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## **Wearable Technology Utilization in Clinical Trials and the Role of CROs: Current and Future Outlook**

Prepared for LSSG

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**SAMPLE PAGES**

# 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 more than fifteen 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 preclinical and clinical development including:

- Pre-clinical safety pharmacology, drug metabolism & bioanalytical services
- Non-clinical/GLP toxicology services
- Clinical development services (Phase I, II, III)
- Pre & post-approval services (Phase IIIb and IV)
- Clinical trial supply chain management and technologies (IVRS, IWRS, EDC, Wearable Technology)
- Chemistry, manufacturing and controls (CMC) services
- Large molecule & vaccines services

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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# Study Goal and Methodology

## GOAL

To further understand wearable technology utilization in clinical trials and the role of CROs in wearable technology.

## METHODOLOGY

The primary research for this report was fielded in October, 2016. Study participants (N=129) are all biopharmaceutical company outsourcing decision makers actively participating in pharmaceutical industry-sponsored clinical trials.

All study participants were prescreened by LSSG to ensure a high level of involvement and/or key decision-making authority for outsourced services providers. All data analysis and reporting was performed by LSSG.

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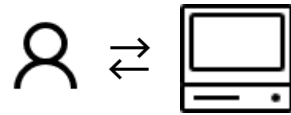
Wearable Technology (WT) is the incorporation of devices/sensors into items of clothing/accessories to track individual health information. Increasingly, WT is being incorporated into pharmaceutical clinical trials.

## POTENTIAL BENEFITS OF WEARABLE TECHNOLOGY FOR CLINICAL TRIALS



### IMPROVED DATA INTEGRITY

- Continuous stream of data measurements



### PATIENT COMPLIANCE

- Ease of patient recruitment and retention
- Higher adherence rate



### REDUCED COSTS

- Improve operational efficiencies



### HEALTH MONITORING

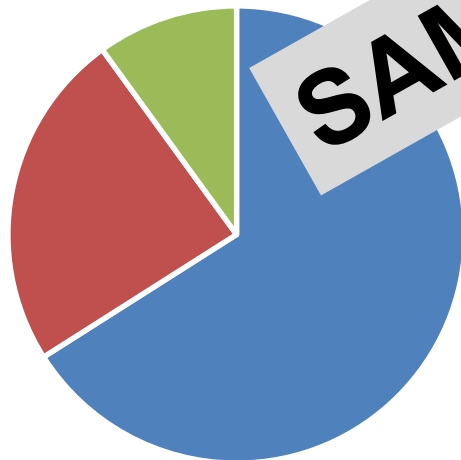
- Earlier insights into patient health

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Current use of Wearable Technology in clinical trials is (XX%) overall. Use is generally in all therapeutic areas incorporating Wearable Technology, except Y.

- Currently, XX% of respondents use Wearable Technology in their clinical trials
- While XX% of current Wearable Technology users are incorporating Wearable Technology into clinical trials within A, less than YY% of respondents do so within other therapeutic areas such as B, C, D, leaving significant opportunity for growth in utilization within those therapeutic areas.

**CURRENT USE OF WEARABLE TECHNOLOGY\***  
(% of respondents)



N=104

**USE OF WEARABLE TECHNOLOGY WITHIN THERAPEUTIC AREAS USING WEARABLE TECHNOLOGY**  
(% of respondents)

A	X%
B	X%
C	X%
D	X%
Endocrinology	X%
F	X%
Immunology	X%

N=50

\*Sample size from respondents who were not pre-selected for knowledge of wearable technology

Those incorporating WT in their trials are X due to Y including Z and A. There is also the perception that CROs are not B for the A of incorporating WT into clinical trials.

- The greatest barriers today preventing current users from incorporating more WT in their clinical trials are X and Y.

*"Comment."*  
- Large Pharma, US

*"More im... ments and X is necessary. In Europe not ever... is X as in the US."*  
- Mid Pharma, EU

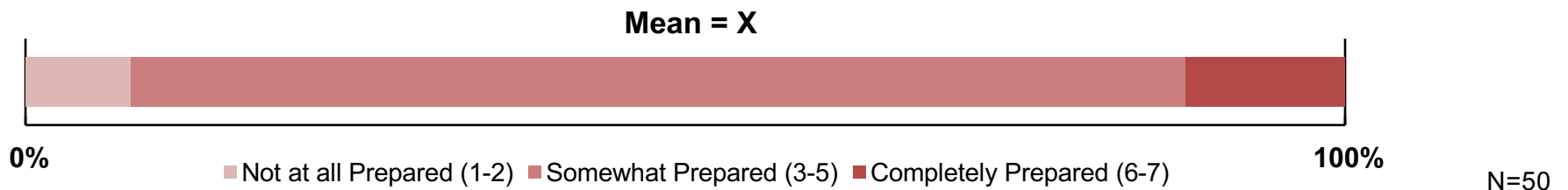
- BB% of current non-users perceive to be limited T for its use in clinical trials.

