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COVID-19 Impact on the Biopharmaceutical Industry and CRO Outsourcing - 2020

Insights and metrics into biopharmaceutical clinical development budgets, activity, outsourcing to CROs and future outlook

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Confidential & Proprietary

About the Author

Life Science Strategy Group, LLC (LSSG) report authors draw upon extensive business, consulting and life science experience and backgrounds.

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Mr. Meyer is a Founder and Principal Consultant with the Life Science Strategy Group, LLC (LSSG). With 20 years of contract research services consulting experience, Mr. Meyer leads LSSG's contract research services consulting division which serves the leading global contract research organizations (CROs) across all phases of pharmaceutical discovery, development and commercialization.

Mr. Meyer has managed consulting engagements in a variety of commercialization and market research areas including strategic planning, opportunity assessments, pricing and reimbursement analyses, forecasting, competitive benchmarking, positioning and messaging strategy and clinical trial benchmarking and analysis. Prior to LSSG, Mr. Meyer was a Director in the Life Sciences Division at Navigant Consulting, Inc. and conducted preclinical drug development in the department of inflammatory disease at Roche Bioscience. Mr. Meyer holds Masters Degrees in Biomedical Science and Business Administration.

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Goal and Objectives

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GOAL

- To better understand the impact of COVID-19 on Biopharma's clinical development activities including:
 - Clinical development and outsourcing budgets
 - Clinical trial starts, patient enrollment, and cancellations
 - Utilization of remote monitoring technology/virtual trials
 - Perceived leading CROs and unmet needs for COVID-19 clinical services
 - Impact of COVID-19 on future volume of RFPs for outsourced services

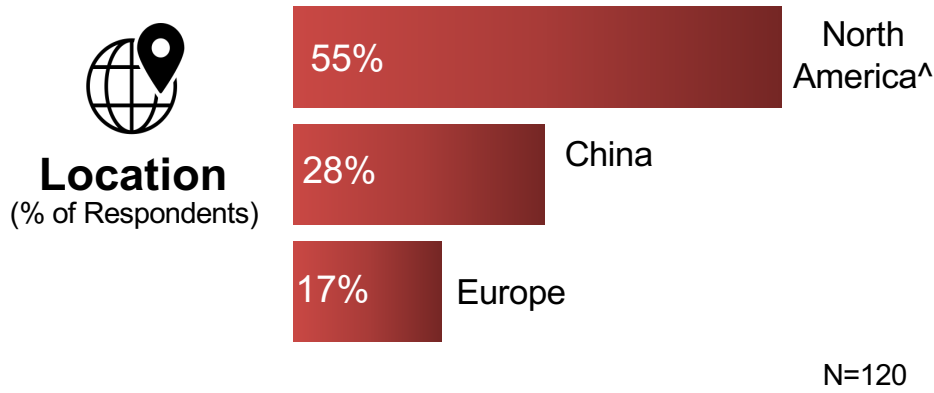
METHODOLOGY

- Study participants (N=120) are all involved with drug development and/or post-marketing approval/commercialization stages of the product lifecycle and employed by a biopharmaceutical company in North America, Europe and/or China.
- All study participants were prescreened by LSSG to ensure a high level of involvement and/or key decision-making authority for real-world evidence. All data analysis and reporting was performed by LSSG.

