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FIFTH EDITION

INTRODUCTION TO HEALTH CARE

LEE HAROUN
DAKOTA MITCHELL

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

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Preface

Introduction to Health Care, Fifth Edition, is designed as an introductory text for students who are entering college-level health care programs or for those who believe they may be interested in pursuing a career in health care. The fundamentals common to all health care professions are presented in this full-color text to create a foundation on which students can build when they take their specific professional courses. The topics included are appropriate for professions that involve direct patient care, such as nursing and dental assisting, as well as those that provide support services, such as health information technology and pharmacy technician. The goal of the text is to present a broad base of health care essentials. Therefore, skills and procedures that apply only to specific professions are not included.

The text is written in easy-to-understand language. A variety of learning exercises are included in each chapter. These exercises are designed to appeal to the different ways that students comprehend and learn material. The text can be used by students as a reference book after completion of their introductory courses.

CONTENT FOR TODAY'S HEALTH CARE PROFESSIONAL

Introduction to Health Care, Fifth Edition, includes topics essential for today's student and tomorrow's health care professional. The basic concepts that create the foundation for health care education have been expanded beyond those usually included in an introductory text. The following topics have been included in response to the current needs of health care educators and employers:

- Thinking skills
- Study techniques
- Complementary and alternative medicine
- Prevention and wellness strategies
- Lifelong learning and continuing education
- Documentation
- Cost-control measures
- Performance improvement
- Personal efficiency
- Customer service

EMPHASIS ON THINKING SKILLS

The dramatic growth of the health care industry promises to provide increasing numbers of employment opportunities for graduates of health care programs. At the same time, today's graduates face new challenges. Changes in health care are rapid and continuous. Professionals at all levels are being given additional responsibilities. Efficiency and flexibility, combined with competency, are vital to workplace success. To be competent and successful in this ever-changing environment, health care professionals must be able to think for themselves and learn and adapt as necessary to meet current employment demands.

The authors recognize the need of health care educators for materials that can assist them in preparing students to assess new situations, determine appropriate action, and apply on the job what they learned in the classroom. This text is designed to help meet this need. Students are introduced to the concept of thinking like a health care professional (also called "critical thinking") in Chapter 1. The specific skills that make up applied thinking are explained in everyday language. A five-step problem-solving model is clearly described to help students systematically approach new situations. Every chapter includes exercises called "Thinking It Through" that require students to apply the concepts presented in the text to typical on-the-job situations. Each chapter then concludes with two application exercises and one problem-solving exercise that provide opportunities to summarize and apply the chapter content. For a detailed review of the features in this book, see *About This Book* on page xix.

ORGANIZATION OF THE TEXT

Introduction to Health Care, Fifth Edition, is divided into nine units that contain between two and five chapters of related topics. The following overview highlights many of the major concepts included in the text.

Unit 1 | Health Care Today

- Characteristics and trends of modern health care, including changing patient demographics, challenges in health care today, and complementary and alternative medicine
- Descriptions of many health occupations, organized by type of work performed
- Explanation of how to think like a health care professional
- Personal characteristics required of health care professionals
- Legal and ethical responsibilities of health care professionals

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Unit 2 | The Language of Health Care

- Introduction to basic concepts of medical terminology
- Examples of common word elements
- Suggested ways to approach the study of terminology and to learn it systematically
- Review of math skills necessary for health care applications
- Measurement systems and methods of converting between systems
- Calculating drug dosages
- Tips for dealing with math anxiety

Unit 3 | The Human Body

- Brief overview of the basic organization, structure, and functions of the body systems, intended as an introduction rather than a complete anatomy and physiology course
- Examples of diseases and conditions related to each body system
- Preventive measures for each system, including lifestyle management tips
- Physical and mental milestones of growth and development over the life span and the implications when providing health care

Unit 4 | Personal and Workplace Safety

- Basic skills and habits needed to protect both health care professionals and patients
- Explanations of body mechanics and infection control
- Hands-on skills, such as using a fire extinguisher

Unit 5 | Behaviors for Success

- Self-care practices important for health care professionals, including dealing with stress
- Characteristics of professionalism essential for career success
- Lifelong learning and continuing education strategies

Unit 6 | Communication in the Health Care Setting

- Patients as individuals
- Basic human needs
- Acknowledging diversity while avoiding cultural stereotypes
- The six-step communication process
- Using questions and observations to assess specific patient needs
- Basic oral and written communication techniques
- Overview of computer applications in health care
- Basics of health care documentation and medical records

Unit 7 | Health Care Skills

- Basic assessment skills
- Hands-on skills, such as taking vital signs and measuring height and weight
- Normal ranges and significant changes
- Step-by-step instructions for performing basic emergency procedures (Cardiopulmonary resuscitation is not included because certification is often required of health care students and the course is taught by certified instructors who use annually updated, written materials instead of a textbook.)

Unit 8 | Business of Caring

- Health care as a business
- Improving care while controlling costs
- Working efficiently
- Customer service

Unit 9 | Securing and Maintaining Employment

- Application of job search skills to health care employment
- Tips for remaining successfully employed
- Behaviors for job success, including teamwork and leadership skills
- Employment legalities

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MAJOR CHANGES TO THE FIFTH EDITION

Book Chapter	Description of Changes
Chapter 1	• Reordered material in chapter to be more logical: beginning chapter with "Getting Off to a Good Start" and ending with career profiles • Added more specific study tips and resources • Deleted references to learning styles, now considered inaccurate • Added information and suggestions about volunteering and joining a professional organization in preparation for a career in health care • Updated career information and added Occupational Outlook Handbook web addresses for each within the text • Added information about the levels of education needed for various health care careers
Chapter 2	• Reorganized chapter content for more logical presentation • Updated health care industry statistics • Expanded list of advancements in medicine and health care • Added section on future of health care, including discussion of precision/personalized medicine • Added topics: health disparities, racism in health care, managing the opioid crisis and increase in suicides, and concerns about TV drug ads • Added definition of western medicine • Deleted some events in table on history of health care to make more manageable for students
Chapter 3	• Added sections on professional values, patient rights, and legalization of medical marijuana • Updated information on physician-assisted suicide • Expanded information on the Patient Care Partnership
Chapter 4	• Added root words for colors, how drugs are named, eponyms, and acronyms
Chapter 5	• Revised section on solving problems with proportions to make more clear • Added the basic formula method for calculating medication dosages • Added section on statistics in health care
Chapter 7	• Added a few diseases and conditions related to the various body systems
Chapter 8	• Revised Erikson's stages of psychosocial development
Chapter 9	• Major reorganization of content for more logical flow • Added section specific to exertion injuries • Revised discussion about back belts, including opinions that they should not be used routinely. Replaced all figures showing health care professionals wearing back belts • Included ways to help prevent back injuries
Chapter 10	• Reorganized chapter content for better flow • Updated current disease threats • Added information about influenza
Chapter 11	• Added sample contents of an incident report • Updated safety data sheets, previously called material safety data sheets • Added information about violence in the health care workplace

