



HOULIHAN
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Industry Observations – December 31, 2018

Healthcare Industry

Select Healthcare Public Company Industry Data As of December 31, 2018

(USD in millions, except per share data)

Company Name	Ticker	Market Data					LTM Operating Data			Forward Estimates	
		Price at 12/31/18	% of 52 Week High	Equity Value	Enterprise Value	Debt / Total Capital	Total Assets	LTM Revenue	LTM EBITDA	CY 2018 Revenue Estimate	CY 2018 EBITDA Estimate
Healthcare Equipment and Supplies											
Align Technology, Inc.	ALGN	\$209.43	52.5%	\$16,751.13	\$19,320.72	0.0%	\$2,052.46	\$1,966.49	\$517.48	\$2,421.99	\$624.12
Boston Scientific Corporation	BSX	\$35.34	89.6%	\$48,903.52	\$61,699.33	44.4%	\$0.00	\$9,823.00	\$2,768.33	\$10,638.93	\$3,048.97
Haemonetics Corporation	HAE	\$100.05	85.1%	\$5,171.02	\$4,587.09	35.0%	\$1,227.64	\$951.84	\$218.00	\$1,019.66	\$276.58
ICU Medical, Inc.	ICUI	\$229.63	71.4%	\$4,704.93	\$4,764.57	0.2%	\$1,545.18	\$1,429.79	\$334.34	\$1,335.85	\$324.93
Integra LifeSciences Holdings Corporation	IART	\$45.10	66.8%	\$3,841.60	\$5,533.92	51.2%	\$3,178.64	\$1,457.73	\$359.68	\$1,533.86	\$381.58
Medtronic plc	MDT	\$90.96	90.8%	\$122,163.41	\$137,533.03	33.5%	\$88,150.00	\$30,378.00	\$9,680.00	\$31,433.27	\$11,003.43
NuVasive, Inc.	NUVA	\$49.56	68.4%	\$2,548.50	\$3,535.62	42.8%	\$1,675.40	\$1,087.44	\$228.82	\$1,167.21	\$309.56
ResMed Inc.	RMD	\$113.87	97.6%	\$16,226.45	\$15,297.76	38.0%	\$3,859.82	\$2,454.64	\$736.49	\$2,731.90	\$821.59
Stryker Corporation	SYK	\$156.75	87.2%	\$58,653.86	\$75,304.20	45.7%	\$27,229.00	\$13,601.00	\$3,817.00	\$14,796.45	\$4,266.80
Teleflex Incorporated	TFX	\$258.48	89.5%	\$11,885.46	\$14,741.69	46.2%	\$6,200.72	\$2,401.87	\$664.24	\$2,586.22	\$774.48
The Cooper Companies, Inc.	COO	\$254.50	89.9%	\$12,529.56	\$15,563.40	37.9%	\$6,112.80	\$2,532.80	\$760.60	\$2,688.57	\$949.88
Healthcare Providers and Services											
Centene Corporation	CNC	\$57.65	77.4%	\$23,773.02	\$27,832.09	37.8%	\$30,901.00	\$56,688.00	\$2,627.00	\$70,827.86	\$3,104.66
Cigna Corporation	CI	\$189.92	83.6%	\$72,317.32	\$111,669.77	50.8%	\$153,583.00	\$48,569.00	\$5,540.00	\$132,637.31	\$11,402.95
Community Health Systems, Inc.	CYH	\$2.82	44.3%	\$318.38	\$14,240.80	104.9%	\$16,469.00	\$13,760.00	\$846.00	\$13,109.10	\$1,559.31
DaVita Inc.	DVA	\$51.46	63.8%	\$8,541.56	\$20,771.28	66.7%	\$19,110.25	\$11,412.15	\$2,092.55	\$11,643.77	\$2,183.83
HCA Healthcare, Inc.	HCA	\$124.45	84.4%	\$42,830.77	\$83,297.51	109.8%	\$39,207.00	\$46,677.00	\$8,920.00	\$50,769.46	\$9,618.30
Humana Inc.	HUM	\$286.48	80.5%	\$39,301.30	\$44,778.49	38.0%	\$25,413.00	\$56,912.00	\$3,634.00	\$63,223.50	\$3,687.20
Select Medical Holdings Corporation	SEM	\$15.35	70.9%	\$2,077.34	\$6,200.37	66.8%	\$5,980.18	\$4,909.69	\$600.45	\$5,305.83	\$681.20
Tenet Healthcare Corporation	THC	\$17.14	43.1%	\$1,756.82	\$19,003.56	87.6%	\$22,265.00	\$18,672.00	\$2,629.00	\$18,071.54	\$2,600.86
WellCare Health Plans, Inc.	WCG	\$236.09	72.6%	\$11,802.58	\$12,155.55	33.4%	\$11,764.70	\$20,414.10	\$920.70	\$26,367.23	\$1,147.53

Notes: LTM (latest twelve months); Enterprise Value (market capitalization less total cash and short-term investments plus short-term borrowings and total long-term debt);

