# 2015-16 Economic Report on Pharmaceutical Wholesalers and Specialty Distributors

Adam J. Fein, Ph.D.

Pembroke Consulting, Inc., and Drug Channels Institute

September 2015

Full report available for download at <a href="http://drugchannelsinstitute.com/products/industry">http://drugchannelsinstitute.com/products/industry</a> report/wholesale/



## COPYRIGHT

Copyright © 2015 by Pembroke Consulting, Inc. 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.

The complete End User License Agreement is available at: <u>http://drugchannelsinstitute.com/wholesalerEULA-2015-16.pdf</u>

## **ABOUT THE AUTHOR**

Adam J. Fein, Ph.D., is the president of Pembroke Consulting, Inc., a management advisory and business research firm based in Philadelphia. He also is the CEO of Pembroke's Drug Channels Institute, a leading management educator for and about the pharmaceutical industry.

Dr. Fein is one of the country's foremost experts on pharmaceutical economics and the drug distribution system. Top manufacturers call on Dr. Fein's insights and judgment to create successful commercial strategies and make better strategic decisions in our evolving healthcare environment.



Dr. Fein's popular and influential Drug Channels website (<u>www.DrugChannels.net</u>) is the go-to source for definitive and comprehensive industry analysis, delivered with a witty edge. He has published hundreds of academic and industry articles, and is regularly quoted in such national publications as *The Wall Street Journal, The New York Times, USA Today, Pharmaceutical Executive,* and many others. He serves on the editorial advisory boards of *Pharmaceutical Commerce* and *Drug Benefit News*.

Dr. Fein earned his doctoral degree from the Wharton School of Business at the University of Pennsylvania and a B.A., *summa cum laude*, from Brandeis University. He lives in Philadelphia with his wife, Paula, and their two children.

Contact information

Adam J. Fein, Ph.D. Pembroke Consulting, Inc. 1515 Market Street, Suite 960 Philadelphia, PA 19102 Phone: 215-523-5700 Website: <u>www.PembrokeConsulting.com</u> Email: <u>afein@pembrokeconsulting.com</u>

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



## **ABOUT DRUG CHANNELS INSTITUTE**

Drug Channels Institute (DCI), a division of Pembroke Consulting, Inc., is a leading provider of specialized management education and computer-based training for and about the pharmaceutical industry.



Drug Channels Institute combines Dr. Fein's expertise and cutting-edge analysis—such as this 2015-16 Economic Report on Pharmaceutical Wholesalers and Specialty Distributors—into online e-learning modules that offer a thorough grounding in crucial industry topics, all in 45 minutes or less.

These online learning tools mix the latest industry data and cutting-edge analysis with highly interactive elements that engage and entertain. They educate a wide variety of learners: from sales reps and field teams—who need immediate, easily digestible industry concepts for their key accounts—to internal teams who need to better understand customers and channels.

View a module list at <a href="http://drugchannelsinstitute.com/products/e-learning-modules/">http://drugchannelsinstitute.com/products/e-learning-modules/</a>.

View a sample at <a href="http://drugchannelsinstitute.com/e-learning-module-sample/">http://drugchannelsinstitute.com/e-learning-module-sample/</a>.

DCI can code and brand any module for your company's internal Learning Management System. Or you can get started quickly by letting us host your team via our online e-learning portal. DCI's hosted e-learning modules are instantly viewable on all computer platforms, including iPads.

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 960 Philadelphia, PA 19102 Phone: 215-523-5700 x11 Website: <u>www.drugchannelsinstitute.com</u> Email: <u>paula@drugchannelsinstitute.com</u>



## **INTRODUCTION AND GUIDE TO THIS REPORT**

In 2015, the role and functions of the pharmaceutical wholesaling industry continued to evolve along with the U.S. healthcare system. This 2015–16 Economic Report on Pharmaceutical Wholesalers and Specialty Distributors provides an up-to-date, fact-based analysis of the U.S. pharmaceutical wholesale industry and its interactions with other participants in our healthcare system. I have synthesized a wealth of statistical data, research studies, financial information, and my own unique business consulting experience into a definitive, nonpartisan resource.