(continued)

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Book Chapter	Description of Changes
Chapter 12	• Reorganized section on nutrition for better flow • Updated information on effects of cholesterol in foods • Revised definitions of carbohydrates and fiber • Distinguished between different types of fats • Added information about sodium and its effects • Added discussion about sugar • Expanded section on causes of overweight and obesity • Updated statistics for: ° Leading causes of death in the United States ° Prevalence of overweight and obesity ° Deaths due to smoking and secondhand smoke ° Incidence and deaths from substance abuse ° Cases of HIV
Chapter 13	• Added discussion about empathy • Updated information about tattoos and piercings in the workplace • Added professionalism outside the workplace, including on social media
Chapter 14	Added new sections on professional development, learning from role models and mentors, and career ladders
Chapter 15	• Deleted table listing characteristics of various cultural and ethnic groups • Expanded information on bias, including strategies for recognizing bias Added explanation of implicit bias • Expanded view of culture to include factors such as socioeconomic status (poverty) • Revision of section on Abraham Maslow, including deletion of his hierarchy
Chapter 16	• Added discussion of health literacy • Explained "teach back" as a communication-check technique • Added discussion of communication through the life span • Expanded section on communicating with people who have dementia • Revised and updated the patient education section
Chapter 17	• Added material on writing emails and email etiquette
Chapter 18	• Added guidelines for writing and sending professional emails • Added section on computerized testing in medical labs • Moved information on electronic medical records to Chapter 19
Chapter 19	• Reorganized content for more logical flow • Added information on purposes of medical documentation • Added negative consequences of poor records • Moved electronic records to this chapter from Chapter 18 and expanded to include advantages, sample situation with a patient, challenges • Added section on cybersecurity • Expanded section on HIPAA, including sending protected information
Chapter 21	• Added RICE mnemonic for treating bone, joint, and muscle injuries and SAMPLE for getting information about an illness or injury • Updated information on properly removing ticks from the skin
Chapter 22	• Expanded information on Medicaid • Added section on Veterans' Health Administration • Added section on impact of health costs on individuals

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Book Chapter	Description of Changes
Chapter 23	• Added information about the following: ° Partnership for Patients ° The Joint Commission ° Agency for Healthcare Quality and Research ° American Hospital Association: Patient Care Partnership • Added sections on reducing medical errors, including medication errors
Chapter 24	• Updated job-search websites, deleting those no longer available • Added discussion about avoiding job-search scams on the Internet • Expanded information about using the Internet in the job search
Chapter 26	• Added section on advancing in one's career ("Moving Up")

STUDENT RESOURCES

Online Resources

Online resources are available to enhance the learning experience. Additional resources include:

- PowerPoint® presentations
- Anatomy and pathophysiology videos
- Health care–related videos
- Mathematics tutorials

Redeeming an Access Code:

1. Go to: http://www.cengage.com
2. Register as a new user or log in as an existing user if you already have an account with Cengage Learning or cengage.com
3. Select **Go to My Account**
4. Open the product from the My Account page

Animations and Videos Included on the Online Resources

Chapter	Animation Topic
4	Word Parts Work Together
4	Combining Word Roots
4	Dangerous Abbreviations
6	Anatomy of a Typical Cell
6	Body Planes
7	Shoulder Injuries
7	Skin
7	The Heart (Conduction System)
7	The Blood
7	Types of Fractures
7	Respiration

(continued)

Chapter	Animation Topic
7	Digestion
7	Urine Formation
7	Vision
7	Hearing
7	Endocrine System
7	Female Reproductive System
7	Male Reproductive System
7	Types of Muscle Tissue
7	Anatomy of the Heart
7	Firing of Neurotransmitters

Chapter	Video Topic
9	Body Mechanics
10	Infection Control
10	Controlling Disease
10	Sterile Gloves and the Sterile Field
10	The Chain of Infection
10	Transmission-Based Precautions
10	Proper Handwashing
10	Removing Contaminated Gloves
10	Sterilizing Instruments in Autoclave
11	Fire Safety
11	Using a Fire Extinguisher
17	Business Correspondence

(continued)

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Chapter	Video Topic
20	Thermometers (Chemical-dot)
20	Digital/Electronic Thermometers
20	Measuring a Tympanic Temperature
20	Measuring a Temporal Artery Temperature
20	Measuring Apical and Radial Pulse
20	Counting Respirations
20	Measuring Height and Weight
20	Measuring Blood Pressure
21	Allergic Reaction Management
21	Burns
21	Obstructed Airway

Math Tutorials for Chapter 5
Convert between Celsius and Fahrenheit Temperatures
Weight and Volume Equivalents
The Metric System
The Apothecary System
An Introduction to Decimals
Adding and Subtracting Fractions
Fractions, Decimals, Ratios, and Percent
Dividing Fractions
Fractions and Decimals

INSTRUCTOR RESOURCES

Resources for instructors include:

- Cognero® Testbank makes generating tests and quizzes a snap. You can create customized assessments for your students with the click of a button. Add your own unique questions and print tests for easy class preparation.
- Customizable instructor slide presentations created in PowerPoint® focus on key concepts from each chapter.
- Electronic Instructor's Manual includes the following items to help instructors most effectively use the text in planning and teaching an introductory course:
  - Suggested answers to "Thinking It Through" and "Application Exercises" found in the text
  - Procedure check-off forms for evaluating skills
  - Suggestions for class activities
  - Teaching thinking skills
  - Answers to review questions found at the end of each chapter in the text
  - Websites and corresponding activities to support and expand on the information presented in the text and provide enrichment assignments for students.

MINDTAP: EMPOWER YOUR STUDENTS

MindTap is a platform that propels students from memorization to mastery. It gives you complete control of your course, so you can provide engaging content, challenge every learner, and build student confidence. Customize interactive syllabi to emphasize priority topics, then add your own material or notes to the eBook as desired. This outcomes-driven application gives you the tools needed to empower students and boost both understanding and performance.

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Cut down on prep with the preloaded and organized MindTap course materials. Teach more efficiently with interactive multimedia, assignments, quizzes, and more. Give your students the power to read, listen, and study on their phones, so they can learn on their terms.

