



CONTRACT RESEARCH ORGANIZATION INDUSTRY OVERVIEW

April 2014

Harris Williams & Co.
middle market®

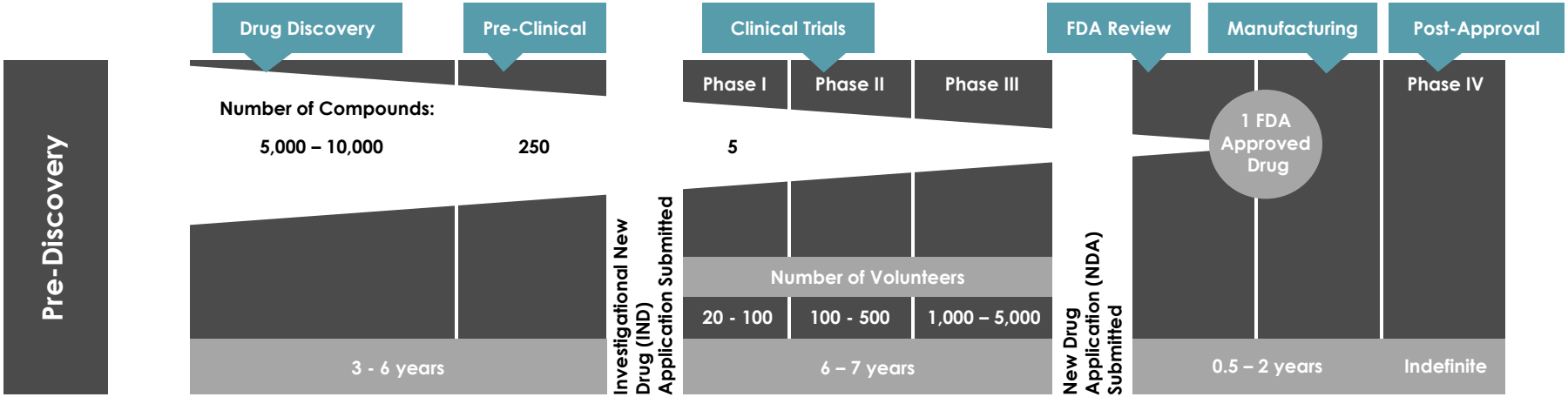
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DRUG DISCOVERY AND DEVELOPMENT PROCESS

Discovering and developing safe and effective pharmaceuticals is a challenging undertaking that can take 10 to 15 years and cost \$1.0 to \$1.5 billion.

- The drug development process requires sophisticated technology and a broad array of medical and laboratory expertise, which include:
 - Disease target identification
 - Preclinical evaluation
 - Toxicology and safety testing
 - Clinical trial design and implementation
- For every 5,000 to 10,000 potential compounds that are evaluated, ultimately only one receives approval from the FDA.

DRUG DISCOVERY AND DEVELOPMENT PROCESS



Given the cost and time to develop drugs, pharmaceutical manufacturers and biotechnology companies are increasingly outsourcing development activities to remove fixed costs and gain efficiencies.

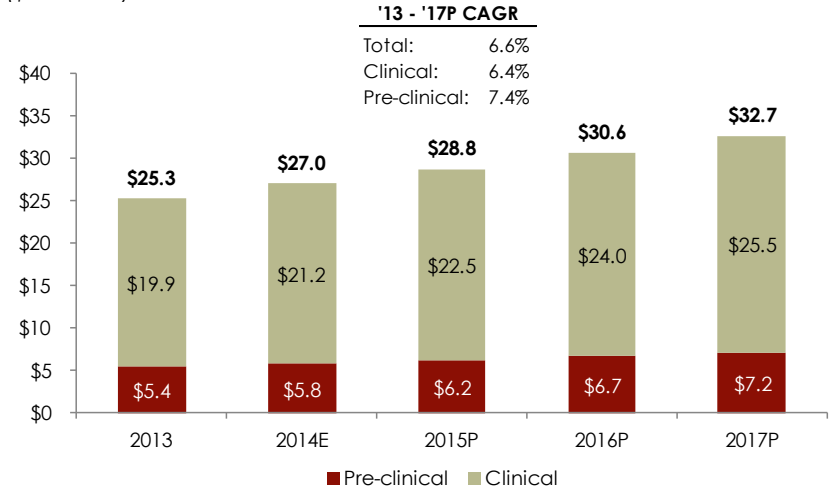
CONTRACT RESEARCH ORGANIZATIONS

Contract Research Organizations (“CROs”) offer outsourced services to support R&D functions for pharmaceutical, biotechnology, and medical device companies.