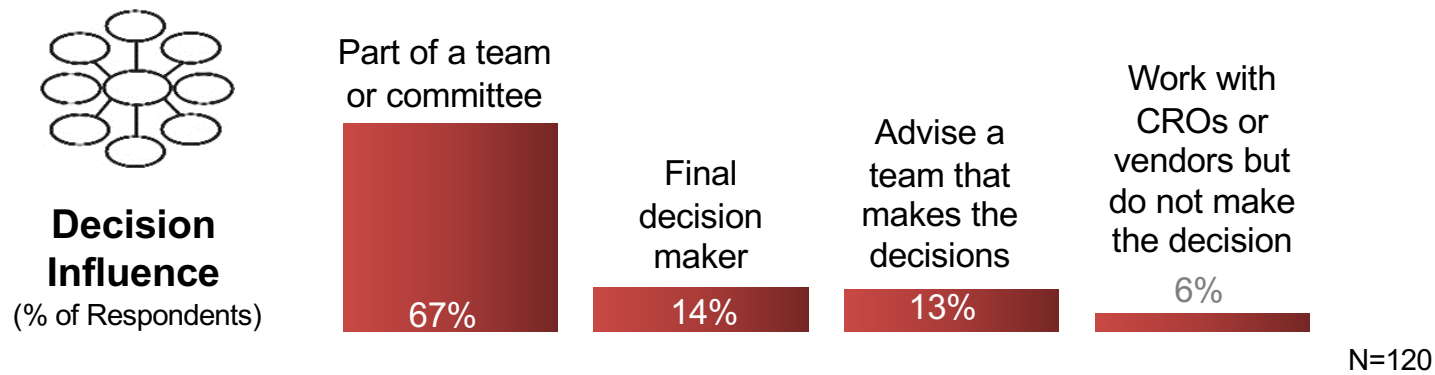
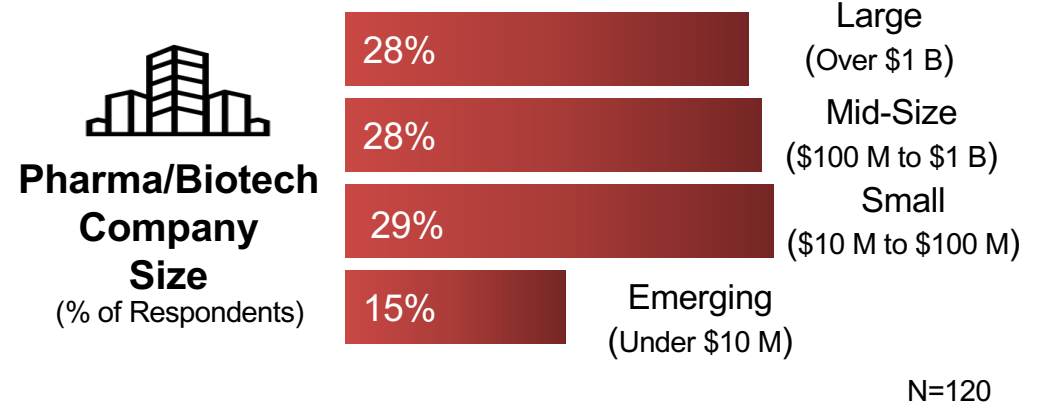
Respondent Demographics

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- All respondents have visibility (53%) or responsibility (47%) into clinical development budget(s).



[^]North America includes one respondent from Latin America



Q. Which best describes your responsibility for or visibility into a clinical development budget(s) at your company?

Q. Where are you located?

Q. Which BEST describes the type of company that you currently work for?

Q. Which best describes your role as it relates to the identification, selection and/or day-to-day interaction with CROs or vendors in your primary functional area(s) of responsibility?

Clinical development budgets are expected to A in January to June and then Y by in the July through December time period.

COVID-19 Impact on 2020 Clinical Development Budgets

Market Aggregate

N=120

January to June

July to December

Decrease by XX%

*Increase by XX%**

*Increase by XX%**

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Decrease by XX%

Increase No Change Decrease Not Sure/Don't Know

Increase No Change Decrease Not Sure/Don't Know

* Clinical budget increase not necessarily driven by COVID-19 therapy or vaccine development.

Q. How will COVID-19 impact your/your company's clinical development budgets for each of the following time periods?

Source: Life Science Strategy Group, LLC

Text color:

