



PRAHEALTHSCIENCES

PRA INSIGHTS REPORT



Innovative Processes and Technological Advancements 2017

JULY 2017



TABLE OF CONTENTS

Introduction	2
Methodology	2
Summary	3
Day 1: Innovation, Technology and the Industry	4
The Most Impact on Drug Development	4
The Most Impact on Specific Areas	6
Areas of Focus for Companies	7
Factors That Will Slow Down Innovation	8
Day 2: Improving the Patient Experience	9
Technologies to Improve Patient Experiences	9
The Importance of Technology within the Patient Experience	11
Methods to Improve Patient Engagement	12
Day 3: Impact of Innovation and Technologies on Sites	12
Technologies Impact on Sites	13
Industry Engagement with Sites on Development of New Technologies	13
Valuable Technological Solutions	14
Frustrations When Using New Technology	15



INTRODUCTION

The theme for this year's DIA 2017 Annual Meeting was "Driving Insights to Action." DIA hosted more than 7,000 professionals in the pharmaceutical, biotechnology, and medical device communities from more than 50 countries around the globe. Given the broad multidisciplinary nature of the attendees, PRA Health Sciences wanted to gather actionable insights from this heterogeneous group. We wanted to know their thoughts on the state of innovation and technology in the life-sciences industry and what would have the greatest impact on this industry in the near term.

METHODOLOGY

Data for this report were gathered during exhibit hours at the DIA 2017 Annual Meeting, 19-21 June 2017 at the PRA booth. PRA conducted 3 different surveys, one for each exhibit day. Participants could participate in each daily survey.

A total of 784 responses were gathered.*

DAY 1	DAY 2	DAY 3
<ul style="list-style-type: none">• Four, general industry-related questions• 384 respondents	<ul style="list-style-type: none">• Three, patient-centric questions• 294 respondents	<ul style="list-style-type: none">• Four, site-centric questions• 106 respondents

Participants self-selected their company affiliation from four choices:

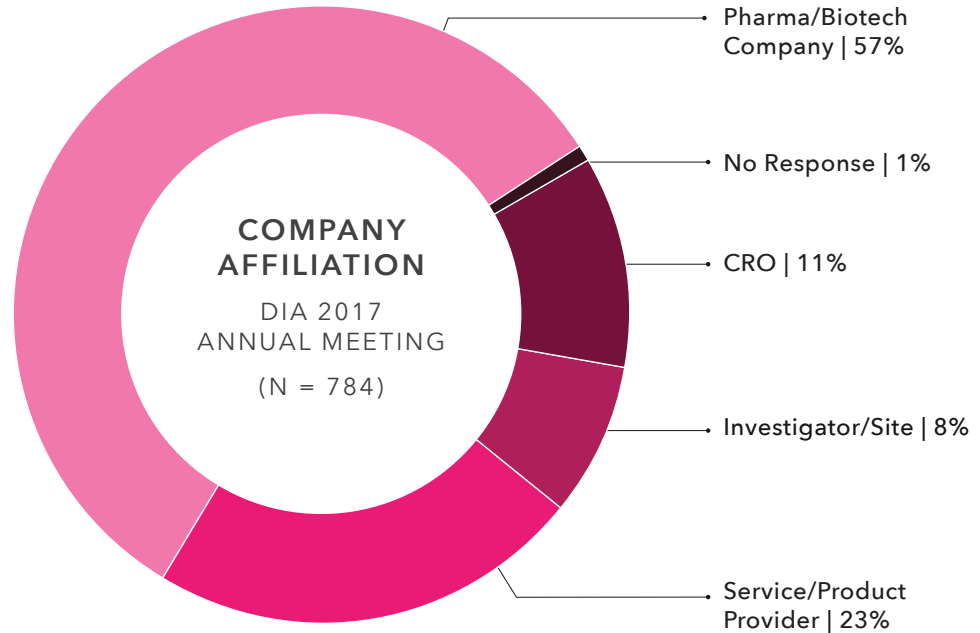
- CRO
- Investigator/Site
- Pharmaceutical/Biotechnology company
- Service/product provider

Out of the 784 respondents, the majority (57%) identified themselves as affiliated with a pharmaceutical/biotechnology company. **Figure 1** shows the company affiliations of all respondents.

*Some attendees participated in more than one survey. Some attendees only completed their company affiliation and did not complete the rest of the survey, therefore their responses were omitted from the base (N).



Figure 1



SUMMARY

DAY 1: INNOVATION, TECHNOLOGY AND THE INDUSTRY

While respondents from sites and CROs believe **innovative processes and technological advancements** will have the greatest impact on drug development in the near term, sponsors and service/product providers were just as concerned about the level of impact **regulatory requirements** will have on the industry.

More than half of all respondents believe innovation and technology will make the greatest difference in **data sharing and collaboration** (with sponsors, sites, patients) and also believe the innovation efforts of their companies are focused in that area. For pharma/biotech respondents, **risk-based monitoring** is another area of focus for their companies.

Respondents were equally concerned about both **cost** and **regulatory requirements** slowing down the pace of innovation or technological advances.

DAY 2: IMPROVING THE PATIENT EXPERIENCE

The majority of respondents believe the way to improve patient participation and retention is by providing **tools to simplify consent and other study procedures**. However, this is an area where responses diverged quite a bit depending on company affiliation. Responses to this question by pharma/biotech companies and sites were more equally distributed between tools to simplify consent and other study procedures and **tools to simplify patient reported outcomes**, something that might be noteworthy for CROs and service/product providers.



When asked how important technology is to the patient journey, respondents from sites perceived technology as **important, but not critical** in helping patients navigate the clinical study—a significant departure from the majority of other respondents who viewed technology as **the most critical factor** in helping patients. This brings up the question if sites view their own relationships with patients as being more critical to the process than technology.

