALSE. In many cases, behaviour can tip the balance toward good health even when heredity or environment is a negative factor. For example, breast or prostate cancer may run in families, but these diseases are also associated with controllable factors, such as being overweight and inactive.

3

CHAPTER 7 Cardiovascular Health

QUESTIONS FOR CRITICAL THINKING AND REFLECTION

How often do you think about the health of your heart? Are there certain situations, for example, that make you aware of your heart rate, or make you wonder how strong your heart is? What's one change you could make to support your heart's health?

Blood pumped through the heart does not reach the cells of the heart, so the organ has its own network of arteries, veins, and capillaries (see Figure 7.3). Two large vessels, the right and left **coronary arteries**, branch off the aorta and supply the heart muscle with oxygenated blood. Blockage of a coronary artery is a leading cause of heart attacks.

coronary arteries
 A system of arteries branching from the aorta that provides blood to the heart muscle.

QUICK STATS
 A 68-kilogram person has about 5 litres of blood, which circulates about once each minute.
 —CDC, 2007

FIGURE 7.3
 Blood Supply to the Heart

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Questions for Critical Thinking and Reflection encourage critical reflection on students' own health-related behaviours.

Quick Stats highlight striking statistics related to the chapter content.

A wealth of attractive and informative **anatomical art**, prepared by medical illustrators, helps students understand important information, such as how blood flows through the heart, how the process of conception occurs, and how cholesterol moves throughout the body. These illustrations will particularly benefit students who learn best from visual images.

A **Take Charge** box concludes many chapters and offers specific behaviour management/modification plans related to the chapter topics. Based on the principles of behaviour management that are carefully explained in Chapter 1, these strategies will help students change unhealthy or counterproductive behaviours.

PART 3 Protecting Yourself from Disease

some functions can be taken over by other parts of the brain. Some spontaneous recovery starts immediately after a stroke and continues for a few months.

Rehabilitation consists of physical therapy, which helps strengthen muscles and improve balance and coordination; speech and language therapy, which helps those whose speech has been damaged; and occupational therapy, which helps improve hand-eye coordination and everyday living skills. Some people recover completely in a matter of days or weeks, but most people who have a stroke and survive must adapt to some disability.

Peripheral Arterial Disease

Peripheral arterial disease (PAD) refers to atherosclerosis in the leg (or arm) arteries, which can eventually limit or completely obstruct blood flow. The same process that occurs in the heart arteries can occur in any artery of the body. In fact, patients with PAD frequently also have coronary artery disease and cerebrovascular disease, and they have an increased risk of death from CVD. According to Canada's Vascular Disease Foundation, approximately 800 000 people in Canada have PAD, although a recent study published in the Canadian Journal of Cardiology indicated that only about one-quarter of Canadians are even aware of PAD.

peripheral arterial disease (PAD)

Atherosclerosis in arteries in the legs (or, less commonly, arms) that can impede blood flow and lead to pain, infection, and loss of the affected limb.

The risk factors associated with coronary atherosclerosis, such as smoking, diabetes, hypertension, and high cholesterol, also contribute to atherosclerosis in the peripheral circulation. The risk of PAD is significantly increased in people with diabetes and people who smoke. The likelihood of needing an amputation is increased in those who continue to smoke, and PAD in people with diabetes tends to be extensive and severe.

Symptoms of PAD include claudication and rest pain. Claudication is aching or fatigue in the affected leg with exertion, particularly walking, which resolves with rest. Claudication occurs when leg muscles do not get adequate blood and oxygen supply. Rest pain occurs when the limb artery is unable to supply adequate blood and oxygen, even when the body is not physically active. This occurs when the artery is significantly narrowed or completely blocked. If blood flow is not restored quickly, cells and tissues die; in severe cases, amputation may be needed. PAD is the leading cause of amputation in people over age 50.