*"We haven't required it for our clinical + be X and Y..."*  
- Pharma, US

*"Not sure what is X and Y. It's too Z and the B doesn't have M either."*  
- Small Pharma, US

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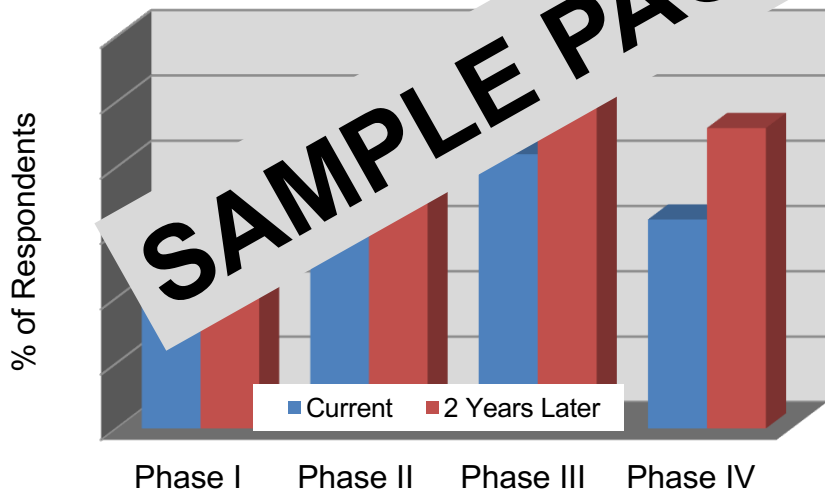
**DEGREE OF CRO PREPARATION AND KNOWLEDGE ABOUT INCORPORATING WEARABLE TECHNOLOGY INTO CLINICAL TRIALS**



- MM% of respondents indicating CROs are not Z for WT state they X and demonstrating Z

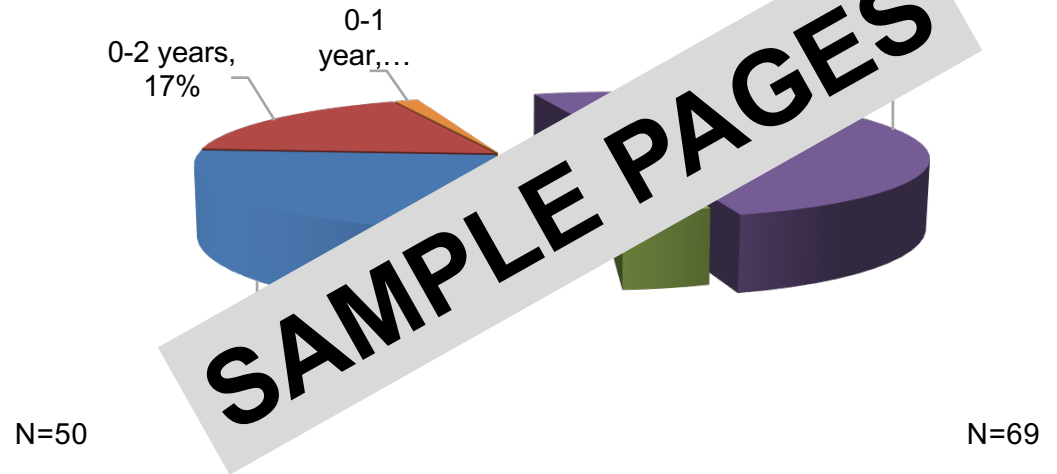
Current use of WT among users ranges from X-Y% of clinical trials. While users of WT expect A growth in the near term, the majority of non-users of WT either X or Y about adoption.

### USE OF WEARABLE TECHNOLOGY IN 2 YEARS



- Current users expect a X-Y% increase in wearable technology usage in all phases of clinical development within the next 2 years.