Grey = % of respondents

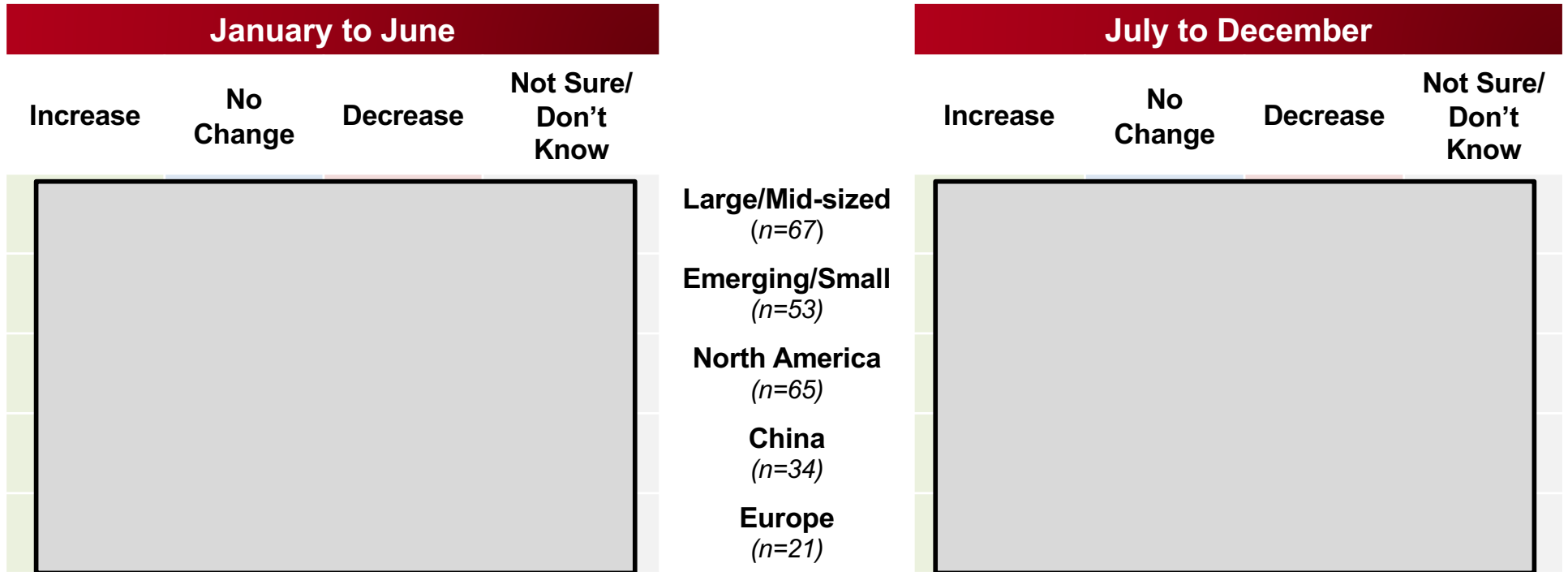
Green = increase %

Red = decrease %

X biopharma and sponsors from Y are experiencing the greatest negative impact. Most respondents expect a 2% decrease in the second half of 2020.

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COVID-19 Impact on 2020 Clinical Development Budgets
Segment Analysis



Q. How will COVID-19 impact your/your company's clinical development budgets for each of the following time periods?

Source: Life Science Strategy Group, LLC

Text color:

Grey = % of respondents

Green = increase %

Red = decrease %

The increase in clinical development budgets from January to June 2020 focused more on X and Y study scope (e.g., sample size, protocols) as companies adjust to COVID-19.

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Activities Impacted by an INCREASE in 2020 Clinical Development Budgets

January to June

(unaided)*

Market Aggregate

N=34



Increasing # of Mentions

XXXX

n=22

Scope of studies (e.g., sample size, protocols, recruitment and retention)

n=10

“A certain sum of money will be appropriated to cofound a virus reagent testing platform with other institutes.”

-China, Small Pharma, Manager

YYY

n=6

ZZZ

n=5

Regulatory activities (e.g., IND submissions)

n=3



-Europe, Mid-sized Pharma, Senior Director/Director

*for mentions of 3 or over

Q. What activities are being/will be impacted by the increase in your/your company's clinical development budgets from January to June 2020? Please separate each activity by a comma.

Source: Life Science Strategy Group, LLC

Due to the COVID-19 pandemic, most sponsors see a X in new clinical trial/study starts, X, and Y and expect this trend to continue for the rest of 2020. Moreover, respondents see in virtual clinical trial activities, especially virtual visits or Z use.

