

MARKET INSIGHT
BRANDED & GENERIC SPECIALTY PHARMA

INTRODUCTION – MARKET UPDATE AND M&A FOCUS

The specialty pharmaceutical industry has seen a lot of major developments so far in 2018. After years of pain on both the branded side (down 53% from July 2015 highs) and in the generics space (down 46% from peak valuations in April 2015), there are finally signs of stability – and growth – for both.

Branded specialty pharma companies have performed particularly well out of the gate this year, continuing to ride macro tailwinds such as an aging population, improving life expectancy, rises in real net per capita spending on specialty medications, and high prevalence of chronic disease in specialty categories. And it's no surprise that price increases on many prescription drugs have supported companies in the branded segment, though annual raises seem to have found a ceiling in the high single-digits.

On the flip side, generics have been dealing with price deflation for years and timing couldn't have been worse for some of the major players who took on high leverage to finance acquisitions. The market outlook now seems to be improving with companies optimizing their drug production and supply chains while using free cash flow to pay down debt, further stabilizing balance sheets.

For both branded and generic specialty pharmas, corporate tax reform has immediate benefit for US-based companies that had been at a competitive disadvantage to their offshore peers. We have already seen this contribute to a recent flurry of transaction volume and, as a result, valuations have become increasingly rich with some deals trading north of 17-20 times trailing twelve month EBITDA and median multiples now above 14x for brands and 12x for generics.

We have also seen Amneal, a name traditionally associated with the generic side of the house, announce the acquisition of higher margin, *branded* specialty pharma, Gemini Labs – a trend we anticipate will continue.

Another development to keep an eye on is the move towards 90-day prescriptions, an effort to improve compliance and better address the needs of patients with chronic conditions. 30-day prescriptions have been declining up to 5% in every pharmacy channel – food, chain, mass, independent, and retail – while 90-day prescriptions are experiencing double-digit growth across the board. Where the numbers end up and the associated impact on sales trends will be worth watching.

In June 2018, the FDA approved the first marijuana-based prescription pharma product. While the impact of this milestone is unclear, it could spur more research into a drug that remains illegal under federal law, despite growing legalization for recreational and medical use. So far this year we have seen 110 M&A pharma deals involving cannabis with aggregate transaction size of more than \$4.5 billion compared to 47 deals totaling \$1.8 billion in 2017. It seems there is a shift in perception – by the public, medical community, and regulatory agencies – that could contribute further to a new category within prescription therapeutics.

Speaking of mindset shifts within pharma, what will happen with the concept of hospital-owned manufacturers of generic drugs? Earlier this year it was announced that 300 of the largest hospital systems are planning to form a new non-profit company that will provide a number of generic drugs – with even the VA exploring interest in participating. After years of frustration when essential drugs have had shortages or been excessively priced, this will be another area to follow moving forward.

Some of these topics are highlighted in additional detail throughout this update report. Based on market research and conversations with pharma executives, industry experts, and investors in the space, we touch upon a handful of trends we see driving the industry as well as developments we expect will have impact on shaping the future of specialty pharmaceuticals.

Exclusively focused in healthcare, we have a deep track record of transaction success in pharmaceuticals, pharmaceutical services, and over-the-counter consumer health capital raises and M&A. We hope this market snapshot is a helpful reference and please feel free to reach out with any questions or to discuss ways Bourne Partners may be able to add value to your company.



Robert Stanley,
Vice President

A handwritten signature in black ink that reads "Robert Stanley".

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Kacy Yuhas,
Associate

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INDUSTRY TRENDS & GROWTH DRIVERS

So far in 2018, we have seen a number of market trends and developments that have had particular impact on the specialty pharma space. Over the next pages, we identify what we have been seeing in the market and hearing from clients, as well as some of the dynamics that we anticipate will continue shaping the industry.

DECREASING PRICE INCREASES

Average annual price increases have declined 4 years in a row for 20 of America's top-selling branded prescription drugs. Public and political outrage over the high cost of vital medicines may be swaying corporate strategies as price growth was low in 2017 – perhaps due, in part, to peer pressure, as several pharma companies have made public pledges to limit price hikes.