Respondents seem to believe **mobile apps** will make the biggest impact on improving patient engagement, over patient portals, mHealth wearables, text messages or gamification.

DAY 3: IMPACT OF INNOVATION AND TECHNOLOGY ON SITES

A majority of respondents believe the **industry does not do enough to engage with sites on the development of new technologies**, although there were fewer respondents from pharma/biotech who held that belief.

Respondents believe **electronic document exchange** is the technology solution that offers the best value to sites, while e-consent, EDC and site portals virtually tied for the second most popular response.

The majority of respondents believe **systems that are not user friendly** are the biggest frustration for sites when they are requested to use new technology.

DAY 1: INNOVATION, TECHNOLOGY AND THE INDUSTRY

On day one, 384 attendees completed the survey.* To understand attendee perceptions about how innovation and technology might impact the life sciences industry as a whole in the near term, we asked four questions:

1. In the next two years, what will have the most impact on drug development?
2. In the next two years, in what areas will innovation or technology make the most difference? (Select up to three)
3. In the next one to two years, in which area will your company focus their innovation efforts? (Select one)
4. What will slow down the adoption of innovative processes or technological advancements for clinical trials?

THE MOST IMPACT ON DRUG DEVELOPMENT

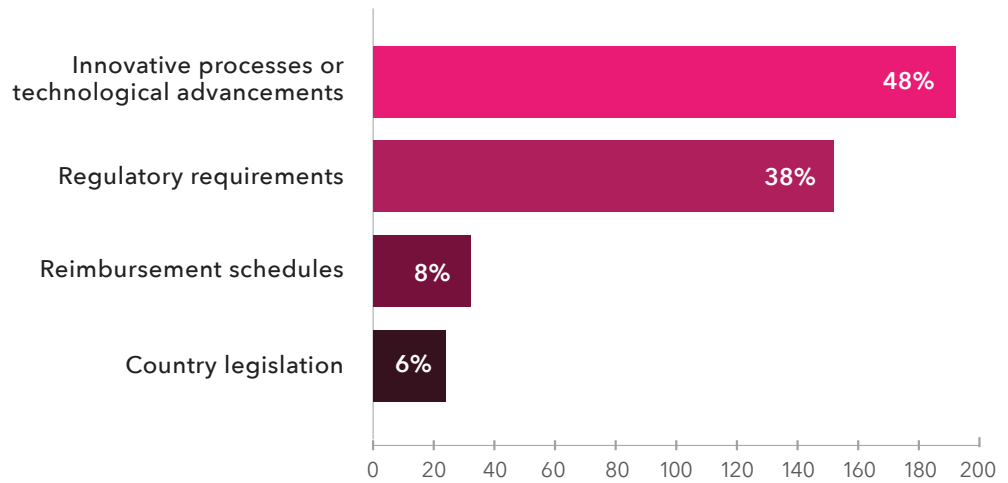
Almost half of all respondents (48%) believe **innovative processes or technological advancements** will have the most impact on drug development in the next two years while 38% believe **regulatory requirements** will have the most impact. However, respondents from both pharma/biotech and service/product providers were more aligned with each other and equally concerned about the impact of both of those factors. **Figure 2** represents overall responses, **Figure 3** shows responses by company type.

* Some attendees did not respond to all questions, therefore sample size may differ among questions.



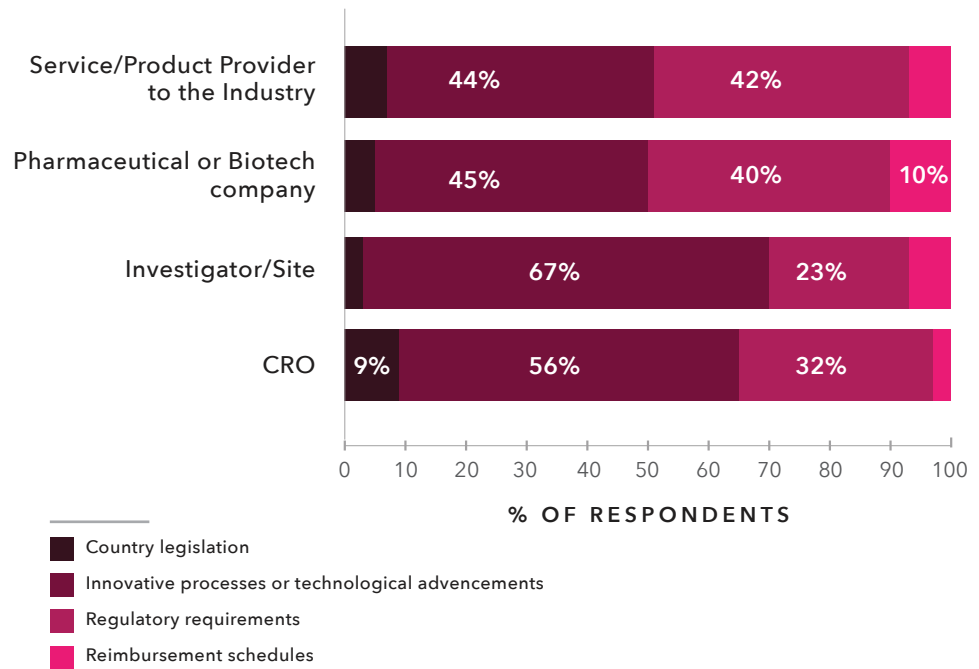
"In the next two years, what will have the most impact on drug development?" Select one.

