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Brocair Partners, founded in 2004, is a financial advisor to businesses serving the healthcare, wellness, and pharmaceutical industries. We provide mergers & acquisitions, corporate finance, and strategic advisory services to companies worldwide.

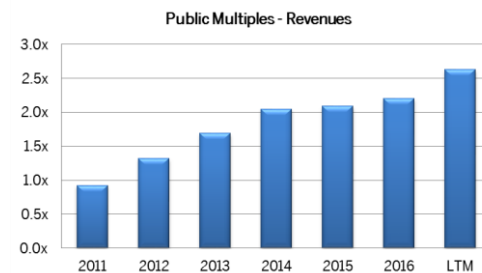
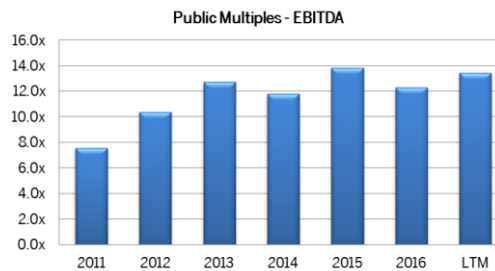
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# CRO Market Analysis

Middle-market CROs continue to consolidate in order to expand their menu of service offerings

## Industry Multiples and Index

Over the past two years, valuations have remained consistently strong in the CRO industry. Since mid-2012 our CRO Index has risen 240% compared to an 85% increase in the S&P 500. Public company multiples have been tracking at 2.6x revenue and 13.5x EBITDA while recent transactions have been tracking at 3.5x and 12.5x, respectively.



Source: Capital IQ

### Recent Trends

The CRO industry is expected to grow to \$45.2 billion by 2020 at a compound annual growth rate of 6%.<sup>1</sup> This growth is being driven both by an increase in venture capital investment in small biotech drug discovery firms and greater focus on research and development by larger pharmaceutical companies.

The largest volume of M&A activity in the CRO space has occurred in the middle market as smaller firms look for opportunities to expand their service offerings both locally and internationally. Consolidation has also been a way for

firms to address high customer concentration. Through acquisitions, companies are able to obtain new customers and offer a new breadth of services.

The CRO market has recently become a major target for private equity, such as the acquisition of eResearchTechnology by Nordic Capital in March 2016 for nearly \$1.8 billion, and the purchase of BioClinica by Cinven for \$1.4 billion in October 2016. Advent International and Thomas H. Lee bought inVentiv Health for \$3.8 billion in November 2016, but just six months later, in May 2017, INC Research and inVentiv announced a merger to form the second largest biopharmaceutical outsourcing provider with an enterprise value of \$7.4 billion. Advent and Thomas H. Lee remain shareholders.

Although smaller firms have dominated M&A activity, larger strategic players have also made significant acquisitions to gain market share and expand their clinical technology applications. The \$13.6 billion acquisition of IMS Health Holdings by Quintiles in October 2016, a provider of biopharmaceutical development and outsourcing, created the largest global CRO and will enhance Quintiles' offerings through IMS Health's global information solutions for clients.

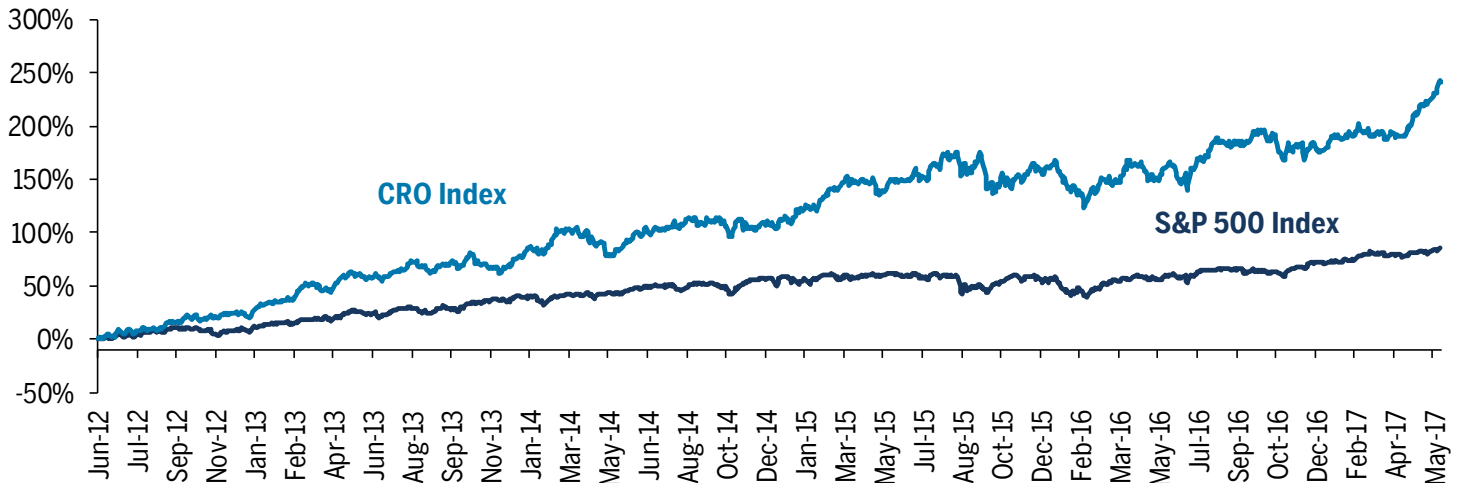
Over the past two years, Charles River Laboratories has completed four acquisitions to strengthen its service offerings and expand its geographical presence both in the United States and internationally. Its acquisition of Blue Stream Laboratories in June 2016 expanded its offerings in the contract analytical, formulations, and development-support laboratory services segments. In September 2016, the acquisition of Agilux Laboratories, Inc. added a suite of integrated discovery small- and large-molecule bioanalytical services, DMPK (drug metabolism and pharmacokinetics) and pharmacology services.