EBITDA (earnings before interest, taxes, depreciation and amortization)

Source: Capital IQ

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Select Healthcare Public Company Industry Data As of December 31, 2018

(USD in millions, except per share data)

Company Name	Ticker	Market Data			LTM Operating Data			Forward Estimates			
		Price at 12/31/18	% of 52 Week High	Equity Value	Enterprise Value	Debt / Total Capital	Total Assets	LTM Revenue	LTM EBITDA	CY 2018 Revenue Estimate	CY 2018 EBITDA Estimate
Pharmaceuticals											
AbbVie Inc.	ABBV	\$92.19	73.2%	\$138,673.70	\$153,549.50	107.6%	\$0.00	\$32,753.00	\$13,994.00	\$32,836.61	\$16,043.93
Akorn, Inc.	AKRX	\$3.39	10.1%	\$425.42	\$1,087.14	55.7%	\$1,715.19	\$726.69	\$13.95	\$672.38	\$94.00
Bristol-Myers Squibb Company	BMJ	\$51.98	74.2%	\$84,841.69	\$83,565.18	34.7%	\$0.00	\$22,561.00	\$7,114.67	\$24,220.72	\$7,713.58
Eli Lilly and Company	LLY	\$115.72	96.6%	\$116,728.66	\$126,573.10	47.4%	\$0.00	\$24,555.70	\$7,904.27	\$24,887.51	\$7,913.06
Amneal Pharmaceuticals, Inc.	AMRX	\$13.53	55.3%	\$1,722.46	\$4,807.87	75.9%	\$4,582.05	\$1,458.83	\$444.48	\$2,020.01	\$724.86
Merck & Co., Inc.	MRK	\$76.41	95.3%	\$198,694.77	\$218,954.72	42.1%	\$0.00	\$42,294.00	\$14,495.00	\$44,406.37	\$17,126.72
Mylan N.V.	MYL	\$27.40	57.3%	\$14,128.30	\$30,180.10	54.5%	\$33,455.60	\$11,594.10	\$3,776.60	\$11,872.45	\$4,049.31
Perrigo Company plc	PRGO	\$38.75	40.4%	\$5,264.44	\$9,416.83	36.6%	\$10,942.90	\$4,819.60	\$991.80	\$4,772.17	\$986.58
Pfizer Inc.	PFE	\$43.65	93.9%	\$252,317.72	\$267,344.52	36.8%	\$0.00	\$53,647.00	\$22,704.67	\$53,546.75	\$21,729.52
The Medicines Company	MDCO	\$19.14	46.0%	\$1,408.49	\$2,304.79	104.1%	\$733.74	\$14.73	-\$244.53	\$6.52	-\$144.97

Notes: LTM (latest twelve months); Enterprise Value (market capitalization less total cash and short-term investments plus short-term borrowings and total long-term debt);

EBITDA (earnings before interest, taxes, depreciation and amortization)

Source: Capital IQ

Select Healthcare Public Company Valuation Metrics As of December 31, 2018

(USD in millions, except per share data)