Figure 2 (all responses)



N = 368

Figure 3 (responses by company type)



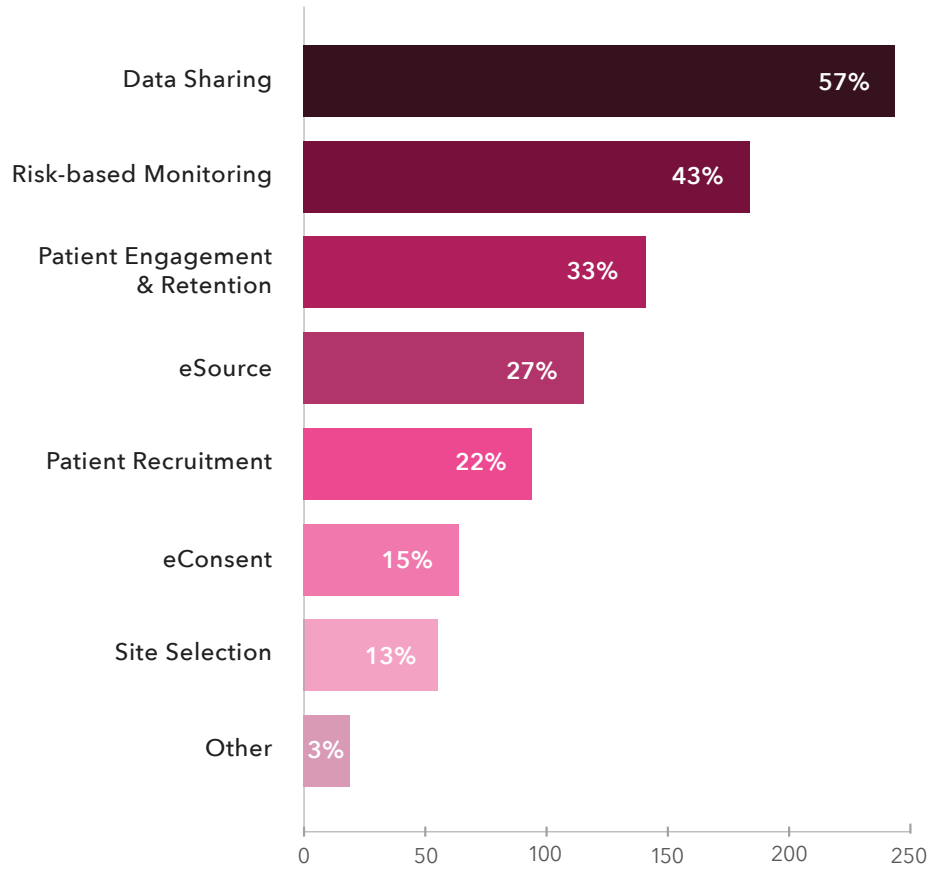


THE MOST IMPACT ON SPECIFIC AREAS

Respondents believe innovation and technology will make the greatest difference in the areas of **data sharing** (57%), **risk-based monitoring** (43%), and **patient engagement and retention** (33%).

*“In the next two years, in what areas will innovation or technology make the most difference?”
(Select up to three)*

Figure 4 (all responses)



N = 364



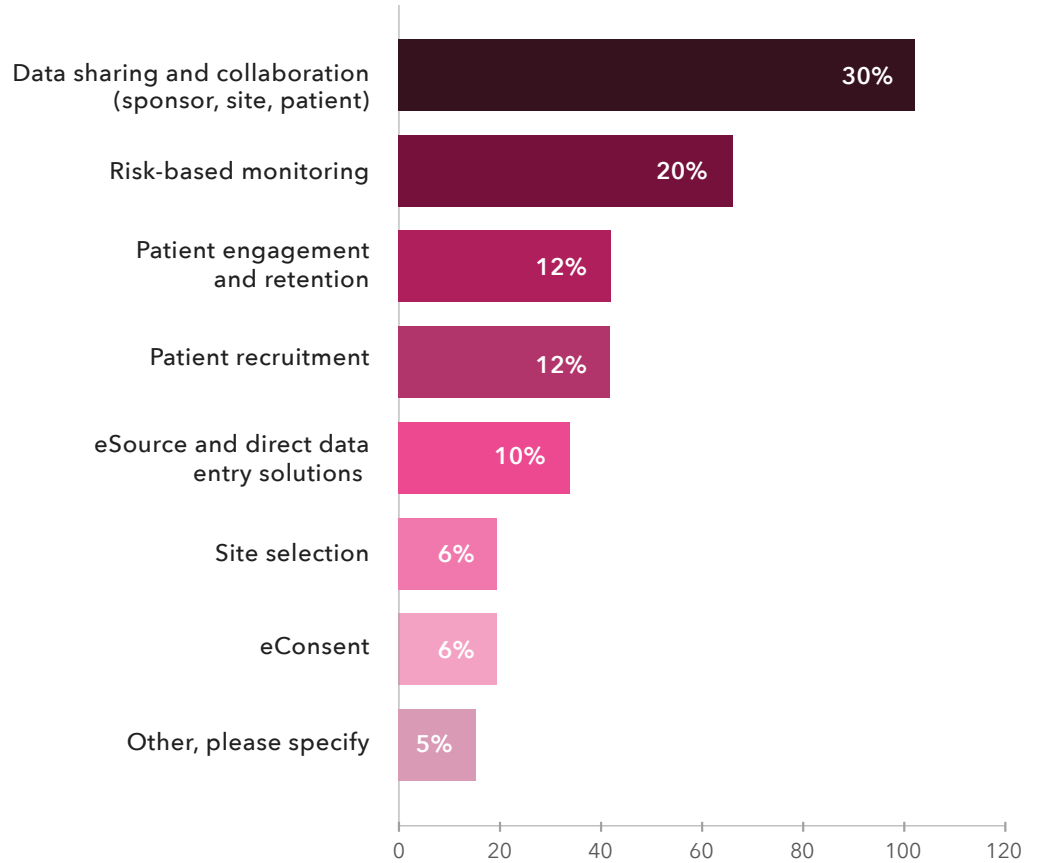
AREAS OF FOCUS FOR COMPANIES

Regardless of company type, **data sharing and collaboration** among sponsors, sites and patients was the top choice for where respondent's companies would be focusing their innovation efforts in the near future, mirroring where they thought the industry would be focusing their efforts. For pharma and biotech respondents, **risk-based monitoring** was another area of near-term focus.