Congestive Heart Failure

A number of conditions—high blood pressure, heart attack, atherosclerosis, alcoholism, viral infections, rheumatic fever, and birth defects—can damage the heart's pumping mechanism. When the heart cannot maintain its regular pumping rate and force, fluids begin to back up. When extra fluid seeps through capillary walls, edema (swelling) results, usually in the legs and ankles, but sometimes in other parts of the body as well. Fluid can collect in the lungs and interfere with breathing, particularly when a person is lying down. This condition is called pulmonary edema, and the entire process is known as congestive heart failure. According to The Heart and Stroke Foundation of Canada, about 500 000 Canadians are living with heart failure.

pulmonary edema

The accumulation of fluid in the lungs.

congestive heart failure

A condition resulting from the heart's inability to pump out all the blood that returns to it; blood backs up in the veins leading to the heart, causing an accumulation of fluid in various parts of the body.

Congestive heart failure can be controlled. Treatment includes reducing the workload on the heart, modifying salt intake, and using drugs that help the body eliminate excess fluid. Drugs used to treat congestive heart failure improve the pumping action of the heart, lower blood pressure so the heart doesn't have to work as hard, and help the body eliminate excess salt and water. When medical therapy is ineffective, heart transplant is a solution for some patients with severe heart failure, but the need greatly exceeds the number of hearts available.

Chapter summaries offer a concise review of the most important concepts in the chapter.

End-of-chapter **For More Information** sections contain annotated lists of books, newsletters, organizations, and websites that Canadian students can use to extend and broaden their knowledge or pursue subjects of interest. **Selected Bibliographies** can also be found at the end of every chapter.

CHAPTER 3 Stress: The Constant Challenge

Take CHARGE

Dealing with Test Anxiety

Do you not perform as well as you should on tests? Do you find that anxiety interferes with your ability to study effectively before the test and to think clearly in the test situation? If so, you may be experiencing test anxiety. Two methods that have proven effective in helping people deal with test anxiety are systematic desensitization and success rehearsal.

Systematic Desensitization

Systematic desensitization is based on the premise that you can't feel anxiety and be relaxed at the same time.

- Phase I - Constructing an anxiety hierarchy: Begin the first phase by thinking of ten or more situations related to your fear, such as hearing the announcement of the test date in class, studying for the test, sitting in the classroom waiting for the test to begin, reading the test questions, and so on. Write each situation on an index card, using a brief phrase to describe it on one side of the card. On the other side, list several realistic details or prompts that will help you vividly imagine yourself actually experiencing the situation. For example, if the situation is "hearing that 50 percent of the final grade will be based on the two exams," the prompts might include specific details, such as "sitting in the big lecture auditorium in Bally Hall," "taking notes in my blue notebook," and "listening to Professor Lee's voice." Next, arrange your cards in order, from least intense to most intense situation. Rate each situation to reflect the amount of anxiety you feel when you encounter it in real life, to confirm your anxiety hierarchy. Assign ratings on a scale of 0-100, and make sure the distances between items are fairly small and about equal. When your anxiety hierarchy is a true reflection of your feelings, number the cards.
Phase II - Learning and practicing muscle relaxation: The second phase of the program involves learning to relax your muscles and to recognize when they are relaxed (see the description of progressive relaxation in this chapter). As you become proficient at this technique, you will be able to go to a deeply relaxed state within just a few minutes. When you can do this, go on to the next phase of the program.
Phase III - Implementing the desensitization program: Use the quiet place where you practise your relaxation exercises. Sit comfortably and place your stack of numbered cards within reach. Take several minutes to relax completely, and then look at the first card, reading both the brief phrase and the descriptive prompts. Close your eyes and imagine yourself in that situation for about 10 seconds. Then put the card down and relax completely for about 30 seconds. Look at the card again, imagine the situation for 10 seconds, and relax again for 30 seconds. At this point, evaluate your level of anxiety about the situation on the card in terms of the rating scale you devised earlier. If your anxiety level is 10 or lower, relax for 2 minutes and go on to the second card. If it's higher than 10, repeat the routine with the same card until the anxiety decreases.

If you have difficulty with a particular item, go back to the previous item and try it again. If you still can't visualize it without anxiety, try to construct these new items with smaller steps between them and insert them before the troublesome item. You should be able to move through one to four items per session.

Sessions can be conducted from twice a day to twice a week and should last no longer than 20 minutes. It's helpful to graph your progress in a way that has meaning for you.

