White Paper

Empowering Clinical Research Sites and Sponsors in the Patient-centric Era

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Introduction

In its transformative role, strategic site collaboration can foster patient-centricity by recognizing challenges faced by clinical trial sites and redefining the site as the hub of patient-centric trials. With collaboration instead of delegation, sponsors can decrease site challenges and maintain patient engagement as the industry continues to shift toward a more patient-centric model.

Clinical trials are needed, but do biopharmaceutical sponsors, research sites and patients all want the same thing? Yes, to deliver better human health by bringing new medicines to market — but that's the short answer. Sometimes, clinical trial sites say "no" to participating in a study for reasons beyond enrollment or recruitment.

For sites, technology and training can be burdensome. Trial administration is complicated. Staffing levels aren't adequate. Timelines don't align. Endpoints are complex. Diseases are rare. Patients are geographically isolated. There are so many challenges it isn't easy to decide which to focus on.

The rapid adoption of Decentralized Clinical Trial approaches (DCTs) has helped to widen patient access, increase participant diversity and reduce overall patient burden. Yet, most clinical trial staff are now given multiple new activities in addition to their standard practices — along with every sponsor's new technology, new training and new processes. Thus, site personnel feel burdened to keep up and DCT approaches may only be complicating things.

As both patients and site staff report a preference for hybrid-designed clinical trials[1], the role of the site becomes even more critical. Today's clinical trial realities dictate that research sites must find the right number and right mix of patients at the right time, continue to support them throughout — and do so on time, on budget and in a way that enhances the patient experience and produces high-quality data. It's a complex process and many sites are concerned it will become even more burdensome without a seat at the table.

The key takeaway is that trial sites don't want to perform poorly because it impacts their bottom line. Nevertheless, sites, sponsors, and patients can overcome obstacles to successful performance by making trial sites the cornerstone of patient centricity. Through empowered relationships, insights, data, and technology, sponsors and sites can provide the best experience for the patient, on-site or remote.

Patient-centric must first be site-centric

Sponsors must be mindful that research cannot be patient-centric without first becoming site-centric. Support along the journey to successful patient-centricity must reduce the administrative burden of sites' day-to-day trial management and patient service execution as we embrace a more patient-centric approach.

According to Kerry Gorman, Senior Director, Strategic Site Solutions at IQVIA, "We're in this period of flux regarding the evolution of clinical trials. Sites have told us over and over again they want to have a seat at the table when it comes to designing research trials. They know what will work best, not only for the site industry in general but for a particular trial for their particular site."