Company Name	Ticker	LTM Operating Statistics						Trading Multiples			
		Return On Assets	Return On Equity	Return On Capital	Revenue Growth	EBITDA Growth	EBITDA Margin	TEV/ LTM Revenue	TEV/ CY 2018 Revenue	TEV/ LTM EBITDA	TEV/ CY 2018 EBITDA
Healthcare Equipment and Supplies											
Align Technology, Inc.	ALGN	15.2%	33.3%	24.3%	33.5%	32.2%	26.3%	9.8x	8.0x	37.3x	31.0x
Boston Scientific Corporation	BSX	0.0%	21.8%	8.6%	8.6%	13.6%	28.2%	6.3x	5.8x	22.3x	20.2x
Haemonetics Corporation	HAE	6.5%	6.3%	7.9%	5.9%	61.2%	22.9%	4.8x	4.5x	21.0x	16.6x
ICU Medical, Inc.	ICUI	10.6%	7.1%	13.1%	40.4%	227.4%	23.4%	3.3x	3.6x	14.3x	14.7x
Integra LifeSciences Holdings Corporation	IART	5.6%	7.0%	6.4%	35.6%	46.7%	24.7%	3.8x	3.6x	15.4x	14.5x
Medtronic plc	MDT	4.8%	4.3%	5.7%	2.5%	10.4%	31.9%	4.5x	4.4x	14.2x	12.5x
NuVasive, Inc.	NUVA	4.2%	3.2%	4.9%	5.9%	-1.3%	21.0%	3.3x	3.0x	15.5x	11.4x
ResMed Inc.	RMD	10.3%	22.7%	12.3%	11.8%	19.4%	30.0%	6.2x	5.6x	20.8x	18.6x
Stryker Corporation	SYK	7.8%	32.7%	10.0%	9.3%	12.1%	28.1%	5.5x	5.1x	19.7x	17.6x
Teleflex Incorporated	TFX	5.2%	2.7%	6.5%	16.3%	20.4%	27.7%	6.1x	5.7x	22.2x	19.0x
The Cooper Companies, Inc.	COO	5.5%	4.3%	6.3%	18.4%	18.3%	30.0%	6.1x	5.8x	20.5x	16.4x
	Mean	6.9%	13.2%	9.6%	17.1%	41.9%	26.7%	5.4x	5.0x	20.3x	17.5x
	Median	5.6%	7.0%	7.9%	11.8%	19.4%	27.7%	5.5x	5.1x	20.5x	16.6x
Healthcare Providers and Services											
Centene Corporation	CNC	5.1%	10.0%	9.1%	23.8%	43.6%	4.6%	0.5x	0.4x	10.6x	9.0x
Cigna Corporation	CI	2.8%	9.6%	5.9%	16.7%	18.5%	11.4%	2.3x	0.8x	20.2x	9.8x
Community Health Systems, Inc.	CYH	0.9%	-400.2%	1.1%	-17.9%	-48.9%	6.1%	1.0x	1.1x	16.8x	9.1x
DaVita Inc.	DVA	4.9%	14.5%	6.2%	4.9%	-13.1%	18.3%	1.8x	1.8x	9.9x	9.5x
HCA Healthcare, Inc.	HCA	11.0%	N/A	14.3%	7.0%	9.0%	19.1%	1.8x	1.6x	9.3x	8.7x
Humana Inc.	HUM	7.4%	16.8%	12.4%	5.8%	-1.0%	6.4%	0.8x	0.7x	12.3x	12.1x
Select Medical Holdings Corporation	SEM	4.6%	17.3%	5.5%	14.2%	22.0%	12.2%	1.3x	1.2x	10.3x	9.1x
Tenet Healthcare Corporation	THC	5.0%	11.3%	6.6%	-2.0%	16.9%	14.1%	1.0x	1.1x	7.2x	7.3x
WellCare Health Plans, Inc.	WCG	5.1%	13.2%	10.3%	20.0%	44.6%	4.5%	0.6x	0.5x	13.2x	10.6x
	Mean	5.2%	-38.4%	7.9%	8.0%	10.2%	10.8%	1.2x	1.0x	12.2x	9.5x
	Median	5.0%	12.3%	6.6%	7.0%	16.9%	11.4%	1.0x	1.1x	10.6x	9.1x

Notes: LTM (latest twelve months); NTM (next twelve months); EBITDA (earnings before interest, taxes, depreciation and amortization); TEV (total enterprise value)

Source: Capital IQ

Select Healthcare Public Company Valuation Metrics As of December 31, 2018

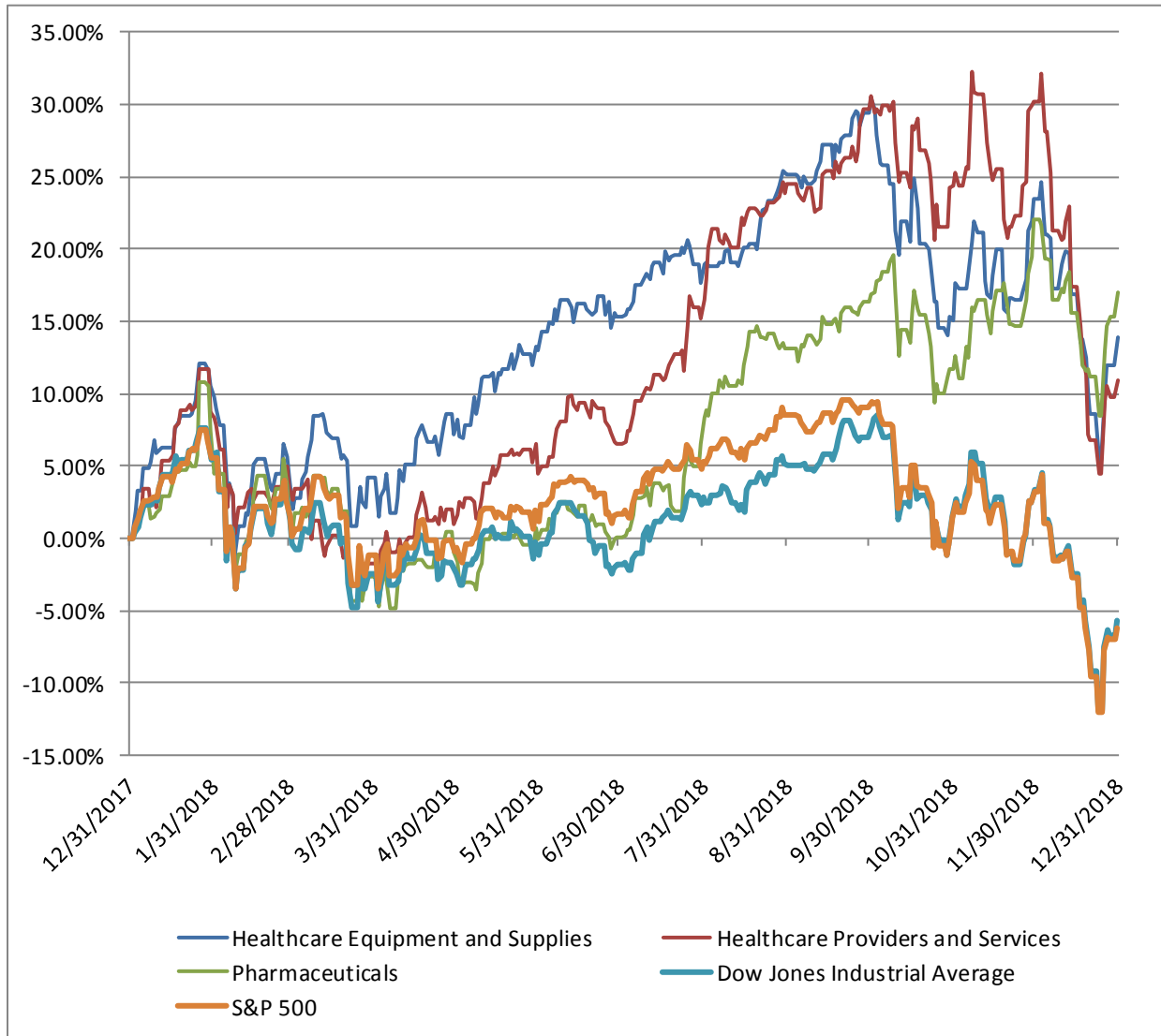
(USD in millions, except per share data)