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INFECTION CONTROL AT A GLANCE

Topic	Content Summary	Page Number(s)
Infection Control	Scope of the problem, regulatory agencies	218–219
Microorganisms	Types of microorganisms	219–224
How Infections Spread and Preventing Infection	Breaking the chain of infection by using various methods, including standard and transmission precautions and asepsis	224–245
Procedures		
10–1 Handwashing	These procedures show step-by-step directions and rationales with accompanying figures to illustrate the steps.	227–228
10–2 Nonsterile Gloves		230–231
10–3 Applying and Removing PPE		232–235
10–4 Sterile Gloves		237–239
The Challenges	The most common contagions that health care professionals may encounter, including drug resistant organisms	245–253
Reporting Accidental Exposure	OSHA regulations that apply to all health care facilities	253

LIST OF VITAL SIGNS PROCEDURES

Procedure Number	Procedure	Purpose	Page Number(s)
20–1	Temperature	Measures how much heat is in the body. An elevation may indicate that an infection or other disease process is present	421–423
20–2	Radial Pulse	Measures how fast the heart is beating when felt at the wrist	424–425
20–3	Apical Pulse	Measures how fast the heart is beating by listening over the heart with a stethoscope	426–427
20–4	Respirations	Measures how fast the patient is breathing	428
20–5	Blood Pressure	Indicates how hard the heart is working to distribute blood to all parts of the body	431–432

LIST OF FIRST AID PROCEDURES

Procedure Number	First Aid Procedure	Page Number(s)
21–1	Allergic Reactions	445–447
21–2	Bleeding and Wounds	448–452
21–3	Bone, Joint, and Muscle Injuries	453–455
21–4	Facial Injuries	456–457
21–5	Burns	459–461
21–6	Drug-Related Problems	462
21–7	Poisonings	463
21–8	Temperature-Related Illnesses	464–465
21–9	Other Common Conditions	466–473
21–10	Applying a Triangular Sling	474–475
21–11	Applying a Spiral Wrap	475–476
21–12	Applying a Figure-Eight Wrap	476–477
21–13	Applying a Bandage to a Finger	478

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Dedication

In memory of David, who continues to inspire.

—Lee Haroun

To the future health care professionals who will dedicate their time and energy to taking care of those in need of their services. May your career be as rewarding to you as mine is to me.

—Dakota Mitchell

About the Authors

Lee Haroun has a Master's of Art in Education from Portland State University (Oregon), a Master's in Business Administration from National University in San Diego, and a Doctorate of Education from the University of San Diego.

She has more than 35 years' experience in teaching and educational administration and has developed curricula for a variety of postsecondary programs, including occupational therapy assistant, health information professional, insurance coder, and patient care technician.

Lee is the author of *Career Development for Health Professionals* (Elsevier Science); co-author of *Teaching Ideas and Classroom Activities for Health Care* with Susan Royce (Cengage Learning); co-author of *Occupational Therapy Fieldwork Survival Guide* with Bonnie Napier-Tibere (F. A. Davis; out of print); and technical writer for *Essentials of Health and Wellness* by James Robinson and Deborah McCormick (Cengage Learning).

Dakota Mitchell has a Master's of Science degree in Nursing from the University of California, San Francisco, and a Master's in Business Administration degree from the University of Santa Clara. The combination of these two degrees provides a framework for understanding and functioning within the current and rapidly evolving world of health care today.

Dakota has 30-plus years of experience in health care, including education, management, and curriculum consultation. Besides many years in classroom and clinical teaching, she has developed and implemented unique and innovative health care programs at both the vocational and associate's degree levels.

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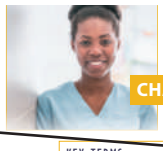
About This Book

Objectives: Overview of chapter content and goals for learning. Review these before beginning to read the chapter and use the objectives to check your progress after completing the chapter.



Unit I Health Care Today

CHAPTER 1

Your Career in Health Care

KEY TERMS

assessment
biases
career ladders
certification
diagnostic
integrity
licensure
manual dexterity
objective data
opinions
problem-solving process
registration
reliable
scope of practice
signs
subjective data
symptoms
therapeutic

OBJECTIVES

Studying and applying the material in this chapter will help you to:

1. Describe the current economic status of the health care industry.
2. Describe the general employment projections for the health care industry.
3. List the ten health care jobs expected to have the largest percentage increases between 2016 and 2026, according to the U.S. Department of Labor Statistics.
4. List the six health care jobs expected to have the highest numbers of openings between 2016 and 2026, according to the U.S. Department of Labor Statistics.
5. Explain why work in health care can be both satisfying and demanding.
6. Describe the essential core qualities demonstrated by effective health care professionals.
7. Give examples of how students can apply the essential core qualities while they are in school.
8. Explain the meaning of "learning for mastery."
9. Explain how students can use questions to master new subjects.
10. Give examples of suggestions to improve your note-taking, reading, writing, and test-taking skills.
11. Describe the advantages and challenges that may be experienced by adult students who are returning to school.
12. List the five techniques that adult students can use to develop their personal organization and time management skills.
13. Explain the meaning of "thinking like a health care professional."
14. Describe the five-step problem-solving process.
15. List the personal factors that should be considered when choosing a health care career.
16. List the five levels of education typical for health care career fields.
17. Explain the purpose of standards for health care professionals.
18. Give the meaning of the following terms as they pertain to health care professional standards: certification, registration, and licensure.
19. Explain the meaning of school accreditation and name the two major accreditation organizations for health care programs.
20. List the four requirements students typically must meet before taking professional exams.
21. Describe the four classifications of health care careers and give three examples of careers for each classification.
22. State the educational and certification requirements, major duties, and attributes necessary for success in occupations in which you are interested.
23. List the eight resources recommended for students to learn more about specific health care careers.

Key Terms: List of important vocabulary and key concepts. Understanding vocabulary is critical to understanding the concepts presented in the chapter. Key terms are bolded and defined the first time they appear in the chapter. There is also a comprehensive glossary in the back of the book.

The Case of . . . : These health care scenarios introduce chapter content and show why the material in the chapter is important for the competent health care professional. An application exercise at the end of the chapter refers back to the case.

The Case of the Confused Student

Kevin Yang is a recent high school graduate who hopes to pursue a career in health care. He has enrolled to start classes in September at a local community college that offers many health care programs. Last spring Kevin attended two career fairs at local hospitals and learned about a variety of careers. He knows that he wants to combine his mechanical aptitude with his desire to work with people, but he feels

(continued)

Fascinating Facts: Interesting information related to the chapter topics.

Fascinating Facts

In 2016, there were 46 million persons aged 65 and over, representing 15% of the total population. By 2060, this number is projected to be 98 million persons, who will make up 24% of the population. This increase will have major implications for the health care industry, driving the need for more professionals.

Source: https://www.prb.org/aging-unitedstates-fact-sheet/

Tables: These provide summaries of related facts. Use them as study aids and for quick reference.

