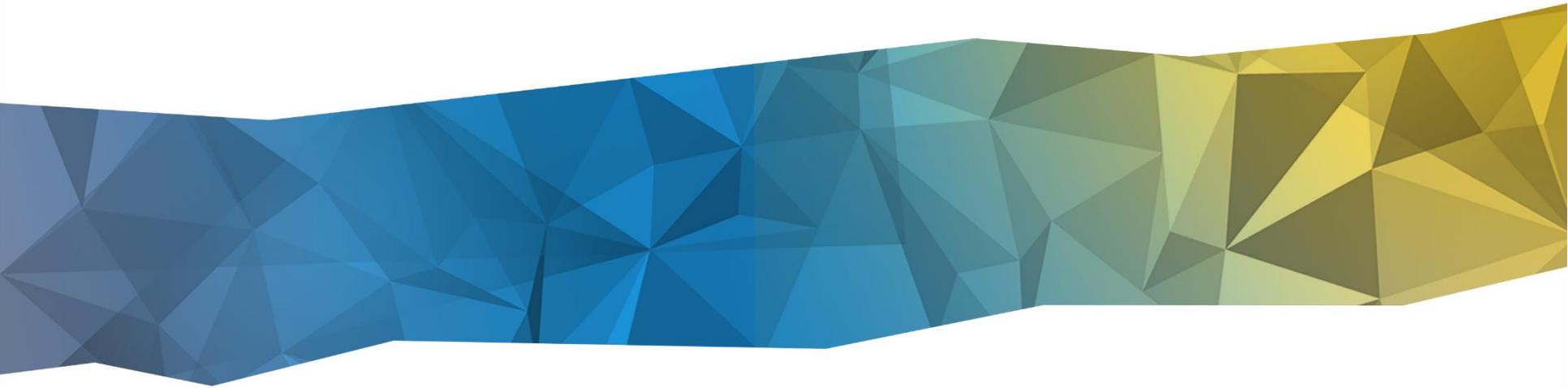


# INSIGHT

## PHARMA SERVICES SECTOR SNAPSHOT



Q4 2018

BOURNE PARTNERS

# CDMO - Transaction Comps

## CDMO Transaction Comps

USD in millions

Announced Date	Target	Target Description	Buyer	Geographic Location	Enterprise Value	LTM Revenue	LTM EBITDA	EV / LTM Revenue	EV / LTM EBITDA
Nov-18	Avista Pharma Solutions <sup>1</sup>	CDMO offering services including analytical testing, API and Drug Product development, early stage discovery, and microbiology testing support	Cambrex Corporation	USA	\$252.0	\$65.0	NA	3.9x	NA
Jul-18	AMPAC Fine Chemicals LLC <sup>2</sup>	Operates as a custom manufacturer of APIs and registered intermediates for the pharmaceutical industry globally	SK Holdings Co., Ltd.	USA	455.0	200.0	NA	NA	NA
Jul-18	Halo Pharma, Inc.	Provides contract development and manufacturing services in various dosage forms and drug delivery platforms	Cambrex Corporation	USA	425.0	105.0	\$27.0	4.0x	15.7x
Jun-18	Alcami Corporation	Offers services in the areas of early-phase formulation development, analytical testing, and manufacturing	Madison Dearborn Partners	USA	NA	NA	NA	NA	NA
Sep-17	Cook Pharmica LLC	Provides contract development and manufacturing services to pharmaceutical and biopharmaceutical companies	Catalent Pharma Solutions, Inc.	USA	950.0	177.8	NA	5.3x	NA
Jul-17	Aptuit LLC	Provides drug discovery and development services as well as API development and manufacturing services	Evotec AG	USA	300.0	92.9	11.6	3.2x	25.8x
Jun-17	PCAS SA	Provides chemical and analytical development and custom manufacturing services	Novacap	France	335.9	243.7	19.7	1.4x	17.0x
Jun-17	Albany Molecular Research, Inc.	Contract research and manufacturing company that provides integrated drug discovery, development, and manufacturing	The Carlyle Group L.P.	USA	1,593.5	628.7	71.8	2.5x	22.2x
May-17	Patheon N.V.	Provides outsourced pharmaceutical development and manufacturing services	Thermo Fisher	USA	7,205.3	1,933.0	351.2	3.7x	20.5x
Dec-16	Capsugel, Inc.	Develops dosage forms and solutions for the healthcare industry around the world	Lonza Group Ltd.	USA	5,500.0	1,000.0	344.0	5.5x	16.0x
Sep-16	PharmaCore, Inc.	Specializes in developing, manufacturing, and scaling up APIs for clinical phase projects	Cambrex Corporation	USA	25.0	17.0	2.0	1.5x	12.5x

Notes:

NA - Not Available

<b>Median</b>	\$440.0	\$188.9	\$27.0	<b>3.7x</b>	<b>17.0x</b>
<b>Mean</b>	1,704.2	446.3	118.2	<b>3.5x</b>	<b>18.5x</b>
<b>High</b>	7,205.3	1,933.0	351.2	<b>5.5x</b>	<b>25.8x</b>
<b>Low</b>	25.0	17.0	2.0	<b>1.4x</b>	<b>12.5x</b>

Source: S&P Capital IQ, December 31, 2018

1) \$65.0 is approximate revenue from the Cambrex press release "Cambrex Completes Acquisition of Avista Pharma Solutions"