The report is essential for pharmaceutical manufacturers, wholesalers, pharmacists, pharmacy owners, benefit managers, managed care executives, healthcare policy analysts, investors, consultants—anyone who wants to understand and benefit from this ever-changing industry.

After reading the 2015–16 Economic Report on Pharmaceutical Wholesalers and Specialty Distributors, you will be able to:

- Identify the key participants in the drug wholesaling and specialty distribution industries
- Distinguish between specialty distributors and full-line pharmaceutical wholesalers
- Explain the services that wholesalers and distributors provide to pharmacies, hospitals, physician offices, and outpatient clinics
- Distinguish among the services that various wholesalers provide to larger and smaller pharmacies
- Describe manufacturer channel strategies for working with full-line wholesalers and specialty distributors
- Describe the sources of wholesaler compensation and profits
- Distinguish between the buy-side and sell-side sources of gross margins
- Delineate the sources and uses of cash that wholesalers' business operations generate
- Define the key industry trends shaping the distribution industry's future
- Assess differences among the Big Three wholesalers' business organizations, strategies, and financial performance

#### 2015 Trends

For the first time, U.S. drug distribution revenues at the Big Three public wholesalers— AmerisourceBergen, McKesson, and Cardinal Health—exceeded \$300 billion. Other notable developments have occurred since we published our 2014-15 report, including:

• Large pharmacy retailers continue to restructure their wholesale relationships, shifting from self-warehousing to establishing direct-store deliveries from a wholesaler. Some of the largest retail and mail pharmacies are also transitioning generic purchasing to wholesalers. So far, Cardinal Health has been most successful at winning these new relationships, due to its Red Oak generic purchasing joint venture with CVS Health.

- Consolidation and acquisitions among pharmacies and payers are pressuring wholesaler margins, especially as the acquiring companies consolidate buying power. These deals are also creating significant volume shifts among the Big Three.
- New hepatitis C therapies and other specialty drugs are boosting wholesalers' revenues but challenging their profits. Payers are shifting specialty dispensing into the largest, payer-owned specialty pharmacies, which offer the smallest margins for wholesalers.
- Manufacturers' channel strategies for specialty drugs are reshaping the distribution industry. For pharmacy-dispensed medications, the expansion of limited specialty networks is reducing the value of the wholesale channel. Genentech's channel strategy change for three of its provider-administered drugs is boosting wholesalers' profits and increasing revenues at specialty distribution subsidiaries.
- Generic inflation, which had boosted wholesalers' profits, has begun to slow. The pharmaceutical industry is approaching peak generic substitution rates for traditional drugs. Meanwhile, the first U.S. biosimilar drug launched in September 2015.
- The Big Three wholesalers continue to alter their businesses with acquisitions. In 2015, Cardinal Health has been the most active acquirer, buying two smaller distribution companies and further expanding its medical business.

Amid these and other changes, understanding the implications of the industry's evolution has never been more crucial. The 2015-16 Economic Report on Pharmaceutical Wholesalers and Specialty Distributors—our sixth edition—remains the most comprehensive tool for analyzing the economic and business realities of U.S. pharmaceutical distribution.

### Structure of the 2015-16 Report

This year's report has been updated, revised, reorganized, and expanded. It contains the latest industry and financial data, along with detailed information about the strategies and market positions of the largest public companies: AmerisourceBergen, McKesson, and Cardinal Health.

The 2015-16 edition not only updates all data and financial information from previous editions, it also includes many new elements, such as:

- Unified market share estimates for the distribution of specialty drugs by full-line wholesalers and specialty distributors
- Analyses of specialty pharmacies (including both outpatient pharmacies and in-office dispensing by oncology practices) and the key market participants
- A revised primer on the relative profitability of brand-name and generic drugs
- Analyses of how the channel strategies of manufacturers and third-party payers are affecting wholesalers' performance with specialty drugs