After you have successfully completed your program, you should be desensitized to the real-life situations that previously caused anxiety. If you find that you do experience some anxiety in the real situations, take 30 seconds or a minute to relax completely, just as you did when you were practising.

Success Rehearsal

To practise this variation on systematic desensitization, take your hierarchy of anxiety-producing situations and vividly imagine yourself successfully dealing with each one. Create a detailed scenario for each situation, and use your imagination to experience the positive feelings of confidence. Download your scenarios through the CCB in your course.

Important terms appear in boldface type in the text and are defined in a running glossary, helping students handle a large and complex new vocabulary.

PART 3 Protecting Yourself from Disease

SUMMARY

- The cardiovascular system pumps and circulates blood throughout the body. The heart pumps blood to the lungs via the pulmonary artery and to the body via the aorta.
The exchange of nutrients and waste products takes place between the capillaries and the tissues.
The six major risk factors for CVD that can be changed are smoking, high blood pressure, unhealthy cholesterol levels, inactivity, overweight and obesity, and diabetes.
Effects of smoking include lower HDL levels, increased blood pressure and heart rate, accelerated plaque formation, and increased risk of blood clots.
Hypertension occurs when blood pressure exceeds normal limits most of the time. It weakens the heart, scars and hardens arteries, and can damage the eyes and kidneys.
High LDL and low HDL cholesterol levels contribute to clogged arteries and increase the risk of CVD.
Physical inactivity, obesity, and diabetes are interrelated and are associated with high blood pressure and unhealthy cholesterol levels.
Contributing risk factors that can be changed include high triglyceride levels and psychological and social factors.
Risk factors for CVD that can't be changed include being over age 65, being male, being a woman experiencing menopause, being Aboriginal or of South Asian or African descent, and having a family history of CVD.
Atherosclerosis is a progressive hardening and narrowing of arteries that can lead to restricted blood flow and even complete blockage.
Heart attacks are usually the result of a long-term disease process. Warning signs of a heart attack include chest discomfort, shortness of breath, nausea, and sweating.
A stroke occurs when the blood supply to the brain is cut off by a blood clot or hemorrhage. A transient ischemic attack (TIA) is a warning sign of stroke.
Congestive heart failure occurs when the heart's pumping action becomes less efficient and fluid collects in the lungs or in other parts of the body.
Dietary changes that can protect against CVD include decreasing your intake of fat, especially saturated and trans fats, and cholesterol, and increasing your intake of fibre by eating more fruits, vegetables, and whole grains.
CVD risk can also be reduced by engaging in regular exercise, avoiding tobacco and environmental tobacco smoke, knowing and managing your blood pressure and cholesterol levels, and developing effective ways of handling stress and anger.

FOR MORE INFORMATION

BOOKS

- Freeman, M. W., and C. E. Jung. 2005. Harvard Medical School Guide to Lowering Your Cholesterol. New York: McGraw-Hill. Information about cholesterol, including lifestyle changes and medication for improving cholesterol levels.
Heller, M. 2005. The DASH Diet Action Plan, Based on the National Institutes of Health Research: Dietary Approaches to Stop Hypertension. Northbrook, Ill.: Amidon Press. Background information and guidelines for adopting the DASH diet, along with meal plans to suit differing caloric needs and recipes.
Lipsky, M. S., et al. 2008. American Medical Association Guide to Preventing and Treating Heart Disease. New York: Wiley. A team of doctors provides advice for heart health to consumers.
Mostyn, B. 2007. Pocket Guide to Low Sodium Foods, 2nd ed. Olympia, Wash.: InData Publishing. Lists thousands of low-sodium products that can be purchased in supermarkets, as well as low-sodium choices available in many restaurants.

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- View assignments and resources created for past sections.
- Post your own resources for students to use.

Instructor Resources

- The **Instructor's Manual** contains learning objectives, key terms with definitions, a detailed lecture outline, suggested Internet resources, and in-class activities.
- The **Test Bank** offers more than 3000 multiple-choice, true/false, and short essay questions. Each question is categorized according to learning objective and level of Bloom's taxonomy. The test bank is available in Word (rich text) format and through EZ Test Online—a flexible and easy-to-use electronic testing program that allows instructors to create tests from book-specific items.
- **Microsoft® PowerPoint® Lecture Slides** include key points and images from the text. They can be used as-is or you may modify them to fit your needs.