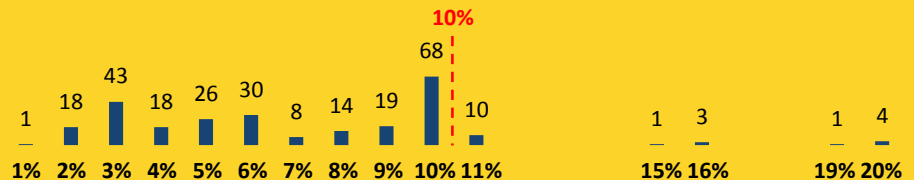
Source: STAT Pharma News, 2017

"The rate of increases has slowed, but prices haven't decreased"

– Dr. Stephen Schondelmeyer,
Professor of Pharmaceutical Economics
University of Minnesota

Distribution of YTD Drug Price Increases

Of 255 recent branded drug price hikes, most companies have felt the public pushback and threat of legislative action, limiting recent price increases to 9.9% or less



Source: Bloomberg Drug Price Index

AMAZON EFFECT (x4?)

Amazon continues to expand into new industries, impacting markets beyond its core retail business. With its acquisition of online pharmacy PillPack earlier this year, Amazon may just be getting started in healthcare and the company could pursue multiple strategic angles.

Source: Bloomberg, 2017

"Drugs, which are light and don't require in-person selection, are a perfect match for Amazon"

– Nicholas Finill,
ABI Research

- 1 Leverage Shipping Power** – Amazon has a massive logistics operation and could easily start its own mail-based drug-delivery business, cutting out drugstores and distributors in the process.
- 2 Become Cheap Generics Heavyweight** – Use buying power to offer customers cut-rate generic prices for cash, appealing to uninsured patients and those on high-deductible plans. In generics especially, there are numerous markups along the way that Amazon could eliminate or pare back to capture market share.
- 3 Whole Foods → Whole Drugs** – Use grocery chain as the physical presence to set up pharmacies or pickup points in addition to a mail or same-day delivery operation
- 4 "Alexa, Refill My Lipitor"** – Should it go into prescription drugs, one obvious priority for Amazon will be to improve the consumer experience in shopping for drugs online or on mobile devices. For refills, using Alexa, Amazon's voice-activated virtual assistant, would be just the start.

PROGRESS AT THE FDA

In recent years, the FDA has been approving more and more generics. In addition to 2017 being a record year for ANDA approvals, the agency continues prioritizing competition among prescription drugs with a spokesperson stressing that “the FDA pushes pending applications for drugs with no current generics to the front of the line.”

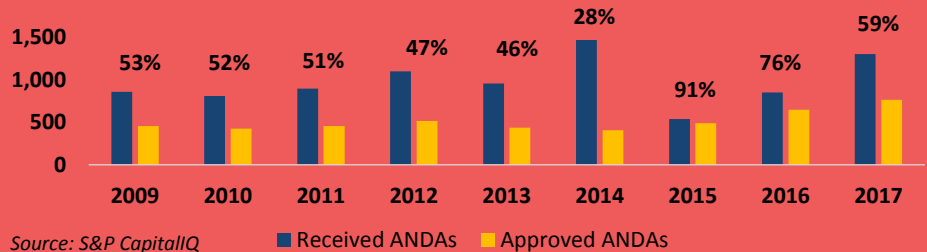
Source: STAT Pharma News, 2017

“We’ve advanced many policies aimed at making it more efficient to bring generic competition to the market”

— Scott Gottlieb,
FDA Commissioner

More Approvals – And at a Higher Rate

The last 3 years have had the highest number – and percentage – of ANDA approvals



GENERIC STABILITY, FINALLY

Beginning in 2015, generic inflation began easing as the FDA cleared much of its backlog and ANDA approval rates hit historic highs (as shown in the chart above). Buyer consolidation and the consortia of middle men – mainly pharmacy benefit managers – pushed prices lower. As a result, many generic drug companies began reassessing whether it made sense to continue producing low-margin pharma products as profits continued to get squeezed. A poorly timed M&A spree compounded problems for some of the largest generic companies as they took on significant leverage, accelerating a fall in share prices. Forced to clean up their balance sheets by shutting unprofitable drug production and using free cash flow to pay down debt, generics have stabilized.

