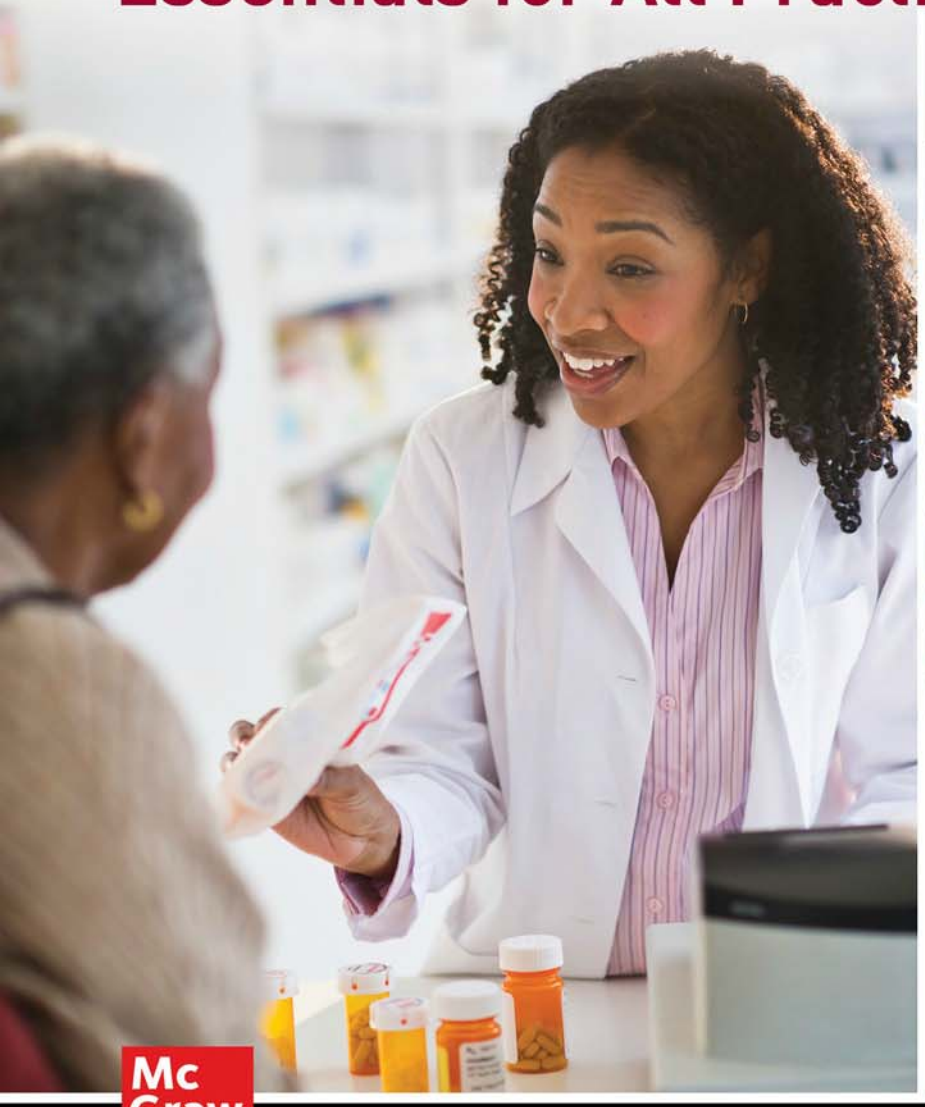
Pharmacy Management

Essentials for All Practice Settings



David P. Zgarrick

Leticia R. Moczygemba

Greg L. Alston

Shane P. Desselle

Mc Graw Hill

FIFTH EDITION

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FIFTH EDITION

David P. Zgarrick, PhD, FAPhA
Professor
School of Pharmacy
Bouvé College of Health Sciences
Northeastern University
Boston, Massachusetts

Greg L. Alston, PharmD
Professor and Associate Dean
South University Savannah Campus
Savannah, Georgia

Leticia R. Moczygemba, PharmD, PhD
Associate Professor
Health Outcomes Division
The University of Texas College of Pharmacy
Associate Director
Texas Center for Health Outcomes Research and Education
Austin, Texas

Shane P. Desselle, RPh, PhD, FAPhA
Professor, College of Pharmacy
Touro University California
Vallejo, California

Mc Graw Hill

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DEDICATION

To Michelle, Seamus, Zoe, and Fiona (D.P.Z.)
To Travis and Ashton (L.R.M.)
To June (G.L.A.)
and
To Deborah and Brittney (S.P.D.)

CONTENTS

CONTRIBUTORS

Jennifer L. Adams, PharmD, EdD
Clinical Associate Professor and Associate Dean for Academic Affairs, College of Pharmacy, Idaho State University, Sam and Aline Skaggs Health Science Center, Meridian, Idaho

Greg L. Alston, PharmD
Professor and Associate Dean, South University Savannah Campus, Savannah, Georgia
Chief Value Officer, Pharmacist Success Academy

Mitch Barnett, PharmD, MS
Associate Professor, Touro University California, Vallejo, California

John P. Bentley, PhD
Professor and Chair, Department of Pharmacy Administration, School of Pharmacy, University of Mississippi, University, Mississippi

Steve Boone
Pharmacy Insurance Practice Leader, Heffernan Insurance Brokers, Chesterfield, Missouri

Peter T. Bulatao, PharmD, MS, MMAS, BCPS, BCACP
Associate Professor, Pharmacy Practice, South University Savannah Campus, Savannah, Georgia