Company Name	Ticker	LTM Operating Statistics						Trading Multiples			
		Return On Assets	Return On Equity	Return On Capital	Revenue Growth	EBITDA Growth	EBITDA Margin	TEV/ LTM Revenue	TEV/ CY 2018 Revenue	TEV/ LTM EBITDA	TEV/ CY 2018 EBITDA
Pharmaceuticals											
AbbVie Inc.	ABBV	0.0%	522.7%	18.9%	16.1%	15.2%	42.7%	4.7x	4.7x	11.0x	9.6x
Akorn, Inc.	AKRX	-2.3%	-32.7%	-2.7%	-22.6%	-95.3%	1.9%	1.5x	1.6x	78.0x	11.6x
Bristol-Myers Squibb Company	BMJ	0.0%	38.9%	20.0%	8.6%	25.1%	31.5%	3.7x	3.5x	11.7x	10.8x
Eli Lilly and Company	LLY	0.0%	25.0%	14.9%	7.4%	21.6%	32.2%	5.2x	5.1x	16.0x	16.0x
Amneal Pharmaceuticals, Inc.	AMRX	7.3%	-48.6%	8.8%	40.4%	57.6%	30.5%	3.3x	2.4x	10.8x	6.6x
Merck & Co., Inc.	MRK	0.0%	18.4%	10.8%	5.4%	13.9%	34.3%	5.2x	4.9x	15.1x	12.8x
Mylan N.V.	MYL	3.4%	4.3%	4.4%	-2.9%	-0.1%	32.6%	2.6x	2.5x	8.0x	7.5x
Perrigo Company plc	PRGO	3.1%	2.1%	3.7%	-3.5%	-9.1%	20.6%	2.0x	2.0x	9.5x	9.5x
Pfizer Inc.	PFE	0.0%	15.6%	9.0%	2.1%	6.7%	42.3%	5.0x	5.0x	11.8x	12.3x
The Medicines Company	MDCO	-18.0%	-433.9%	-21.3%	-59.9%	N/A	N/A	156.4x	353.3x	N/A	N/A
	Mean	-0.6%	11.2%	6.7%	-0.9%	4.0%	29.8%	18.9x	38.5x	19.1x	10.7x
	Median	0.0%	10.0%	8.9%	3.8%	13.9%	32.2%	4.2x	4.1x	11.7x	10.8x

Notes: LTM (latest twelve months); NTM (next twelve months); EBITDA (earnings before interest, taxes, depreciation and amortization); TEV (total enterprise value)

Source: Capital IQ

Healthcare Public Company LTM Equity Performance As of December 31, 2018



Note: The indices are derived from the equity performance of the previously listed companies. Source: Capital IQ