### FUTURE ADOPTION BY CURRENT NON-USERS\*



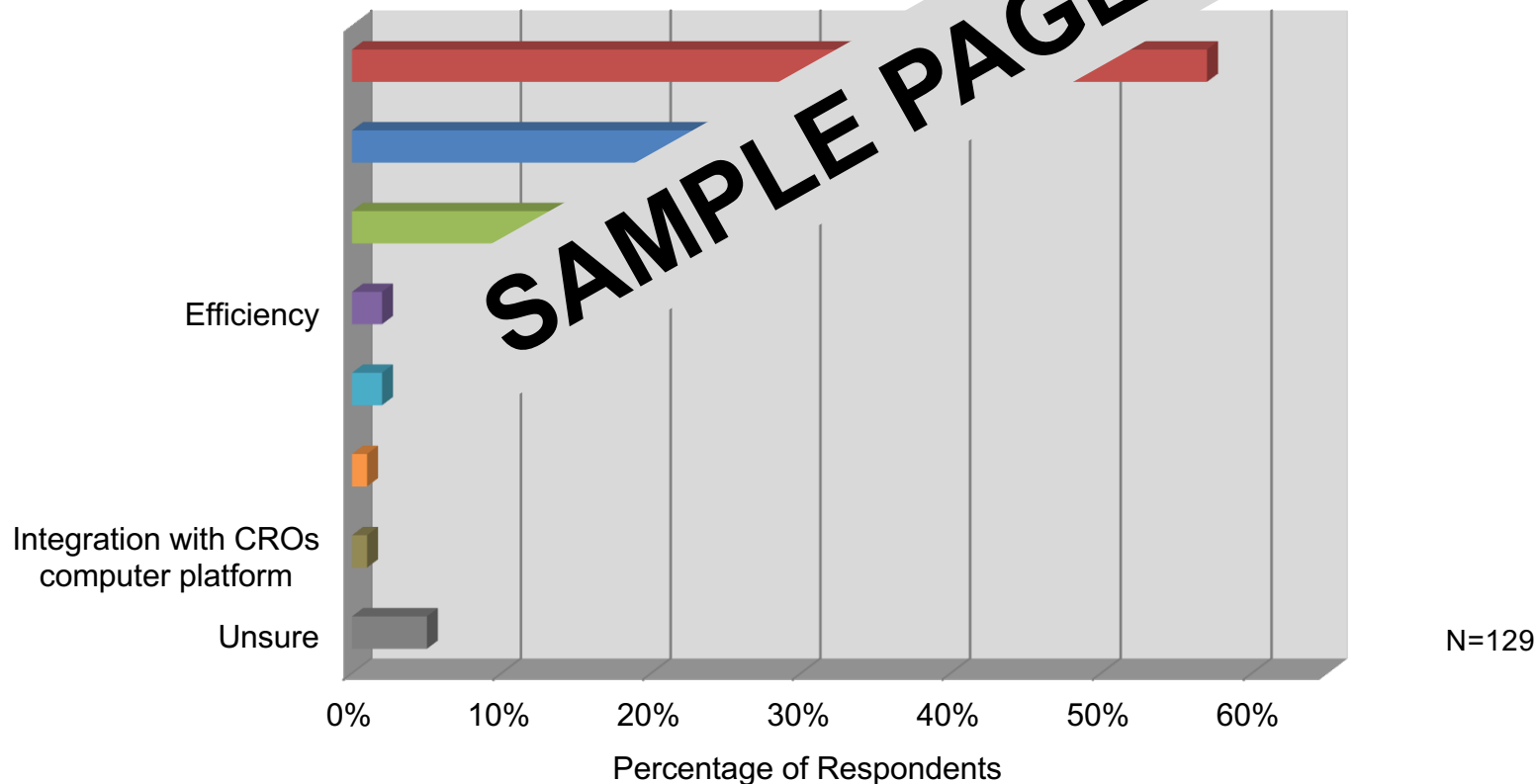
- XX% of current non-users expect to incorporate wearable technology in their clinical trials within the next 5 years.
- BB% are X about wearable technology future plans, but have the potential and opportunity to do A and B in their clinical trials.

\*Sample size from respondents who were not pre-selected for knowledge of wearable technology



X and Y the biggest advantages of using wearable technology in clinical trials. C and D and the ability to access data in real time are also major advantages.

## ADVANTAGES OF USING WEARABLE TECHNOLOGY IN CLINICAL TRIALS



### Data Precision

*"Irrefutable results."*

- Small Pharma, US

### X and Y

*"A and B will C. Online review of the data and fast acting for issues."*

- Large Pharma, EU

### Increased Z

*"Wearable technology brings Z as well as B otherwise required from an on-site visit. This can be captured and uploaded from a remote location."*

- Mid Pharma, US

Q. What advantages does/ should wearable technology bring to the execution of a clinical trial?

# Implications and Recommendations

IMPLICATIONS	RECOMMENDATIONS
	<p>Provide Y to Sponsors; ensure A and B are visible</p>
<p>Utilization of WT will A as key hurdle Y and Z are addressed</p> 	
<p>Sponsors perceive CROs lack A and B in WT implementation in clinical trials</p> 	<p>CROs should A with B to provide D solutions and promote X</p>
	

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# About Life Science Strategy Group, LLC

**Life Science Strategy Group, LLC (LSSG)** is a life science consultancy specializing in strategic consulting, market research engagements and syndicated publications across a variety of therapeutic, technology and service markets. Our core leadership team brings more than 30 years of combined experience conducting strategic consulting engagements in the following areas:

- Pharmaceutical
- Biotechnology
- Medical Devices
- Contract Research
- Diagnostics
- Drug Discovery

LSSG brings extensive breadth and depth of life science knowledge combined with seasoned consultants specializing in strategic and new product planning and commercialization strategy. We provide actionable and insightful strategic consulting results backed by data-driven market research.

***“Solid, responsive, and dependable. That’s why we work with LSSG.”***

*VP Business Intelligence, Global Top–10 CRO*

For more information on the Life Science Strategy Group’s consulting and market research services, please contact us at [info@lifesciencestrategy.com](mailto:info@lifesciencestrategy.com) or call toll free at **1 (800) 941–6373**.

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