- A revised <u>Chapter 6</u>, which now analyzes the forces of change separately for pharmacydispensed and provider-administered drugs
- New analysis and information on biosimilars
- Expanded financial and business analysis of the Big Three wholesalers, which are now covered in three separate, company-specific chapters. The new chapters' parallel structures allow for easy company comparison.
- New material on the veterinary distribution market, which complements our analysis of AmerisourceBergen's expansion into this market
- Updated analysis of each wholesaler's business segments and underlying business profitability, based upon our proprietary economic models

The report analyzes the industry in nine major chapters. *The chapters are self-contained and do not need to be read in order.* We include extensive internal references to help you navigate the entire document and customize it to your specific needs. There are also more than 200 endnotes, most of which have hyperlinks to original source materials.

Please note that highlighted references are clickable hyperlinks in the PDF document. After clicking a link, use the following shortcuts to return to your previous location in the document:

- Windows: ALT+Left Arrow
- Mac: Command+Right Bracket

A guide to the chapters:

- <u>Chapter 1: Industry and Report Overview</u> (page 1) defines the industry, describes business differences between full-line wholesaling and specialty distribution, explains wholesalers' channel roles, summarizes wholesalers' obligations under the Drug Supply Chain Security Act (DSCSA), identifies the biggest full-line wholesalers and specialty distributors, and explains recent industry growth trends.
- <u>Chapter 2: Channel Role for Retail, Mail, and Specialty Pharmacies</u> (page 15) examines the pharmacy market, wholesalers' services for smaller pharmacies, wholesalers' participation in the pharmacy-PBM relationship, and changing relationships between wholesalers and larger pharmacies. This chapter also analyzes wholesalers' role for patient-administered specialty drugs dispensed by specialty pharmacies.
- <u>Chapter 3: Channel Role for Physician Office/Clinics and Hospitals</u> (page 32) examines channels for provider-administered medications, explains the buy-and-bill system for drugs administered in outpatient settings, and describes the role and functions that wholesalers perform for hospitals, including hospitals that participate in the 340B Drug Pricing Program. This chapter also provides an in-depth consideration of group purchasing organizations (GPOs) for both hospitals and physician practices.

- <u>Chapter 4: Wholesaler Profitability</u> (page 44) delves into the industry's income statement economics to explain the underlying sources of drug distribution profits. We decompose buy-side and sell-side gross margin components, and explain distribution service agreements (DSAs) with manufacturers. We analyze overall gross margins and operating profits. This chapter also explains how brand-name and generic drug price inflation affects profits.
- <u>Chapter 5: Financial Stability and Cash Management</u> (page 65) provides a detailed analysis of the key metrics that illustrate wholesalers' overall financial health, including capital structures, debt (leverage), balance sheet assets, cash flow, return on invested capital, and stock market valuation and performance.
- <u>Chapter 6: Forces of Change for Drug Distribution</u> (page 76) analyzes 11 key industry trends that will impact the market structure and economics of the pharmaceutical wholesaling and specialty distribution industries. These trends are organized and presented based on wholesalers' largest customer groups.
- **Company Profiles (Chapters 7, 8, and 9)**: In these chapters, we outline the common strategies behind the Big Three wholesalers' drug distribution businesses and connect these strategies to the themes and topics in the report. The company-specific profiles provide parallel examinations of the Big Three public wholesalers. We scrutinize each company's business history, acquisition and divestitures, business mix, profitability, largest customers, and company-specific business trends.
  - <u>Chapter 7: AmerisourceBergen Corporation</u> (page 100)
  - Chapter 8: Cardinal Health (Page 114)
  - <u>Chapter 9: McKesson Corporation</u> (page 125)

As always, I welcome your comments and feedback. Please contact me if you have any questions or comments about the 2015-16 Economic Report on Pharmaceutical Wholesalers and Specialty Distributors.