Pharmaceutical Product Development has also been active over the last two years with four acquisitions. Most notably, the \$257 million of Synexus Clinical Research in June 2016 helped PPD expand its presence in the U.K.

<sup>1</sup> Outsourcing-pharma

## CRO Index

Below is an index of CRO companies compared to the S&P 500 over the past five years.



\*CRO index includes: Bioanalytical Systems Inc.; Charles River Laboratories International, Inc.; CMIC HOLDINGS Co., Ltd.; Ergomed Plc; EPS Holdings, Inc.; Eurofins Scientific SE; ICON Public Limited Company; I'rom Group Co., Ltd.; PAREXEL International Corporation; and Quintiles Transnational Holdings Inc.  
Source: Capital IQ

## Comparable Company Analysis

Below is a snapshot of selected companies in the CRO market.

Company	Price	52-Week		EV*	Net Debt	Market Cap	EV/Sales			EV/EBITDA		
		High	Low				2015	2016	LTM	2015	2016	LTM
Bioanalytical Systems, Inc.	\$ 1.70	\$ 2.42	\$ 0.60	\$ 19.1	\$ 4.7	\$ 14.1	0.8x	0.8x	0.9x	7.9x	NM	22.3x
Charles River Laboratories International, Inc.	\$ 93.39	\$ 94.07	\$ 67.20	\$ 5,474.5	\$ 1,062.0	\$ 4,459.5	3.4x	3.0x	3.1x	14.5x	13.0x	13.5x
CMIC HOLDINGS Co., Ltd.	\$ 12.68	\$ 15.42	\$ 11.87	\$ 367.3	\$ 125.6	\$ 237.1	0.8x	0.7x	0.6x	17.9x	5.7x	6.4x
EPS Holdings, Inc.	\$ 15.09	\$ 16.09	\$ 11.03	\$ 573.1	\$ (152.8)	\$ 695.6	0.8x	1.0x	1.1x	6.5x	7.0x	7.1x
Ergomed Plc	\$ 2.60	\$ 2.80	\$ 1.51	\$ 102.4	\$ (5.5)	\$ 106.0	1.6x	1.6x	2.0x	18.0x	16.6x	18.4x
Eurofins Scientific SE	\$ 552.87	\$ 558.67	\$ 317.30	\$ 9,565.9	\$ 590.6	\$ 9,381.3	3.5x	3.4x	3.6x	20.1x	18.2x	17.6x
ICON Public Limited Company	\$ 96.17	\$ 96.92	\$ 63.94	\$ 4,867.8	\$ 29.6	\$ 5,184.0	2.9x	2.6x	3.1x	13.8x	11.6x	11.9x
I'rom Group Co., Ltd.	\$ 13.79	\$ 17.57	\$ 8.25	\$ 168.6	\$ 12.7	\$ 158.5	4.9x	3.0x	3.9x	NM	NM	NM
PAREXEL International Corporation	\$ 82.21	\$ 82.59	\$ 51.16	\$ 4,452.7	\$ 415.6	\$ 4,168.6	1.8x	1.8x	2.2x	12.3x	10.8x	10.7x
Quintiles IMS Holdings, Inc.	\$ 86.95	\$ 88.43	\$ 61.21	\$ 26,263.5	\$ 7,452.0	\$ 19,150.7	2.4x	4.4x	4.4x	12.9x	23.8x	19.6x

All currency figures in USD. Price figures in actual dollars; EV, Net Debt, and Market Cap in millions  
Market Cap and Enterprise Value as of 06/06/2017  
Source: Capital IQ

	EV/Sales			EV/EBITDA		
	2015	2016	LTM	2015	2016	LTM
<b>High</b>	4.9x	4.4x	4.4x	20.1x	23.8x	22.3x
<b>Mean</b>	2.3x	2.2x	2.5x	13.8x	13.3x	14.2x
<b>Median</b>	2.1x	2.2x	2.6x	13.8x	12.3x	13.5x
<b>Low</b>	0.8x	0.7x	0.6x	6.5x	5.7x	6.4x

# Comparable Transaction Analysis

Below is a selection of recent transactions in the CRO industry.

