

National Drug Development Accelerator

Kansas City Region Drug Development Contract Research Organizations

Final Report
April, 2011

**Simon
Management
Group**

Boston / Austin

--Confidential--

Contents

- Project Objectives and Methodology
- Aggregate CRO Data
 - Business and focus
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Project Objectives and Methodology

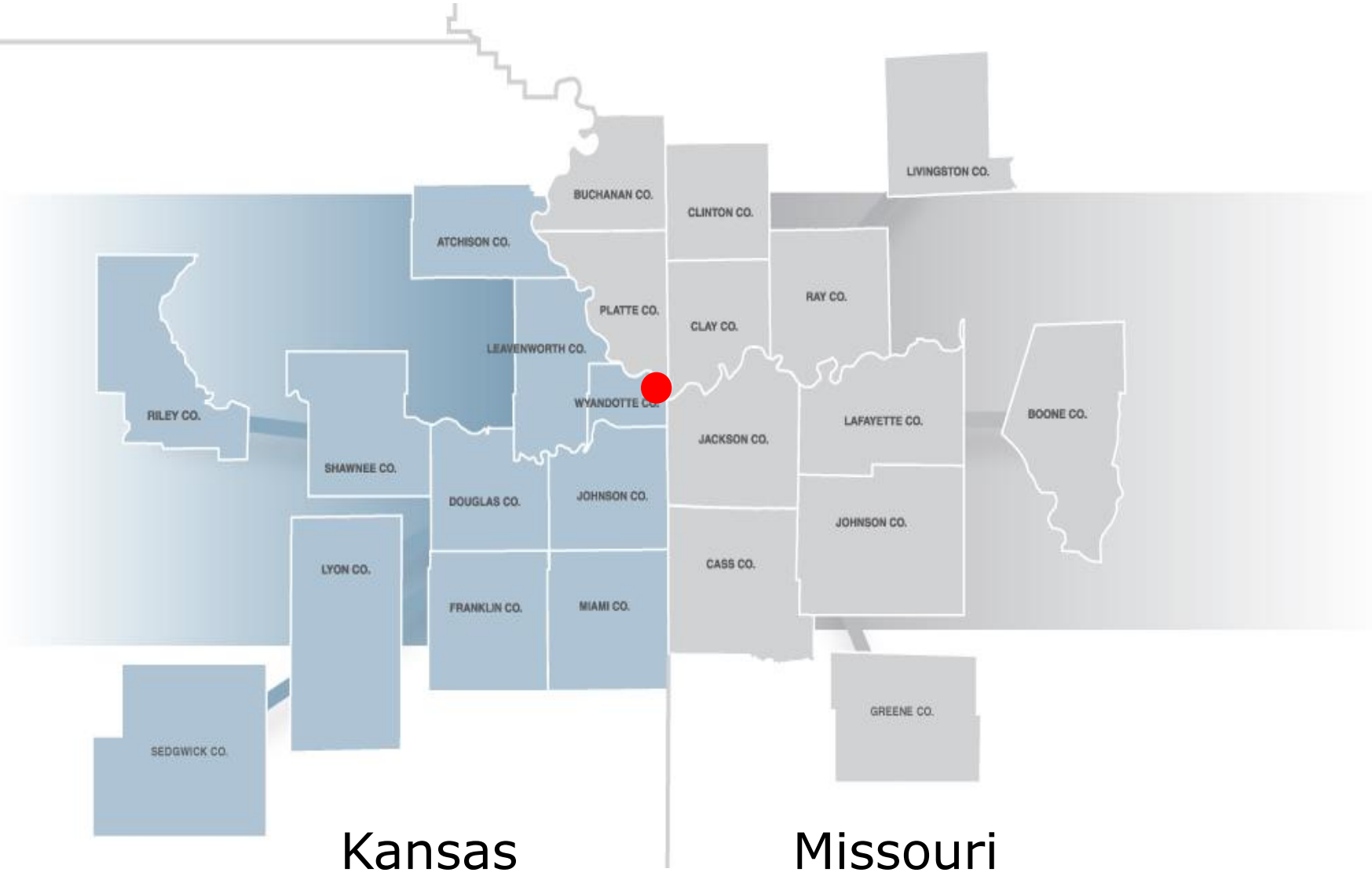
Objectives: Provide research and analysis of Contract Research Organization assets in the greater Kansas City Region.

- Inventory and catalog the capabilities and details of CRO companies in the KC Region, along with database vendor PharmaCircle, into an appropriate database as mutually agreed upon by the parties.
- Identify the unique features that differentiate the CROs in the KC Region. Identify common issues, growth challenges and opportunities confronting the CROs in the KC Region. Determine if the NDDA can help address these challenges.
- Work with Tufts CSDD to develop analytics to compare the CROs in the KC Region to other parts of the country.

CRO Data Collection Methodology:

- ▶ Write Interview Guide to collect the desired data
 - Conduct Pilot Program test of Guide
- ▶ Compile list of CRO companies in region (NDDA)
- ▶ Send emails of introduction (NDDA)
- ▶ Conduct telephone interviews
 - 66 interviews completed
 - 2 companies' data collected from web sites
- ▶ Analyze and report on data collected

Kansas City Region



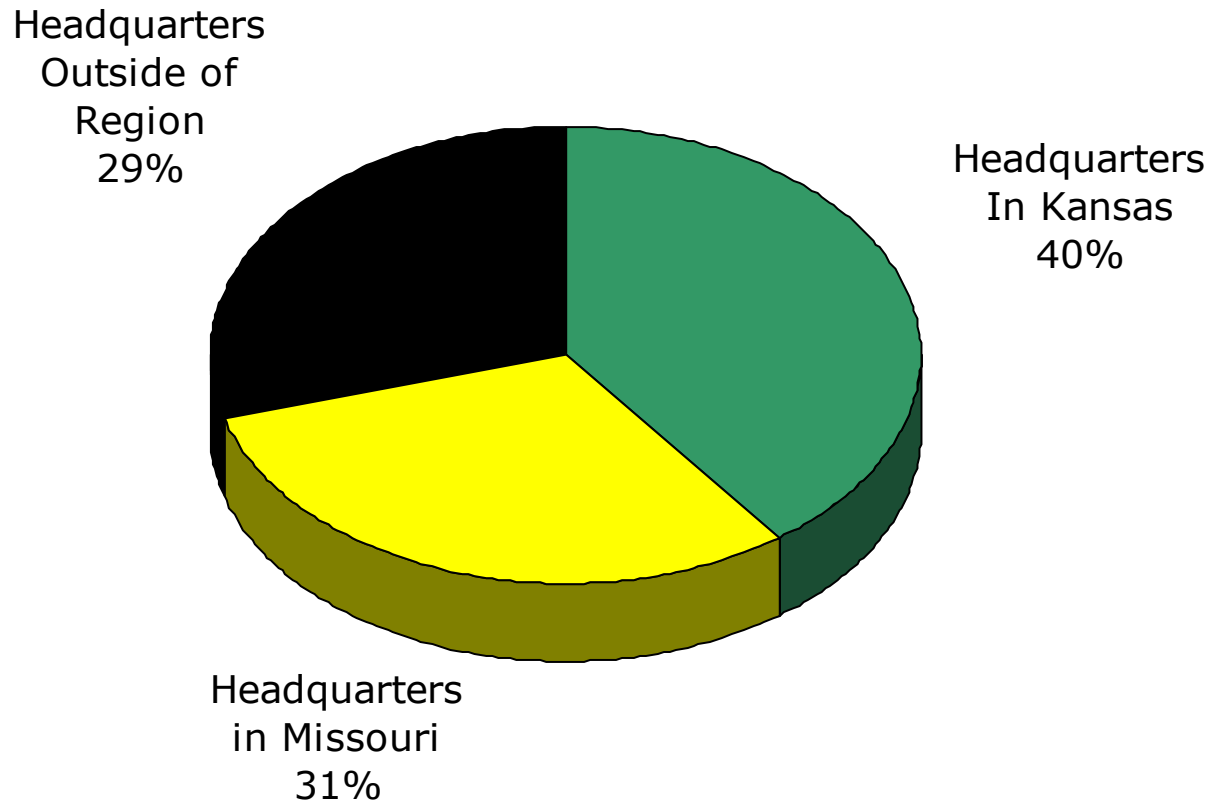
Map not to scale

Kansas City Region - CRO Master List

Total Companies Identified:	78
Companies not Drug Development CROs:	5
Companies not active:	<u>5</u>
Active CROs in the KC Region:	68

CROs by Headquarters in Region

(n = 68)



CROs by State

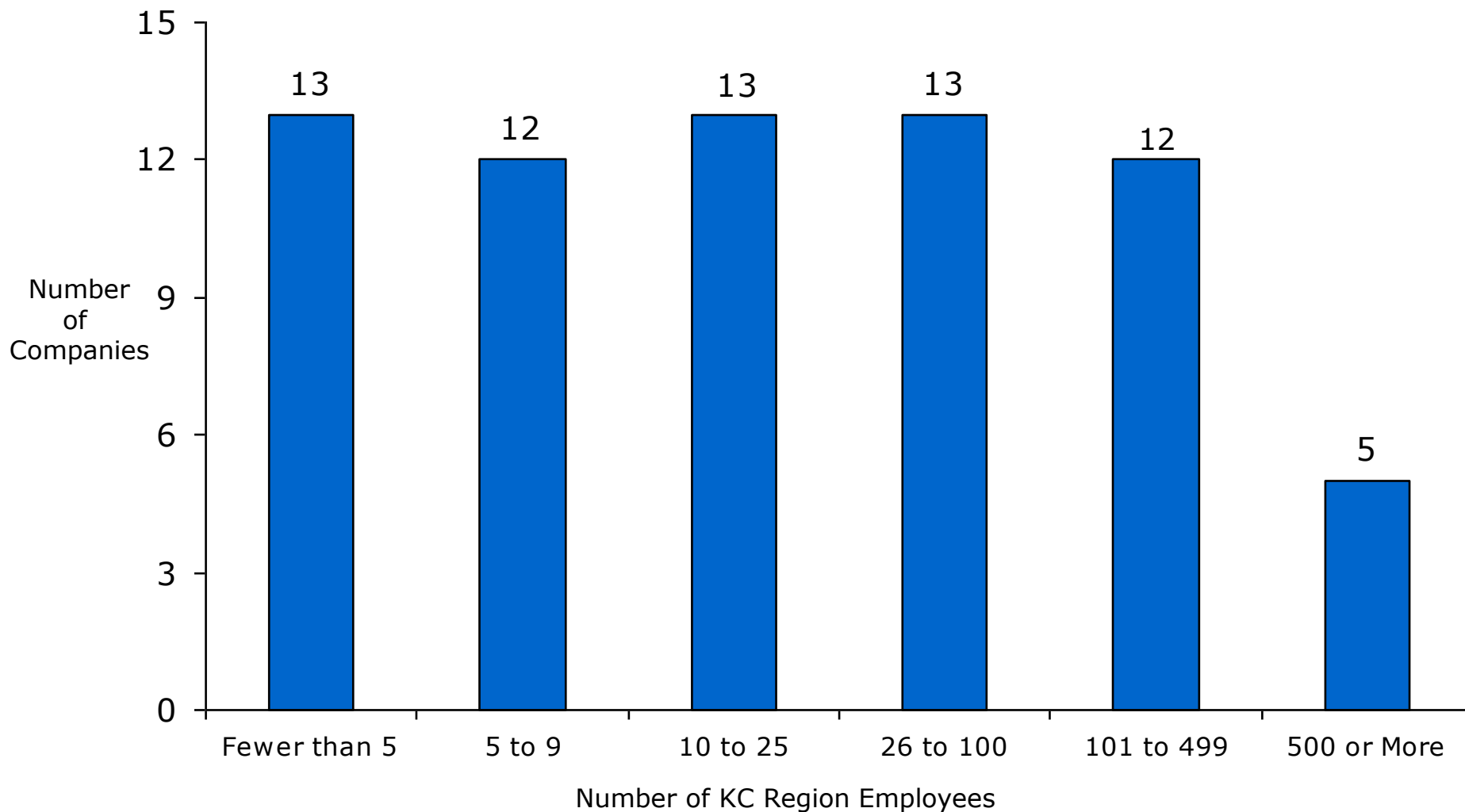
<u>State</u>	<u>Number of CROs</u>	<u>Number of Employees</u>
Kansas	43	6,321
Missouri	<u>25</u>	<u>7,245*</u>
TOTAL REGION	68	13,566

*Note: Includes Cerner with 5000 employees

CRO Business and Focus

CROs by Employees in Region

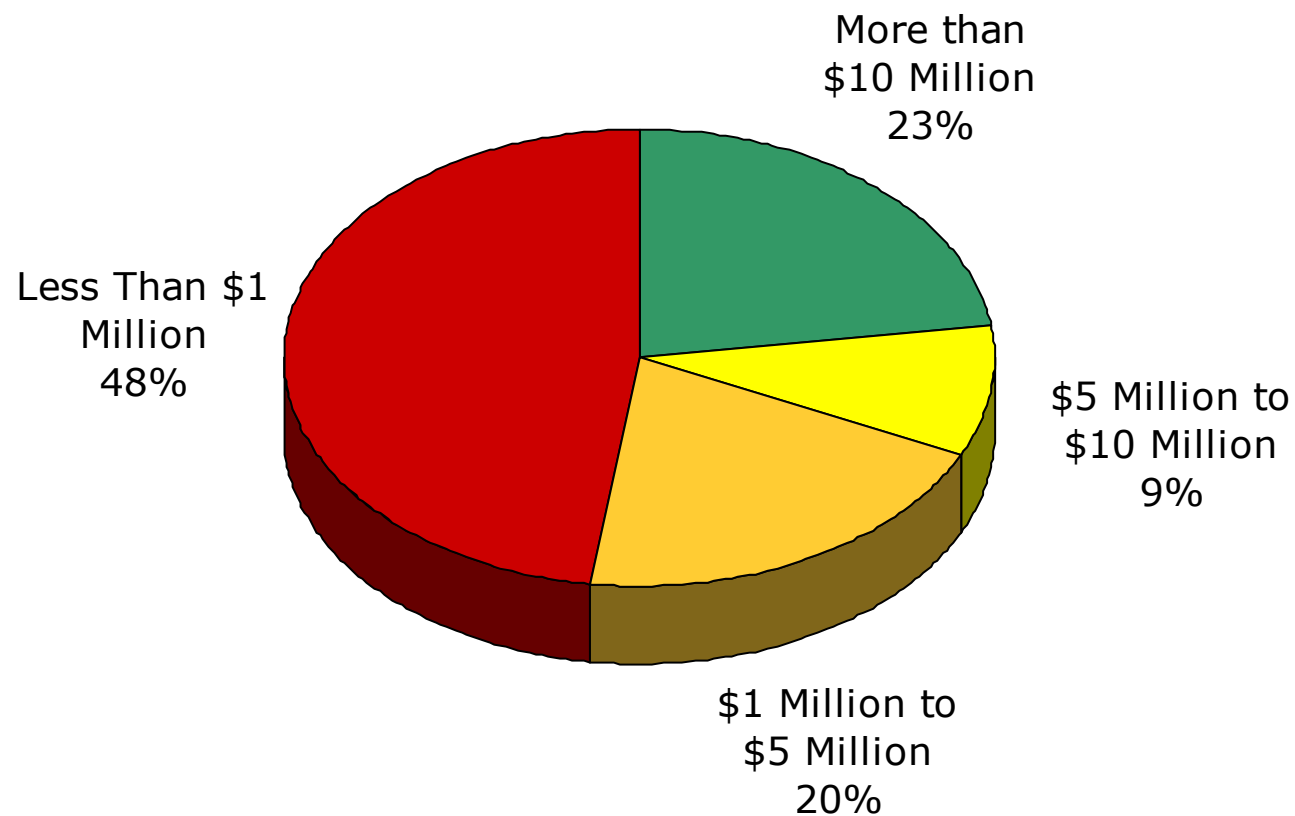
(n = 68)



Average Number of Employees per CRO: 196.6
 Total CRO Employees in KC Region: 13,566

CROs by 2010 Regional Revenues

(n = 44*)

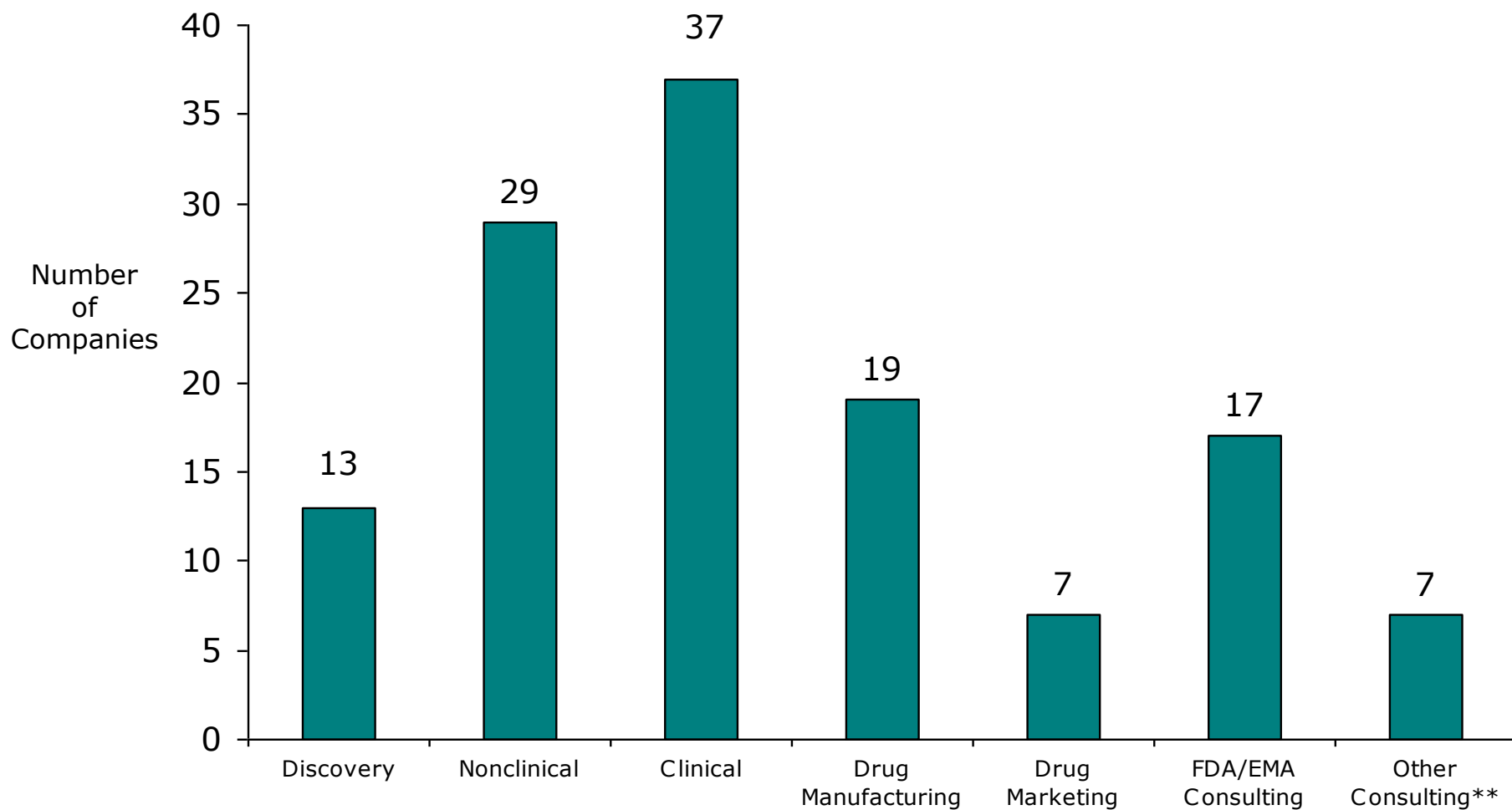


Average Revenue per CRO: \$12.9 million

*Note: Hoover's data used for 14 companies, KC region data not available for remaining 24 including Cerner, Hospira, CRL, and Quintiles.