Table 1–3 Dental Occupations

Career	Education	Testing and Approval
Dentist (DDS or DMD)	2–4 years college preprofessional education 4 years dental school 2–4 years additional education if seeking specialty	Licensed by states: 1. Graduate from accredited dental school 2. Pass written and practical exams
Dental Hygienist (RDH)	Associate's or bachelor's degree 2–4 years depending on program requirements	Licensed by states: 1. Graduate from accredited dental hygiene school 2. Pass national board exams administered by the American Dental Association Joint Commission on National Dental Examinations 3. Pass state and/or locally administered clinical exams 4. Pass state exam covering dental hygiene law
Dental Assistant (CDA or RDA)	1–2 year educational program (recommended) or on-the-job training	Requirements vary by state; voluntary certifications available through Dental Assisting National Board
Dental Laboratory Technician	On-the-job training or 2-year associate's degree program	Voluntary certification available from National Association of Dental Laboratories and/or National Board for Certification in Dental Laboratory Technology

Boxes: These include special features and additional information that expand on and support the material presented in the chapter.

Box 1–1

Examples of Health Care Occupations

Art Therapist
Athletic Trainer
Audiologist
Health Educator
Medical Illustrator
Medical Librarian
Medical Photographer
Medical Writer
Music Therapist
Speech and Language Pathologist

Colored photos and illustrations: These reinforce important concepts and topics. Use them to increase your understanding of the material.

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FIGURE 1–5 As older nurses retire, there will be a great need for newly trained registered nurses.

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Thinking It Through

Craig Oakley is a physical therapy assistant who does home visits for a rehabilitation service. One of his patients, Mr. Singh, suffers from rheumatoid arthritis and has asked Craig's opinion about taking Chinese herbal remedies that he has read help restore joint health.

1. How should Craig respond?
2. What are some of the resources he can consult in order to find out more about the treatment?
3. What precautions should Craig follow when speaking with Mr. Singh about complementary and alternative therapies?

Thinking It Through: Located throughout the chapter, these exercises are a very important part of this text. The health care scenarios require you to think about the concepts presented in the chapter and use them to resolve typical problems encountered by health care professionals. Use the exercises to develop the thinking skills necessary to be a successful health care professional.

PROCEDURE 10–1

HANDWASHING

Procedure	Rationale
1. Turn faucet on using a clean, dry paper towel. (See Figure 10–5a.)	Faucets are always considered contaminated.
2. Run warm water over hands and wrists.	Warm water helps remove superficial dirt and microorganisms.
3. Do not lean against the sink, and avoid splashing clothing with water.	The sink is always considered contaminated; water splashed from the sink is contaminated, and wet material easily conducts microorganisms.

Procedures: A step-by-step format that helps you master basic hands-on skills. Pay special attention to the rationales that explain the reasons for the actions.

SUGGESTED LEARNING ACTIVITIES

1. Create a personal plan for developing the core qualities demonstrated by health care professionals.
2. Determine if there are study skills you need to improve and create a plan to improve them.
3. Choose a problem in your life that you would like to work on and apply the five steps of the problem-solving process. Report on the results.
4. Seek opportunities to observe health care professionals at work. Report on the qualities they demonstrate that you believe make them effective.
5. Research an occupational area or specific career that interests you: interview a working professional, send for information or visit the Internet site of the appropriate professional organization (see Appendix 1), request a job description from a local facility, and/or read the job descriptions in the *Occupational Outlook Handbook*.

Suggested Learning Activities: Try these interesting projects that include doing research on the Internet, reporting on observations from daily life, and visiting health care facilities.

WEB ACTIVITIES

WikiHow
https://www.wikihow.com/Improve-Your-Study-Skills
How to Improve Your Study Skills

1. Read this illustrated guide.
2. Are there any suggestions you think might help you?
3. If so, try them for a couple of weeks and report on how they work for you.

Web Activities: Use these guided assignments to increase your research skills and learn more about the chapter content. The activities refer you to specific websites.

REVIEW QUESTIONS

1. What are the ten significant events that changed the way health care was delivered?
2. What are the definitions of the following terms: gene therapy and targeted drug therapy?
3. What is today's leading prevention and treatment option?
4. Explain the meaning of specialization and its impact on health care.
5. What are the effects of the aging population on health care?
6. What has happened with health care costs over the past few decades?

Review Questions: The questions are keyed to the chapter objectives to ensure your mastery of the chapter content. Use them to check your learning and identify areas that need more study.

PROBLEM-SOLVING PRACTICE

A growing number of children in Trueville, USA, are becoming overweight and obese. A group of concerned citizens has organized a committee to find ways to help children in the community attain normal weights and raise their levels of fitness. How might the committee use the five-step problem-solving process?

Problem-Solving Practice: Practice your skills with these typical, real-world problems encountered by students and health care professionals.

APPLICATION EXERCISES

1. Refer back to The Case of the Confused Student at the beginning of the chapter. Using the information in this chapter, list your recommendations for occupations that Kevin should investigate.
2. Juan has always been interested in helping people. He also likes science and has maintained good grades throughout high school in chemistry, biology, and physics. He has enrolled in the local community college and is taking "Introduction to Health Care." Juan thinks that a career in health care might be for him, but he doesn't feel that he knows enough to make a career decision at this time. He's not sure what's out there or what jobs would be appropriate for him.
   a. What does Juan need to know in order to conduct an effective career search?
   b. Describe how he can use the problem-solving process to help him make a tentative career decision.
   c. Explain methods that Juan can use to research and learn more about different career options.

Application Exercises: Opportunities to apply the chapter's major concepts to typical health care situations. Use these exercises to practice using your knowledge in ways similar to those you may encounter on the job.

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Unit I

Health Care Today

CHAPTER 1

Your Career in Health Care

KEY TERMS

assessment
biases
career ladders
certification
diagnostic
integrity
licensure
manual dexterity
objective data
opinions
problem-solving process
registration
reliable
scope of practice
signs
subjective data
symptoms
therapeutic

The Case of the Confused Student

Kevin Yang is a recent high school graduate who hopes to pursue a career in health care. He has enrolled to start classes in September at a local community college that offers many health care programs. Last spring Kevin attended two career fairs at local hospitals and learned about a variety of careers. He knows that he wants to combine his mechanical aptitude with his desire to work with people, but he feels

(continues)

OBJECTIVES

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overwhelmed by the number of choices in the health care field. He is not sure how to learn more about the requirements and rewards of various occupations, what the daily duties would be, and how much education is necessary to enter them. He is also unsure how to best go about making a decision that will significantly affect his life. This chapter includes basic information about a variety of health care career areas and occupations, a problem-solving process that can be used to make effective personal and professional decisions, and tips on succeeding in a health care career program.