- CRO services span the range of research and development (“R&D”) activities including: drug discovery, pre-clinical (pre-human in-vitro and in-vivo animal research model), and clinical (in-human) testing.
- Growth in the CRO market will be driven by:
 - 1 Growth in R&D spend
 - 2 Increased outsourcing of R&D activities

CRO MARKET GROWTH

For the Years Ended and Ending December 31, 2013 to 2017P
(\$ in billions)



CRO CORE SERVICES

- Research model production and services
- Discovery services
- Toxicology studies
- Bioanalytical services
- Central laboratory
- Investigator and patient recruitment
- Site monitoring
- Data management services and technology
- Safety and pharmacovigilance
- Study and development program design and consulting
- Regulatory affairs advisory and a variety of post-marketing surveillance and consulting services

GROWTH IN R&D SPEND

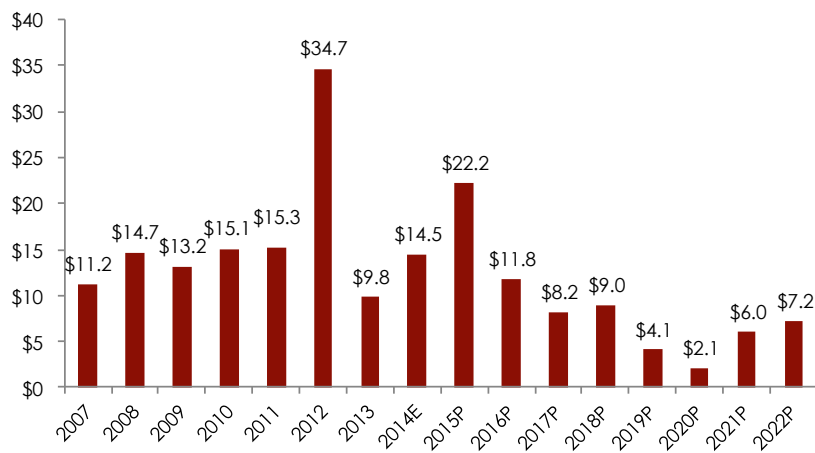
SLOWING PATENT CLIFF AND INCREASED DRUGS APPROVALS...

After experiencing a significant loss of branded sales over the last five years, pharmaceutical manufacturers have seen an uptick in new drug approvals.

- From 2010 – 2012, approximately \$65 billion of branded drugs came off patent protection.
 - Pharmaceutical companies looking to stabilize profitability levels and maintain operating margins have introduced cost saving initiatives with R&D being a core target
 - In addition, pharmaceutical companies shifted focus to late stage R&D development in an effort to drive drugs to market and replace lost revenue
 - Early stage CROs experienced significant pricing pressure that began to stabilize in 2013 as capacity levels stabilized with some larger pre-clinical players closing capacity
- 39 compounds were approved by the FDA in 2012 that are expected to generate \$16 billion in sales in the fifth year after launch.

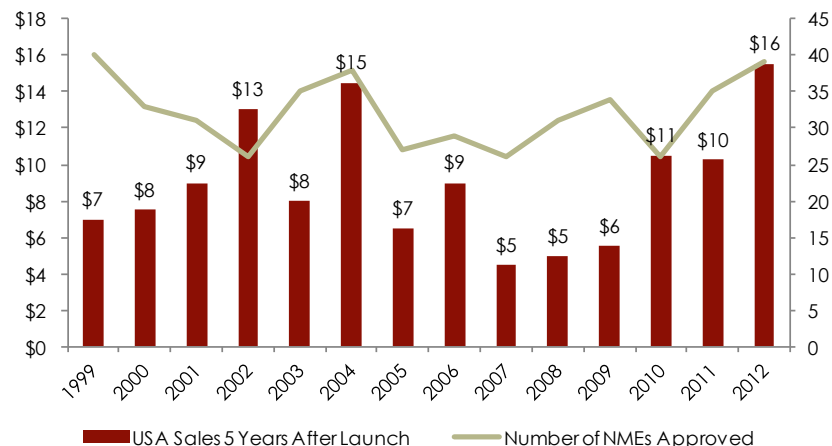
BRAND SALES AT RISK

For the Years Ended and Ending December 31, 2007 to 2022P
(\$ in billions)



INCREASE IN APPROVALS

For the Years Ended and Ending December 31, 1999 to 2012
(\$ in billions)