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Taking Charge Of Your Health



LOOKING AHEAD

After you have read and studied this chapter, you should be able to:

- LO1** Describe the dimensions of wellness
- LO2** Identify major health problems in Canada today
- LO3** Describe the influence of gender, ethnicity, income, disability, family history, and environment on health
- LO4** Explain the importance of personal decision making and behaviour change in achieving wellness
- LO5** List some available sources of health information and explain how to think critically about them
- LO6** Describe the steps in creating a behaviour-management plan to change a health-related behaviour

TEST YOUR KNOWLEDGE

- 1. Which of the following lifestyle factors is the leading preventable cause of death for Canadians?**
a. excess alcohol consumption b. cigarette smoking c. obesity
- 2. The terms *health* and *wellness* mean the same thing.**
True or false?
- 3. Which of the following health-related issues affects the greatest number of university and college students each year?**
a. stress b. colds/flu/sore throat c. sleep problems
- 4. A person's genetic makeup determines whether he or she will develop certain diseases (such as breast cancer), regardless of that person's health habits.**
True or false?

ANSWERS

1. b. Smoking causes about 37 000 deaths per year; obesity-related disorders are responsible for more than 9500; and alcohol, approximately 6000.
2. FALSE. Although the words are used interchangeably, they actually have different meanings. The term *health* refers to the overall condition of the body or mind and to the presence or absence of illness or injury. The term *wellness* refers to optimal health and vitality, encompassing all the dimensions of well-being.
3. a. Nearly 40 percent of university and college students suffer so much stress that it affects their academic performance. High stress levels affect overall health and wellness, making it important to manage stress.
4. FALSE. In many cases, behaviour can tip the balance toward good health even when heredity or environment is a negative factor. For example, breast or prostate cancer may run in families, but these diseases are also associated with controllable factors, such as being overweight and inactive.

A first year university student sets the following goals for herself:

- To manage her time to do all of her readings for classes each week
- To exercise every day
- To clean up garbage and plant trees in blighted neighbourhoods in her community

These goals may differ, but they have one thing in common: Each contributes, in its own way, to this student's health and well-being. Not satisfied merely to be free of illness, she wants more. She has decided to live actively and fully—not just to be healthy, but to pursue a state of overall wellness.

Wellness: The New Health Goal

Generations of people have viewed health simply as the absence of disease. That view largely prevails today; the word **health** typically refers to the overall condition of a person's body or mind and to the presence or absence of illness or injury. It's important to not become obsessed with our health as that, in itself, can be unhealthy. In fact, The Ottawa Charter for Health Promotion underscores the important distinction that health is a resource for living, not the objective of living. **Wellness** is a relatively new concept that expands our idea of health. Beyond the simple presence or absence of disease, wellness refers to optimal health and vitality—to living life to its fullest. Although we use the words *health* and *wellness* interchangeably in this text, two important differences exist between them:

health

The overall condition of body or mind and the presence or absence of illness or injury.

wellness

Optimal health and vitality, encompassing all the dimensions of well-being.

- Health—or some aspects of it—can be determined or influenced by factors beyond your control, such as your genes, age, the health care system, and the care you received as a young child (i.e., by some of the **social determinants of health**, see Table 1.1). For example, consider a 60-year-old man with a strong family history of prostate cancer, who lives in a rural community in the Northwest Territories, and who has limited access to cancer screening services. These factors place this man at a higher-than-average risk for developing prostate cancer himself.

social determinants of health

Factors that influence the health of individuals and groups.

- Wellness is largely determined by the decisions you make about how you live. That same 60-year-old man can reduce his risk of cancer by eating sensibly, exercising, and having screening tests when they are available. Even if he develops the disease, he may still rise above its effects to live a rich, meaningful life. This means choosing not only to care for himself physically, but also to maintain a positive outlook, keep up his relationships with others, challenge himself intellectually, honour his faith or spirituality, and nurture other aspects of his life.