YOUR FUTURE IN HEALTH CARE

Health care is an exciting and growing field. The purpose of this text is to help you make an informed career choice and acquire the basic knowledge to continue the studies necessary for your chosen field.

The health care industry is the largest service employer in the United States, providing more than 18 million jobs and the need for health care professionals continues to grow (https://www.cdc.gov/niosh/topics/healthcare/default.html). According to the United States Bureau of Labor Statistics, the health care industry will increase by 18% and add 2.4 million new jobs between 2016 and 2020 (https://www.bls.gov/ooh/healthcare/home.htm). This is faster than the average growth of all other occupations. Federal economists report that, in 2017, the amount spent on health care was $3.5 trillion. Further, it is projected that the cost of health care will continue to grow at least 4% annually.

Many health care occupations are projected to have employment increases of more than 25%. (See Table 1–1.) Ten of the 20 fastest-growing jobs in all industries are health care–related. At the same time, 6 of the 20 occupations with the largest numerical increases are in health care. (See Table 1–2.) It should be noted that various sources give different occupations as having the fastest growth and highest numbers of new hires; however, health care is included in all lists. The information provided here is from the U.S. Bureau of Labor Statistics.

Careers in health care can be sources of great satisfaction. Health care professionals perform valuable services that make a significant contribution to the community. Each day their work makes a difference in the quality of life of those they serve. Whether you choose to work directly with patients or provide support services, be assured that what you do is important and of benefit to others.

As well as providing satisfaction, health care work makes many demands on those who pursue it. The work must be taken seriously because it affects the well-being of others. All tasks must be performed thoughtfully and conscientiously. Nothing can be taken for granted or done automatically, not even routine assignments. Health care professionals must be willing to devote their full attention to everything they say and do. Potential problems must be noted and addressed before they become critical. The consequences of mistakes can be devastating if, for example, a prescription for medication is incorrect or the wrong procedure is performed. The work can also be stressful. Depending on the chosen occupation, it can involve long hours, dealing with the death of patients, and working quickly under pressure. (See Figure 1–1.)

Table 1–1 Examples of Growing Health Care Jobs

Job	Projected Percentage Increase in Employment, 2016–2026
Home Health Aide	47%
Personal Care Aide	39%
Physician Assistant	37%
Nurse Practitioner	36%
Physical Therapist Assistant	31%
Physical Therapist Aide	29%
Medical Assistant	29%
Occupational Therapy Assistant	29%
Physical Therapist	28%
Massage Therapist	26%

Source: Bureau of Labor Statistics. Occupational Outlook Handbook. Fastest Growing Occupations. https://www.bls.gov/ooh/fastest-growing.htm

Table 1–2 Occupations with the Largest Numerical Increases

Job	Numerical Increase in Positions, 2016–2026
Personal Care Aides	777,600
Registered Nurses	438,100
Home Health Aides	431,200
Medical Assistants	183,900
Nursing Assistants	173,400
Medical Secretaries	129,000

Source: https://www.bls.gov/ooh/most-new-jobs.htm/

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FIGURE 1–1 Successful health care professionals work hard. At the same time, they enjoy the satisfaction of helping others.

GETTING OFF TO A GOOD START

Health care educational programs are designed to prepare students to succeed in the workplace. Instructors dedicate themselves to helping students who put forth the necessary effort to graduate and become employed. Take advantage of the learning opportunities available in your school and commit yourself to doing your best toward becoming a competent, qualified health care professional.

Essential Core Qualities of Health Care Professionals

As a student, you have many opportunities in school to begin to practice good workplace habits. Work hard now to develop the skills that will make you a valuable employee. At the same time, you can be acquiring habits that also contribute to academic success. The qualities essential for health care professionals to be effective and successful can be applied in the classroom, in the lab, and at the clinical (externship/internship/fieldwork) site. Start now while you are in school to develop and apply them.

- Care about others: Have compassion. Apply knowledge and skills to decrease suffering and increase the well-being of others. When necessary, be willing to put the needs of patients ahead of your own. Have respect for all people and help them regardless of their race, nationality, economic status, religion, age, or lifestyle preferences. (See Figure 1–2.)
  - Start now: Show respect and consideration for instructors and classmates. Be kind to everyone, regardless of his or her background. Refrain from talking during lectures. Prepare for classes so the instructor does not need to take time to answer questions about material covered in the reading or study assignments. Practice courtesy in the classroom and throughout the school. Volunteer to help others, as needed or as possible.
- Have **integrity**: Be honest at all times. Respect the privacy of others. Be loyal to the employer. Accept responsibility for your actions.
  - Start now: Do your own work. Never copy the homework assignments of others or cheat on exams. Always tell the truth. Never share anything told to you in confidence.
- Be dependable: Be at work on time and as scheduled. Follow through and finish all assigned tasks. Perform work accurately and completely. Work without constant supervision and reminders.
  - Start now: Be at school on time and attend all classes. Complete assignments on time. Strive for accuracy in all written and practical assignments. Follow through on all obligations and anything you have volunteered to do.
- Work well with others: Strive to understand the feelings and needs of others. Be courteous and considerate. Practice good communication skills. Be a good team member by cooperating and contributing to the achievement of group goals. Take directions willingly from the supervisor.

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FIGURE 1–2 One of the most important qualities of the health care professional is compassion.

Fascinating Facts

In 2016, there were 46 million persons aged 65 and over, representing 15% of the total population. By 2060, this number is projected to be 98 million persons, who will make up 24% of the population. This increase will have major implications for the health care industry, driving the need for more professionals.

Source: https://www.prb.org/aging-unitedstates-fact-sheet/

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- Start now: Be understanding of the needs of instructors and classmates. Participate in class. Do your share when working on group assignments.

- Be flexible: Be willing to adapt to changing conditions and emergencies. Do what is needed to carry out tasks. Acquire knowledge and skills necessary to keep up with advances in technology and changes in the way health care is delivered.
  - Start now: Accept instructional differences, changes in class schedules, and other unexpected occurrences. Be willing to cooperate as needed.

- Be willing to learn: Keep skills up to date. Ask questions, attend workshops, read professional publications, use the Internet, and continue to acquire new skills.
  - Start now: Be willing to learn: Take your studies seriously. Make school a high priority. Dedicate sufficient time to studying throughout the length of each course to ensure maximum learning.

Learning for Mastery

Health care professionals must know what they are doing. Mistakes on the job can result in serious consequences. Therefore, it is essential that students commit to learning the material presented in their courses. Learning means more than just memorizing facts. It means striving to understand and remember information so that it can be applied to new situations. This understanding provides a basis for thinking like a health care professional, which is discussed later in this chapter.

