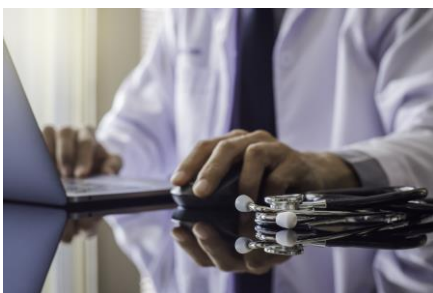


The 2022 Economic Report on U.S. Pharmacies and Pharmacy Benefit Managers

Adam J. Fein, Ph.D.
Drug Channels Institute

March 2022

Full report available at <https://drugch.nl/pharmacy>



COPYRIGHT

Copyright © 2022 by Pembroke Consulting, Inc., d/b/a Drug Channels Institute. All rights reserved.

This report is protected by copyright law and may not be copied or otherwise reproduced, repackaged, further transmitted, transferred, disseminated, redistributed, or resold, in whole or in part, in any form or manner or by any means whatsoever, by any person without prior written consent. This report may be cited in commercial documents with full and appropriate attribution. This report is for informational purposes only and is provided “as is” without any express or implied warranty. The analyses in this report are based solely on information and data that are in the public domain. All conclusions, findings, opinions, and recommendations are based on our own experienced and professional judgment and interpretations given the information available. While all information is believed to be reliable at the time of writing, the information provided here is for reference use only and does not constitute the rendering of legal, financial, commercial, or other professional advice by Pembroke Consulting, Inc., Drug Channels Institute, or the author. Any reliance upon the information is at your own risk, and Pembroke Consulting, Inc., and the author shall not be responsible for any liability arising from or related to the use or accuracy of the information in any way. Pembroke Consulting, Inc., and Drug Channels Institute do not make investment recommendations in this report or otherwise. Nothing in this report should be interpreted as an opinion by Pembroke Consulting, Inc., Drug Channels Institute, or the author on the investment prospects of specific companies.

Drug Channels® is a registered trademark of Pembroke Consulting, Inc.

LICENSE TERMS

This report is protected by copyright law. Unauthorized reproduction or distribution of this report or any portion of it may result in severe civil and criminal penalties and will be prosecuted to the maximum extent of the law. **This report may be cited in commercial documents with full and appropriate attribution. Nothing in the license is intended to reduce, limit, or restrict any rights arising from fair use under copyright law or other applicable laws.**

If you would like to quote from or otherwise cite the report, here is a suggested sample citation:
Fein, Adam J., *The 2022 Economic Report on U.S. Pharmacies and Pharmacy Benefit Managers*, Drug Channels Institute, 2022.

The complete End User License Agreement is available at: <http://drugch.nl/2022EULA>

ABOUT THE AUTHOR

Adam J. Fein, Ph.D., is the CEO of Drug Channels Institute (DCI), a leading source of industry research about pharmaceutical economics and the drug distribution system. DCI is a subsidiary of Pembroke Consulting, Inc.

Dr. Fein is one of the country's foremost experts on pharmaceutical economics and the drug distribution system. He has published hundreds of academic and industry articles. Dr. Fein has contributed to and is regularly quoted in such national publications as *The Wall Street Journal*, *The New York Times*, *The Washington Post*, *Forbes*, and many others.



His popular and influential [Drug Channels](http://www.DrugChannels.com) website is the go-to source for definitive and comprehensive industry analysis, delivered with a witty edge. *Drug Channels* is the only place where you'll find a serious discussion of PBMs, drug pricing, and pharmacy economics, all explained with humor and a healthy dose of pop culture.

Dr. Fein earned his doctoral degree from the Wharton School of Business at the University of Pennsylvania and his undergraduate degree from Brandeis University. He lives in Philadelphia with his wife and business partner, Paula.

Contact information

Adam J. Fein, Ph.D.
Drug Channels Institute
1515 Market Street, Suite 1660
Philadelphia, PA 19102
Phone: 215-523-5700
Website: www.DrugChannelsInstitute.com
Email: afein@drugchannels.net

Visit Dr. Fein's Drug Channels website for the latest industry updates!



DRUG CHANNELS

Expert Insights on Pharmaceutical Economics
and the Drug Distribution System

www.DrugChannels.net

ABOUT DRUG CHANNELS INSTITUTE

[Drug Channels Institute \(DCI\)](#) is a leading source of industry research about pharmaceutical economics and the drug distribution system.



DCI hosts live video webinars during which Dr. Fein discusses trends and policies that affect the pharmaceutical industry and its channels. [Click here to view our current and previous video webinars.](#)

DCI also combines Dr. Fein's expertise and cutting-edge analysis—such as this *2022 Economic Report on U.S. Pharmacies and Pharmacy Benefit Managers*—into interactive e-learning modules that offer your team a thorough grounding in crucial industry topics. [Click here to view a module list.](#) These online learning tools explain highly complex economic and business data and concepts so you can:

- Make better decisions to achieve your business goals
- Improve relationships with key accounts
- Understand your customers, channels, and the economics of the U.S. pharmaceutical industry

To learn more about how Drug Channels Institute can help your business, please contact:

Paula Fein, M.S.Ed.
V.P., Business Development
Drug Channels Institute
1515 Market Street, Suite 1660
Philadelphia, PA 19102
Phone: 215-523-5700
Website: www.drugchannelsinstitute.com
Email: paula@drugchannels.net



INTRODUCTION AND GUIDE TO THE 2022 REPORT

In 2021, the pharmaceutical channel—and, for many, our way of life—began to stabilize after the unprecedented volatility triggered by the ongoing COVID-19 pandemic. U.S. distribution and dispensing channels for prescription drugs have remained highly resilient during the past two years. Pharmacy and healthcare provider markets have rebounded to near pre-pandemic levels.

Amid ongoing uncertainty about the ultimate resolution of the pandemic, the industry continues to confront a diverse set of commercial, political, and legal challenges. They are among the many issues we consider in the 2022 edition of this report:

- Pharmacies and pharmacists stepped up as critical providers of medications and are playing a crucial role in administering COVID-19 vaccines. Retail pharmacies administered more than 40% of all COVID-19 vaccines.
- In 2021, total prescription dispensing revenues of retail, mail, long-term care, and specialty pharmacies exceeded \$500 billion (excluding COVID-19 vaccines). Specialty drugs accounted for nearly 40% of outpatient prescription revenues—and an even greater share of payers' net prescription costs.
- Specialty drugs remain the key driver of prescription revenues for the pharmacy and PBM industries. In the coming years, both biologic and traditional specialty drugs will face increasing competition from biosimilar and generic versions of these products. The 2023 launch of the Humira biosimilars will be a market-changing event for pharmacy benefit management and specialty pharmacy.
- The Big Three pharmacy benefit managers (PBMs) grew their share of the prescription market in 2021, while rebate negotiations have become more concentrated within newly formed PBM-owned purchasing groups.
- Payers and PBMs continue to tighten their management of specialty drugs and specialty dispensing. However, both hospital-owned specialty pharmacies and large specialty pharmacies independent from a PBM are a growing share of the dispensing market.
- Low generic prices are limiting pharmacies' revenues and gross profits from these prescriptions. An emerging set of novel competitors—cash-pay pharmacies, discount card vendors, Amazon, and digital pharmacies—are challenging the long-standing competitive dynamics and economics of generic drug dispensing.
- Consistent with the analyses in previous editions of this report, most people incur relatively small out-of-pocket costs for their prescriptions, due partly to a growing share of prescriptions being dispensed with no patient out-of-pocket expense. Patients taking