2) AMPAC Fine Chemicals transaction EV is according to Korean Herald

# CRO - Transaction Comps

## CRO Transaction Comps

USD in millions

Announced Date	Target	Target Description	Buyer	Geographic Location	Enterprise Value	LTM Revenue	LTM EBITDA	EV / LTM Revenue	EV / LTM EBITDA
Mar-18	Accelovance, Inc.	Full-service, clinical CRO that focuses on oncology, vaccines, and general medicine	Linal USA, Inc.	USA	\$32.9	\$26.8	NA	1.2x	NA
Feb-18	MPI Research Inc.	Provides preclinical and early clinical contract research services	Charles River Laboratories International, Inc.	USA	800.0	240.0	\$68.4	3.3x	11.7x
Sep-17	Optimal Research	SMO providing solutions to CROs, pharmaceutical, biotechnology, and medical device companies	Synexus Limited	USA	NA	NA	NA	NA	NA
Jul-17	MAPI Development SAS	Non-clinical CRO that provides mission-critical research services and products	ICON Public Limited Company	France	139.5	NA	NA	NA	NA
Jul-17	Chiltern International Limited	CRO that provides clinical development, scientific services, and collaborative technologies	Covance Inc.	UK	1,200.0	NA	NA	NA	NA
Jun-17	PAREXEL International Corporation	Outsourcing services company that provides clinical research, consulting, and commercialization	Pamplona Capital Management LLP	USA	5,007.4	2,097.0	342.8	2.4x	14.6x
May-17	inVentiv Health	Custom synthesis/CRO	INC Research Holdings, Inc.	USA	4,513.7	2,177.4	292.7	2.1x	15.4x
Sep-16	ExecuPharm Inc.	Offers CRO support services including clinical trial management, monitoring, and site management	PAREXEL International Corporation	USA	155.0	NA	NA	NA	NA
May-16	IMS Health Holdings, Inc.	Provides information and technology services to healthcare industry worldwide	Quintiles Transnational Holdings Inc.	USA	13,266.8	3,063.0	743.0	4.3x	17.9x
May-16	Synexus Limited	Engages in the identification, recruitment, and retention of patients for clinical trials on behalf of sponsors	Pharmaceutical Product Development, LLC	UK	257.8	68.8	15.9	3.7x	16.2x

Notes:

NA - Not Available

<b>Median</b>	\$800.0	\$1,168.5	\$292.7	2.9x	15.4x
<b>Mean</b>	2,819.2	1,278.8	292.6	2.9x	15.2x
<b>High</b>	13,266.8	3,063.0	743.0	4.3x	17.9x
<b>Low</b>	32.9	26.8	15.9	1.2x	11.7x

# Distribution - Transaction Comps

## Pharma Distribution Transaction Comps

USD in millions

Announced Date	Target	Target Description	Buyer	Geographic Location	Enterprise Value	LTM Revenue	LTM EBITDA	EV / LTM Revenue	EV / LTM EBITDA
Aug-18	Aquilant Limited	Aquilant Limited distributes and sells IV therapy, regional anesthesia and pain management products, and other devices for medical and scientific sectors	H2 Equity Partners	UK	\$26.7	\$94.5	NA	0.3x	NA
Nov-17	H. D. Smith, LLC	Distributes and supplies healthcare products and business solutions to manufacturers and healthcare providers	AmerisourceBergen Corporation	USA	815.0	NA	NA	NA	NA
Nov-17	Cardinal Health (L) Co., Ltd.	Distributes pharmaceutical products, medical devices, and specialty pharmaceuticals to pharmacies and hospitals	Shanghai Pharma Century Global Limited	Malaysia	557.0	3,845.7	\$83.3	0.1x	6.7x
Mar-17	Pelion S.A.	Engages in the trade of pharmaceuticals, cosmetics, and parapharmaceuticals operating through wholesale, retail, services, and other segments	Korporacja Inwestycyjna Polskiej Farmacji Sp. z o.o.	Poland	323.4	2,399.5	31.5	0.1x	10.3x
Aug-16	Anda, Inc.	Distributes generic, branded, specialty, and over-the-counter pharmaceutical products	Teva Pharmaceutical Industries Limited	USA	500.0	NA	NA	NA	NA
Jul-16	Pharmapar Inc.	Distributes generic drugs for privately insured individuals offering a range of medication types	AlliancePharma Inc. (nka:KDA Group Inc.)	Canada	11.1	17.3	NA	0.6x	NA
May-16	Symmetry Surgical, Inc.	Manufactures and distributes medical devices worldwide	RoundTable Healthcare Partners IV, L.P	USA	129.5	84.1	9.1	1.5x	14.2x
Mar-16	Rexall Pharma Plus Ltd.	Operates a network of retail pharmacy stores in Canada offering prescription centers that focus primarily on prescription and over-the-counter products	McKesson Canada Corporation	Canada	2,154.3	2,000.0	200.0	1.1x	11.1x
Apr-15	Idis Group Holdings Ltd.	Provides access to unlicensed pharmaceutical products internationally	Clinigen Group Plc	UK	341.4	274.5	19.0	1.2x	18.0x
Feb-15	BioRx, LLC	Distributes specialty pharmaceuticals and medical supplies, and provides infusion services in the United States	Diplomat Pharmacy, Inc.	USA	347.8	227.0	23.0	1.5x	15.1x

Notes:

NA - Not Available

NM - Not Meaningful

<b>Median</b>	\$344.6	\$250.7	\$27.2	<b>0.9x</b>	<b>12.7x</b>
<b>Mean</b>	520.6	1,117.8	61.0	0.8x	12.6x
<b>High</b>	2,154.3	3,845.7	200.0	1.5x	18.0x
<b>Low</b>	11.1	17.3	9.1	0.1x	6.7x