Students who do only the minimum necessary to pass tests may think they are learning, but in reality, they are not likely to have acquired the long-term knowledge necessary to perform on the job. Students who study to understand *and always search out the why of the subject* increase their chances of becoming highly competent health care professionals who can think on their feet and meet new challenges as they arise.

One effective way for students to master subjects is to ask themselves questions about what they are learning or doing. Questions serve to gather information, expand your view of a subject, and stimulate the mind. They help ensure that actions are not based on false assumptions or insufficient information.

Questions can be asked mentally (to oneself) or of others. Think of the five *W*s plus the one *H*: What, When, Where, Why, Who, and How. The following examples show how questions can be used to promote learning:

- When learning new information, ask *why* it is important and to *whom? How* does it relate to what is already known?
- When working with patients, ask *what* might work best for them and *when* it should be done.
- When sharing important information with a classmate or coworker, ask yourself *what* you know about this person that will help you communicate most effectively.
- When working in a health care facility, consider *how* your work habits might be changed to improve overall efficiency.

Some students believe that the role of their instructors is to *tell* them rather than *ask* them. In reality, instructors who continually ask questions that require students to explain their answers and actions are encouraging them to learn and to think like health care professionals. Some instructors even respond to a student's question with another question. Their intention is to teach students to begin to think for themselves and trust that they are capable of finding the answer. Instructors also use questioning to guide students in pulling known facts together, making connections, and applying what they know to new situations. For example, suppose that a respiratory therapy student is working with a hospitalized patient. He has studied the illness presented by the patient and knows how to perform the prescribed breathing treatments. Through questioning, the instructor guides this student to explain why these particular treatments have been prescribed. The student is encouraged to consider the nature of the illness and the properties of the treatments and medications, and draw conclusions about the relationships among these factors.

Getting the Most from Your Studies

If necessary, spend some time now working to improve your study skills: taking notes, reading, writing, and preparing for tests. Something to keep in mind is that these skills can also help you to get a job and succeed. For example, taking a patient history requires good note-taking skills; understanding the instructions for a piece of equipment requires the ability to read and understand technical material; preparing a letter asking about job openings requires good writing skills; and if you think about it, everything you do when working with a patient is a test, something you must do correctly "to pass."

The following suggestions may help you to:

- Take good notes: Concentrate on writing down the important points, rather than everything the instructor says. Listen for clues from instructors about what is important. Write in outline form to keep notes organized. Set up pages using the Cornell System format to leave space for adding notes and questions after class when you review your notes. (See Figure 1–3.) *For more detailed information about the*

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	Name Subject	Date Page #
	study	notes column
	notes	
	and	
	questions	
	to quiz	
	self	
	summary	

FIGURE 1–3 Page set-up for the Cornell note-taking system.

Cornell system, see http://lsc.cornell.edu/notes.html and http://www.openculture.com/2018/10/the-cornell-note-taking-system.html.

- Read for comprehension and learning: When reading textbooks or information on websites, start by skimming through the chapter or section. Then focus your attention by creating questions and reading for the answers. Create questions from articles or section titles and from the material itself. After reading a section of material, ask yourself the questions and try to answer without looking at the text. This has been shown to be one of the most effective ways to learn. *For more reading strategies, see https://www.educationcorner.com/textbook-strategies.html and https://learningcenter.unc.edu/tips-and-tools/reading-textbooks-effectively/.*
- Write: See Chapter 17 of this text. *Also, Purdue University's online writing lab has information on dozens of topics related to writing: https://owl.purdue.edu/owl/purdue_owl.html.*
- Prepare for tests: Plan to study every day, even for a short time. Reviewing material over time is much more effective than cramming at the last minute. Use the questions you create for reading and note-taking to practice. *For more information, see https://www.educationcorner.com/test-taking-strategies.html. Quizlet at https://quizlet.com/ that contains learning tools and flashcards on many subjects, and https://www.tests.com and http://www.testprepreview.com that contains free practice tests for a number of health care subjects and occupations.*

Volunteering

If you have the time, volunteering is an excellent way to jump-start your career. Not only do you learn skills, such as working with others, you learn more about the health care field and acquire information that can help you choose a career that is right for you. Although work in a health care environment is optimal, volunteering for non profits, such as Habitat for Humanity, also provide good experience.

Some educational programs have an admission requirement that you have some experience in the field you are entering. For example, university veterinary medicine programs require applicants to have a minimum number of hours of experience. And when looking for a job, you can list on your résumé the skills you learned and applied through volunteering. This also shows potential employers that you have initiative and a sincere interest in helping others.

Professional Organizations

Joining a professional organization while you are a student gives you networking opportunities, a chance to learn how to be successful in your chosen field, and access to workshops and other learning activities. And, as with volunteering, putting a professional membership on your résumé demonstrates your interest and initiative. See Chapter 14 and Appendix 1 for more information about professional organizations.

Returning Adult Students

Many students who enroll in health care programs are adults returning to school after working in other fields, raising families, and/or handling other adult responsibilities. Some adults find the experience of attending classes stressful and wonder if they have what it takes to study and learn new information and skills.

These fears are natural, but the fact is that most adults have acquired life experiences and skills they can apply to their learning which, in many cases, will help them become excellent students. For example, holding down a job contributes to the ability to set priorities, communicate, demonstrate dependability, and apply practical skills such as math. The self-confidence developed as a result of handling adult responsibilities can be applied to reviewing one's study skills, including those that may not have been used for many years.

The most pressing problem for many adult students is finding the time to fulfill all their responsibilities: attending

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classes, studying, caring for the family, and perhaps holding down a full- or part-time job. Practicing good time management and personal organization skills, such as the following, can be helpful in handling the additional work of attending school:

- Start each day with a list of what needs to be accomplished, ranked from most to least important.
- Advise others of your study schedule. Plan care or activities for your children to allow you the time needed.
- Schedule time, even if for short periods, with family members. Some children enjoy doing homework with mom or dad.
- Create personal organization techniques, such as clustering errands, keeping things in repair, and planning backups to prevent wasting time and energy.
- Ask for help when you need it. Delegate tasks at home. Let another family member fix dinner once or twice a week.
- See the Time Management section in Chapter 12 for more suggestions.