Close Date	Target	Acquirer	Transaction Description	Transaction Value	Enterprise Value	EV*/Revenue	EV*/EBITDA
5/31/2017	Integrated Development Associates Co., Ltd. (IDA)	Chiltern International Limited	Chiltern, a global CRO based in the U.K., acquired Japan-based IDA which expands Chiltern's capabilities in Japan and Asia. In addition, the acquisition opens opportunities for Japanese companies to enter a wider market by relying on Chiltern's global expertise and connections.	NA	NA	NA	NA
5/10/2017 (Announced)	inVentiv Health Inc.	INC Research Holdings, Inc. (NasdaqGS:INCR)	The 53/47 merger of INC Research and inVentiv will create a new organization whose combined clinical scale, therapeutic depth and expertise will allow it to more effectively partner with biopharmaceutical companies of all sizes.	4,600.0	4,600.0	2.1x	12.6x
5/9/2017	ImageIQ	eResearchTechnology, Inc. (ERT)	The acquisition of Ohio-based ImageIQ enables Pennsylvania-based ERT to offer advanced, end-to-end clinical trial imaging analysis using technology that delivers compliance data for use in clinical development.	NA	NA	NA	NA
5/9/2017 (Announced)	CSPC Dophen Corporation	CSPC Zhongqi Pharmaceutical Technology (Shijiazhuang) Co., Ltd	CSPC Zhongqi Pharmaceutical Technology, based in China, is acquiring New Jersey-based CSPC Dophen Corporation which focuses on protein production, conjugation, and formulation technology, to develop low cost and long acting protein and antibody therapeutics for the Chinese and world markets.	9.7	9.7	NA	NA
5/2/2017	Vector Oncology, Pharma Services Division	George Clinical Pty Ltd	George Clinical, a CRO based in Australia, acquired the Pharma Services Division of Vector Oncology to strengthen its ability to provide oncology trial delivery solutions throughout Asia-Pacific and to expand its operations in vascular, renal and respiratory diseases, neurology and endocrinology, throughout the U.S.	NA	NA	NA	NA
5/2/2017	ThreeWire, Inc.	WIRB - Copernicus Group, Inc.	New Jersey-based CRO, WIRB, has acquired ThreeWire, based in Minnesota, to expand its capabilities to identify and connect patient candidates to clinical sites and accelerate patient recruitment and enrollment.	NA	NA	NA	NA
5/1/2017 (Announced)	DILisym Services, Inc.	Simulations Plus, Inc. (NasdaqCM:SLP)	California-based Simulations Plus, which provides simulation and modeling software for pharmaceutical discovery and development, acquired North Carolina-based DILisym Services, which to strengthen its simulation software and consulting businesses.	10.0	10.0	N/A	N/A
4/11/2017	SI Pharma Labs, Inc.	Exova Group plc (LSE:EXO)	U.K.-based Exova Group has acquired Delaware-based SI Pharma Labs to enhance its technical expertise and service offerings and to complement its existing testing facilities in North America.	NA	NA	NA	NA
4/3/2017	Axolabs GmbH	LGC Limited	LGC, a U.K.-based life science tools and services company, acquired Axolabs, a leading German CRO, to complement its capabilities in GMP oligo manufacturing with Axolab's in-depth knowledge in the TNA drug development field.	NA	NA	NA	NA
3/28/2017	Bracket Global LLC	Genstar Capital, LLC	Genstar Capital, a private equity firm based in San Francisco, has acquired Pennsylvania-based CRO, Bracket Global, from Parthenon Capital Partners to fortify their market presence in healthcare technology and services.	NA	NA	NA	NA
3/21/2017	Oy Medfiles Ltd.	WDB Holdings Co.	WDB Holdings, a Japanese human resource company, acquired Oy Medfiles, a Finnish CRO, in an effort to expand WDB's operations in Europe.	NA	NA	NA	NA
3/1/2017	PharmOptima, LLC	Genesis Biotechnology Group, LLC	New Jersey-based Genesis Biotechnology Group (GBG), a consortium of an integrated group of biotechnology and research companies, has expanded its drug development services by the acquisition of Michigan-based PharmOptima.	NA	NA	NA	NA
3/1/2017	PM Clinical Limited, Clinical Division	CROS NT SRL	Italian CROS NT acquired the clinical division of PM Clinical Limited, based in the U.K., adding niche data provider expertise to its CRO business.	NA	NA	NA	NA
2/28/2017	Shin Nippon Biomedical Laboratories Clinical Pharmacology Center, Inc. (SNBL)	Pharmon, Inc.	China-based Pharmon will be able to offer a full spectrum of R&D services through its addition of SNBL's 96-bed Maryland phase 1 and phase 2 clinical pharmacology research facility.	NA	NA	NA	NA
2/15/2017	Takeda Pharmaceutical Data Service, Ltd.	PRA Health Sciences, Inc. (NasdaqGS:PRAH)	Takeda and PRA established a 50/50 joint venture to provide clinical trial delivery and pharmacovigilance services as a strategic partner of Takeda in Japan. Takeda also transferred all shares of its subsidiary, Takeda Pharmaceutical Data Service, to PRA.	NA	NA	NA	NA
2/10/2017	QS Pharma, LLC	Quotient Clinical Ltd.	U.K.-based Quotient Clinical has expanded its U.S. footprint with the acquisition of Pennsylvania-based QS Pharma from Charles River Laboratories. The acquisition helps Quotient expand into small molecule pharmaceutical manufacturing.	75.0	75.0	NA	NA
2/6/2017	Seaview Research, Inc.	Quotient Clinical Ltd.	U.K.-based Quotient Clinical acquired Florida-based SeaView's to combine their complementary customer portfolios, strengthening their early phase clinical experience and enabling the company to deliver a broader set of services.	NA	NA	NA	NA
1/27/2017	J-STAR Research, Inc.	Porton USA, L.L.C.	Porton USA acquired J-STAR Research, both in New Jersey, to expand the reach of its CDMO. J-STAR offers the services to support early-phase clinical development of small molecule APIs, including custom synthesis, process research, crystallization research and development, and analytical services.	26.0	26.0	NA	NA
1/19/2017	HD Biosciences Co., Ltd.	WuXi PharmaTech (Cayman) Inc.	China's largest CRO/CMO, WuXi AppTec, acquired Shanghai's HD Biosciences to strengthen its biologics R&D capability from target validation to lead discovery and optimization.	NA	NA	NA	NA
1/18/2017	Disposable-Lab SAS	Amatsigroup	Amatsigroup, based in France, has acquired single-use processing equipment and packaging tech firm Disposable-Lab, also located in France, as part of a plan to increase its revenue to €50m this year and to expand its capabilities in injectable drug production.	NA	NA	NA	NA
1/16/2017	EPID Research Oy	StatFinn Oy	StatFinn and EPID Research, both based in Finland, have decided to merge their operations in order to offer a full range of services to their clients in clinical data analytics and Real-World Evidence from Phase I to Phase IV.	NA	NA	NA	NA
1/10/2017	AMS Sciences Limited	Pharmon, Inc.	Pharmon, a California-based CRO, acquired Maryland-based AMS Sciences. The addition of other established analytical technologies at Pharmon supports early discovery, preclinical and clinical development, to deliver fully integrated, end-to-end R&D services.	NA	NA	NA	NA
12/29/2016	Villapharma Research S.L.	Eurofins Scientific SE (ENXTPA:ERF)	Eurofins, a company based in Luxembourg, acquired Villapharma, from Spain, to complement its existing competencies as a provider of pharmaceutical discovery services, expanding their offerings from safety pharmacology, ADME and target pathways, to organic synthesis and medicinal chemistry services.	NA	NA	NA	NA