CROs by Drug Development Phase

(n = 64*)



*Multiple phases allowed
 **Other Consulting includes companies with services that are not in specific drug development phase categories

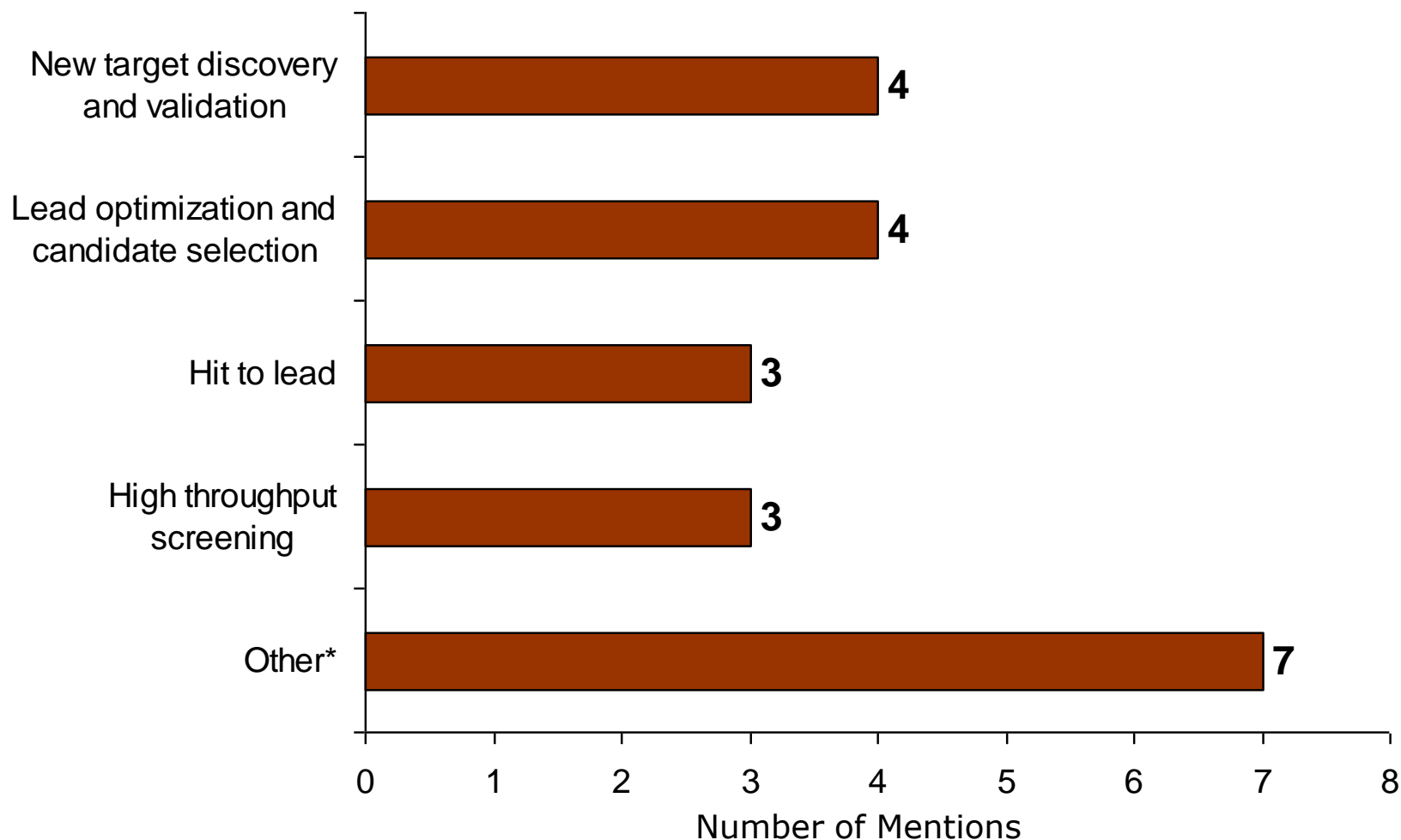
CROs by Drug Development Phase

Discovery	Nonclinical			Clinical		
Ecto Development Corp.	Hershel J. Gaddy & Assoc.	Ethical & Independent Review Services	Bertram Group	Herschel J Gaddy & Assoc.	Viracor/IBT/ Progene	Beckloff Associates
U of Kansas Inst for Advancing Medical Innovation	U of Kansas Inst for Advancing Medical Innovation	Viracor/IBT/ Progene	Acceleration Laboratory Services	Midwest Research Inst.	Merial-Intervet/ Schering-Plough Animal Health	Cerner
Xenotech	JCB Labs	Crititech	KC Analytical Services	i3 Global	Crititech	QPS
Midwest Research Inst.	KantarHealth	BMDK	Xenometrics	U of Kansas Inst for Advancing Medical Innovation	EMB Statistical Solutions	UBC
Hershel J. Gaddy & Assoc.	Analytical Biochemistry Labs	CyDex	Beckloff Associates	KC MedNet	Analytical Biochemistry Labs	Ethical and Independent Review Services
Betachem	Midwest Research Inst.	InnovaPrep	QPS	Quest Diagnostics	cGMP Validation	Starr Health Strategy
Johnson Strategic Communications	Johnson Strategic Communications	Alburty	Sinclair	Clinical Reference Lab	Aptuit	Sinclair
Inovatia Labs	Betachem	Xenotech	Midwest Bio Services	The Micron Group	InnovaPrep	ProPharma
Midwest Bio Services	Integrated Biotech Solutions	SAFC	CIBOR	PRL Central Laboratory Services	Integrated Biotech Solutions	Vince & Associates
KC Analytical Services	Dybedal/ KCUMB Clinical Research Center	Inovatia Labs		Johnson Strategic Communications	Clinipace Worldwide	Mid*Lands IRB
Xenometrics				SAFC	PRA International	Quintiles
Beckloff Associates				KantarHealth	Dybedal/ KCUMB Clinical Research Center	KC Analytical Services
QPS						AccessMed

CROs by Drug Development Phase

Drug Manufacturing		Drug Marketing	FDA/EMA Consulting	
Betachem	Managex Consulting	Norwood Labs	QVM Services	Ecto Development Corp.
Midwest Research Inst.	Herschel J Gaddy & Assoc.	Johnson Strategic Communications	cGMP Validation	Managex Consulting
Johnson Strategic Communications	Hospira	CyDex	BMDK	Xenotech
Inovatia Labs	InnovaPrep	AccessMed	AccessMed	Herschel J Gaddy & Assoc.
Integrated Biotech Solutions	Merial–Intervet/Schering-Plough Animal Health	Beckloff Associates	Beckloff Associates	The Micron Group
Beckloff Associates	Orbis Biosciences	Cerner	Alburty	UBC
SAFC	Bayer Healthcare	Starr Health Strategy	ProPharma	Integrated Biotech Solutions
Ameri-Pac	CRB Engineers		PRA International	CIBOR
Crititech	ProPharma		Cerner	
cGMP Validation				

Involvement in Specific Areas of Discovery Phase (n = 13, Prompted)



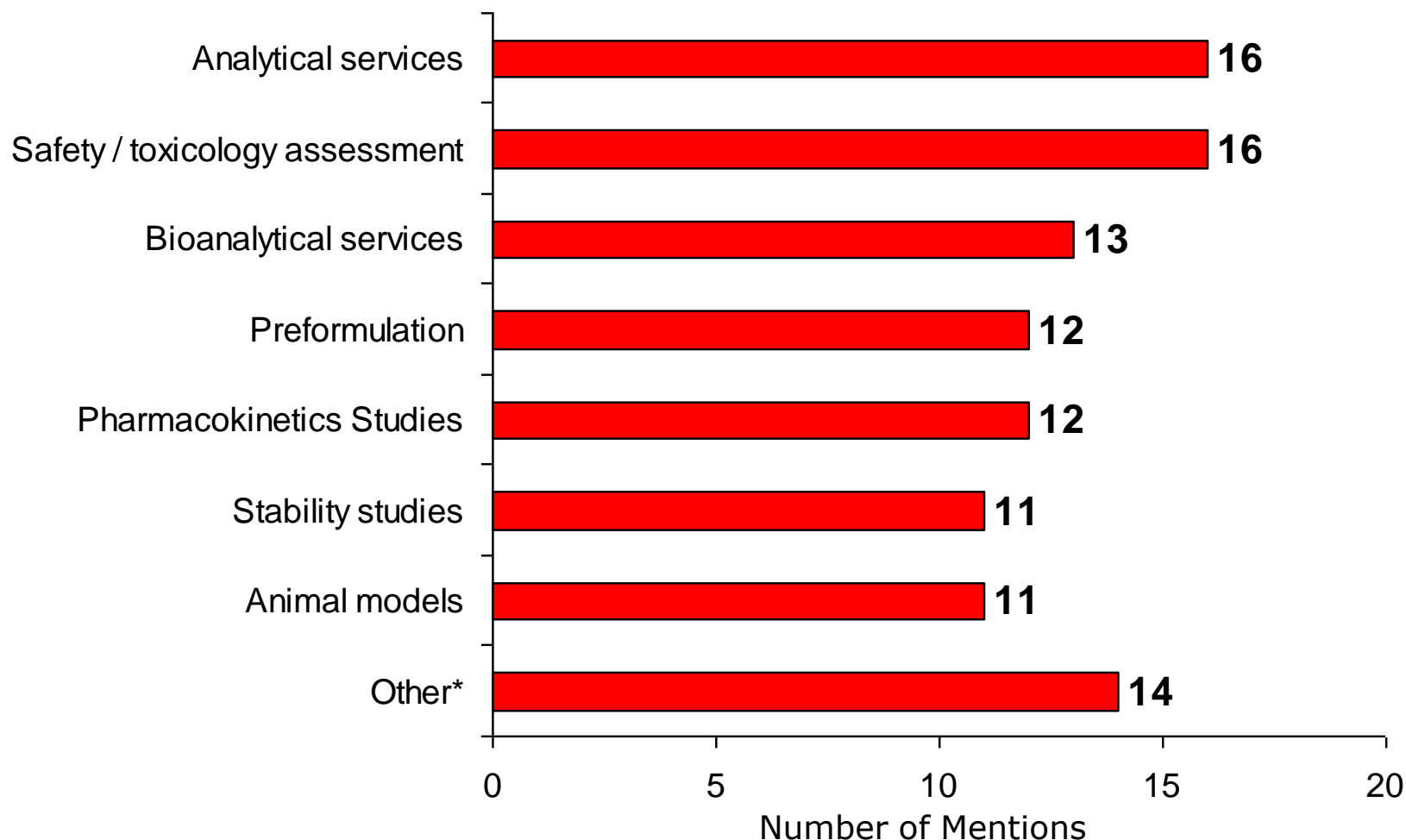
*Other includes Compound synthesis (2), Develops products used to support discovery, Assay Development, Pre-regulatory and process development, Toxicology and Later discovery and drug development

CROs in Specific Areas of Discovery Phase

(n = 13, Prompted)

New Target Discovery and Validation	Lead Optimization and Candidate Selection	Hit to Lead	High Throughput Screening
Herschel J. Gaddy and Assoc. U of Kansas Inst for Advancing Medical Innovation Midwest Bio Services KC Analytical Services	Herschel J. Gaddy and Assoc. U of Kansas Inst for Advancing Medical Innovation KC Analytical Services Beckloff Associates	U of Kansas Inst for Advancing Medical Innovation KC Analytical Services Xenometrics	U of Kansas Inst for Advancing Medical Innovation Midwest Research Inst. KC Analytical Services

Involvement in Specific Areas of Nonclinical Phase (n = 29, Prompted)



*Other includes Proof of Concept, CMC, Biocompatibility testing for devices, ADME, Custom synthesis, Cell culture and raw materials, GCP, Global safety studies, Pharmacodynamics and immune function, API manufacture, Quality assurance, and Large molecule biotech services.

CROs in Specific Areas of Nonclinical Phase

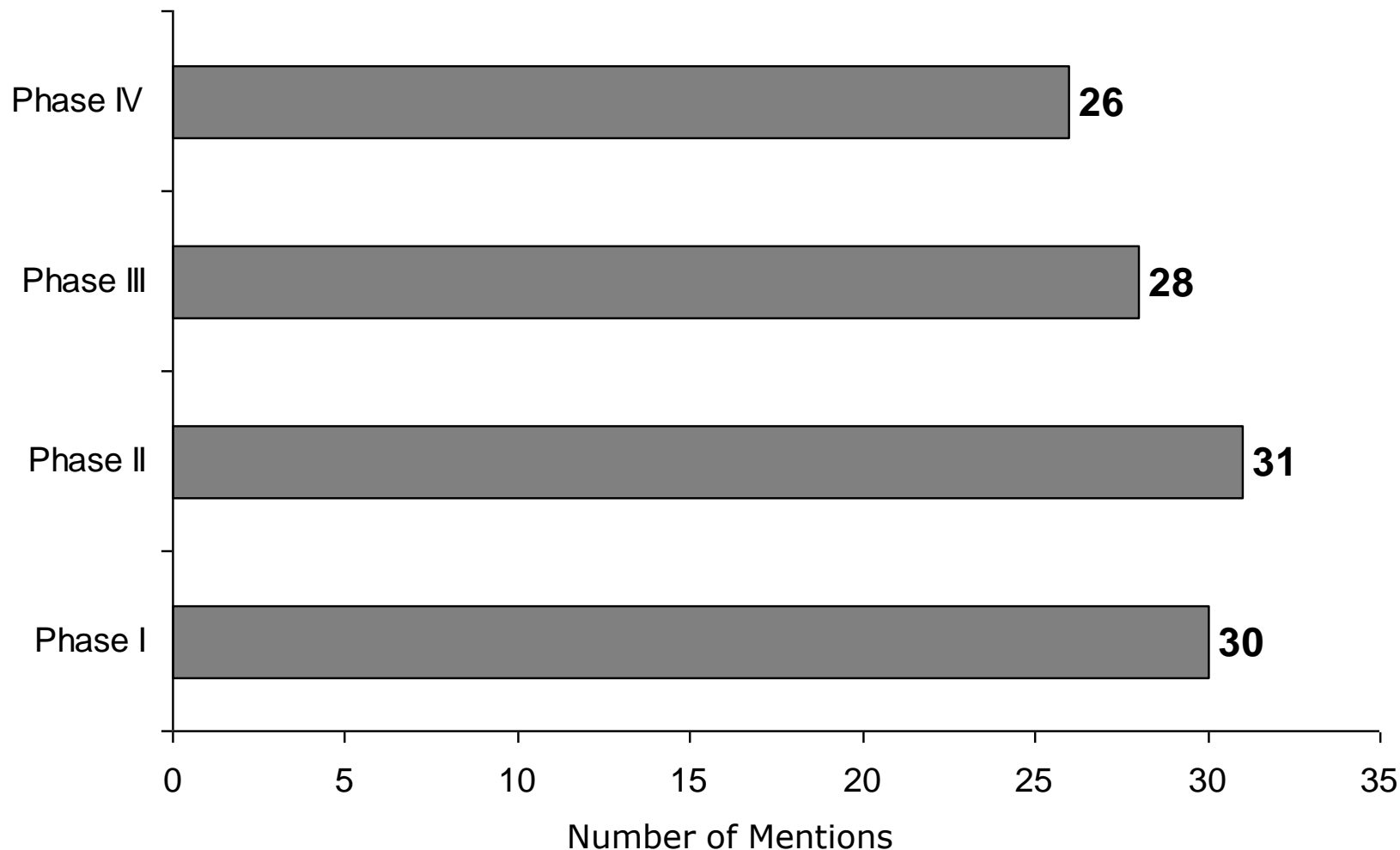
Analytical Services	Safety/ Toxicology Assessment	Bioanalytical Services
Hershel J. Gaddy and Assoc.	Hershel J. Gaddy and Assoc.	Hershel J. Gaddy and Assoc.
Xenotech	Xenotech	Xenotech
Inovatia Labs	JCB Labs	Integrated Biotech Solutions
Midwest Research Inst.	Midwest Research Inst.	Midwest Research Inst.
U of Kansas Inst for Advancing Medical Innovation	U of Kansas Inst for Advancing Medical Innovation	U of Kansas Inst for Advancing Medical Innovation
Dybedal/KCUMB Clinical Research Center	CIBOR	Viracor/IBT/Progene
Integrated Biotech Solutions	Integrated Biotech Solutions	Midwest Bio Services
Midwest Bio Services	Viracor/IBT/ Progene	InnovaPrep
Viracor/IBT/Progene	BMDK	Alburty
CyDex	InnovaPrep	KC Analytical Services
Alburty	Alburty	Beckloff Associates
Analytical Biochemistry Labs	Analytical Biochemistry Labs	Analytical Biochemistry Labs
Bertram Group	Xenometrics	QPS
Acceleration Laboratory Services	Beckloff Associates	
Beckloff Associates	QPS	
QPS	Sinclair	

CROs in Specific Areas of Nonclinical Phase

Preformulation	Pharmacokinetic Studies	Stability Studies	Animal Models
Hershel J. Gaddy and Assoc.	Hershel J. Gaddy and Assoc.	Hershel J. Gaddy and Assoc.	Hershel J. Gaddy and Assoc.
JCB Labs	Xenotech	Inovatia Labs	JCB Labs
Midwest Research Inst.	Midwest Research Inst.	Integrated Biotech Solutions	CIBOR
U of Kansas Inst for Advancing Medical Innovation	U of Kansas Inst for Advancing Medical Innovation	Midwest Research Inst.	Midwest Research Inst.
Inovatia Labs	Integrated Biotech Solutions	U of Kansas Inst for Advancing Medical Innovation	U of Kansas Inst for Advancing Medical Innovation
Integrated Biotech Solutions	Dybedal/KCUMB Clinical Research Center	Ethical and Independent Review Services	InnovaPrep
Crititech	Viracor/IBT/ Progene	CyDex	Analytical Biochemistry Labs
CyDex	Analytical Biochemistry Labs	Analytical Biochemistry Labs	Beckloff Associates
Alburty	Xenometrics	Acceleration Laboratory Services	QPS
Analytical Biochemistry Labs	Beckloff Associates	Beckloff Associates	Xenometrics
Acceleration Laboratory Services	QPS	QPS	Sinclair
Beckloff Associates	Sinclair		