Adam J. Fein September 2015

P.S. You can find post-publication errata here: http://drugchannelsinstitute.com/files/2015-16-PharmaceuticalWholesalers-errata.pdf

## **CONTENTS**

Chapter 1: Industry Overview
1.1. Defining Drug Wholesaling1
1.1.1. The Products That Wholesalers Sell2
1.1.2. Full-Line Wholesaling
1.1.3. Specialty Distribution5
1.1.4. Regulation and Supply Chain Security6
1.2. Overview of Wholesalers' Channel Role7
1.2.1. Physical Distribution7
1.2.2. Financial Intermediation8
1.2.3. Impact on Pharmacy and Provider Reimbursement9
1.3. Industry Participants
1.3.1. Largest Companies
1.3.2. Specialty Product Distribution Market Share12
1.2.3. Revenue Growth Trends13
Chapter 2: Channel Role for Retail, Mail, and Specialty Pharmacies15
2.1. The Pharmacy Market15
2.1.2. Outpatient Dispensing Formats15
2.1.2. Pharmacy Market Size16
2.1.3. Differences Among Outpatient Dispensing Formats17
2.2. Independent Drugstores
2.2.1. Wholesaler Services for Independent Pharmacies19
2.2.2. PSAOs and the Wholesalers' Role in the Pharmacy-Payer Relationship21
2.2.3. Wholesaler Relationships with Pharmacy Buying Groups24
2.2.4. Wholesaler Generic Programs for Retail Pharmacies25
2.3. Large Retail Chains and Mail Pharmacies26
2.3.1. Wholesale Suppliers to Largest U.S. Pharmacies
2.3.2. Changing Distribution Relationships Between Wholesalers and Retail Chains
2.3.3. Changing Generic Sourcing Relationships Between Wholesalers and Large Pharmacies28
2.4 Specialty Pharmacies

2.4.1. Specialty Pharmacy Market Participants	29
2.4.2. Specialty Products with Limited Pharmacy Networks	31
2.4.3. Specialty Products in Open Distribution	
Chapter 3: Channel Role for Physician Offices/Clinics and Hospitals	
3.1. Physician Offices and Outpatient Clinics	32
3.1.1. The Buy-and-Bill System	34
3.1.2. In-Office Dispensing	36
3.2. Hospitals	
3.2.1. Wholesalers and the 340B Drug Pricing Program	
3.3. Wholesalers and Group Purchasing Organizations	40
3.3.1. Chargebacks and Contract Management	40
3.3.2. Hospital GPOs	41
3.3.3. GPOs for Physician Practices	43
Chapter 4: Wholesaler Profitability	44
4.1. Sources of Wholesaler Gross Margins	44
4.2. Sell-Side Margin and Cost-Minus Discounts	45
4.3. Components of Buy-Side Gross Margin	46
4.3.1. Buy-Side Margin from Full-Line Distribution Service Agreements	47
4.3.2. Buy-Side Margin from Prompt Payment Discounts	49
4.3.3. Buy-Side Margin from Generic Manufacturers	49
4.3.4. Buy-Side Gross Margin in Specialty Distribution Service Agreements	50
4.4. Estimates of Buy-Side and Sell-Side Gross Margins	51
4.5. Gross Profits of Brand vs. Generic Drugs	53
4.5.1. Lifecycle Profits for Traditional Generic Drugs	55
4.5.2. Lifecycle Profits for Provider-Administered Generic Drugs	57
4.5.3. Private Label Generic Drugs	58
4.6. The Profit Impact of Drug Price Inflation	60
4.6.1. Brand-Name Drugs	60
4.6.2. Generic Drugs	62
4.7. Operating Profit (EBIT)	63
Chapter 5: Financial Stability and Cash Management	65