## Comparable Transaction Analysis, continued

Close Date	Target	Acquirer	Transaction Description	Transaction Value	Enterprise Value	EV*/Revenue	EV*/EBITDA
12/19/2016	Jiangsu Safe Pharmaceutical Co., Ltd.	WuXi PharmaTech (Cayman) Inc.	WuXi PharmaTech, the China-based pharmaceutical, biotechnology, and medical device research and development services provider acquired Jiangsu Safe Pharmaceutical Co., Ltd, the China-based pharmaceutical company engaged in manufacturing capsules, tablets, creams and suppositories, for €8m.	8.4	NA	NA	NA
12/15/2016	DSU Pty Ltd.	I'rom Group Co., Ltd. (TSE:2372)	I'rom Group, a CRO based in Japan, agreed to acquire a 61% stake in DSU from IDT Australia to expand its global capabilities in clinical research into the Australia market.	7.7	12.5	NA	NA
12/14/2016	Cyprotex plc (AIM:CRX)	Evotec AG (XTRA:EVT)	Evotec, from Germany, acquired U.K.-based Cyprotex to add its ADME-Tox platform and expertise in in-vitro ADME screening, mechanistic and high-content toxicology screening and predictive modelling to deepen Evotec's comprehensive drug discovery platform.	63.2	54.9	2.6x	10.2x
12/8/2016	Exco in Touch Ltd.	eResearchTechnology, Inc. (ERT)	Philadelphia-located ERT's acquisition of U.K.-based Exco will expand its science-driven solutions with patient-driven solutions. The combination will allow it to provide a more complete package for its biopharmaceutical customers that includes eCOA, patient engagement and commercialisation solutions.	NA	NA	NA	NA
12/5/2016	Theorem Clinical Research GmbH (TCS)	Clinical Supplies Management, Inc. (CSM)	With the acquisition of German-based TCS, CSM, a company based in North Dakota, has broadened its geographic coverage with facilities in the United States and Europe to better serve the needs of its global clients.	NA	NA	NA	NA
11/29/2016	European PharmInvent Services s.r.o.	Ergomed Plc (AIM:ERGO)	This acquisition of Czech-based PharmInvent by U.K.-based Ergomed will expand and complement Ergomed's existing pharmacovigilance division, PrimeVigilance.	8.5	8.5	2.7x	11.5x
11/21/2016	TKL Research, Inc., Clinical Trials Division	Quintiles Transnational Holdings Inc. (NYSE:Q)	Quintiles IMS acquired the Clinical Trials Division of New Jersey's TKL Research. The acquisition will bring complement the capabilities of Novella Clinical, the specialty dermatology CRO division of Quintiles IMS, by bringing in highly specialized dermatology expertise.	NA	NA	NA	NA
11/18/2016	Pharmaprogess Srl	Kymos Pharma Services, S. L.	KYMOS, a CRO located in Spain, acquired the Italian CRO Pharmaprogess to expand its foreign market presence in Italy, further helping to consolidate KYMOS' place in the European CRO market.	NA	NA	NA	NA
11/16/2016	PCI Pharma Services	Partners Group Holding AG (SWX:PGHN)	Private equity firm, Partners Group, acquired PCI Pharma, headquartered in Pennsylvania, to add more specialized offerings to PCI's product range and to expand the company both organically and through add-on acquisitions.	NA	NA	NA	NA
11/10/2016	inVentiv Health Inc.	Advent International Corporation	Advent International, a private equity group, made a significant investment in the Massachusetts-based inVentiv Health to take advantage of the potential growth in the clinical research organization and contract commercial organization markets.	4,094.9	5,899.0	2.7x	19.3x
11/8/2016	Crystallics	PharmaVize NV	Pharmavize, the leading Belgian provider of pharmaceutical development services, and Crystallics, the Dutch solid state research expert, merged to become an international, single-source contractor for pharmaceutical needs that arise during pre-clinical and early-phase drug development.	NA	NA	NA	NA
10/20/2016	BioClinica, Inc.	Cinven Limited	The acquisition of Pennsylvania-based CRO BioClinica is part of Cinven Limited's strategy to enter the American CRO market.	1,400.0	1,400.0	NA	NA