Figure 5 represents overall responses and **Figure 6** shows responses by company type.

*"In the next one to two years, in which area will your company focus their innovation efforts?"
(Select one)*

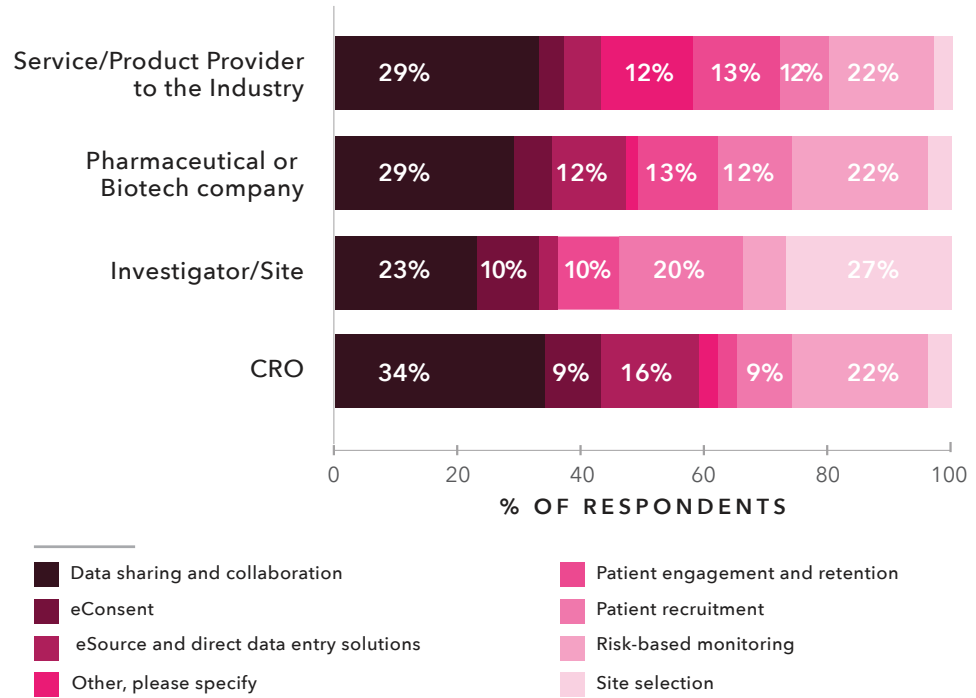
Figure 5 (all responses)



N = 363



Figure 6 (responses by company type)

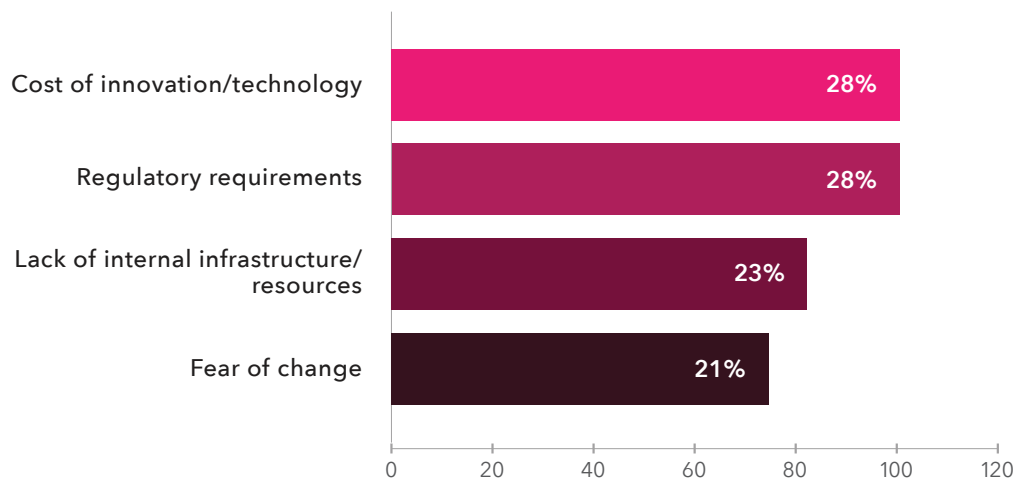


FACTORS THAT WILL SLOW DOWN INNOVATION

In terms of perceptions about what will slow down innovation or technological advancements in the near term for clinical trials, respondents seem to be equally concerned about **cost** (28%) and **regulatory requirements** (28%). However, lack of internal resources (23%) and fear of change (21%) were not too far behind as concerns for the industry. **Figure 7** represents overall responses and **Figure 8** shows responses by company type.