# CDMO - Trading Comps

## CDMO - Trading Comps

USD in millions, except for per-share amounts

Company	Ticker	Share Price	Shares Out	Equity Value	Net Debt (Cash)	Total Debt	Enterprise Value	LTM					NTM Forecast			NTM YoY Growth		Book Value	Dividend /share
								Sales	EBITDA	EBIT	EPS	Interest Expense	Sales	EBITDA	EPS	Sales	EBITDA		
Bachem Holding AG	SWXBANB	\$115.5	13.6	\$1,567.7	\$134.3	\$145.9	\$1,702.0	\$254.7	\$68.6	\$47.1	\$2.3	\$0.3	\$286.3	\$77.5	\$3.5	12.4%	13.1%	\$26.2	\$2.8
Balchem Corporation	NasdaqGS:BCPC	78.4	32.2	2,526.6	135.3	178.0	2,662.0	639.4	155.1	111.2	1.78	7.8	668.6	163.9	3.2	4.6%	5.6%	21.2	0.4
Cambrex Corporation	NYSE:CBM	37.8	33.6	1,267.2	227.9	325.0	1,495.1	579.0	176.6	143.6	2.71	1.1	621.8	180.2	3.5	7.4%	2.1%	19.7	NA
Catalent, Inc.	NYSE:CTLT	31.2	145.4	4,532.7	2,013.0	2,279.1	6,545.7	2,471.3	505.6	301.6	0.92	115.2	2,542.3	595.0	1.8	2.9%	17.7%	10.5	NA
Consort Medical plc	LSE:CSRT	11.9	49.1	585.3	121.6	152.3	706.8	395.3	71.2	54.2	0.67	4.7	400.2	73.5	0.8	1.2%	3.3%	6.4	0.3
Eurofins Scientific SE	ENXTPA:ERF	373.3	17.6	6,587.9	1,912.1	2,564.3	8,500.0	3,871.0	686.4	431.2	13.14	71.6	4,945.8	924.1	20.9	27.8%	34.6%	165.8	2.8
Johnson Matthey Plc	LSE:JMAT	35.7	192.0	6,848.4	1,359.4	1,543.3	8,207.8	19,244.9	898.8	690.1	2.13	56.1	5,400.0	960.1	3.0	(71.9%)	6.8%	17.4	1.1
Jubilant Life Sciences Limited	BSE:530019	10.2	155.8	1,588.3	444.7	530.6	2,033.0	1,194.8	231.1	195.3	0.59	36.5	1,362.6	290.3	0.9	14.0%	25.6%	4.1	NA
Lonza Group Ltd	SWXLONN	258.9	74.2	19,217.9	3,755.3	4,246.5	22,973.2	5,912.3	1,482.6	1,030.7	6.72	14.1	6,363.0	1,682.5	13.5	7.6%	13.5%	86.0	2.8
Recipharm AB (publ)	OM:RECI B	12.7	67.4	858.5	359.0	485.2	1,217.5	694.8	106.4	41.3	0.11	16.5	787.3	133.3	0.6	13.3%	25.3%	8.8	NA
Siegfried Holding AG	SWXSFZN	341.5	4.2	1,430.2	57.6	80.9	1,487.8	783.6	119.0	68.4	9.08	2.6	848.6	151.1	18.4	8.3%	26.9%	171.1	2.4
Thermo Fisher Scientific Inc.	NYSE:TMO	223.8	402.6	90,092.6	17,856.0	18,954.0	107,948.6	23,898.0	5,939.0	3,656.0	4.28	649.0	24,805.9	6,457.0	11.9	3.8%	8.7%	66.8	0.7
West Pharmaceutical Services, Inc.	NYSE:WST	98.0	74.1	7,262.0	(101.1)	196.2	7,160.9	1,710.5	350.9	247.9	2.05	8.2	1,798.8	387.1	3.0	5.2%	10.3%	18.2	0.6

Company	Ticker	FYE	Data as of	Margin Analysis			Enterprise Value/					P/E		Debt/			Interest Coverage	Price to Book	Dividend %
				Gross Profit	EBITDA	EBIT	Sales	EBITDA	EBIT	NTM Sales	NTM EBITDA	LTM	NTM Forecast	Enterprise Value	Equity Value	EBITDA			
Bachem Holding AG	SWXBANB	31-Dec	31-Dec-18	30.2%	26.9%	18.5%	6.7 x	24.8 x	36.1 x	5.9 x	21.9 x	51.0 x	33.1 x	8.6%	9.3%	2.1 x	141.4 x	4.4 x	2.4%
Balchem Corporation	NasdaqGS:BCPC	31-Dec	31-Dec-18	32.0%	24.3%	17.4%	4.2 x	17.2 x	23.9 x	4.0 x	16.2 x	44.0 x	24.4 x	6.7%	7.0%	1.1 x	14.3 x	3.7 x	0.5%
Cambrex Corporation	NYSE:CBM	31-Dec	31-Dec-18	39.0%	30.5%	24.8%	2.6 x	8.5 x	10.4 x	2.4 x	8.3 x	13.9 x	10.9 x	21.7%	25.6%	1.8 x	132.2 x	1.9 x	NA
Catalent, Inc.	NYSE:CTLT	30-Jun	31-Dec-18	30.8%	20.5%	12.2%	2.6 x	12.9 x	21.7 x	2.6 x	11.0 x	33.8 x	17.5 x	34.8%	50.3%	4.5 x	2.6 x	3.0 x	NA
Consort Medical plc	LSE:CSRT	30-Apr	31-Dec-18	13.9%	18.0%	13.7%	1.8 x	9.9 x	13.0 x	1.8 x	9.6 x	17.8 x	14.4 x	21.5%	26.0%	2.1 x	11.5 x	1.9 x	2.3%
Eurofins Scientific SE	ENXTPA:ERF	31-Dec	31-Dec-18	18.9%	17.7%	11.1%	2.2 x	12.4 x	19.7 x	1.7 x	9.2 x	28.4 x	17.9 x	30.2%	38.9%	3.7 x	6.0 x	2.3 x	0.8%
Johnson Matthey Plc	LSE:JMAT	31-Mar	31-Dec-18	6.4%	4.7%	3.6%	0.4 x	9.1 x	11.9 x	1.5 x	8.5 x	16.7 x	11.9 x	18.8%	22.5%	1.7 x	12.3 x	2.1 x	3.0%
Jubilant Life Sciences Limited	BSE:530019	31-Mar	31-Dec-18	61.0%	19.3%	16.3%	1.7 x	8.8 x	10.4 x	1.5 x	7.0 x	17.2 x	11.0 x	26.1%	33.4%	2.3 x	5.3 x	2.5 x	NA
Lonza Group Ltd	SWXLONN	31-Dec	31-Dec-18	38.6%	25.1%	17.4%	3.9 x	15.5 x	22.3 x	3.6 x	13.7 x	38.5 x	19.2 x	18.5%	22.1%	2.9 x	73.1 x	3.0 x	1.1%
Recipharm AB (publ)	OM:RECI B	31-Dec	31-Dec-18	68.7%	15.3%	6.0%	1.8 x	11.4 x	29.5 x	1.5 x	9.1 x	NM	22.3 x	39.9%	56.5%	4.6 x	2.5 x	1.4 x	NA
Siegfried Holding AG	SWXSFZN	31-Dec	31-Dec-18	19.7%	15.2%	8.7%	1.9 x	12.5 x	21.8 x	1.8 x	9.8 x	37.6 x	18.5 x	5.4%	5.7%	0.7 x	26.8 x	2.0 x	0.7%
Thermo Fisher Scientific Inc.	NYSE:TMO	31-Dec	31-Dec-18	44.4%	24.9%	15.3%	4.5 x	18.2 x	29.5 x	4.4 x	16.7 x	52.3 x	18.8 x	17.6%	21.0%	3.2 x	5.6 x	3.4 x	0.3%
West Pharmaceutical Services, Inc.	NYSE:WST	31-Dec	31-Dec-18	31.6%	20.5%	14.5%	4.2 x	20.4 x	28.9 x	4.0 x	18.5 x	47.9 x	32.5 x	2.7%	2.7%	0.6 x	30.2 x	5.4 x	0.6%