10/13/2016	iMEDGlobal Corp	Fountain Medical Development Ltd	Fountain Medical, a provider of clinical research services in China, merged its subsidiary, K&L, with iMED Global, a Pennsylvania-based contract research organization, to expand its global presence.	NA	NA	NA	NA
10/11/2016	SCIderm GmbH	TFS Trial Form Support International AB	The increasing R&D focus in dermatology and the need for well executed global clinical trials has brought Swedish-based TFS and German-based SCIderm together to combine scientific and regulatory expertise, relations with leading dermatology sites and global reach.	NA	NA	NA	NA
10/3/2016	IMS Health Holdings, Inc. (NYSE: IMS)	Quintiles Transnational Holdings Inc. (NYSE:Q)	Quintiles merged with IMS Health to offer its clients improved clinical trial design, recruitment and execution by combining IMS Health's global information solutions with Quintiles' product development skills. They also will improve their healthcare technology platform to address issues of cost, value and patient outcomes.	13,549.4	13,171.4	4.3x	17.7x
9/28/2016	Agilux Laboratories, Inc.	Charles River Laboratories International, Inc. (NYSE:CRL)	Charles River Laboratories acquired Massachusetts-based Agilux which will add a suite of integrated discovery small- and large-molecule bioanalytical services, DMPK (drug metabolism and pharmacokinetics) and pharmacology services to Charles River Laboratories.	64.0	64.0	NA	NA
9/26/2016	Hoddesdon site	Pharmaron, Inc.	California-based Pharmaron is set to acquire Good Manufacturing Practice standard facilities for the development of Active Pharmaceutical Ingredients and formulation development in Europe to complement Pharmaron's existing chemistry and integrated drug discovery and development services globally.	NA	NA	NA	NA
9/19/2016	ClinicalRM, Inc.	ICON Public Limited Company (NasdaqGS:ICLR)	ICON acquired Ohio-based ClinicalRM which extends ICON's presence in the market for government sponsored research and enhances capabilities in Vaccines and Infectious Disease.	NA	NA	NA	NA
9/6/2016	Lincoln Research, LLC	BTC Network, LLC	Boston-based BTC Network acquired Lincoln Research, a multi-specialty research practice located in Rhode Island, to expand its site operations. The acquisition will enable BTC Network to provide its clients with a full range of Phase I-III clinical research services for both inpatient and outpatient settings.	NA	NA	NA	NA
9/20/2016	Alliance Biomedical Research, LLC	Great Point Partners, LLC	Great Point Partners, LLC, a Connecticut-based private equity firm, acquired majority stake in Alliance Biomedical Research, LLC, to invest in a leader in the market of clinical trial site management with strength in patient recruitment and enrollment, a key differentiator in the marketplace.	NA	NA	NA	NA
9/1/2016	EVIDERA	Pharmaceutical Product Development, LLC	Through the acquisition of EVIDERA, a North Carolina-based CRO, PPD further strengthens its peri- and post-approval capabilities. PPD is a U.S.-based CRO providing pharmaceutical development and laboratory management.	NA	NA	NA	NA
8/16/2016	Key Intellectual Property and Human Resource Assets, Bioanalytical Laboratory Services	BioPharma Services Inc.	Through the acquisition of key intellectual property and human resources assets with a list of validated assays from Bioanalytical Laboratory Services, an early stage CRO, BioPharma Services, a Canadian-based CRO, expands and fortifies its analytical services.	NA	NA	NA	NA
8/16/2016	Clinical Research Solutions, LLC	Brixey & Meyer Capital	Brixey & Meyer, a Southwest Ohio-based private equity group, acquired Clinical Research Solutions, a CRO that performs phase I to IV clinical trials for large and small pharmaceutical companies across the world, to take advantage of growing investment opportunities in the CRO space.	NA	NA	NA	NA