GROWTH IN R&D SPEND

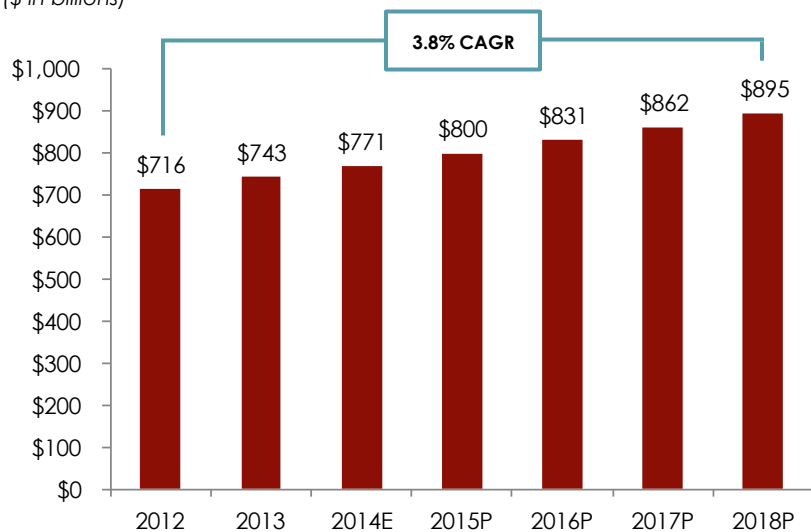
...DRIVING SALES GROWTH AND MODEST R&D SPEND GROWTH

Moderate global prescription drug sales growth is driving a 1.4% annual increase in R&D spend from \$137 billion in 2012 to \$149 billion in 2018P.

- Improving FDA approval levels and positive sales outlook are allowing pharmaceutical companies to allocate more capital to R&D spending.
- CROs are poised to provide the scientific expertise and infrastructure necessary to drive new drug candidates through the development process as the funding environment for biotechnology companies improves.
 - The first half of 2013 yielded 16 biotechnology IPOs that raised \$1.2 billion in capital

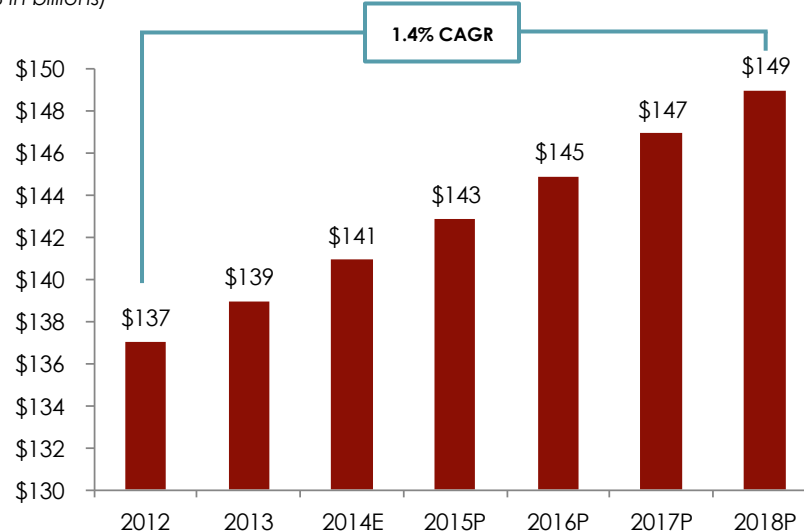
PRESCRIPTION DRUG SALES GROWTH

For the Years Ended and Ending December 31, 2012 to 2018P
(\$ in billions)



PHARMACEUTICAL R&D SPEND

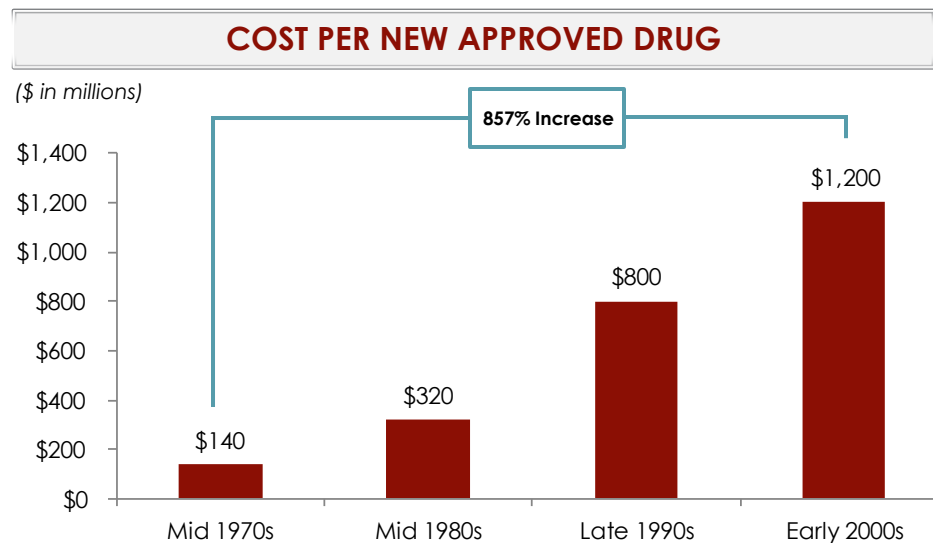
For the Years Ended and Ending December 31, 2012 to 2018P
(\$ in billions)



INCREASED OUTSOURCING NAVIGATING COSTS AND COMPLEXITY

Increasingly complex protocols are driving increases in clinical trial costs, making it more difficult for pharmaceutical companies to recoup R&D investment and driving outsourcing.