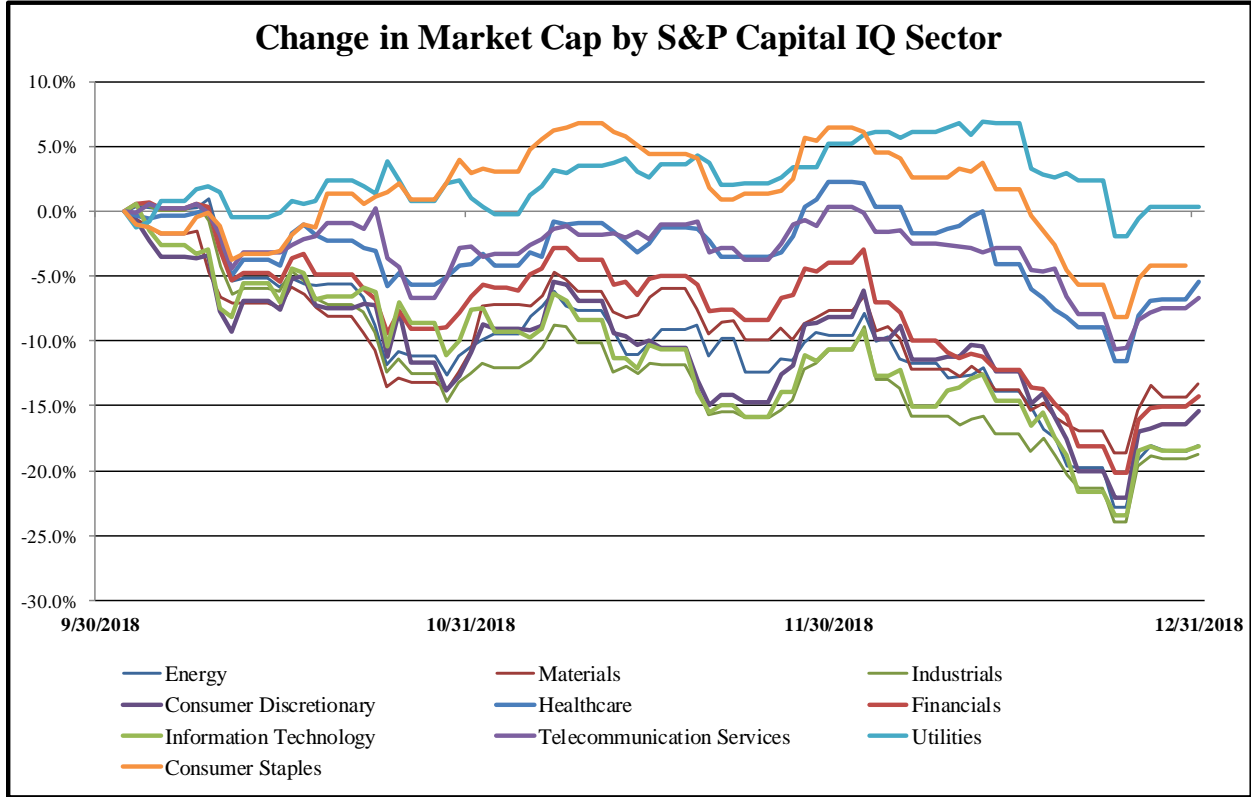
Recent M&A Activity in Healthcare Industry December 31, 2017 to December 31, 2018

(USD in millions)