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COVID-19 Impact on 2020 Clinical Trial Activities

Market Aggregate

N=120

	January to June		July to December	
	% of Respondents	% increase % decrease	% of Respondents	% increase % decrease
New Clinical Trial/Study Starts				
XXXXX				
ZZZZZ				
Virtual, Decentralized, or Technology-Enabled Clinical Trial Starts				
Virtual Visits or Telemedicine Use				
Clinical Trial Cancellations				
Volume of RFPs for Outsourced Clinical Development Services				

Q. How will COVID-19 impact your/your company's _____ for each of the following time periods?

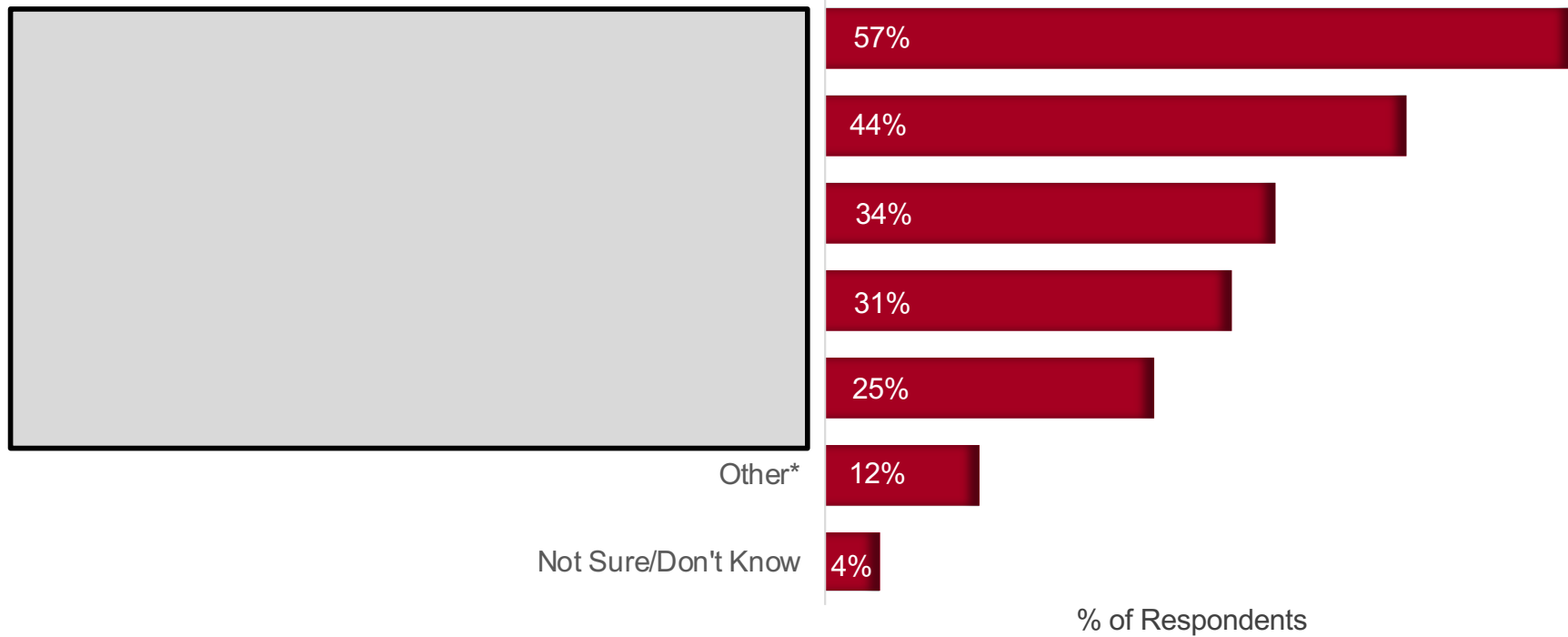
Source: Life Science Strategy Group, LLC

Biopharmaceutical companies plan to use technology like X and Y to expand patient Z as well as make to assist with *_____*ing.

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Strategies to Engage Patients and Drive Patient Recruitment in Clinical Trials as a Result of COVID-19

Market Aggregate
N=120



*Other: Halted recruitment and enrollment (n=5), Use of local labs close to patient homes (n=2), Drug delivery and study visits directly at patient home (n=2), Phone visits (n=2), Collect sensor-driven objective data (n=1), Increase digital services (n=1), Improved communication among all parties (n=1), KOL engagement (n=1)

Q. As a result of COVID-19, what are you/is your company doing differently to engage patients and drive patient recruitment in clinical trials? Please select all that apply.