#### 2015–16 Economic Report on Pharmaceutical Wholesalers and Specialty Distributors

5.1. Debt, Coverage, and Liquidity Ratios	65
5.2. Balance Sheet Assets	67
5.2.1. Inventory Levels	68
5.2.2. Accounts Receivables	69
5.3. Cash Conversion Cycle	69
5.4. Uses of Cash	72
5.5. Return on Invested Capital	73
5.6. Stock Market Performance	73
Chapter 6: Forces of Change for Drug Distribution	76
6.1. Retail, Mail, and Specialty Pharmacies	77
6.1.1. Growing U.S. Outpatient Pharmaceutical Spending	77
6.1.2. Consolidation and Changes in Pharmacy Industry Market Structure	78
6.1.3. The Outlook for Independent Drugstores	80
6.1.4. Challenges from Manufacturers' Limited Specialty Pharmacy Networks	82
6.1.5. Profit Challenges from Payer-Defined Specialty Dispensing Networks	84
6.1.6. Risks to Wholesalers' Generic Profits	85
6.2. Physician Offices/Clinics and Hospitals	88
6.2.1. Growth in Provider-Administered Specialty Drugs	88
6.2.2. Provider Consolidation and Shifting Sites of Care	88
6.2.3. Full-Line Wholesale to Specialty Distribution: Changes in Channel Strategies	91
6.2.4. Challenges from Specialty Pharmacy Fulfillment to Healthcare Providers	92
6.2.5. The Impact of Biosimilars	94
Company Profiles and Wholesalers' Business Strategies	97
Chapter 7: AmerisourceBergen Corporation	100
7.1. Business Overview	100
7.1.1. Company Information	
7.1.2. Company History	100
7.1.3. Recent Acquisitions and Divestitures	
7.1.4. Business Segments	102
7.2. Profitability	104
7.2.1. Overall Pharmaceutical Distribution	

7.2.2. Profitability by Business Sub-Segment	
7.3. Customers	
7.3.1. Top 10 Largest Customers	
7.3.2. Walgreens Boots Alliance	
7.3.3. Express Scripts	
7.4. Growth Trends	
7.4.1. Distribution Company Growth Trends	
7.4.2. Specialty Group Trends	
7.4.3. MWI Veterinary Supply and Expansion Into Animal Health	
Chapter 8: Cardinal Health	
8.1. Business Overview	
8.1.1. Company Information	
8.1.2. Company History	
8.1.3. Recent Acquisitions	
8.1.4. Business Segments	
8.2. Profitability	
8.2.1. Overall Pharmaceutical Distribution	
8.2.2. Profitability by Business Sub-Segment	
8.3. Customers	
8.3.1. Top 10 Largest Customers	
8.3.2. CVS Health	
8.4. Growth Trends	
8.4.1. U.S. Distribution Growth Trends	
8.4.2. Specialty Solutions	
8.4.3. Cardinal Health China and Chinese Pharmaceutical Distribution	
Chapter 9: McKesson Corporation	
9.1. Business Overview	
9.1.1. Company Information	
9.1.2. Company History	
9.1.3. Recent Acquisitions and Divestitures	
9.1.4. Business Segments	

#### 2015–16 Economic Report on Pharmaceutical Wholesalers and Specialty Distributors

9.2 Profitability	
9.2.1. Overall Distribution	
9.2.2. Profitability by Business Sub-Segment	
9.3. Customers	
9.3.1. Top 10 Largest Customers	
9.3.2. CVS Health	
9.3.3. Rite Aid	
9.4. Growth Trends	
9.4.1. U.S. Drug Distribution Growth Trends	
9.4.2. McKesson Specialty Business	136
9.4.3. Celesio and European Pharmaceutical Distribution	
Acronyms and Abbreviations	
Endnotes	