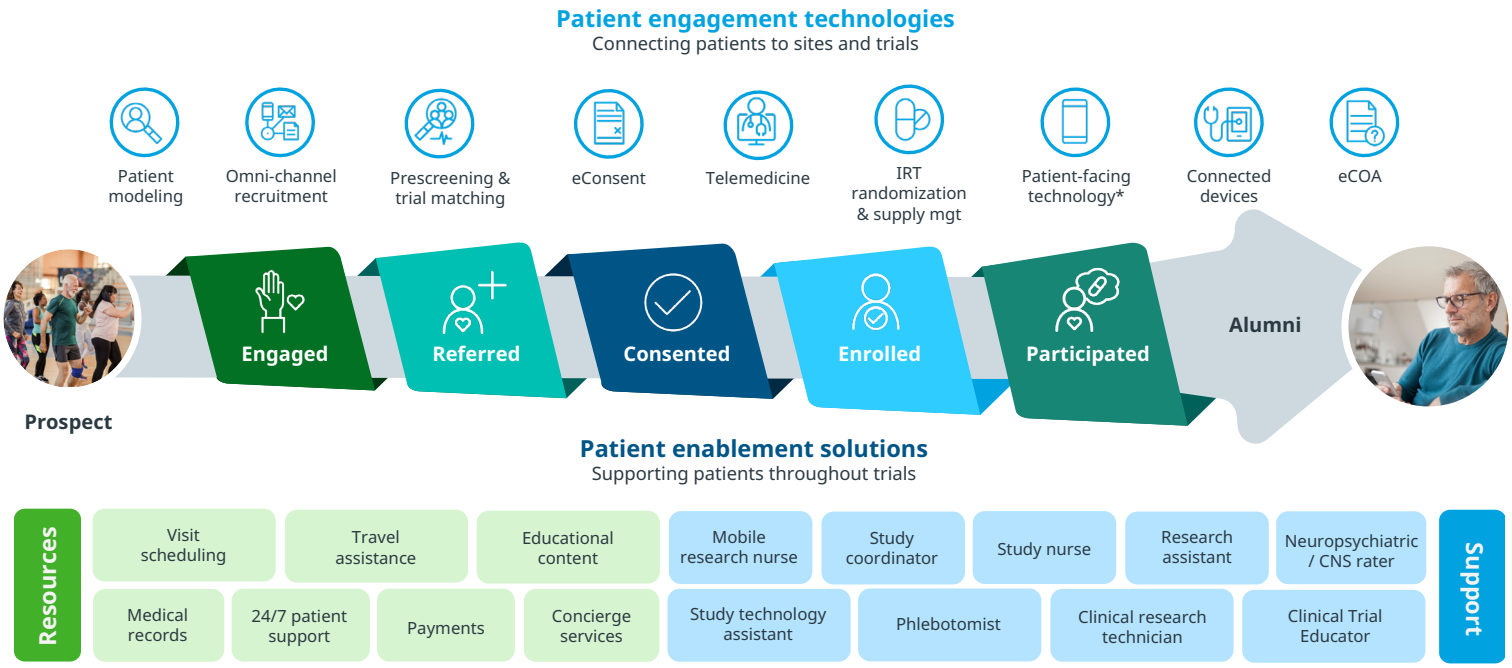
To do this, sponsors have to develop collaborative relationships with sites instead of the usual business model. Stakeholders need a singular source for addressing challenges in site support for clinical trials —from functional to full-service. Because trials have different protocols and the need for different types of patients, it is essential services be adaptable, scalable, agile and optimized. To be entirely patient- and site-centric, a foundation of experience, depth of data and pioneering applications of solutions and technologies must integrate with patients' lives to personalize their clinical trial journey.

"We need to modernize how we engage patients and support sites using transformative solutions shaped

by an empathetic approach to understanding evolving patient perspectives," Gorman added. "Our fundamental goal has to be to minimize the burden for all, enroll trials faster and bring clinical trials to a larger and more representative population."

In a case illustrating collaboration between sites and sponsors, a pharma sponsor wanted to understand how a decentralized approach could benefit a late-stage oncology trial. In this case, guidance from IQVIA's DCT Site Operations team provided for the collaboration and services necessary to both the site and the sponsor. In addition to delivering in-depth country-specific knowledge and understanding of which sites would be interested in participating with decentralized approaches, IQVIA also deployed Research Nurses to conduct in-home protocol requirements such as vitals and blood work. IQVIA's DCT technology platform enhanced engagement for patients and sites with digital questionnaires, telehealth visits, and the exchange of protocol-specific documentation. The result was an empathetic trial design centered entirely around patient and caregiver needs — improving patient retention and reducing the site staff's workload significantly.

Empowering Patient-Centric Healthcare: Innovative Solutions and Technologies



Solving site decentralized challenges

Since some decentralized approaches are here to stay, given their convenience to patients, customized solutions are needed in a cost-effective manner to provide sites with what's necessary, where and when it's needed. A novel business model requires an innovative way of working with sites, hearing the site's voice in not only the design of patient-centric trials but also along the way. Qualified resources, such as IQVIA's trained, dedicated personnel selected based on desired profile and required tasks, can increase site efficiency by enrolling more potential patients, assisting with processing participants and improving healthcare data throughout the clinical trial.

BENEFITS OF A SITE ENABLEMENT MODEL

Productive sites offer multiple benefits to both sites and sponsors when working collaboratively.

