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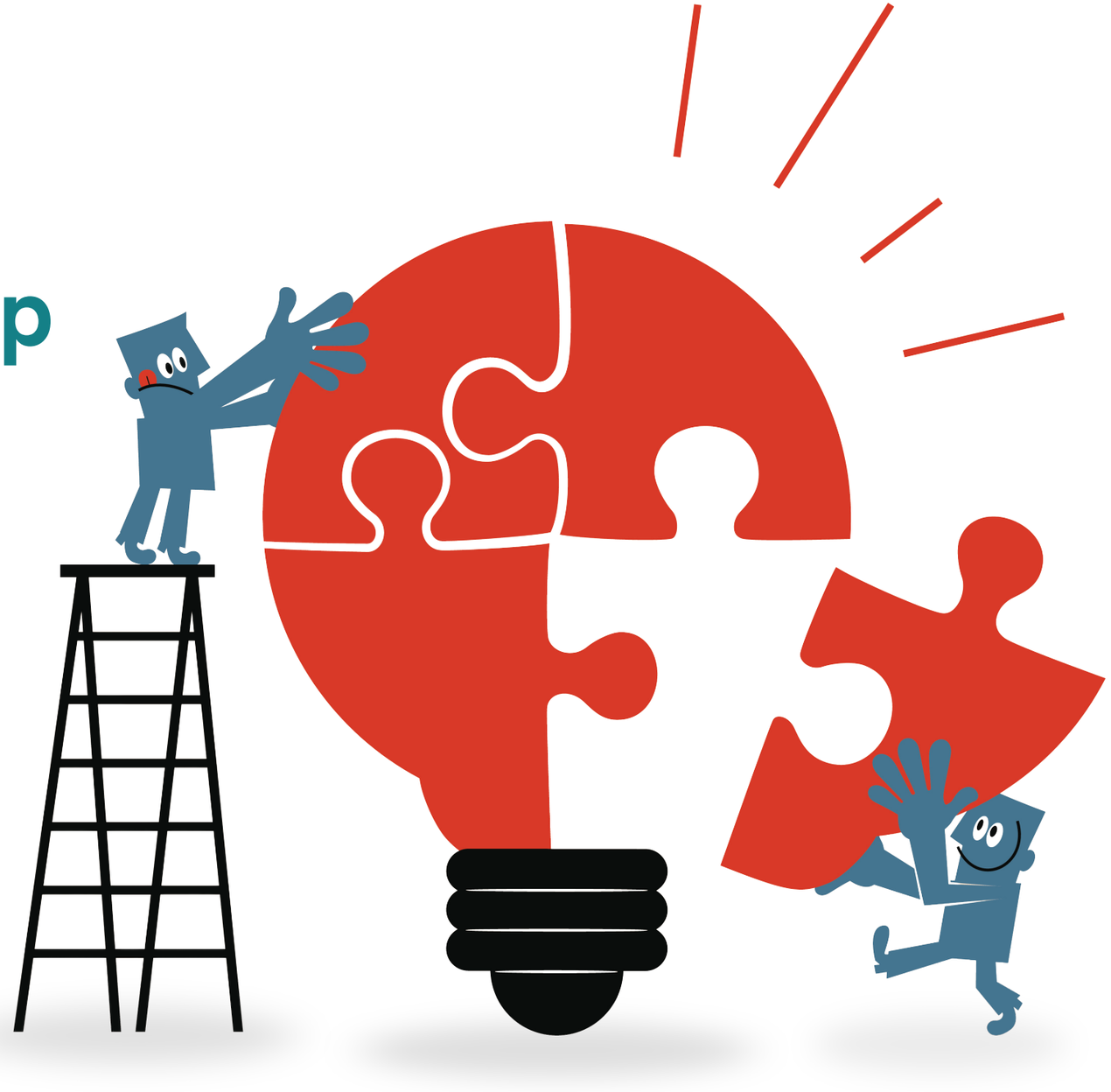
Critical CRO Partnership Challenges for Drug Discovery

