



KPMG Corporate Finance LLC

U.S. Biopharma Services Industry Update

November 2022

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U.S. Biopharma Services Industry Update – November 2022

Public Markets Update and Outlook

Following the outbreak of COVID-19, the Biopharma Services sector continued to outperform the overall market through the end of 2021 with public valuations that reached all-time highs. However, the sector has since followed the broader market trend with a YTD decline of -33.8% (versus the S&P 500 that is down -18.8%). Biopharma Services stocks currently trade at 15.7x LTM EBITDA compared to a 3-year average multiple of 18.4x.

With the growing probability of a recession, investor sentiment is expected to shift favorably for Biopharma Services particularly for stocks with less exposure to current macroeconomic headwinds. Biopharma Services stocks have typically outperformed the S&P 500 in past economic downturns due to favorable end-markets, variable cost structures, balance sheet flexibility, and high FCF conversion.

Emerging biotech represents an important customer segment for Biopharma Services as these companies outsource the majority of their work. Although biotech stocks have entered bear market territory with a YTD decline of -32.1%, these companies still have an average cash runway of ~27.5 months. Furthermore, the venture capital community continues to aggressively finance biotech companies with ~\$25.7 billion raised YTD (compared to ~\$32.1 billion for the same period last year). Therefore, demand for services from emerging biotech is expected to continue to be strong over the next 12 months and beyond.

M&A Performance Snapshot



M&A Market Update

The pandemic, along with huge inflows of capital for biopharma, led to a surge of M&A mega mergers in 2021, while 2022 has seen an expected reversal of this trend. Dealmaking, particularly among mega deals, was hindered because of valuation concerns. Depressed public markets, higher borrowing costs and ongoing supply chain issues added to the deal standoff. However, despite lower deal volumes, dealmaking continued at record-high valuations with the average deal multiple up ~7.7% YTD. Many of the notable deals focused on bolstering capacity and capabilities across the drug development pipeline.

Post-COVID, clinical research companies are now focusing more on improving outcomes and reducing clinical trial costs, while utilizing decentralized clinical trials (DCTs) and incorporating digital technologies — New Mountain Capital acquired The Emmes Company for a consideration of \$800 million to support the company's market expansion of its electronic data capture (EDC) software platforms.

CDMOs are collaborating to meet the growing demand for new modalities such as cell and gene therapy (C>) — Catalent continued to add to its cell manufacturing capacity through the acquisition of Erytech's commercial-scale facility in New Jersey, while Aldevron (a Danaher company) continued to address the bottlenecks in plasmid manufacturing through the acquisition of Nature Technology.

Efficient commercialization capabilities are also in demand as developers face complex regulatory requirements and high development costs — Blackstone and CPP Investments offered an estimated \$5 billion for Advarra, the largest integrated provider of IRB services, while Novo Holdings acquired leading omnichannel marketing agency Medical Knowledge Group for ~\$1.2 billion.

Sponsor-Backed M&A Activity

Financial sponsors participated in 65.0% of deals YTD, with the majority of deals focused on consolidating niche capabilities in the form of add-ons. Investors are increasingly seeking CDMOs with large molecule capabilities — Great Point Partners acquired San Diego-based cell manufacturing CDMO Cellpoint Bioservices. PE-backed clinical networks, including Velocity Clinical Research and CenExel, continued to add research sites in order to expand access to diverse populations. Meanwhile, PE-backed companies Pace Analytical and ProPharma Group expanded their regulatory capabilities through a series of acquisitions.

In addition, the PE community continues to keep its sights on carve-out opportunities — Altaris Capital Partners completed the acquisition of Pfizer's Meridian subsidiary, the manufacturer of EpiPen and other auto-injector products.

Notes: (*) Data as of October 31, 2022

(1) EBITDA multiples exclude clinical trial software and other health IT-focused transactions

(2) Includes add-on deals

Sources: Press releases, Capital IQ, and PitchBook.

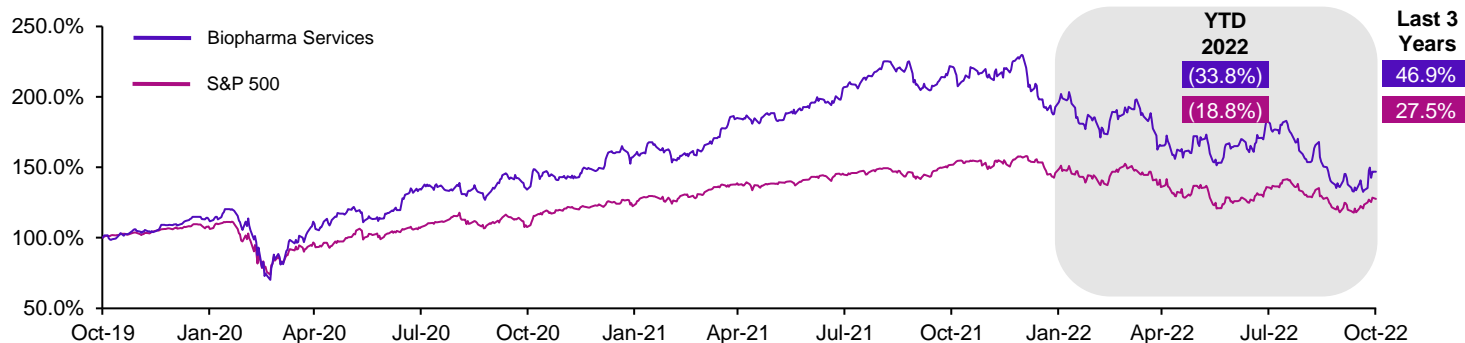
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Publicly Traded Biopharma Services Companies