Enhanced wellness, therefore, involves making conscious decisions to control **risk factors** that contribute to disease or injury. Age and family history are non-modifiable risk factors that you cannot control. Some behaviours, such as smoking, exercising, and eating a healthy diet, are modifiable factors. The Ottawa Charter for Health Promotion describes **health promotion** as a vehicle for achieving wellness; you must play an active role in the decisions related to each dimension of your wellness rather than deciding simply that your health status happens to you. And it is important to recognize that different people define their level of wellness differently.

risk factors

Conditions that increase a person's chances of disease or injury.

health promotion

A process of enabling people to increase control over and improve their health.

The Dimensions of Wellness

Experts have defined six dimensions of wellness:

- physical
- emotional
- intellectual
- interpersonal
- spiritual
- environmental

These dimensions are interrelated; each has an effect on the others, and researchers have found important connections between the wellness of the mind and that of the body (see Chapter 19). The process of achieving wellness is constant and dynamic (see Figure 1.1), and it involves change and growth. Wellness is not static; ignoring any dimension of wellness can have harmful effects on your life. The following sections briefly introduce the dimensions of wellness. Table 1.2 lists some of the specific qualities and behaviours associated with each dimension, and the Mind Body Spirit box discusses another important aspect of wellness.

TABLE 1.1

Social Determinants of Health

The Canadian Public Health Association identifies 14 key social determinants of health for both populations and individuals, the latter of which are the focus of this text. Some determinants are discussed throughout this chapter, and others are highlighted in the Dimensions of Diversity boxes throughout the entire text.

- | | |
|---|--|
| <ul style="list-style-type: none"> • Income and income distribution • Education • Unemployment and job security • Early childhood development • Food insecurity • Housing • Gender | <ul style="list-style-type: none"> • Social safety network • Employment and working conditions • Social exclusion • Aboriginal status • Race • Health services • Disability |
|---|--|

Source: Raphael, D. (2009). *Social Determinants of Health: Canadian Perspectives*, 2nd edition. Toronto: Canadian Scholars' Press.

Physical Wellness

Your physical wellness includes not just your body's overall condition and the absence of disease, but also your fitness level and your ability to care for yourself. The higher your fitness level, the higher your level of physical wellness will be. Similarly, as you develop the ability to take care of your own physical needs, you ensure a greater level of physical wellness. To achieve optimum physical wellness, you need to make choices that will help you avoid illnesses and injuries. The decisions you make now, and the habits you develop over your lifetime, will largely determine the length and quality of your life.

Emotional Wellness

Your emotional wellness reflects your ability to understand and deal with your feelings. Emotional wellness involves attending to your own thoughts and feelings, monitoring your reactions, and identifying obstacles

FIGURE 1.1

The Wellness Continuum

The concept of wellness includes vitality in six interrelated dimensions, all of which contribute to overall wellness.