Insights from Industry Leaders and Practical Solutions



WHITE PAPER

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Summary

The pharmaceutical industry's increasing partnership with contract research organizations (CROs) for drug discovery has created valuable opportunities for innovation. Yet significant barriers hinder effective collaboration. A recent panel discussion among industry experts revealed challenges related to data sharing and security, communication, data quality, and expertise continuity. These challenges can be addressed by implementing a unified software solution designed specifically to manage sponsor–CRO partnerships, such as Signals Synergy™ from Revvity Signals. This type of solution can substantially enhance collaboration, project management, and data exchange between sponsors and CROs, transforming fragmented processes into streamlined, secure workflows.

Introduction:
The Collaboration Efficiency Gap

The landscape of pharmaceutical research has fundamentally shifted toward collaborative models that leverage external expertise and capabilities. This transformation reflects both the increasing complexity of modern drug modalities and the economic realities of bringing new therapies to market. The growth in the global contract research organization (CRO) market, projected to reach $127 billion by 2028, represents more than just increased outsourcing. It indicates the industry's embrace of outsourcing as a strategic approach to access specialized knowledge, advanced technologies, and global capacity.1

However, this collaborative imperative has revealed a significant efficiency gap in how organizations manage these critical partnerships. Current collaboration methods remain fragmented, with teams relying on email chains, spreadsheet exchanges, and disparate systems that create information silos rather than integrated workflows.2 While CRO partnerships are essential for innovation, the tools and processes supporting these collaborations lag behind and remain siloed, introducing delays and risking errors.

Critical Challenges Identified from Industry Roundtable

Proventa International's 11th Annual Medicinal Chemistry Strategy Meeting West Coast USA, in San Diego, California, brought together leading medicinal chemists, drug discovery professionals, and other industry experts to address the most pressing issues facing pharmaceutical research today. At the conference, a roundtable discussion titled "Accelerating Innovation in Drug Modalities Research through CRO, CDMO, CMO, and Academia Partnerships" attracted more than 15 professionals from pharmaceutical and biopharmaceutical companies. When asked who was working with CROs, virtually the entire table raised their hands—a clear indication of how integral these partnerships have become to modern drug discovery.

The discussion brought the challenges of these sponsor–CRO relationships into full view, revealing four primary challenge areas that impact CRO partnerships across organizations of all sizes, from large pharmaceutical companies to emerging biotechs.

Challenge #1: Data Sharing and Security Concerns

Data sharing emerged as the most significant concern among roundtable participants, reflecting ongoing anxieties about intellectual property (IP) protection and regulatory compliance. The core issue centers on visibility and control. When sponsors in Western countries send proprietary data to CROs, particularly those with operations in East and South Asia, they often lack insight into who accesses the information and how it's used.

This need for adequate mechanisms to track access to sensitive data has been amplified by the recent enactment of the U.S. BioSecure Act, which prohibits US federal agencies from entering into contracts with companies deemed "biotechnology companies of concern." Although the full impact of the legislation is not yet clear, its passage, along with ongoing uncertainty about tariffs, highlights the need for pharmaceutical companies to ensure their data is protected ahead of potential policy shifts that might require changes in their international partnerships.

Traditional collaboration methods—email attachments, shared drives, and spreadsheet exchanges—lack the security controls and audit trails necessary for protecting proprietary information. Organizations need unified solutions that provide transparency into data access and maintain the security and compliance standards required for pharmaceutical research.