- specialty drugs continue to face high out-of-pocket costs due to benefit design that favors deductibles and coinsurance spending.
- Copay accumulator adjustment programs are now a common feature of pharmacy benefit designs. However, adoption of copay maximizers now exceeds that of copay accumulators, as plans increase their efforts to access patient support funds provided by pharmaceutical manufacturers.
 - List prices for brand-name drugs—which directly impact the revenues and profits of pharmacies and PBMs—continue to grow more slowly than they have historically. However, brand-name drugs’ net prices (after rebates and discounts) have declined for the fourth year. Consequently, growth in the number of people being treated and the number of prescriptions being dispensed remains a key driver of drug spending growth.
 - The gross-to-net bubble, which measures total rebates and discounts paid by manufacturers, reached \$204 billion for patent-protected brand-name drugs in 2021. There have been few new developments in plan sponsors’ usage of rebates since last year’s edition of this report, due partly to the pressing issues of the COVID-19 pandemic.
 - The retail pharmacy shakeout is accelerating, as smaller competitors sell to larger companies and larger chains reduce store count. At the same time, CVS, Walgreens, and Walmart have increased their investments in healthcare sites that compete directly with urgent care clinics, physician offices, and other healthcare providers.
 - Insurers, PBMs, and specialty pharmacies have combined into vertically integrated organizations. To date, these organizations have had limited success in achieving significant synergies. Some companies have started to unwind their vertical efforts.
 - The 340B Drug Pricing Program now exceeds the size of the nation’s Medicaid outpatient drug market. Pharmacies’ role in—and profits from—the 340B program have been disrupted, because many manufacturers now limit prescriptions dispensed via contract pharmacies. These highly controversial actions have triggered extensive litigation and raised the prospect of congressional action.
 - State and federal lawmakers continue to scrutinize PBMs’ profit models and incentives. Disclosures about PBMs’ unexpectedly large profits in managed Medicaid programs have triggered several larger states to carve-out pharmacy to fee-for-service Medicaid. Federal legislative action regarding drug prices remains highly uncertain, though states have enacted more than 200 laws targeting various aspects of the U.S. drug channel.
 - New cell and gene therapies are slowly being adopted, although traditional channel participants appear to be playing a limited role in delivering these novel therapies.

Understanding an Evolving Marketplace

The 2022 Economic Report on U.S. Pharmacies and Pharmacy Benefit Managers—our 13th edition—remains the most comprehensive, fact-based tool for understanding the entire U.S. drug pricing, reimbursement, and dispensing system. This unique resource is your ultimate guide to the complex web of interactions within U.S. prescription drug channels.

This definitive, nonpartisan report includes the most current information about pharmacy dispensing channels, third-party payers, PBMs, patients' financial contributions, government regulations, and more. The report synthesizes a wealth of statistical data, research studies, financial information, and my own extensive business consulting experience. It will aid pharmaceutical manufacturers, wholesalers, pharmacists, pharmacy owners, hospital executives, pharmacy buyers, benefit managers, managed care executives, policy analysts, investors, consultants, and many others.

Thousands of companies operate within the U.S. system, enabling the 6.2 billion equivalent prescriptions to be dispensed and paid. The table below highlights the largest public companies that operate in the drug channel. Many of these firms are among the largest businesses on the *Fortune 500* list.

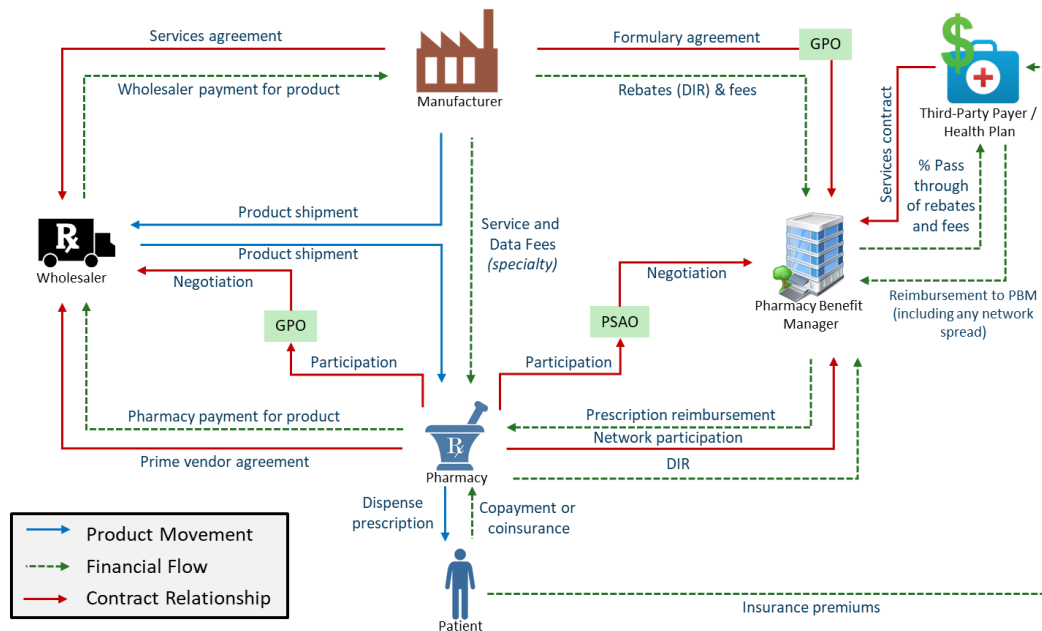
Major Public Companies Operating in U.S. Drug Channels

Company	Stock Ticker	Primary U.S. Channel Role(s)
Amazon	AMZN	Mail pharmacy
CVS Health	CVS	Insurer/PBM/Chain drugstore/Mail & specialty pharmacy/Long-term care pharmacy
GoodRx	GDRX	Discount card provider
Kroger	KR	Supermarket with pharmacy/PBM/Specialty pharmacy
Rite Aid Corporation	RAD	Chain drugstore/PBM/Mail & specialty pharmacy
Walgreens Boots Alliance	WBA	Chain drugstore/Mail & specialty pharmacy/Long-term care pharmacy
Walmart	WMT	Mass merchant with pharmacy/Specialty pharmacy
Anthem	ANTM	Insurer/PBM
Centene	CNC	Insurer/PBM/Mail & specialty pharmacy
Cigna	CI	Insurer/PBM/Mail & specialty pharmacy
Humana	HUM	Insurer/PBM/Mail & specialty pharmacy
UnitedHealth Group	UNH	Insurer/PBM/Mail & specialty pharmacy
AmerisourceBergen	ABC	Pharmaceutical wholesaler/Specialty pharmacy
Cardinal Health	CAH	Pharmaceutical wholesaler
McKesson Corporation	MCK	Pharmaceutical wholesaler/Specialty pharmacy

PBM = pharmacy benefit manager
Source: Drug Channels Institute research

These and other companies discussed in this report operate within a complex distribution, payment, and reimbursement system, illustrated on the next page.

The U.S. Pharmacy Distribution and Reimbursement System for Patient-Administered, Outpatient Brand-Name Drugs



GPO = group purchasing organization; PSAO = pharmacy services administrative organization; DIR = direct and indirect remuneration
 Source: Drug Channels Institute research. Chart illustrates flows for Patient-Administered, Outpatient Drugs. Please note that this chart is illustrative. It is not intended to be a complete representation of every type of product movement, financial flow, or contractual relationship in the marketplace.

The 2022 Economic Report on U.S. Pharmacies and Pharmacy Benefit Managers discusses and analyzes the key channel flows illustrated above:

- Product movement**, which traces shipments from pharmaceutical manufacturers to the drug wholesalers that supply pharmacies. Retail, mail, long-term care, and specialty pharmacies mark the final step in which a prescription is dispensed to a patient.
- Financial flows**, which transfer money from third-party payers to PBMs, which in turn reimburse pharmacies. Funds flow to manufacturers via pharmacies, which purchase drugs from wholesalers. Funds flow from manufacturers to PBMs in the form of rebates and fees. The PBMs share most of these payments with plan sponsors, reducing plans' net prescription costs. Manufacturers' payments to PBMs and other third-party payers do not flow through wholesale or retail channels.
- Contractual relationships**, which govern the relationships between: 1) payers and PBMs; 2) PBMs and pharmacies; 3) pharmacies and wholesalers; 4) wholesalers and manufacturers; and 5) manufacturers and PBMs.