Debt calculations only included for entities with debt

NA - Not Available

NM - Not Meaningful

Median	31.6%	20.5%	14.5%	2.6x	12.5x	21.8x	2.4 x	9.8 x	35.7 x	18.5 x	18.8%	22.5%	2.1 x	12.3 x	2.5 x	0.8%
Mean	33.5%	20.2%	13.8%	3.0 x	14.0 x	21.5 x	2.8 x	12.3 x	33.3 x	19.4 x	19.4%	24.7%	2.4 x	35.7 x	2.8 x	1.3%
Min	6.4%	4.7%	3.6%	0.4 x	8.5 x	10.4 x	1.5 x	7.0 x	13.9 x	10.9 x	2.7%	2.7%	0.6 x	2.5 x	1.4 x	0.3%
Max	68.7%	30.5%	24.8%	6.7 x	24.8 x	36.1 x	5.9 x	21.9 x	52.3 x	33.1 x	39.9%	56.5%	4.6 x	141.4 x	5.4 x	3.0%

- The narrative hasn't changed much from Q3 with CDMOs. Despite a significant amount of M&A activity, the sector is still highly fragmented with larger CDMOs continuing to consolidate smaller players as they look to become one-stop-shop providers
- The median EV multiples for CDMOs were 2.6x and 12.5x for Sales and EBITDA, respectively

# CRO - Trading Comps

## CRO - Trading Comps

USD in millions, except for per-share amounts

Company	Ticker	Share Price	Shares Out	Equity Value	Net Debt (Cash)	Total Debt	Enterprise Value	LTM					NTM Forecast			NTM YoY Growth		Book Value	Dividend /share
								Revenue	EBITDA	EBIT	EPS	Interest Expense	Revenue	EBITDA	EPS	Revenue	EBITDA		
Charles River Laboratories International, Inc.	NYSE:CRL	\$113.2	48.1	\$5,443.6	\$1,540.3	\$1,684.4	\$6,983.8	\$2,143.0	\$495.0	\$341.3	\$4.09	\$54.8	\$2,448.0	\$575.9	\$6.1	14.2%	16.3%	\$26.1	NA
ICON Public Limited Company	NasdaqGS:ICLR	129.2	54.4	7,033.7	(142.3)	349.2	6,891.4	2,371.9	444.5	377.3	3.85	13.4	2,732.5	485.7	6.6	15.2%	9.3%	24.5	NA
IQVIA Holdings Inc.	NYSE:IQV	\$116.2	198.0	\$23,007.0	\$9,746.0	\$10,625.0	\$32,753.0	\$8,603.0	\$1,817.0	\$826.0	\$1.21	\$405.0	\$10,713.4	\$2,302.1	\$6.0	24.5%	26.7%	\$35.7	NA
Linical Co., Ltd.	TSE:2183	11.8	22.7	266.8	(7.5)	42.8	259.2	91.7	17.6	14.6	0.48	0.1	119.4	24.5	0.6	30.2%	39.5%	2.1	0.10
Medpace Holdings, Inc.	NasdaqGS:MEDP	\$52.9	35.4	\$1,873.1	\$118.5	\$140.7	\$1,991.6	\$611.9	\$126.5	\$85.8	\$0.91	\$8.6	\$774.7	\$155.3	\$2.9	26.6%	22.8%	\$15.9	NA
PRA Health Sciences, Inc.	NasdaqGS:PRAH	92.0	65.0	5,975.1	1,064.0	1,191.5	7,039.1	2,487.2	410.3	298.0	1.73	59.5	3,099.2	502.8	4.7	24.6%	22.5%	15.0	NA
Syneos Health, Inc.	Nasdaq:SYNH	\$39.4	103.2	\$4,061.9	\$2,742.8	\$2,876.9	\$6,804.8	\$3,995.1	\$489.1	\$202.2	(\$0.18)	\$127.6	\$4,595.9	\$637.1	\$3.0	15.0%	30.3%	\$27.4	NA