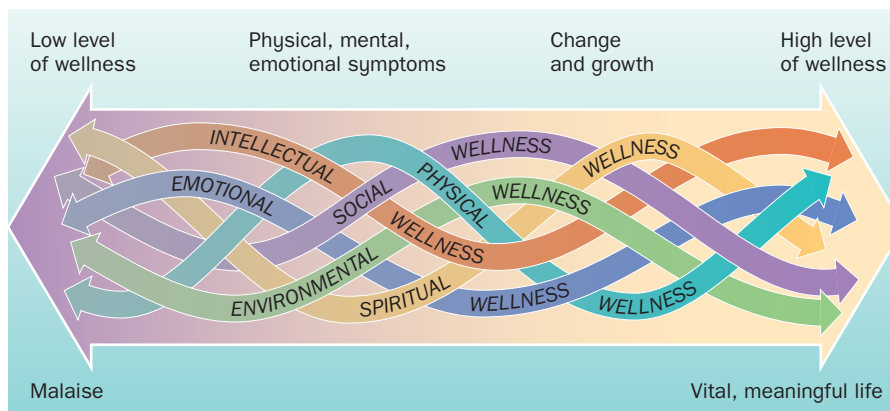


TABLE 1.2

Examples of Qualities and Behaviours Associated with the Dimensions of Wellness

Physical	Emotional	Intellectual	Interpersonal	Spiritual	Environmental
<ul style="list-style-type: none"> • Eating well • Exercising • Avoiding harmful habits • Practising safer sex • Recognizing symptoms of disease • Getting regular checkups • Avoiding injuries 	<ul style="list-style-type: none"> • Optimism • Trust • Self-esteem • Self-acceptance • Self-confidence • Ability to understand and accept own feelings • Ability to share feelings with others 	<ul style="list-style-type: none"> • Openness to new ideas • Capacity to question • Ability to think critically • Motivation to master new skills • Sense of humour • Creativity • Curiosity • Lifelong learning 	<ul style="list-style-type: none"> • Communication skills • Capacity for intimacy • Ability to establish and maintain satisfying relationships • Ability to cultivate support system of friends and family 	<ul style="list-style-type: none"> • Capacity for love • Compassion • Forgiveness • Altruism • Joy • Fulfillment • Caring for others • Sense of meaning and purpose • Sense of belonging to something greater than yourself 	<ul style="list-style-type: none"> • Having abundant, clean natural resources • Maintaining sustainable development • Recycling whenever possible • Reducing pollution and waste

to emotional stability. Achieving this type of wellness means finding solutions to emotional problems, with professional help if necessary.

Intellectual Wellness

Those who enjoy intellectual (or mental) wellness constantly challenge their minds. An active mind is essential to wellness because it detects problems, finds solutions, and directs behaviour. People who enjoy intellectual wellness never stop learning; they continue trying to learn new things throughout their lifetime. They seek out and relish new experiences and challenges.

Interpersonal Wellness

Your interpersonal (or social) wellness is defined by your ability to develop and maintain satisfying and supportive relationships. Such relationships are essential to physical and emotional health. Social wellness requires participating in and contributing to your community and to society.

Spiritual Wellness

To enjoy spiritual wellness is to possess a set of guiding beliefs, principles, or values that give meaning and purpose to your life, especially in difficult times. The spiritually well person focuses on the positive aspects of life and finds spirituality to be an antidote for negative feelings, such as cynicism, anger, and pessimism. Organized religions help many people develop spiritual health. Religion, however, is not the only source or form of spiritual wellness. Many people find meaning and purpose in their lives on their own—through nature, art, meditation, or good works—or with their loved ones.

Environmental Wellness

Your environmental wellness is defined by the livability of your surroundings. Personal health depends on the health of the planet—from the safety of the food supply to the degree of violence in society. Your physical environment either supports your wellness or diminishes it. To improve your environmental wellness, you can learn about and protect yourself against hazards in your surroundings and work to make your world a cleaner and safer place.



Mind Body SPIRIT

Occupational Wellness

Many experts contend that occupational (or career) wellness is a seventh dimension of wellness, in addition to the six dimensions described in this chapter. Whether or not occupational wellness appears on every list of wellness dimensions, a growing body of evidence suggests that our daily work has a considerable effect on our overall wellness.



Defining Occupational Wellness

The term *occupational wellness* refers to the level of happiness and fulfillment you gain through your work. Although high salaries and prestigious titles are nice, they alone do not generally bring about occupational wellness. Occupationally well people truly like their work, feel a connection to others in the workplace, and have opportunities to learn and be challenged.

Key aspects of occupational wellness include the following:

- enjoyable work
- job satisfaction
- recognition and acknowledgement from managers and colleagues
- feelings of achievement
- opportunities to learn and grow

An ideal job draws on your passions and interests, as well as your vocational skills, and allows you to feel that you are contributing to society in your everyday work.

Financial Wellness

Another important facet of occupational wellness is financial wellness. A person's economic situation is a key factor in overall well-being. People with low socioeconomic status have higher rates of death, injury, and disease; are less likely to have access to preventive health services; and are more likely to engage in unhealthy habits.

Although money and possessions in themselves won't necessarily make you happy, financial security can contribute to your peace of mind. If you are financially secure, you can worry less about daily expenses and focus on personal interests and your future. Conversely, money problems are a source of stress for individuals and families and are a contributing factor in many divorces and suicides.

You don't need to be rich to achieve financial wellness. Instead, you need to be comfortable with your financial situation. Financially well people understand the limits of their income and live within their means by keeping expenses in check. They know how to balance a chequebook and interpret their bank statements. The financially well person may not strive to be wealthy, but at least tries to save money for the future.