In Sections II and III of the report, we revisit this chart to link each flow with the corresponding report chapters that explain and analyze it. This chart appears as [Exhibit 59](#) (page 105).

What's New in the 2022 Report

The 2022 Economic Report on U.S. Pharmacies and Pharmacy Benefit Managers retains the overall structure we employed in previous editions. As always, we have updated all market and industry data with the most current information available, including our annual analyses of the market positions of the largest pharmacies, specialty pharmacies, and PBMs.

This 2022 edition addresses COVID-19 and its ongoing impact on the pharmacy and PBM industries. Given this uncertainty, we plan to revisit the topic in future editions. We will also continue to monitor these trends on [Drug Channels](#).

Many sections and chapters have been expanded and/or reorganized to better cover the latest industry developments. In this 2022 edition, you'll find the following changes and updates:

- Chapter 1 includes updated and expanded material about healthcare and clinical services at retail chains, as well as a new [Section 1.4.4](#), with data about pharmacies' administration of—and profits from—COVID-19 vaccines.
- Chapter 2 incorporates additional data analyses that address COVID-19 and its impact on the pharmacy industry.
- [Section 4.3](#) has been expanded to better cover patient-paid prescriptions and new developments in cash-pay prescriptions and discount cards.
- Chapter 5 has been reorganized to provide more complete coverage of the PBM industry. We have added two new sections: [Section 5.2.3](#), which reviews smaller PBMs, and [Section 5.2.4](#), which reviews the PBM purchasing groups and GPOs.
- Chapter 6 includes new information about specialty carve-out programs and copay maximizer programs.
- Chapter 9 contains substantial new data on rebates and gross-to-net pricing as well as new information on net pricing in various government programs.
- Chapter 11 includes expanded information on the 340B Drug Pricing Program, including a new [Section 11.5.4](#) that addresses split-billing software vendors.
- Chapter 12, which covers the industry outlook and emerging trends, has been significantly updated and restructured to reflect developments that have occurred since the preceding edition of this report. We have also reorganized and renamed [Section 12.2](#) to better focus on the outlook for specialty drugs, including specialty generics and biosimilars. A new [Section 12.3.6](#) focuses on the shakeout and consolidation within retail pharmacy.

- Throughout the report, we have added new industry data sources, deepened our coverage of many topics, and added more trending information. We have also replaced a number of exhibits with new material. There are 216 exhibits in the 2022 edition, compared with 211 in the 2021 edition.

Structure of the 2022 Report

This report analyzes the industry in three major sections, comprising 12 total chapters:

SECTION I: THE U.S. PHARMACY INDUSTRY

- [Chapter 1: Industry Overview](#) (page 12) defines the industry and its regulatory framework, describes the different products and prescriptions that a pharmacy dispenses, provides data on traditional and specialty prescription costs, delineates different pharmacy industry participants, and quantifies differences among dispensing formats. This chapter includes our analysis of pharmacist-provided clinical services (including medication therapy management services), retail healthcare services, and COVID-19 vaccine administration.
- [Chapter 2: Pharmacy Industry Market Structure](#) (page 46) analyzes the industry's prescription and revenue growth trends. It identifies the largest pharmacies based on prescription revenues. It then analyzes recent market share trends for each dispensing format and for the major national companies.
- [Chapter 3: Specialty Drugs and Specialty Pharmacies](#) (page 67) provides a comprehensive overview of the pharmacies dispensing specialty medications. It includes our exclusive analyses of national market share for pharmacy-dispensed specialty drugs and accreditation trends among pharmacies. It also provides a competitive analysis of the various organizations that compete to dispense specialty medications. The chapter reviews the channel strategies that pharmaceutical manufacturers use for specialty drugs, explains the role of service fees, and profiles the specialty hub services market.

SECTION II: THIRD-PARTY PAYMENT AND PHARMACY BENEFITS

- [Chapter 4: Payment and Spending for Prescription Drugs](#) (page 106) examines the primary payers for prescription drugs at retail, mail, long-term care, and specialty pharmacies. It analyzes recent changes in the payer mix and spending on traditional vs. specialty drugs. Chapter 4 also reviews the cash-pay prescription market and the use of discount card programs.
- [Chapter 5: Pharmacy Benefit Management](#) (page 128) identifies the services and roles of PBMs. Chapter 5 analyzes the structure of the PBM industry, reviews the business strategies of the largest PBMs, profiles smaller PBMs, and discusses the emergence of PBM-owned purchasing organizations. It describes the relationship between PBMs and

the pharmacies that participate in a PBM's network, reviews how pharmacy services administrative organizations (PSAOs) intermediate between retail pharmacies and PBMs, and explains how plan sponsors compensate PBMs for benefit management services. Chapter 5 also reviews PBMs' spread pricing profits from managed Medicaid programs.

- [**Chapter 6: Consumer Copayments and Coinsurance**](#) (page 164) analyzes the benefit designs and plan structures that determine patients' out-of-pocket spending for the major third-party payers: employer-sponsored health plans, health insurance marketplace (HIM) plans, Medicare Part D, and Medicaid. We explore manufacturers' out-of-pocket payment support programs, explain the emergence and use of copay accumulators and maximizers, discuss specialty carve-out programs, and provide data on patient out-of-pocket expenses. We also explore how benefit design affects patients' out-of-pocket costs.
- [**Chapter 7: Narrow Pharmacy Networks**](#) (page 203) analyzes the structure, utilization, and economics of narrow network models. We explain the use and economics of narrow networks for pharmacies in commercial health plans and Medicare Part D. We review mail and retail pharmacies as narrow network options for maintenance prescriptions. This chapter also evaluates the latest data on payer-defined networks for specialty drug dispensing in commercial health plans and for buy-and-bill channels.

SECTION III: DRUG CHANNEL ECONOMICS AND OUTLOOK

- [**Chapter 8: Prescription Reimbursement by Third-Party Payers**](#) (page 229) explains the formulas and methodologies for computing a pharmacy's revenue from brand-name, generic, and specialty prescriptions. It also delves into maximum allowable cost (MAC) prices as well as the regulations and laws related to MAC prices. This chapter compares traditional list price methods with acquisition-cost reimbursement approaches now utilized in fee-for-service Medicaid programs. We also review the economics of mail vs. retail pharmacies for payers and consumers.
- [**Chapter 9: Drug Pricing, Rebates, and Payer Costs**](#) (page 245) explores rebates in commercial health plans, Medicare Part D, Medicaid, and the Department of Veterans Affairs. It explains how PBMs negotiate with manufacturers, analyzes trends in list and net drug prices, and describes the gross-to-net bubble phenomenon. The chapter explains how plan sponsors use rebates, the role of point-of-sale rebates, and controversies over rebates. The chapter concludes by illustrating how prescription reimbursement, formulary rebates, and consumer copayments affect a plan sponsor's net costs for a typical traditional and specialty prescription.
- [**Chapter 10: Relationships With Pharmaceutical Wholesalers**](#) (page 279) explores pharmacies' interactions with their primary wholesale suppliers of drugs. It explains wholesalers' channel roles and services, identifies the largest wholesale suppliers, and analyzes how wholesalers affect pharmacies' acquisition costs for drugs. We present our

latest data on pharmacy group purchasing organizations and the generic sourcing relationships between wholesalers and large pharmacies.

- [Chapter 11: Pharmacy and Prescription Profitability](#) (page 291) unites the reimbursement and cost discussion from Chapter 8 and Chapter 10 by presenting the latest available data on pharmacy and prescription profitability. This chapter documents overall drugstore profitability, pharmacy margins for prescriptions from different dispensing formats, profit differences between brand and generic prescriptions, and PBMs' gross profits from network and mail pharmacies. Chapter 11 also includes material on the direct and indirect remuneration (DIR) fee payments that pharmacies make to PBMs and health plans. Finally, we consider pharmacies' role and profits in the 340B Drug Pricing Program.
- [Chapter 12: Outlook and Emerging Trends](#) (page 327) presents the outlook for the pharmacy industry's product mix and revenues in 2026. This chapter also considers the outlook for specialty drugs, including the growth in specialty generic drugs and pharmacy-dispensed biosimilars. We also discuss crucial emerging trends, including: vertical integration; importation; state legislation; cell and gene therapies; controversy over the 340B program; and shakeout and consolidation in retail pharmacy. We also address such new entrants as Amazon and venture-backed digital pharmacies.