Leigh Ann Bynum, PhD
Associate Professor, Pharmaceutical Sciences, Belmont University College of Pharmacy, Nashville, Tennessee

Lauren M. Caldas, PharmD, BCACP
Assistant Professor, School of Pharmacy, Virginia Commonwealth University, Richmond, Virginia

Patrick J. Campbell, PharmD
Director of Measurement Outcomes Research, Pharmacy Quality Alliance, Alexandria, Virginia

Antoinette B. Coe, PharmD, PhD
Assistant Professor, University of Michigan College of Pharmacy, Ann Arbor, Michigan

Edward Cohen, PharmD
Executive Vice President, Pharmacy Advocacy, Michael J Hennessy Associates, Inc., Plainsboro, New Jersey

Michael R. Cohen, RPh, MS, ScD
Founder and President, Institute for Safe Medication Practices, Huntington Valley, Pennsylvania

Shane P. Desselle, RPh, PhD, FAPhA
Professor, College of Pharmacy, Touro University California, and President, Applied Pharmacy Solutions, Vallejo, California

Andrew J. Donnelly, PharmD, MBA
Director, Pharmacy Services, University of Illinois Hospital and Health Sciences System, Clinical Professor of Pharmacy Practice and Associate Dean for Clinical Affairs, University of Illinois at Chicago, College of Pharmacy, Chicago, Illinois

Brent I. Fox, PhD, PharmD
Associate Professor, Department of Health Outcomes Research and Policy, Harrison School of Pharmacy, Auburn University, Auburn, Alabama

Perry L. Fri
Executive Vice President of Industry Relations, Membership and Education, Healthcare Distribution Alliance (HDA) and Chief Operating Officer, HDA Research Foundation, Alexandria, Virginia

Eric Fromhart, PharmD
Co-founder and President, Secure340B.com, Philadelphia, Pennsylvania

Caroline M. Gaither, PhD
Professor, Department of Pharmaceutical Care and Health Systems, Senior Associate Dean, Professional Education Division, College of Pharmacy, University of Minnesota, Minneapolis, Minnesota

David Gettman, MBA, PhD
Professor, D'Youville College School of Pharmacy, Buffalo, New York

Matthew Grissinger, RPh, FISMP, FASCP
Director, Error Reporting Programs, Institute for Safe Medication Practices, Huntington Valley, Pennsylvania

Dana P. Hammer, RPh, PhD
Faculty Lead for Student Professional Development, Skaggs School of Pharmacy and Pharmaceutical Sciences, University of Colorado, Denver, Colorado

Karl M. Hess, PharmD, APh, CTH, FCPhA, AFTM RCPS (Glasg)
Associate Professor of Pharmacy Practice, Director, Community Pharmacy Practice Innovations, Department of Pharmacy Practice, Chapman University School of Pharmacy, Harry and Diane Rinker Health Science Campus, Irvine, California

Susan E. Higgins, MBA
Independent Management and Strategy Consulting Serving the Health Care Industry

Kenneth C. Hohmeier, PharmD
Associate Professor of Clinical Pharmacy and Translational Science, Director of Community Affairs, University of Tennessee Health Science Center College of Pharmacy, Memphis, Tennessee

Erin R. Holmes, PhD, PharmD
Associate Professor, University of Mississippi School of Pharmacy, Oxford, Mississippi

Jan M. Keresztes, PharmD, FASHP
Senior Educator, Pharmacy, Talent First PBC, Orland Park, Illinois

Michael L. Manolakis, PhD
Vice President, National Pharmacy Practice Group, Aon Consulting, Charlotte, North Carolina

Erna Mesic, MPH
Manager, Retail and Pharmacy Projects, Walgreens, Deerfield, Illinois

Leticia R. Moczygemba, PharmD, PhD
Associate Professor and Associate Director, Texas Center for Health Outcomes Research and Education, Health Outcomes Division, The University of Texas College of Pharmacy, Austin, Texas

Rashid Mosavin, PhD
Dean and Professor, College of Pharmacy and Health Sciences, Texas Southern University

Mel L. Nelson, PharmD
Director of Research and Academic Affairs, Pharmacy Quality Alliance, Alexandria, Virginia

Jacob T. Painter, PharmD, MBA, PhD
Associate Professor, Division of Pharmaceutical Evaluation and Policy, University of Arkansas for Medical Sciences, Little Rock, Arkansas

Evan T. Robinson, PhD
Dean and Professor, College of Pharmacy and Health Sciences, Creighton University, Omaha, Nebraska

Meagan Rosenthal, PhD
Assistant Professor, Department of Pharmacy Administration, University of Mississippi School of Pharmacy, Oxford, Mississippi

Thad Schumacher, PharmD
Pharmacist and Owner, Fitchburg Family Pharmacy, Fitchburg, Wisconsin

Glen T. Schumock, PharmD, MBA, PhD
Dean and Professor, University of Illinois at Chicago College of Pharmacy, Chicago, Illinois

Mark H. Siska, BS Pharm, MBA/TM
Chief Pharmacy Informatics Officer, Mayo Clinic, Rochester, Minnesota

Todd D. Sorenson, PharmD, FAPhA, FCCP
Professor and Associate Head, Department of Pharmaceutical Care and Health Systems, College of Pharmacy, University of Minnesota, Minneapolis, Minnesota

Rachel Sullivan
Project Manager, HDA Research Foundation, Alexandria, Virginia

Benjamin S. Teeter, PhD
Assistant Professor, University of Arkansas for Medical Sciences, Little Rock, Arkansas

Kyle M. Turner, PharmD, BCACP
Assistant Clinical Professor, University of Utah College of Pharmacy, Salt Lake City, Utah