## **LIST OF EXHIBITS**

Exhibit 1: Full-Line Wholesale Revenues, by Type of Customer, 2013	4
Exhibit 2: Full-Line Wholesaler, Inventory Levels vs. Product Sales, by Product Type, 2013	4
Exhibit 3: Specialty Distributor Revenues, by Type of Customer, 2013	5
Exhibit 4: Specialty Distributor Sales, by Therapeutic Area, 2013	6
Exhibit 5: Timeline of DSCSA Requirements for Pharmacies (Dispensers)	6
Exhibit 6: U.S. Drug Distribution and Related Revenues at Big Three Wholesalers, Calendar Year 20141	0
Exhibit 7: Specialty Product Distribution Revenues, by Division and Parent Company, 20141	2
Exhibit 8: U.S. Revenue Growth, Big Three Wholesalers vs. Manufacturers, 2006-20141	4
Exhibit 9: Outpatient Prescriptions, Purchases, and Locations, by Dispensing Format, 20141	6
Exhibit 10: Average Annual Prescription Revenue per Retail Pharmacy Outlet, 2014	8
Exhibit 11: Estimated Drug Wholesaling Market Share with Independent Pharmacies, by Wholesaler,	
2014	9
Exhibit 12: U.S. Pharmacy Franchise and Marketing Programs of Large Drug Wholesalers, 2014	0
Exhibit 13: Wholesaler-Owned Pharmacy Services Administration Organizations, by Members and	
Ownership, 2014	
Exhibit 14: Pharmacy Buying Groups and Primary/Preferred Wholesaler Relationship, 2014	
Exhibit 15: Largest U.S. Pharmacies and Their Primary Wholesale Suppliers	
Exhibit 16: Share of U.S. Generic Purchasing Volume, by Organization, 2014	9
Exhibit 17: Pharmacy Revenues and Market Share from Specialty Pharmaceutical Dispensing, by	~
Company, 2014	
Exhibit 18: Medical Benefit Administration of Outpatient Specialty Drugs, by Site of Care, 2014	
Exhibit 19: Revenue Mix at Oncology Practices, by Category, 2013	
Exhibit 20: Reimbursement Method for Drugs Paid Under the Medical Benefit, by Site of Care, 20143	
Exhibit 21: Oral Oncology Volume, by Dispensing Channel, 2014	
Exhibit 22: Hospital Pharmacy Expenses per Staffed Bed, by Surgical Volume, 2013	8
Exhibit 23: Wholesaler Chargebacks As a Percentage of Net Sales, 2009-20134	
Exhibit 24: Largest Group Purchasing Organizations, by Acute Care Members, 2015	2
Exhibit 25: Hospital GPO Fees Earned, by Product Category, 20124	2
Exhibit 26: Community Practice GPOs and Wholesaler Ownership4	3
Exhibit 27: Key Elements on a Wholesaler Income Statement4	4
Exhibit 28: Sources of Full-Line Wholesalers' Gross Margin from Brand-Name Drugs	5
Exhibit 29: Estimated Buy-Side and Sell-Side Contributions to Gross Margin, 2015	2
Exhibit 30: Big Three Wholesalers, Revenues and Gross Profits, Brand vs. Generic Drugs, 2015	4

Exhibit 31: Summary of Factors Affecting Brand-Name vs. Generic Drug Profitability for Wholesalers 5-	4
Exhibit 32: Typical Path of Wholesaler Gross Profits, Brand vs. Multi-Source Generic	5
Exhibit 33: Example of Channel Profits from a Specialty Generic Specialty Drug	8
Exhibit 34: McKesson, NorthstarRx, Total Revenues, 2008-20155	9
Exhibit 35: Average Year-Over-Year Change in List Price, Top Best-Selling Brand-Name Drugs, 2002-2015	
Exhibit 36: Illustrative Value of a Wholesaler's Fees with Brand-Name Pharmaceutical Price Inflation 6	1
Exhibit 37: Big Three Wholesalers, Gross Profit Contribution from Generic Drug Price Inflation, 2012- 2015	2
Exhibit 38: Big Three Wholesalers, Drug Distribution EBIT as a Percentage of Revenues, 2011-20156	3
Exhibit 39: Big Three Wholesalers, EBIT as a Percentage of Gross Profits, 2011 vs. 2015	4
Exhibit 40: Big Three Wholesalers, Total Short-Term and Long-Term Debt, 2015	5
Exhibit 41: Big Three Wholesalers, Debt-to-EBITDA Ratio, FY2013-FY2015	6
Exhibit 42: Big Three Wholesalers, Liquidity Ratios, FY20156	7
Exhibit 43: Big Three Wholesalers, Composition of Current Assets, 2015	7
Exhibit 44: Big Three Wholesalers, Days of Sales in Inventory, 2011-2015	8
Exhibit 45: Percentage of Wholesalers' Trade Accounts Receivable, by Wholesaler and Customer, 2014-2015	
Exhibit 46: Illustrative Wholesaler Cash Conversion Cycle for Brand-Name Drugs Sold to an Independent Retail Pharmacy	t
Exhibit 47: Big Three Wholesalers, Cash Conversion Cycle, 2015	0
Exhibit 48: Big Three Wholesalers, Dividends and Share Repurchases as Percentage of Operating Cash Flow, FY2013-FY2015	2
Exhibit 49: Big Three Wholesalers, Return on Invested Capital, 2011-20157	3
Exhibit 50: Forward Price-to-Earnings Ratio, Big Three Wholesalers vs. S&P 500, 2009-2015	4
Exhibit 51: One- and Five-Stock Price Performance, Big Three Wholesalers vs. Manufacturers and Overal Market	
Exhibit 52: Projected Growth in National Health and Outpatient Prescription Drug Expenditures, 2012- 2024	7
Exhibit 53: Change in Total Prescriptions Dispensed, by Pharmacy Format, 2010-2014	9
Exhibit 54: Number of Independent Pharmacies, 1990-2013	1
Exhibit 55: Consumer Satisfaction with Wholesalers' Pharmacy Group vs. Other Dispensing Formats, 2015	2
Exhibit 56: Alternative Channels to Specialty Pharmacies in Limited Networks	3
Exhibit 57: Generics, Share of U.S. Prescriptions, 2003-2019	5
Exhibit 58: Total Spending on Specialty Drugs, by Product and Benefit Type, 2012-2018	8