Company	Ticker	FYE	Data as of	Margin Analysis			Enterprise Value/					P/E		Debt/		Interest Coverage	Price to Book	Dividend %	
				Gross Profit	EBITDA	EBIT	Revenue	EBITDA	EBIT	NTM Revenue	NTM EBITDA	LTM	NTM Forecast	Enterprise Value	Equity Value				
Charles River Laboratories International, Inc.	NYSE:CRL	30-Dec	31-Dec-18	37.5%	23.1%	15.9%	3.3 x	14.1 x	20.5 x	2.9 x	12.1 x	27.6 x	18.6 x	24.1%	30.9%	3.4 x	6.2 x	4.3 x	NA
ICON Public Limited Company	NasdaqGS:ICLR	31-Dec	31-Dec-18	53.7%	18.7%	15.9%	2.9 x	15.5 x	18.3 x	2.5 x	14.2 x	33.6 x	19.6 x	5.1%	5.0%	0.8 x	28.2 x	5.3 x	NA
IQVIA Holdings Inc.	NYSE:IQV	31-Dec	31-Dec-18	42.7%	21.1%	9.6%	3.8 x	18.0 x	39.7 x	3.1 x	14.2 x	95.8 x	19.3 x	32.4%	46.2%	5.8 x	2.0 x	3.3 x	NA
Linical Co., Ltd.	TSE:2183	31-Mar	31-Dec-18	37.4%	19.2%	16.0%	2.8 x	14.8 x	17.7 x	2.2 x	10.6 x	24.8 x	19.2 x	16.5%	16.1%	2.4 x	NM	5.7 x	0.8%
Medpace Holdings, Inc.	NasdaqGS:MEDP	31-Dec	31-Dec-18	60.8%	20.7%	14.0%	3.3 x	15.7 x	23.2 x	2.6 x	12.8 x	58.1 x	18.4 x	7.1%	7.5%	1.1 x	10.0 x	3.3 x	NA
PRA Health Sciences, Inc.	NasdaqGS:PRAH	31-Dec	31-Dec-18	39.6%	16.5%	12.0%	2.8 x	17.2 x	23.6 x	2.3 x	14.0 x	53.2 x	19.6 x	16.9%	19.9%	2.9 x	5.0 x	6.1 x	NA
Syneos Health, Inc.	Nasdaq:SYNH	31-Dec	31-Dec-18	46.7%	12.2%	5.1%	1.7 x	13.9 x	33.7 x	1.5 x	10.7 x	NM	13.1 x	42.3%	70.8%	5.9 x	1.6 x	1.4 x	NA

Median	42.7%	19.2%	14.0%	2.9x	15.5x	23.2x	2.5 x	12.8 x	43.4 x	19.2 x	16.9%	19.9%	2.9 x	5.6 x	4.3 x	0.8%
Mean	45.5%	18.8%	12.6%	2.9 x	15.6 x	25.2 x	2.4 x	12.7 x	48.8 x	18.3 x	20.6%	28.1%	3.2 x	8.8 x	4.2 x	0.8%
NA - Not Available	37.4%	12.2%	5.1%	1.7 x	13.9 x	17.7 x	1.5 x	10.6 x	24.8 x	13.1 x	5.1%	5.0%	0.8 x	1.6 x	1.4 x	0.8%
NM - Not Meaningful	60.8%	23.1%	16.0%	3.8 x	18.0 x	39.7 x	3.1 x	14.2 x	95.8 x	19.6 x	42.3%	70.8%	5.9 x	28.2 x	6.1 x	0.8%

- Large, global CROs continue to look towards M&A to expand niche offerings in therapeutic areas such as oncology and immunology
- While Pharma companies look to large CROs for more expansive, global clinical trials, there is still a need for small- to mid-sized CROs who specialize in very focused indications
- The median EV multiples for CROs were 2.9x and 15.5x for Sales and EBITDA, respectively

# Clinical Laboratories - Trading Comps

## Clinical Laboratories - Trading Comps

USD in millions, except for per-share amounts

Company	Ticker	Share Price	Shares Out	Equity Value	Net Debt (Cash)	Total Debt	Enterprise Value	LTM					NTM Forecast			NTM YoY Growth		Book Value	Dividend /share
								Sales	EBITDA	EBIT	EPS	Interest Expense	Sales	EBITDA	EPS	Sales	EBITDA		
Laboratory Corporation of America Holdings	NYSE:LH	\$126.4	100.9	\$12,749.7	\$5,570.3	\$6,462.9	\$18,320.0	\$11,188.5	\$2,069.0	\$1,595.2	\$7.92	\$253.8	\$11,446.9	\$1,984.5	\$11.0	2.3%	(4.1%)	\$71.5	NA
Quest Diagnostics Incorporated	NYSE:DGX	\$83.3	136.1	\$11,330.7	\$3,566.0	\$3,829.0	\$14,896.7	\$7,864.0	\$1,574.0	\$1,273.0	\$5.01	\$165.0	\$7,707.3	\$1,530.2	\$6.4	(2.0%)	(2.8%)	\$9.1	1.95

Company	Ticker	FYE	Data as of	Margin Analysis			Enterprise Value/					P/E		Debt/			Interest Coverage	Price to Book	Dividend %
				Gross Profit	EBITDA	EBIT	Sales	EBITDA	EBIT	NTM Sales	NTM EBITDA	LTM	NTM Forecast	Enterprise Value	Equity Value	EBITDA			
Laboratory Corporation of America Holdings	NYSE:LH	31-Dec	31-Dec-18	32.3%	18.5%	14.3%	1.6 x	8.9 x	11.5 x	1.6 x	9.2 x	16.0 x	11.5 x	35.3%	50.7%	3.1 x	6.3 x	1.8 x	NA
Quest Diagnostics Incorporated	NYSE:DGX	31-Dec	31-Dec-18	38.7%	20.0%	16.2%	1.9 x	9.5 x	11.7 x	1.9 x	9.7 x	16.6 x	13.1 x	25.7%	33.8%	2.4 x	7.7 x	2.1 x	2.3%

Debt calculations only included for entities with debt	<b>Median</b>	35.5%	19.3%	15.2%	1.8 x	9.2 x	11.6 x	1.8 x	9.5 x	16.3 x	12.3 x	30.5%	42.2%	2.8 x	7.0 x	1.9 x	2.3%
NA - Not Available	<b>Mean</b>	35.5%	19.3%	15.2%	1.8 x	9.2 x	11.6 x	1.8 x	9.5 x	16.3 x	12.3 x	30.5%	42.2%	2.8 x	7.0 x	1.9 x	2.3%
NM - Not Meaningful	<b>Min</b>	32.3%	18.5%	14.3%	1.6 x	8.9 x	11.5 x	1.6 x	9.2 x	16.0 x	11.5 x	25.7%	33.8%	2.4 x	6.3 x	1.8 x	2.3%
	<b>Max</b>	38.7%	20.0%	16.2%	1.9 x	9.5 x	11.7 x	1.9 x	9.7 x	16.6 x	13.1 x	35.3%	50.7%	3.1 x	7.7 x	2.1 x	2.3%

- Demand for early disease diagnosis due to an increasing occurrence of target diseases (diabetes, cardiovascular, etc.) is a major growth driver for this sector
- Small sample size due to limited amount of public players within the space
- The median EV multiples for Clinical Laboratories were 1.8x and 9.2x for Sales and EBITDA, respectively