Achieving Occupational Wellness

How do you achieve such wellness? Career experts suggest setting career goals that reflect your personal values. For example, a career in sales may be a good way to earn a high income, but may not be a good career choice for someone whose highest values involve service to others. Such a person might find more personal satisfaction in teaching or nursing.

Aside from career choices, education is a critical factor in occupational and financial wellness. For starters, learn to manage money *before* you start making it. Classes on personal money management are available through many sources and can help you on your way to financial security, whether you dream of being wealthy or not.

New Opportunities, New Responsibilities

Wellness is a fairly new concept. A century ago, North Americans considered themselves lucky just to survive to adulthood (see Figure 1.2). A child born in 1900, for example, could expect to live only 47 years. Many people died from common **infectious diseases** (such as pneumonia, tuberculosis, or diarrhea) and poor environmental conditions (such as water pollution and poor sanitation).

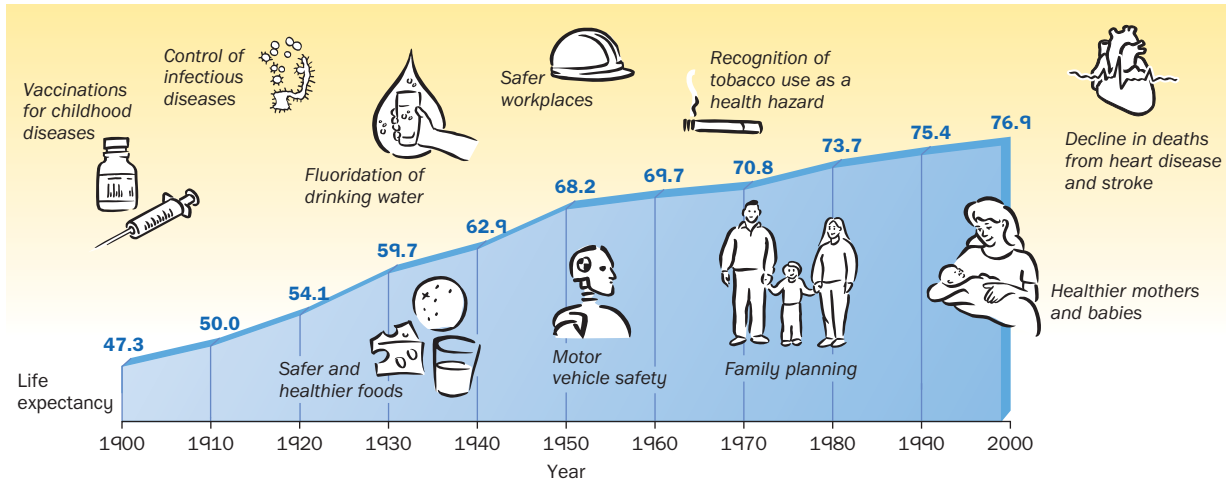
infectious disease

A disease that can spread from person to person; caused by microorganisms, such as bacteria and viruses.

FIGURE 1.2

Public Health Achievements of the Twentieth Century

During the twentieth century, public health achievements greatly improved the quality of life for North Americans. A shift in the leading causes of death also occurred, with deaths from infectious diseases declining from 33 percent of all deaths to just 2 percent. Heart disease, cancer, and stroke are now responsible for more than half of all deaths among North Americans.



Sources: National Center for Health Statistics, Centers for Disease Control and Prevention. 1999. Ten great public health achievements—United States, 1900–1999. *Morbidity and Mortality Weekly Report* 48(50); U.S. Department of Health and Human Services. 2012. HealthCare.gov: Take Health Care into Your Own Hands, <http://www.healthcare.gov>; Statistics Canada. 2009. *Leading causes of death, total population, by age group and sex, Canada, CANSIM Table 102-0561*, <http://www5.statcan.gc.ca/cansim/a267?lang=eng&retrLang=eng&id=1020561&paSer=&pattern=&sfByVal=1&pl=1&p2=-1&tabMode=dataTable&csid=> (retrieved March 4, 2015); and World Health Organization. 2011. *Noncommunicable Diseases Country Profiles 2011*. ISBN 978 92 4 150228.