Close Date	Target	Acquirer	Target Company Primary Industry	Implied Enterprise Value
12/20/2018	Express Scripts Holding Company	Gigna Corporation	Health Care Services	\$68,671.41
3/7/2018	Bioerativ Inc.	Sanofi	Biotechnology	\$11,037.76
10/11/2018	Envision Healthcare Corporation	KKR & Co. L.P. (nka:KKR & Co. Inc.); KKR	Health Care Services	\$10,418.63
3/6/2018	Juno Therapeutics, Inc.	Celgene Corporation	Biotechnology	\$9,556.35
5/14/2018	AveXis, Inc.	Novartis AG	Biotechnology	\$8,109.52
2/28/2018	Impact Biomedicines, Inc.	Celgene Corporation	Life Sciences Tools and Services	\$7,000.00
7/26/2018	HCR ManorCare, Inc.	ProMedica Health System, Inc.	Health Care Facilities	\$6,142.17
11/16/2018	LifePoint Health, Inc.	RCCH HealthCare Partners	Health Care Facilities	\$5,598.11
8/27/2018	Cotiviti Holdings, Inc.	Versend Technologies, Inc.	Health Care Technology	\$4,929.27
7/2/2018	Kindred Healthcare, Inc. (nka:Kindred Healthcare, LLC)	TPG Capital, L.P.; Welsh, Carson, Anderson &	Health Care Facilities	\$4,171.80
3/14/2018	American Medical Response, Inc.	Global Medical Response Inc.	Health Care Services	\$2,400.00
4/6/2018	Flatiron Health, Inc.	Roche Holding AG	Health Care Technology	\$2,173.91
10/1/2018	LifeScan, Inc.	Platinum Equity, LLC	Health Care Equipment	\$2,100.00
4/13/2018	Integrated DNA Technologies, Inc.	Danaher Corporation	Life Sciences Tools and Services	\$2,000.00
7/31/2018	Abaxis, Inc.	Zoetis Inc.	Health Care Equipment	\$1,827.84
2/7/2018	Ignitya, Inc.	Roche Holdings, Inc.	Biotechnology	\$1,823.78
12/21/2018	Endocyte, Inc.	Novartis AG	Pharmaceuticals	\$1,757.96
6/21/2018	ARMO BioSciences, Inc.	Eli Lilly and Company	Biotechnology	\$1,462.62
7/11/2018	Curo Health Services, LLC	TPG Capital, L.P.; Welsh, Carson, Anderson &	Health Care Facilities	\$1,400.00
11/9/2018	K2M Group Holdings, Inc.	Stryker Corporation	Health Care Equipment	\$1,339.96
4/2/2018	ABILITY Network Inc.	Inovalon Holdings, Inc.	Health Care Technology	\$1,200.00
2/13/2018	Sucampo Pharmaceuticals, Inc.	Mallinckrodt Public Limited Company	Pharmaceuticals	\$1,145.60
5/23/2018	Dendreon Pharmaceuticals, Inc.	Nanjing Xinjiekou Department Store Co., Ltd.	Pharmaceuticals	\$1,051.70
7/11/2018	VVC Holding Corp.	Veritas Capital Fund Management, LLC	Health Care Technology	\$1,050.00
6/11/2018	Benevir Biopharm, Inc.	Janssen Biotech, Inc.	Biotechnology	\$1,040.00
3/29/2018	Almost Family, Inc.	LHC Group, Inc.	Health Care Services	\$1,016.81
8/23/2018	Agilis Biotherapeutics, LLC	PTC Therapeutics, Inc.	Biotechnology	\$945.00
6/22/2018	Analogic Corporation	Altaris Capital Partners, LLC	Health Care Equipment	\$920.88
4/4/2018	Samova, Inc.	Patricia Industries	Health Care Distributors	\$903.00
1/23/2018	Argon Medical Devices Holdings, Inc.	Weigao International Medical Hong Kong Limited	Health Care Equipment	\$844.20
1/2/2018	H. D. Smith, LLC	AmerisourceBergen Corporation	Health Care Distributors	\$815.00
10/1/2018	GreatCall, Inc.	Best Buy Co., Inc.	Health Care Services	\$800.00
6/1/2018	Medical Specialties Distributors, LLC	McKesson Corporation	Health Care Distributors	\$800.00
4/3/2018	MPI Research Inc.	Charles River Laboratories International, Inc.	Life Sciences Tools and Services	\$800.00
2/1/2018	U.S. Healthworks, Inc.	Concentra, Inc.	Health Care Facilities	\$753.00
11/13/2018	MatrixCare, Inc.	ResMed Operations Inc.	Health Care Technology	\$750.00
2/1/2018	OU Medical Center	OU Medicine Inc.	Health Care Facilities	\$750.00
1/3/2018	RXC Acquisition Company	McKesson Specialty Health	Health Care Services	\$735.00
4/30/2018	Halyard Health, Inc., Substantially all of Surgical and Infection	Owens & Minor, Inc.	Health Care Supplies	\$710.00
2/14/2018	Exactech, Inc.	TPG Capital, L.P.	Health Care Equipment	\$709.62
9/5/2018	AdvancedMD, Inc.	Global Payments Inc.	Health Care Technology	\$700.00
2/28/2018	Entellus Medical, Inc.	Stryker Corporation	Health Care Equipment	\$663.94
9/20/2018	US Medical Dermatology Portfolio of Allergan plc	Almirall, LLC	Pharmaceuticals	\$650.00
10/16/2018	Augmenix, Inc.	Boston Scientific Corporation	Health Care Equipment	\$600.00
7/2/2018	American Technical Molding Inc./UTI Holdings LLC/Greatbatch	Viant Medical, LLC	Health Care Equipment	\$600.00
8/1/2018	Exosome Diagnostics, Inc.	Bio-Techne Corporation	Biotechnology	\$575.00
12/12/2018	Keryx Biopharmaceuticals, Inc.	Akebia Therapeutics, Inc.	Biotechnology	\$570.46
12/31/2018	Netsmart LLC.	AlpInvest Partners B.V.; TA Associates	Health Care Technology	\$567.97
8/6/2018	CBR Acquisition Holdings Corp.	GI Partners, LLC; GI Partners Fund V LP	Health Care Services	\$530.00
3/9/2018	Cascadian Therapeutics, Inc.	Seattle Genetics, Inc.	Biotechnology	\$529.81
12/31/2017	Cell Design Labs, Inc.	Kite Pharma, Inc.	Biotechnology	\$521.32
11/27/2018	Corium International, Inc.	Gurmet Point Capital Limited	Pharmaceuticals	\$492.51
10/25/2018	Advanced Bioprocessing Business Of Becton, Dickinson and	Thermo Fisher Scientific Inc.	Biotechnology	\$477.00
4/19/2018	Bolder Healthcare Solutions LLC	Cognizant Technology Solutions Corporation	Health Care Technology	\$477.00

