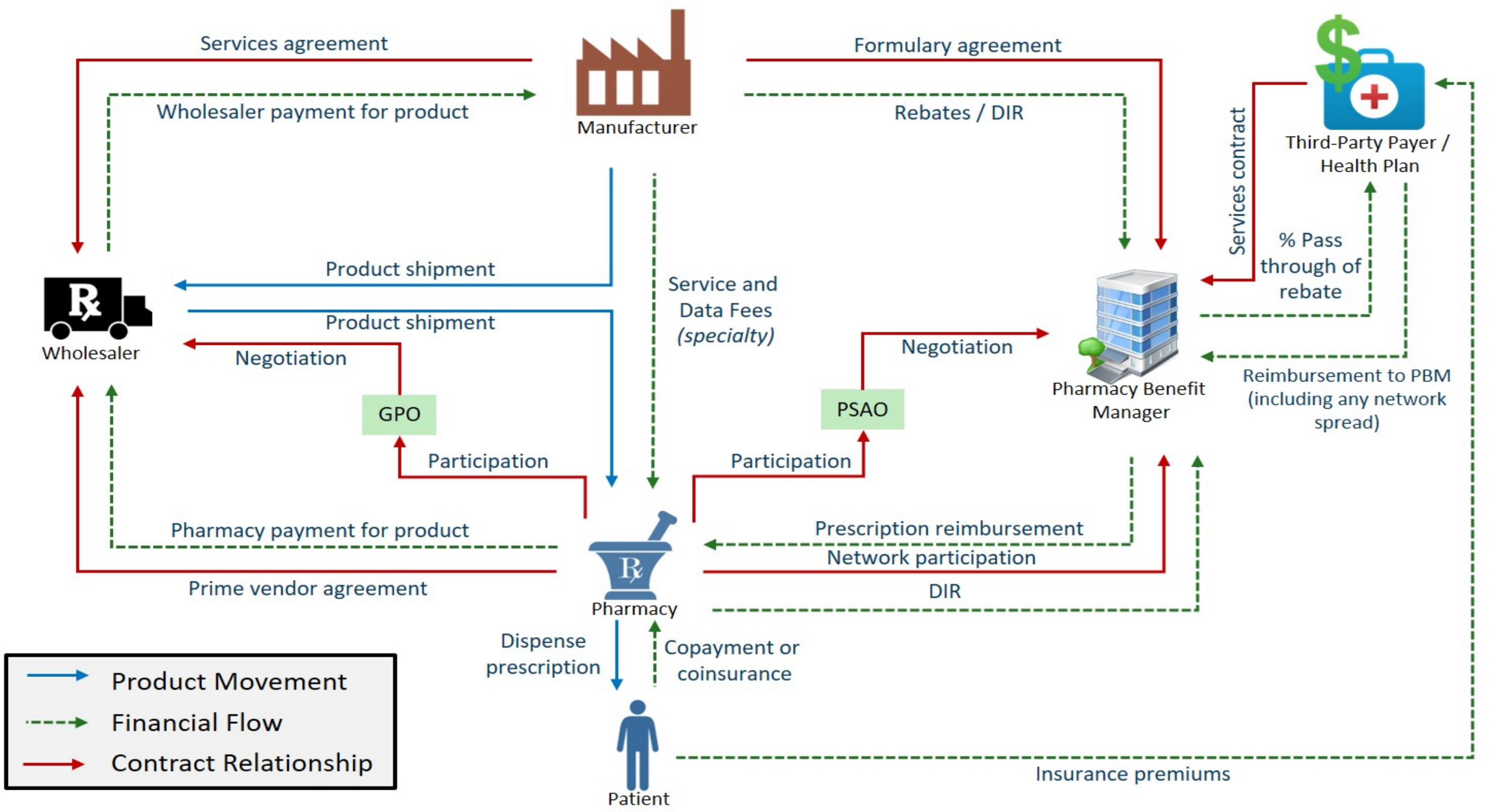
Appendix

Typical Drug Distribution in the United States.
Clotting factor is typically not sold and distributed through drug wholesalers

U.S. Distribution and Reimbursement System: Patient-Administered, Outpatient Drugs



GPO = Group Purchasing Organization; PSAO = Pharmacy Services Administrative Organization; DIR = Direct and Indirect Remuneration
Source. Drug Channels Institute. 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.

