BDO CAPITAL ADVISORS, LLC "Trusted Investment Bankers for the Middle Market"

INDUSTRY INSIGHTS HEALTHCARE & LIFE SCIENCES 3Q 2017 M&A Market Update



Inside This Issue...

After a robust Q4 2016 to close out the year, M&A activity has remained at healthy levels in the first half of 2017. 2016 ranked as the third most active year for M&A in history, and M&A activity remains at healthy levels in 2017. Overarching market themes, such as low costs of capital, large balance sheets, and the desire to offset low organic growth, have been consistent from 2016 into 2017. These market factors are expected to remain prevalent and drive M&A activity through year-end.

Healthcare continues to be an active segment of the M&A market. In the first half of 2017, the sector witnessed 21 megadeals (transactions exceeding \$1 billion) compared to 20 in 1H 2016, while the median EV/Revenue multiple held at 2.4x from 2016 and EV/EBITDA multiple has remained strong at 12.7x as both strategic and private equity buyers hold and look to deploy record amounts of cash. Given ongoing uncertainty in Washington, investors throughout 1H 2017 have focused on areas less exposed to regulatory overhaul, such as outsourced services, healthcare technology and retail health providers. Corporate themes as well as market uncertainties will likely continue to drive the consolidation of hospitals, health plans and doctor groups. If the Trump administration's proposed tax reforms enable U.S. companies to lower effective tax rates when repatriating cash currently domiciled overseas, many biotech firms could benefit and this could influence M&A activity. Additionally, drug price reform could lead to further biotech consolidation as R&D becomes less affordable for smaller businesses.

BDO Capital Advisors, LLC provides counsel in the areas of:

- > Mergers & Acquisitions
- > Capital Raising
- Board Advisory

Please direct inquiries to:



Valentina Midura Senior Managing Director +1 617 422 7593 vmidura@bdocap.com

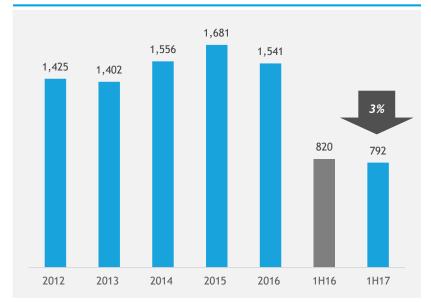


Patrick Bisceglia Director +1 617 239 4115 pbisceglia@bdocap.com

SECTOR M&A ACTIVITY

COMMENTARY

- Activity in the U.S. healthcare and life sciences (H&LS) M&A market continued at a robust pace through the first half of 2017.
- There were 792 announced deals in the H&LS sector involving U.S. targets in 1H17, down 3.4% when compared to the first half of last year.
- Both strategic and private equity buyers have remained active as capital availability and economic strength outweighed political uncertainty including efforts to repeal/replace Obamacare.



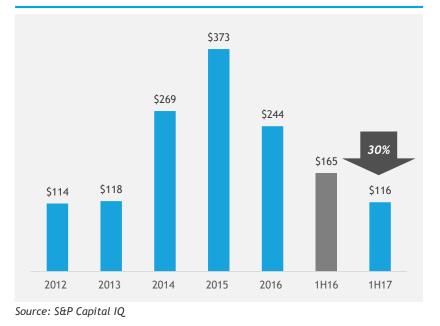
M&A Transactions: U.S. H&LS Industry

Source: S&P Capital IQ

COMMENTARY

- Total reported deal value fell a pronounced 34.7% in 2016 following a record year for M&A in 2015.
- Continuing this downward trend, total reported deal value for 1H17 was \$116 billion, or 29.5% below the same period in 2016.
- There were 21 megadeals (transactions exceeding \$1 billion) in the first half of 2017, compared to 20 megadeals in 1H16.
- Becton Dickinson's \$24B acquisition of C.R. Bard was the largest U.S. M&A deal announced during the first half of 2017.

M&A Transaction Value (\$B): U.S. H&LS Industry

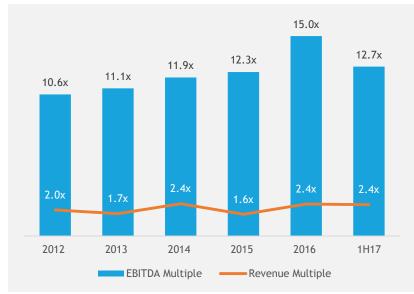


Read more

SECTOR VALUATION TRENDS

COMMENTARY

- Valuations dampened somewhat during the first half of 2017.
- The median reported EV/EBITDA multiple fell from a record 15.0x in 2016 to 12.7x in 1H17, while the median reported EV/Revenue multiple held firm at 2.4x.
- In a deal landscape comprised of both record private equity dry powder and corporate access to capital, competition remains fierce for high-quality targets and continues to result in robust deal multiples.