LEARNING TO THINK LIKE A HEALTH CARE PROFESSIONAL

A common problem in health care today is that some graduates spend months, or even years, accumulating information, but are unable to apply it when they need it on the job. The lack of effective thinking skills is a primary reason for this unfortunate situation. Regardless of the health care area or occupational level chosen by students, it is essential that they learn to *think* like health care professionals. This type of thinking actually involves many skills and, in this text, has the following meanings:

- Learning for understanding, not simply to memorize facts
- Applying learned material to new situations
- Having an organized approach to problem-solving
- Basing decisions on facts, rather than on emotional reactions or **biases** (certain beliefs and feelings, usually negative, about a person because he or she belongs to a specific group or has certain characteristics)
- Drawing on many facts and creating relationships among them
- Locating reliable sources of information with which to make decisions
- Basing decisions on ethical principles (see Chapter 3)
- Practicing good communication skills when gathering and distributing information (see Chapters 16 and 17)
- Understanding exactly what one is legally allowed to do in one's profession, known as **scope of practice**

One of the major goals of this text is to provide students with opportunities to practice thinking like a health care professional. This discussion on thinking is being presented at the beginning of the text so that students will have maximum time to apply and practice thinking skills. The "Thinking It Through," "Application Exercises," and "Problem-Solving Practice" features, which appear in every chapter, encourage students to apply thinking skills to the topics presented.

Thinking proficiently can be applied to the personal, as well as professional, areas of your life. For example, buying a certain puppy simply because it is cute and seems the friendliest is an emotional decision. An informed, thinking decision involves learning about available breeds, physical and personality characteristics, common health problems, and methods of training. Knowing these facts will help ensure that the puppy selected best fits the new owner's lifestyle and will be a suitable companion.

Thinking like a health care professional can be described as an "examined process." This means not simply accepting situations without observing and considering the meaning of what is observed. Effective thinkers are aware of their thoughts and of why and how they are acting or making decisions.

As stated earlier, nothing in health care work can be done routinely and without thinking. Mindless actions occur as the result of not paying attention or basing decisions on ideas that have been accepted "just because." These ideas may come from family members, friends, personal experiences, television, movies, and magazines. Health care professionals must learn to think for themselves, gather facts, and use their own observations for making decisions.

Problem-Solving Process

Important applications of thinking skills are problem-solving and decision-making, two very important competencies for health care professionals. There are a variety of problem-solving and decision-making models. This book presents a five-step **problem-solving process** to help students and health care professionals approach problem-solving in an organized manner:

1. Identify the problem
2. Gather information
3. Create alternatives

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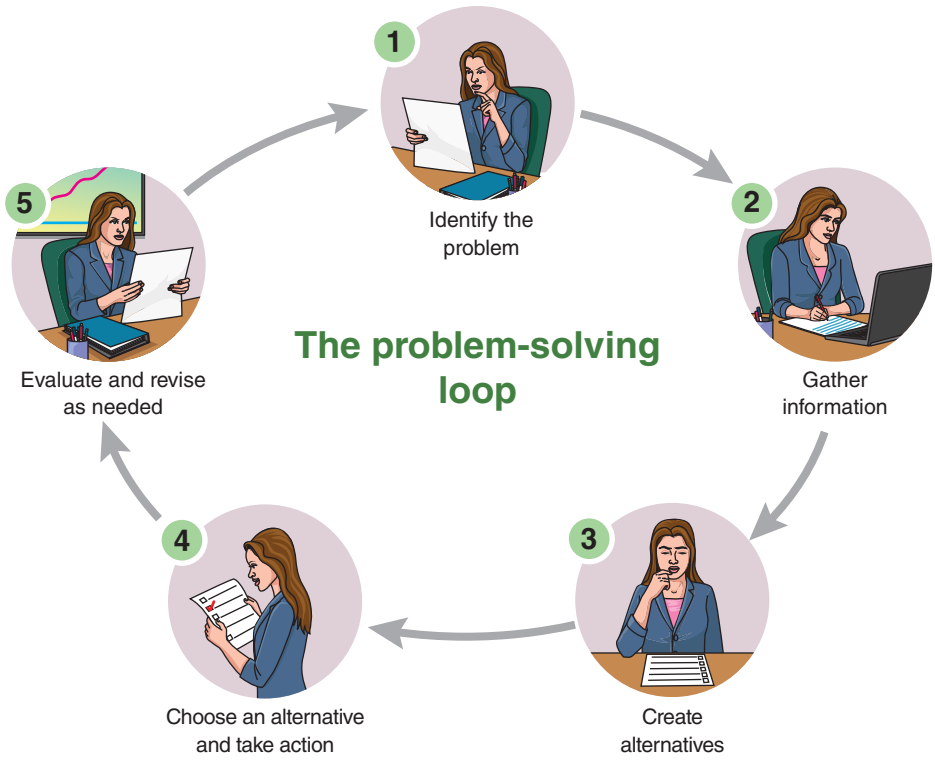

FIGURE 1–4 Steps in the problem-solving process.

4. Choose an alternative and take action
5. Evaluate and revise as needed

(See Figure 1–4.)

Step One—Identify the Problem

Identifying problems is not always as simple as it sounds. Factors that are described as *the problem* are often only *symptoms* of the problem. For example, Jamie, a radiologic technologist, does not receive the high scores she had hoped for on her performance review at work. When she receives the rating "poor" in the dependability category, she feels upset and believes that her problem is "receiving a poor evaluation because her supervisor dislikes her."

Identifying the real nature of problems requires a willingness to observe, pay attention, and confront difficult issues. Problem-solvers must look beyond what seems obvious and use questions effectively to identify the real situation. Denying or ignoring problems does not make them go away. Problems that are not addressed tend to get worse, because no action is being taken to resolve them. In Jamie's case, she must be willing to speak frankly with her supervisor about her low rating. It turns out that the real problem is actually what *caused* the poor evaluation, not the evaluation itself. In Jamie's case, it is her frequent tardiness.

Jamie's first reaction is, "I can't help it. My car is old and breaks down a lot." When her car won't start, she must rely on family and friends to drop her off at work. Their schedules are not the same as Jamie's, so she often arrives late.

Taking the time to think about what she has said ("I can't help it"), Jamie realizes that being at work on time is her responsibility. She is now able to identify the real problem: lack of reliable transportation. This enables her to start seeking effective solutions. Accepting responsibility for a problem makes it possible to start doing something about it.

Step Two—Gather Information

Good problem-solving is based on having accurate and reliable information. Acting on assumptions (untested ideas), **opinions** (beliefs not based on facts or knowledge), and emotions can result in poor decisions. In health care, gathering information is also known as **assessment**. There are many methods for gathering information:

- Review what is already known: What knowledge do I have about the problem or situation? About the causes? About possible solutions?
- Collect **objective data**: What can be observed? Measured? Tested? What are the facts? When working with patients, objective data are called **signs**.