Source: Life Science Strategy Group, LLC

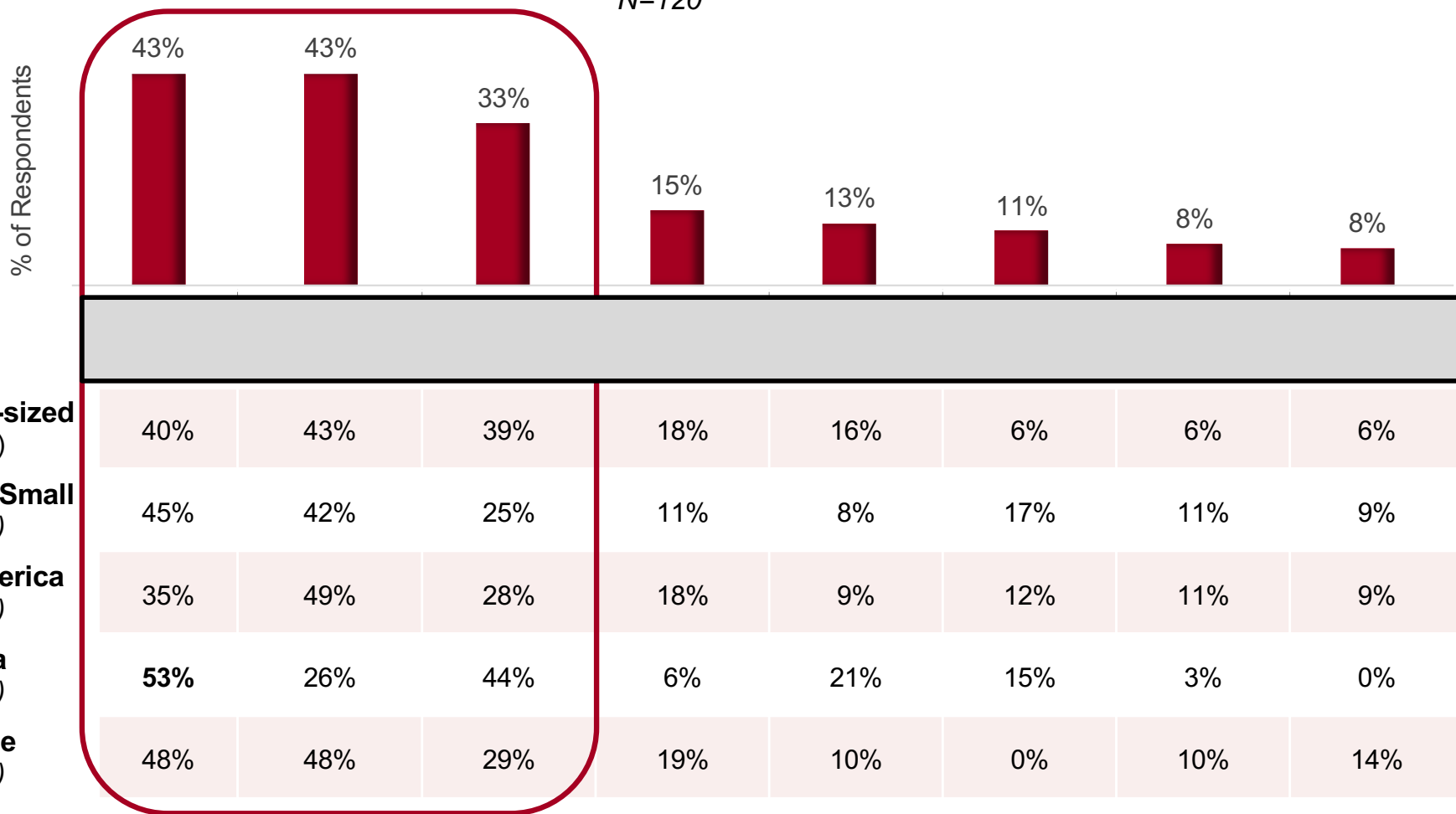
X and Y are the top perceived market leaders for COVID-19 clinical development services. Pharma respondents are more likely to use Z.