How to Use the 2022 Report

The chapters are self-contained and do not need to be read in order. We include extensive internal clickable hyperlinks to help you navigate the entire document and customize it to your specific needs. After clicking a link, use the following shortcuts to return to your previous location in the document:

- Windows: **ALT+Left Arrow**
- Mac: **Command+Left Arrow**

There are more than 800 [endnotes](#), most of which have hyperlinks to original source materials. The report also includes a list of the [Acronyms and Abbreviations](#) used within it. To search the entire PDF document for every occurrence of a word or phrase, use the following shortcuts:

- Windows: **Shift+CTRL+F**
- Mac: **Shift+Command+F**

As always, I welcome your feedback. Please contact me if you have any questions or comments about *The 2022 Economic Report on U.S. Pharmacies and Pharmacy Benefit Managers*.

Adam J. Fein
March 2022

P.S. [Click here for post-publication errata.](#)

CONTENTS

PREFACE: INDUSTRY TRENDS AND KEY REPORT THEMES	1
SECTION I: THE U.S. PHARMACY INDUSTRY	11
Chapter 1: Industry Overview	12
1.1. Pharmacy Fundamentals.....	12
1.1.1. Defining the Practice of Pharmacy.....	12
1.1.2. Pharmacies and the Drug Supply Chain Security Act.....	13
1.2. The Products That Pharmacies Dispense	17
1.2.1. Brand vs. Generic Drugs.....	17
1.2.2. Traditional vs. Specialty Drugs	20
1.2.3. Top Therapy Classes and Average Prescription Costs.....	23
1.3. Pharmacy Industry Participants	24
1.3.1. Pharmacy Dispensing Formats.....	24
1.3.2. Differences Among Outpatient Retail Dispensing Formats	26
1.3.3. Pharmacist Salaries and Employment.....	30
1.4. Healthcare and Clinical Services	34
1.4.1. Retail Clinics and Healthcare Services.....	34
1.4.2. Medication Therapy Management (MTM), Clinical Services, and Provider Status	37
1.4.3. Immunization and Vaccination	41
1.4.4. Administration and Pharmacy Economics of COVID-19 Vaccines	43
Chapter 2: Pharmacy Industry Market Structure	46
2.1. Industry Trends	46
2.1.1. Total and 30-Day Equivalent Prescriptions	46
2.1.2. Prescription Dispensing Revenues	49
2.2. National Prescription Dispensing Market Share, By Company	50
2.3. Trends by Dispensing Format.....	52
2.3.1. Long-Term Trends in Revenues and Prescriptions.....	52
2.3.2. Market Changes in 2021	53
2.3.3. National Retail Chains	56
2.3.4. Regional Chains.....	60

2.3.5. Independent Pharmacies	61
2.3.6. Mail Pharmacies.....	63
Chapter 3: Specialty Drugs and Specialty Pharmacies	67
3.1. Specialty Pharmacies.....	67
3.1.1. Defining Specialty Pharmacy.....	67
3.1.2. Clinical and Data Services	68
3.1.3. Accreditation.....	70
3.2. Specialty Pharmacy Market Structure	73
3.2.1. Specialty Pharmacy Industry Market Size	73
3.2.2. Number of Accredited Specialty Pharmacies.....	75
3.2.3. National Market Share for Specialty Dispensing, By Company	76
3.2.4. Mergers and Acquisitions Among Specialty Pharmacies in 2021	77
3.3. Trends by Specialty Dispensing Format	79
3.3.1. Overview of the 2021 Marketplace	79
3.3.2. Pharmacy Benefit Managers and Health Plans.....	81
3.3.3. Independent Specialty Pharmacies.....	84
3.3.4. Retail Chains.....	86
3.3.5. Hospitals and Health Systems.....	89
3.3.6. Physician Practices and Other Providers	93
3.3.7. Pharmaceutical Wholesalers.....	95
3.4. Manufacturer Channel Strategies for Specialty Drugs.....	96
3.4.1. Manufacturer-Defined Dispensing Networks and REMS.....	96
3.4.2. Compensation for Clinical and Data Services	99
3.4.3. Specialty Hub Services and Leading Providers.....	101
SECTION II: THIRD-PARTY PAYMENT AND PHARMACY BENEFITS	105
Chapter 4: Payment and Spending for Prescription Drugs	106
4.1. U.S. Healthcare Spending.....	106
4.1.1. Enrollment in Health Insurance and COVID-19 Impact.....	106
4.1.2. Prescription Drugs and U.S. Healthcare Spending	109
4.2. Payer and Spending Trends.....	111
4.2.1. Payment for Outpatient Prescription Drugs	111

4.2.2. Trends in Drug Spending, By Payer	114
4.2.3. Trends in Drug Spending: Traditional vs. Specialty	117
4.2.4. Deconstructing Changes in Cost vs. Utilization.....	118
4.3. Patient-Paid Prescriptions.....	120
4.3.1. Cash-Pay Prescriptions and Usual & Customary Pricing	120
4.3.2. Discount Card Programs	124
Chapter 5: Pharmacy Benefit Management	128
5.1. Overview of Pharmacy Benefit Management.....	128
5.1.1. Services for Plan Sponsors	129
5.1.2. Relationships with Plan Sponsors	129
5.1.3. Formulary Development and Management	132
5.1.4. Formulary Exclusions	133
5.1.5. Utilization Management	137
5.2. PBM Industry Structure.....	141
5.2.1. National Market Share, By PBM	141
5.2.2. Business Trends for the Largest PBMs	142
5.2.3. Smaller PBMs	148
5.2.4. PBM Purchasing Groups and GPOs.....	151
5.3. Relationships Between PBMs and Pharmacies.....	153
5.3.1. Pharmacy Participation in PBM Networks.....	153
5.3.2. PBM-Pharmacy Negotiations	154
5.3.3. Pharmacy Services Administrative Organizations (PSAOs).....	154
5.4. PBM Compensation By Plan Sponsors	158
5.4.1. Spread Pricing	159
5.4.2. Pass-Through Pricing.....	162
Chapter 6: Consumer Copayments and Coinsurance.....	164
6.1. Cost Sharing in Pharmacy Benefit Design	164
6.1.1. Employer-Sponsored Health Plans.....	165
6.1.2. Health Insurance Marketplace Plans	171
6.1.3. Medicare Part D	174
6.1.4. Medicaid	180

6.2. Manufacturer Out-of-Pocket Payment Support	180
6.2.1. Copayment Offset Programs.....	181
6.2.2. Copay Accumulator Adjustment and Copay Maximizers.....	185
6.2.3. Patient Assistance Programs and Specialty Carve-Outs	190
6.3. Out-of-Pocket Expenses	193
6.3.1. Actual Patient Out-of-Pocket Spending on Prescriptions	193
6.3.2. Consequences of Pharmacy Benefit Designs	197
Chapter 7: Narrow Pharmacy Networks.....	203
7.1. Overview of Pharmacy Benefit Network Models.....	203
7.1.1. Network Options.....	203
7.1.2. The Economics of Narrow Pharmacy Networks.....	205
7.1.3. Legal and Regulatory Restrictions on Network Design.....	206
7.2. Retail Pharmacy Networks.....	208
7.2.1. Preferred Retail Networks in Medicare Part D	208
7.2.2. Narrow Retail Networks in Commercial and Other Plans.....	216
7.2.3. Narrow Networks for Maintenance Prescriptions.....	218
7.3. Payer-Defined Specialty Dispensing Networks	220
7.3.1. Commercial Health Plans	220
7.3.2. Specialty Pharmacies' Role in Buy-and-Bill Channels	222
SECTION III: DRUG CHANNEL ECONOMICS AND OUTLOOK	228
Chapter 8: Prescription Reimbursement by Third-Party Payers.....	229
8.1. The Basics of Prescription Reimbursement	229
8.1.1. Estimated Acquisition Cost (EAC).....	229
8.1.2. Dispensing Fees.....	231
8.1.3. Service and Data Fees	232
8.2. Reimbursement for Brand-Name and Specialty Prescriptions	233
8.2.1. Wholesale Acquisition Cost (WAC) and Average Wholesale Price (AWP) List Prices	233
8.2.2. AWP Discounts for Pharmacy Reimbursement	234
8.2.3. Why Mail Pharmacies Accept Lower Reimbursements	236
8.3. Reimbursement for Generic Prescriptions.....	238
8.3.1. AWP Discounts for Generic Prescriptions.....	238