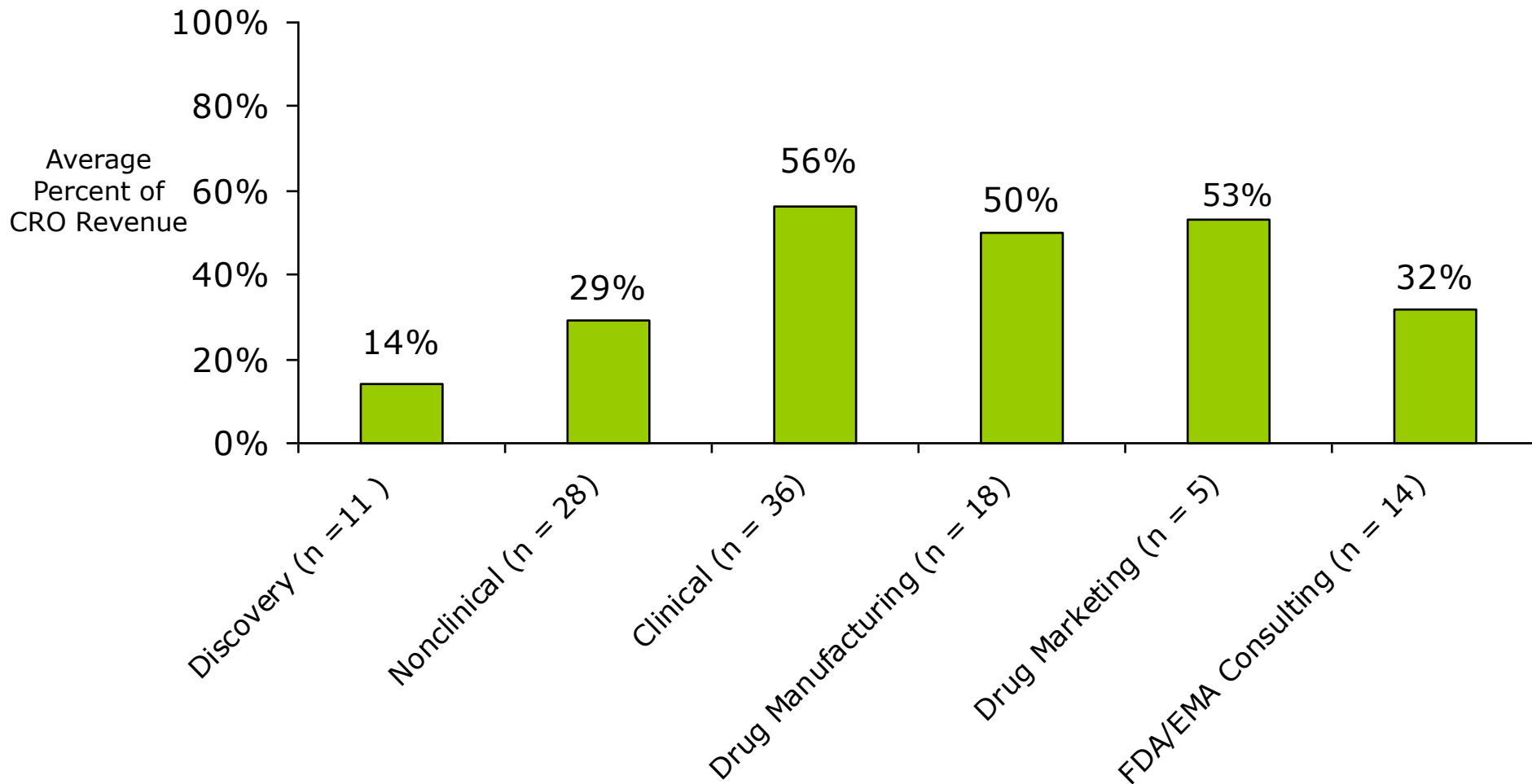
Involvement in Specific Areas of Clinical Phase

(n = 35, Prompted)



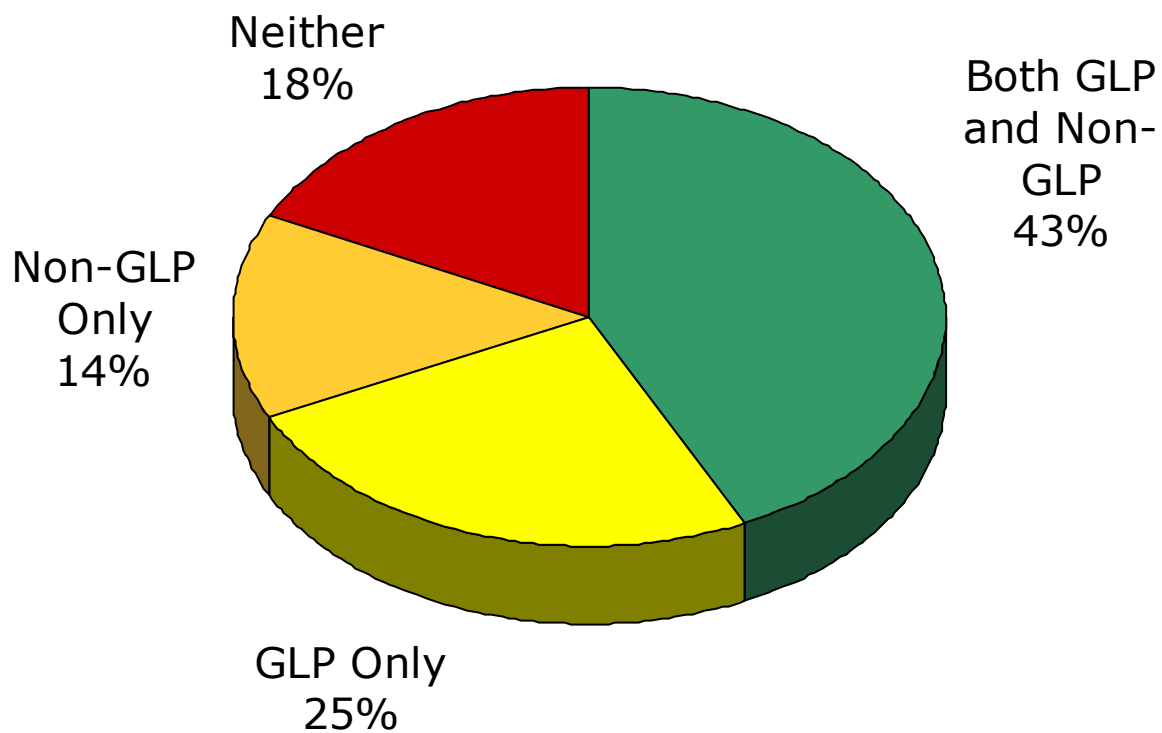
*Multiple phases allowed

2010 Revenue by Drug Development Phase

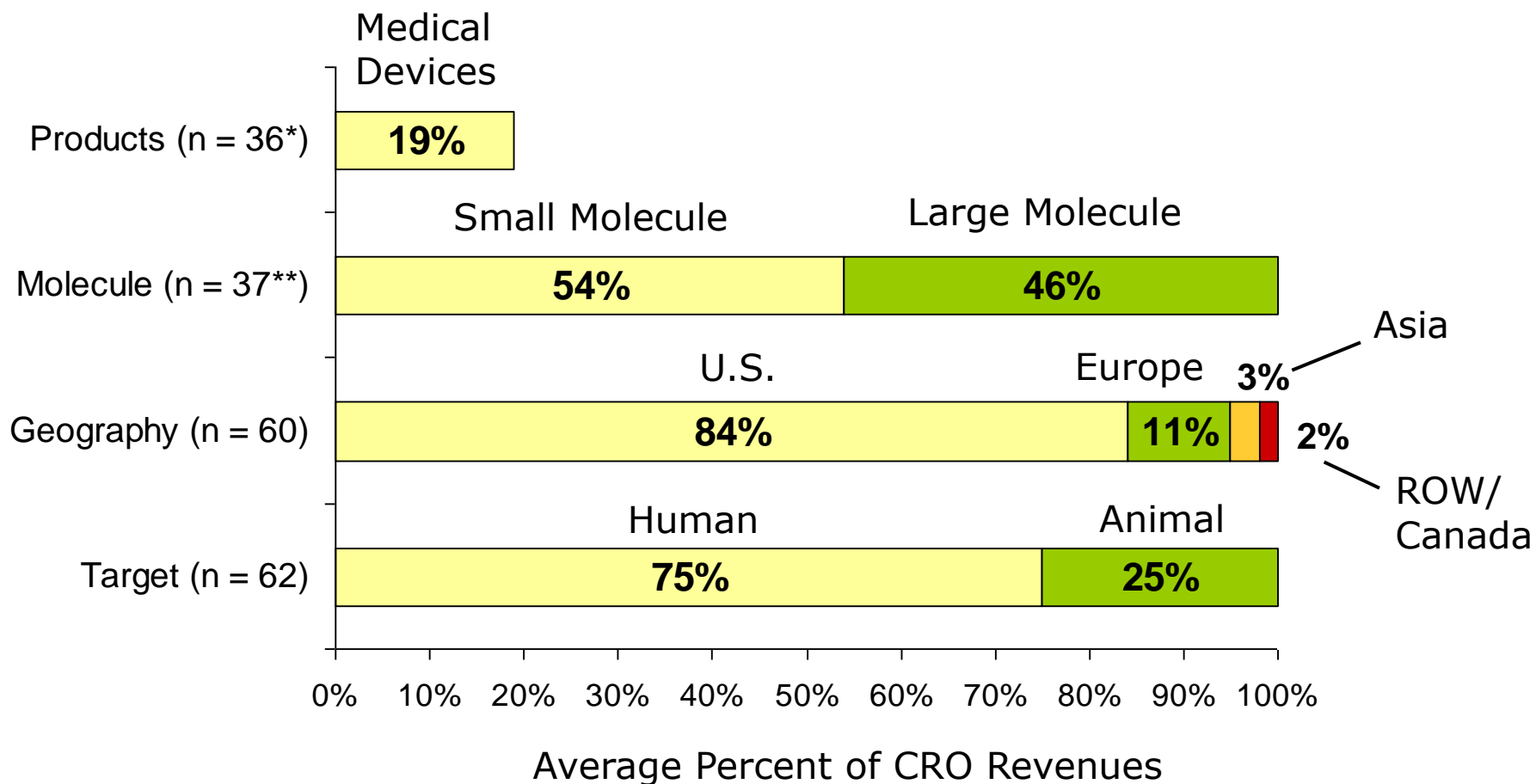


CRO GLP Services

(n = 28, Nonclinical service providers)



CRO 2010 Revenues by Source



*Only includes CROs that had some revenue from medical devices
 **28 respondents said molecule type was not applicable to their business

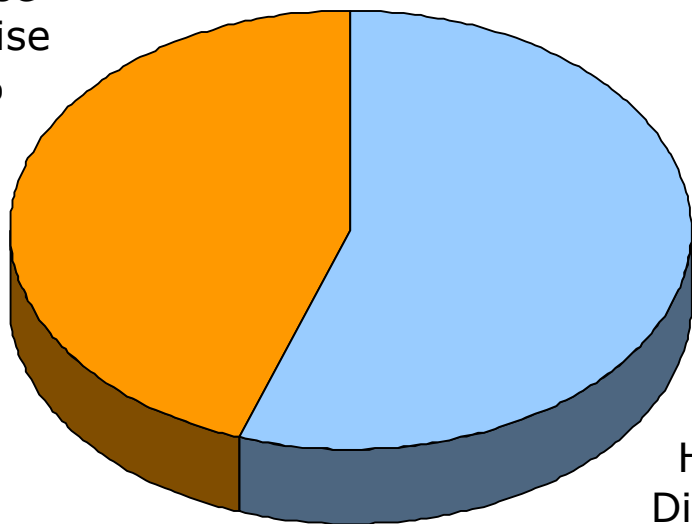
CRO Revenues by Source – Concentration

Revenue Source	Companies with 100% Revenue from this Source
Human	28 companies
U.S.	19
Large Molecule	5
Small Molecule	4
Animals	5
Medical Devices	3

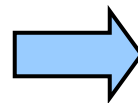
CROs' Specific Disease Expertise

(n = 67)

Do Not
Have
Disease
Expertise
45%



Have
Disease
Expertise
55%



Diseases / Areas Mentioned*

- Infectious Diseases (17)
- CNS (16)
- Oncology (15)
- Cardiovascular (10)
- Arthritis/Immunology (9)
- Metabolic/Endocrine (8)
- Gastrointestinal (3)
- Respiratory (2)
- Dermatology
- Ophthalmic
- Renal
- Other (7)**

*Multiple answers allowed; Information derived from one company website; CNS includes 8 who mentioned general CNS, 5 diseases specific to Psychiatric, and 3 specific to Neurology.

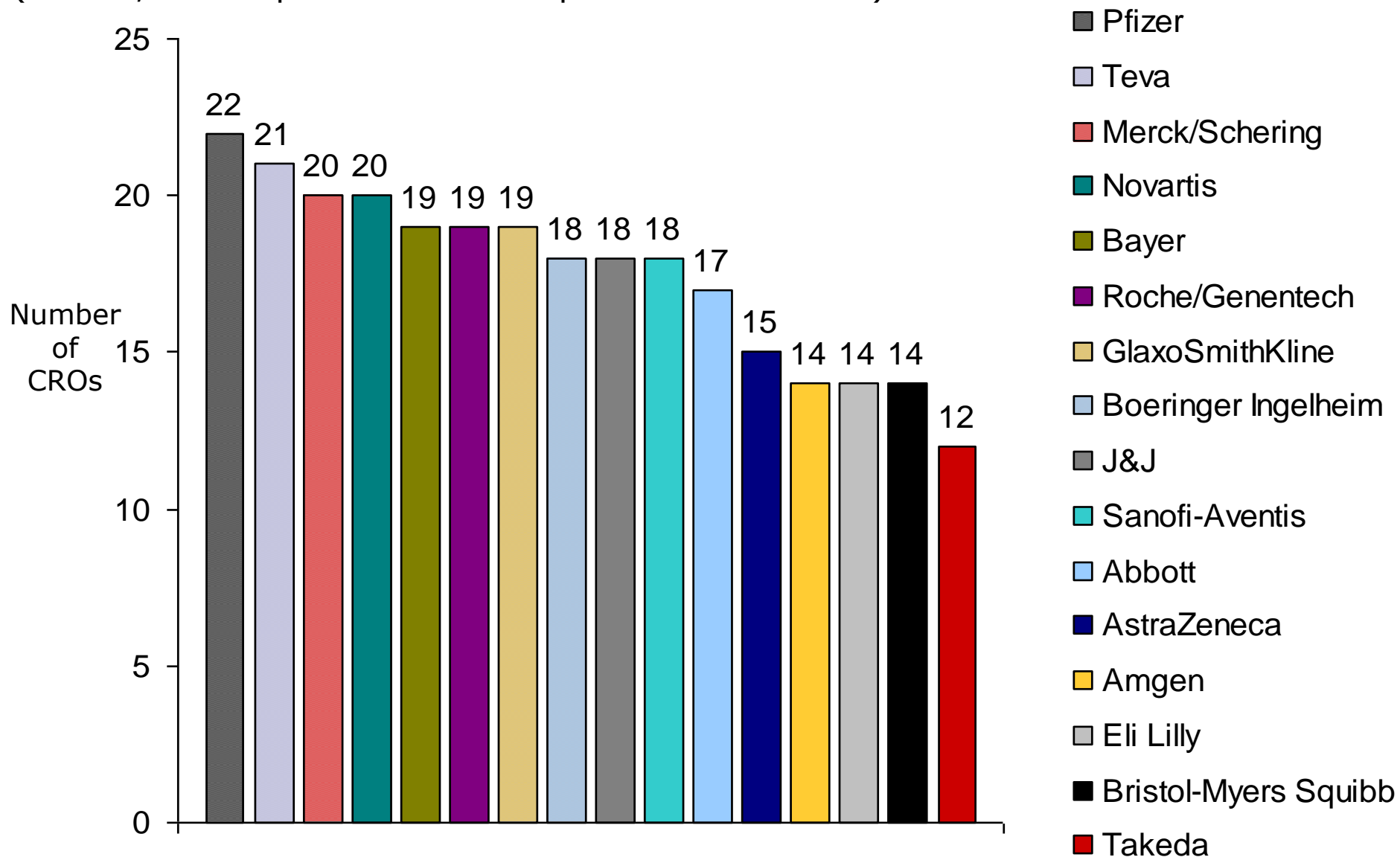
** Other includes Therapeutic Areas (2), Rare/Small orphan diseases (2), Animal diseases, Wound Care, and Hemophilia

CRO Relationships with Largest Pharmaceuticals

CRO Customers – Within the Last 3 Years

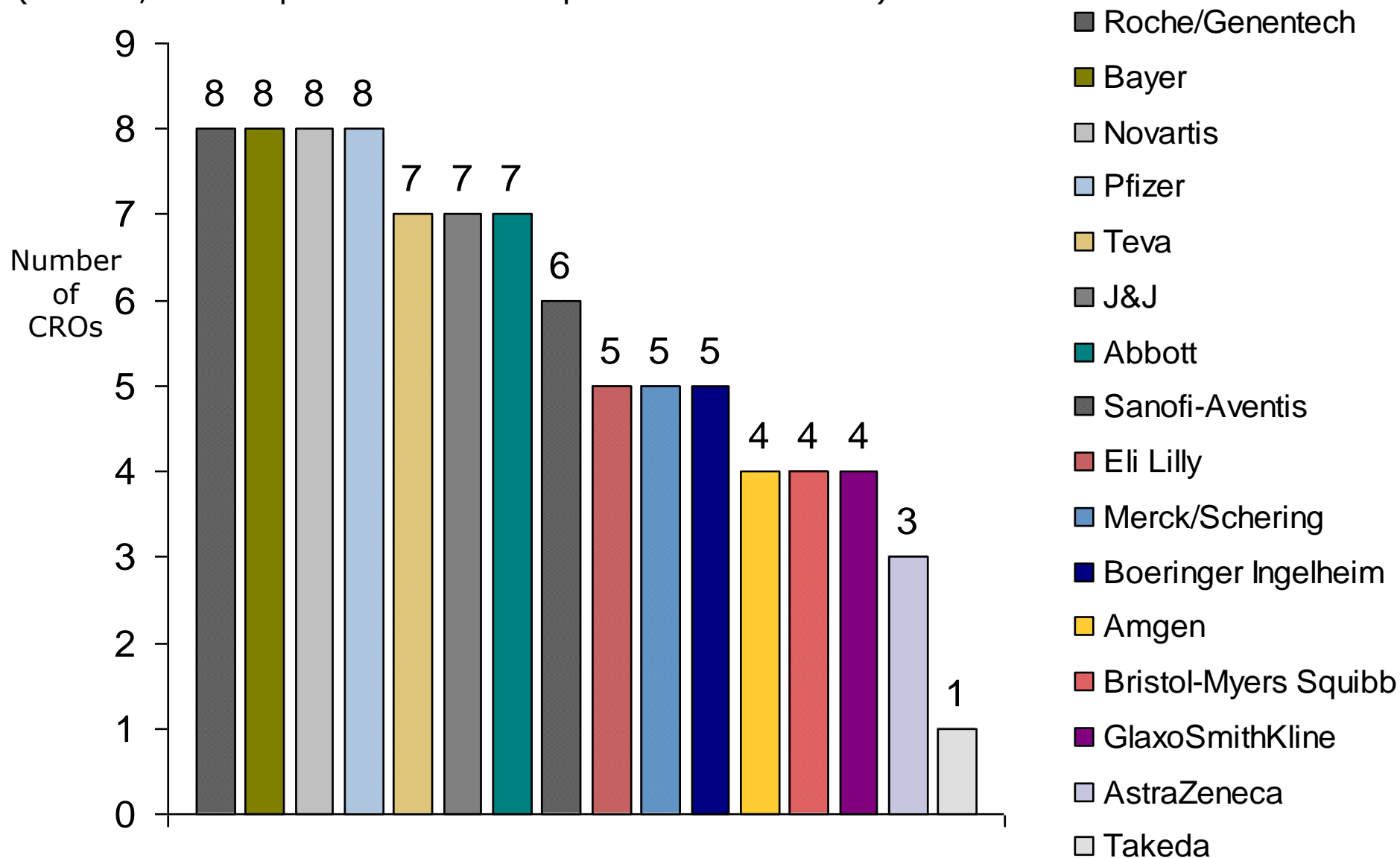
16 Largest Pharmaceuticals

(n = 50, 16 companies would not provide information)