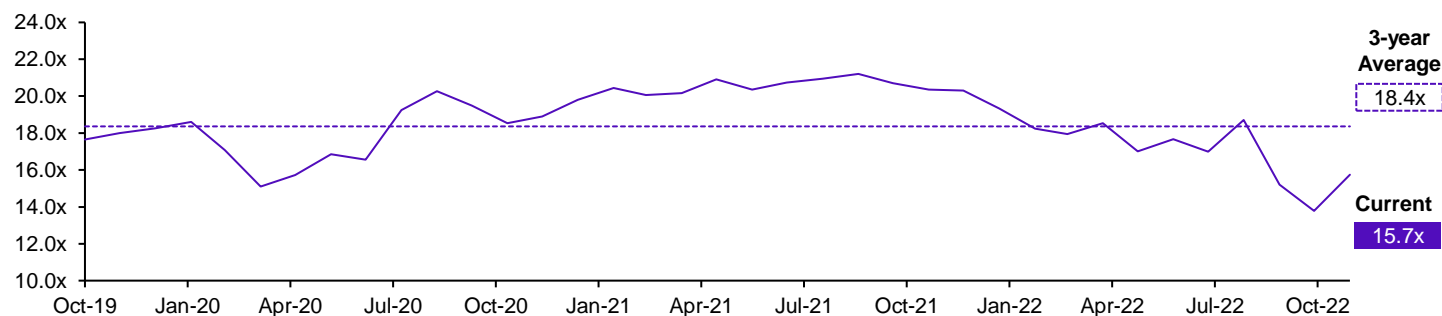
(US\$ in millions, except per share amounts)

Company Name	Market Cap	EV ⁽¹⁾	Share Price	% of 52-Wk High	Latest Twelve Months (LTM)				Enterprise Value	
					Revenue	Revenue Growth	EBITDA ⁽²⁾	EBITDA Margin	LTM Revenue	LTM EBITDA
Catalent	\$11,825	\$15,588	\$66	46.8%	\$4,825	15.5%	\$1,111	23.0%	3.2x	14.0x
Charles River Laboratoires	\$10,796	\$14,009	\$212	47.4%	\$3,781	10.4%	\$976	25.8%	3.7x	14.4x
ICON PLC	\$16,129	\$20,753	\$198	63.2%	\$7,665	76.0%	\$1,406	18.3%	2.7x	14.8x
Inotiv	\$532	\$878	\$21	34.3%	\$427	467.4%	\$54	12.7%	2.1x	16.1x
IQVIA Holdings	\$38,944	\$50,236	\$210	73.4%	\$14,307	5.7%	\$2,760	19.3%	3.5x	18.2x
LabCorp	\$19,879	\$25,740	\$222	69.9%	\$15,259	(7.8%)	\$3,160	20.7%	1.7x	8.1x
Medpace	\$6,885	\$7,152	\$222	94.2%	\$1,374	25.7%	\$279	20.3%	5.2x	25.6x
Syneos Health	\$5,172	\$8,155	\$50	48.4%	\$5,407	8.6%	\$726	13.4%	1.5x	11.2x
West Pharmaceuticals	\$17,035	\$16,606	\$230	48.4%	\$2,909	8.5%	\$866	29.8%	5.7x	19.2x
Mean	\$14,133	\$17,680		58.4%	\$6,217	67.8%	\$1,260	20.4%	3.3x	15.7x
Median	\$11,825	\$15,588		48.4%	\$4,825	10.4%	\$976	20.3%	3.2x	14.8x

Biopharma Services Share Price Performance (Last 3 Years)



Biopharma Services EV / LTM EBITDA Multiples^(1,2)



Notes: Data as of October 31, 2022

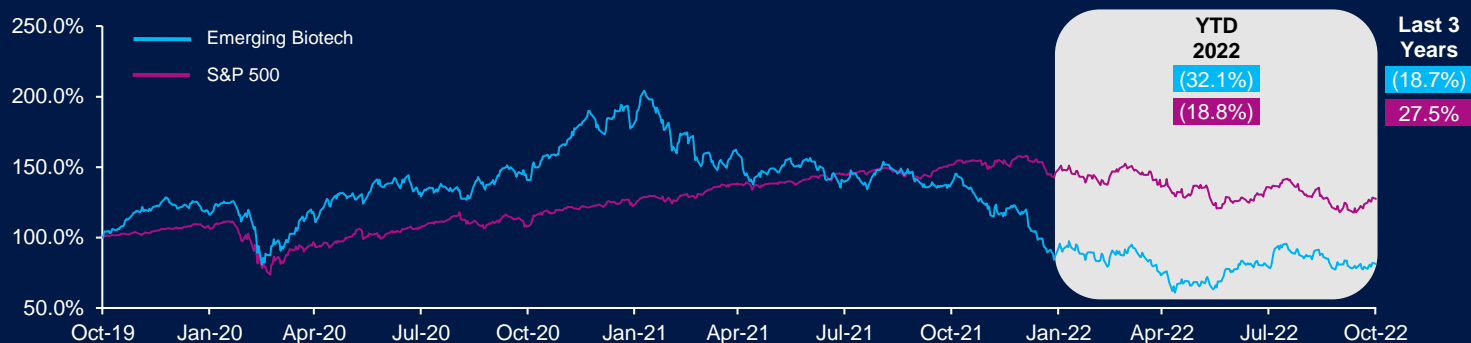
(1) As shown, Enterprise Value defined as Market Capitalization plus Preferred Stock and Net Debt.

(2) EBITDA reduced to account for minority interest expense.