Median U.S. H&LS M&A Transaction Multiples

Note: Excludes Revenue multiples > 10x and EBITDA multiples > 30x Source: S&P Capital IQ

COMMENTARY

- Through 6/30/17, H&LS stocks have delivered nearly twice the return of the S&P 500 as strong corporate earnings and long-term tailwinds such as shifting demographics and advancing technologies outweigh regulatory concerns.
- The S&P 500 Health Care Index rose 15.1% through 06/30/17 compared to a gain of 8.2% in the S&P 500.
- Healthcare was the second best performing sector in the S&P 500 this year, trailing only Information Technology (+15.6%).

H&LS Equity Market Performance v. S&P 500 Index



Note: H&LS Index represented by S&P 500 Health Care Index (^HCX) Source: S&P Capital IQ, YTD through 06/30/17

SUBSECTOR TRENDS

COMMENTARY

- As in 2016, Long-Term Care was the most active subsector in 1H17, accounting for approximately 20% of overall U.S. H&LS deal volume.
- M&A in the Long-Term Care subsector is primarily driven by the increasing trend towards larger hospitals that can shoulder the burden of rising costs of care and regulations.
- After a record-setting 2016 that saw 173 Biotechnology deals announced, the subsector remained a brightspot with 117 transactions announced through 1H17.

3Q17 U.S. H&LS M&A Transaction Mix by Subsector

	% Total
Subsector	Deal Volume
Behavioral Health	3%
Home Health & Hospice	3%
Hospitals	5%
Labs, MRI & Dialysis	3%
Long-Term Care	20%
Managed Care	1%
Physician Medical Groups	10%
Rehabilitiation	2%
Other	13%
Services subtotal	60%
Biotechnology	16%
eHealth	12%
Medical Devices	7%
Pharmaceuticals	6%
Technology subtotal	40%

Source: HealthCareMandA.com

COMMENTARY

- Molecular Diagnostics, Clinical Labs & Tools deals enjoyed the highest EV/EBITDA multiples of any H&LS subsector in 1H17 at 15.4x.
- High multiples in the space are expected to continue as wellcapitalized, acquisition-hungry strategic players such as Thermo Fisher Scientific Inc. (NYSE:TMO), Danaher Corporation (NYSE:DHR) and Quest Diagnostics (NYSE:DGX) remain active.

Molecular Diagnostics Valuations Lead Subsectors in 3Q17

Sector	Median TEV/EBITDA Multiple
Molecular Diagnostics / Clinical Labs / Tools	15.4x
Medical Devices and Hospital Supplies	15.1x
Healthcare IT	13.7x
Big Pharma	11.5x
Biotech	10.5x
Specialty Pharmaceuticals / Genetics	9.3x
Behavioral Health	8.9x
Hospitals	7.6x

Source: S&P Capital IQ

Spotlight: Life Sciences Tools & Services

COMMENTARY

- The U.S. Life Sciences Tools & Services subsector recorded 36 transactions in the first half of 2017, continuing the strong pace set in 2016.
- Increased levels of outsourcing, heightened focus on drug purity, increasing costs of drug development, growing regulations, globalization of customers and increased R&D spend have bolstered this sub-sector in recent years.
- Private equity has shown significant interest in the space and is pursuing buy-and-build strategies given the level of fragmentation.

Announced M&A Transactions: U.S. Life Sciences Tools

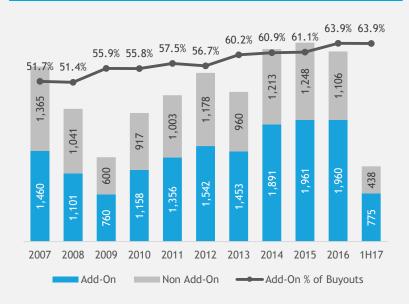


Source: S&P Capital IQ

COMMENTARY

- Amidst intense competition for high-quality assets, private equity firms continue to utilize add-on acquisitions at a record pace.
- Add-ons in 1H17 accounted for 63.9% of U.S. PE deal volume.
- BDO Capital's latest deal closing in the H&LS space, the sale of Cygnus Technologies to GTCR-backed Maravai LifeSciences, is a prime example of this trend.