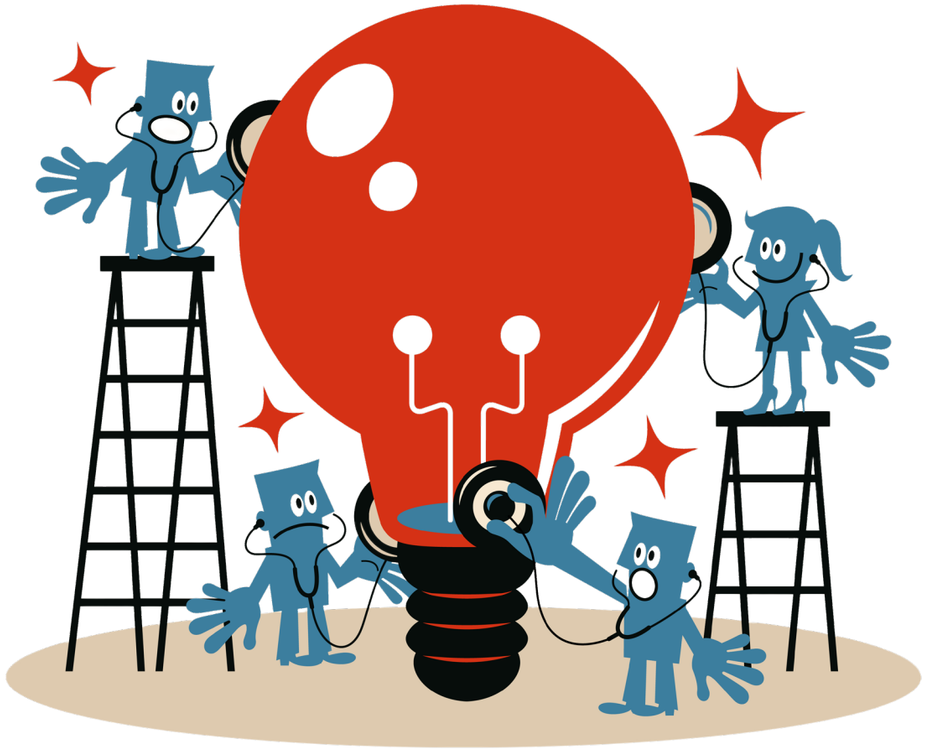
Challenge #2: Communication Barriers

Communication inefficiencies represent the second most significant barrier to effective CRO–sponsor partnerships. Roundtable participants cited slow response times as a major frustration, with some CROs taking up to a week to respond to critical inquiries when sponsors prefer 24-hour turnaround times for urgent matters.

The global nature of CRO partnerships exacerbates these communication challenges. Coordinating across multiple sites around the world requires managing different time zones, languages, and cultural contexts. Participants specifically noted the often significant differences in communication styles and expectations between low-context cultures (typical in Western countries), where communication is more direct and meaning is generally explicit, and high-context cultures (common in East Asia), where communication may be less direct and meaning may rely more heavily on shared understanding.

Cultural awareness thus emerged as a critical success factor. In collaborations between sponsors based in Western countries and CROs abroad, having staff with the right experience and background can bridge potential gaps. For example, a CRO staffer from China who has spent time living in the US or Europe can be an excellent cultural liaison. Similarly, a sponsor team member with a strong scientific background may be needed to ensure good communication with technical staff at the CRO. In all cases, participants emphasized, it helps to build relationships through site visits and invest time in personal connections.

However, these relationship-building activities require significant time and resources, and the benefits can be lost when key personnel change. The transactional nature of some CRO relationships means sponsors may not know the organization well enough to navigate these cultural differences effectively.



Challenge #3: Data Quality and Integrity Issues

Data quality concerns represent a fundamental challenge that affects the scientific validity and business value of sponsor–CRO partnerships. Roundtable participants reported that data often isn't reproducible, requiring sponsors to provide their own controls and become deeply involved in study design—activities that somewhat defeat the purpose of outsourcing.

The statistics are sobering: Up to 25% of CRO reports are sent back due to errors, missing data, or formatting issues. The misalignment in format is due to CROs collecting, collating, and delivering data in different formats, whereas each sponsor desires specific parseable formats. Dealing with this inconsistency often requires manual transfer of data, which tends to introduce errors. External data integration presents another significant burden. CRO-generated data typically requires custom coding and manual curation before it can be integrated into sponsor systems for analysis. This manual processing is timeconsuming, error-prone, and prevents the rapid decision-making that modern drug discovery demands.

Participants also noted the challenge of analyst variability within CRO organizations. While some CROs have highly skilled, top-tier analysts, others may assign less experienced personnel to projects. Sponsors often lack visibility into which analysts are working on their projects and may not be informed when their best analysts leave the company or are reassigned to other work.