- Significant increases to drug development costs are driven by:
 - Increasing complexity of clinical trials
 - Greater number of regulatory hurdles
 - Investment in state-of-the-art technology
- A growing number of pharmaceutical companies are partnering with CROs who have the required infrastructure and expertise to manage costs and deadlines.
- By outsourcing a portion or all of the drug development process to CROs, pharmaceutical companies can more easily manage costs by converting fixed costs into variable costs.



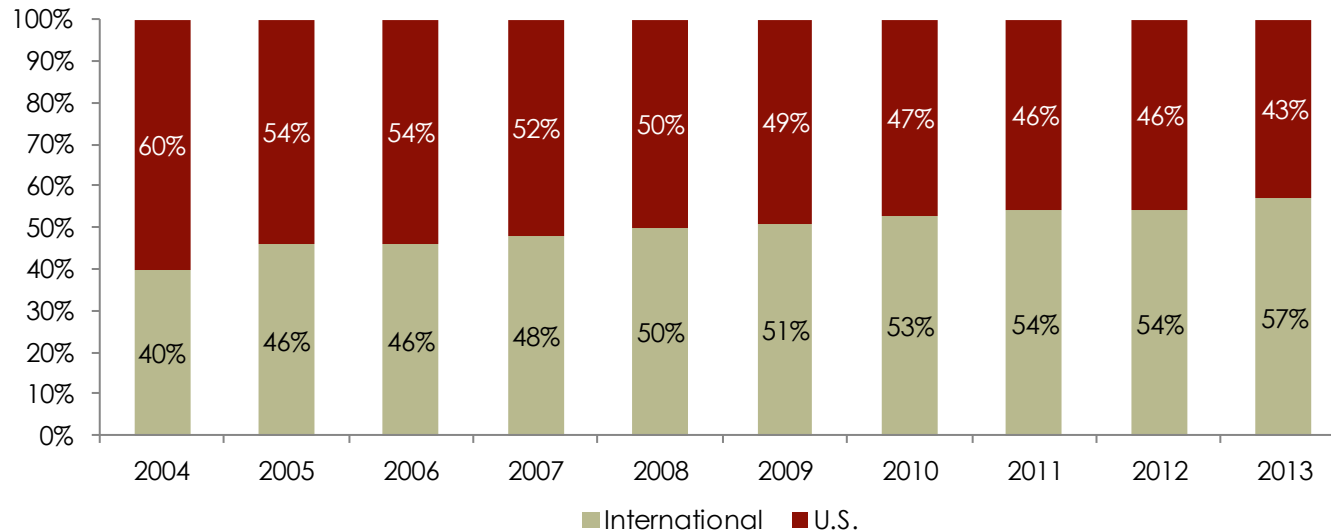
INCREASED OUTSOURCING INTERNATIONAL REACH

Clinical trials are increasingly becoming global, placing a premium on CROs having global capabilities to serve their client's needs across geographies.

- Increased globalization of clinical trials is being driven by numerous factors:
 - Increased speed of enrollment
 - Faster approval of trials
 - Access to global populations
 - Cost considerations
 - Involving local populations is subjected to local regulatory requirements
 - Maximizing the value of R&D spend by receiving regulatory approval from several countries

CRO GEOGRAPHIC REVENUE MIX

For the Years Ended December 31, 2004 to 2013



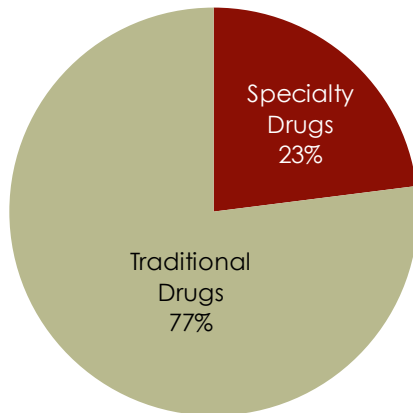
INCREASED OUTSOURCING GROWTH IN SPECIALTY DRUGS

Pharmaceutical companies will increasingly rely on the robust infrastructure and clinical expertise of CROs as specialty drugs become a larger portion of the market.

- Approximately 8% of approved and marketed products today are specialty drugs, but it is estimated that over 42% of drugs in the development pipeline are specialty drugs.
- Outsourcing will be more important than ever to pharmaceutical companies as specialty drugs require highly tailored clinical trials and specific scientific expertise which significantly increase costs.
 - Experience with biomarkers, genomics, companion diagnostics, and delivery routes will differentiate top-tier CROs
- The number of specialty drugs in the market is expected to increase 19% over its 2011 level to 42% in 2016P.