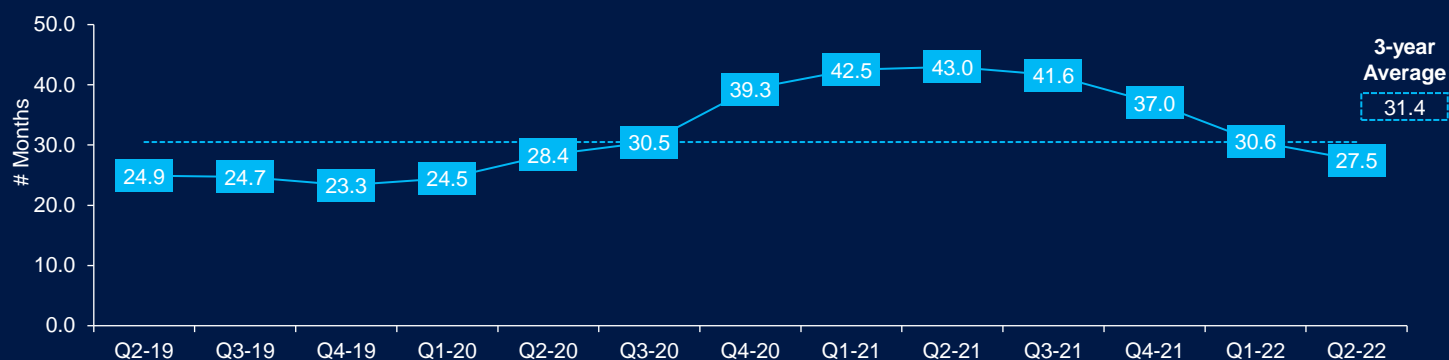
Sources: Press releases, Capital IQ, and PitchBook.

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Emerging Biotech Share Price Performance ⁽¹⁾



Emerging Biotech Cash Runway ^(1,2)



Notes: (*) Data as of October 31, 2022

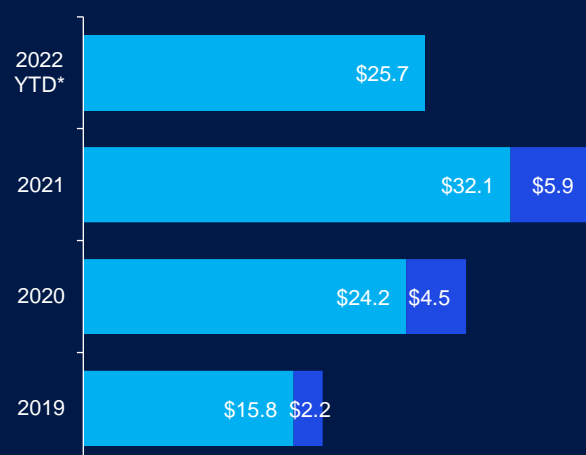
(1) Emerging biotech universe based on NASDAQ Biotech Index excluding commercial-stage companies that are profitable

(2) Cash runway (# months) equal to cash balance / burn rate. Represents median cash runway for the emerging biotech universe.

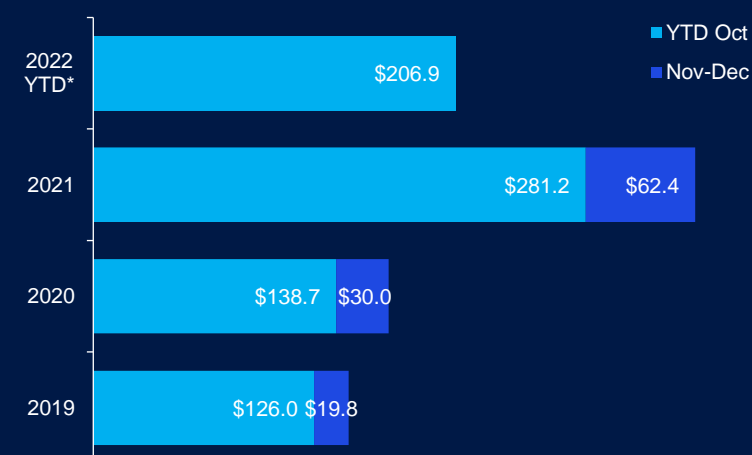
Sources: Capital IQ

Biotech Venture Capital Deal Monitor

Biotech and Pharma (\$Bn)



Total VC Funding (\$Bn)



Notes: (*) Data as of October 31, 2022

Source: PitchBook

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Deals Spotlight

New Mountain Capital acquires The Emmes Company

In Jun-22, New Mountain Capital (NMC) announced the acquisition of tech-enabled full-service CRO Emmes from Behrman Capital for a consideration of \$800 million. Last year, Emmes expanded its CRO capabilities in the rare disease space through the acquisitions of Casimir and Orphan Reach.

NMC's expertise in the biopharma services and technology space will support Emmes' market expansion through its EDC software platforms Advantage eClinical and ClinDoc.

Blackstone and CPP Investments make majority investment in Advarra

In Jun-22, Blackstone and CPP Investments signed a definitive agreement to buy regulatory consulting company Advarra from Genstar Capital for an estimated \$5 billion.

Advarra is the largest integrated provider of Institutional Review Board (IRB) services. Additionally, the company offers institutional biosafety committee (IBC), research quality and compliance services that are mandated by regulatory agencies for all trial protocols, patient forms and site initiations.

Novo Holdings acquires Medical Knowledge Group

In Feb-22, Novo Holdings acquired omnichannel marketing agency Medical Knowledge Group (MKG) from Court Square for a total consideration of ~\$1.2 billion, valuing the company at ~20.5x EBITDA. Court Square bought MKG two years earlier for ~\$330 million (~13.0x EBITDA).

MKG is an analytics-driven drug marketing platform. MKG's multi-channel solutions help complex therapeutics reach the market and address the global demand for multi-channel communications targeting healthcare providers.

MERCK KgaA acquires Exelead

In Feb-22, MERCK KgaA (MRK) became a leading mRNA CDMO following the acquisition of Indiana-based CDMO Exelead for \$780 million. Exelead specializes in the development and manufacture of lipid nanoparticle (LNP)-based drug delivery technology, which is key to mRNA vaccines and therapeutics.

MRK announced that it would invest more than \$500 million to scale up Exelead's technology over the next decade. MRK has made significant investments in commercial scale manufacturing of mAb, viral vectors and mRNA. The company entered the mRNA manufacturing space through the acquisition of AmpTec.

Labcorp acquires Toxikon Corporation

In Dec-21, Labcorp completed the acquisition of Toxikon Corporation, a leading preclinical CRO delivering vitro, in vivo and analytical testing services.

The acquisition gives Labcorp drug development a stronger foothold specifically in the Boston area, as well as the capacity to expand its existing toxicology business.

KPMG Corporate Finance acted as exclusive financial advisor to Toxikon in connection with this transaction.