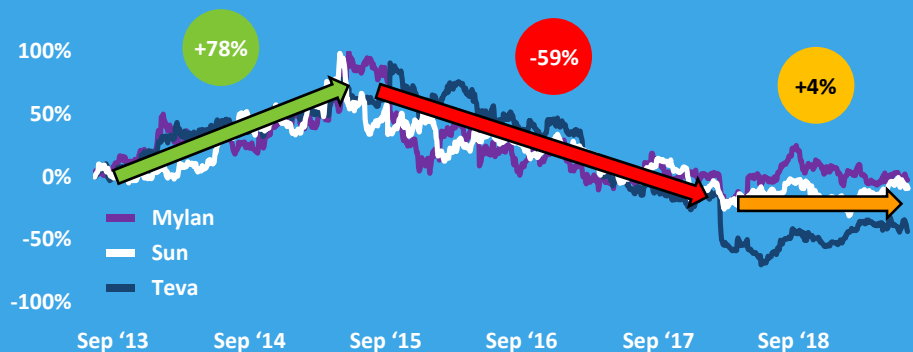
Source: The Wall Street Journal, 2018

“The result of the decline in earnings we have seen over the last couple of years is ultimately going to be a positive”

— Randall Stanicky,
RBC Capital Markets

Generics Roller Coaster Ride

After years of growth, pricing deflation led to a period of pain for major generic pharma players before more recent industry stabilization



BIOSIMILAR SAVINGS

Biologics are an exciting, new frontier in pharma – drugs composed of complex combinations of sugars, proteins, nucleic acids, or living entities, used to treat a variety of medical conditions for which no other treatments are available. Biosimilars, basically generic versions of biologics, are expected to offer meaningful savings to the healthcare system – but how much?

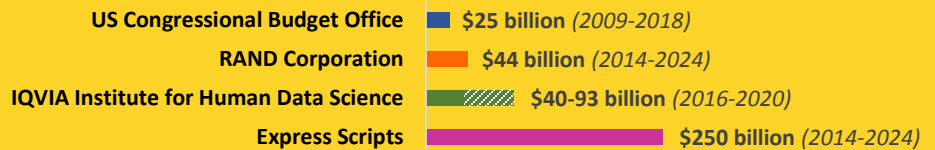
Source: US FDA, 2018

“Biosimilars have the potential to improve quality of life while saving the health system billions of dollars each year”

– Association for Accessible Medicines

Let’s Just Call It a SWAG

So far, 11 biosimilars have been approved by the FDA and there is great promise for the category, but opinions vary greatly on their expected dollar impact



Source: IQVIA

Rx VOLUME-SPEND DISPARITY

US consumers continue to buy more generics (86% of dispensed total volume) but pay more for branded drugs (77% of dollars). With the cost to develop new medications now exceeding \$2.5 billion, pharma companies charge high prices for new, branded drugs before generics enter the market.

Source: Tufts CSDD, 2014

“Generics have saved Americans one trillion dollars in health care savings over the past decade”

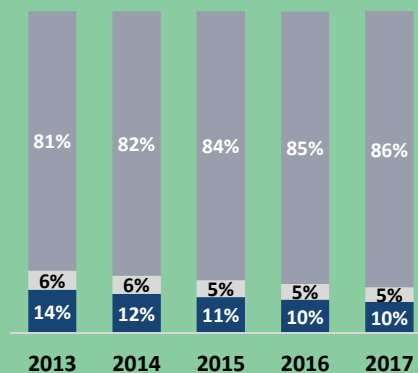
– IMS, Institute for Healthcare Informatics

Generic vs. Branded Prescriptions

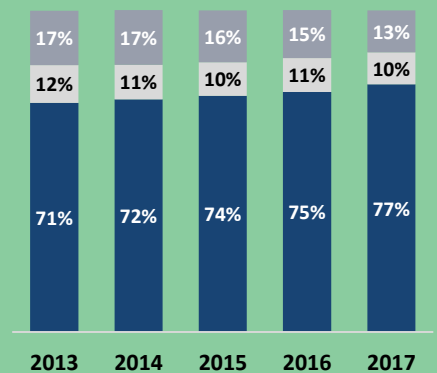
Generics make up 86% of all prescription volume dispensed in the United States...