Sponsors get:

- Dedicated resources specific for the study
- Participants identified and screened faster
- Expedited patient enrollment timelines
- Reduced screen-fail rates
- Timely data entry for interim analyses and database lock
- Committed staff focused on patient engagement and experience
- Empowered flexibility with staff that can be onsite, remote, or hybrid
- Highly-skilled, permanent full-time staff used to the highest potential
- Consistent reporting and transparent communication to ensure value
- A simple and scalable pricing model

Sites see:

- Sponsor-provided complementary support to reduce site burden and minimize study fatigue
- More time to spend with patients
- Increased study engagement at the site
- Flexible, scalable, customized support that is implemented quickly at sites
- Site delegation of administrative activities

"We talked to sites, and we understand their gaps and what they're trying to accomplish on a specific study or a particular portfolio for a sponsor. This collective business model for clinical trial sponsors and sites is going to be the future — how we bridge those gaps for sponsors trying to bring drugs to market," noted Rebecca Sayers, Head of Site Support at IQVIA. "There's a bit of a trough in terms of where the strategy ends up, though, meaning what those relationships look like when you put in all of the technology — adding how much the trial is decentralized and what level of virtual visits it will have. Ultimately, it depends on how fast we get to do these things or how willing patients are to come to the site. Do we need to accommodate the trial design and execution?" Sayers probed. "This means it's not the same old business model as it has always been."

For instance, a DCT technology platform is a curated interplay between technology and services, offering hybrid or fully decentralized approaches. These include activities from the patient's home via technologies (i.e., telemedicine, eConsent) and trial services, such as a DCT Platform. Also available are IQVIA Research Nursing and Phlebotomy Solutions (RNPS), which support extensive in-home clinical trial activities through a global network of research nurses and phlebotomists who provide a wide range of services such as blood draws, ECG, etc.

For a sponsor, using a DCT technology platform brings the benefit of interconnectivity with the sponsor's other systems. One technology platform allows for managing various trial activities within one application and helps to mitigate the complexity of DCT. Integrated technologies allow the flow of data to improve quality and enable both the site and sponsor real-time access to data while keeping patients/caregivers connected on their study journey. Current uses of DCT technology include communications and study operations to help perform study activities such as document upload, task reminders, alerts and calendaring.

Solving site staffing and retention

Despite the rapid acceleration and utilization of many decentralized services during COVID, neither the sponsors, the sites nor the patients were quite ready for that rapid change. With decentralization comes an overabundance of tech solutions — non-integrated, fragmented, splintered — where the issue of enabling patient access has morphed into a problem for sites.

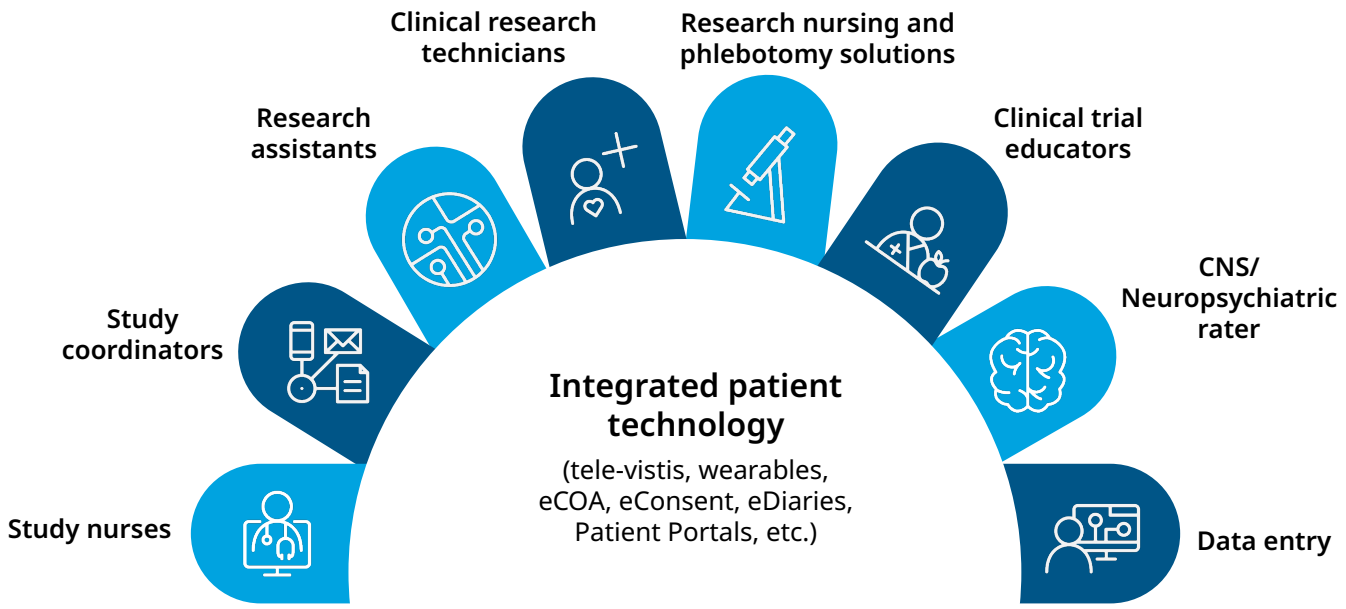
Faced with various vendors, numerous platforms, and copious systems to work with, "sites are in the aftermath of adopting new technologies, spending even more time training, upscaling and resolving tech issues," noted Katy Preciado, Director of DCT Strategy, IQVIA. "It's as simple as one person remembering passwords for 10 or 12 different apps per study."