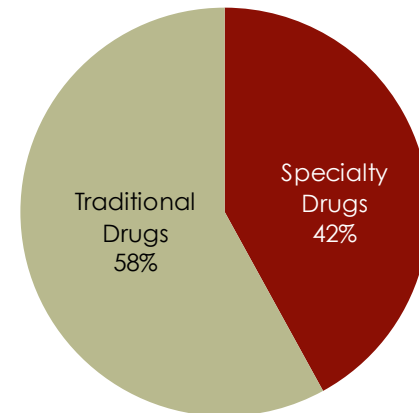
SPECIALTY DRUGS IN THE MARKET IN 2011

For the Year Ended December 31, 2011



SPECIALTY DRUGS IN THE MARKET IN 2016P

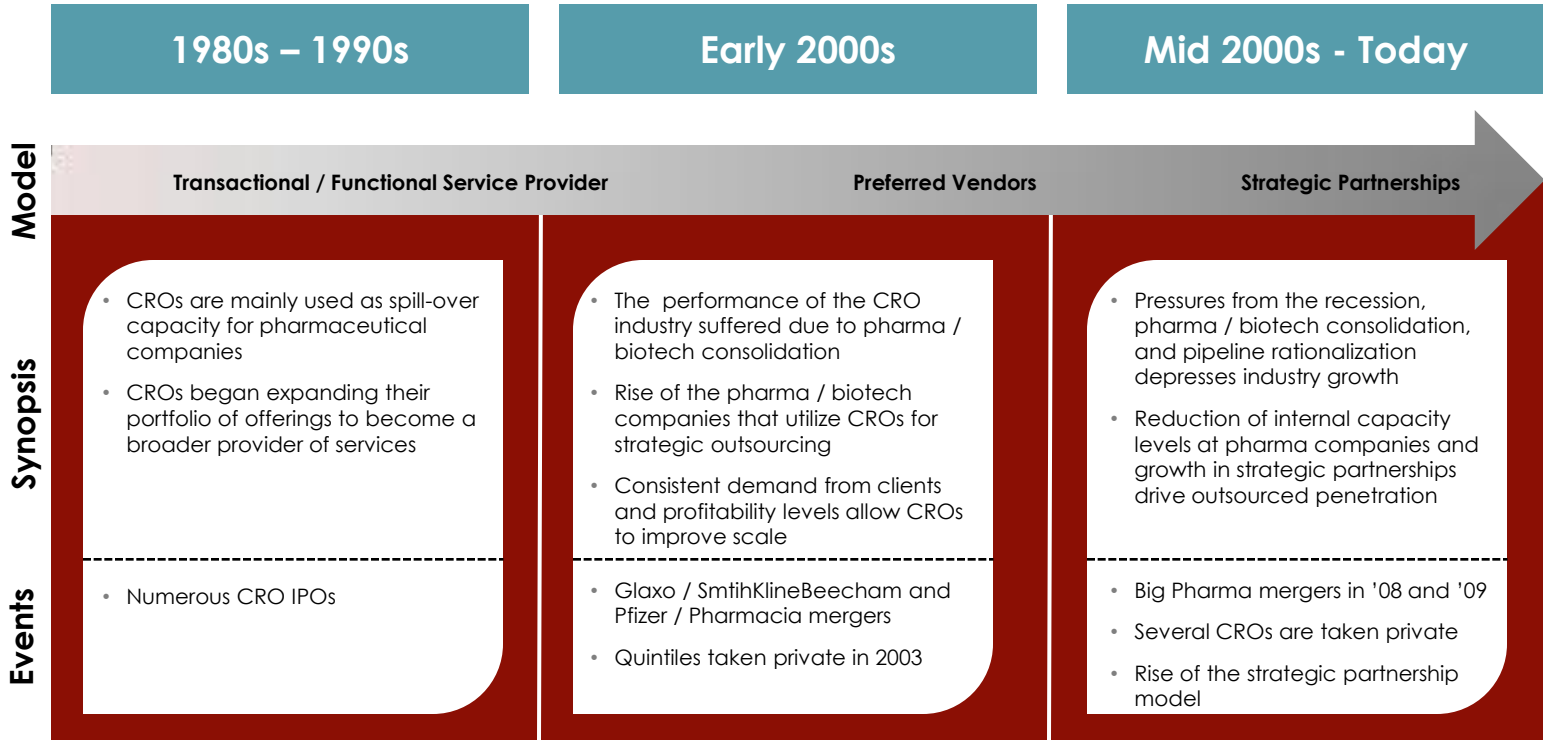
For the Year Ending December 31, 2016P



INDUSTRY EVOLUTION

CROs have evolved from being a provider of additional capacity to being an integral element in the drug discovery and development process.

- CROs arose in the 1970s to provide spill-over capacity for a limited group of services.
 - Data management, clinical site monitoring, and biostatistical analysis
 - Not viewed as strategic partners due to concerns over quality of work and scientific expertise
- In the 1980s, rising development costs forced pharmaceutical companies to partner with CROs to increase efficiency and lower the overall cost of bringing a drug to market.
- To further improve profitability levels and reduce margin pressure, pharmaceutical companies began utilizing preferred provider lists in the early 2000s and more recently creating strategic partnerships with CROs.