“What will slow down the adoption of innovative processes or technological advancements for clinical trials?” Select one

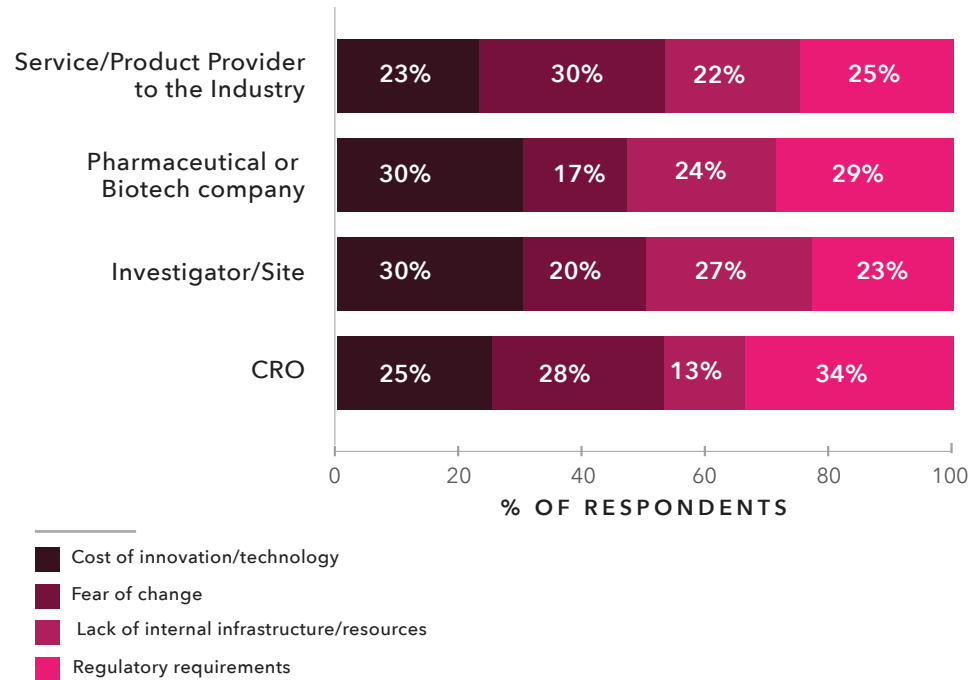
Figure 7 (all responses)



N = 362



Figure 8 (responses by company type)



DAY 2: IMPROVING THE PATIENT EXPERIENCE

On day two, 294 attendees participated in the survey.* In order to get insight into attendees' perceptions about how technology in the near future can benefit the patient experience, we asked them three questions:

1. In the next one to two years, in what area will technology increase patient participation and improve patient retention the most for studies?
2. How do you view the importance of technology for helping patients navigate the clinical study process?
3. What methods or platforms do you believe will improve patient engagement?
(Select up to three)

TECHNOLOGIES TO IMPROVE PATIENT EXPERIENCES

41% of respondents believed **tools to simplify consent and other study procedures** will have the most impact on patient participation and retention over the next one to two years. What's more interesting here is how perceptions differed by company type:

- Respondents from both service/product providers and CROs selected **tools to simplify consent and other study procedures** as their top response.
- Respondents from pharma and biotech companies were nearly equally divided among all **three responses**.
- Respondents from sites were more closely aligned with pharma and biotech companies, with slightly less emphasis on the ability for patients to find studies on their own.

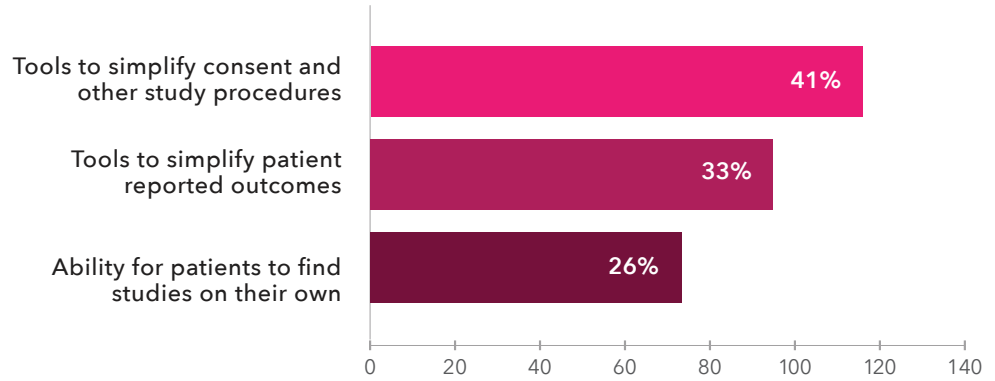
* Some attendees did not respond to all questions, therefore sample size may differ among questions.



Figure 9 represents overall responses while **Figure 10** shows responses by company types.

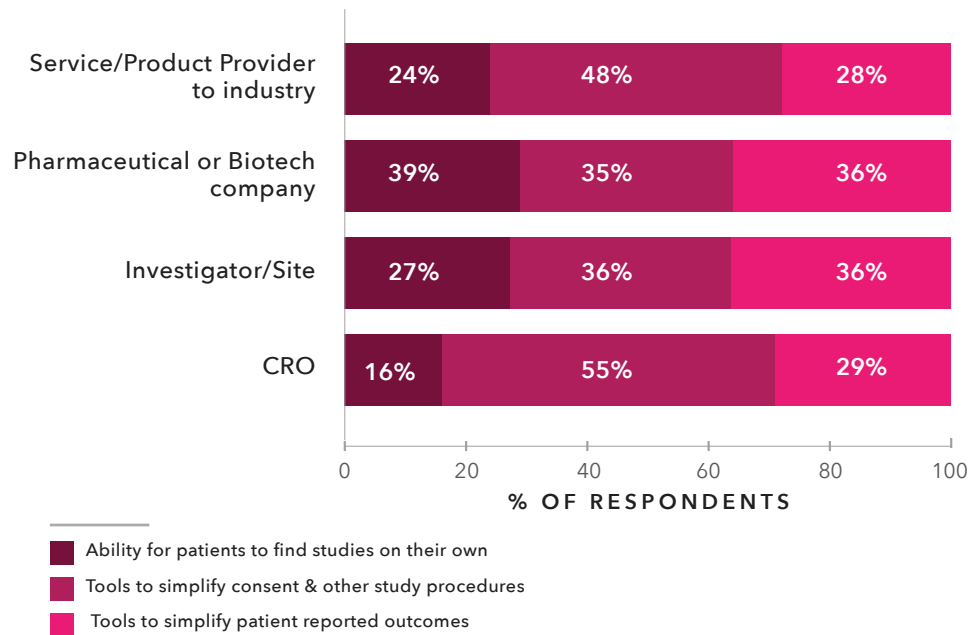
“In the next one to two years, in what area will technology increase patient participation and improve patient retention the most for studies?” Select One