In addition, sites often do not have the personnel to travel to patients' homes to get the lab work done or make that quick visit because it has not previously been expected as part of their model. "From the site's point of view, they want a trusted partner to do these visits because patients are precious to them, and they want to make sure well-qualified people work in partnership with the PI (principal investigator) and the nurses at the site. The goal is to ensure the patient is well cared for, following the study protocol," Gorman added.

Sites often attempt to do decentralized visits themselves. Still, in-house solutions for mobile nursing and project management to support home visits can quickly become complex and costly. According to Colleen Gosa, RNPS Solutions Director, Decentralized Trials, IQVIA, "Some sites realize they don't want to be sending their nurses to the patient's home because they've considered the logistics and challenges associated with conducting a home visit — finding a nurse in the area, training them to the project, providing all the supplies they need to conduct the home visit, and then being there for the nurse to solve any problems that arise during the visit. And, if any safety concerns arise, the nurse would be looking to connect with the PI; thus, they need to have communication plans in place for questions."

QUALIFIED RESOURCES IMPACT SITE EFFICIENCY

Qualified resources can increase site efficiency by assisting with processing potential patients and healthcare data throughout the trial. This requires different multifaceted mechanisms, optimized technology, more people, and better processes from dedicated resources.



"With decentralization comes an over-abundance of tech solutions — non-integrated, fragmented, splintered — where the issue of enabling patient access has morphed into a problem for sites."

Site support teams should select trained and dedicated personnel based on a site's requirements and study needs. This requires multiple resources, including clinical research technicians, research assistants, study coordinators, nurses and more. Resources can then be presented for the PI's approval. The PI can delegate patient identification, pre-screening, referring physician engagement, study assessments, data management, query resolution and ongoing patient engagement.

"We're trying to engage with sponsors at the portfolio level, enabling them to build better relationships with their sites. Every sponsor wants to look good to their sites; they want their sites to partner with them. They want sites to choose their studies first. Sponsors tell us the site to work with and we ask which have the highest overlap across programs. We then can give them a person who works for that sponsor at the site across all their studies and we can manage them," observed Sayers.

Dedicated site support — from trial start-up to database lock — ensures sites can focus on improving recruitment and the patient experience, leaving execution details to a partner with the depth and scale to support complex trials.

Case in point, IQVIA's Site Enablement Solutions offers support to sites in various aspects, including start-up, training, management and patient recruitment. IQVIA also has a Site Management Organization (SMO) called Avacare Clinical Research Network, a global site network that can expedite study startup and simplify trial

SITE MANAGEMENT ORGANIZATIONS OFFER OPTIONS

Sponsors can choose to work with a Site Management Organization (SMO) on a clinical trial to make study start-up easier. Some make it easier still with one budget, one contract, and one point of contact, such as Avacare, IQVIA's Clinical Research Network. An SMO is a specialized organization that can support clinical trial sites to effectively manage and execute trials by eliminating bottlenecks that slow study timelines.