The preference for sponsors to keep more complicated tasks in house while sending easier work to CROs reflects a lack of confidence in CRO capabilities and processes. This approach limits the potential value of CRO partnerships and may not provide the cost or time efficiencies organizations seek.

Challenge #4: Project Management and Expertise Continuity

The fourth major challenge area encompasses project management difficulties and the ongoing struggle to maintain expertise continuity within CRO partnerships. Talent poaching represents a persistent issue, with skilled scientists frequently moving between CROs, taking valuable knowledge and relationships with them.

As a result, newly hired CRO analysts may lack the experience or training to design studies effectively, placing additional burden on sponsors to provide detailed protocols and oversight. This requirement is particularly challenging for small biotechnology companies that may not have the internal expertise to provide comprehensive study design and monitoring.

High staff turnover rates at CROs also adds to the administrative complexity of managing research across multiple CRO partnerships. Onboarding new personnel, managing access permissions to data management systems, and ensuring proper training across different organizations requires significant coordination.

Technology silos compound these project management challenges. When different tools and systems are used across various CRO partnerships, sponsors lose the unified view of study progress that's essential for effective decisionmaking.

Information becomes scattered across multiple platforms, making it difficult to track milestones, compare results, and maintain comprehensive project documentation.

How Signals Synergy Transforms Sponsor–CRO Collaboration

Signals Synergy, a unified solution specifically designed for scientific research partnerships, addresses the four challenges raised by the panelists. Unlike broad data management tools, Signals Synergy provides purpose-built capabilities that meet the unique requirements of sponsor–CRO relationships.

Addressing Challenge #1: Unified Data Security and Transparency

Signals Synergy addresses data sharing concerns through a comprehensive security framework in a SaaS environment. Role-based access controls ensure that sensitive information is only accessible to authorized personnel while maintaining detailed audit trails of all data interactions.

IP protection features include automatic masking of proprietary codes, metadata, and material identifiers, as well as selective access to compound properties, keeping sensitive details hidden when sharing necessary information with CRO partners.

Signals Synergy enables FAIR data-aligned collaboration by standardizing, harmonizing and centralizing data exchanges between sponsors and CROs, making project data more findable, accessible and interoperable across the drug-discovery ecosystem. In addition, it supports GxP workflows by integrating with validated Signals platforms and reinforcing data integrity, traceability and controlled access.

Addressing Challenge #2: Streamlined Communication and Project Management

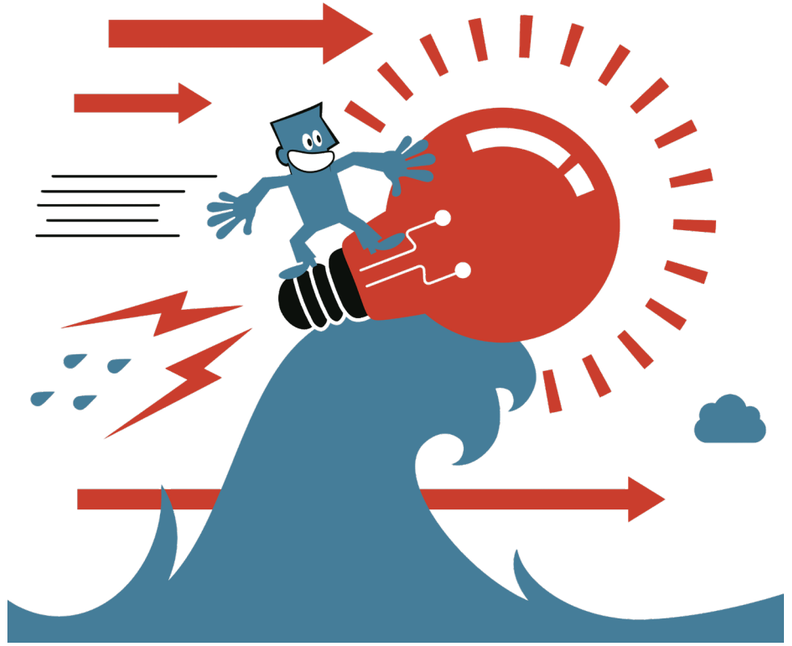
Signals Synergy provides centralized access to data, eliminating the email and spreadsheet workflows that create communication bottlenecks and information loss:

- Work orders replace ad hoc email communications with standardized, trackable requests that include all necessary context, specifications, and requirements.
- Dashboard management via Kanban project management boards offer intuitive milestone tracking, task assignment, and prioritization tools that keep projects moving efficiently.
- Administration tools enable one-click onboarding and offboarding of CROs and personnel. When CRO staff changes occur, CROs are empowered to add new personnel quickly and integrate them into ongoing projects without losing momentum.
- Simple, standardized, and guided workflows provide consistent procedures and documentation standards that help bridge communication gaps caused by personnel changes or cultural differences.

Addressing Challenge #3: Automated Data Quality and Integration

Signals Synergy alleviates the data quality challenge that plagues many sponsor–CRO partnerships:

- Automated processes convert unstructured CRO reports into structured, analysis-ready data, eliminating the manual copy-paste processes that introduce errors.
- A template conversion library ensures that CRO-generated data meets sponsor requirements and standards for experiment design and data capture.
- Built-in validation and standardization processes catch formatting inconsistencies and missing information before data is submitted, addressing the root causes of the 25% report return rate that slows dow projects.



- Uniform data formats ensure compatibility with downstream analytics, visualization, and artificial intelligence (AI) tools.
- Quality assurance mechanisms enable sponsors to identify trends and work with CRO partners to address systemic issues before they impact multiple studies.

Addressing Challenge #4: Enhanced Expertise Management and Workflow Integration

Signals Synergy integrates seamlessly with existing Signals Notebook™ and Signals One™ solutions, providing a comprehensive research informatics ecosystem that supports the entire drug discovery workflow. This integration ensures that CRO-generated data is incorporated into the organization's broader knowledge base. In addition, knowledge continuity features like centralized project history and documentation prevent information loss when personnel changes occur.

Conclusion

The insights gathered from industry leaders at Proventa International's 11th Annual Medicinal Chemistry Strategy Meeting West Coast USA reveal that while CRO partnerships are essential for modern drug discovery, current collaboration approaches create significant barriers to success3. Data sharing concerns, communication inefficiencies, quality issues, and project management challenges impact organizations across the pharmaceutical industry.

Sponsors and CROs can address these challenges by deploying a unified software solution specifically designed for sponsor–CRO partnership management, such as Signals Synergy from Revvity Signals. Signals Synergy bridges the collaboration efficiency gap by streamlining communication and project management, improving data quality, and enhancing expertise management, to substantially improve collaboration while ensuring robust protection of intellectual property and data integrity.

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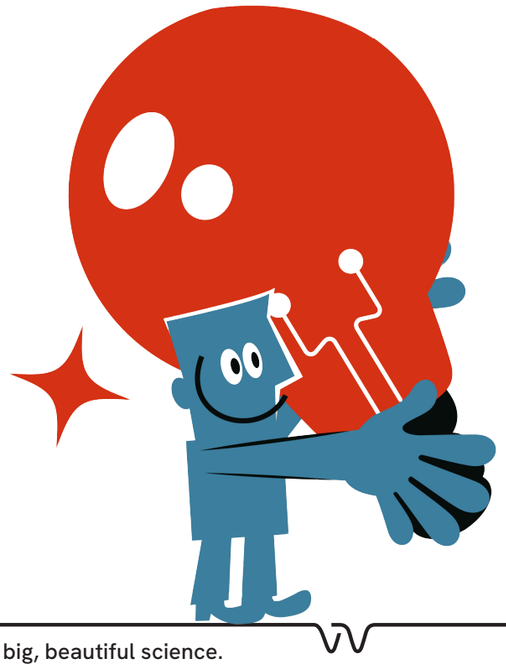

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