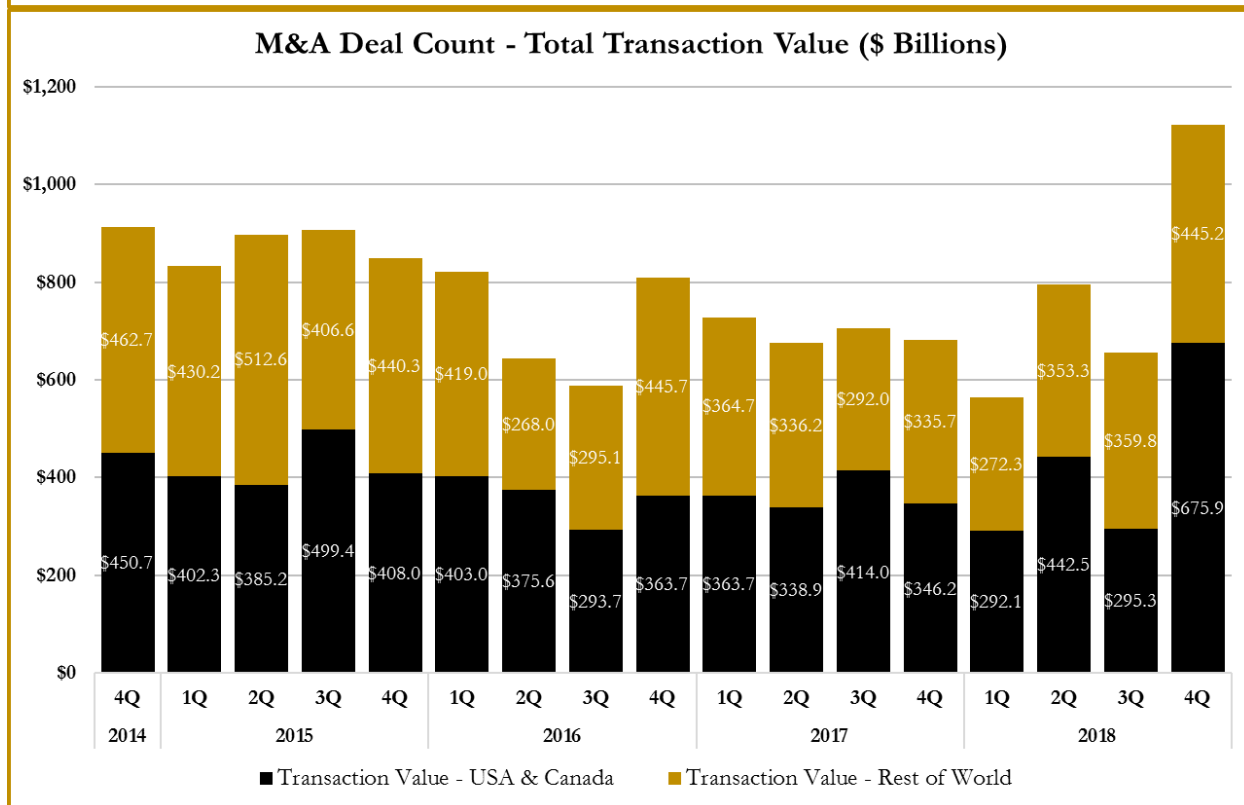
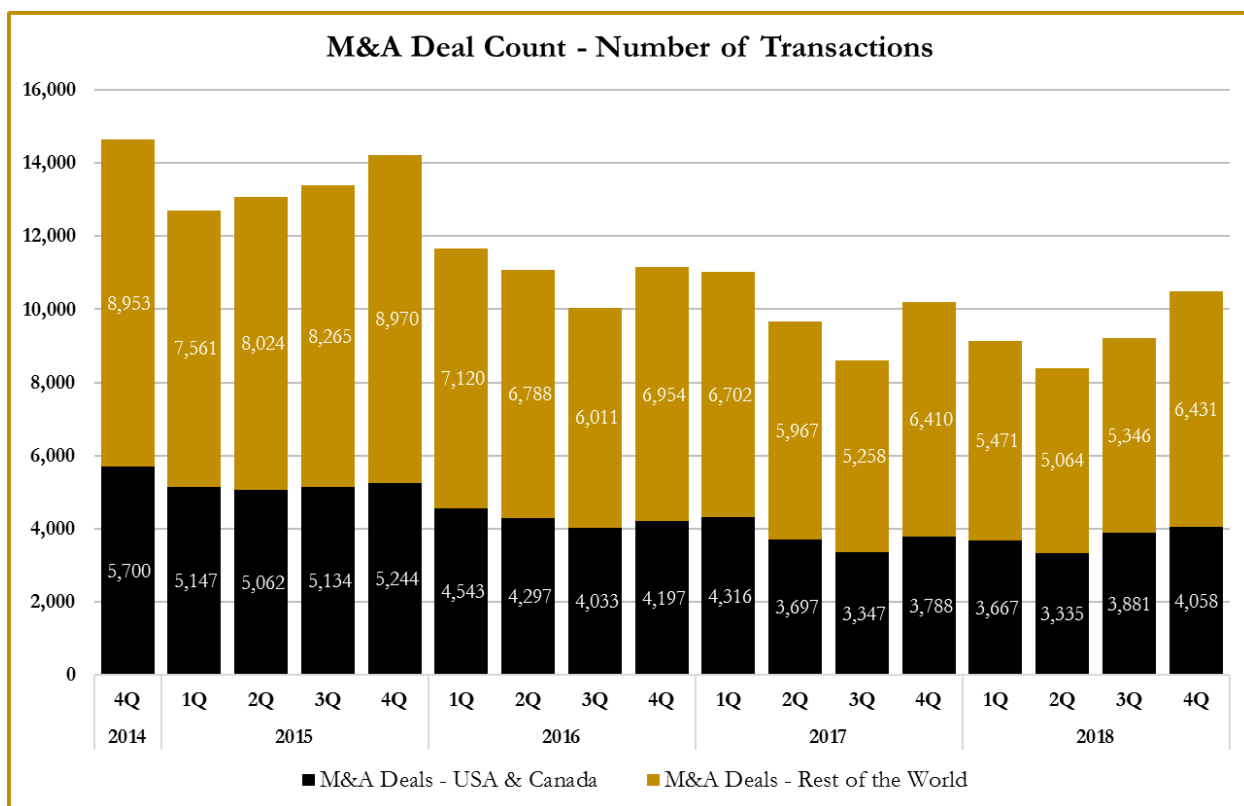
Source: Capital IQ