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- Collect **subjective data**: How do I feel about a situation? What do I want? What do others want? When working with patients, subjective data refer to what is reported by the patient, such as pain and feeling nauseated. Also known as **symptoms**, they cannot be directly observed or measured by the health care professional, but nevertheless must be taken into account.
- Conduct research: What are the facts? Are they from a **reliable** (trustworthy) source? How do I know? Are they scientifically based? (Can they be tested?)
- Ask for help: Who has useful knowledge? Are there experts available who can give me reliable information and help me find a solution?

When she starts out, Jamie finds the idea of solving her transportation problem overwhelming. The only solution that makes sense to her is buying a new car, but she knows that most likely she cannot afford one at this time. When she puts her fear aside and commits herself to gathering information, she discovers the following:

- Carpools have been organized at the facility where she works.
- The most economical new car for sale in her area costs $14,795.
- There are many articles on the Internet about how to buy a car.
- *Consumer Reports* magazine has a recent article about purchasing used cars and publishes annual reports on the performance of most auto models manufactured over the past 10 years.
- Her credit union sponsors car sales to help buyers who have limited funds to spend. They also offer low-interest loans to buyers who qualify.
- A cousin has an older car that he wants to sell.
- There is a bus route within half a mile of her apartment.
- A local college offers a workshop that teaches people how to buy a car.
- The local high school has an auto-mechanic training program. For a small fee, students will check over used cars before they are purchased.

Step Three—Create Alternatives

The third step in problem-solving is to create a list of alternatives. Ideas for solutions and actions are generated based on the information collected. All possibilities should be considered before one is selected. Some alternatives may prove, on further investigation, to be impractical or unworkable. It is essential to think through each one and consider the likely consequences, both positive and negative.

Based on her research, Jamie creates the following list:

1. Take the bus to work. When the weather is nice, walking to the bus stop will be a good form of exercise. In rainy weather, common about five months of the year where she lives, getting to the bus stop without getting soaked is not likely. Also, the bus ride takes about 30 minutes longer, each way, than driving to work.

Thinking It Through

Linda Stevens, LPN, works on a medical floor at the local hospital. One of the patients she has been assigned to take care of is Frank Gibbons, a 72-year-old newly diagnosed with diabetes (a condition in which the body does not produce enough insulin to control blood sugar levels). Part of Linda's process of preparing to care for her patients is to review the patients' charts for any new physician orders. She notes that Dr. Romero was in the previous evening and ordered the patient's blood sugar to be checked at 8 a.m. According to the results, insulin is to be given. (The higher the level of blood sugar, the greater the amount of insulin that is given, based on a formula defined by the physician.) Linda is a "thinking nurse" and starts to question if this is an appropriate order. She realizes that breakfast trays arrive at 7:30 a.m. on her floor and that Mr. Gibbons will already have eaten when she checks his insulin level at 8 a.m. She knows that after eating, a person's blood sugar normally increases for a few hours. This is why blood sugar tests are usually ordered when the patient has not eaten for a number of hours. Linda reasons that if she calculates the amount of insulin based on the temporarily elevated blood sugar levels, Mr. Gibbons will receive too much insulin and may have a negative reaction. Linda calls Dr. Romero to clarify the order. Dr. Romero states that he believed the breakfast trays did not arrive until 8:30 a.m. He thanks Linda for catching the error and changes the order.

- What might have happened if Linda had simply performed the blood sugar test exactly as ordered?
- Do you think Linda should have been considered responsible for the error if she had followed the orders exactly?
- Review the five *Ws* and *How* questions in relation to this situation. Give examples of questions that Linda may have asked herself.

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2. Take the workshop on how to buy a car, then purchase a used one through the credit union. The monthly car payments and higher insurance rates will mean having to budget carefully to meet all expenses. Chances of buying a "lemon" can be reduced by using the service offered at the high school.
3. Continue to rely on others for rides to work. (Nonaction is also an alternative.)
4. Ask her father for a loan to buy a new car. While Jamie would like to have a shiny new car, she has been financially independent for several years and prefers to remain that way.

Some potential alternatives do not appear on the previous list because of information acquired during step two:

1. Carpool participants must have a reliable vehicle of their own. This might be an alternative later, if she purchases a dependable car.
2. Her cousin's car has more than 175,000 miles and is not one of the more reliable models, according to the reports she studied.

Step Four—Choose an Alternative and Take Action

Step four is critical. A common difficulty in problem-solving and decision-making is failure to act. Opportunities are missed and accomplishments not realized when there is no follow-through.

Jamie decides to combine two alternatives. There are five months of dry weather ahead, so she decides to take the bus to work. She will use the extra riding time to read and keep up with advances in radiology. In October, she plans to buy a used car. In the meantime, she will create a personal budget to control expenses and save money, and will learn more about how to buy a car and which model is likely to give her the best value.

Step Five—Evaluate and Revise as Needed

Evaluation means reviewing the results of the actions taken. Even well-thought-out plans can prove to be ineffective or have unexpected, negative consequences. And circumstances can change. It is sometimes necessary to make adjustments or choose another alternative. It may even require going back to step two to gather additional information and go through the process again.

When applying the process to health care work, it is important to remember that the needs of patients and facilities may change and/or additional information may become available. This can affect the process and force revisions to be made before the entire process has been completed. Problem-solving is a continual process.

MAKING A CAREER DECISION

There are hundreds of job titles in health care and the number continues to grow. They require a wide range of skills and abilities. Students who are considering a career in health care should learn as much as possible about the requirements, responsibilities, and conditions of their areas of interest. This knowledge will help them to make good career choices that match their preferences and abilities. For example, some individuals interested in health care would find the emergency medical technician's (EMT) job to be interesting and exciting. EMTs have opportunities to apply their skills to help others in significant ways, sometimes even saving lives. At the same time, the work is physically and emotionally demanding. It is often performed under difficult circumstances. Emergencies do not happen at convenient times and places. The schedules for EMTs include nights, weekends, and holidays, and they are called out to work in all types of weather conditions. All aspects of an occupation must be considered to increase the chances of choosing a career that will provide long-term satisfaction.

When choosing an occupation, students should carefully consider the following factors about themselves:

- Educational background
- The amount of additional time they are willing to dedicate to their education
- Natural abilities
- Personality traits
- The type of activities they most enjoy
- Preferences for workplace environment and conditions

Educational Requirements

Each occupational area, such as radiology and physical therapy, has positions that require different amounts of education and training and involve varying amounts of responsibility. Collectively, these levels are known as **career ladders**. The following levels are typical for health care:

- Professional: requires 4 or more years of college. Many require advanced training and degrees, such as a doctorate. Examples of occupations: dentist, physical therapist
- Technologist or Therapist: 3–4 years of college. Many require graduate degrees and advanced training. Examples of occupations: speech therapist, occupational therapist
- Technician: associate's degree, vocational training, on-the-job training. Examples of occupations: pharmacy technician, veterinary technician

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