Benjamin Y. Urick, PharmD, PhD
Research Assistant Professor, Center for Medication Optimization, Eshelman School of Pharmacy, University of North Carolina, Chapel Hill, North Carolina

Julie M. Urmie, PhD
Associate Professor, University of Iowa College of Pharmacy, Iowa City, Iowa

Terri L. Warholak, PhD, RPh
Professor and Assistant Dean of Academic Affairs and Assessment, University of Arizona College of Pharmacy, Tucson, Arizona

William Wynn, PharmD
Assistant Professor, Experiential Education Coordinator, and Director of Interprofessional Education, South University Columbia Campus, Columbia, South Carolina

David P. Zgarrick, PhD, FAPhA
Professor, School of Pharmacy, Bouvé College of Health Sciences, Northeastern University, Boston, Massachusetts

PREFACE

WHY DID WE CREATE THIS TEXTBOOK?

Pharmacy remains a very exciting profession; in fact, more opportunities are available for pharmacists, pharmacy students, and educators than ever before. The roles of pharmacists in interprofessional health care teams continue to evolve, as does their recognition by payers and policy makers. Pharmacists continue to transform the delivery of their services to accentuate the critical nature of public health and proactive health care. But with new opportunities also come challenges, including the challenge of how to manage the personal and professional resources necessary to succeed in today's ever-changing environment.

Educators must not only keep up with changes in pharmacy practice, but also anticipate and prepare our students for opportunities and contingencies that will arise throughout their professional careers. In our efforts to best prepare students, pharmacy management educators have increasingly had to gather teaching materials from a variety of textbooks, journals, and other educational resources. This is due to the fact that many resources only focus on a specific management function (marketing, personnel, accounting, and finance) or a specific practice setting (independent pharmacies, hospital pharmacies). We believed that there would be value in a comprehensive pharmacy management textbook that covered many content areas and gathered a variety of resources into one text. We also aimed to develop a text that uses "evidence-based management"; that is, material derived from the best and most contemporary primary literature, but that which at the same time focuses on the application of knowledge into skills that pharmacists will use every day.

NEW CONTENT IN THIS EDITION!

In planning for a fifth edition of this text, we sought input from faculty who teach pharmacy management, as well as from pharmacy students and pharmacists who apply management principles in their daily practice. We listened carefully to users also while scanning the latest advances in teaching strategies to produce the fifth edition. Of course, we also considered the many changes in pharmacy practice, management, and health systems reform that have occurred during the past few years.

- Every chapter has been updated to reflect the fluid nature of its respective management topic.
- New trends in the management literature are reflected in each of the chapters, including management trends within and beyond pharmacy.
- Some chapters have been revised substantially and with new authors to provide users of the text with the most relevant information. Examples include the following:
  - Sustaining medication therapy management services through implementation science as well as other models of care delivery, such as continuous medication monitoring (CoMM).
  - Leveraging leadership skills into practice by guiding change management, establishing a culture of employee self-motivation, extracting the most from your resources and infrastructure, all while advocating for your profession and the patients you serve.
  - Broadening our views of how pharmacists manage the supply chain, particularly to ensure that they can access safe and effective medications and other resources that are needed by their patients.

- Maintaining compliance with laws, rules, and regulations which impact a pharmacy manager's ability to care for patients and manage their practice.
- Developing new ways of organizing and managing our time for our own success and the success of others, particularly given the challenges and opportunities provided by social media and other forms of technology.

We have also added new chapters commensurate with contemporary pharmacy practice in anticipation of continually evolving models of care. These include:

- Ethical Decision Making, Problem Solving, and Delegating Authority, where pharmacists utilize appropriate judgment processes when faced with decisions of how to optimize care in the face of budgetary constraints and preferences of various stakeholders in the medication use process.
- Negotiation Skills, a skill needed through various components of practice, ranging from encouraging treatment adherence from patients, to requesting a change from the prescriber in a patient's medication regimen, to adjudicating a fair contract with a third-party payer for the services renders to covered enrolees.
- Pharmacy Technicians, the persons to whom pharmacists are increasingly delegating more responsibility and greater numbers of tasks that pharmacists used to perform so that they can now spend more time in direct patient care activities.

NEW FEATURES IN THIS EDITION!

Management education encompasses a broad constellation of knowledge, skills, abilities, and attitudes required to become an effective leader. It is difficult for instructors to possess the breadth of experience across all aspects of pharmacy management to intuitively design structured lesson plans to effectively educate their students. With that in mind, the editors of the fifth edition have developed tools to assist instructors with teaching the concepts covered in this book. Instructors who adopt the textbook will have full access to these resources which include: (1) PowerPoint™ slides that cover the core content of each chapter; (2) lesson plans built on the *Understanding by Design* model developed by Jay McTighe and Grant Wiggins. These plans guide the course leader through the three stages of lesson design: (1) focusing on the big ideas within the content; (2) crafting fair, valid, and reliable assessments of the desired results; and (3) creating an effective and engaging learning unit.

WHAT WILL THE READER FIND IN THIS TEXTBOOK?

This textbook is organized to reflect all of the major management functions performed by pharmacists in any practice setting. The book is divided into sections representing each function, and is further divided into chapters that detail the various components of each function.