By reducing the administrative burden associated with clinical trials, SMOs act as liaisons between clinical trial sponsors and sites, providing a range of services to enhance trial efficiency, compliance, patient throughput, data quality, and more. To enable delivery of quality results with speed and scale for maximal impact, a combination of geographically diverse sites should be led by seasoned investigators therapeutically aligned with studies.

A dedicated research team, high-tech equipment, and a proven system can be readily embedded into a site to supply personnel to expedite study startup tasks around contracting, budgets, and QA/QC. SMO recruitment specialists also have tools to identify and engage potential participants for screening.

In addition, SMOs, such as Avacare, should be IBC certified and have PBMC capabilities to act as a site management partner, maintaining compliance with all applicable regulations, industry standards, expectations from ethics committees, and study protocols.

SMO BENEFITS

- Site identification and qualification
- Efficient site start-up
- Site training and support
- Site management and oversight
- Data and quality management
- Patient recruitment and retention

execution without compromising quality. Delivered by therapeutically aligned experts and a turnkey technology infrastructure, Avacare manages clinical trials across recruitment, operations, monitoring and compliance in nearly 50 geographic locations. Avacare's network includes both embedded and dedicated sites and more than 25 years of experience in clinical trial delivery — cutting costs and expediting timelines, all while maintaining quality standards.

Clinical trial complexity

Decentralization and more data

The ongoing drive toward creating a more patient-first clinical research environment is certainly helping to alleviate patient burden and improve the clinical trial experience for patients and their families — but managing the additional complexity of modern trials is becoming more than a challenge for understaffed and overworked clinical research sites. Many of today's innovative studies collect quality of life and other patient-centric data. In a Tufts CSDD report from 2021 found that Phase III protocols now collect an average of 3.6 million data points, more than three times the data of just ten years ago. The Tufts report also showed trial protocols since 2013 average 20 endpoints and the number of procedures performed per patient between 2017-2020 increased by 69%[I].

Retaining talent and staffing

Overwhelmed people are more likely to look for a new place to work and possibly even leave the clinical industry altogether. According to a 2023 report from the Society of Clinical Research Sites (SCRS), sites are averaging double the usual turnover rate of patient-facing staff, up to 35% to 61% versus rates of 10% to 37% in a typical year[II]. It's no wonder clinical site professionals rate staffing and retention as the top issue facing their site[III]. A lack of capable and qualified staff can lead to trial delays, inconsistencies and diminished data quality, in addition to the time and expense incurred in continually finding and training replacements.

Technology and training

The proliferation of new technologies and disparate, disconnected solutions complicate the integration process as site staff must learn multiple systems to conduct and record trial activities. Indeed, a 2022 poll of clinical research sites found that 60% are using more than 20 systems daily[IV] — a percentage that grows even larger when considering other technology systems utilized less frequently. Multiple systems for day-to-day trial tasks not only add to the site staff burden, but they each require individual training, which takes staff away from more value-adding activities such as patient care and recruitment.

Indeed, according to data from the Society of Clinical Research Sites, 40% of sites said they spent 5 to 15 hours of training per study per month[V].

Patient recruitment & enrollment

In addition, to the ever-present issue of site staffing and retention, clinical research sites are struggling to recruit and enroll the right mix of patients for the ever-increasing number of clinical trials — trying to balance recruitment efforts with other trial activities. Patient recruitment and enrollment for clinical trials have long been a top challenge for sponsors. Indeed, 80% of clinical trials fail to meet initial enrollment targets on time, risking losses in revenue each day a drug is delayed[2].

"A novel business model requires an innovative way of working with sites, hearing the site's voice in not only the design of patient-centric trials but also along the way."