Add-On Acquisitions Dominate PE Activity





Highlighted Transactions

Select M&A Transactions Announced in 1H17

Date	Target	Buyer
06/30/17	Kindred Healthcare's Skilled Nursing Facilities	Blue Mountain Capital Management
06/29/17	CardioProlific	Koninklijke Philips (ENXTAM:PHIA)
06/28/17	NextPharma Technologies	CapVest Partners
06/27/17	Cape Cod Healthcare's Outreach Laboratory Business	Quest Diagnostics (NYSE:DGX)
06/27/17	Spectranetics (Nasdaq:SPNC)	Koninklijke Philips (ENXTAM:PHIA)
06/22/17	Affinity Dental Management	MidOcean Partners
06/22/17	Consolidated Services Group	Excellere Partners
06/20/17	Dermatology Associates of Oklahoma, LLC	Epiphany Dermatology PA
06/20/17	SigmaCare	MDI Achieve, Inc.
06/20/17	Southern New Hampshire Health System	Elliot Health System
06/20/17	PAREXEL International (Nasdaq:PRXL)	Pamplona Capital Management
06/19/17	Best Doctors, Inc.	Teladoc (Nasdaq:TDOC)
06/19/17	NOVADAQ Technologies (Nasdaq:NVDQ)	Stryker (NYSE:SYK)
06/08/17	Beacon Children's Hospital	Perimeter Healthcare
06/08/17	StatLab Medical Products, LLC	Cressey & Company, LP
06/07/17	GreatCall, Inc.	GTCR, LLC
06/05/17	Behavioral Innovations, Inc.	Shore Capital Partners
05/30/17	Kinnser Software, Inc.	Mediware Information Systems, Inc.
05/30/17	Katzen Eye Group PA	Harvest Partners, LP
05/23/17	True North Therapeutics, Inc.	Bioverativ, Inc.
05/22/17	Hospice Management, LLC	Optima Healthcare Solutions, LLC
05/18/17	Daly Care	Sunny Days In-Home Care
05/17/17	Cranial Technologies, Inc.	Beecken Petty O'Keefe & Company
05/11/17	National Specialty Hospitals, Inc.	Surgery Partners, Inc. (NasdaqGS:SGRY)
05/10/17	Stay at Home Personal Care, LLC	Care Advantage, Inc.
05/08/17	Medical Solutions L.L.C.	TPG Growth
05/08/17	River Vision Development Corp.	Horizon Pharma Plc
05/08/17	WRB Communications, Inc.	Diplomat Pharmacy, Inc.
05/04/17	Options Services, Inc.	Addus HomeCare Corporation (NasdaqGS:ADUS)
05/02/17	Byram Healthcare Centers, Inc.	Owens & Minor, Inc.
05/02/17	Caisson Interventional LLC	LivaNova Plc
05/01/17	Synergy Emergency Physicians, Inc.	Team Health, Inc.
05/01/17	Span-America Medical Systems, Inc.	Savaria Corp.
04/28/17	Image Stream Medical, Inc.	Olympus Corporation of the Americas
04/26/17	Wound Care Technologies, Inc.	Baxter International Inc. (NYSE:BAX)

Highlighted Transactions

Select M&A Transactions Announced in 1H17 (cont.)