# Distribution - Trading Comps

## Distribution - Trading Comps

USD in millions, except for per-share amounts

Company	Ticker	Share Price	Shares Out	Equity Value	Net Debt (Cash)	Total Debt	Enterprise Value	LTM					NTM Forecast			NTM YoY Growth		Book Value	Dividend /share
								Sales	EBITDA	EBIT	EPS	Interest Expense	Sales	EBITDA	EPS	Sales	EBITDA		
AmerisourceBergen Corporation	NYSE:ABC	\$74.4	211.9	\$15,767.9	\$2,170.0	\$4,662.5	\$17,937.8	\$167,939.6	\$2,153.4	\$1,651.0	\$4.44	\$189.6	\$178,400.0	\$2,323.4	\$6.8	6.2%	7.9%	\$13.8	\$1.5
Cardinal Health, Inc.	NYSE:CAH	44.6	297.9	13,288.2	6,956.0	9,001.0	20,244.2	139,381.0	2,947.0	1,899.0	3.25	325.0	143,271.0	2,728.0	\$5.0	2.8%	(7.4%)	19.7	1.9
Henry Schein, Inc.	NasdaqGS:HSIC	78.5	152.4	11,969.4	2,037.9	2,157.7	14,007.3	13,144.8	1,106.2	899.3	3.03	73.1	13,706.2	1,146.5	\$4.4	4.3%	3.6%	19.5	NA
McKesson Europe AG	HMSE:CLS1	29.8	203.2	6,049.6	702.0	1,683.1	6,751.6	25,982.5	227.9	111.1	0.26	58.5	NA	NA	NA	NA	NA	11.5	1.0
McKesson Corporation	NYSE:MCK	110.5	195.4	21,583.2	7,097.0	9,215.0	28,680.2	210,927.0	4,053.0	3,090.0	6.64	273.0	217,630.6	4,226.1	\$13.6	3.2%	4.3%	47.7	1.4
Owens & Minor, Inc.	NYSE:OMI	6.3	62.3	394.2	1,515.6	1,640.5	1,909.7	9,685.6	240.4	159.1	1.23	62.2	9,969.4	240.0	\$0.9	2.9%	(0.1%)	12.7	1.0
Patterson Companies, Inc.	NasdaqGS:PDCO	19.7	93.4	1,835.7	655.9	821.4	2,491.5	5,516.9	220.9	137.0	1.21	44.7	5,645.5	265.8	\$1.5	2.3%	20.3%	15.7	1.0
UDG Healthcare plc	LSE:UDG	7.6	248.7	1,892.4	61.1	243.7	1,953.5	1,315.2	171.3	115.8	0.27	9.6	1,320.0	185.8	\$0.5	0.4%	8.5%	3.6	0.2

Company	Ticker	FYE	Data as of	Margin Analysis			Enterprise Value/					P/E		Debt/			Price to Book	Dividend %	
				Gross Profit	EBITDA	EBIT	Sales	EBITDA	EBIT	NTM Sales	NTM EBITDA	LTM	NTM Forecast	Enterprise Value	Equity Value	EBITDA			Interest Coverage
AmerisourceBergen Corporation	NYSE:ABC	30-Sep	31-Dec-18	2.7%	1.3%	1.0%	0.1 x	8.3 x	10.9 x	0.1 x	7.7 x	16.7 x	10.9 x	26.0%	29.6%	2.2 x	8.7 x	5.4 x	2.0%
Cardinal Health, Inc.	NYSE:CAH	30-Jun	31-Dec-18	5.1%	2.1%	1.4%	0.1 x	6.9 x	10.7 x	0.1 x	7.4 x	13.7 x	9.0 x	44.5%	67.7%	3.1 x	5.8 x	2.3 x	4.2%
Henry Schein, Inc.	NasdaqGS:HSIC	30-Dec	31-Dec-18	27.3%	8.4%	6.8%	1.1 x	12.7 x	15.6 x	1.0 x	12.2 x	25.9 x	18.0 x	15.4%	18.0%	2.0 x	12.3 x	4.0 x	NA
McKesson Europe AG	HMSE:CLS1	31-Mar	31-Dec-18	10.0%	NM	0.4%	0.3 x	29.6 x	60.8 x	NA	NA	NM	NA	24.9%	27.8%	7.4 x	1.9 x	2.6 x	3.4%
McKesson Corporation	NYSE:MCK	31-Mar	31-Dec-18	5.4%	1.9%	1.5%	0.1 x	7.1 x	9.3 x	0.1 x	6.8 x	16.6 x	8.1 x	32.1%	42.7%	2.3 x	11.3 x	2.3 x	1.3%
Owens & Minor, Inc.	NYSE:OMI	31-Dec	31-Dec-18	13.9%	2.5%	1.6%	0.2 x	7.9 x	12.0 x	0.2 x	8.0 x	5.1 x	7.2 x	85.9%	416.2%	6.8 x	2.6 x	0.5 x	16.4%
Patterson Companies, Inc.	NasdaqGS:PDCO	28-Apr	31-Dec-18	21.1%	4.0%	2.5%	0.5 x	11.3 x	18.2 x	0.4 x	9.4 x	16.2 x	13.2 x	33.0%	44.7%	3.7 x	3.1 x	1.3 x	5.3%
UDG Healthcare plc	LSE:UDG	30-Sep	31-Dec-18	29.4%	13.0%	8.8%	1.5 x	11.4 x	16.9 x	1.5 x	10.5 x	28.1 x	15.8 x	12.5%	12.9%	1.4 x	12.1 x	2.1 x	2.1%
<b>Median</b>				12.0%	2.5%	1.6%	0.2 x	9.8 x	13.8 x	0.2 x	8.0 x	16.6 x	10.9 x	29.1%	36.1%	2.7 x	7.3 x	2.3 x	3.4%
<b>Mean</b>				14.4%	4.7%	3.0%	0.5 x	11.9 x	19.3 x	0.5 x	8.9 x	17.5 x	11.8 x	34.3%	82.5%	3.6 x	7.2 x	2.6 x	5.0%
<b>Min</b>				2.7%	1.3%	0.4%	0.1 x	6.9 x	9.3 x	0.1 x	6.8 x	5.1 x	7.2 x	12.5%	12.9%	1.4 x	1.9 x	0.5 x	1.3%
<b>Max</b>				29.4%	13.0%	8.8%	1.5 x	29.6 x	60.8 x	1.5 x	12.2 x	28.1 x	18.0 x	85.9%	416.2%	7.4 x	12.3 x	5.4 x	16.4%