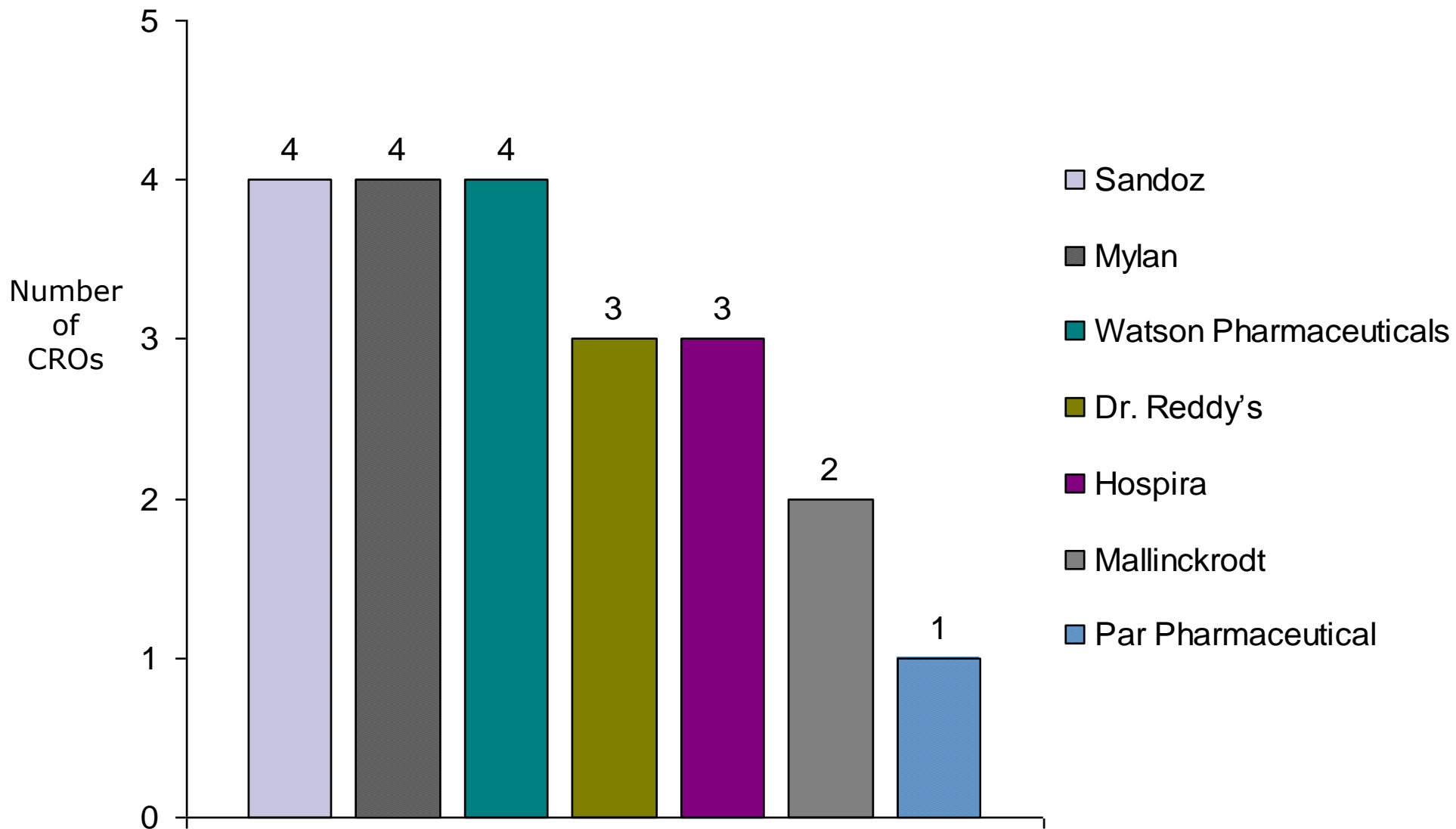
CRO Customers – Preferred Vendor Status 16 Largest Pharmaceuticals

(n = 48, 18 companies would not provide information)



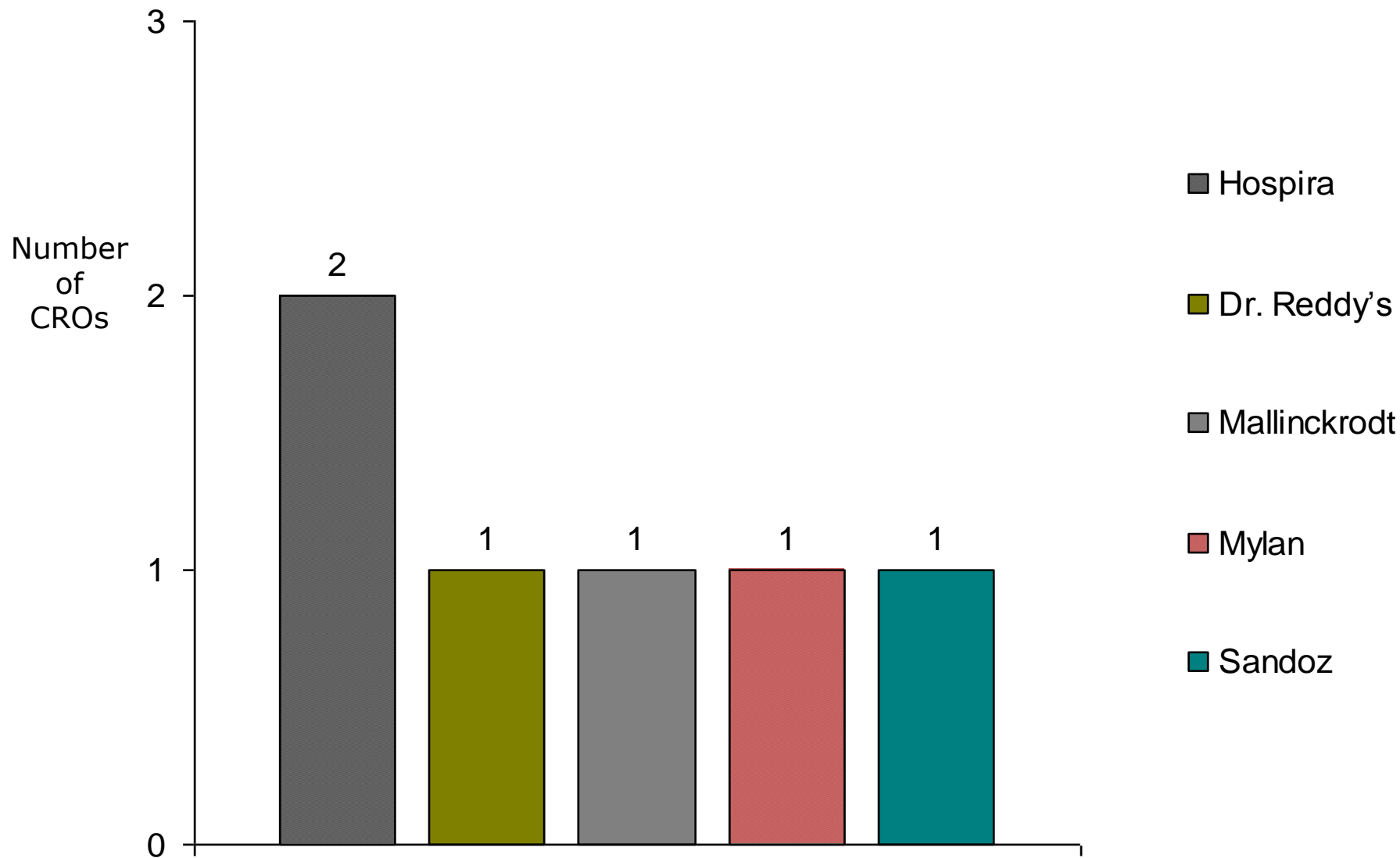
CRO Customers – Within the Last 3 Years Largest Generic Drug Companies

(n = 54, 12 companies would not provide information)



CRO Customers – Qualified Vendor Status Largest Generic Drug Companies

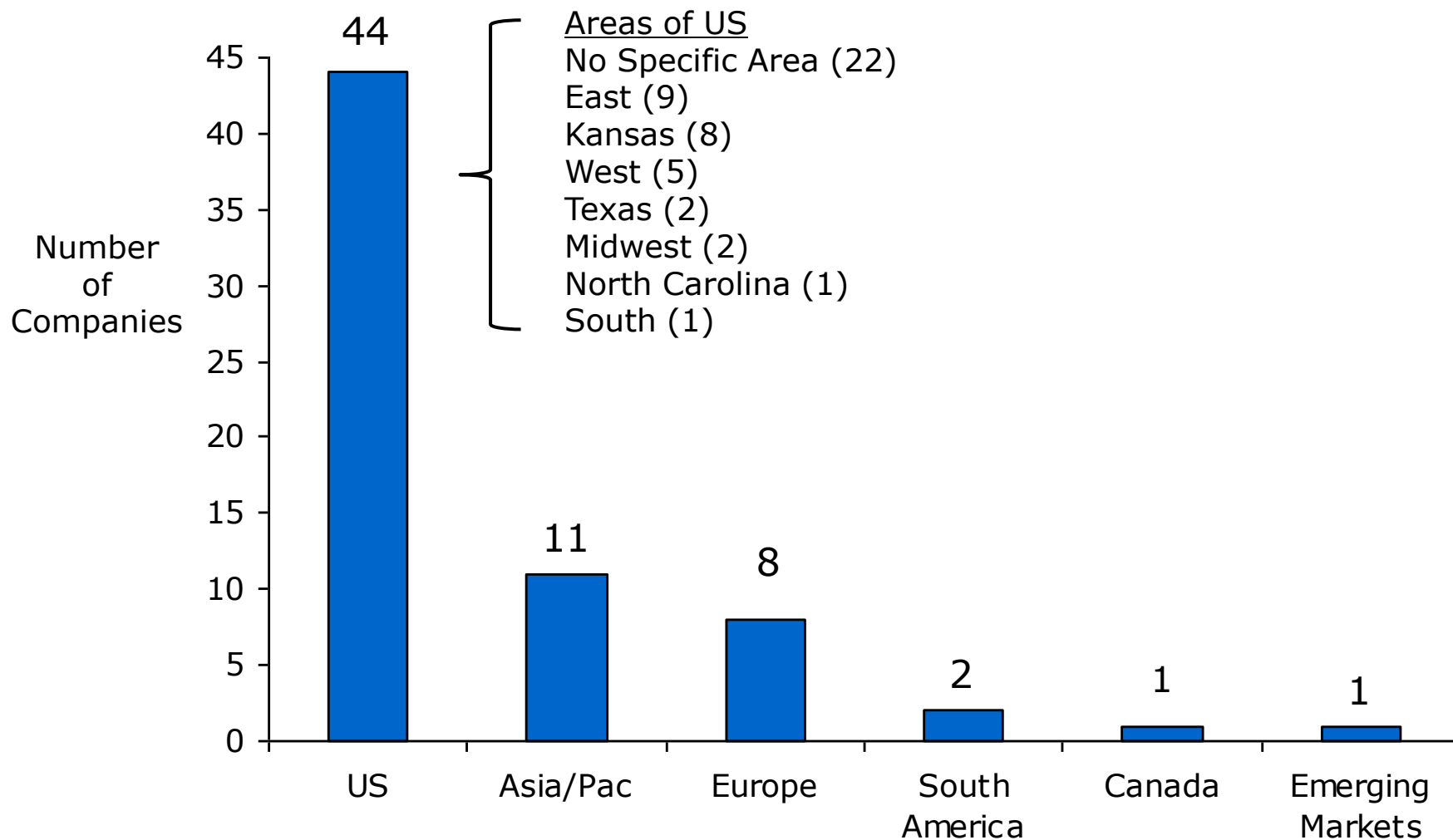
(n = 54, 12 companies would not provide information)



Expected Growth of CRO Services

Geographic Region with Most Growth Expected in Next 2 to 5 Years

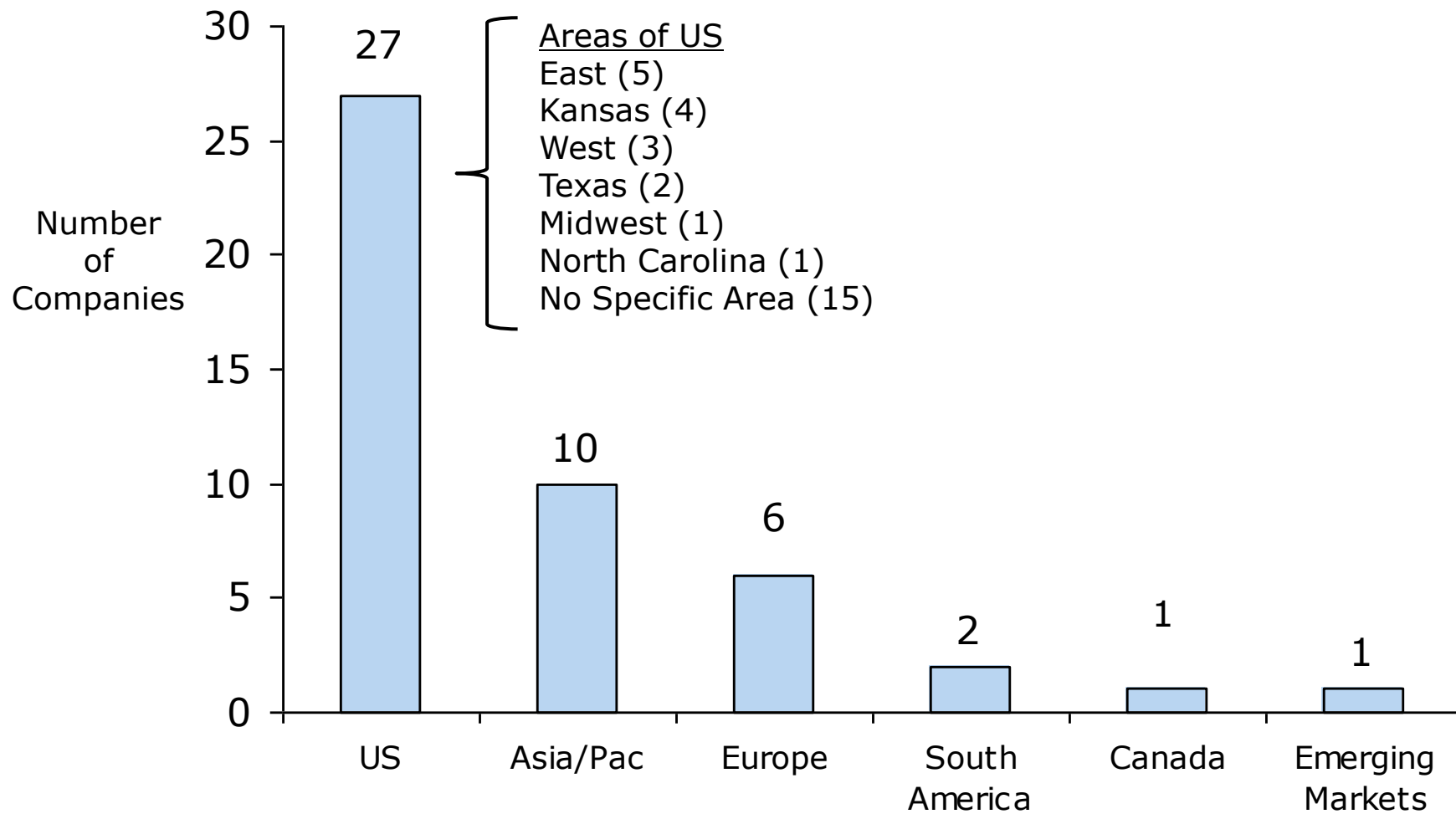
(n = 65)