Our experience as educators has taught us that students are the most effective learners when they are "ready" to learn. Many students selected pharmacy as a major in part from the desire to help people, but also due to their fascination and intrigue with how such small amounts of various medicinal substances have such profound effects on the body. Many of these students also believe that they only need to learn about management after they graduate, and then only if they take on a managerial or administrative position at their pharmacy. The first section of this book makes the case that management skills are important for all people and pharmacists, regardless of their position or practice setting. In an environment of increasingly scarce resources and higher accountability, we also help the reader to understand and create the value proposition for themselves, their services, and their

organization. After establishing the need for management in both our personal and professional lives, the next four sections describe the management functions and resources that are common to all pharmacy practice settings (operations, people, money, traditional pharmacy goods and services). Chapters within each section focus on important aspects of each function or resource.

As pharmacy practice moves from a product orientation to a patient orientation, there are unique challenges that arise in managing the value-added services that pharmacists are developing to meet patient needs in medication therapy management. A section of this book is dedicated to the planning, implementation, and reimbursement of these new patient care services offered by pharmacists.

Several chapters are dedicated to describing the risks inherent in pharmacy practice and the impact that laws, regulations, and medication errors have on pharmacy management. The final section describes how management functions are applied by entrepreneurs and intrapreneurs in settings ranging from independently owned community pharmacies to those developing new goods, services, and ideas in any setting to meet needs related to medications and their use.

HOW EACH CHAPTER IS ORGANIZED?

Each chapter is divided into several sections to facilitate the reader's understanding and application of the material. Chapters begin with a list of learning objectives that outline the major topics to be addressed. A brief scenario is used to describe how a pharmacy student or pharmacist may need or apply the information described in this book in their daily lives or practice. Questions at the start of each chapter provide direction and assist the reader in understanding what they can expect to learn.

The text of each chapter provides comprehensive coverage of the content and theory underlying the major concepts. References to the management and pharmacy literature are commonly used to provide readers with links to additional background information. Explanations and applications are also used to help readers better understand the need to master and apply each concept. Questions at the end of each chapter encourage readers to think about what they have just learned and apply these concepts in new ways.

WHAT WE HOPE YOU WILL GAIN FROM THIS BOOK?

If you are a pharmacy student, we hope that using this book will help you gain an appreciation for the roles of management in pharmacy practice, regardless of your future position or practice setting. This book will also provide you with a variety of management theories and tools that you can apply in your daily life.

We realize that many pharmacists have not had much management coursework in their formal education or professional training. We hope that this book serves as a valuable guide to pharmacists who may require some assistance in dealing with matters they did not anticipate when embarking on their careers. For those pharmacists with formal management education and experience, we hope that this book serves as a valuable reference or as a source of new ideas that can be applied in daily practice.

For educators, this book has been designed as a comprehensive pharmacy management textbook. As a whole, it is meant to be used in survey courses that cover many areas of pharmacy management. The section format also allows the book to be used in courses that focus on specific pharmacy management functions or topics. The sections and content of each chapter are meant not only to provide valuable information that is easy for students to understand but also to stimulate further discussion and motivate students to learn more on their own.

WE WOULD LIKE TO HEAR FROM YOU!

The creators of each chapter have put a great deal of time and effort into getting their final outputs ready for consumers, but it rarely can be considered a "finished product." Textbooks are "works in progress" that can always be improved. The best way to improve these products is to seek input from our users. As you use this book, we would like to learn what you like about it, what could be improved, and what topics or features you would like to see included in the future. Please feel free to share your thoughts at any time by contacting us through *pharmacy@mcgraw-hill.com*. We plan to improve this book over future editions by listening to your feedback and continuing to reflect changes in the management sciences and pharmacy practice.

For Ancillaries, please go to the Pharmacy tab at:
https://www.mhprofessional.com/desselle5e

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We would like to thank the colleagues who have played an important role in our development throughout our undergraduate, professional, and graduate studies, as well as at our institutions. In addition, as our careers have advanced, we also have come to know many great academicians in other disciplines and other leaders in pharmacy who have greatly influenced our careers and provided keen guidance. We have learned so much from all these people and feel fortunate that they have been willing to share their knowledge and experience with us.

Thanks must also go to all the faculty, staff, and administrators at Northeastern University, University of Texas College of Pharmacy, South University Savannah Campus, and Touro University who have provided an environment that makes this type of endeavor possible. We would also like to thank all of the students we have taught who have inspired us to continue to strive to become better educators.

We would like to thank everyone at McGraw-Hill Education and, in particular, our editor, Michael Weitz, for working with us to improve this comprehensive pharmacy management textbook.

Finally, we would like to acknowledge the efforts of each of our chapter authors. We chose our authors not only because of their expertise but also because of their dedication to teaching and the professional development of pharmacy students and pharmacists. There is no way in which we could have completed this textbook without their efforts.

SECTION I

WHY STUDY MANAGEMENT IN PHARMACY SCHOOL?

1

THE "MANAGEMENT" IN MEDICATION THERAPY MANAGEMENT

Shane P. Desselle, Leticia R. Moczygemba, David P. Zgarrick, and Greg L. Alston

About the Authors: Dr. Desselle is a professor of Social, Behavioral, and Administrative Pharmacy at Touro University California College of Pharmacy. His research program focuses on optimizing roles for pharmacy technicians, development of mentorship programs, and in promoting healthy organizational cultures and citizenship behaviors in professional settings. He is a Fulbright Specialist Scholar having completed a project to develop a Center of Assessment for the University of Pristina in Kosovo. Dr. Desselle is a Founding Editor-in-Chief of the international peer-reviewed journal, Research in Social and Administrative Pharmacy with graduate students and collaborations worldwide on various projects such as medication safety and medication adherence issues with informal caregivers. Dr. Desselle also is a primary author for the Pharmacy Management Tips of the Week on AccessPharmacy that accompany this textbook.