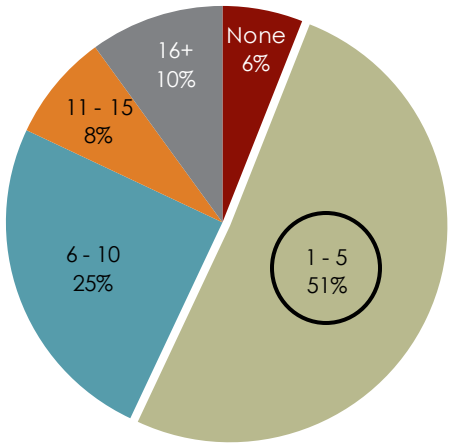


STRATEGIC PARTNERSHIPS

Strategic partnerships with big pharmaceutical companies are driving market share gains for top-tier CROs.

- Large pharmaceutical and biotechnology players have recently moved away from using preferred provider lists and have shifted toward creating strategic partnerships with only one or two CROs.
 - Over 50% of biopharmaceutical companies use less than 5 preferred providers
 - Approximately 50% of potential partnerships have already been awarded
 - Partnership agreements do not include minimum purchase commitments
- Given the level of investment needed to transition protocols to CROs, typical strategic partnership relationships are considered to be sticky with contract terms ranging from 3 to 5 years, leading to increased visibility.

NUMBER OF PREFERRED PROVIDERS USED



KNOWN STRATEGIC PARTNERSHIPS








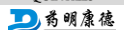










Date Announced	CRO	Partner
July-13	Quintiles	Ascendancy Healthcare
May-13	Quintiles	Merck
April-13	Lab Corp / Quintiles	Bristol-Myers Squibb
October-12	Charles River Laboratories	AstraZeneca
May-12	Covance	Bayer Healthcare
April-12	PRA International	Amgen
August-11	ICON	Bristol-Myers Squibb
May-11	ICON / PAREXEL	Pfizer
February-11	Covance / Quintiles	Takeda
February-11	Pharmaceutical Product Development	Elan
January-11	PAREXEL	Merck
September-10	Covance	Sanofi-Aventis
September-10	PAREXEL / Pharmaceutical Product Development	GlaxoSmith Kline
September-10	PAREXEL	Eli Lilly
June-10	ICON / PAREXEL	Bristol-Myers Squibb
November-09	Quintiles	AstraZeneca
November-09	ICON	Eli Lilly
July-09	Covance	Merck
June-09	ICON	Eli Lilly
August-08	Covance	Eli Lilly

Trend towards strategic partnerships will continue to drive strategic M&A as larger CROs attempt to fill out their full spectrum of service offerings.