Since 1900, however, life expectancy has nearly doubled, largely because of the development of vaccines and antibiotics to fight infections and because of public health measures to improve living conditions. Today, a different set of diseases has emerged as our major health threat: cancer, heart disease, and stroke are now the three leading causes of death for Canadians (see Table 1.3). Treating such **chronic diseases** is costly and difficult.

chronic diseases

Diseases that develop and continue over a long period, such as heart disease or cancer.

The good news is that people have some control over whether they develop chronic diseases. People make choices every day that increase or decrease their risks for such diseases. These **lifestyle choices** include many different behaviours, such as smoking, diet, exercise, and alcohol use. As Table 1.3 makes clear, lifestyle factors contribute to many deaths in Canada, and people can influence their own health risks.

lifestyle choices

Conscious behaviours that can increase or decrease a person's risk of disease or injury, such as eating a healthy diet, smoking, exercising, and others.

The need to make good choices is especially true for teens and young adults. For Canadians ages 15 to 24, for example, the top three causes of death are unintentional injuries (accidents), suicide, and cancer, as shown in Table 1.4.

TABLE 1.3

Ten Leading Causes of Death in Canada, 2011

Rank	Cause of Death	Number of Deaths	Percentage of Total Deaths	Death Rate *	Lifestyle Factors
	All causes	238 418	100.0	706.8	
	Total, ten leading causes of death	182 139	76.4		
1	Cancer	71 125	29.8	210.9	D I S A
2	Heart disease	49 271	20.7	146.1	D I S A
3	Stroke	14 105	5.9	41.8	D I S A
4	Chronic lower respiratory diseases	10 859	4.6	32.2	S
5	Unintentional injuries (accidents)	10 250	4.3	30.4	I S A
6	Diabetes mellitus	6 923	2.9	20.5	D I S
7	Alzheimer's disease	6 281	2.6	18.6	
8	Influenza and pneumonia	5 826	2.4	17.3	S
9	Intentional self-harm (suicide)	3 890	1.6	11.5	A
10	Kidney disease	3 609	1.5	10.7	D I S A

Source: Statistics Canada, *Leading Causes of Deaths in Canada, 2009*, CANSIM Table 102-0561, <http://www.statcan.gc.ca/pub/84-215-x/2012001/table-tableau/tbl001-eng.htm> (retrieved January 6, 2015).

Notes: D Diet plays a part; I Inactive lifestyle plays a part; S Smoking plays a part; A Excessive alcohol use plays a part

*Age-adjusted death rate per 100 000 people.

The Integrated Pan-Canadian Healthy Living Strategy

Wellness is a personal concern, but the Canadian government has humanitarian and financial interests in it, too. In addition to the enormous human suffering caused by our nation's leading chronic diseases, the estimated total cost in Canada of illness, disability, and death attributable to chronic diseases is more than \$190 billion annually, with \$68 billion going toward treatment and the rest to lost productivity.

The Integrated Pan-Canadian Healthy Living Strategy was created in 2002 when the federal, provincial, and territorial ministers of health sought a collaborative and coordinated approach to curbing our nation's non-communicable diseases. The goal was to address the diseases' common, preventable risk factors (physical inactivity, unhealthy diet, and tobacco use) and the underlying conditions in society that contribute to them, including income, employment, education, geographic isolation, social exclusion, and other factors. In 2010, the strategy was strengthened through two initiatives focused on making (a) the prevention of disease, disability and injury, and health promotion priorities, and (b) decreasing the prevalence of childhood obesity.

TABLE 1.4

Five Leading Causes of Death Among Canadians Ages 15 to 24

Rank	Cause of Death	Number of Deaths	Percentage of Total Deaths
	All causes	1781	
1	Accidents	822	46.2
2	Suicide	479	26.9
3	Cancer	165	9.3
4	Homicide	157	8.8
5	Heart disease	65	3.6

Source: Statistics Canada, *Leading Causes of Deaths in Canada, 2009*, CANSIM Tables 102-0561 and 102-0562, <http://www.statcan.gc.ca/pub/84-215-x/2012001/table-tableau/tbl003-eng.htm> (retrieved January 6, 2015).