Dr. Moczygemba is an associate professor and associate director of the Texas Center for Health Outcomes Research and Education at The University of Texas College of Pharmacy. Her research program focuses on working with communities and health systems to mitigate health disparities by developing patient-centered interventions to optimize medication-related health outcomes. She has worked to advance the health care of homeless individuals, older adults, and those living in rural areas through the development, implementation, and evaluation of care models that integrate pharmacists with health care teams. She teaches in the health care systems course in the Doctor of Pharmacy (PharmD) program and is engaged in interprofessional education initiatives with a focus on quality improvement and patient safety.

Dr. Zgarrick is a professor in the School of Pharmacy at Northeastern University's Bouvé College of Health Sciences. He received a BS degree in pharmacy from the University of Wisconsin and a MS and PhD in pharmaceutical administration from the Ohio State University. He has practice experience in both independent and chain community pharmacy settings. He has taught courses in pharmacy management, business planning for professional services, and drug literature evaluation. His scholarly interests include pharmacist workforce research, pharmacy management and operations, pharmacy education, and the development of postgraduate programs.

Dr. Alston is Associate Dean and professor, Savannah Campus, South University School of Pharmacy. He has over 30 years of experience in community pharmacy management, both

as a chain pharmacy administrator and an independent pharmacy owner. He earned a Doctor of Pharmacy degree from the University of the Pacific and has published three best-selling management books, *The Bosshole Effect—Managing People Simplified* and *The Ten Things A New Manager Must Get Right From the Start,* and *Own Your Value- The Real Future of Pharmacy Practice*. His passion lies in teaching the next generation of pharmacists how to create value for the stakeholders they serve.

LEARNING OBJECTIVES

After completing this chapter, readers should be able to

1. Identify changes in the roles of pharmacists since the early 1900s.
2. Describe how pharmacy practitioners and educators viewed the need for management skills as the roles of pharmacists evolved.
3. Identify principal domains of pharmacy care.
4. Describe how management skills and functions fit within the context of providing medication therapy management services.
5. Identify myths surrounding the practice of pharmacy and health care as a business.
6. Evaluate the need for a management perspective to better serve patients and improve outcomes to drug therapy.
7. List the managerial sciences and describe their use as tools to assist pharmacists in practice.

SCENARIO

Stephanie Chen has just completed the first 2 years of a PharmD curriculum. Despite many long hours of hard work and a few anxious moments preparing for examinations, she has been pleased with her educational experience. She perceives that as she continues progressing through the curriculum, the upcoming courses will be more integrated and directly applicable to pharmacy practice. She is especially excited about taking courses in pharmacology and therapeutics so that she can "really learn about how to be a pharmacist." As she glances down at her schedule and sees that she is enrolled in a required course in pharmacy management, her enthusiasm becomes somewhat tempered. She immediately consults with fellow students on what they have heard about the course, and they tell her that the course is about "finance, accounting, personnel management, and marketing." Despite some positive comments provided by students having already completed the course, she is concerned. "What do I have to take this course for? I did not come to pharmacy school for this. I'm very good at science. If I liked this kind of stuff, I would have majored in business. How is this going to help me to become a better pharmacist?" she asks herself.

After some thought, she comes to realize that, at worst, taking this course will not be the end of the world, and even better, it simply might be a moderate intrusion in her Monday–Wednesday–Friday routine. She begins to focus on other issues, such as her part-time job at Middletown South Pharmacy. Lately, she has been dreading each day she goes to work there. The staff consistently seems rushed and impatient. There always seems to be conflict among the employees, and as soon as one fire has been put out, another larger one begins to burn. She regrets her decision to quit her job at Middletown North Pharmacy 3 months ago, even though it took 20 minutes longer to get there. Things always

seemed to run smoothly at Middletown North. Mary even noticed that the patients at Middletown North seemed happier and healthier than those at Middletown South.

CHAPTER QUESTIONS

1. How have pharmacists' roles in delivering goods and services evolved over the past few decades? What roles and functions do pharmacists perform today?
2. What is the significance of management within the context of the profession's movement toward the provision of direct patient-care services such as medication therapy management? Why has its significance typically been overlooked by pharmacists and pharmacy students?
3. What are some of the myths surrounding the confluence of business practices and the provision of patient care by pharmacists?
4. What evidence exists that a business perspective is critical to provide effective pharmacy services to patients?
5. What are the managerial sciences, and how can pharmacists use them effectively?

INTRODUCTION

The preceding scenario, though perhaps overly simplistic, captures the feelings of many students who select pharmacy as a major. They generally are interested in science, have a desire to help people in need, and prefer a career offering long-term financial security. Given that the pharmacy curriculum consists of courses that apply knowledge from physics, chemistry, anatomy, physiology, and therapeutics, most pharmacy students achieved success in science and math courses throughout their pre-pharmacy studies (Keshishian et al., 2010). Second, students selecting pharmacy as a major typically are attracted to health care fields and may have contemplated nursing, medicine, or other health professions. Research has demonstrated that people in health care are caring and empathic and seek personal reward and self-actualization through the helping of others (Meyer-Juncol., 2015, Pohontsch et al., 2018; Warshawski et al., 2018). Finally, many pharmacy students also consider the relatively high salaries of their chosen profession prior to choosing a college major and a career pathway. While few fields guarantee graduates a job, and certainly not one with entry-level salaries in the six figures, pharmacy students take comfort in knowing that employment in their profession will provide them with a generous and steady stream of income. It comes as no surprise that pharmacists and pharmacy students have been shown to be risk-averse individuals who do not deal with uncertainties particularly well (Latif, 2000; Leung et al., 2018). This further explains their gravitation toward science-oriented courses that offer straightforward solutions to problems.