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Perceived Market Leader for COVID-19 Clinical Development Services

Market Aggregate

N=120



*Other:
 Q. Which CRO(s) do you perceive to be the market leader(s) for COVID-19 clinical development services? Please select up to 2 options.
 Source: Life Science Strategy Group, LLC

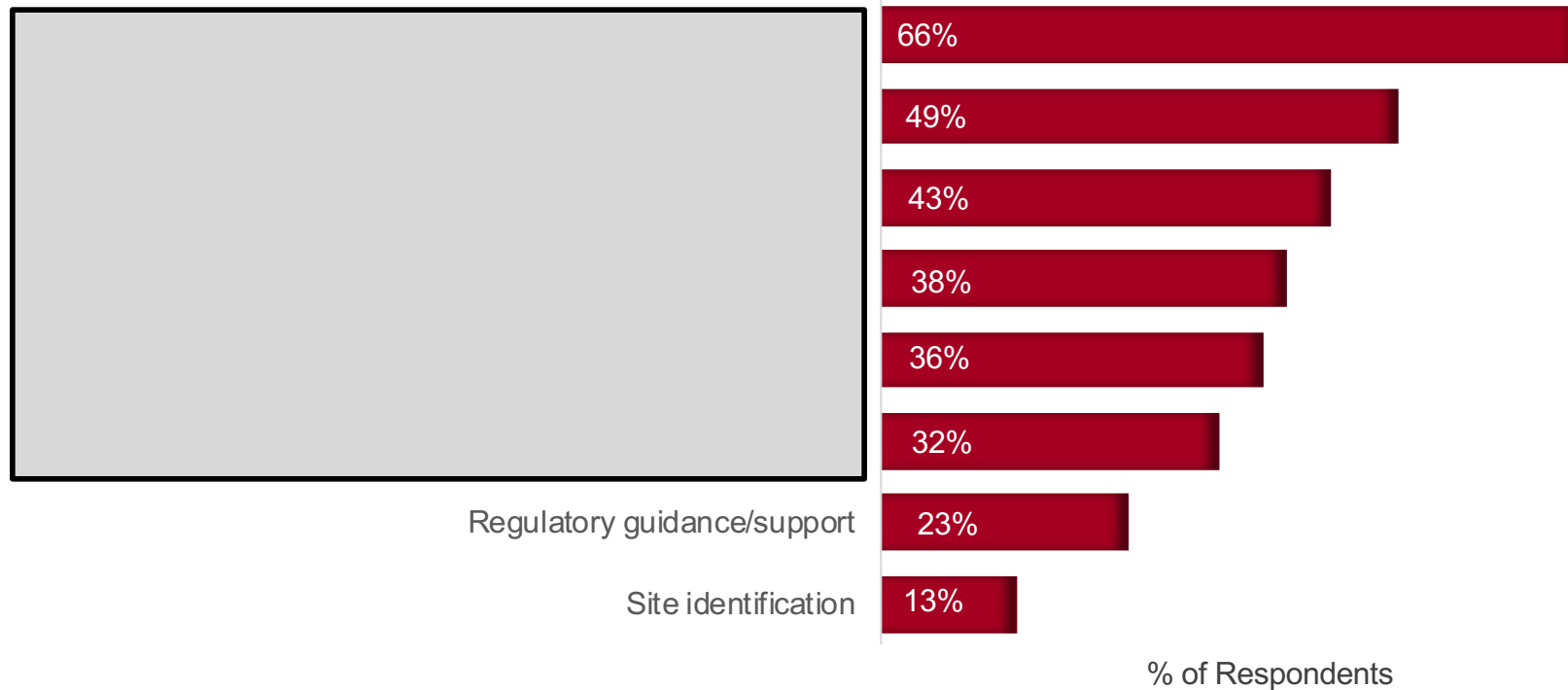
Respondents, who have or will initiate clinical development activities/trials for COVID-19 therapies or vaccines, are listed in Appendix X and Y.

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CRO Capabilities Needed to Support COVID-19 Clinical Development

Market Aggregate

N=47



Q. What services/capabilities/expertise will be most important for CROs or vendors to offer to support your COVID-19 clinical development/trials? Please select the top-3 options.

Source: Life Science Strategy Group, LLC