*Multiple answers allowed

Geographic Region with Most Growth Expected in Next 2 to 5 Years

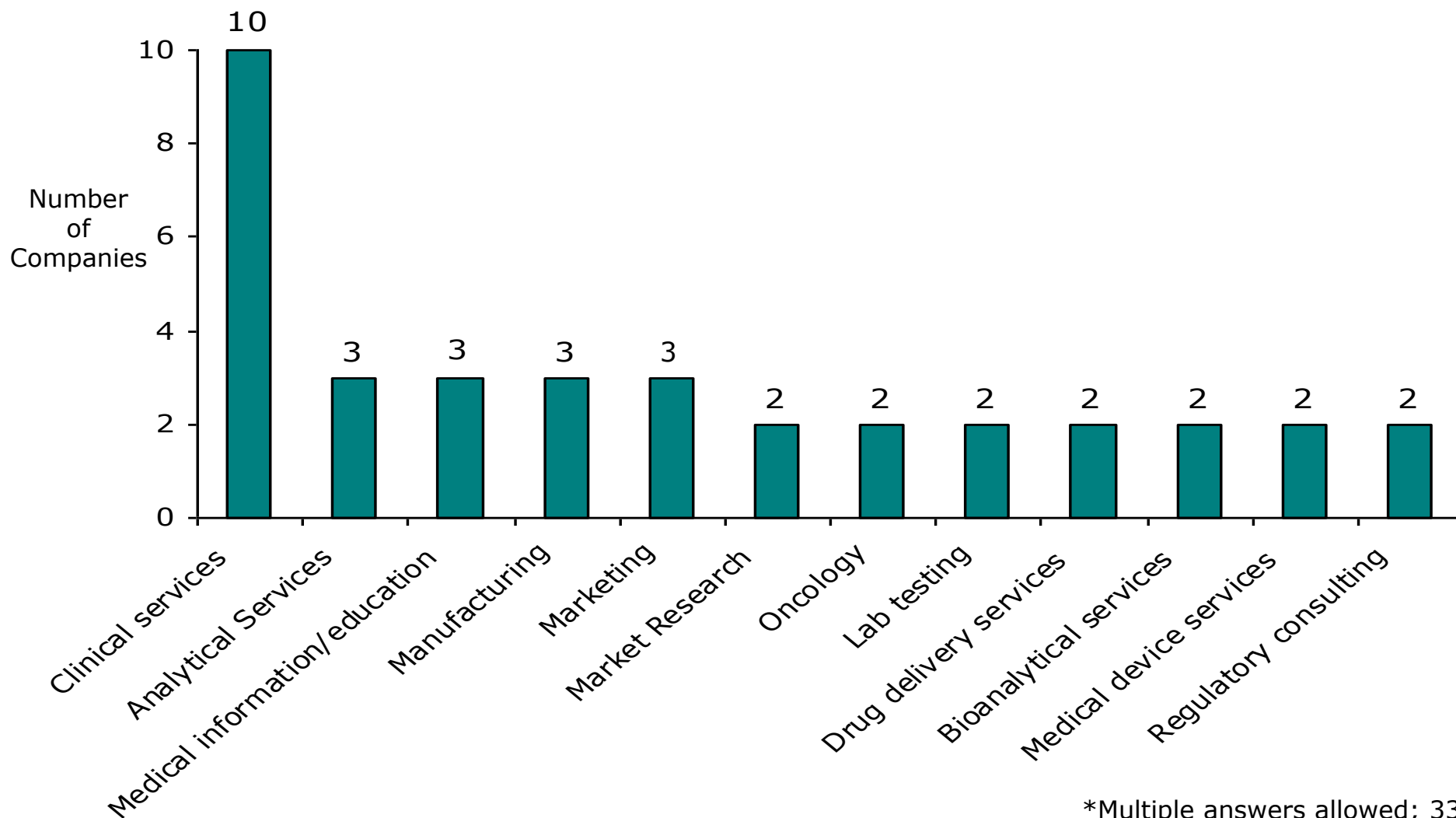
(n = 43, Only Companies with Revenue Outside of the US)



*Multiple answers allowed

Product or Service with Most Growth Expected in Next 2 to 5 Years

(n = 60*)



*Multiple answers allowed; 33 product / services mentioned once are on next page

Product or Service with Most Growth Expected in Next 2 to 5 Years

(n = 33 single mentions)

Animal health services

API

Biomarkers

Biotech services

CMC

Construction

Data management

Late stage drug development services

Aerosol testing & evaluation

Pharmaceutical technologies

Publishing

Reimbursement services

Custom synthesis

Validations

Protein identification

Patient adherence audit

Post-approval/Evidence-based studies

Antioxidant business

Automated biological concentration process

Biosimilars

Cell culture

Compliance

Business consulting

Drug transporters

Licensing

Disease models

Quality systems consulting

Preclinical services

Drug testing product

US agency

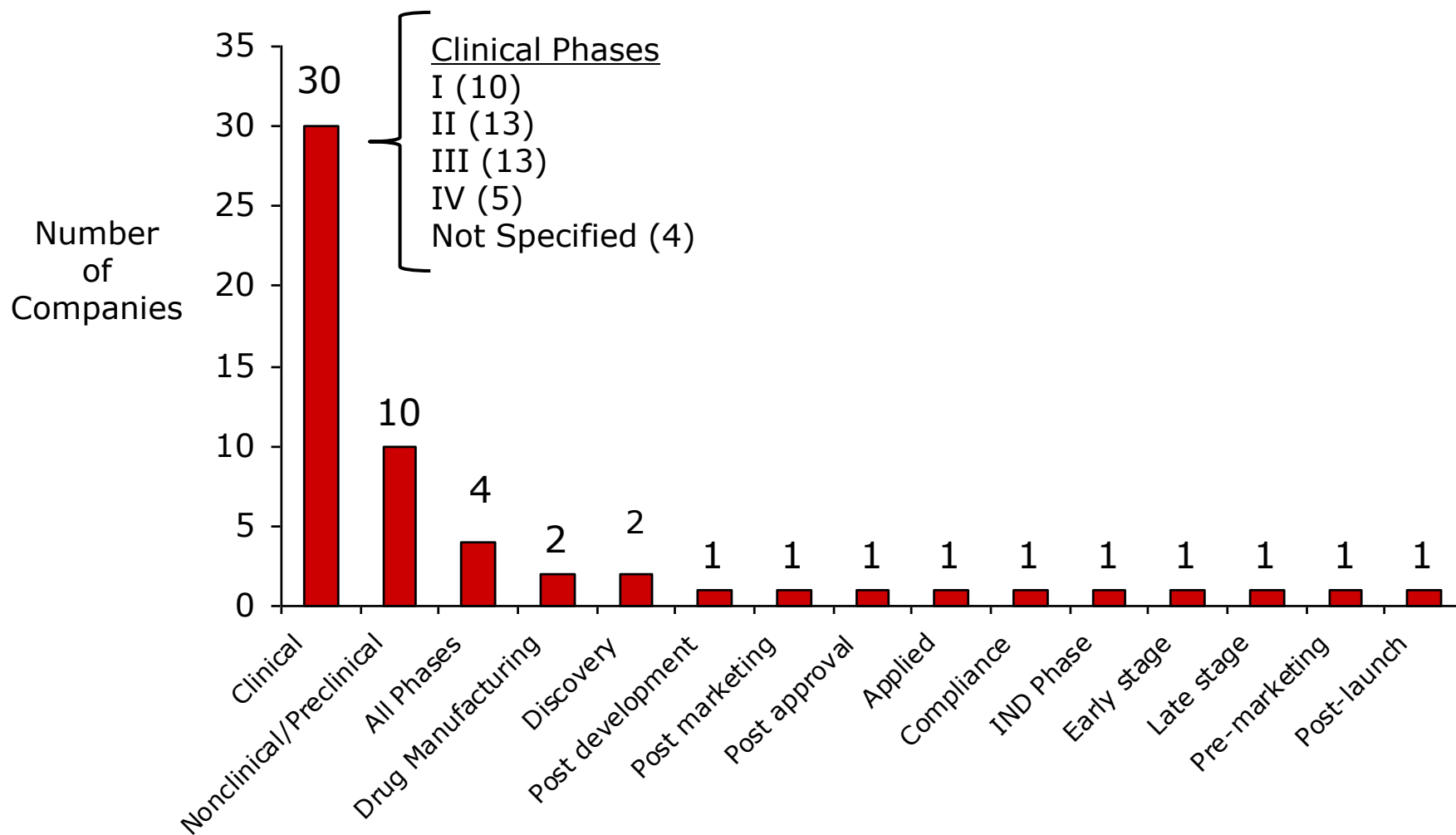
Product development

Digital engagement audit

In vivo studies

Stage of Drug Development with Most Growth Expected in Next 2 to 5 Years

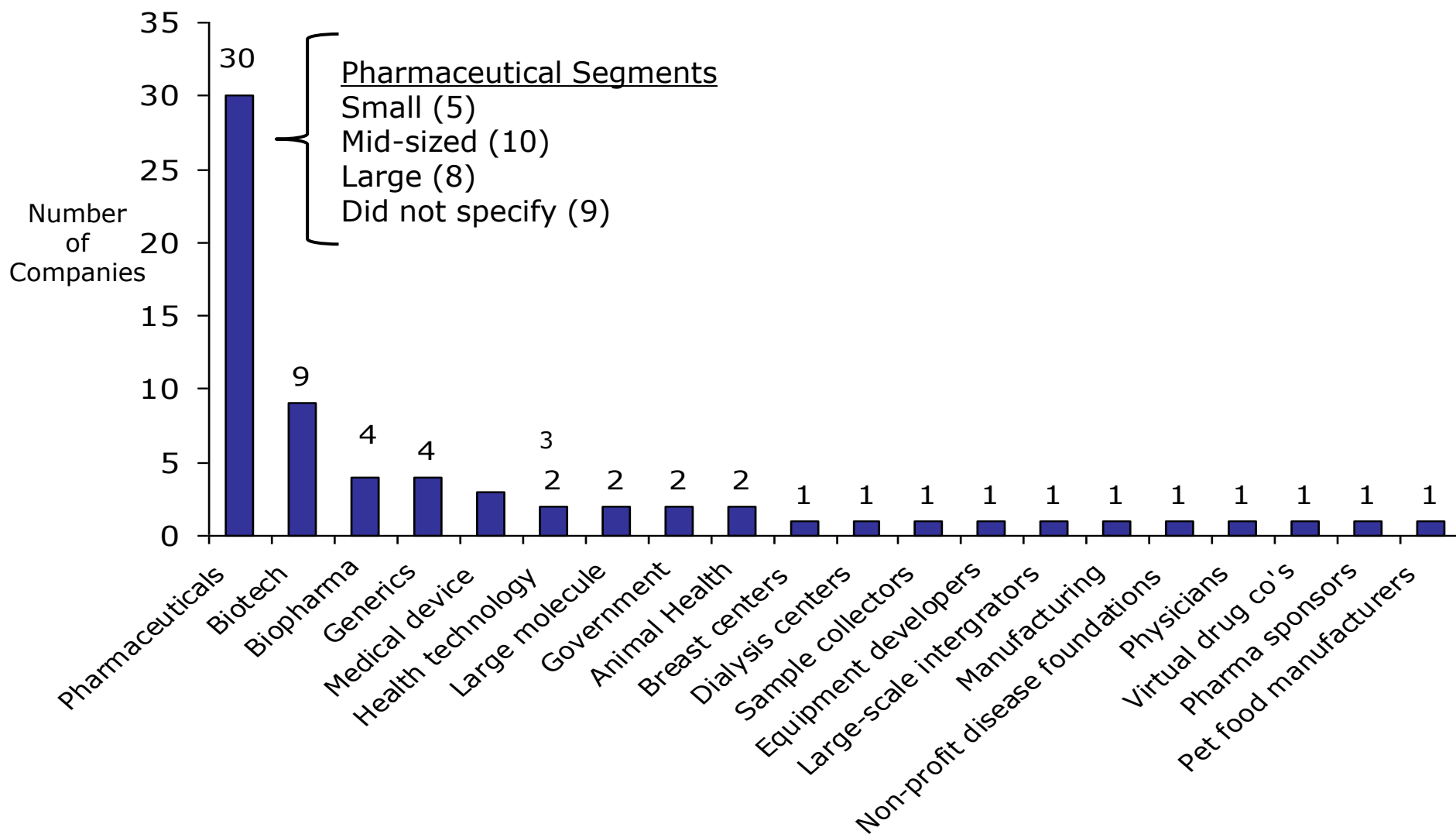
(n = 54)



*Multiple answers allowed

Customer Type with Most Growth Expected in Next 2 to 5 Years

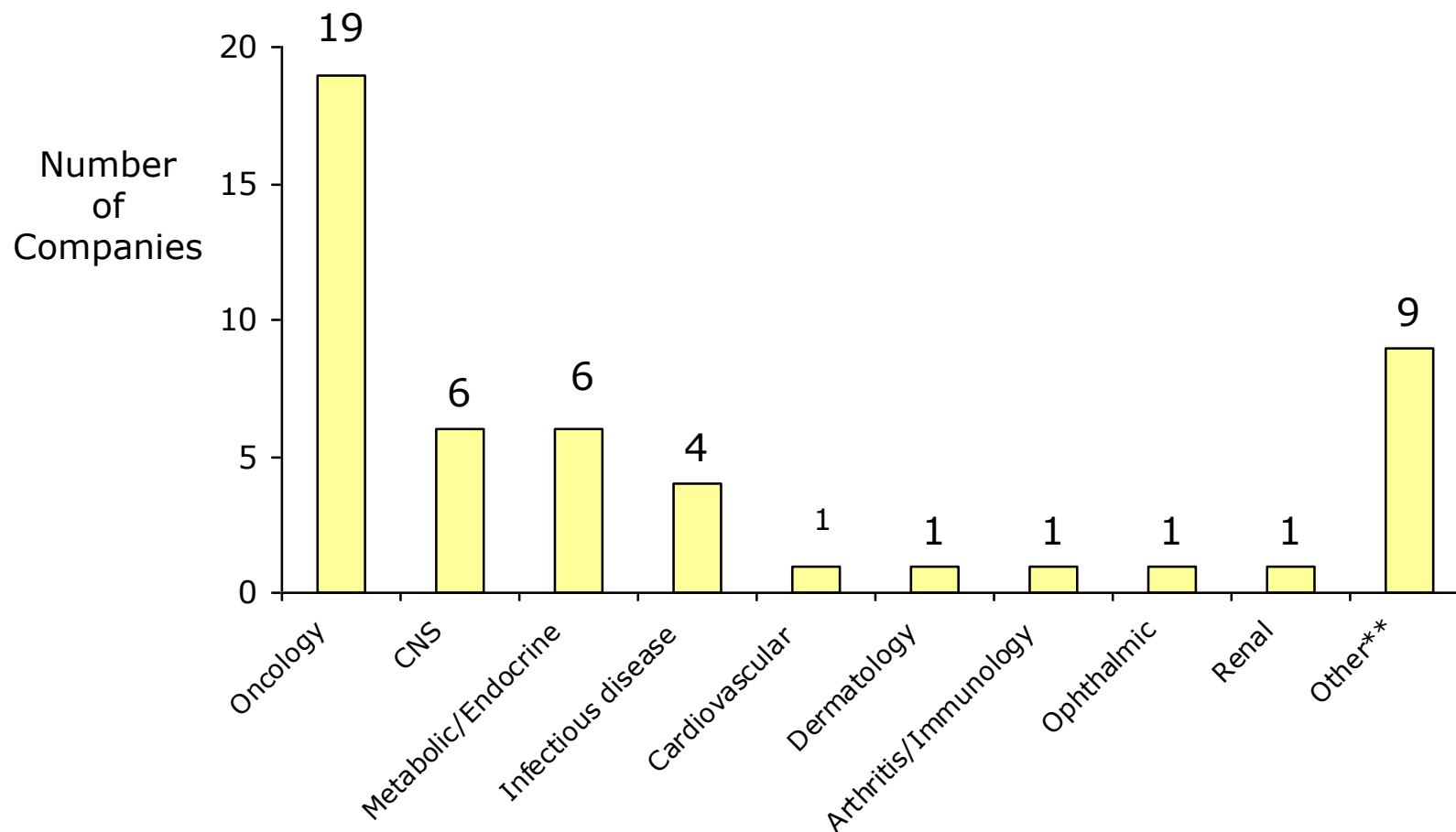
(n = 58)



*Multiple answers allowed

Disease with Most Growth Expected in Next 2 to 5 Years

(n = 35*)

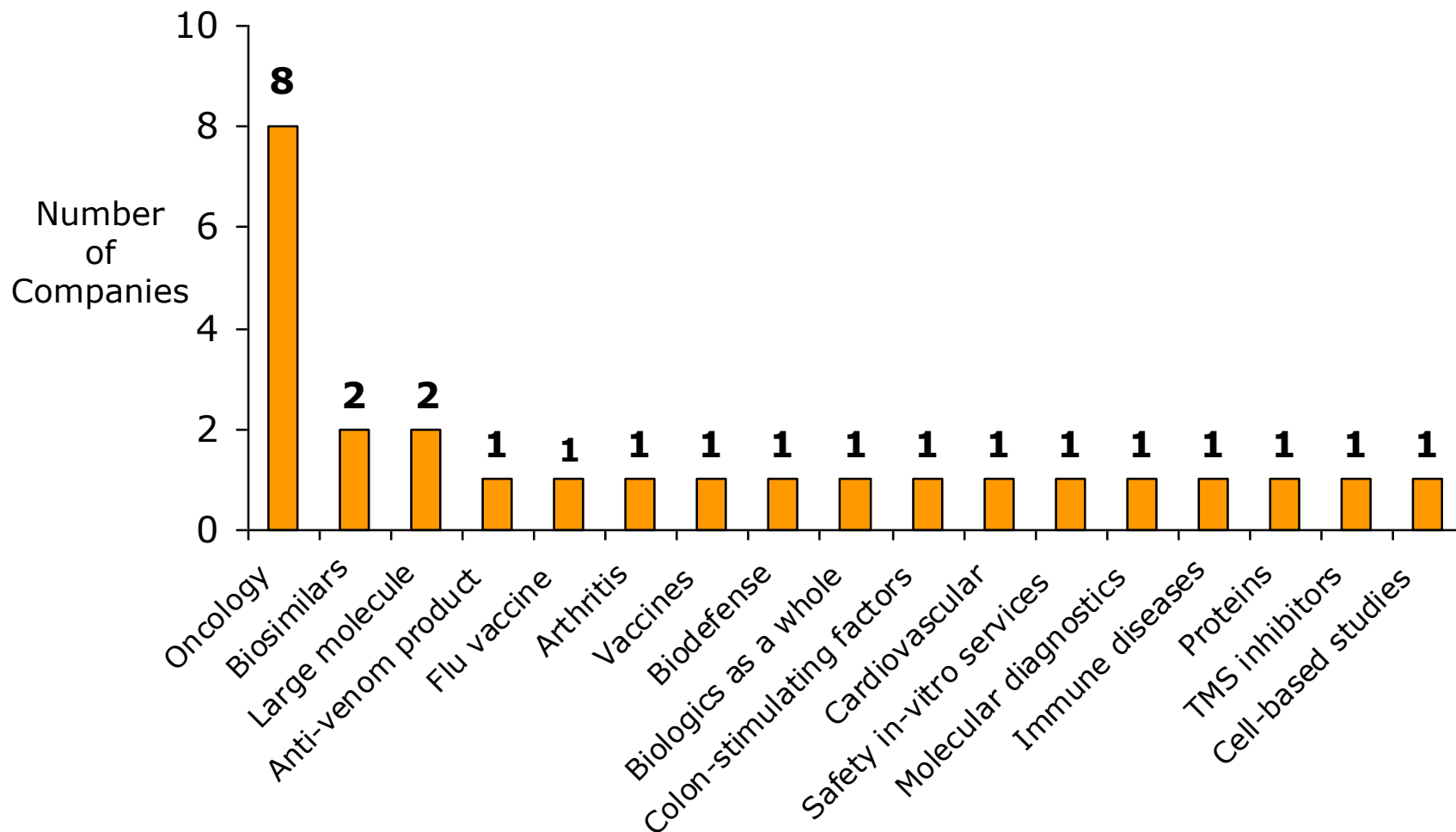


*Multiple diseases allowed. 29 said they did not know or that the category was not applicable

**Other includes Biodefense (2), Pain (1), Personalized medicine (1), All diseases (1), Vaccines (1), Normal/Healthy (1), Behavioral (1), and Animal Health (1)

Biologic with Most Growth Expected in Next 2 to 5 Years

(n = 25*)