Notes: Data as of October 31, 2022

Sources: Press releases, Capital IQ, and PitchBook



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Selected Biopharma Services M&A Trends

Decentralized Clinical Trials

The pandemic accelerated the adoption of DCTs to deal with the challenges of patient recruitment and logistics. Traditionally, few CROs offered technology solutions as this was mostly handled by product vendors such as Oracle and Medidata. However, as a way to restart clinical trials during the pandemic, CROs looked to add product capabilities such as eConsent and eCOA to support DCTs. In Jul-21, ICON acquired North Carolina-based PRA Health Sciences for more than \$12 billion, making the combined entity the second-largest CRO after IQVIA. Through this acquisition, ICON looked to combine its home health services, site network and wearables technology with real-world data solutions from PRA. Similarly, the merger between Bioclinica and ERT in Apr-21 enabled the combined entity to provide holistic solutions in eCOA, imaging and clinical trial management solutions.

Analytical Testing

The demand for analytical testing has increased due to the complexity of new technologies, high failure rates and pressure to make “go/no-go” decisions earlier in the development process. New analytical methods are needed to establish the safety and efficacy of C> candidates, and to get in front of potential Chemistry Manufacturing and Control (CMC) issues.

In Sep-22, biological specimens and services firm BioIVT strengthened its preclinical testing capabilities by acquiring Sekisui Chemical’s CRO division XenoTech. In Jan-22, Inotiv added capabilities in genomics, bioinformatics and computational toxicology by acquiring Integrated Laboratory Systems. And in Dec-21, Labcorp acquired Toxikon to expand its toxicology business footprint.

Emerging Biopharma Companies

Emerging biopharma (EBP) companies are responsible for ~65% of the R&D pipeline, the majority of which is comprised of advanced molecules across areas such as cell and gene, monoclonal antibodies, as well as DNA and RNA therapeutics. Therefore, it is imperative for Biopharma Services companies to help address this market segment particularly as EBPs outsource the majority of their work.

In Oct-20, Syneos Health (NasdaqGS:SYNH) announced the acquisition of Synteract, a full-service CRO focused on the rapidly growing emerging biopharma segment. Synteract has built a leading reputation among emerging biopharma, providing deep therapeutic expertise in oncology, rare and orphan diseases, neuroscience, dermatology, and pediatrics.

Cell and Gene Manufacturing

A surge in the demand for C> has strained many segments of the global supply chain. Plasmids, the building blocks of viral vectors, remain a significant bottleneck in C> manufacturing. Biopharma companies, CDMOs and financial sponsors are all working hard to bring new capacity online.

In Apr-22, Catalent continued to add to its cell manufacturing capacity and capabilities through the acquisition of Erytech’s commercial-scale manufacturing facility in New Jersey. In Jan-22, Great Point Partners acquired San Diego-based cell manufacturing CDMO Cellpoint Bioservices.

Last year, Danaher entered the CDMO market through the ~\$9.6 billion acquisition of North Dakota-based Aldevron, a leading provider of plasmid DNA, mRNA and proteins. Additionally, both Charles River and Catalent expanded their viral vector and plasmid DNA offerings through a series of acquisitions (notably, Vigene Biosciences, Cognate BioServices and Delphi Genetics).

Regulatory Affairs

The shift towards more complex therapies such as C> and drug-device combination products has complicated the regulatory strategy and commercialization pathway. Furthermore, the rise in accelerated approvals has increased the demand for efficient commercialization capabilities.

LGP-backed Pace Analytical expanded its regulatory capabilities in 2022 by acquiring Biopharma Global and Meridian BioGroup. Similarly, Odyssey-backed ProPharma Group expanded its regulatory capabilities through the acquisition of OneSource Regulatory.

Medical Communications and Marketing

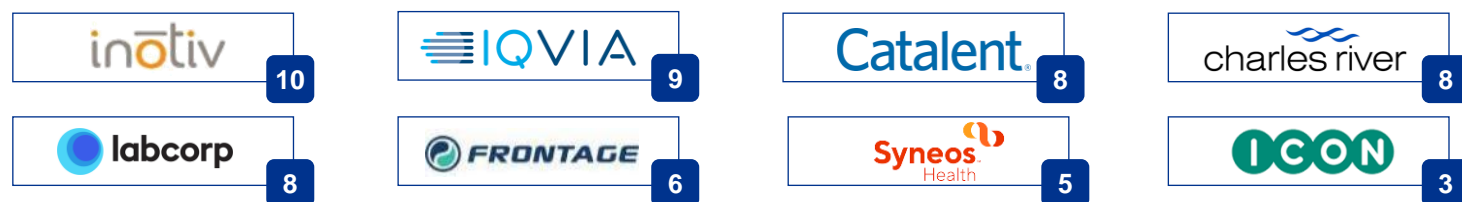
The pandemic accelerated the shift towards virtual meetings and digital commercialization techniques. Biopharma companies are now favoring a combination of digital, print and AI-based HCP engagements.

In Feb-22, Novo Holdings acquired omnichannel marketing agency Medical Knowledge Group for ~\$1.2 billion. Last year, TPG invested in medical communications agency BGB Group at an estimated \$760 million valuation, while Eversana bought life sciences marketing company Intouch Group for ~\$950 million.