Exhibit 59: Medical Benefit Administration on Top 5 Outpatient Specialty Drugs, by Site of Care, 2010 vs. 2013	
Exhibit 60: Payer-Mandated Usage of Specialty Pharmacies by Oncologists, by Product Type, 2010-2014	
Exhibit 61: AmerisourceBergen, Pharmaceutical Distribution, Profitability Metrics, 2011-2015	
Exhibit 62: AmerisourceBergen, Estimated Revenues and EBIT by Segment, FY 2015	5
Exhibit 63: AmerisourceBergen, Top 10 U.S. Drug Distribution Customers, FY2015	6
Exhibit 64: AmerisourceBergen, Revenues by Major Business Segment and Customer, 2005 vs. 2015E 109	9
Exhibit 65: AmerisourceBergen Distribution Company, Revenues and Growth, 2011-2015:Q211	0
Exhibit 66: AmerisourceBergen Specialty Group, Revenues and Growth, 2004-2015E11	1
Exhibit 67: MWI Veterinary Supply, Share of Revenues, by Product Type, 201411	3
Exhibit 68: Cardinal Health, Profitability Metrics, 2011-201511	7
Exhibit 69: Cardinal Health, Estimated Revenues and EBIT by Segment, FY 201511	8
Exhibit 70: Cardinal Health, Top 10 U.S. Drug Distribution Customers, FY201511	9
Exhibit 71: Cardinal Health, Revenues from CVS Caremark and Walgreen, 2011-2015120	0
Exhibit 72: Cardinal Health, U.S. Pharmaceutical Distribution, Revenues and Growth, 2011-2015:Q2 12	1
Exhibit 73: Cardinal Health China, Revenues, 2011-2015124	4
Exhibit 74: McKesson, Distribution Solutions, Profitability Metrics, 2011-201512	9
Exhibit 75: McKesson, Estimated Revenues and EBIT by Segment, FY 2015	0
Exhibit 76: McKesson, Top 10 U.S. Drug Distribution Customers, FY2015	1
Exhibit 77: McKesson, Revenues from CVS Health and Rite Aid, 2011-2015	2
Exhibit 78: Rite Aid, Total Inventories and Days Sales in Inventory, 2013 to 2015	4
Exhibit 79: McKesson, U.S. Direct Distribution, Revenues and Growth, 2011-2015:Q2	4
Exhibit 80: McKesson Health Mart Store Count, 2006 to 2015	5
Exhibit 81: McKesson's OneStop Generic Program, Revenue Growth Rate, 2004-2015	5
Exhibit 82: Celesio, Pharmacy and Wholesale Revenues, by Country, 2014	8