Debt calculations only included for entities with debt

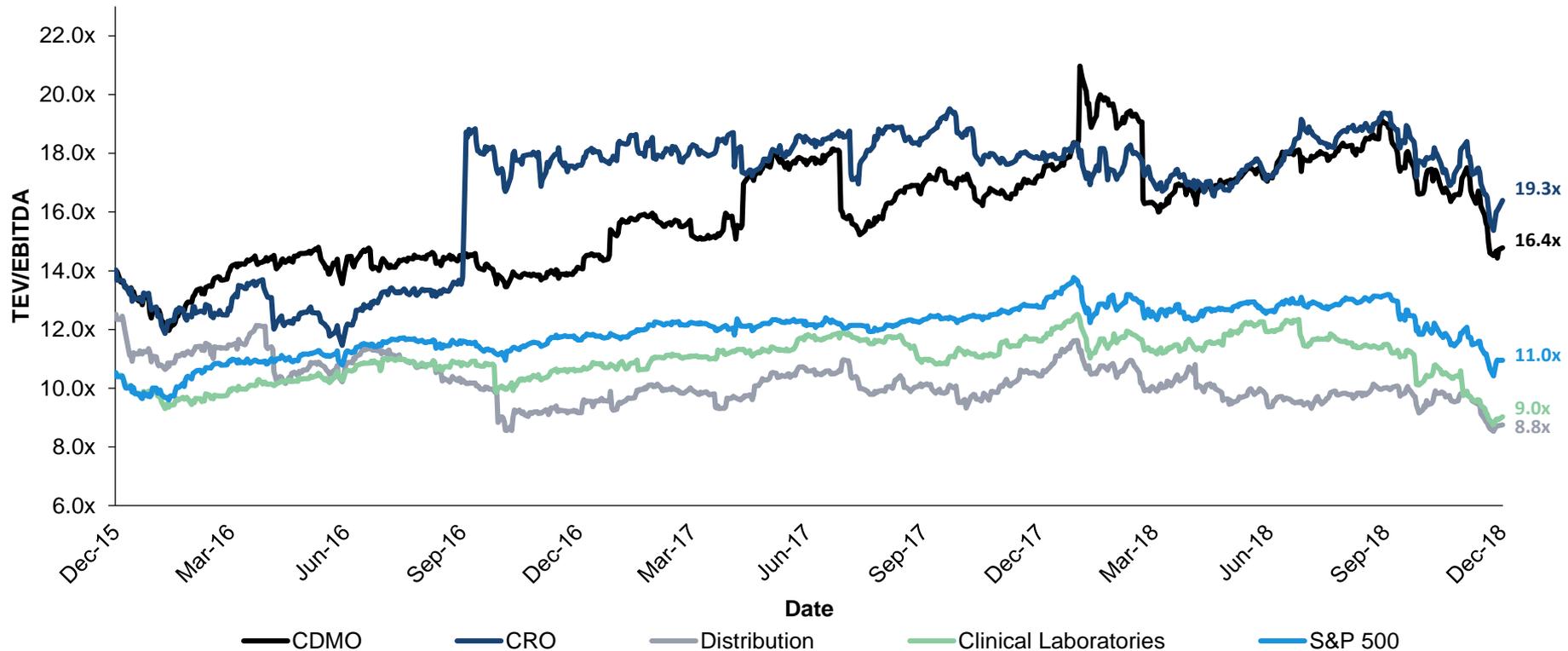
NA - Not Available

NM - Not Meaningful

- The median EV multiples for Distribution were 0.2x and 9.8x for Sales and EBITDA, respectively

# Valuation Trends - Last 3 Years

Historical Total Enterprise Value / EBITDA Multiples



- The pharma services subsectors have declined in the past few months in line with the broader S&P 500

CDMO basket consists of the following: Bachem (SWX:BANB), Balchem (NasdaqGS:BCPC), Cambrex (NYSE:CBM), Catalent (NYSE:CTLT), Jubilant (BSE:530019), Lonza (SWX:LONN), Recipharm AB (OM:RECI B), Siegfried (SWX:SFZN), and West Pharmaceuticals (NYSE:WST)

CRO basket consists of the following: Charles River (NYSE:CRL), ICON (NasdaqGS:ICLR), IQVIA (NYSE:IQV), Medpace (NasdaqGS:MEDP), PRA Health Sciences (NasdaqGS:PRAH), Syneos Health, Inc. (NasdaqGS:SYNH)

Distribution basket consists of: AmerisourceBergen (NYSE:ABC), Cardinal Health (NYSE:CAH), Henry Schlein (NasdaqGS:HSIC), McKesson Europe (HMSE:CLS1), McKesson (NYSE:MCK), Owens & Minor (NYSE:OMI), Patterson Companies (NasdaqGS:PDCO), and UDG Healthcare (LSE:UDG)

Clinical Laboratories basket consists of: Lab Corp (NYSE:LH) and Quest Diagnostics (NYSE:DGX)