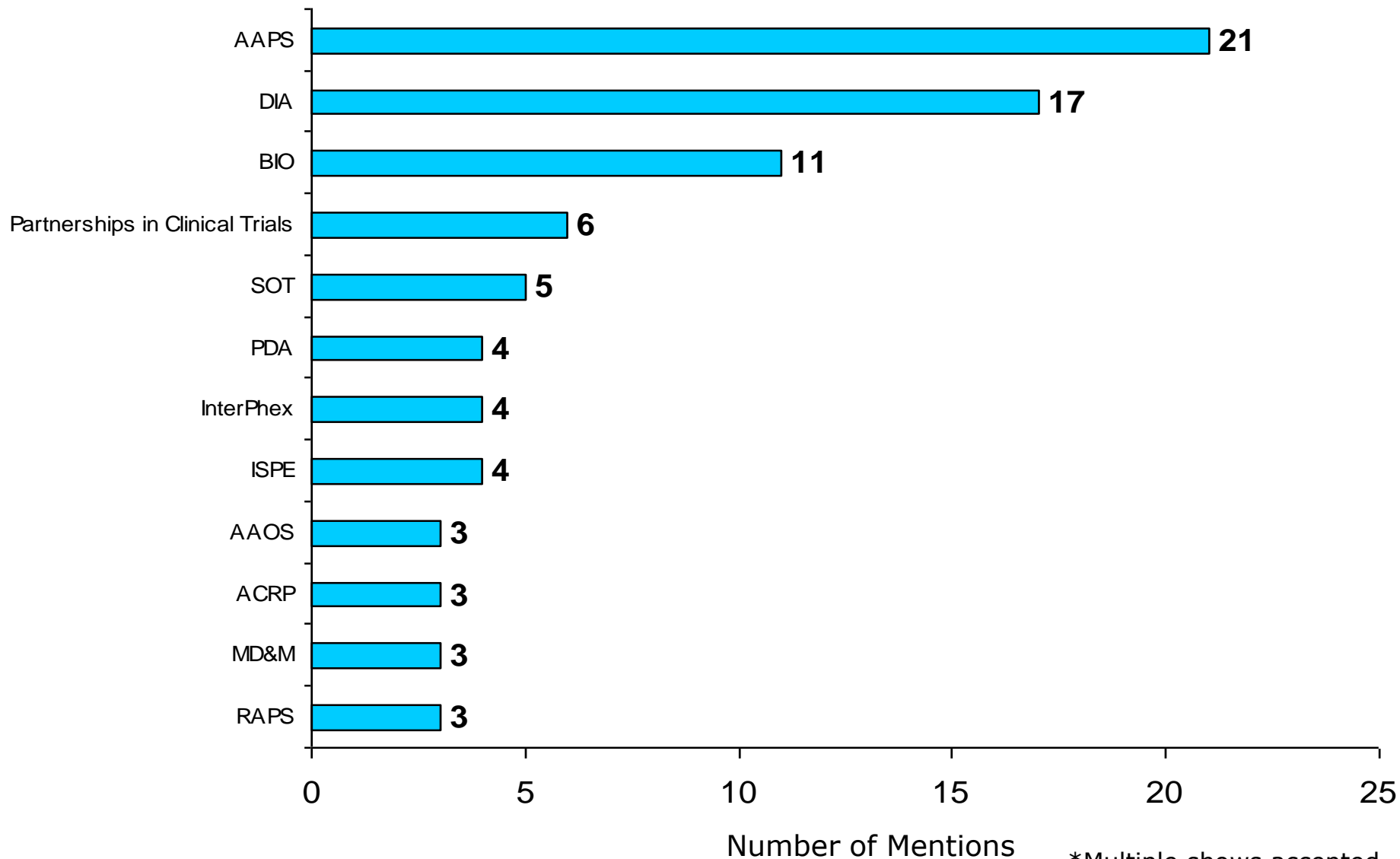


*Multiple answers allowed;
41 said that they either did not know or biologics was not applicable to their business

CRO and NDDA Marketing

Industry Trade Shows Attended By CROs

(n = 54*)



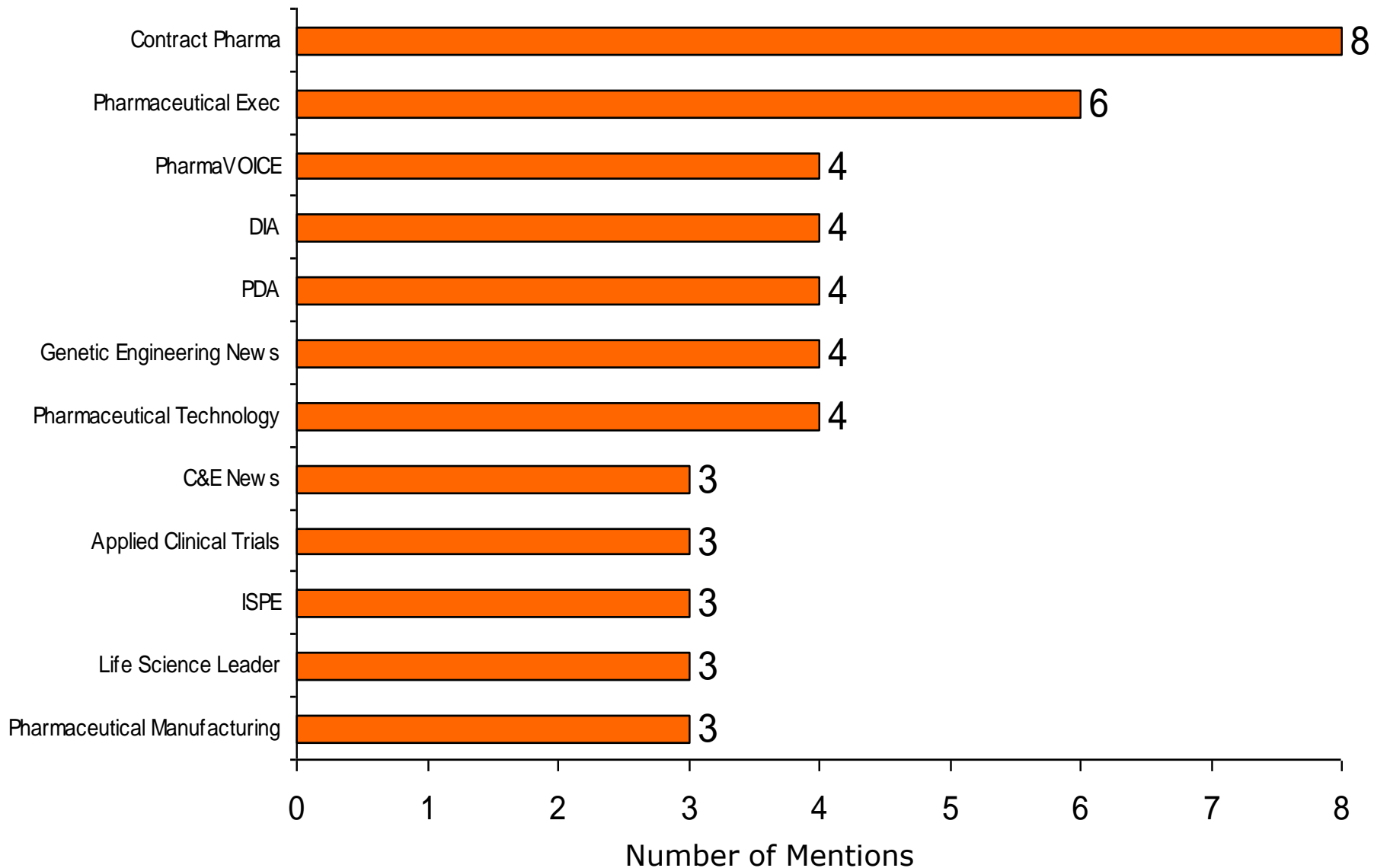
*Multiple shows accepted.
68 shows mentioned fewer than 3 times are on next page

Industry Trade Shows Attended Mentioned Fewer than 3 Times

ACT	AABB	AAN
AAPA	ADA	AIChE
Allergy & Immunology	Annual Surgical Conference	AORN
American Stat. Association	Ambulatory Surgical Center	Amer. Assoc. of Equine Practitioners
ASH	ASMS	ASQ
AVMA	Bay BIO	BioWest
Breast Surgeons Annual Conf.	CBRN	Central Veterinary Conference
Central Labs	American Academy of Physicians	Clinical Outsourcing
Contract Pharma	BioPartnering NA	Controlled Relief Society
DATIA	DCAT	ESACT
FDLI	GMP Bio	IBC
Diversity Rx Conference	Institute of Industrial Engineers	International Isotope Society
ICAAC	JSSX	Licensing Executive Society
NAPNAP	Orthopedic Academy	PBIRG
Pitt CaC	PMRG	RSNA
Safety Pharmacology	SaaS Users Group	SOCRA
Soc. of Clinical Data Mgmt	SPE	Tradeline
Western States Veterinary Conf.	ASBMR	Pittcon
NA Veterinary Conference	PRIMA	ISSX
CPhI	ASCO	Informex
ASCPT	AAAR/ISAM	World Vaccines Conference
HIMSS	ISPOR	ARVO
AALAS	Wound Healing Society	

CRO Subscriptions to Trade Publications

(n = 44*)



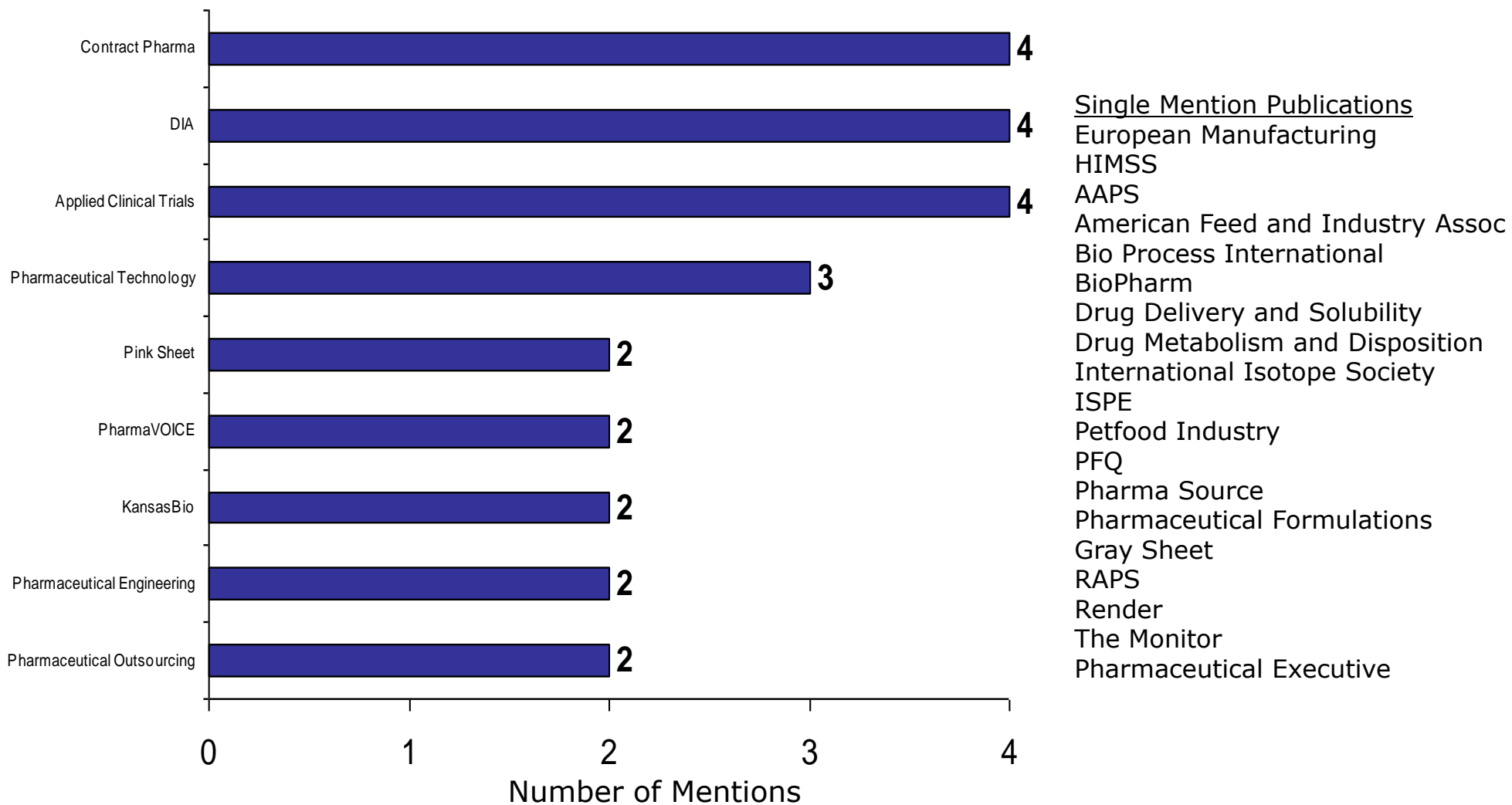
*Multiple mentions accepted.
73 publications mentioned fewer than 3 times are on the next page

Publications Mentioned Fewer than 3 Times

AAMRO	AAPS	Advertising Age
American Feed & Ind. Assoc.	American Pharma Review	American Scientific
BioProcess International	Biochem	BioPharm
BIO Smart Brief	BioTechniques	Brakke Consulting Newsletter
Clinical Pharmacology	Clinical Trials	CBRNe World
Compendium of Vet. Prods	Compendium of Feed Additives	Controlled Relief Journal
Defense Quarterly	Dissolution Technologies	DVM
Electric Design News	Feed & Grain	Drug Development & Delivery
Drug Delivery & Solubility	Food & Chemical Codex	ICIS Chemical Business
Infectious Disease Magazine	International Isotope Society	ISQ
Animal ALN	Licensing Executive Society	MDDI
Medical Product Outsourcing	Meetings Manager	Merck Veterinary Manual
Microbe	Microbiological Newsletter	Nature
Nature Biotech	NFIB	Outpatient Surgical Center
Pet Business	Pharmaceutical Formulation & Quality	Pharmaceutical Technologies
Pharmaceutical Online	PharmaLive	Physicians' Desk Reference
Quality Digest	Quality Progress	Quirks Market Research Association
Render Magazine	Science Magazine	Scrip
Shotwell & Carr New Animal Drug Handbook	US Pharmacopeia	US Pharmacist
Veterinary Economics	R&D News	R&D Directions
Pink Sheet	Pharmaceutical Outsourcing	PFQ
Petfood Industry	Feedstuffs	Drug Discovery & Development
Drug Delivery & Technology	Becker's ASC Review	Contract Manufacturing
Medical Device Technologies	Medical Design Briefs	MedAd
		Journal of Pharmaceutical & Biomedical Analysis

Trade Publications in Which CRO Advertises

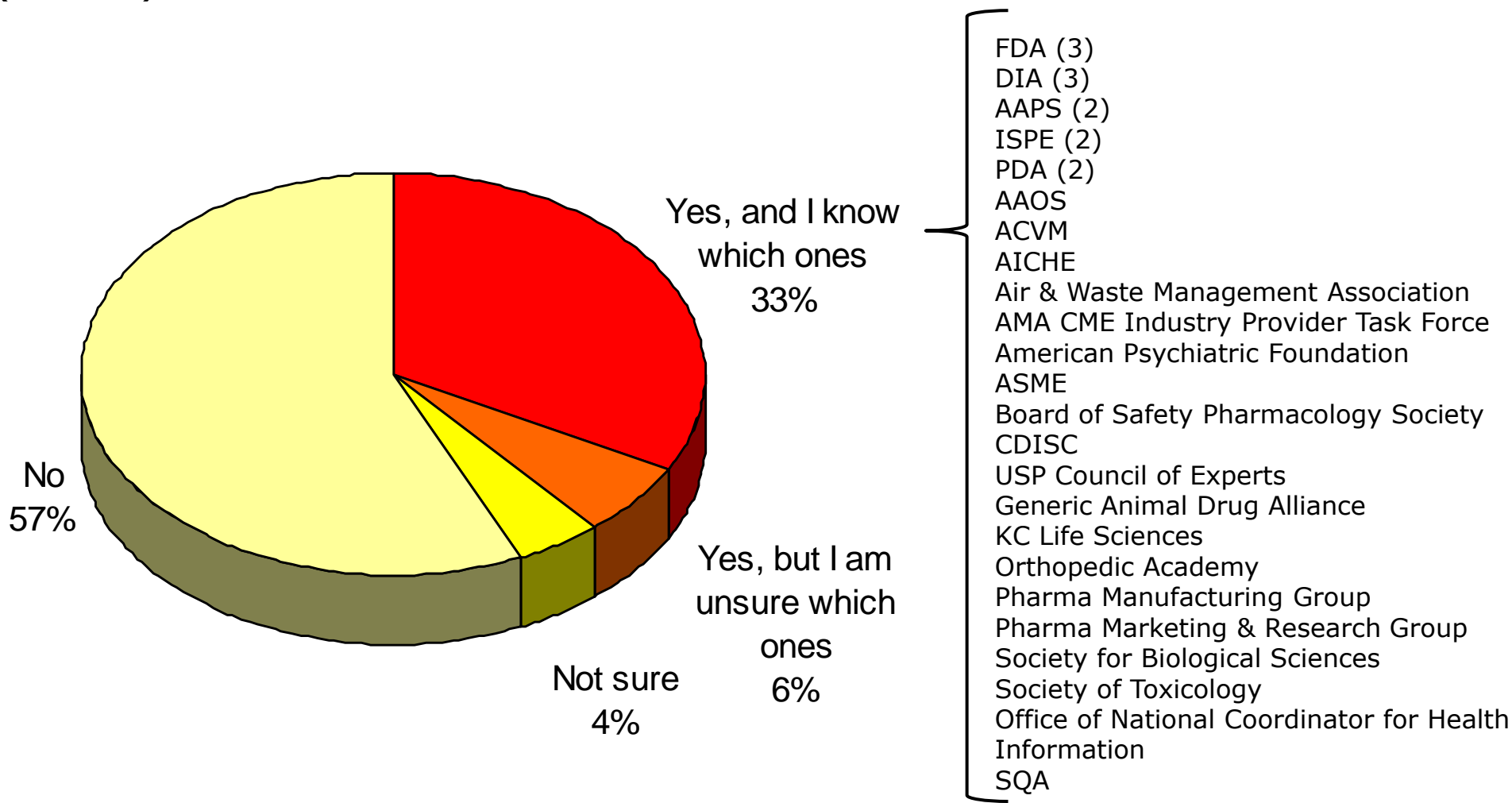
(n = 24*, 37 do not advertise in trade publications, 5 did not specify)



*Multiple answers accepted

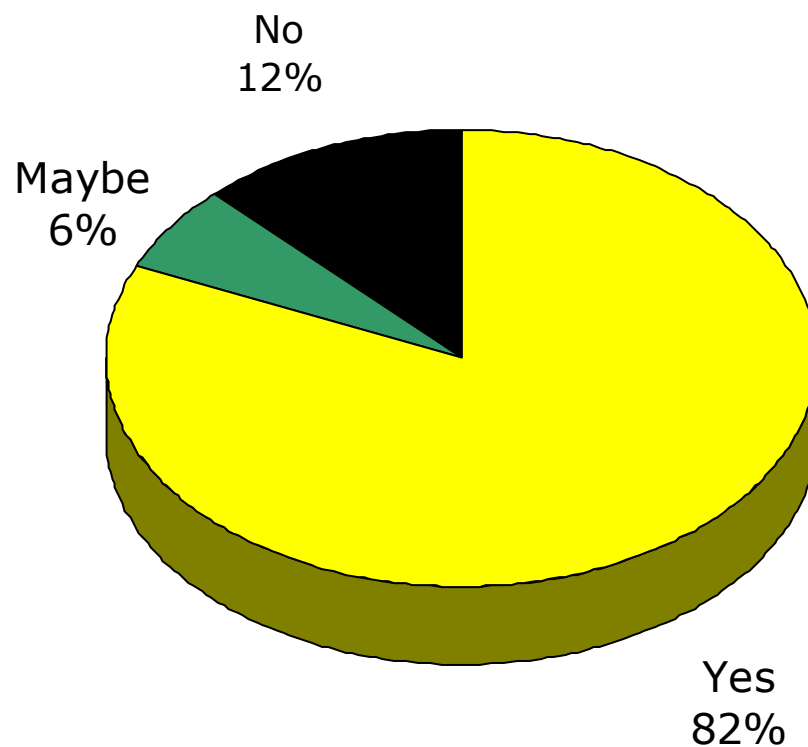
Do Employees of CRO Serve on National/International Organizations and Advisory Groups?