...while accounting for only 13% of spending, as branded drugs drive costs

US Prescription Volume



US Dollar Spend



■ Brands ■ Branded Generics ■ Generics

Source: IQVIA

ADDRESSING THE OPIOID CRISIS

Opioid addiction has become a major epidemic with the US accounting for 30% of all global supply and 2/3 of the 63,600 drug overdose deaths in 2016 involving opioids. Regulatory restrictions by the FDA and increasing public awareness are resulting in less dispensed narcotics. In 2017, all 50 states had declines of more than 5% with a nationwide drop of 12% from the year prior.

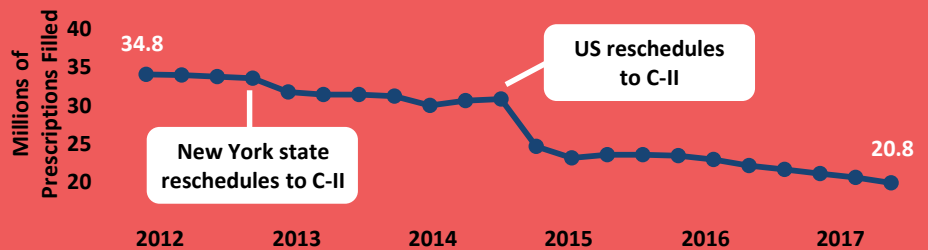
Source: IQVIA, 2018

"We're not going to arrest our way out of this crisis"

— Gina Raimondo,
Rhode Island Governor

Opioid Prescription Control

For example, hydrocodone from Schedule III to Schedule II has resulted in 41% decline



Source: IQVIA

Rx TV COMMERCIALS

Drug companies spent more than \$6 billion last year on direct-to-consumer ads. Over 770,000 commercials aired in 2016, the most recent year for which stats are available, up 65% from 2012. While drug ads may make some consumers feel more involved with their healthcare, a recent report from the National Academy of Sciences points out that "large biopharmaceutical companies spend substantially more on marketing and administration than on research and development."

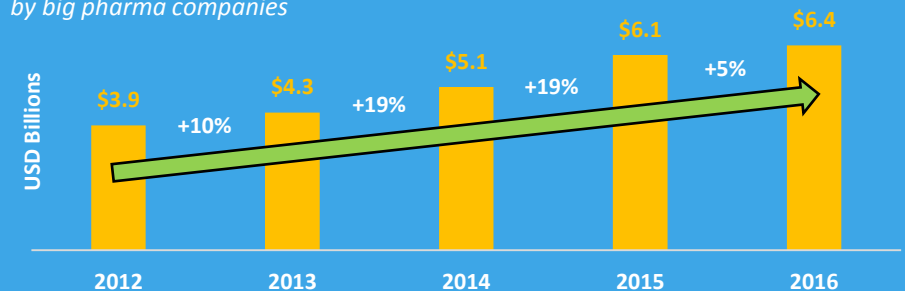
Source: Los Angeles Times, 2018

"The US is one of only two countries that permit drugmakers to promote themselves and their products directly to consumers, and a favorite way to do that has been through TV"

— BlioPharma Dive

Pharma Advertising Spend

The last five years have shown continued increases in direct-to-consumer spending by big pharma companies



Source: Kantar Media

INDUSTRY TRADING COMPS

Bourne Partners covers a deep network of specialty pharma companies. Highlighted below are 10 leading publicly-traded players in both the branded and generic segments.

Branded specialty pharma comps are trading at median multiples of 4.6x revenue and 11.5x EBITDA...