Figure 9 (all responses)



N = 285

Figure 10 (responses by company type)



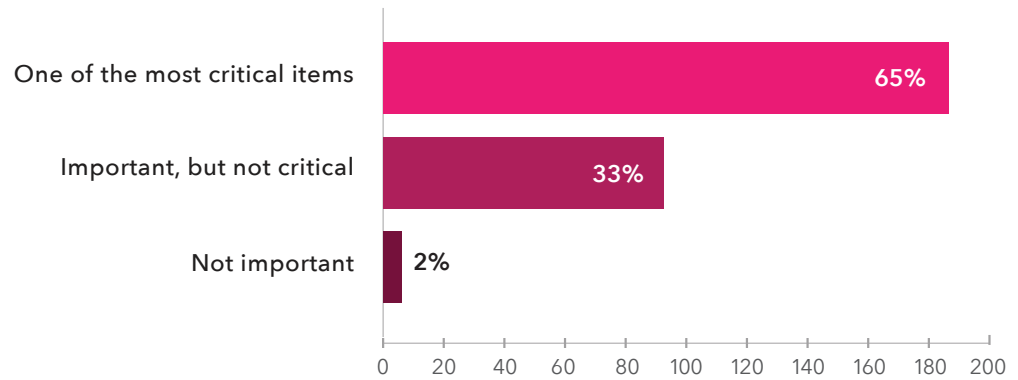


THE IMPORTANCE OF TECHNOLOGY WITHIN THE PATIENT EXPERIENCE

Two-thirds of respondents (65%) viewed technology as **one of the most critical factors** helping patients navigate the clinical study. When viewed by company type, 53% of investigators/sites saw technology as **important, but not critical** to the patient journey. **Figure 11** shows overall responses while **Figure 12** shows how responses differed by company type.

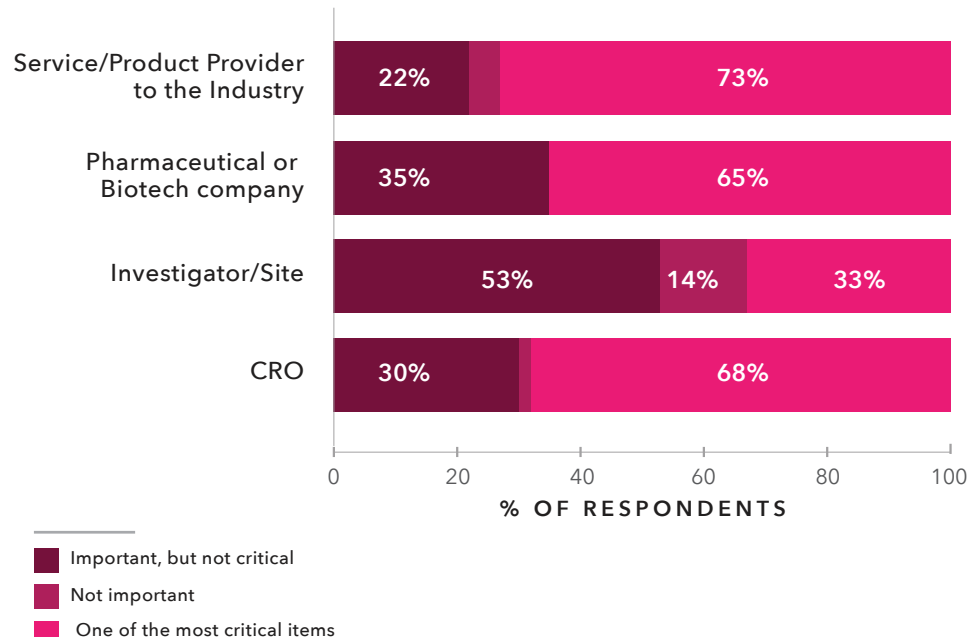
“How do you view the importance of technology for helping patients navigate the clinical study process?” Select One

Figure 11 (all responses)



N = 285

Figure 12 (responses by company type)



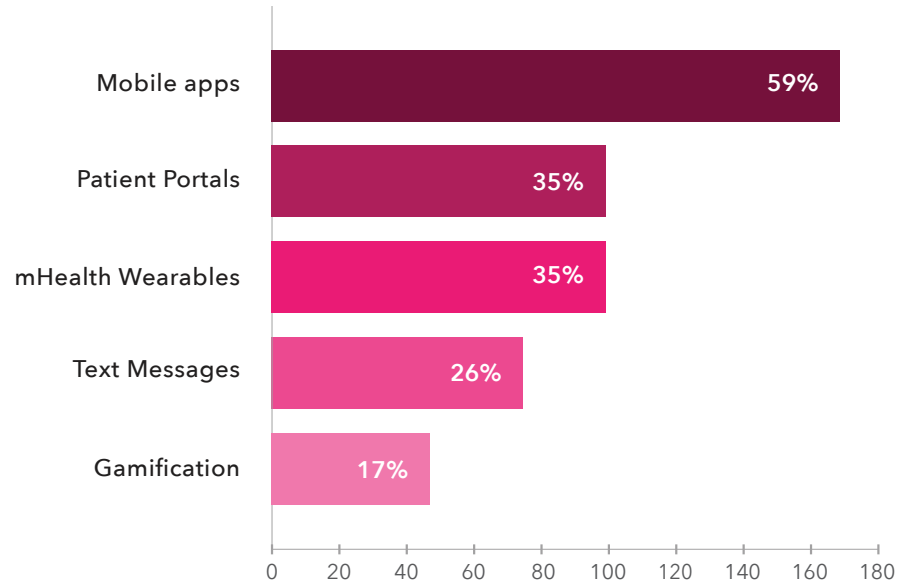


METHODS TO IMPROVE PATIENT ENGAGEMENT

Respondents believe mobile apps (59%), patient portals (35%), and mHealth wearables (35%) will make the biggest impact on improving patient engagement.