Unsurprisingly, the drive toward patient-centricity has made this process more complex. DCTs and other technology-enabled methods — while leveling the geographic playing field for trial participation — place even more demands on research site staff. Most sites do not have the resources or expertise (or time) to think about recruiting and retention strategically, particularly with the narrowly defined patient populations most studies require. The sites don't just need bodies; they need guidance and new ways of finding potential patients.

That guidance can include more information and assistance to the sites, providing ways to rethink patient engagement by understanding patients' needs. Artificial Intelligence or Machine Learning (AI/ML), for example, and other patient insights help develop dynamic patient models to match healthcare data with consumer data and identify potential trial participants in the broader community, increasing access to diverse audiences and effectively identifying eligible participants unknown to sites. Community outreach Direct-to-Patient (DTP) through multichannel marketing campaigns can also engage potential participants, helping find the right patients for the right trials. Other specialized services also integrate the journey as well, including medical record retrieval, visit scheduling, and concierge services, done as a full service, a standalone or on a Functional Service Provider (FSP) basis.

In a recent situation, a Phase IV study for a migraine medication was struggling to reach eligible community patients. Launching a flexible combination of patient-focused outreach with scalable staffing support, IQVIA delivered pre-qualified referrals and assisted with pre-screening and data entry. After the sites had exhausted their existing database populations, IQVIA provided multichannel community support to sites through integrated pre-screening and IQVIA's DCT technology. The SES team leveraged real-time site feedback to optimize outreach for channels with the highest conversion rates and placed dedicated Research Assistants (RAs) at sites. This team was able to direct referrals to high-converting, highly-engaged sites and provide ongoing referral re-engagement and enhanced look-alike models to help optimize site performance and elevate consent rates. The result was an effective campaign that generated more than 14,000 pre-qualified referrals to participating sites — almost a fifth of the study's total enrolled patients. Moreover, 100% of the study's sites participated in this campaign, overwhelmingly demonstrating the need for targeted, study-specific site support.

"Dedicated site support — from trial start-up to database lock — ensures sites can focus on improving recruitment and the patient experience, leaving execution details to a partner with the depth and scale

In another recent vaccine trial, Avacare combined a multichannel marketing outreach campaign with on-the-ground study nurses and research assistants to accelerate recruitment across the Avacare Site Network of dedicated research sites across the U.S. The holistic approach enabled each site to see an average of 17 patients daily, eight to ten more than would have been possible without Avacare's support.

past five years, a 46% decline indexed between 2018 and 2022 — from 81% of U.S. demographics to 43%[5].

While achieving diversity in clinical trials is not new, there has been a shift among the stakeholders in pursuing improvements in clinical research representativeness. But more can be done by sponsors and sites — and with patients — to increase diversity.

AVACARE RECRUITEMENT STRATEGIES

Diversity/community outreach

Our diversity & inclusion committee ensures minority representation in our research studies. They **forge relationships with local communities, groups, and universities** to increase the diversity in patient referrals

Internal call center

Specialty-trained call center agents **ensure consistent and instant contact** via text/call/email to confirm interest, pre-screen, and schedule screening visits

Advertising vendor network

Leverage the IQVIA network of 350 specialty recruitment partners and in turn, uses AI and machine learning to help identify potential patient to reach via social media platforms, Google AdWords, television, print, and radio.

Refer a friend program

Our highest converting recruitment tactic; current patients share our research opportunities with their communities.

Databases

Every research site has extensive internal and clinic databases. Our teams, equipped with specialized technology can **custom-build protocol-specific filters to identify qualifying patients**

Attracting patients & improving diversity

Augmented staff and expert guidance can benefit studies that require a greater mix of patients. Take, for example, improving diversity among clinical trial participants — increasingly in focus since the U.S. Food and Drug Administration's 2022 draft guidance on the issue[3]. According to a 2023 SCRS survey of research sites, while almost two-thirds of respondents say their site recruits diverse populations successfully, less than one in five say technology enables diverse recruitment — and more than 60% say they need more support from sponsors to increase diversity among clinical trial participants[4].