8.3.2. Maximum Allowable Cost (MAC) Limits and Generic Effective Rate (GER)	239
8.3.3. Regulations and Laws Regarding MAC Limits	239
8.3.4. Medicaid and Federal Upper Limits	240
8.4. Acquisition Cost Reimbursement.....	241
Chapter 9: Drug Pricing, Rebates, and Payer Costs	245
9.1. Rebates to Third-Party Payers.....	245
9.1.1. How Commercial Payers Access Rebates.....	245
9.1.2. Rebates, DIR, and Coverage Gap Discounts in Medicare Part D.....	249
9.1.3. The Medicaid Drug Rebate Program.....	253
9.1.4. Department of Veterans Affairs.....	257
9.2. Gross and Net Drug Pricing	258
9.2.1. List vs. Net Drug Prices.....	258
9.2.2. The Gross-to-Net Bubble in 2021.....	262
9.3. Issues with the Rebate System	266
9.3.1. How Plan Sponsors Use Rebates.....	266
9.3.2. Point-of-Sale (POS) Rebates	267
9.3.3. Controversies Over Rebates and Rebate Reform	269
9.4. How Prescription Reimbursement, Formulary Rebates, Consumer Copayments, and PBM Expenses Affect Plan Sponsor Costs	273
Chapter 10: Relationships With Pharmaceutical Wholesalers	279
10.1. Overview of Wholesale Drug Channels.....	279
10.1.1. Industry Participants	279
10.1.2. Product Distribution.....	280
10.1.3. Financial Intermediation	282
10.1.4. Other Services for Pharmacies, Providers, and Manufacturers.....	282
10.1.5. Impact on Pharmacy Reimbursement	283
10.2. Determinants of Pharmacies' Acquisition Costs	284
10.2.1. Wholesaler Pricing of Brand-Name Drugs to Pharmacies	284
10.2.2. Pharmacy Group Purchasing Organizations.....	285
10.2.3. Generic Sourcing Relationships Between Wholesalers and Large Pharmacies	287

Chapter 11: Pharmacy and Prescription Profitability	291
11.1. Overall Drugstore Gross Margins	291
11.1.1. Industry Averages	291
11.1.2. Chain Drugstores.....	293
11.2. Pharmacy Per-Prescription Profits	294
11.2.1. Sources of Per-Prescription Profits	294
11.2.2. Average Per-Prescription Profits for Pharmacies	296
11.2.3. PBM Gross Profits from Network and PBM-Owned Pharmacies.....	298
11.2.4. The Impact of Brand-Name Inflation on Prescription Profits	300
11.2.5. Pharmacy Profits with Acquisition Cost-Based Reimbursement	302
11.3. Life Cycle Profitability for Generic Prescriptions	303
11.4. Pharmacy DIR Fees in Medicare Part D Networks	307
11.4.1. Computation of Pharmacy DIR Fees	308
11.4.2. Financial Impact of Pharmacy DIR Fees	309
11.4.3. The Outlook for Pharmacy DIR Fees	311
11.5. Pharmacy Profits from the 340B Drug Pricing Program	313
11.5.1. Overview of the 340B Program and Drug Prices	313
11.5.2. Companies Participating as 340B Contract Pharmacies	315
11.5.3. Flow of Funds for a 340B Contract Pharmacy Network.....	319
11.5.4. 340B Split-Billing Software Vendors	321
11.5.5. Pharmacy and Covered Entity Profits from 340B Prescriptions	322
Chapter 12: Outlook and Emerging Trends	327
12.1. Drug Prices	327
12.1.1. The Outlook for Brand-Name Drug Prices	327
12.1.2. The Outlook for Generic Drug Prices	328
12.2. The Outlook for Specialty Drugs	331
12.2.1. 2021 Update on the Biosimilar Market.....	331
12.2.2. Biosimilars Under the Pharmacy Benefit	333
12.2.3. The Growth of Specialty Generic Drugs	336
12.2.4. The Outlook for Pharmacy Revenues to 2026	338
12.3. Emerging Trends	340

The 2022 Economic Report on U.S. Pharmacies and Pharmacy Benefit Managers

12.3.1. Vertical Integration of Insurers, PBMs, Specialty Pharmacies, and Providers.....	340
12.3.2. Importation From Canada.....	344
12.3.3. State Legislation of the Drug Channel.....	346
12.3.4. Cell and Gene Therapy Channels	348
12.3.5. Controversy Over 340B Contract Pharmacies.....	351
12.3.6. Shakeout and Consolidation in Retail Pharmacy	354
12.4. New Entrants and Potential Pharmacy Market Disruption.....	356
12.4.1. Update on Amazon’s Pharmacy Strategy	356
12.4.2. Venture-Backed Digital Pharmacies.....	358
Acronyms and Abbreviations.....	362
Endnotes	363

LIST OF EXHIBITS

Exhibit 1: Timeline of DSCSA Requirements for Pharmacies (Dispensers), 2013 to 2023	14
Exhibit 2: Unbranded and Branded Generics, Share of U.S. Prescriptions, 2003 to 2021	17
Exhibit 3: Variation in State Generic Substitution Policies, 2020	18
Exhibit 4: Top Traditional Therapy Categories, Generic Drugs as a Share of Prescriptions and Net Spending, 2020 ..	19
Exhibit 5: Specialty Prescriptions, Number and Share of Total, 2017 to 2021	20
Exhibit 6: Specialty Drugs as a Share of Net Spending, By Therapeutic Class, 2020.....	21
Exhibit 7: Top Traditional Therapy Categories, Share of Net Spending, and Average Net Prescription Costs, 2020 ..	23
Exhibit 8: Top Specialty Therapy Categories, Share of Net Spending, and Average Net Prescription Costs, 2020	24
Exhibit 9: Average Annual Number of Prescriptions per Pharmacy, By Retail Dispensing Format, 2021	27
Exhibit 10: Average Wait Time for Prescription Pickup, By Retail Dispensing Format, 2020	28
Exhibit 11: Average Annual Prescription Revenue per Pharmacy Outlet, By Retail Dispensing Format, 2021	28
Exhibit 12: Top Four Reasons for Pharmacy Selection, By Dispensing Format, 2020.....	29
Exhibit 13: Customer Satisfaction With Pharmacies, By Dispensing Format and Company, 2021	30
Exhibit 14: Pharmacist Employment and Salary, By Practice Setting, 2020	30
Exhibit 15: Share of Pharmacist Employment, By Industry, 2013 vs. 2020	31
Exhibit 16: Pharmacists and Healthcare Workers, Change in Annual Average Salary, By Employer, 2014 to 2020 ...	32
Exhibit 17: Pharmacist Employment, By Industry and Dispensing Format, 2020 vs. 2030.....	33
Exhibit 18: Insurance Coverage for Retail Clinics, 2010 to 2020	34
Exhibit 19: Providers of Medication Therapy Management Services, Medicare Part D, 2019.....	39
Exhibit 20: Current Procedural Terminology (CPT) Codes Used by Pharmacists	39
Exhibit 21: CPESN Networks and Pharmacies, 2018 to 2021.....	41
Exhibit 22: Sites of Vaccine Administration for Medicare Beneficiaries, 2018.....	42
Exhibit 23: Adult Influenza Vaccines Administered, Pharmacies vs. Physician Offices, 2019-20 to 2021-22.....	43
Exhibit 24: Cumulative Doses of COVID-19 Vaccines Administered, By Company, 2021	44
Exhibit 25: Total U.S. Pharmacy Industry Prescription Revenues, Prescriptions, and Locations, By Dispensing Format, 2021	46
Exhibit 26: Prescriptions, Annual Total and Growth, 2017 to 2021	47
Exhibit 27: 30-Day Equivalent Prescriptions, Annual Total and Growth, 2017 to 2021	48
Exhibit 28: 90-Day Prescriptions As a Percentage of Total Prescriptions, By Dispensing Format, 2017 to 2021	48
Exhibit 29: Pharmacy Industry Prescription Revenues, Annual Total and Growth, 2017 to 2021	50
Exhibit 30: Largest 15 U.S. Pharmacies, By Total Prescription Revenues, 2021	51
Exhibit 31: Total Change in 30-Day Equivalent Prescriptions Dispensed and Prescription Revenues, By Pharmacy Type, 2011 vs. 2021	52
Exhibit 32: 30-Day Equivalent Prescriptions Dispensed per Location, By Dispensing Format, 2010 to 2021	53
Exhibit 33: Year-over-Year Change in Monthly Number of 30-Day Equivalent Prescriptions Dispensed, January 2020 to December 2021	54