Date	Target	Buyer
04/24/17	CityMD	Warburg Pincus LLC
04/19/17	Medicalis Corp.	Siemens Healthcare GmbH
04/18/17	Berkeley Advanced Biomaterials, Inc.	GNI USA, Inc.
04/13/17	Carestream Dental LLC	Clayton, Dubilier & Rice
04/10/17	Jefferson Dental Clinics P.C.	Brentwood Associates
04/04/17	WPC Healthcare, Inc.	Intermedix Corporation
04/03/17	Vtesse, Inc.	Sucampo Pharmaceuticals, Inc.
03/31/17	East Tennessee Personal Care Service, LLC	Amedisys, Inc. (NasdaqGS:AMED)
03/31/17	Strenuus, LLC	Zelis Healthcare Corp
03/17/17	PCT LLC	Hitachi Chemical Co., Ltd.
03/15/17	HealthHelp LLC	WNS (Holdings) Ltd.
03/13/17	Eliza Corp.	HMS Holdings Corp.
03/07/17	Daylight Solutions, Inc.	DRS Technologies, Inc.
03/07/17	Imaging Advantage LLC	Envision Healthcare Corp.
03/03/17	Essen BioScience, Inc.	Sartorius AG
02/28/17	WhiteSpace Health, Inc.	OMH HealthEdge Holdings, Inc. (TA Associates)
02/22/17	Community Education Centers, Inc.	The GEO Group, Inc.
02/20/17	Vention Medical, Inc. (Advanced Technologies Business)	Nordson Corp.
02/14/17	Medical Reimbursements of America, Inc.	Riverside Partners LLC
02/13/17	A+ Dental Corp.	Smile Brands Group Inc.
02/09/17	Pharmacy Concepts, Ltd	Guardian Pharmacy, LLC
02/03/17	Albany Addiction Associates, Inc.	Behavioral Health Group, Inc.
02/01/17	CMC Biologics A/S	Asahi Glass Co., Ltd. (TSE:5201)
02/01/17	Laboratoires Anios S.A.	Ecolab, Inc. (NYSE:ECL)
02/01/17	The Medical Affairs Co. LLC	PARAXEL International Corporation (NasdaqGS:PRXL)
01/26/17	Delinia, Inc.	Celgene Corporation (NasdaqGS:CELG)
01/19/17	Azaya Therapeutics, Inc.	Cytori Therapeutics, Inc.
01/18/17	CoLucid Pharmaceuticals, Inc.	Eli Lilly & Co.
01/17/17	Pediatric Services of America, Inc.	Bain Capital Private Equity, LP
01/12/17	Accriva Diagnostics Holdings, Inc.	Instrumentation Laboratory Company
01/10/17	Derma Sciences, Inc.	Integra LifeSciences Holdings Corp.
01/10/17	Mortara Instrument, Inc.	Hill-Rom Holdings, Inc.
01/08/17	Dermatology & Laser Center of Fort Worth	Dermatology Associates of DFW (ABRY Partners, LLC)
01/04/17	Sunshine Radiology LLC	Envision Healthcare Corp.
01/04/17	Care Advantage, Inc.	BelHealth Investment Partners, LLC

BDO CAPITAL DEAL CLOSING

BDO CAPITAL Announces the Sale of CYGNUS TECHNOLOGIES to MARAVAI LIFESCIENCES



BDO Capital Advisors, LLC (BDO Capital) is pleased to announce the sale of Cygnus Technologies, Inc. (Cygnus or the Company) to Maravai LifeSciences (Maravai), a portfolio company of GTCR. The sale builds upon BDO Capital's extensive healthcare credentials and experience advising entrepreneur-owned businesses. Valentina Midura, Senior Managing Director, and Patrick Bisceglia, Director, led the engagement for BDO Capital with support from Associate Eric Higgins and BDO Transaction Advisory Services professionals Joe Burke, Alison Torres, Art Vutiprichar, Brendan Sullivan and Ryan O'Farrell.

Founded in 1987, Cygnus is a pioneer in the field of bioprocess contaminant and impurity analysis. The Company achieved a first mover advantage at the onset of a global boom in the development of biologics and has entrenched itself in this rapidly expanding marketplace by leveraging proprietary technology to develop unique antibodies and assays with best-in-class performance characteristics that are relied upon by leading biotech and pharmaceutical companies. "The Company's impeccable reputation and financial profile enabled us to garner significant interest from potential buyers and ultimately resulted in an excellent outcome for the Company and its employees," says Midura.

Maravai LifeSciences was formed in March 2014 as a partnership between Carl Hull and Eric Tardif, proven life sciences industry veterans, and GTCR, a leading private equity firm focused on investing in growth companies in the Financial Services & Technology, Healthcare, Technology, Media & Telecommunications and Growth Business Services industries. The Chicago-based firm pioneered The Leaders StrategyTM—finding and partnering with management leaders in core domains to identify, acquire and build market-leading companies through transformational acquisitions and organic growth. Since 1980, GTCR has invested more than \$12 billion in over 200 companies.

Maravai's mission is to build a transformative company in the in vitro diagnostics and life sciences tools markets by acquiring outstanding businesses in these spaces and accelerating their growth. "We are thrilled to partner with GTCR and Maravai, which share our vision for the future of Cygnus and offer substantial resources that will enable us to offer further innovation and value to our customers," commented Ken Hoffman, founder and CEO of Cygnus. "We are very enthusiastic to partner with Cygnus to support its continued growth and leadership position in the industry," added Maravai founding partner Carl Hull.

"Cygnus is one of those great entrepreneurial success stories with a visionary founder that grew an initial idea into the dominant player in its industry."

SCYGNUS

acquired by Maravai LifeScience

In partnership with GTCR LLC

GTCR BDO Capital Advisors, LLC sen exclusive financial advisor to Cygnus Technologies, Inc.