## Comparable Transaction Analysis, continued

Close Date	Target	Acquirer	Transaction Description	Transaction Value	Enterprise Value	EV*/Revenue	EV*/EBITDA
8/3/2016	InClinica, Inc. (f/k/a Indipharm)	Velocity Fund Management	Inclinica, a Philadelphia-based CRO that assists small to mid-sized companies entering first-in-man and phase 2 clinical studies, was acquired by Velocity Fund Partners, a Pittsburgh private equity group, to leverage Velocity's expertise in the CRO space.	NA	NA	NA	NA
8/1/2016	Acorn Applications LLC	Clintrax Global, Inc.	Through the acquisition of Acorn Applications, a North Carolina-based developer of cloud-based analytic clinical research solutions, Clintrax Global can expand its existing analytic capabilities.	NA	NA	NA	NA
8/1/2016	Novex Clinical Research	BTC Network, LLC	BTC Network, a fully integrated network of clinical research sites in the U.S., acquired Novex Clinical Research, a Massachusetts-based multi-specialty research practice, to strengthen BTC Network's expertise to therapeutic areas, such as psychiatry, neurology, pain, and internal medicine.	NA	NA	NA	NA
8/1/2016	Stellar Technologies, Inc.	Cirtec Medical Systems, LLC	Stellar Technologies, a leading provider of precision machining, component manufacturing, and assembly services for medical devices based in Minnesota, has been acquired by Cirtec Medical Systems, a California-based provider of outsourced medical device design, engineering and manufacturing services.	NA	NA	NA	NA
7/27/2016	ClinicalRM, Inc.	ICON Public Limited Company (NasdaqGS: ICLR)	ICON acquired Ohio-based ClinicalRM to strengthen its service offerings in Phase I to Phase IV clinical research, and product development.	NA	NA	NA	NA
7/25/2016	Compass Research, LLC	BioClinica, Inc.	BioClinica, a Pennsylvania-based provider of specialized technology-enabled services supporting clinical trials, acquired Florida-based Compass Research to expand its global research network by adding investigational sites and expertise in the patient care space.	NA	NA	NA	NA
7/19/2016	BioDuro, LLC	The Bridgewater Group	The Bridgewater Group, a private equity firm based in California, acquired BioDuro, a Southern California-based research organization that provides drug discovery services, from Pharmaceutical Product Development.	NA	NA	NA	NA
7/14/2016	Accel Biotech, Inc.	Ximedica, LLC	Ximedica, a Rhode Island-based provider of product development services, acquired California-based Accel Biotech to enhance its current domestic biotech and medical device solutions portfolio in the diagnostics, disposables, medical products, and life sciences markets.	NA	NA	NA	NA
7/11/2016	Adesis, Inc.	Universal Display Corp. (NasdaqGS: OLED)	The acquisition of Delaware-based Adesis by Universal Display, a New Jersey-based developer and researcher of organic light emitting diode (OLED), strengthens Universal's organic synthesis research capabilities.	36.0	36.0	NA	NA
6/27/2016	Blue Stream Laboratories, Inc.	Charles River Laboratories (NYSE: CRL)	Charles River Laboratories acquired Massachusetts-based Blue Stream Laboratories to expand its capabilities in the contract analytical, formulations, and development-support laboratory services segments.	NA	NA	NA	NA
6/16/2016	THERAMetrics S.p.A	Accelovance, Inc.	Accelovance, a U.S.-based CRO focused on vaccines, oncology, and general medicine, acquired THERAMetrics's three CRO subsidiaries to boost its presence in Germany, Italy, and Romania, and integrate its service providers.	NA	NA	NA	NA
6/8/2016	Quinta-Analytica spol. s.r.o.	Genesis Capital Ltd.	Genesis Capital, a Czech Republic- and Slovakia-focused private equity firm, acquired 75% of Quinta-Analytica, a Czech research, development, and regulatory services provider for the pharmaceutical and biotechnology industries.	NA	NA	NA	NA
6/5/2016	Bonne Santé Sp. z o.o.	JSS Medical Research Inc.	JSS Medical Research, a global CRO based in Canada, acquired Bonne Santé, a clinical research services provider for Phase II-IV studies in Poland, to extend its global reach and service portfolio.	NA	NA	NA	NA
6/4/2016	Synexus Limited	Pharmaceutical Product Development LLC	PPD acquired Synexus Clinical Research Topco to expand its presence in the U.K. and bolster its feasibility, consultancy, project management, and medical imaging services.	257.8	257.8	3.7x	16.2x
5/31/2016	Medelis, Inc.	WCCT Global, LLC	Medelis, an oncology CRO based in Nevada, was acquired by California-based WCCT Global to expand its CRO capabilities in the oncological market and enhance its domestic operations.	NA	NA	NA	NA
5/25/2016	SynteractHCR	Amulet Capital Partners LP	Amulet Capital Partners, a Connecticut-based private equity firm, acquired SynteractHCR, a California-based CRO specializing in project and data management, clinical operations, and other web-based solutions.	NA	NA	NA	NA
5/23/2016	Cirrus Pharmaceuticals, Inc.	Recipharm AB (publ) (OM:RECI B)	Recipharm, a Swedish pharmaceutical contract manufacturer, acquired Cirrus Pharmaceuticals, a North Carolina-based CRO with a wide product and service portfolio including inhalation and nasal products, novel delivery systems, analytical services, and manufacturing support, to complement its current offering.	NA	NA	NA	NA
5/20/2016	Xendo B.V	Sovereign Capital Partners LLP & Xendo Management	Xendo, a Dutch provider of consultancy and project management services in pharmaceuticals and life sciences, was acquired in a management buyout backed by U.K. private equity fund Sovereign Capital Partners.	NA	NA	NA	NA
5/3/2016	Applied Immunology, Inc.	Precision Medicine Group, Inc.	Applied Immunology, a U.S. developer of cell-based and immunoassay solutions, was acquired by Maryland-based Precision Medical Group, to add to its infrastructure of pharmaceutical and life sciences companies.	NA	NA	NA	NA
5/3/2016	ACT Oncology LLC	Precision Medicine Group, Inc.	Maryland-based Precision Medicine Group, a specialist in vitro diagnostic and medical device studies, acquired ACT Oncology, a New Jersey-based drug development support service company, to enhance its service offering to current and potential clients.	NA	NA	NA	NA
5/2/2016	Spero Oncology Ltd.	Veristat, Inc.	Veristat, a U.S. provider of CRO services for pharmaceutical, biotechnology, and medical device companies, acquired Spero Oncology, a U.K.-based CRO focused on clinical operations support for oncology clinical trials, to strengthen its oncological support offering.	NA	NA	NA	NA
4/15/2016	Crelux GmbH	WuXi PharmaTech (Cayman) Inc.	WuXi PharmaTech, a Chinese biotechnology, pharmaceutical, and medical device research company, acquired Crelux, a German research firm focused on protein research, to geographically diversify and strengthen its specialized research capabilities.	NA	NA	NA	NA
4/11/2016	Nitin Lifesciences Limited	Recipharm AB (publ) (OM:RECI B)	Nitin Lifesciences Limited, an Indian pharmaceutical contract manufacturer, was acquired by Recipharm, a Swedish CRO and CDMO, in an effort to expand Recipharm's geographic reach into Southeast Asia.	103.2	139.5	2.9x	12.4x