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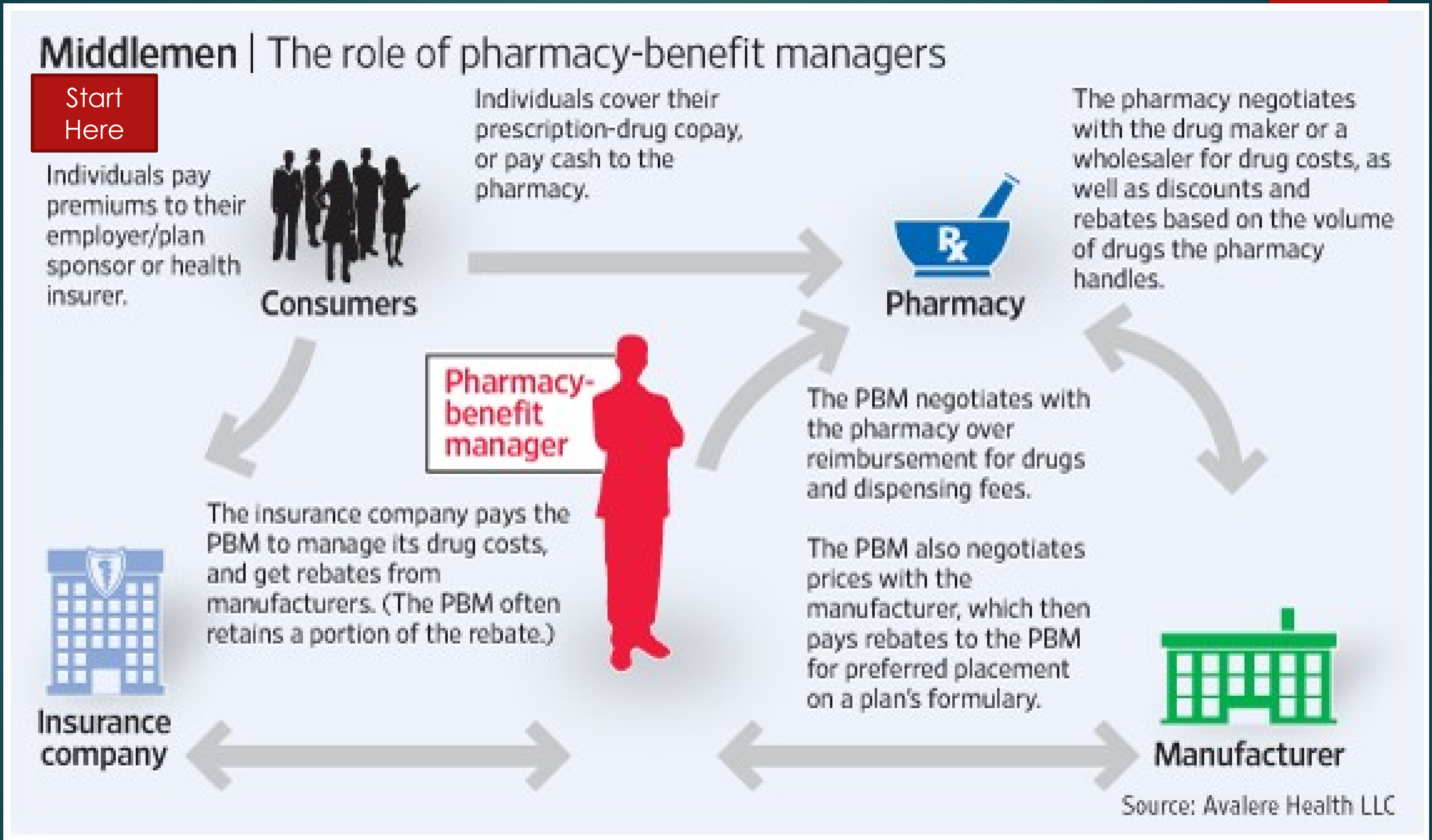
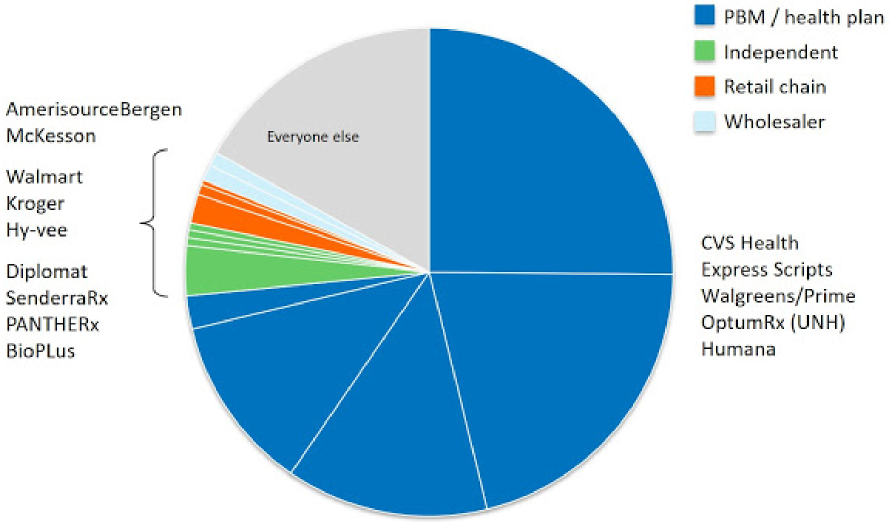
PBMs: Following the flow of payment



Share of Specialty Drug Dispensing Revenues, by Company, 2018



Source: *The 2019 Economic Report on U.S. Pharmacies and Pharmacy Benefit Managers*, Exhibit 41. Includes revenues from retail, specialty, and mail pharmacies. Excludes revenues from network pharmacies of PBM-owned specialty pharmacies and infusion services covered by medical benefit. Reflects pro-forma impact of 2018 acquisitions