“What methods or platforms do you believe will improve patient engagement?” (Select up to three)

Figure 13 (all responses)



N = 284

DAY 3: IMPACT OF INNOVATION AND TECHNOLOGIES ON SITES

On day three, 106 attendees completed the survey.* To understand attendee perceptions about how innovation and technologies impact sites, we asked four questions:

1. Does the expansion of technologies in our industry (i.e., mobile health, clinical trial technologies) affect how sites conduct studies? Y/N
2. Do you think the industry does enough to engage with sites on the development of new technologies for clinical trials or for patients? Y/N
3. What technology solution(s) do you think offer the best value to sites? (Select up to three)
4. In your opinion, what is the biggest frustration for sites when requested to use new technology? (Select up to three)

* Some attendees did not respond to all questions, therefore sample size may differ among questions.

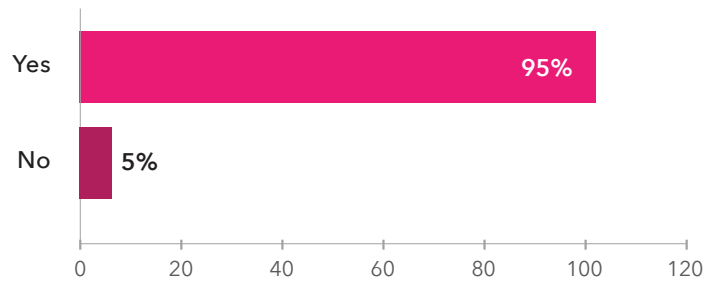


TECHNOLOGIES IMPACT ON SITES

The majority of respondents (95%) believe the expansion of technologies will affect how sites conduct studies.

“Does the expansion of technologies in our industry (i.e., mobile health, clinical trial technologies) affect how sites conduct studies?” Y/N

Figure 14 (all responses)



N = 105

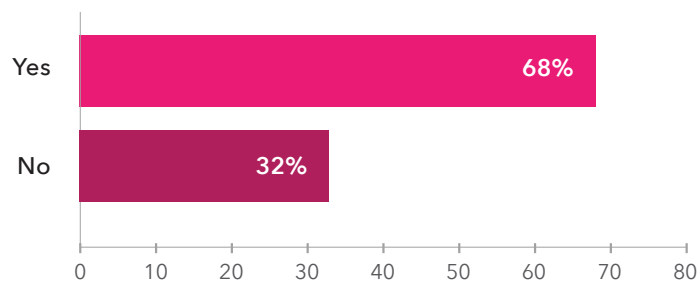
INDUSTRY ENGAGEMENT WITH SITES ON DEVELOPMENT OF NEW TECHNOLOGIES

As a whole, more than two-thirds of respondents (68%) believe the **industry does not do enough to engage with sites on the development of new technologies** for clinical trials or for patients, although respondents from pharma/biotech were more equally distributed between those who believe the industry DOES do enough and those who believe the industry DOESN'T do enough.

Figure 15 represents overall responses and **Figure 16** shows responses by company type.

“Do you think the industry does enough to engage with sites on the development of new technologies for clinical trials or for patients?” Y/N

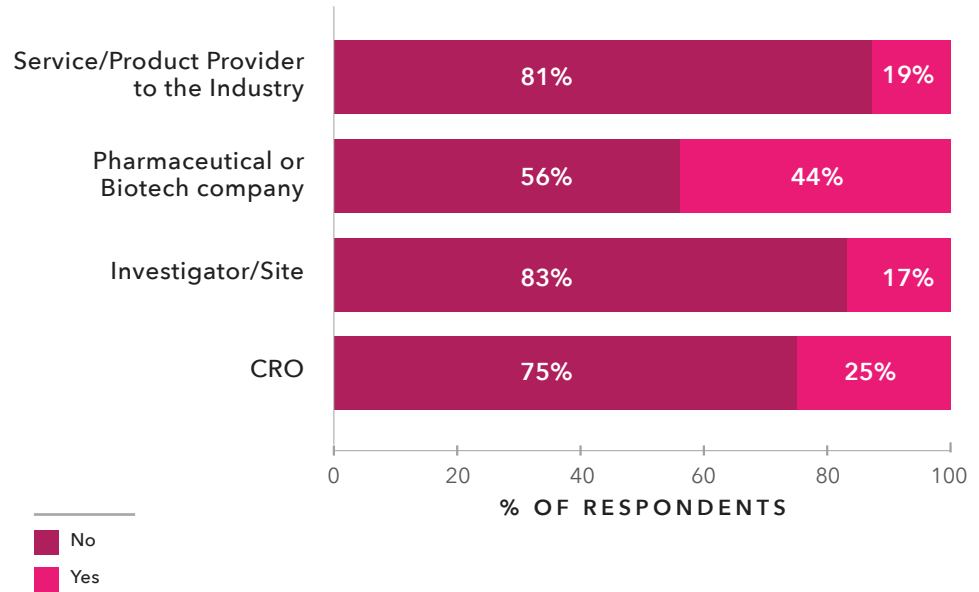
Figure 15 (all responses)



N = 105



Figure 16 (responses by company type)



VALUABLE TECHNOLOGICAL SOLUTIONS

Respondents believe electronic document exchange (58%), eConsent (40%), EDC (39%), and site portals (39%) are the technological solutions that offer the best value to sites.