S&P Capital IQ - Sector Last 3 Month Equity Performance
As of December 31, 2018

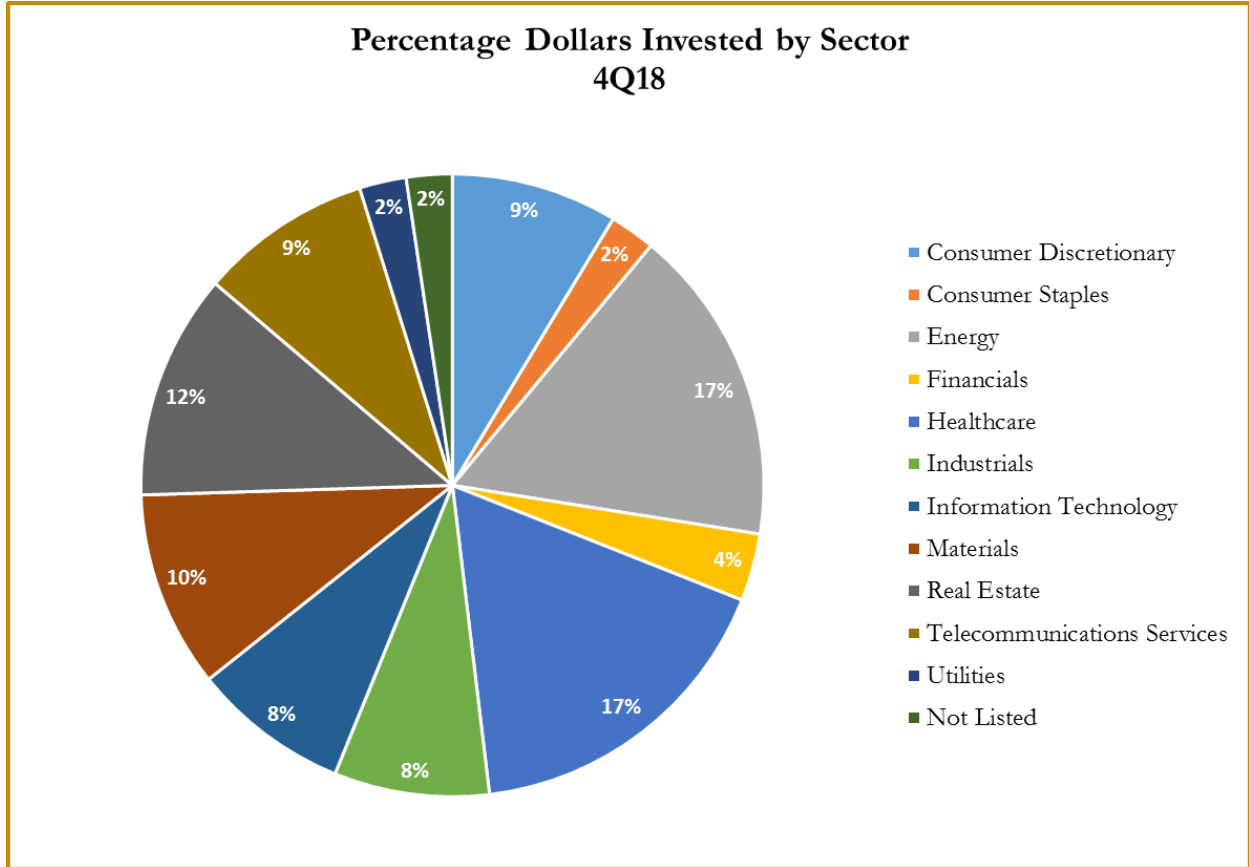


Note: The indices are derived from the equity performance of the S&P Capital IQ Sectors. Source: Capital IQ

M&A Deal Flow Statistics by S&P Capital IQ Sector As of December 31, 2018



M&A Deal Flow Statistics by S&P Capital IQ Sector
As of December 31, 2018





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Through our Investment Banking Group, we offer sell side/buy side advisory and capital raises. Through our Special Situations desk, we provide services that fit outside the archetypal verticals, including liquidity solutions, transactional advisory, and secondary market advisory and trading.

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