(n = 67)



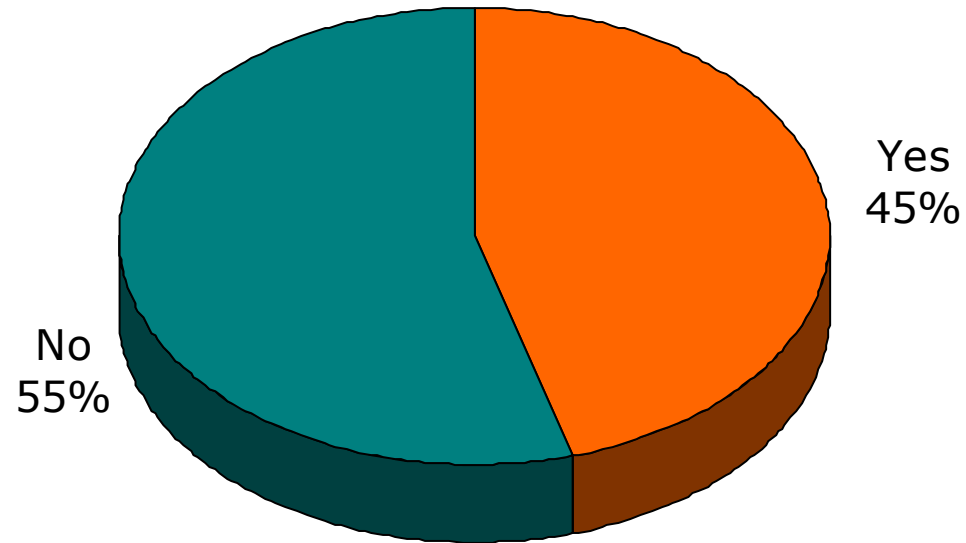
Would Your Business Grow if More Local Drug Development Service Companies Knew What Your Company Does?

(n = 65)



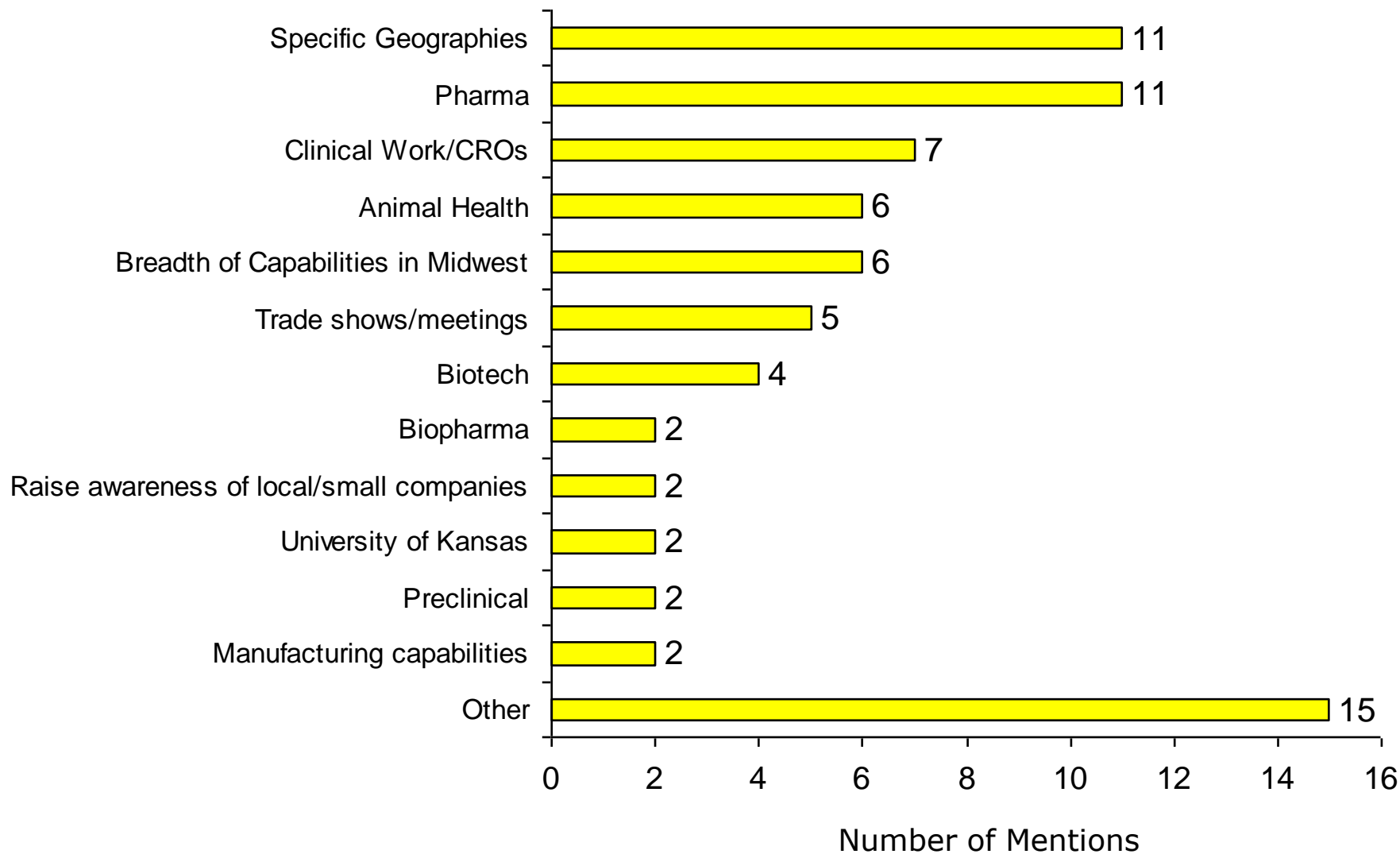
Is the KC Region Nationally Recognized for Your Company's CRO Services?

(n = 66)



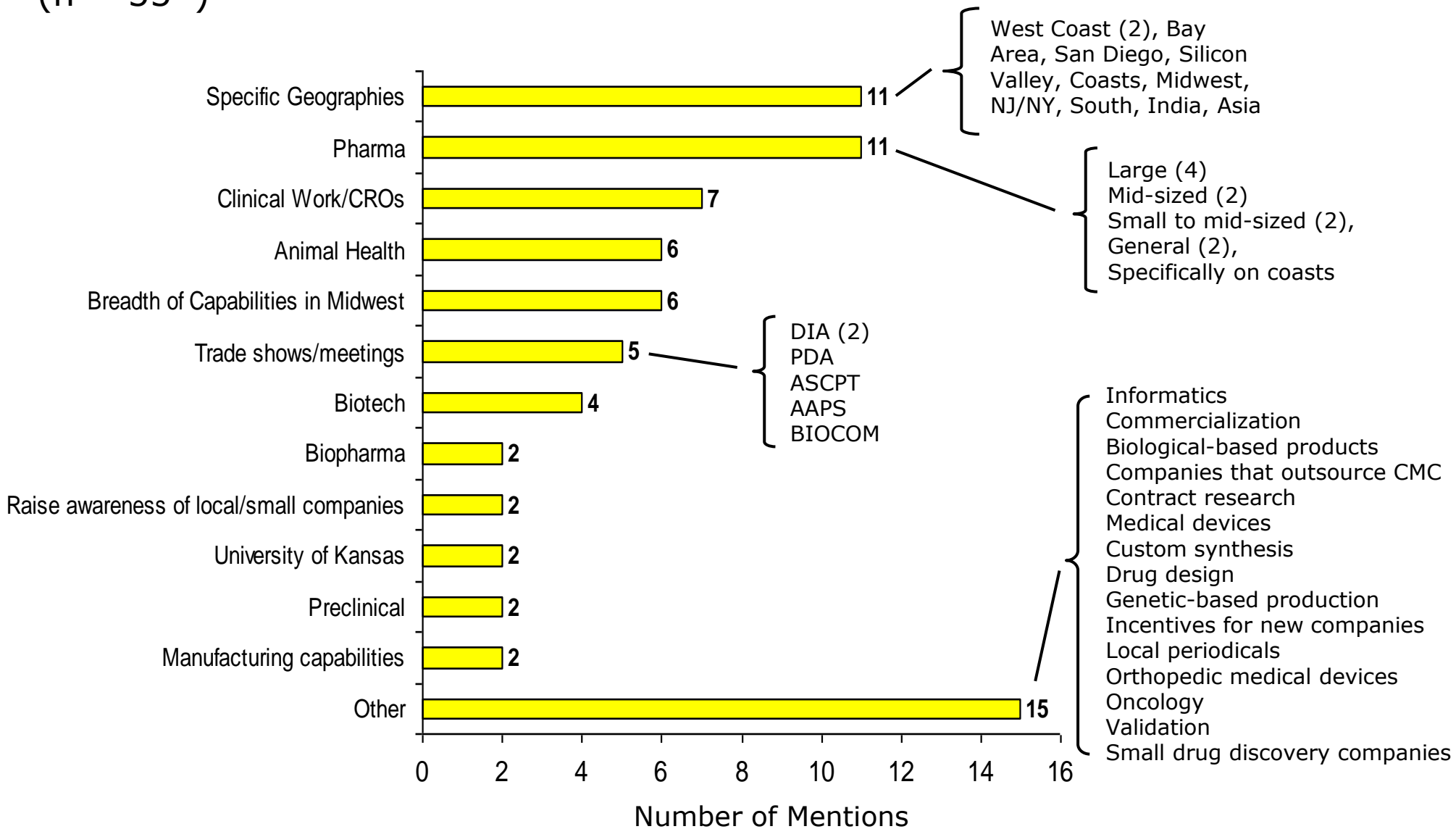
NDDA Marketing Focus Advice

(n = 55*)



NDDA Marketing Focus Advice

(n = 55*)



NDDA Marketing Focus Advice

"It appears to me that the Kansas City area has some real expertise. I think it falls into three categories: One would be the CROs (clinical trials are largest in terms of people and expertise), preclinical (some companies are big here), and the third is university collaborations to conduct research and drug development for companies. We have the University of Kansas and some real capabilities in drug formulation and running clinical trials. That should be included, though lots of people don't think of it."

Johnson Strategic Communications

"Attracting pharmaceuticals as well as agriculture into the fact that we have the capability and the expertise to provide custom synthesis. Very few have this experience and having this experience in the Kansas City region is a gift that must be told, if you will."

Betachem

"Probably project management and integrated service offerings. From what I know, it's essentially a way to market all the collective assets in the region to advance a candidate molecule from beginning to end. I think luring companies into the region and seeing how we can support that is the biggest impact."

*University of Kansas Institute for
Advancing Medical Innovation*

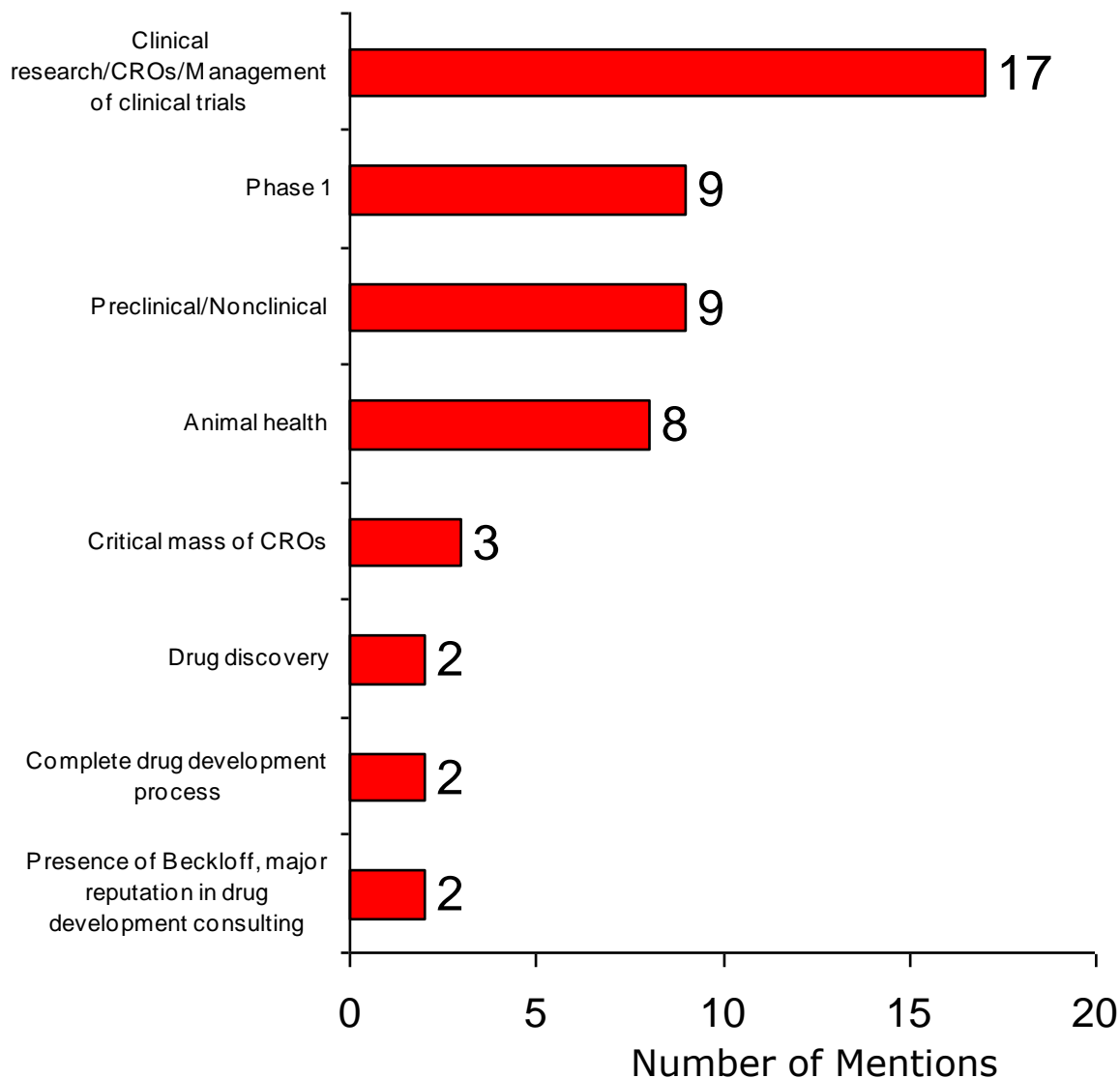
"Just awareness. We provide services as a company, but also think of taking products to market. As a customer, we like to know of all the assets available. We have to know whom to work with. We are small. Widespread marketing does not make sense to us."

Orbis Bioscience

"We are involved in two types of drug development: human and animal. Animal is centered in the Midwest, especially Kansas City. Human drug development is basically in the coasts, especially the startups in California. I would say focus on the animal health component for the Midwest and human for the coasts."

Midwest Research Institute

Region's CRO Services – Strongest (n = 46*)



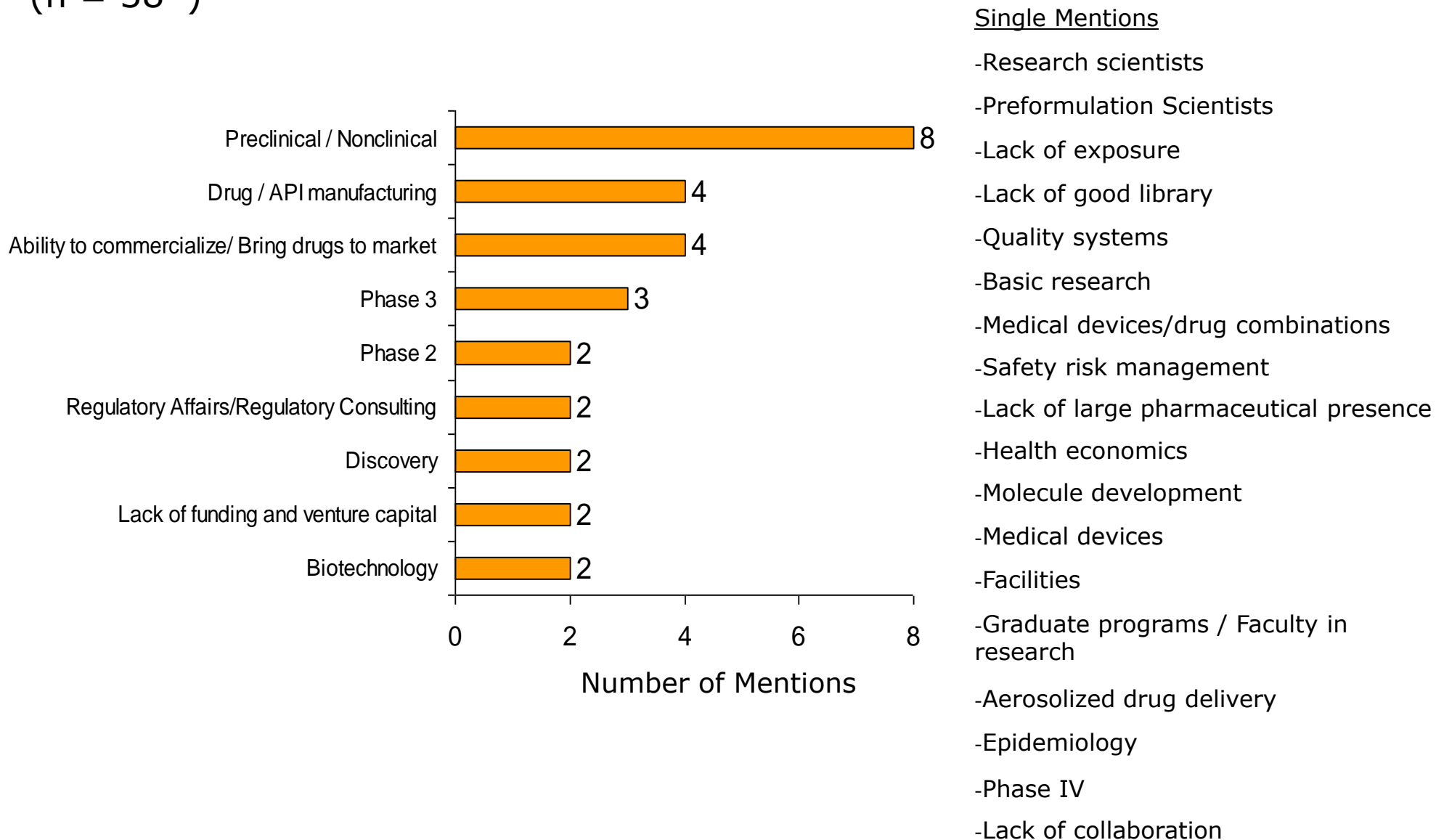
Single Mentions

- Phase 0
- Phase II
- Phase IV
- Laboratory services
- Basic laboratory expertise
- Scientific research/compliance
- Numerous vendors and suppliers of API
- Numerous independent testing labs
- Variety of consulting services
- Regulatory support