Valentina Midura Senior Managing Director

Two International Place Boston, MA 02110 +1 617-422-7593 (Direct) +1 978-873-1314 (Mobile) vmidura@bdocap.com

BDO CAPITAL ADVISORS One of the Most Active Advisory Networks in the World

5th Most Active Middle-Market Advisor

\$36**B** 60 840

DEALS IN 2016 TRANSACTION VALUE







BDO Capital offers a sophisticated array of investment banking services and global capabilities combined with senior level attention, responsiveness and quality service to best serve the middle market.

BDO's global M&A and Transaction Services teams completed 840 deals in 2016, generating a combined value of USD \$35.6B. This represents a growth in value of 15 percent when compared to the results in 2015. BDO also performed strongly in the 2016 financial advisor league tables:

- Top 3 mid-market M&A advisor in the world Global small cap table (deals up to USD \$50M), Thomson **Reuters** rankings
- Top 5 mid-market M&A advisor in the world (Deals up to USD \$500M), Thomson Reuters rankings
- Private Equity 4th most active advisor for PE deals in the world and in Europe PitchBook 2016 Global League Tables
- Buyout deals 5th most active advisor globally for buyout deals PitchBook 2016 Global League Tables

MERGERS & ACQUISITIONS

- Private Company Sales
- Public Company Sales
- Corporate Divestitures
- Leveraged Recapitalizations / Private Equity
- Buy-Side Advisory

PRIVATE PLACEMENTS

- Equity
- Subordinated Debt / Mezzanine
- Senior Debt
- Private Investments in Public Equity

BOARD ADVISORY

- Fairness Opinions
- Valuation Advisory
- Share Repurchase Programs
- Dividend Recapitalizations

ABOUT BDO CAPITAL ADVISORS, LLC

BDO Capital Advisors, LLC, a wholly-owned affiliate of BDO USA, is a leading middle market investment bank that focuses on sell-side advisory, acquisition advisory, capital raising and board advisory services with offices located throughout the United States. The firm has deep industry knowledge, extensive cross-border transaction experience and superior execution capabilities. The firm has broad industry expertise and contacts having closed transactions within the Manufacturing & Distribution, Consumer, Food & Retail, Healthcare & Life Sciences, Business Services, Energy & Natural Resources and Technology, Media & Telecom sectors. Our seasoned investment bankers have collectively advised on hundreds of transactions for a variety of clients including family-owned businesses, entrepreneur-led companies, public corporations and leading private equity firms. Our professionals also draw upon the full depth and breadth of BDO USA's national resources which include 60+ offices and over 5,000 professionals located throughout the United States.

The firm has worldwide access to buyers, sellers and offshore investors via the Corporate Finance practices of BDO International's network of independent member firms which have been ranked collectively as a Top 5 global M&A mid-market advisor based on total deal volume announced in 2016, according to Thomson Reuters SDC. BDO International Corporate Finance firms operate in approximately 100 countries with over 2,000 professionals who are able to meet the investment banking needs of clients across the globe.

BDO Capital Advisors, LLC is a separate legal entity and is an affiliated company of BDO USA, LLP, a Delaware limited liability partnership and national professional services firm. BDO Capital Advisors, LLC is a FINRA/SIPC member firm. For more information please visit: <u>www.bdocap.com</u>.

ABOUT BDO

BDO is the brand name for BDO USA, LLP, a U.S. professional services firm providing assurance, tax, advisory and consulting services to a wide range of publicly traded and privately held companies. For more than 100 years, BDO has provided quality service through the active involvement of experienced and committed professionals. The firm serves clients through more than 60 offices and over 550 independent alliance firm locations nationwide. As an independent Member Firm of BDO International Limited, BDO serves multi-national clients through a global network of 67,700 people working out of 1,400 offices across 158 countries.

BDO USA, LLP, a Delaware limited liability partnership, is the U.S. member of BDO International Limited, a UK company limited by guarantee, and forms part of the international BDO network of independent member firms. BDO is the brand name for the BDO network and for each of the BDO Member Firms. For more information, please visit: www.bdo.com.

This publication has been carefully prepared, but should be seen as general guidance only. You should not act upon the information contained in this publication without obtaining specific professional advice. Please contact BDO Capital Advisors, LLC to discuss these matters in the context of your particular circumstances. BDO accepts no responsibility for any loss incurred as a result of acting on information in this publication.

© 2017 BDO Capital Advisors, LLC. All rights reserved. www.bdocap.com