“What technology solution(s) do you think offer the best value to sites?” (Select up to three)

Figure 17 (all responses)

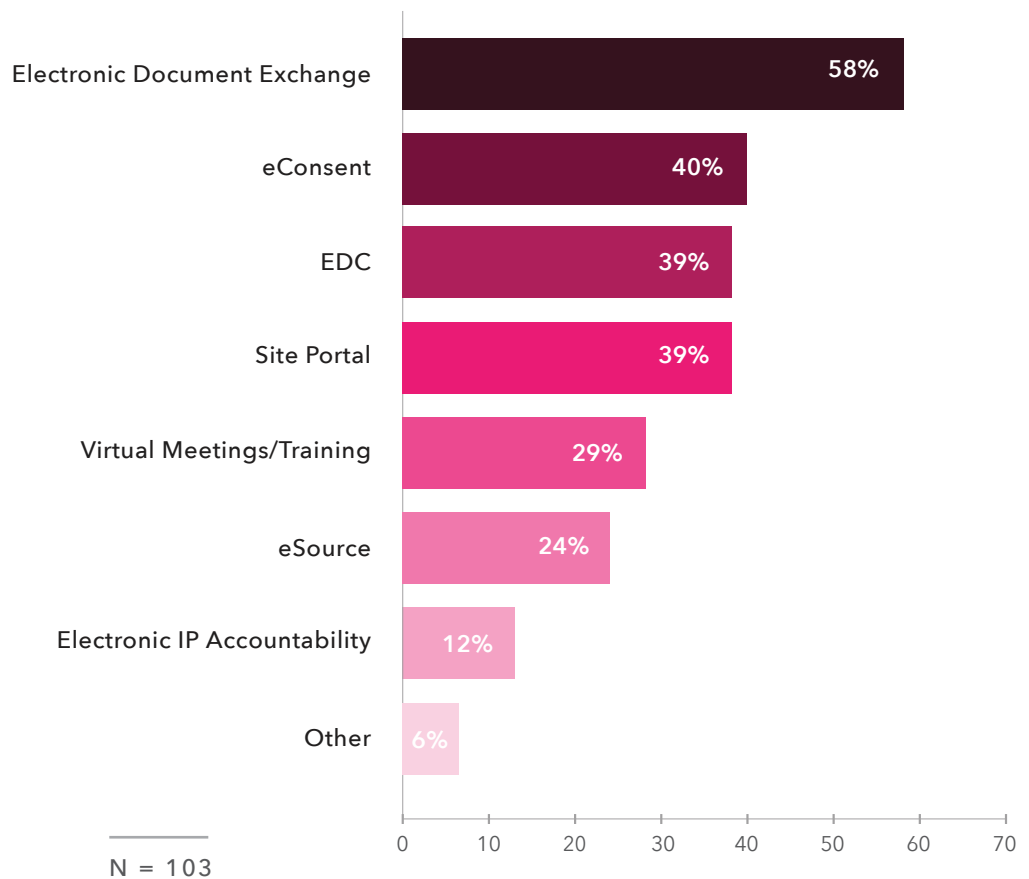


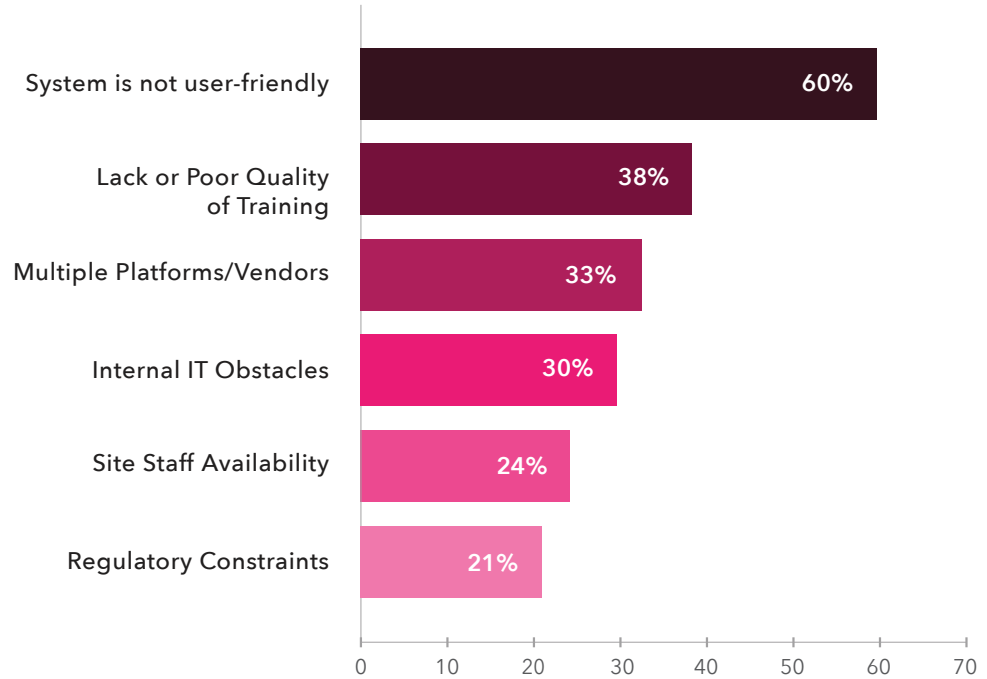


Figure 18 (all responses)

FRUSTRATIONS WHEN USING NEW TECHNOLOGY

Respondents believe that systems that are not user friendly (60%), are the biggest frustrations for sites when they are requested to use new technology.

*“In your opinion, what is the biggest frustration for sites when requested to use new technology?”
(Select up to three)*



N = 100