Source: SMG Categorization of Mentions

*Multiple answers accepted

Region's CRO Services – Missing or Need to be Improved (n = 38*)

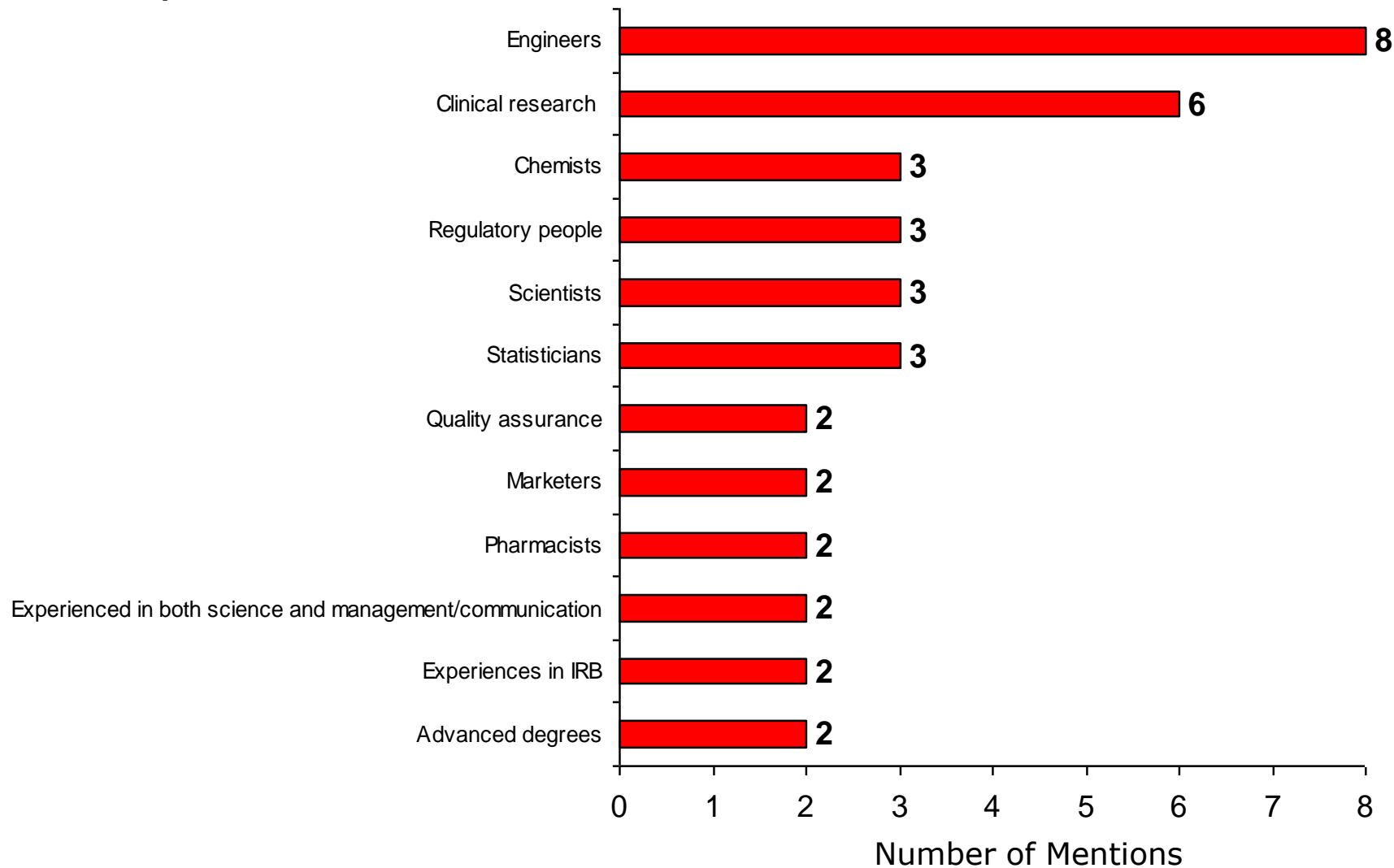


Source: SMG Categorization of Mentions

*Multiple answers accepted

Most Difficult CRO Employees to Find

(n = 49*)



*Note: Multiple answers accepted.
21 single mentions are on next page

Source: SMG Categorization of Mentions

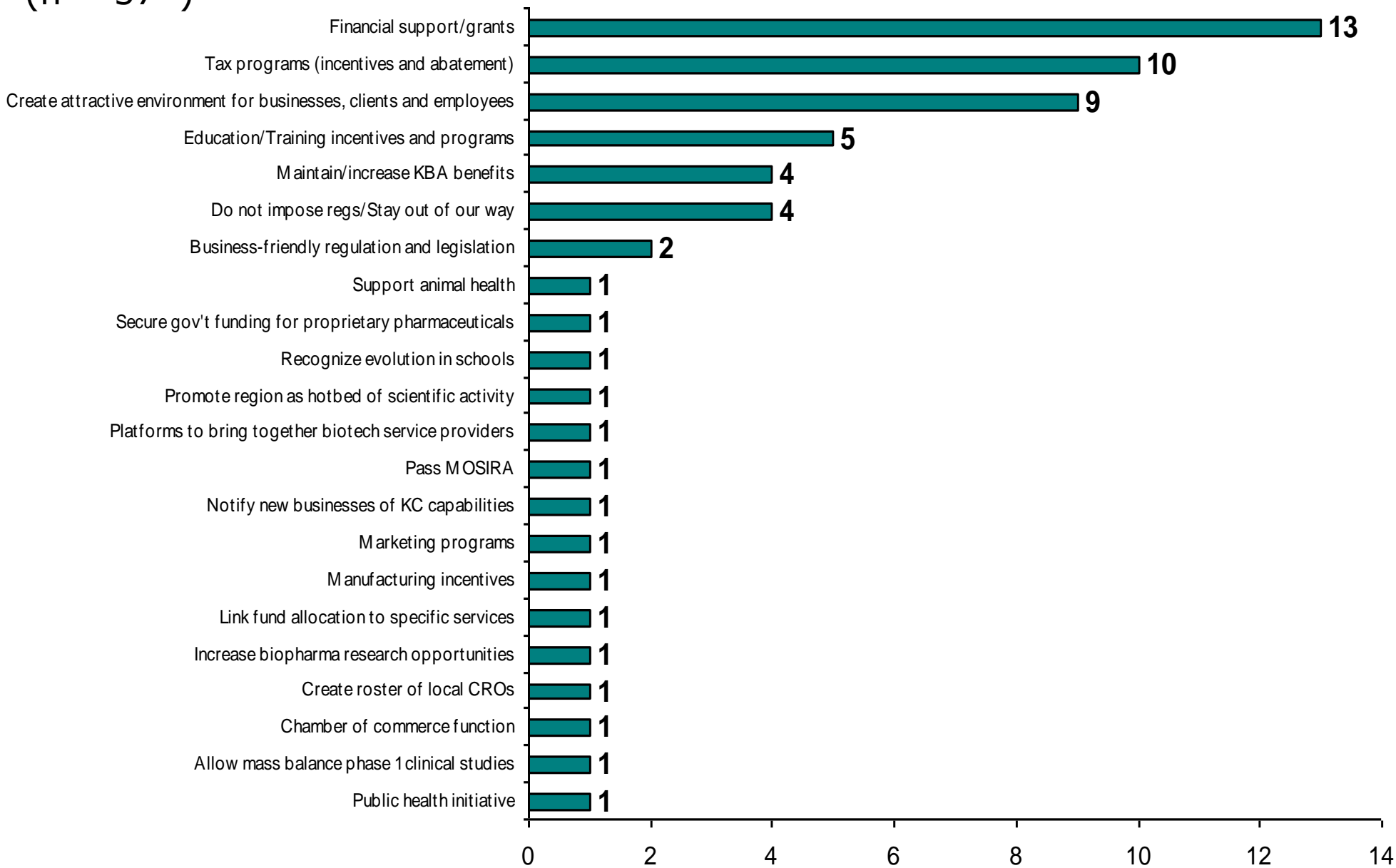
Most Difficult CRO Employees to Find

(n = 21 single mentions)

- | | |
|---|--|
| Technical specialists | Sales |
| Research | Qualified research coordinators |
| Programming | Method development scientists |
| Medical technologists | Lab technologists |
| Knowledgeable in oncology pricing and reimbursement | Experienced lead optimization biologists |
| Experienced in vaccine development | Experienced in pharmaceuticals |
| Experienced in clinical manufacturing | Dedicated people |
| CFOs | Analysis programmers |
| Aerobiologists | Experienced nurses |
| Study directors | Qualified project leaders |
| Content experts in epidemiology | |

How Could the State Government Help CRO's the Most?

(n = 57*)



Source: SMG Categorization of Mentions

Final Report, April, 2011

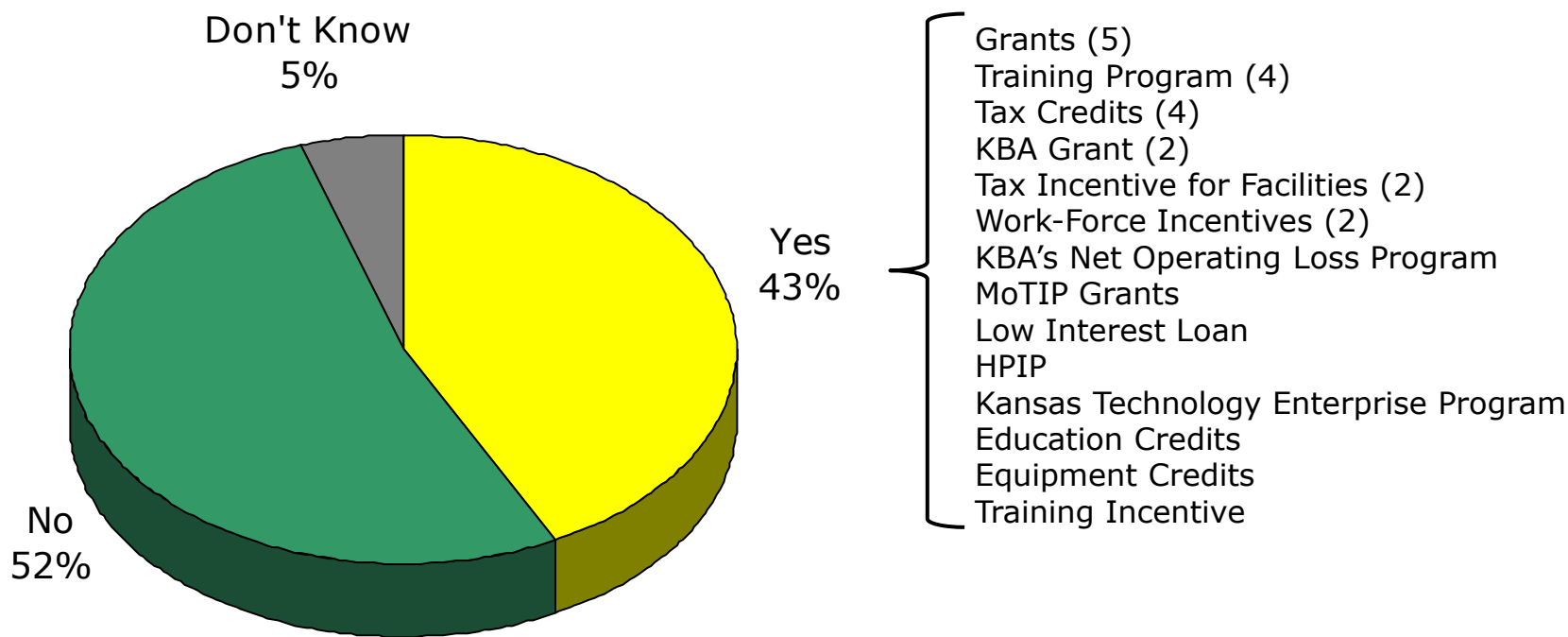
Number of Mentions

*Multiple answers accepted

Confidential

Has Your Company Ever Taken Advantage of State-Funded Programs, Such as Tax Credits, Grants, or Work Force Incentives?

(n = 61)



Appendix

Companies Interviewed (n = 66)

Company	Location	Interviewee	Main Business
Acceleration Laboratory Services	Lee's Summit, MO	Tom Rosanke	Analytical labs
AccessMed	Overland Park, KS	Carl Scotten	Reimbursement support
Advanced Response Management	Overland Park, KS	David Vitt	Medical information service provider
Alburty Lab	Drexel, MO	David Alburty	Aerosol engineering labs
Ameri-Pac	St. Joseph, MO	Robert Colescott	Pet food additives and animal supplements
Analytical Bio-Chemistry Labs	Columbia, MO	Buddy Worrell	Analytical services
Aptuit	Kansas City, MO	Steve White	Drug discovery and development services
Bayer Healthcare	Shawnee Mission, KS	John Caldwell	Contract manufacturing
Beckloff Associates	Overland Park, KS	Michael Beckloff	Scientific and regulatory consulting
Bertram Group Research & Consulting	Lee's Summit, MO	Debbie Bertram	Market research and strategic consulting
Betachem	Lenexa, KS	Ahmed Al-Sherif	Custom synthesis of isotopes
BioMedical Devices of Kansas	Tonganoxie, KS	Bill Graveman	Medical device development
Brakke Consulting	Lenexa, KS	Joel Adamson	Manufacture API
Cerner	Kansas City, MO	Mark Hoffman	Data management systems
CIBOR	Wichita, KS	Michael Good	R&D of composite materials
cGMP Validation	Mission, KS	Laura Gilikin	FDA validation and compliance
Clinical Reference Laboratory	Lenexa, KS	Rajani Prasad	Clinical laboratories
Clinipace Worldwide	Overland Park, KS	Barbara Geiger	Clinical research management
CRB Consulting Engineers	Kansas City, MO	Jason Robertson	Design, engineering and construction
Crititech	Lawrence, KS	Charles Decedue	Formulation technology
Cultural Horizons	Kansas City, MO	Nancy Lang	Market support and evaluation
CyDex	Lenexa, KS	Rick White	Drug delivery and product development

Companies Interviewed, cont'd (n = 66)

Company	Location	Interviewee	Main Business
Dybedal/KCUMB Clinical Research Ctr	Kansas City, MO	Patrick Clay	Clinical trials
ECTO Development Corporation	Excelsior Springs, MO	John Rose	Analytical & formulation EPA lab
EMB Statistical Solutions	Overland Park, KS	Brenda Bishop	Data management and statistical analysis
Ethical Review Committee	Kansas City, MO	Leslie Wilson	Institutional review board
Fleishman-Hillard Clinical Trials Division	Kansas City, MO	Steve Walker; Robert Glenski	Clinical trial recruitment
Global Prairie	Kansas City, KS	Tom Peddicord	Market support & communications
Herschel J. Gaddy & Associates	St. Joseph, MO	Herschel Gaddy	R&D consulting
Hospira	McPherson, KS	Abbie Meyer	Contract manufacturing
I3 Global	Lenexa, KS	Melanie Morgan	Clinical research management
InnovaPrep	Drexel, MO	David Alburty	Biological sample & concentration products
Inovatia Laboratories	Fayette, MO	JB Waggoner	Analytical services
Integrated Biotech Solutions	Overland Park, KS	Steve Pondell	Regulatory consulting
JCB Laboratories	Wichita, KS	Brian Williamson	Packaging, filing, labeling
Johnson Strategic Communications	Leawood, KS	Dick Johnson	Market support & communications
KantarHealth (Mattson Jack Group)	Overland Park, KS	Jerry Fields	Strategic consulting
KC Analytical Services	Shawnee Mission, KS	Dari Dadgar	Bioanalytical services
KC MedNet	Kansas City, MO	Jill Watson	Promote clinical research
Klein & Company	Overland Park, KS	Linda Klein	Commercial support and communications
Managex Consulting	Blue Strings, MO	Thomas Feyerabend	Consulting services
Merial-Intervet/Schering-Plough Animal Health	De Soto, KS	Emilo Trigo	Vaccine contract manufacturing

Companies Interviewed, cont'd (n = 66)

Company	Location	Interviewee	Main Business
The Micron Group	Lenexa, KS	Esam Sidarous	Clinical research management
Mid*Lands Institutional Review Board	Overland Park, KS	Cathy Owen	Institutional review board
Midwest Bio Services	Overland Park, KS	Irina Orokinah	Protein identification & characterization
Midwest Research Institute	Kansas City, MO	Tom Grant	Laboratory services
Norwood Labs	Leawood, KS	Gerard Wood	Market support
Orbis Biosciences	Kansas City, KS	Maria Stecklein	Formulation technology
Pivot International	Lenexa, KS	Elton Ching; Robert Austring	Medical devices
PRA International	Lenexa, KS	David Dockhorn	Clinical research management
PRL Central Laboratories	Lenexa, KS	Scott Stubenhofer	Clinical research management
Professional Toxicology Services	Lenexa, KS	Karl Kammerer	Drug regulation compliance
ProPharma	Shawnee Mission, KS	Jeff Hargraves	FDA validation and compliance
QPS Bio-Kinetics	Springfield, MO	Brendan Bourg	Clinical research management
Quest Diagnostics	Lenexa, KS	Matthew Virgilio	Laboratory services
Quintiles	Overland Park, KS	Joe Lacz	Clinical research management
QVM Services	Trimble, MO	Sandra Dixon	FDA validation and compliance
SAFC Biosciences	Lenexa, KS	Michael James	Contract manufacturing and ingredients
Sinclair Research Center	Columbia, MO	Marc Tayman	Preclinical animal studies
Starr Health Strategy	Overland Park, KS	Kathleen Starr	Market consulting
U. Kansas Inst. for Advancing Medical Innovation	Kansas City, KS	Michael Hughes	Product development
United BioSource Corporation	Kansas City, MO	Sean Hart	Clinical research management
Vince and Associates	Overland Park, KS	Li Rusch	Clinical trials
Viracor/IBT/Progene	Lee's Summit, MO	Kirk Randall	Central clinical labs
Xenometrics	Stilwell, KS	Alfred Botchway	Toxicology
Xenotech	Lenexa, KS	Andrew Parkinson	Toxicology

Companies Not Interviewed

(n = 2, data collected through secondary research)

Company	Location	Main Business
Alpha IICH	Leawood, KS	Alpha-emitting radioisotope products
Hennessy Research Associates	Shawnee Mission, KS	Animal health R&D