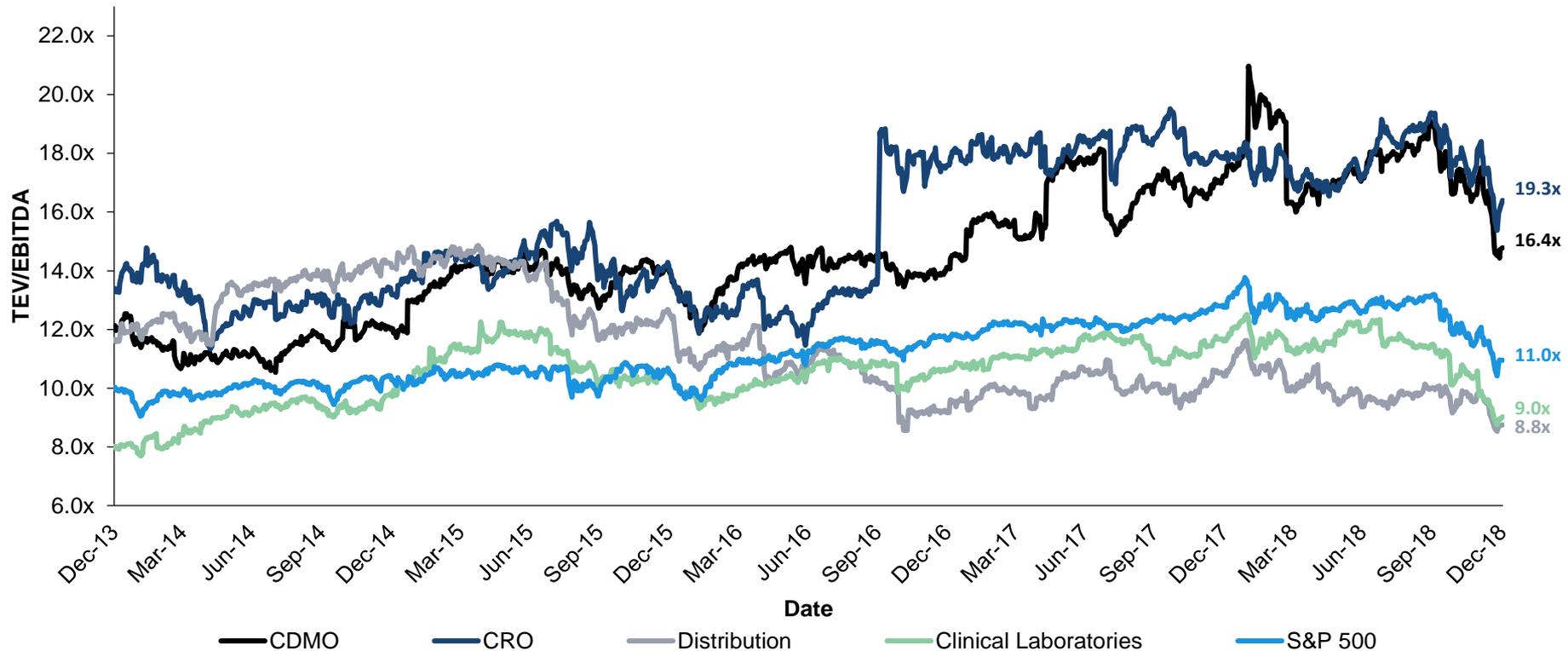
# Valuation Trends (Current, 3 Year, & LTM Comparisons)

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- Below are the *current* TEV / EBITDA multiples for each sector:
  - CDMO: 14.8x (35.0% above current S&P multiples)
  - CRO: 16.4x (49.7% above current S&P multiples)
  - Distribution: 8.8x (20.1% below current S&P multiples)
  - Clinical Laboratories: 9.0x (17.6% below current S&P multiples)
  - S&P 500: 11.0x
- Below are the *average* TEV / EBITDA multiples for each sector over the last 3 years:
  - CDMO: 16.0x (33.5% above average S&P multiples)
  - CRO: 16.7x (39.4% above average S&P multiples)
  - Distribution: 10.2x (14.6% below average S&P multiples)
  - Clinical Laboratories: 11.0x (8.2% below average S&P multiples)
  - S&P 500: 12.0x
- Below are the % change in TEV / EBITDA multiples for each sector over the last 3 years (and LTM):
  - CDMO: +5.9% (*down 14.9% in the last 12 months*)
  - CRO: +16.9% (*down 9.0% in the last 12 months*)
  - Distribution: -30.1% (*down 17.5% in the last 12 months*)
  - Clinical Laboratories: -13.9% (*down 22.8% in the last 12 months*)
  - S&P 500: +4.0% (*down 14.2% in the last 12 months*)

# Valuation Trends - Last 5 Years

## Historical Total Enterprise Value / EBITDA Multiples



- 5 year outlook shows heightened values for CMOs, CROs, and Clinical Labs compared to historical trading multiples and the S&P 500 index

CDMO basket consists of the following: Bachem (SWX:BANB), Balchem (NasdaqGS:BCPC), Cambrex (NYSE:CBM), Catalent (NYSE:CTLT), Jubilant (BSE:530019), Lonza (SWX:LONN), Recipharm AB (OM:RECI B), Siegfried (SWX:SFZN), and West Pharmaceuticals (NYSE:WST)

CRO basket consists of the following: Charles River (NYSE:CRL), ICON (NasdaqGS:ICLR), IQVIA (NYSE:IQV), Medpace (NasdaqGS:MEDP), PRA Health Sciences (NasdaqGS:PRAH), Syneos Health, Inc. (NasdaqGS:SYNH)

Distribution basket consists of: AmerisourceBergen (NYSE:ABC), Cardinal Health (NYSE:CAH), Henry Schlein (NasdaqGS:HSIC), McKesson Europe (HMSE:CLS1), McKesson (NYSE:MCK), Owens & Minor (NYSE:OMI), Patterson Companies (NasdaqGS:PDCO), and UDG Healthcare (LSE:UDG)

Clinical Laboratories basket consists of: Lab Corp (NYSE:LH) and Quest Diagnostics (NYSE:DGX)

Source: S&P Capital IQ, December 31, 2018

# Valuation Trends (Current, 5 Year, & LTM Comparisons)

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- Below are the *average* TEV / EBITDA multiples for each sector over the last 5 years:
  - CDMO: 14.6x (29.9% above average S&P multiples)
  - CRO: 15.5x (37.2% above average S&P multiples)
  - Distribution: 11.4x (1.6% above average S&P multiples)
  - Clinical Laboratories: 10.6x (6.1% below average S&P multiples)
  - S&P 500: 11.3x
  
- Below are the % change in TEV / EBITDA multiples for each sector over the last 5 years:
  - CDMO: +21.8%
  - CRO: +22.4%
  - Distribution: -25.0%
  - Clinical Laboratories: +12.5%
  - S&P 500: +9.1%