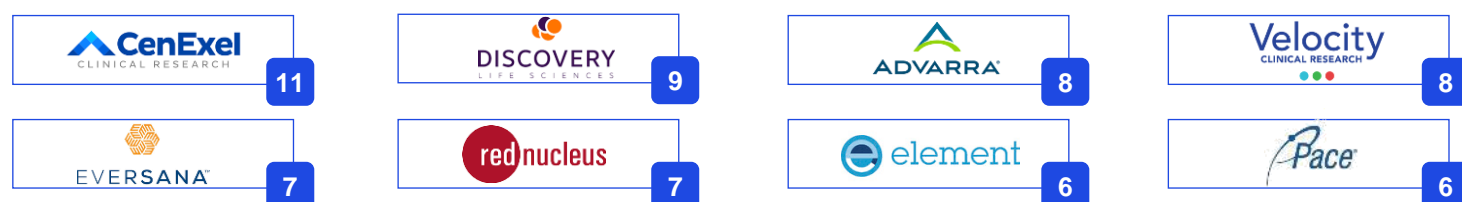
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Top Biopharma Services Acquirers - Strategic & Private Equity (since 2019)

Public Strategic Acquirers



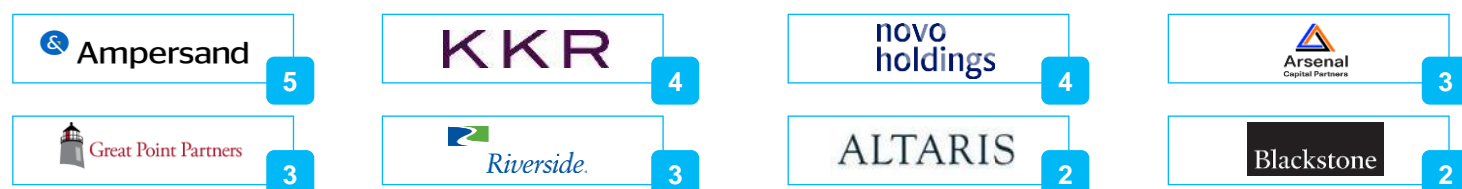
PE-backed Strategic Acquirers



Private Equity Buyouts⁽¹⁾



Top PE Platform Acquirers



Notes: Data as of October 31, 2022

(1) Includes add-on deals

Sources: Press releases, Capital IQ, and PitchBook.

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Selected LTM 2022 Transactions (1/6)

(US\$ in millions)										
Date	Target	Buyer	PE Sponsor	Target HQ	Buyer HQ	TEV	TEV/Rev	TEV/EBITDA	Outsourcing Type	Product Offerings
Oct-22	Cognitive Research Corporation	River Cities Capital		Saint Petersburg, FL	Cincinnati, OH	-	-	-	CRO	CNS-focused contract research services
Sep-22	iuvo BioScience	Ampersand Capital Partners		Rush, NY	Wellesley, MA	-	-	-	CRO	Contract vivarium and preclinical testing services
Sep-22	Fidelis Research	BioIVT	Linden	Bulgaria	Westbury, NY / Chicago, IL	-	-	-	CRO	Clinical trial and site management services
Sep-22	Jupiter Life Science Consulting	Red Nucleus Solutions	The Riverside Company	Key Largo, FL	Yardley, PA / New York City, NY	-	-	-	Commercialization	Marketing consulting services
Sep-22	Sekisui XenoTech	BioIVT	Linden	Kansas City, MO	Westbury, NY / Chicago, IL	-	-	-	CRO	In vitro drug metabolism and drug-drug interaction studies
Sep-22	JordiLabs	RQM+ Corporation	Linden	Mansfield, MA	Monroeville, PA / Chicago, IL	-	-	-	CRO	Analytical testing services
Sep-22	MedPharmics	Velocity Clinical Research	GHO Capital	Metairie, LA	Durham, NC / United Kingdom	-	-	-	CRO	Clinical research sites
Sep-22	C3 Research Associates	Avance Clinical	The Riverside Company	Seattle, WA	Australia / New York, NY	\$40.0	-	-	CRO	Clinical research development services
Sep-22	Charlottesville Medical Research Center	Alcanza Clinical Research	Martis Capital	Charlottesville, VA	Methuen, MA / San Francisco, CA	-	-	-	CRO	Phase II-IV clinical studies in Central Virginia
Sep-22	BioPharma Global	Pace Analytical Services	Leonard Green & Partners	Vienna, VA	Minneapolis, MN / Los Angeles, CA	-	-	-	Commercialization	Full-service regulatory support
Sep-22	Kateric	ProPharma Group	Odyssey Investment Partners	Ann Arbor, MI	Overland Park, KS / New York, NY	-	-	-	CRO	Regulatory documents for clinical trials and research
Aug-22	AcuraBio	Ampersand Capital Partners		Australia	Wellesley, MA	-	-	-	CRO	Provider of recombinant proteins and vaccines
Aug-22	LumaBridge	Summit Partners		San Antonio, TX	Boston, MA	-	-	-	CRO	Oncology CRO services
Aug-22	OneSource Regulatory	ProPharma Group	Odyssey Investment Partners	McKinney, TX	Overland Park, KS / New York, NY	-	-	-	Commercialization	Regulatory, medical and compliance consulting services

Notes:

(1) All figures in US\$; where applicable, converted at rates as of October 31, 2022.

(2) Buyer HQ shown as (Buyer Company HQ / PE Sponsor HQ)

Sources: Press releases, Capital IQ, and PitchBook.

U.S. Biopharma Services Industry Update – November 2022

Selected LTM 2022 Transactions (2/6)