The 2022 Economic Report on U.S. Pharmacies and Pharmacy Benefit Managers

Exhibit 34: Number of 30-Day Equivalent Prescriptions, By Dispensing Format, 2020 vs. 2021.....	54
Exhibit 35: Prescription Dispensing Revenues, By Dispensing Format, 2020 vs. 2021	55
Exhibit 36: Year-over-Year Change in Same-Store Prescription Count, By Chain, 2017 to 2021.....	56
Exhibit 37: Largest Regional Chain Drugstores, By Total Prescription Revenues, 2021	60
Exhibit 38: Number of Independent Pharmacies, 2001 to 2021	61
Exhibit 39: Wholesaler-Owned Pharmacy Franchise and Marketing Groups, 2021	62
Exhibit 40: Share of Mail Pharmacy Dispensing Revenues, By Company, 2021	66
Exhibit 41: Importance of Specialty Pharmacy Services to Patients, 2020.....	69
Exhibit 42: Usage of Specialty Pharmacy Services by Patients, 2020	70
Exhibit 43: Specialty Prescription Dispensing Revenues, Annual Total and Growth, 2017 to 2021	73
Exhibit 44: Specialty Prescription Dispensing Revenues As a Percentage of Total, 2013 to 2021	74
Exhibit 45: Specialty Drugs As a Percentage of Payers’ Pharmacy Benefit Spending, By PBM, 2020.....	74
Exhibit 46: Number of Pharmacy Locations with Specialty Pharmacy Accreditation, By Organization, 2015 to 2021	75
Exhibit 47: Locations with URAC Specialty Pharmacy Accreditation, 2008 to 2021.....	76
Exhibit 48: Prescription Revenues and Market Share from Specialty Pharmaceuticals, By Company, 2021	77
Exhibit 49: Merger and Acquisition Transactions, Specialty Pharmacy and Infusion Services, 2014 to 2021	78
Exhibit 50: Pharmacy Locations with Specialty Pharmacy Accreditation, By Corporate Ownership, 2021.....	79
Exhibit 51: Specialty Drug Prescription Revenues, By Dispensing Format, 2021	81
Exhibit 52: Number of Private Specialty Pharmacies Ranked on <i>Inc.</i> 5000 List, 2012 to 2021.....	86
Exhibit 53: Retail Companies With Specialty Pharmacy Businesses, 2021	87
Exhibit 54: Hospitals with a Specialty Pharmacy, By Number of Staffed Beds, 2015 vs. 2019	90
Exhibit 55: Percentage of Oncology Practices with In-Practice Oral Oncology Drug Dispensing, 2013 to 2020	94
Exhibit 56: Frequency of Manufacturer Contracting for Specialty Pharmacy Services, By Type of Service, 2019	100
Exhibit 57: Example of Specialty Hub Workflow.....	102
Exhibit 58: Leading Specialty Hub Services Providers and Ownership, 2021	103
Exhibit 59: Chapter Coverage of Flows in the U.S. Distribution and Reimbursement System	105
Exhibit 60: Comprehensive Health Insurance Enrollment, By Payer, 2019 to 2021	107
Exhibit 61: Change in Membership, Commercial vs. Managed Medicaid, By Insurer, Dec. 2020 to Dec. 2021	107
Exhibit 62: Medicaid Enrollment, 2005 to 2021	108
Exhibit 63: Share of U.S. National Health Expenditures, By Category, 2020	109
Exhibit 64: Share of U.S. National Health Expenditures, By Major Spending Category, 1980 to 2020	110
Exhibit 65: Growth Rate in U.S. National Health Expenditures, By Major Spending Category, 2010 to 2020	111
Exhibit 66: Outpatient Prescription Drug Expenditures, By Source of Payment, 2020	112
Exhibit 67: Outpatient Prescription Drugs as a Share of Payer’s Total Health Expenditures, By Payer, 2005 to 2020	112
Exhibit 68: Outpatient Prescription Drug Dispensing, By Source of Payment, 2020	113
Exhibit 69: Prescription Expenses per Person, By Age, 2019.....	114

The 2022 Economic Report on U.S. Pharmacies and Pharmacy Benefit Managers

Exhibit 70: Prescription Drug Utilization Among Seniors, 1988 to 2018	114
Exhibit 71: Change in Net Spending for Outpatient Prescription Drugs, By Payer, 2019 vs. 2020	115
Exhibit 72: Total Expenditures and Consumer Out-of-Pocket Spending for Hospital Care vs. Prescription Drugs, 2020	116
Exhibit 73: Change in Commercial Payer Net Drug Spending, Traditional vs. Specialty Drugs, 2014 to 2020	117
Exhibit 74: Change in Commercial Payer Net Drug Spending, Traditional vs. Specialty Drugs, By PBM, 2020	118
Exhibit 75: Components of Change in Commercial Payer Net Specialty Drug Spending, By PBM, 2020	119
Exhibit 76: Express Scripts, Components of Change in Commercial Payer Net Specialty Drug Spending, 2016 to 2020	120
Exhibit 77: Cash-Pay Prescriptions as a Share of Total Prescriptions, 2017 to 2021	121
Exhibit 78: Relative Cash Prescription Prices for Generic and Brand-Name Drugs, By Dispensing Format, 2019.....	122
Exhibit 79: GoodRx, Prescription Revenues and Consumer Out-of-Pocket Cost, 2016 to 2021.....	126
Exhibit 80: Pharmacy Benefit Management Contracting Approach, By Company Size, 2019 vs. 2021.....	130
Exhibit 81: Medicare Part D Plan Sponsor Use of PBMs, By Benefit Management Service, 2016.....	132
Exhibit 82: Number of Unique Products on PBM Formulary Exclusion Lists, Single-Source vs. Multiple-Source, 2014 to 2020.....	134
Exhibit 83: Number of Products on PBM Formulary Exclusion Lists, By PBM, 2012 to 2022	134
Exhibit 84: Prevalence of Utilization Management Tools to Manage Specialty Drug Costs, Employer-Sponsored Health Plans, 2021	139
Exhibit 85: Use of Prior Authorization and Step Therapy for Single-Source Brand-Name Drugs, By Therapeutic Class, 2020	139
Exhibit 86: Prevalence of Utilization Management Tools, Medicare Part D Plans, 2021	140
Exhibit 87: PBM Market Share, By Total Equivalent Prescription Claims Managed, 2021	142
Exhibit 88: Evernorth, Pharmacy Network Revenues, 2019 to 2021	144
Exhibit 89: Plan Sponsors' Perceived Transparency of PBM Relationship, By PBM Size, 2021	150
Exhibit 90: PBM-Owned Purchasing Groups and Participation, 2022	152
Exhibit 91: Largest Pharmacy Services Administrative Organizations, By Membership and Ownership, 2021	156
Exhibit 92: Key Components of PBM Compensation	159
Exhibit 93: Average PBM Spread in Medicaid Managed Care, By State, 2018-19	161
Exhibit 94: Imatinib Mesylate, Fee-for-Service and Managed Medicaid Payments vs. Pharmacy Acquisition Cost, 2016 to 2021	161
Exhibit 95: Common Pharmacy Benefit Plan Designs	165
Exhibit 96: Share of Employees Covered by a High-Deductible Health Plan, 2006 to 2021	166
Exhibit 97: Distribution of Cost Sharing Formulas for Prescription Drug Benefits in Employer-Sponsored Plans, By Plan Type, 2021	166
Exhibit 98: Type of Cost Sharing for Prescription Drug Benefits, Employer-Sponsored Plans Without High Deductibles, By Benefit Tier, 2021	167
Exhibit 99: Type of Cost Sharing for Prescription Drug Benefits, Employer-Sponsored Plans With High Deductibles, By Benefit Tier, 2021	168