According to the U.S. Census, Black/African American participation has declined in clinical trials over the past decade, with an inclusiveness drop most notable in the

Avacare actively promotes diversity and inclusion in clinical research. Their Diversity & Inclusion Committee collaborates with local communities, groups and universities to enhance minority representation in patient referrals for trial participation. The recruitment team conducts educational sessions, engages with primary care physicians and leverages quality translation services to ensure accessibility for non-English speakers. Overall, Avacare's approach prioritizes diversity, community engagement, and equitable access to trial information.

IQVIA Clinical Trial Educators (CTEs) are also available as a tailored resource with clinical expertise and localized relationships that mean they can be study ambassadors at the site level. Analyzing and accessing untapped recruitment pathways, CTEs generate patient referrals

and ensure diversity in clinical trials through community outreach and patient advocacy groups, to name just a few methods.

In a recent Phase III RSV Vaccine trial, for example, where the biopharma sponsor was looking for a diverse older patient population in 13 countries, fatigue from COVID-19 studies left participants and sites uninterested, including 33% of sites who were low- or non-enrollers. Through IQVIA Direct-to-patient recruitment solution and CTEs, enrollment exceeded participant recruitment goals, including 100% conversion from non-enrolling sites. Ultimately, the sponsor surpassed diversity enrollment goals, enrolling Black and Hispanic participants to eclipse contracted rates. The strategy not only engaged the intended elderly population but also contributed to almost a fifth of the enrolled patients.

Conclusion: sites matter

So, what is this site-centric approach and what is the value it provides? It's redefining the site as the hub of patient-centric trials. In this dynamic realm of clinical research, the hurdles research sites face present unique challenges in adapting to this novel patient-centric trial environment. The path forward requires innovation, collaboration and steadfast site support. Essentially, it requires a synergistic partnership that provides value to all parties involved — sponsors, sites and patients.

For sponsors, the value is accelerating clinical trial delivery through differentiated performance and increased predictability. For sites, it's about a joint vision to optimize clinical research and improve access to new treatments to more potential patients faster. Similarly, it brings improved health outcomes for patients through access to a broader volume of trials and novel medicines to treat unmet medical needs.

The intelligent approach is for sponsors to engage with sites on an entire portfolio, not just one trial. Sites and sponsors alike benefit from the consistency. Sponsors create reliable relationships; sites know sponsors will treat them well, pay on time, and reduce their overall site burden. Success means people on site working across multiple studies, able to weed out complexities and see across several protocols. Data is compliant, recruitment is increasing, and diverse enrollment is rising.

"The path forward requires innovation, collaboration, and steadfast site support. Essentially, it requires a synergistic partnership, which provides value to all parties involved — sponsors, sites, and patients"

As the industry shifts towards a more patient-centric model and clinical trials continue to become less localized, the industry must show flexibility. Maintaining a philosophy of continual improvement concerning clinical trials is essential to optimize every aspect of the drug research and development process. With capabilities like those mentioned here, pioneering sites can more readily manage trials and sponsors can get back to introducing new medicines to a challenging but grateful patient population.

About IQVIA

IQVIA recognizes the challenges faced by research sites in executing patient-centric clinical research and is committed to simplifying this experience for both patients and sites. IQVIA is strategically positioned to guide clinical research sites through this transformative journey. IQVIA's Site Enablement Solutions (SES), are tailored to empower sites in the execution of patient-centric clinical research while alleviating the administrative burdens that have hindered progress.

From addressing staffing challenges and refining patient recruitment strategies, to navigating the complexities of trials, IQVIA's industry-leading solutions have consistently proven instrumental as illustrated by the examples included above. Understanding the unique needs of both patients and sites, IQVIA can foster a collaborative approach that not only meets but surpasses expectations.

As clinical research continues to gain in complexity, IQVIA remains committed to simplifying the experience for both patients and sites in the ongoing journey to a more patient-centric research environment. IQVIA comprehensive solutions and unwavering support for clinical research sites exemplify our dedication to shaping a future where trials are not only patient-centric, but are also seamlessly integrated into the fabric of site operations. Together, we can navigate the challenges, celebrate the successes and usher in a new era of clinical research that prioritizes the needs of both patients and the sites that make it all possible.

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