CRO SERVICE OFFERING

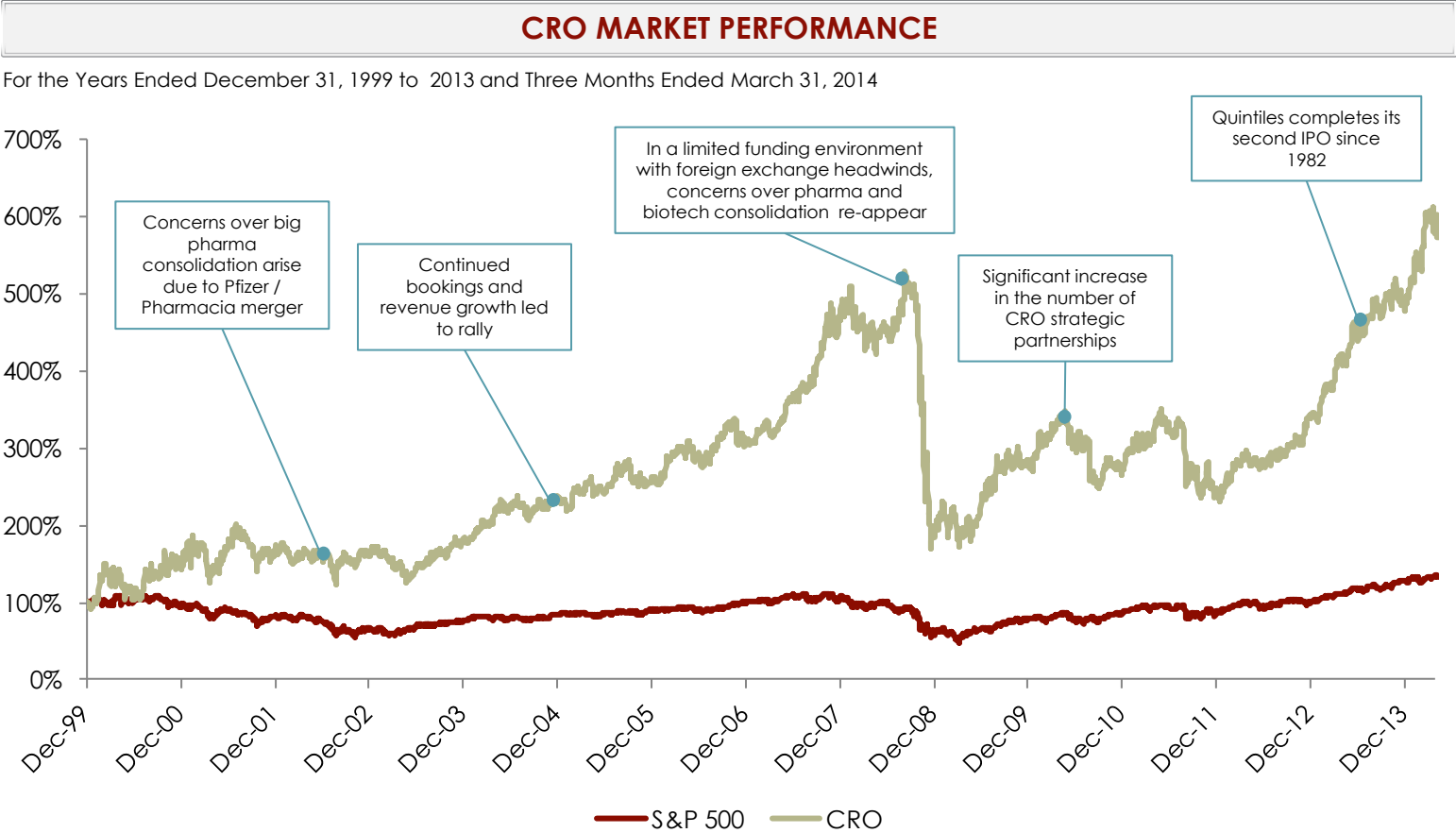
HW&Co. expects continued M&A activity as CROs fill out their service offering across the drug development spectrum and position themselves for strategic partnerships.

KEY PLAYERS AND SERVICES OFFERED

	Early Stage					Late Stage					Other		
	Pre-Clinical					Clinical					Peri-Approval		
	Research Models	Discovery Services	Chemistry	Bioanalysis	Toxicology	Phase I	Phase II	Phase III	Central Lab	Imaging	Phase IV	Consulting	CSO / Commercialization
Publicly Traded CROs													
	✓	✓		✓	✓					✓		✓	
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Private CROs													
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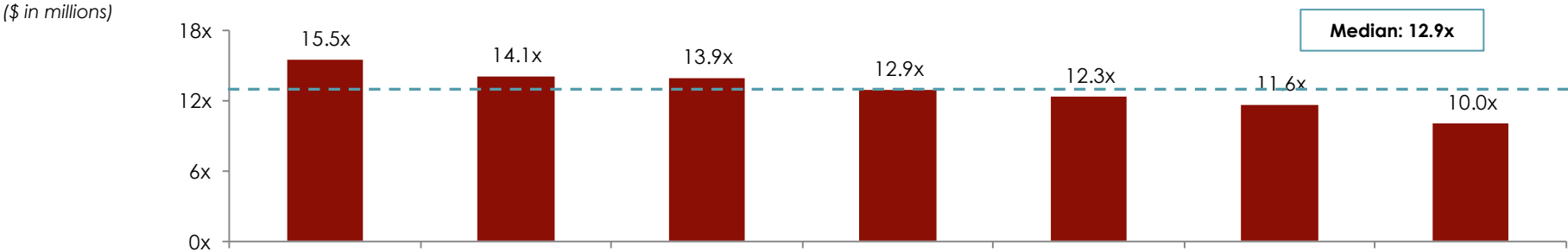
MARKET PERFORMANCE

Despite encountering several instances of volatility, the CRO industry has trended upward and outperformed the broader market over the last decade.



MARKET VALUATION – PUBLIC COMPANIES

TEV / EBITDA – CURRENT TRADING PERFORMANCE



Enterprise Value	\$2,196	\$7,831	\$5,040	\$2,277	\$3,242	\$2,837	\$472
Revenue	578	3,808	2,402	1,336	1,166	1,854	247
Three-Year Revenue CAGR	20.1%	7.6%	7.7%	14.1%	0.9%	15.3%	7.6%
EBITDA Margin	25.4%	14.6%	15.1%	13.2%	22.1%	13.1%	19.1%