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A few PBM’s dominate the purchase and distribution of specialty drugs. Over 70% of revenues are associated with 4 PBM/Health plan combinations

Drug Channel and Managed Care Companies on the 2019 *Fortune* 500 List

Company (stock symbol)	Primary Role(s) in U.S. Drug Channels[1]	2019 *Fortune* 500 Rank	Revenues ($B)	Revenues, % vs. 2017	Revenue per Employee ($M)	Profit as % of Revenues	Profit as % of Assets	Annualized Return to Investors (2008-2018)	Total Return to Investors (2018)	Employees (000s)
UnitedHealth Group (UHS)	Insurer/PBM	6	$226.2	+12.5%	$0.8	5.3%	7.9%	+26.7%	+14.5%	300.0
McKesson (MCK)	Wholesaler	7	$208.4	+4.9%	$3.1	0.0%	0.1%	+12.0%	-28.4%	68.0
CVS Health[2] (CVS)	Pharmacy/PBM	8	$194.6	+5.3%	$0.7	-0.3%	-0.3%	+10.4%	-7.0%	295.0
AmerisourceBergen (ABC)	Wholesaler	10	$167.9	+9.7%	$8.2	1.0%	4.4%	+17.0%	-17.6%	20.5
Cardinal Health (CAH)	Wholesaler	16	$136.8	+5.3%	$2.7	0.2%	0.6%	-8.4%	-24.8%	50.2
Walgreens Boots Alliance (WBA)	Pharmacy	17	$131.5	+11.3%	$0.4	3.8%	7.4%	+13.0%	-3.7%	299.0
Humana (HUM)	Insurer/PBM	56	$56.9	+5.8%	$1.7	3.0%	6.6%	+23.5%	+16.2%	41.6
Cigna[3] (CI)	Insurer/PBM	65	$48.7	+16.9%	$0.7	5.4%	1.7%	-6.5%	+27.5%	73.8
Rite Aid (RAD)	Pharmacy/PBM	107	$30.2	-8.0%	$0.6	3.1%	10.5%	+8.6%	-64.0%	48.4
Magellan Health (MGLN)	Insurer/PBM	417	$7.3	+25.3%	$0.3	0.3%	0.8%	+3.8%	-41.1%	10.5
Average: Drug Channels		28	$144.9	+4.8%	$2.6	1.3%	3.8%	+8.8%	-24.3%	130
Average: Managed Care		136	$84.8	+15.1%	$0.9	3.5%	4.3%	+11.9%	+4.3%	106

Source: Drug Channels Institute analysis of 2019 *Fortune* 500 list. Drug Channels figures include: AmerisourceBergen, Cardinal Health, CVS Health, McKesson, Rite Aid, and Walgreens Boots Alliance. Managed Care companies include: Cigna, Humana, Magellan Health, and UnitedHealth Group.

Health care companies are well represented in the list of America's top companies. 4 are in the top 10

Prescription Revenues and Market Share from Specialty Pharmaceuticals, by Company, 2018

Pharmacy Name	Parent Organization	Estimated 2018 Prescription Revenues from Specialty Drugs ($ billions)	Change in Revenues vs. 2017	Share of Prescription Revenues from Specialty Drugs
CVS Specialty / Aetna Specialty Pharmacy	CVS Health[1]	$37.0	+6%	25%
Accredo / Freedom Fertility / Cigna Specialty Pharmacy	Cigna / Express Scripts[2]	$30.7	+7%	21%
Alliance Rx Walgreens Prime / Walgreens stores[3]	Walgreens Boots Alliance	$19.6	+23%	13%
BriovaRx[4]	UnitedHealth Group (OptumRx)	$16.8	+29%	11%
Diplomat Pharmacy	n/a	$4.8	+6%	3%
Humana Specialty Pharmacy	Humana	$3.2	+3%	2%
Kroger Specialty Pharmacy / Kroger stores	Kroger	$2.8	+24%	2%
Specialty Pharmacy Solutions[5]	McKesson	$1.6	+7%	1%
US Bioservices	AmerisourceBergen	$1.4	+23%	1%
Walmart Specialty Pharmacy	Walmart Stores	$1.0	+4%	1%
SenderraRx	n/a	$0.8	+11%	1%
PANTHERx	n/a	$0.7	+62%	0%
BioPlus Specialty Pharmacy Services	n/a	$0.7	-9%	0%
Onco360 / CareMed	PharMerica	$0.6	+4%	0%
Amber Pharmacy / Hy-Vee Pharmacy Solutions	Hy-Vee	$0.5	n.a.	0%
All other retail, mail, long-term care, and specialty pharmacies	n/a	$24.1	n.a.	17%
Total		$146.2	+6%	100%

The majority of clotting factor is distributed through specialty pharmacies (home care). In hemophilia there are multiple small and mid-sized companies that also distribute factor