The 2022 Economic Report on U.S. Pharmacies and Pharmacy Benefit Managers

Exhibit 100: Average Cost Sharing by Prescription Drug Tier, Employer-Sponsored Plans, 2021	168
Exhibit 101: Distribution of Coinsurance Structures for Prescription Drug Benefits, Employer-Sponsored Plans, Fourth and Specialty Tiers, 2021	169
Exhibit 102: Percentage of Covered Workers with No Prescription Drug Coverage Before Annual Deductible, By Plan Type, 2021	170
Exhibit 103: Percentage of Covered Workers with Pharmacy Benefit Deductibles, Employer-Sponsored Plans, 2005 to 2021.....	171
Exhibit 104: Type of Cost Sharing for Prescription Drug Benefits, Silver Health Insurance Marketplace Plans, 2021	172
Exhibit 105: Average Cost Sharing by Prescription Drug Tier, Silver Health Insurance Marketplace Plans, 2021.....	173
Exhibit 106: Presence of Separate Prescription Drug Deductibles in Silver Plans on Health Insurance Marketplaces, 2014 to 2021.....	173
Exhibit 107: Medicare Part D Enrollment, By Type of Plan, 2010 to 2021	174
Exhibit 108: Standard Medicare Prescription Drug Benefit, 2021.....	175
Exhibit 109: Distribution of Cost Sharing Formulas for Medicare Part D Plans, 2021	176
Exhibit 110: Type of Cost Sharing for Prescription Drug Benefits, Medicare Part D Plans, 2021	177
Exhibit 111: Median Copayments by Prescription Drug Tier, Medicare Part D PDPs, 2021	177
Exhibit 112: Median Cost Sharing by Prescription Drug Tier, Medicare Advantage Plans, 2021	178
Exhibit 113: Distribution of Coinsurance Rates for Specialty Drugs, Medicare Part D Plans, 2021.....	178
Exhibit 114: Median Cost Sharing Amounts for 20 Largest Medicare Part D Plans, 2021.....	179
Exhibit 115: Prevalence of Copayment Offset Programs for Specialty Drugs, 2016 to 2022	181
Exhibit 116: Share of Prescriptions Using Manufacturer Cost-Sharing Assistance for Specialty Drugs, By Therapy, 2015 vs. 2020.....	182
Exhibit 117: Maximum Annual Benefit for Copayment Offset Programs, By Specialty Therapy Class, 2022.....	182
Exhibit 118: Large Employers' Tactics for Managing Copay Offset Programs, 2020	183
Exhibit 119: Employer Views on Copayment Assistance Programs, 2019.....	184
Exhibit 120: Pharmacist Views on Copayment Assistance Programs, 2020	184
Exhibit 121: Copay Accumulator Adjustment and Copay Maximizers, Prevalence and Use in Commercial Insurance, 2018 to 2021.....	187
Exhibit 122: Pharmaceutical Manufacturer Charitable Foundations, By Total Giving, 2018/2019	191
Exhibit 123: Consumers' Out-of-Pocket Spending Share of Outpatient Prescription Drug Expenditures, 1965 to 2020	193
Exhibit 124: Per Capita Out-of-Pocket Spending on Outpatient Prescription Drugs, 2010 to 2020.....	193
Exhibit 125: Average Per-Prescription Patient Out-of-Pocket Costs, By Type of Prescription, 2015 vs. 2020	194
Exhibit 126: Distribution of Annual Patient Out-of-Pocket Spending, By Type of Health Plan, 2020.....	195
Exhibit 127: Cost Sharing Waived for Medications to Treat Chronic Conditions, By Company Size, 2020	196
Exhibit 128: Products with Cost Sharing Waived in High-Deductible Employer-Sponsored Health Plans, By Medication Class, 2021.....	196
Exhibit 129: Type of Cost Sharing for Out-of-Pocket Prescription Spending, 2015 vs. 2021.....	197

The 2022 Economic Report on U.S. Pharmacies and Pharmacy Benefit Managers

Exhibit 130: Type of Cost Sharing for Out-of-Pocket Prescription Spending on Specialty Drugs, By Therapy and Average Cost, 2019	198
Exhibit 131: Number of Medicare Part D Beneficiaries with Out-of-Pocket Spending Above the Catastrophic Threshold, 2007 to 2019	199
Exhibit 132: Medicare Part D, Share of Liability for Spending, By Source, 2007 to 2019	200
Exhibit 133: New-to-Product Prescription Abandonment, By Patient Out-of-Pocket Cost, 2020	201
Exhibit 134: Consumer Understanding of Health Insurance Terms, 2019	202
Exhibit 135: CVS Health, Quarterly Retail/LTC Prescription Revenues, 2016 to 2021	202
Exhibit 136: Summary of Pharmacy Benefit Network Design Options	204
Exhibit 137: Average Distance to Nearest Pharmacy, By Core Based Statistical Area (CBSA) Status, 2017	205
Exhibit 138: Medicare Part D PDPs with Preferred Pharmacy Networks, 2011 to 2022	209
Exhibit 139: Medicare Advantage Prescription (MA-PD) Plans with Preferred Pharmacy Networks, By Plan Type, 2022	209
Exhibit 140: Participation as a Preferred Cost Sharing Pharmacy in Selected Medicare Part D PDPs, By Retail Chain, 2022	211
Exhibit 141: Enrollment in Medicare Part D PDPs with Preferred Cost Sharing Networks, By Pharmacy Chain, 2021 vs. 2022	213
Exhibit 142: Participation as a Preferred Cost Sharing Pharmacy in Selected Medicare Part D PDPs, By PSAO, 2022	214
Exhibit 143: Share of Large Employers with a Narrow Retail Pharmacy Network, 2013 to 2021	216
Exhibit 144: Health Systems' Requirements for Employee Use of an In-House Pharmacy, 2021	218
Exhibit 145: TRICARE, Net Spending on Outpatient Prescriptions, By Dispensing Outlet, 2012 to 2020	219
Exhibit 146: Share of Large Employers with Restricted Specialty Pharmacy Network, By Network Size, 2011 to 2021	221
Exhibit 147: Health Systems' Requirements for Employee Use of Internal Specialty Pharmacies, 2021	221
Exhibit 148: UnitedHealthcare, Requirements for White Bagging, By Specialty Pharmacy and Therapeutic Class, 2021	224
Exhibit 149: Drug Sourcing for Infused Therapies, Oncology vs. Non-Oncology, By Practice Type and Source, 2019 vs. 2021	225
Exhibit 150: Payer Methodologies for Computing a Pharmacy's Estimated Acquisition Cost	231
Exhibit 151: Pharmacy AWP Reimbursement and Copayments for Brand-Name Prescriptions, By Dispensing Format, 2021	234
Exhibit 152: AWP Reimbursement Difference, Retail vs. Mail Pharmacies, 2008 to 2021	235
Exhibit 153: Use of Financial Incentives for Mail Pharmacy Utilization for Maintenance Medications, Employer-Sponsored Plans, By Company Size, 2019	236
Exhibit 154: Share of Large Employers Offering a 90-Day at Retail Option for Maintenance Medications, 2011 to 2020	237
Exhibit 155: AWP Reimbursement and Copayments for Generic Prescriptions, By Dispensing Format, 2021	238
Exhibit 156: Pharmacy Reimbursement in Medicaid Program, Fee-for-Service vs. Managed Care	242