Unbeknown to many pharmacy students is that the actual practice of pharmacy does not present a succession of problems that can be resolved in such a linear manner. While the sequential processes involved in community pharmacy practice have remained the same—patients present with prescriptions, pharmacy personnel fill them, and the necessary counseling is offered or provided by the pharmacist—a careful introspection reveals that the profession has undergone a rapid, head-turning transformation over just the past few decades. Pharmacists now are increasingly involved with providing direct patient-care services in addition to dispensing medications, and are taking greater responsibility for patients' outcomes arising from drug therapy. Pharmacists have become more integrated into health care delivery teams that coordinate patient care through the implementation of evidence-based guidelines and treatment algorithms. This has been even further accelerated by recent changes in states' pharmacist scope of practice regulations, collaborative practice agreements, reimbursement incentives from payers, and the reorganization of health care delivery into medical home models and accountable care organizations (George et al., 2018; Isasi & Krofah, 2015; McConaha et al., 2015).

For students to better understand the way that pharmacy is practiced today, time should be devoted

to understanding the major forces that have shaped the profession. This chapter begins with a brief history of the evolution of pharmacy practice in the 20th century. This history, coupled with a snapshot of contemporary pharmacy practice, will make it clear that the past and current pharmacy practice models are as much about management as they are about clinical pharmacy practice. The chapter proceeds by pointing out myths about the exclusivity of the pharmacy business and patient outcomes and by providing evidence that what is best for the operation of a pharmacy business is often also best for the patients and other stakeholders that it serves. The chapter concludes with a brief discussion of the managerial sciences—tools that every practitioner will find useful at one point or another regardless of the practice setting. This chapter and all other succeeding chapters use an *evidence-based approach* to discuss pharmacy management, relying on recent literature and research findings to describe and explain what is happening in practice today. Students are encouraged to explore readings of interest among the references cited throughout the text.

A BRIEF HISTORICAL OVERVIEW OF PHARMACY PRACTICE

There have been several noteworthy efforts to describe the evolution of pharmacy practice. Some have described the process within the context of "waves," or shifts, in educational and industrial forces (Hepler, 1987), another through identifying stages of professional identity (Hepler & Strand, 1990), and still another through describing activation of pharmacists' services as stewards of public health in a medical care system increasingly challenging for patients to navigate (Blanchard et al., 2017). While these approaches appear quite different, their descriptions of the principal drivers of change closely mirror one another.

Pharmacy in the Early Twentieth Century

Pharmacy in the United States began in the 20th century much like it existed in the latter 1800s. Pharmacy was, at best, a "marginal" profession. Most practitioners entered the occupation through apprenticeships rather than formal education. The pharmacist's principal job function was described as the "daily handling and preparing of remedies in common use" (Sonnedecker, 1963, p. 204). Pharmacists, or "apothecaries," were often engaged in the wholesale manufacture and distribution of medicinal products. Pharmacists' roles during this time were considerably different than they are today. In the early 20th century, pharmacists' primary roles were to procure raw ingredients and extemporaneously compound them into drug products for consumer use. While pharmacists had yet to achieve recognition as health care professionals, they often had considerable autonomy in their practice. There was no clear distinction between "prescription" and "nonprescription" drugs. Although physicians were engaged in the process of writing prescriptions, pharmacists were not precluded from dispensing preparations without a physician's order. Consumers commonly relied on their pharmacists' advice on minor ailments, and often entrusted the nickname of "doc" to their neighborhood pharmacist (Hepler, 1987).

Pharmacists had little choice but to have sharp business acumen to survive. Since few of the products they dispensed were prefabricated by manufacturers, pharmacists had to be adept at managing inventories of bulk chemicals and supplies used in compounding the preparations they dispensed. They also had to have a keen sense of how to manage time and people to accomplish a series of complex tasks throughout the workday.

A series of studies commissioned by the US government in the early 1900s produced what became known as the "Flexner reports" in 1915. These reports were critical for health care professionals and their education, including pharmacists. The reports questioned the validity and necessity of pharmacists as health care professionals. Shortly thereafter, the American Association of Colleges of Pharmacy (AACP) commissioned a study directed by W. W. Charters that ultimately served as the basis for requiring a 4-year

baccalaureate degree program for all colleges of pharmacy (Hepler, 1987). These and other forces led to dramatic changes in pharmacy in the coming years.

Pharmacy in the Middle of the Twentieth Century

The 1940s through the 1960s often have been referred to as the "era of expansion" in health care (Smyrl, 2014). The Flexner reports paved the way for a more scientifically sound, empirically based allopathic branch of medicine to become the basis by which health care was practiced and organized. The federal government invested significant funds to expand the quantity and quality of health care services. The Hospital Survey and Construction (Hill-Burton) Act of 1946 provided considerable funding for the renovation and expansion of existing hospitals and the construction of new ones, primarily in underserved inner city and rural areas (Torrens, 1993).

Ironically, pharmacists began to see their roles diminish during this era of expansion in health care. Among the factors responsible for this decline were advances in technology and in the pharmaceutical sciences, coupled with societal demands that drug products become uniform in their composition. These brought about the mass production of prefabricated drug products in tablet, capsule, syrup, and elixir dosage forms, thus significantly reducing the need for pharmacists to compound prescription orders. The passage of the Durham–Humphrey amendment to the Food, Drug, and Cosmetic Act in 1951 created a prescription, or "legend," category of drugs. Pharmacists did not have the ability to dispense these drugs without an order from a licensed prescriber. Finally, pharmacy's own "Code of Ethics" promulgated by the American Pharmaceutical Association (APhA) stated that pharmacists were not to discuss the therapeutic effects or composition of a prescription with a patient (Buerki & Vottero, 1994, p. 93). This combination of forces relegated the role of the pharmacist largely to a dispenser of pre-prepared drug products.