## Comparable Transaction Analysis, continued

Close Date	Target	Acquirer	Transaction Description	Transaction Value	Enterprise Value	EV*/Revenue	EV*/EBITDA
4/4/2016	WIL Research Company, Inc.	Charles River Laboratories (NYSE: CRL)	Charles River Laboratories acquired US-based WIL Research, a specialty toxicology and pathology research company to enhance its position as a leading global early-stage contract research organization (CRO) and strengthen its ability to partner with global clients across the drug discovery and development continuum.	585.0	585.0	NA	NA
4/1/2016	Advantar Laboratories, Inc.	Eurofins Scientific SE (ENXTPA:ERF)	Luxembourg-based Eurofins Scientific SE, an analytical testing services provider, acquired Advantar Laboratories, a contract product development company, to expand its U.S. presence and enhance its current capabilities.	NA	NA	NA	NA
3/29/2016	PVR Technologies, Inc.	Alten SA (ENXTPA: ATE)	PVR Technologies, a U.S.-based CRO services company, was acquired by Alten, a French global engineering and technology consultant, to strengthen its expertise in statistics, business intelligence, analysis and reporting.	NA	NA	NA	NA
3/25/2016	Taizhou Jyton & Techray Pharmaceutical Technology Co.	Hangzhou Tigermed Consulting Co., Ltd. (SZSE:300347)	Hangzhou Tigermed, a CRO based in China, acquired Jyton & Techray, a CRO focused on medical devices, to expand its clinical study capabilities in China.	92.1	92.1	8.9x	NA
3/22/2016	Blue Sky Biotech, Inc.	LakePharma, Inc.	California-based CRO, LakePharma, a provider of protein and antibody engineering, acquired Massachusetts-based Blue Sky Biotech, a molecular biology, scale-up bioprocess, and protein expression provider to pharmaceutical companies, to expand its current service portfolio.	NA	NA	NA	NA
3/18/2016	Nextrials, Inc.	PRA Health Sciences, Inc. (NasdaqGS:PRAH)	PRA Health Sciences, a North Carolina-based CRO focused on outsourced clinical development services to pharmaceutical and biotechnology companies, acquired Nextrials, a California-based provider of internet software solutions for the clinical research industry, to expand its service portfolio.	7.7	7.7	NA	NA
3/9/2016	Clintrax Global, Inc.	WIRB - Copernicus Group, Inc.	Clintrax Global, a clinical trial contract investigator based in North Carolina, was acquired by New Jersey-based WIRB-Copernicus Group, a regulatory review service for human research, to expand its domestic service offering.	NA	NA	NA	NA
3/8/2016	eResearchTechnology, Inc. (ERT)	Nordic Capital	Nordic Capital acquired Pennsylvania-based eResearchTechnology because its deep insights into the clinical development process, attractive technical platform and its outstanding competitive position position it for growth in both existing and adjacent market segments.	1,800.0	1,800.0	6.0x	NA
3/1/2016	PreClinOmics, Inc.	Crown Bioscience, Inc. (GTSM:6554)	PreClinOmics, an Indianapolis-based CRO specializing in vivo drug discovery, was acquired by California-based Crown Bioscience, to enhance its current drug discovery and development services.	6.5	6.5	NA	NA
3/1/2016	Research Across America Inc.	Pharmaceutical Product Development, LLC	PPD, a CRO providing pharmaceutical development and laboratory management, acquired Research Across America, a clinical research trial service company, to expand its U.S. service offering.	NA	NA	NA	NA
2/25/2016	Molecular Neuroimaging LLC	inviCRO, LLC	Molecular Neuroimaging, a Connecticut-based clinical research organization focused on brain imaging research, was acquired by inviCRO, a Massachusetts-based provider of software and services for medical imaging analysis, to expand its capabilities within the neuro imaging market.	NA	NA	NA	NA
2/22/2016	IPM Biotech GmbH	BioAgilytix Labs, LLC	BioAgilytix Labs, a U.S.-based bioanalytical CRO, acquired German-based IPM Biotech to build its presence in the German pharmaceutical CRO market.	NA	NA	NA	NA
2/10/2016	Triacys SAS	Telemedicine Technologies S.A.S.	Telemedicine Technologies, a French software engineering company, acquired Triacys, also based in France, for their technology that supports clinical trials by allowing patients to participate from home in various aspects of the trial.	NA	NA	NA	NA
2/4/2016	Quotient Bioresearch Limited	Pharmaron, Inc.	Quotient Bioresearch, a British provider of specialist and early stage pharmaceutical services, was acquired by Pharmaron, a U.S.-based manufacturing and laboratory services company, to expand its operations in the European market.	NA	NA	NA	NA
2/1/2016	syneed medidata GmbH	Take Solutions Ltd. (BSE: 532890)	Take Solutions, an Indian provider of consultancy and IT services internationally, acquired syneed medidata, a German CRO, to enhance its service offerings for phase II and phase IV clinical trials and observational studies.	NA	NA	NA	NA
1/26/2016	undisclosed contract research organization	Thompson Street Capital Partners / Clinical Research Data Group	Thompson Street Capital Partners (TSCP), a private equity firm based in St. Louis, announced today that it has acquired an undisclosed contract research organization (CRO). This is the first acquisition of TSCP's newly-formed Clinical Research Data Group (CRDG).	NA	NA	NA	NA
1/25/2016	Q-Biologics NV	Amatsigroup	Q-Biologics, a Belgian manufacturer of biological substances, was acquired by Amatsigroup, a French CRO focused on human and veterinary pharmaceutical development services, to improve its biologics development capabilities.	NA	NA	NA	NA
1/25/2016	QLife, Inc.	M3, Inc. (TSE:2413)	M3, a Japanese provider of medical-related services to healthcare professionals, acquired Tokyo-based QLife to strengthen its domestic medical support, media, and promotional services.	NA	NA	NA	NA
1/20/2016	MedQualis Inc.	Keyrus Société Anonyme (ENXTPA: KEY)	Keyrus, a French performance management and solutions integration services provider, acquired Canada-based MedQualis to strengthen its medical clinical research services.	NA	NA	NA	NA
1/19/2016	Clinverse, Inc.	BioClinica, Inc.	BioClinica, a Pennsylvania-based provider of clinical research technology solutions, acquired Clinverse to strengthen its cloud-based financial services for clinical payments in the U.S.	NA	NA	NA	NA
1/12/2016	Net Solutions Europe Limited	Phlexglobal Ltd.	British document management solutions provider, Phlexglobal, acquired Net Solutions Europe, a U.K.-based outsourced software development and cloud-based solutions provider, to broaden its current service offering in Europe.	NA	NA	NA	NA
12/31/2015	Columbus Center for Women's Health Research	Aventiv Research, Inc.	To enhance its ability to conduct Women's studies, Aventiv, an Ohio-based clinical trial and medical research service, acquired Columbus Center for Women's Health Research, a provider of clinical studies in Ohio.	NA	NA	NA	NA
12/31/2015	Manipal Acunova Limited	Take Solutions Ltd. (BSE:532890)	India-based Take Solutions acquired Manipal Acunova, an Indian CRO service for clinical testing/studies, pharma, biotech, and the medical device industry, from OrbiMed Advisors, a private equity fund, and other investors, for its clinical trials services.	17.4	17.4	NA	NA