(US\$ in millions)										
Date	Target	Buyer	PE Sponsor	Target HQ	Buyer HQ	TEV	TEV/Rev	TEV/EBITDA	Outsourcing Type	Product Offerings
Aug-22	The Emmes Company	New Mountain Capital		Rockville, MD	New York, NY	\$800.0	-	26.7x	CRO	Biostatistics, technologies and clinical studies services
Aug-22	Meridian BioGroup	Pace Analytical Services	Leonard Green & Partners	Frederick, MD	Minneapolis, MN / Los Angeles, CA	-	-	-	Commercialization	Regulatory and compliance contract services
Aug-22	GL Chemtec International Limited	Edgewater Capital		Canada	Cleveland, OH	-	-	-	CRO	Discovery/pre-clinical research and custom synthesis
Aug-22	Sannova Analytical	SFW Capital Partners		Somerset, NJ	Rye, NY	-	-	-	CRO	Bioanalytical, CMC and in vitro testing
Aug-22	Metrics Contract Services	Catalent		Greenville, NC	Somerset, NJ	\$475.0	-	-	CDMO	Small molecule CDMO
Aug-22	Lykan Bioscience	RoslinCT	GHO Capital	Hopkinton, MA	United Kingdom	-	-	-	CDMO	Cell therapy CDMO
Aug-22	SOUND healthcare communications	Medical Knowledge Group	Novo Holdings	Bridgewater, NJ	New York, NY / Denmark	-	-	-	Commercialization	Drug metabolism, pharmacokinetics and bioanalytical testing
Jul-22	Clinical Research Hamburg	Velocity Clinical Research	GHO Capital	Hamburg, Germany	Durham, NC / United Kingdom	-	-	-	CRO	Phase II-IV clinical trial services in Germany
Jul-22	Qdossier	Celegence Holdings		Netherlands	Downers Grove, IL	-	-	-	Digital Solutions	Cloud-based document and dossier lifecycle management
Jul-22	Drug Development Solutions Business of LGC	Alliance Pharma, Inc.	Ampersand Capital and KKR	United Kingdom	Wellesley, MA / New York, NY	-	-	-	CRO	Bioanalytical and analytical and materials science solutions
Jul-22	AllCells	Discovery Life Sciences	Water Street	Alameda, CA	Los Osos, CA / Chicago, IL	-	-	-	CDMO	Primary cells enabling drug discovery of cell therapies
Jul-22	Emcay	Fingerpaint Marketing	Knox Lane	Short Hills, NJ	Saratoga Springs, NY	-	-	-	Commercialization	Pharma advertising agency
Jul-22	Discovery BioMed	Eurofins Panlabs		Birmingham, AL	Luxembourg	-	-	-	CRO	Custom assay and cell media services
Jun-22	Peninsula Research Associates	Headlands Research	Kohlberg Kravis Roberts	Rolling Hills Estates, CA	San Francisco, CA / New York, NY	-	-	-	CRO	Contract research in the areas of allergies, asthma, ADHD, COPD, EoE, and pneumonia

Notes:

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Sources: Press releases, Capital IQ, and PitchBook.

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Selected LTM 2022 Transactions (3/6)

(US\$ in millions)										
Date	Target	Buyer	PE Sponsor	Target HQ	Buyer HQ	TEV	TEV/Rev	TEV/EBITDA	Outsourcing Type	Product Offerings
Jun-22	Aventiv Research	Centricity Research		Columbus, OH	Columbus, GA	-	-	-	CRO	Clinical research sites
Jun-22	Apex Innovative Sciences	CenExel Clinical Research	Webster Equity Partners	Garden Grove, CA	Salt Lake City, UT / Waltham, MA	-	-	-	CRO	CNS-focused clinical research sites
Jun-22	Endpoint Outcomes	Lumanity	Arsenal Capital Partners	Boston, MA	New York, NY	-	-	-	Commercialization	Market access consulting and clinical outcomes assessments
Jun-22	Advarra	Blackstone, CPP Investments		Columbia, MD	New York, NY / Canada	\$5,000.0	-	25.0x	Commercialization	Clinical research compliance services
Jun-22	Avalere Health	Fishawack Limited	Bridgepoint Advisers	Washington, DC	United Kingdom	-	-	-	Commercialization	Healthcare business strategy and public policies
Jun-22	Ohio Clinical Trials	Evolution Research Group (ERG)	Linden LLC	Columbus, OH	Chicago, IL	-	-	-	CRO	Phase I-III clinical trials
Jun-22	Random42 Limited	The Lockwood Group	Ares Management	United Kingdom	Stamford, CT / Los Angeles, CA	-	-	-	Digital Solutions	Digital healthcare agency and provides 3D medical animation
Jun-22	Bionova Scientific	Asahi Kasei Medical		Fremont, CA	Japan	-	-	-	CDMO	Biologics CDMO
May-22	Multi-Specialty Research Associates (MSRA)	M3 Wake Research, Inc.		Lake City, FL	Japan	-	-	-	CRO	Phase I-IV clinical trials
May-22	Biocentriq	Green Cross Holdings Corporation		Newark, NJ	South Korea	\$73.0	-	-	CDMO	Biologics CDMO
May-22	Pharm-Olam International (UK) Limited	CATO SMS (nka: Allucent)	Water Street and JLL Partners	United Kingdom	Durham, NC / Chicago, IL / New York, NY	-	-	-	CRO	Clinical research services
Apr-22	Cell therapy facility of ERYTECH Pharma	Catalent		Princeton, NJ	Somerset, NJ	\$44.5	-	-	CDMO	Cell therapy manufacturing facility
Apr-22	Custopharm	Hikma		San Diego, CA	United Kingdom	\$425.0	-	-	Commercialization	CMC and regulatory support
Apr-22	Explora BioLabs	Charles River Laboratories International		San Diego, CA	Wilmington, MA	\$277.9	7.3x	-	CRO	Contract vivarium research services

Notes:

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Sources: Press releases, Capital IQ, and PitchBook.

U.S. Biopharma Services Industry Update – November 2022

Selected LTM 2022 Transactions (4/6)