The response of schools and colleges of pharmacy to these diminishing professional roles was the creation of curricula that were more technical, scientific, and content driven. A fifth year of education was added to the 4-year baccalaureate degree by colleges and schools of pharmacy during the late 1940s and early 1950s following the AACP Committee on Curriculum report entitled, "The Pharmaceutical Curriculum" (Hepler, 1987). It was during this time that pharmacology, pharmaceutics, and medicinal chemistry matured as disciplines and became the core of pharmacy education. Pharmacy students were required to memorize an abundance of information about the physical and chemical nature of drug products and dosage forms. Courses in the business aspects of pharmacy took a secondary role, whereas education in patient care (e.g., communications, therapeutics) was for all intents and purposes nonexistent.

With the APhA Code of Ethics suggesting that pharmacists not discuss drug therapies with patients, the profession lost sight of the need for pharmacists to communicate effectively with patients and other health care professionals. As the number of hospital and chain pharmacies expanded, resulting in pharmacists being more likely to be an employee than a business owner, the importance of practice management skills was not stressed in schools of pharmacy. Ironically, studies such as the "Dichter report" commissioned by the APhA revealed that consumers regarded pharmacists more as merchants than as health care professionals (Maine & Penna, 1996).

Pharmacy in the Latter Part of the Twentieth Century

The era of expansion slowed in the 1970s when society began to question the value obtained from the larger amount of resources being allocated toward health care. Congress passed the Health Maintenance Act of 1973, which helped to pave the way for health maintenance organizations (HMOs) to become an integral player in the delivery of health care services. Governments, rather than the private sector, took the lead in attempting to curb costs when they implemented a prospective payment system of reimbursement for Medicare hospitalizations based on categories of diagnosis-related groups (Pink, 1991).

In 1975 the Millis Commission's report, *Pharmacists for the Future: The Report of the Study Commission on Pharmacy* (Millis, 1975), suggested that pharmacists were inadequately prepared in systems analysis and management skills and had particular deficiencies in communicating with patients, physicians, and other health care professionals. A subsequent report suggested incorporating more of the behavioral and social sciences into pharmacy curricula and encouraged faculty participation and research into real problems inherent in pharmacy practice (Millis, 1976).

Prior to these reports, the American Society of Hospital Pharmacists had published *Mirror to Hospital Pharmacy* stating that pharmacy had lost its purpose, falling short of producing health care professionals capable of engendering change and noting that frustration and dissatisfaction among practitioners were beginning to affect students (Hepler, 1987, p. 371). The clinical pharmacy movement evolved in the 1970s to capture the essence of the drug use control concept forwarded by Brodie (1967) and promoted the pharmacist's role as therapeutic advisor. The clinical pharmacy movement brought about changes in pharmacy education and practice. After being introduced in 1948, the 6-year PharmD degree became the only entry-level degree offered by a small number of colleges of pharmacy as early as the late 1960s and early 1970s. The additional year of study was devoted mostly to therapeutics or "disease-oriented courses" and experiential education. The PharmD degree became the entry-level degree into the profession in the early 2000s, with colleges of pharmacy phasing out their baccalaureate programs.

These trends toward a more clinical practice approach may at first glance appear to be an ill-conceived response given recent changes in health care delivery. These changes placed a heightened concern over spiraling costs and have resulted in the deinstitutionalization of patients and the standardization of care using tools such as protocols, treatment algorithms, and disease-based therapeutic guidelines. Adoption of a clinical practice approach may also appear to fly in the face of changes in the organization of the pharmacy workforce and current market for pharmaceuticals. Studies have suggested that pharmacists willing and knowledgeable enough to provide patient-oriented clinical services face significant barriers when practicing in a community pharmacy environment (Blalock et al., 2013; Kennelty et al., 2015; Schommer & Gaither, 2014). In addition, the growth of mail order services in the outpatient pharmacy setting virtually excludes face-to-face consultation with patients. Mail order pharmacy has become a significant channel for the distribution of pharmaceuticals and is used by the Veterans Administration system and many pharmacy benefits managers. Many brick-and-mortar pharmacy operations now have a significant mail order component to their business as well. While providing consumers with a convenient way to obtain drug products, this form of commerce has the potential to further remove the pharmacist from patients and others who could benefit from their clinical services. Moreover, this trend has continued; at the time of writing this chapter, the massive e-retailer Amazon had begun its foray into the prescription drug market initially through the purchase of a company (PillPack) that delivers medication to patients through the mail in packaging aimed to improve patient adherence (LaVito & Hirsch, 2018). With Amazon's advantages in supply chain and operational cost-savings (see Chapter 27), this could provide for a momentous disruption in the prescription drug market. However, as described further in this chapter and in many places throughout the text, sometimes challenges such as this can end up being a boon to practice and with the proper management and leadership can be among a number of phenomena that could result in a greater opportunity for pharmacists to become more highly involved in direct patient-care activities.