## Comparable Transaction Analysis, continued

Close Date	Target	Acquirer	Transaction Description	Transaction Value	Enterprise Value	EV*/ Revenue	EV*/ EBITDA	
12/28/2015	Sogo Rinsho Holdings Co., Ltd. (TSE:2399)	EPS Holdings, Inc. (TSE:4282)	Sogo Rinsho Holdings, a site management and CRO based in Japan, was acquired by EPS Holdings, a CRO, site management, and contract sales service provider for pharmaceutical and medical device companies also based in Japan, to bolster its product and service offerings.	82.8	72.2	1.5x	10.3x	
12/17/2015	Clintara, LLC	Bracket Global, LLC	Pennsylvania-based Bracket Global's acquisition of Massachusetts-based Clintara positions itself to reap benefits from quality assurance technology, rater training, and electronic clinical outcomes assessments, and strengthens its medical research support service platform.	NA	NA	NA	NA	
12/16/2015	Co-Formulate Ltd.	Pharmaron, Inc.	U.S.-based Pharmaron, a CRO focused on manufacturing and laboratory services, acquired Co-Formulate, a contract pharmaceutical product developer based in the U.K., to enhance its service capabilities and international presence.	NA	NA	NA	NA	
12/15/2015	Whitehouse Analytical Laboratories	Albany Molecular Research, Inc. (NasdaqGS:AMRI)	Albany Molecular Research acquired New Jersey-based Whitehouse Analytical Laboratories, a provider of analytical laboratory solutions and various raw material testing services in the U.S., to expand its discovery and development services business segment.	57.0	56.0	5.6x	10.5x	
12/15/2015	Bioptra Ltd	ReproCELL, Inc. (JASDAQ:4978)	ReproCELL, a Japanese biotechnology company focused on stem cell technology development, acquired Bioptra to add contract research services to its platform, and expand into the United Kingdom.	8.3	8.3	NA	NA	
12/11/2015	The Chemistry Research Solution LLC	Abzena Plc (AIM: ABAZA)	U.K.-based Abzena plc, a service and technologies provider for the development of biopharmaceutical products globally, acquired The Chemistry Research Solution, a U.S.-based CRO focused on chemistry services, to strengthen its specialty chemistry solutions offering.	13.8	13.8	3.3x	NA	
12/10/2015	WuXi PharmaTech (Cayman) Inc.	Ally Bridge Group, Boyu Capital, Ping An Insurance, Temasek Holdings, and Hillhouse Capital	WuXi PharmaTech, a Chinese biotechnology, pharmaceutical, and medical device research company, was acquired by a consortium of investors, and the management team, to take the company private.	3,431.1	3,092.9	4.4x	21.6x	
12/10/2015	Fluofarma SA	Porsoit SAS	Porsoit, a French preclinical pharmacology service provider, acquired Fluofarma, also based in France, to strengthen its preclinical service offering in contract research.	NA	NA	NA	NA	
12/4/2015	Farm Design, Inc.	Flextronics International Ltd. (NasdaqGS:FLEX)	Farm Design, a U.S. research and usability services firm, was acquired by Flextronics, a Singaporean engineering, manufacturing, and supply chain solutions provider, to expand its global reach, and diversify its service offering.	NA	NA	NA	NA	
12/2/2015	Clinquest Europe BV	Accelovance, Inc.	Accelovance, a U.S.-based CRO focused on vaccines, oncology, and general medicine, acquired Netherlands-based Clinquest Europe to boost its European operational presence and enhance its clinical trial capabilities.	NA	NA	NA	NA	
12/2/2015	Quotient Clinical Limited	GHO Capital Partners LLP	GHO Capital Partners, a healthcare focused private equity firm based in the U.K., acquired Quotient Clinical, a U.K.-based drug development services company, to take advantage of its wide service offerings including first-in-human to proof of concept, clinical formulation optimization, and human ADME.	NA	NA	NA	NA	
11/18/2015	Oncotest GmbH	Charles River Laboratories International, Inc. (NYSE:CRL)	Charles River's acquisition of Oncotest, based in Germany, strengthens its presence in the CRO market, and more specifically, its reach in preclinical pharmacological services.	38.3	38.3	NA	NA	
11/11/2015	Formex LLC	BioDuro LLC	BioDuro, a life sciences research firm based in California, acquired Formex, a California-based pharmaceutical contract manufacturer focused on oral and topical solutions, to expand its current specialty solutions service offering.	NA	NA	NA	NA	
10/21/2015	Seoul Clinical Laboratories (Cytogenetic and Human Genome division)	Biocore Co., Ltd	Biocore, a South Korea-based CRO providing research services for medical device, biotechnology, and pharmaceutical companies, acquired the Cytogenetic and Human Genome Division of South Korea-based Seoul Clinical Laboratories to strengthen its reach in the molecular genetics market.	2.4	2.4	NA	NA	
10/16/2015	Kinesis Pharma B.V.	Venn Life Sciences Holdings plc (AIM:VENN)	Venn Life Sciences Holdings, a U.K.-based CRO providing clinical trial services to medical device, pharmaceutical, and biotechnology companies, acquired Netherlands-based Kinesis Pharma to enhance its consultancy and contract research capabilities.	7.2	7.2	1.1x	10.7x	
10/14/2015	Yes Pharmaceutical Development Services GmbH	PharmaLex GmbH	Pharmalex, a German drug development, regulatory and pharmacovigilance company, acquired German-based Yes Pharmaceutical Development Services, a drug development and pharma-covigilance service provider, from AUCTUS Capital Partners and other shareholders.	NA	NA	NA	NA	
*Enterprise Value (EV) = market capitalization + net debt + noncontrolling interest						Maximum Mean Median Minimum	8.9x 3.8x 3.5x 1.1x	17.7x 13.3x 12.5x 10.3x