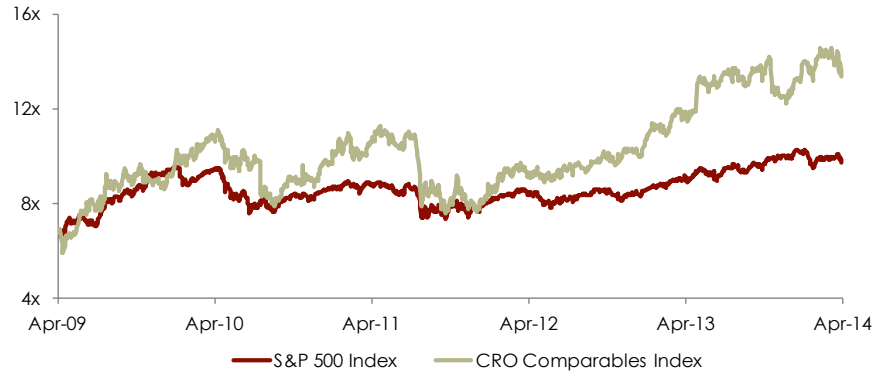


FIVE-YEAR TRADING STATISTICS (INDEXED TEV / LTM EBITDA)¹

CONTRACT RESEARCH ORGANIZATIONS



COMPARABLE COMPANY TEV / LTM EBITDA¹ ('09 – '14)



OVERVIEW OF PRECEDENT COMPARABLE TRANSACTIONS

CRO transactions have traded at a median 11.6x LTM EBITDA multiple.

(\$ in millions)

Target Company	Acquirer	Date	Enterprise Value	Enterprise Value/Sales	Enterprise Value/LTM EBITDA
Contract Research Organizations					
Aptiv Solutions, Inc.	ICON Public Limited Company	Pending	\$143.5	Confidential	
Medpace, Inc.	Cinven Limited	Apr-14	915.0	--	--
Galapagos NV, CRO Services Division	Charles River Laboratories International, Inc.	Mar-14	134.0	2.1 x	12.0 x
Lifetree Clinical Research, L.C.	PRA International, Inc.	Dec-13	--	--	--
ReSearch Pharmaceutical Services, Inc.	PRA International, Inc.	Sep-13	--	--	--
Novella Clinical, Inc.	Quintiles Transnational Corp.	Sep-13	167.5	--	--
PRA International, Inc.	Kohlberg Kravis Roberts & Co.	Jun-13	--	--	--
HERON Group Limited	PAREXEL International Corporation	Apr-13	38.1	--	--
BioClinica, Inc.	JLL Partners	Mar-13	108.2	1.4 x	10.5 x
ClinStar, LLC	PRA International, Inc.	Mar-13	--	--	--
Vital River Laboratories Co., Ltd.	Charles River Laboratories International, Inc.	Jan-13	35.7	--	--
Liqent	PAREXEL International Corporation	Dec-12	Confidential		
Accugenix, Inc.	Charles River Laboratories International, Inc.	Aug-12	17.0	--	--
Caprion Proteomics	Chicago Growth Partners	Jul-12	Confidential		
eResearchTechnology, Inc.	Genstar Capital, LLC	Jul-12	377.0	1.9 x	9.0 x
SeraCare Life Sciences, Inc.	Linden LLC	Apr-12	62.5	1.4 x	13.4 x
BioReliance Corporation	SAFC, Inc.	Jan-12	353.0	2.8 x	--
Pharmaceutical Product Development, LLC	Hellman & Friedman LLC; The Carlyle Group LP	Dec-11	3,394.5	2.1 x	10.4 x
PharmaNet Development Group, Inc.	inVentiv Health Inc.	Jul-11	600.0	--	--
Kendle International Inc.	INC Research, LLC	Jul-11	348.3	0.8 x	14.3 x
Ingenix, Inc., i3 Clinical Development Businesses	inVentiv Health Inc.	Jun-11	140.0	--	--
ReSearch Pharmaceutical Services, Inc.	Warburg Pincus LLC	Feb-11	253.9	0.9 x	15.1 x
Lifetree Clinical Research, L.C.	CRI Worldwide, LLC	Jan-11	--	--	--
INC Research, LLC	Teachers' Private Capital; Avista Capital Holdings, L.P.	Aug-10	--	--	--
inVentiv Health Inc.	Thomas H. Lee Partners, L.P.	Aug-10	1,189.0	1.1 x	8.7 x
BioDuro, LLC	Pharmaceutical Product Development, LLC	Nov-09	78.5	--	--
Excel PharmaStudies, Inc.	Pharmaceutical Product Development, LLC	Nov-09	21.7	--	--
MDS Pharma Services	INC Research, LLC	Jul-09	50.0	--	--
Piedmont Research Center, LLC	Charles River Laboratories International, Inc.	May-09	46.0	--	--
PharmaNet Development Group, Inc.	JLL Partners	Mar-09	188.0	0.4 x	8.6 x
Low of Entire Group:			\$17.0	0.4 x	8.6 x
Median of Contract Research Organizations:			\$137.0	1.4 x	11.6 x
High of Entire Group:			\$3,394.5	3.8 x	15.9 x

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