Company	Enterprise Value	LTM		NTM Forecast		Margin Analysis		Enterprise Value/				EBITDA Leverage	
		Sales	EBITDA	Sales	EBITDA	Gross Profit	EBITDA	Sales	EBITDA	NTM Sales	NTM EBITDA		
Allergan	\$85,507.9	\$16,156.7	\$7,416.6	\$15,468.2	\$7,636.3	85.2%	45.9%	5.3 x	11.5 x	5.5 x	11.2 x	3.4 x	
Concordia	4,504.9	596.6	273.5	522.0	248.2	67.9%	45.9%	7.6 x	16.5 x	8.6 x	18.2 x	NM	
Ipsen	12,242.9	2,528.5	701.4	2,743.2	926.5	80.9%	27.7%	4.8 x	17.5 x	4.5 x	13.2 x	1.3 x	
Jazz	10,161.5	1,793.3	874.5	2,015.8	1,115.6	93.0%	48.8%	5.7 x	11.6 x	5.0 x	9.1 x	1.8 x	
Lundbeck	10,841.4	2,822.8	1,021.8	2,647.1	904.1	79.8%	36.2%	3.8 x	10.6 x	4.1 x	12.0 x	0.0 x	
Horizon	4,182.6	1,072.6	43.6	1,265.7	465.8	59.8%	4.1%	3.9 x	NM	3.3 x	9.0 x	NM	
Recordati	7,619.1	1,555.6	575.5	1,610.7	585.6	70.8%	37.0%	4.9 x	13.2 x	4.7 x	13.0 x	1.5 x	
Shire	68,555.4	15,527.7	6,601.4	15,702.2	6,674.6	72.0%	42.5%	4.4 x	10.4 x	4.4 x	10.3 x	2.7 x	
UCB	16,513.7	5,330.8	1,663.7	5,377.8	1,593.4	73.5%	31.2%	3.1 x	9.9 x	3.1 x	10.4 x	1.2 x	
Bausch	32,684.0	8,505.0	3,361.0	8,362.3	3,338.9	70.9%	39.5%	3.8 x	9.7 x	3.9 x	9.8 x	7.5 x	
						Median	72.8%	38.3%	4.6 x	11.5 x	4.4 x	10.8 x	1.6 x
						Mean	75.4%	35.9%	4.7 x	12.3 x	4.7 x	11.6 x	2.4 x

...while lower-margin generic specialty pharma comps are trading at discounted median multiples of revenue (2.5x) and EBITDA as their branded counterparts (10.3x).

Company	Enterprise Value	LTM		NTM Forecast		Margin Analysis		Enterprise Value/				EBITDA Leverage	
		Sales	EBITDA	Sales	EBITDA	Gross Profit	EBITDA	Sales	EBITDA	NTM Sales	NTM EBITDA		
Akorn	\$1,316.4	\$763.5	\$63.6	\$719.5	\$111.0	45.2%	8.3%	1.7 x	20.7 x	1.8 x	11.9 x	NM	
Hikma	\$5,811.0	\$2,030.0	\$498.0	\$2,021.9	\$518.8	47.6%	24.5%	2.9 x	11.7 x	2.9 x	11.2 x	1.4 x	
Lannett	\$892.8	\$684.6	\$237.5	\$596.5	\$192.4	46.9%	34.7%	1.3 x	3.8 x	1.5 x	4.6 x	3.5 x	
Lupin	\$5,919.7	\$2,304.7	\$427.1	\$2,377.1	\$414.5	63.1%	18.5%	2.6 x	13.9 x	2.5 x	14.3 x	2.4 x	
Mylan	\$31,104.5	\$11,718.8	\$3,550.1	\$12,000.7	\$3,954.0	40.0%	30.3%	2.7 x	8.8 x	2.6 x	7.9 x	4.1 x	
Nichi-iko	\$1,758.8	\$1,429.8	\$197.4	\$1,602.4	\$172.0	20.8%	13.8%	1.2 x	8.9 x	1.1 x	10.2 x	5.6 x	
Perrigo	\$12,297.9	\$4,917.7	\$1,051.5	\$4,891.0	\$1,094.9	40.1%	21.4%	2.5 x	11.7 x	2.5 x	11.2 x	3.1 x	
Sun	\$18,546.2	\$4,016.5	\$861.1	\$4,241.7	\$990.6	71.4%	21.4%	4.6 x	21.5 x	4.4 x	18.7 x	1.9 x	
Taro	\$2,368.2	\$655.2	\$307.4	\$731.8	\$0.0	68.2%	46.9%	3.6 x	7.7 x	3.2 x	NM	0.0 x	
Teva	\$49,199.8	\$20,781.0	\$5,501.0	\$18,242.3	\$4,841.5	45.9%	26.5%	2.4 x	8.9 x	2.7 x	10.2 x	5.5 x	
						Median	46.4%	23.0%	2.5 x	10.3 x	2.6 x	11.2 x	3.1 x
						Mean	48.9%	24.6%	2.5 x	11.8 x	2.5 x	11.1 x	3.1 x

Not shown but as a comparison, big pharma companies with the largest market capitalizations are trading at the richest multiples, 4.8x revenue and 13.7x EBITDA.