(US\$ in millions)										
Date	Target	Buyer	PE Sponsor	Target HQ	Buyer HQ	TEV	TEV/Rev	TEV/EBITDA	Outsourcing Type	Product Offerings
Apr-22	iResearch Atlanta	CenExel Clinical Research	Webster Equity Partners	Decatur, GA	Salt Lake City, UT / Waltham, MA	-	-	-	CRO	Inpatient and outpatient Phase I-IV clinical trials
Mar-22	Medanex Clinic	North American Science Associates	ArchiMed	Belgium	Northwood, OH / France	-	-	-	CRO	Offers in-vivo research using large animals
Mar-22	Coastal Carolina Research Center, Inc.	Alcanza Clinical Research	Martis Capital	North Charleston, SC	Methuen, MA / San Francisco, CA	-	-	-	CRO	Phase I-IV clinical trials in the southeast U.S.
Mar-22	AMR Utah	Alliance for Multispecialty Research (AMR)	Curewell Capital	Bountiful, UT	Knoxville, TN / Los Angeles, CA	-	-	-	CRO	Pediatric vaccine-focused clinical trials
Mar-22	Alliance for Multispecialty Research (AMR)	Curewell Capital		Knoxville, TN	Los Angeles, CA	-	-	-	CRO	Phase I-IV clinical trials
Mar-22	Reaction Biology	Cobepa		Malvern, PA	Belgium	-	-	-	CRO	Preclinical testing
Mar-22	Policy Analysis Inc. (PAI)	Fishawack Limited	Bridgepoint Advisers	Chestnut Hill, Massachusetts	United Kingdom	-	-	-	Commercialization	HEOR consulting
Mar-22	Amici Clinical Research	The IMA Group	Centre Partners	Raritan, NJ	Tarrytown, NY / New York, NY	-	-	-	CRO	Clinical research services
Feb-22	Exelead	MERCK		Indianapolis, IN	Germany	\$780.0	-	-	CDMO	Liquid injectables for rare diseases
Feb-22	CTSdatabase, LLC	CenExel Clinical Research	Webster Equity Partners	Sherman Oaks, CA	Salt Lake City, UT / Waltham, MA	-	-	-	Digital Solutions	Clinical trial enrollment software
Feb-22	Arranta Bio	Recipharm	EQT	Watertown, MA	Sweden	-	-	-	CDMO	Biologics CDMO
Feb-22	AmberCRO	Syneos Health		Latvia	Morrisville, NC	-	-	-	CRO	Phase I-IV clinical trials
Feb-22	Trier Health	Velocity Clinical Research	GHO Capital	San Jose, CA	Durham, NC / United Kingdom	-	-	-	Digital Solutions	Digital clinical trials platform
Feb-22	Medical Marketing Solutions Group	Red Nucleus Solutions	The Riverside Company	Clinton, NJ	Yardley, PA / New York City, NY	-	-	-	Commercialization	Strategic medical affairs and commercialization services

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U.S. Biopharma Services Industry Update – November 2022

Selected LTM 2022 Transactions (5/6)

(US\$ in millions)										
Date	Target	Buyer	PE Sponsor	Target HQ	Buyer HQ	TEV	TEV/Rev	TEV/EBITDA	Outsourcing Type	Product Offerings
Feb-22	Medical Knowledge Group	Novo Holdings		New York, NY	Denmark	\$1,155.0	-	20.5x	Commercialization	Tech-enabled omnichannel marketing solutions
Feb-22	Propeller Communications	Omnicom Health Group Inc.		Summit, NJ	New York, NY	-	-	-	Commercialization	Digital marketing and communications services
Feb-22	Paradigm Clinical Research Centers	Crane Street Capital		Redding, CA	San Francisco, CA	-	-	-	CRO	Clinical research sites
Jan-22	Nature Technology Corporation (NTC)	Aldevron (Danaher Corporation)		Lincoln, NE	Washington, DC	-	-	-	CDMO	Plasmid CDMO
Jan-22	Sequoia Consulting Group	Riverside Partners		Encinitas, CA	Boston, MA	-	-	-	Commercialization	Technical, quality and project management consulting
Jan-22	Experimur	Frontage Laboratories		Chicago, IL	China	\$72.0	5.0x	-	CRO	Toxicology testing and research laboratory services
Jan-22	Integrated Laboratory Systems	Inotiv		Research Triangle Park, NC	West Lafayette, IN	\$52.8	2.6x	-	CRO	Toxicology services
Jan-22	Clinical Research Site Operations of Rocky Mountain	CenExel Clinical Research	Webster Equity Partners	Englewood, CO	Salt Lake City, UT / Waltham, MA	-	-	-	CRO	Movement disorder research site
Jan-22	California Neuroscience Research	CenExel Clinical Research	Webster Equity Partners	Santa Monica, CA	Salt Lake City, UT / Waltham, MA	-	-	-	CRO	CNS-focused clinical research sites
Jan-22	Zipher Medical Affairs	Lumina	Arsenal Capital Partners	Marion, MA	New York, NY	-	-	-	Commercialization	Medical affairs strategic consulting services
Jan-22	Boston Clinical Trials	Alcanza Clinical Research	Martis Capital	Boston, MA	Methuen, MA / San Francisco, CA	\$66.0	-	-	CRO	Phase II-IV studies in Boston, MA metro area
Jan-22	Sinclair Research	Altasciences	Novo Holdings	Auxvasse, MO	Canada / Denmark	-	-	-	CRO	Nonclinical CRO offering animal efficacy models, IND-enabling and toxicology services
Dec-21	Cellipoint Bioservices	Great Point Partners		Poway, CA	Greenwich, CT	-	-	-	CDMO	Cell therapy CDMO
Dec-21	DMD Marketing Corp.	IQVIA Holdings		Rosemont, IL	Durham, NC	-	-	-	Digital Solutions	Identity-based marketing solutions

Notes:

(1) All figures in US\$; where applicable, converted at rates as of October 31, 2022.

(2) Buyer HQ shown as (Buyer Company HQ / PE Sponsor HQ)

Sources: Press releases, Capital IQ, and PitchBook.

U.S. Biopharma Services Industry Update – November 2022

Selected LTM 2022 Transactions (6/6)