PHARMACEUTICAL CARE AND MEDICATION THERAPY MANAGEMENT AS MANAGEMENT MOVEMENTS

With these changes in mind, adopting pharmaceutical care as a practice philosophy in the 1990s would have appeared "a day late and a dollar short" for both

the profession and the patients it serves. And indeed, that might have been the case had the concept of *pharmaceutical care* been entirely clinical in nature. The originators of the concept fervently stressed that pharmaceutical care was not simply a list of clinically oriented activities to perform for each and every patient but was, in fact, a new mission and way of thinking that takes advantage of pharmacists' accessibility and the frequency to which they are engaged by patients—a way of thinking that engenders the pharmacist to take responsibility for managing a patient's drug therapy to resolve current problems and prevent future problems related to their medications.

It has been argued that the focus on preventing and resolving medication-related problems is simply an extension of *risk management* (Heringa et al., 2016 see also Chapter 11). Risks are an inherent part of any business activity, including the provision of pharmacy services. Common risks to a business include fire, natural disasters, theft, economic downturns, and employee turnover, as well as the fact that there is no guarantee that consumers will accept or adopt any good or service that the business offers. The practice of pharmacy involves additional risks, specifically the risk that patients will suffer untoward events as a result of their drug therapy or from errors in the medication dispensing process. These events are significant because they may result in significant harm and even death to a patient. They can also harm pharmacists and their businesses. Risk management suggests that risk cannot be avoided entirely, but rather it should be assessed, measured, and reduced to some feasible extent (Flyvbjerg, 2006).

The idea that pharmaceutical care should be viewed strictly as a clinical movement was called into question (Wilkin, 1999). Evidence that pharmaceutical care existed in part as a management movement was provided in a study that sought to identify standards of practice for providing pharmaceutical care (Desselle, 1997). A nationwide panel of experts identified 52 standards of pharmacy practice, only to have a statewide sample of pharmacists judge many of them as unfeasible to implement in everyday practice. Of the practice standards that were judged to be feasible, the researchers constructed a system of "factors" or "domains" in which these standards could be classified (Desselle & Rappaport, 1995). These practice domains can be found in Table 1-1. Figuring prominently into this classification was the "risk management" domain, which included activities related to documentation, drug review, triage, and dosage calculations. However, the contributions of the managerial sciences do not stop there. The remaining four domains connote significant involvement by pharmacists into managerial processes. Two of the domains ("services marketing" and "business management") are named specifically after managerial functions.

From Pharmaceutical Care to Medication Therapy Management and Other Paradigms

While the pharmaceutical care movement made an indelible mark on the profession, its use in the modern lexicon describing pharmacists' services is fading. It has been replaced with terminology that more accurately reflects pharmacists' growing roles in the provision of public health services and reorganization of care into medical homes. In recognizing the morbidity and mortality resulting from medication errors as a public health problem, the profession embraced the concept of medication therapy management (MTM). MTM represents a comprehensive and proactive approach to help patients maximize the benefits from drug therapy and includes services aimed to facilitate or improve patient adherence to drug therapy, educate entire populations of persons, conduct wellness programs, and become more intimately involved in disease management and monitoring. The MTM movement has been strengthened by language in the Medicare Prescription Drug, Improvement and Modernization Act (MMA) of 2003 (Public Law Number 108–173, 2010), which mandates payment for MTM services and proffers pharmacists as viable health professionals that may offer such services. The place of MTM in health care delivery was advanced even further in the Patient Protection and Affordable Care Act, which established pilots for integrated care delivery, comprehensive medication review for Medicare beneficiaries, and grants specifically for MTM programs (Public Law Number 111–148, 2010). As

Table 1-1. Pharmacy Care Practice Domains

I. *Risk management*
- Devise system of data collection
- Perform prospective drug utilization review
- Document therapeutic interventions and activities
- Obtain over-the-counter medication history
- Calculate dosages for drugs with a narrow therapeutic index and special populations, such as children and older adults
- Report adverse drug events to FDA
- Triage patients' needs for proper referral
- Remain abreast of newly uncovered adverse effects and drug–drug interactions

II. *Patient-centered care delivery*
- Serve as patient advocate with respect to social, economic, and psychological barriers to drug therapy
- Attempt to change patients' medication orders when barriers to adherence exist
- Counsel patients on new and refill medications as necessary
- Promote patient wellness
- Maintain caring, friendly relationship with patients
- Telephone patients to obtain medication orders called in and not picked up

III. *Disease and medication therapy management*
- Provide information to patients on how to manage their disease state/conditions and medication regimens
- Monitor patients' progress resulting from pharmacotherapy
- Carry inventory of products necessary for patients to execute and monitor a therapeutic plan (e.g., -inhalers, nebulizers, glucose monitors)
- Supply patients with information on support and educational groups (e.g., American Diabetes Association, Multiple Sclerosis Society)

IV. *Pharmacy care services marketing*
- Meet prominent prescribers in the local area of practice
- Be an active member of professional associations that support the concept of pharmaceutical care
- Make available an area for private consultation services for patients as necessary
- Identify software that facilitates pharmacists' patient care–related activities

V. *Business management*
- Utilize technicians and other staff to free up the pharmacist's time
- Identify opportunities for billing and reimbursement of pharmacist services

such, MTM is now considered a key component in the provision of pharmacy care services.

Pharmacy has seldom come short in developing new acronyms and proposed models of practice. Moving beyond MTM, the concept of comprehensive medication management (CMM) is designed to optimize medication-related medication outcomes in collaborative practice environments (American College of Clinical Pharmacy, 2015). This is light of emphasis on patient-centered, team-based care and increasingly linked to reimbursement through pay-for-performance, even while those reimbursement systems do not always recognize clinical pharmacy services as uniquely billable. It focuses attention