INDUSTRY TRANSACTION COMPS

Bourne Partners tracks M&A activity across all segments of the pharma space, highlighting below 10 of the most recent deals in both the branded and generic segments.

Comps for branded specialty pharma mergers and acquisitions of equity are trading at median multiples of 2.9x revenue and 14.3x EBITDA...

Announced Date	Target	Buyer	Implied Enterprise		Implied Enterprise Value/		Description		
			Value	LTM Sales	LTM EBITDA	LTM Sales		LTM EBITDA	
Oct 2018	Laboratorios Vencofarma	Dechra Pharmaceuticals	\$49.7	\$19.6	N/A	2.8 x	N/A	Animal Health	
Sep 2018	Midatech Pharma	Barings	\$19.0	\$9.1	N/A	2.1 x	N/A	Rare Diseases	
Oct 2018	Hovid	TAEL Pantaleon	\$92.8	\$53.2	\$6.0	1.8 x	15.9 x	Herbal Products	
Jun 2018	Prialt from Jazz Pharmaceuticals	TerSera Therapeutics	\$80.0	\$27.0	N/A	3.0 x	N/A	Pain	
Apr 2018	Shire	Takeda	\$81,348.8	\$15,354.0	\$6,449.9	5.3 x	12.6 x	Rare Diseases	
Apr 2018	Oncology Business from Shire	Servier Pharmaceuticals	\$2,400.0	\$262.0	N/A	9.2 x	N/A	Oncology	
Apr 2018	Merck Limited	Proctor & Gamble India	\$324.3	\$180.7	\$26.4	1.8 x	12.5 x	India Business	
Mar 2018	10 Brands from LEO Pharma	Karo Pharma	\$317.0	\$85.5	N/A	3.8 x	N/A	Dermatology	
Dec 2017	4 Brands from AstraZeneca	ANI Pharmaceuticals	\$46.5	\$19.0	N/A	2.4 x	N/A	Cardio & Oncology	
Sep 2017	JCR Pharmaceuticals	MediPal	\$839.2	\$166.2	\$36.2	5.0 x	23.2 x	Injectables	
			Median	\$204.9	\$69.4	\$31.3	2.9 x	14.3 x	
			Mean	\$8,551.7	\$1,617.6	\$1,629.6	3.7 x	16.1 x	

...while generic pharma comps are trading at lower valuations with median multiples of 2.0x revenue and 12.6x EBITDA.

Announced Date	Target	Buyer	Implied Enterprise		Implied Enterprise Value/		Description		
			Value	LTM Sales	LTM EBITDA	LTM Sales		LTM EBITDA	
Sep 2018	Derm & Oral Solids from Sandoz	Aurobindo	\$1,000.0	\$1,200.0	N/A	0.8 x	N/A	Derm & Oral Solid Assets	
Sep 2018	QECS Pharmaceutical	Jolly Pharmaceutical	\$58.3	\$19.6	N/A	3.1 x	N/A	Fungal Medications	
Jul 2018	Subsidiaries from Apotex	Agile Pharma	\$86.4	\$163.4	N/A	0.6 x	N/A	Eastern Europe Business	
Jun 2018	Chase Sun Pharmaceutical	Beijing GTJA	\$1,631.6	\$574.7	\$128.4	2.9 x	13.0 x	Herbal Products	
Jun 2018	Zentiva from Sanofi	Advent International	\$2,201.9	\$880.7	\$179.6	2.5 x	7.0 x	Europe Business	
Apr 2018	Bremer Pharma	Alivira Animal Health	\$2.8	\$8.3	N/A	0.3 x	N/A	Animal Health	
Mar 2018	Elmed Eisai	Nichi-Iko	\$160.1	\$251.4	N/A	0.6 x	N/A	Geriatric Medicine	
Nov 2017	Subsidiaries from Strides	Eris Lifesciences	\$77.0	\$28.0	N/A	2.8 x	N/A	Neurology & Pshych	
Jul 2017	STADA	Bain Capital	\$6,264.9	\$2,564.5	\$472.3	2.3 x	12.6 x	International	
Apr 2017	Upsher-Smith Generic Business	Sawai Pharmaceuticals	\$1,050.0	\$600.0	N/A	1.8 x	N/A	Oral Solids & Pipeline	
			Median	\$580.1	\$413.1	\$179.6	2.0 x	12.6 x	
			Mean	\$1,253.3	\$629.1	\$260.1	1.8 x	10.9 x	