(US\$ in millions)										
Date	Target	Buyer	PE Sponsor	Target HQ	Buyer HQ	TEV	TEV/Rev	TEV/EBITDA	Outsourcing Type	Product Offerings
Dec-21	Axon Communications	Relevate Health Group, Inc.	Mountaingate Capital Management	Braintree, MA	Cincinnati, OH / Denver, CO	-	-	-	Commercialization	Digital pharma marketing
Dec-21	The Lynx Group	Amplify Health	Altamont Capital Partners	Cranbury, NJ	Langhorne, PA / Palo Alto, CA	-	-	-	Commercialization	Medical communication and education services
Dec-21	BioAgilytix Labs	Cinven		Durham, NC	United Kingdom	\$2,500.0	14.7x	-	CRO	Bioanalysis and bioanalytical test services
Dec-21	Intouch Group	EVERSANA	Water Street and JLL Partners	Overland Park, KS	Milwaukee, WI / Chicago, IL / New York, NY	\$960.0	-	19.0x	Commercialization	Marketing and advertising services
Dec-21	Masy Bioservices	Alcami	Madison Dearborn Partners	Pepperell, MA	Wilmington, NC / Chicago, IL	-	-	-	Other Outsourcing	Biostorage and pharma support services
Dec-21	Lyophilization Services of New England	PCI Pharma Services	Kohlberg & Company	Bedford, NH	Philadelphia, PA / Mount Kisco, NY	\$1,500.0	-	39.5x	CDMO	Injectables CDMO specialized in lyophilization
Dec-21	PPD, Inc.	Thermo Fisher Scientific Inc.		Wilmington, NC	Waltham, MA	\$20,881.1	4.2x	22.6x	CRO	Drug development services
Dec-21	Medthink	Fingerpaint Marketing, Inc.	Knox Lane	Cary, NC	Saratoga Springs, NY / San Francisco, CA	-	-	-	Commercialization	Marketing and medical communication services
Dec-21	Toxikon Corp.	Laboratory Corporation of America		Bedford, MA	Burlington, NC	-	-	-	CRO	In vitro, in vivo and analytical testing
Nov-21	Genesis Research LLC	GHO Capital		Hoboken, NJ	United Kingdom	-	-	-	Commercialization	Consulting and scientific communication services
Nov-21	Avance Clinical	The Riverside Company		Australia	New York, NY	-	-	-	CRO	Early to late phase clinical research services
Nov-21	Envigo RMS, Inc.	Inotiv		Indianapolis, IN	West Lafayette, IN	\$542.6	2.2x	22.2x	CRO	Animal research models
Nov-21	Modus Outcomes LLP	THREAD	Water Street and JLL Partners	Cambridge, MA	Tustin, CA / Chicago, IL / New York, NY	-	-	-	CRO	Research consultancy supports the design of eCOA and DCTs

Notes:

(1) All figures in US\$; where applicable, converted at rates as of October 31, 2022.

(2) Buyer HQ shown as (Buyer Company HQ / PE Sponsor HQ)

Sources: Press releases, Capital IQ, and PitchBook.

U.S. Biopharma Services Industry Update – November 2022

KPMG Corporate Finance* Selected Life Sciences Transactions

 HITACHI Has invested in  <i>Tools & Diagnostics</i>	 LI-COR Has been acquired by  <i>Tools & Diagnostics</i>	 TOXIKON <small>RIGHT. FROM THE START.</small> Has been acquired by  <i>Pharma Services</i>	 LUMEDX Has been acquired by  A portfolio company of  <i>Medical Technology</i>	  Has been acquired by GETINGE  <i>HCIT & Enabled Services</i>
 LI-COR Sale of IRDye® 700DX to  <i>Pharma Services</i>	 Vernacare Has acquired  <i>Medical Technology</i>	  Has been acquired by  <i>Pharma Services</i>	  Has been recapitalized by  <i>Healthcare Services</i>	  Has been acquired by  <i>Medical Technology</i>
  Has been acquired by  <i>Pharma Services</i>	  Acquisition of  <i>Pharma Services</i>	 OLYMPUS Acquisition of  <i>Medical Technology</i>	 OLYMPUS Sale of manufacturing business in the US to  <i>Medical Technology</i>	 SANOFI  Sale of manufacturing facility in Colombia to FAREVA <i>Pharma Services</i>
  Has been acquired by  <i>Pharma Services</i>	  Has been acquired by  <i>Tools & Diagnostics</i>	  Has been acquired by  <i>Tools & Diagnostics</i>	  Has been recapitalized by  <i>Medical Technology</i>	 Baxter Sale of form-fill-seal infusion business in India to  <i>Medical Technology</i>

*Represents the global Corporate Finance practice of KPMG International's network of independent member firms

U.S. Biopharma Services Industry Update – November 2022

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2017-2021 global advisor ranking ⁽¹⁾		# of Deals
1	KPMG*	2,704
2	PwC	2,669
3	Deloitte	2,172
4	Houlihan Lokey	2,035
5	Rothschild & Co	1,605
6	Ernst & Young LLP	1,549
7	Industrial & Comm Bank China	1,069
8	BDO	985
9	IMAP	979
10	K3 Capital Group PLC	937

2011-2020 global advisor ranking ⁽¹⁾		# of Deals
1	KPMG*	4,550
2	PwC	4,359
3	Deloitte	3,011
4	Ernst & Young LLP	2,778
5	Rothschild & Co.	2,633
6	Houlihan Lokey	2,512
7	BDO	1,926
8	Goldman Sachs & Co	1,823
9	Lazard	1,810
10	Morgan Stanley	1,604

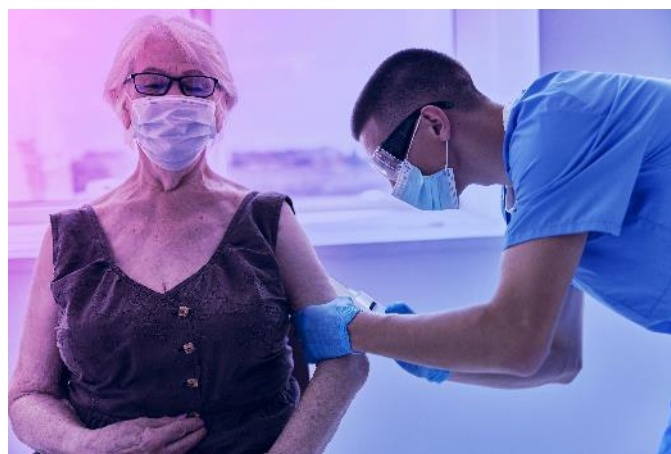
Note: (1) League tables include completed deals which have value between \$0 million to \$500 million and also where deal value is not disclosed, as of January 2022.

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Global coverage. Industry knowledge. Middle-Market focus.

The global Corporate Finance practices of KPMG International's network of independent member firms was ranked #1 as the top M&A middle-market adviser globally by Refinitiv based on number of completed transactions, for 2017 to 2021.

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