The 2022 Economic Report on U.S. Pharmacies and Pharmacy Benefit Managers

Exhibit 157: Pharmacy Reimbursement Methodology and Dispensing Fee, Largest Fee-for-Service State Medicaid Programs, 2021.....	243
Exhibit 158: PBM Rebate Arrangements for Traditional and Specialty Medications in Employer-Sponsored Plans, By Employer Size, 2021	246
Exhibit 159: PBM Administrative Fees as a Percentage of WAC, By Company, 2019	248
Exhibit 160: Value of Direct and Indirect Remuneration (DIR) in Medicare Part D, 2012 to 2021	250
Exhibit 161: Medicare Part D, Rebates as a Share of Part D Spending, By Product, 2010 to 2018	251
Exhibit 162: Medicare Part D, Value of Direct and Indirect Remuneration (DIR), By Source, 2013 vs. 2021	252
Exhibit 163: Medicaid Program, Gross Prescription Spending and Prescriptions, Fee-For-Service vs. Managed Care, 2020	256
Exhibit 164: Medicaid, Gross vs. Net Spending on Outpatient Drugs, 2015 to 2020	257
Exhibit 165: Brand-Name Drugs, Change in Average List and Net Prices, 2014 to 2021	259
Exhibit 166: Change in List vs. Net Price, By Manufacturer, 2020	260
Exhibit 167: Average Net Prices for Brand-Name Drugs in Federal Programs, 2017	261
Exhibit 168: Total Value of Pharmaceutical Manufacturers’ Gross-to-Net Reductions for Patent-Protected, Brand-Name Drugs, 2017 to 2021	263
Exhibit 169: Total Value of Pharmaceutical Manufacturers’ Gross-to-Net Reductions for Brand-Name Drugs, By Source, 2021	264
Exhibit 170: Insulin Products, Gross vs. Net Cost Per Patient, 2007 to 2021	265
Exhibit 171: Large Employers’ Point-of-Sale Rebate Programs, 2019 to 2021	268
Exhibit 172: Prescription Economics for a Third-Party Payer—Traditional Brand-Name Drug Example.....	273
Exhibit 173: Prescription Economics for a Third-Party Payer—Traditional Brand-Name Drug Example in a High-Deductible Health Plan	275
Exhibit 174: Prescription Economics for a Third-Party Payer—Traditional Brand-Name Drug Example in High-Deductible Health Plan with Point-of-Sale Rebates	276
Exhibit 175: Prescription Economics for a Third-Party Payer—Specialty Brand-Name Drug Example.....	277
Exhibit 176: U.S. Drug Distribution and Related Revenues at Big Three Wholesalers, 2021	279
Exhibit 177: Determination of a Pharmacy’s Brand-Name Drug Acquisition Cost from a Wholesaler	285
Exhibit 178: Pharmacy Buying Groups and Primary/Preferred Wholesaler Relationships, By Number of Pharmacies, 2021	286
Exhibit 179: Share of U.S. Generic Purchasing Volume, By Organization, 2021	288
Exhibit 180: Overall Gross Margins for Chain and Independent Drugstores, 2006 to 2020	292
Exhibit 181: Total Gross Profits for Chain and Independent Drugstores, 2016 to 2020.....	292
Exhibit 182: Overall Gross Margins for Chain and Independent Drugstores, By Company, 2021	293
Exhibit 183: Prescriptions as a Percentage of Revenues, By Company, 2013 to 2021	294
Exhibit 184: Components of Overall Average Pharmacy Cost of Dispensing, 2019	295
Exhibit 185: Example of Brand-Name Prescription Economics for a Retail Pharmacy	296
Exhibit 186: Independent Pharmacies, Average Per-Prescription Gross Profits and Margins, 2016 to 2020	297
Exhibit 187: Diplomat Pharmacy, Per-Prescription Gross Profits and Margins, 2014 to 2019	298

The 2022 Economic Report on U.S. Pharmacies and Pharmacy Benefit Managers

Exhibit 188: Top Three PBMs, Sources of Gross Profit, 2015 vs. 2021	299
Exhibit 189: Effect of Brand-Name List Price Increases on a Prescription’s Gross Profit	301
Exhibit 190: Median Generic Price Relative to Brand Price Before Generic Entry, By Number of Manufacturers ...	304
Exhibit 191: Life Cycle of Per-Prescription Gross Profits, Brand vs. Multisource Generic	305
Exhibit 192: Median AWP Discount for Generic Drugs Sold to Retail Pharmacies, By Number of Manufacturers, 2021	307
Exhibit 193: Types of Pharmacy Performance Metrics Used by Payers, By Plan Type, 2020	309
Exhibit 194: Net Value of Pharmacy DIR Fees in Medicare Part D, 2012 to 2021	310
Exhibit 195: 340B Drug Pricing Program, Purchases by Covered Entities, 2014 to 2021	314
Exhibit 196: Estimated 340B Discounts on Brand-Name Drugs, by Therapeutic Class, 2018.....	315
Exhibit 197: 340B Contract Pharmacy Locations, 2010 to 2021	316
Exhibit 198: 340B Contract Pharmacy Locations and Agreements, By Company, 2021.....	317
Exhibit 199: Growth in Value of 340B vs. Non-340B Purchases, By Channel, 2017 to 2020	318
Exhibit 200: 340B Covered Entities, By Number of Contract Pharmacies, 2021	319
Exhibit 201: Flow of Funds and Product for a 340B Contract Pharmacy Network	320
Exhibit 202: 340B Split-Billing Software Vendors and Ownership, 2021	321
Exhibit 203: 340B Prescription Economics for a Covered Entity, a Contract Pharmacy, and a Patient—Specialty Brand-Name Drug Example	324
Exhibit 204: Total Gross Profits from 340B Contract Pharmacy, By Company, 2020	326
Exhibit 205: Average Year-Over-Year Change in Pricing of Mature Generic Drugs, Oral vs. Injectable, 2015 to 2021	329
Exhibit 206: Generic Drug Approvals, FDA, 2014 to 2021	331
Exhibit 207: Number of U.S. Biosimilar Approvals, By Product Type, 2015 to 2021	332
Exhibit 208: Top Specialty Therapy Categories, Generic Drugs as a Share of Prescriptions and Net Spending, 2019	336
Exhibit 209: Imatinib Mesylate, Pharmacy Acquisition Cost, Brand vs. Generic, 2016 to 2022	337
Exhibit 210: Total Brand Revenues Lost to Generic and Biosimilar Launches, By Product Type, 2017 to 2026.....	338
Exhibit 211: Pharmacy Industry Prescription Revenues, Traditional vs. Specialty Drugs, 2016 to 2026.....	339
Exhibit 212: Vertical Business Relationships Among Insurers, PBMs, Specialty Pharmacies, and Providers, 2022 ..	340
Exhibit 213: Site-of-Care Management Programs, Commercial Health Plans, 2017 to 2020.....	343
Exhibit 214: Pharmacy Locations Acquired, By Company, 2010 to 2021	354
Exhibit 215: U.S. Retail Pharmacy Store Count, CVS vs. Walgreens, 2014 to 2021	356
Exhibit 216: Venture Capital-Backed Digital Pharmacies and Total Funding, 2022.....	360