In addition to the transactions captured above, there are a number of deals without publicly-disclosed transactions terms (Endo's acquisition of Somerset, Vivus' acquisition of Pancreaze, TerSera's acquisition of Varubi and Tesaro, Millicent's acquisition of Femring, etc.) that highlight additional specialty pharma market activity.

Bourne Partners is a healthcare-focused investment banking and private equity firm focused exclusively in the healthcare space covering pharma, pharma services, and consumer health. We help companies execute both sell-side and buy-side M&A in addition to facilitating capital raises to finance growth or a recapitalization, with some examples below.

EXAMPLE PHARMA SELL-SIDE M&A CASE STUDY



- Endo is a specialty pharma company that manufactures and sells branded and generic prescription drugs
- Bourne Partners was engaged to explore strategic alternatives for a manufacturing facility and a portfolio of ANDAs specific to the site
- Bourne Partners added value by bifurcating the assets into multiple deals with different counterparties, achieving the desired outcome and maximizing client value

2018
Undisclosed

Bourne Partners served as the exclusive financial advisor to Endo in the sale of several ANDAs to Lannett

BOURNE PARTNERS

"I have had numerous interactions with the Bourne Partners M&A advisory team over the years. Their straightforward advice and thorough knowledge of the pharma / pharma services sector led us to two successful transactions. I would recommend them as a lead advisor to anyone seeking a specialist in the industry." Paul Campanelli – CEO, Endo International

EXAMPLE PHARMA BUY-SIDE M&A CASE STUDY



- Millicent Pharma is a specialty pharma company focused on the acquisition and development of prescription therapeutics
- Bourne Partners was engaged by The Carlyle Group and together the two firms formed a joint venture ("Phoenix") to establish a global pharma company
- Bourne Partners added value by connecting Carlyle with the management team and sourcing key partnerships to support the new company and simplify operations

2018
Undisclosed

Bourne Partners served as financial advisor to The Carlyle Group in Millicent Pharma's acquisition of Femring from Allergan

BOURNE PARTNERS

"When we formed our Phoenix partnership with Carlyle we knew we would be able to source a compelling team and other partnerships. Our 20+ year relationship with [the former Warner Chilcott management team] represented an outstanding opportunity for Phoenix. We couldn't think of a better team to fulfill Phoenix's mission and strategy." Banks Bourne – CEO, Bourne Partners

OTHER RELATED EXPERIENCE

2017
\$50,000,000

Bourne Partners served as the exclusive financial advisor to Prophase Labs, Inc. in the sale of the Cold-EEZE brand to Mylan N.V.

BOURNE PARTNERS

2017
\$1,620,000,000

Bourne Partners served as the buy-side advisor to The Carlyle Group in its acquisition of Albany Molecular Research, Inc.

BOURNE PARTNERS

2015
\$3,500,000,000

Bourne Partners served as financial advisor to AMCo and Civren in the sale of AMCo to Concordia Healthcare

BOURNE PARTNERS

2013
\$220,000,000

Bourne Partners served as the exclusive financial advisor to Covis Pharma in its acquisition of a portfolio of products from Sanofi

BOURNE PARTNERS

2012
Undisclosed

Bourne Partners served as the exclusive financial advisor to Theramed in its licensing of Canadian rights to Gelfoam from Pfizer

BOURNE PARTNERS

Since 1991, Bourne Partners has been a thought leader in the healthcare investment banking space. Our team is a trusted resource for clients and our track record of success includes raising over \$2 billion in equity and debt capital and executing more than \$5 billion in M&A transactions.



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