The Hidden Friction in Pharma-CRO Collaboration:
When Data Sharing Undermines Data Security

The challenges of collaboration between pharmaceutical companies and contract research organisations (CROs) are widely discussed across the industry. Ask leaders on either side of the partnership what challenges they encounter and the answers tend to converge: communication is inefficient, timelines slip, integrity is questioned, and quality can be inconsistent. These issues are real and they have been examined extensively.

What is discussed far less often, however, is a deeper, more structural problem, one that does not always manifest as an immediate failure. Instead, it steadily erodes research efficiency over time. It is a problem that becomes most visible in large, long-running collaborations and at precisely the moments when data-driven decisions matter most.

At the heart of many pharma-CRO tensions lies an uncomfortable reality: data sharing and data security are rarely achieved simultaneously. In practice, organisations are forced to trade one for the other, either constraining access and slowing decision-making or widening sharing at the cost of long-term data control and protection.

Beyond Execution: A Structural Mismatch

Most post-mortems of pharma-CRO collaborations focus on execution. CROs are said to lack rigour, communication between teams is described as inefficient and project management processes are blamed for delays.[1] While these factors certainly play a role, they tend to obscure the more fundamental issue.

Drug discovery data is not easily modularised. It is not a finished product that can be cleanly separated from the process that produced it. Experimental results are inseparable from their historical context; why an experiment was designed a certain way, what failed before it worked, what assumptions were revised along the way and which paths were deliberately abandoned.

Yet many collaboration models implicitly assume that data can be segmented, delivered and consumed independently of this context. This assumption creates a structural mismatch between how science actually progresses and how collaboration is operationalised.

How the Problem Appears in Practice

In day-to-day projects, this mismatch rarely appears dramatic. In fact, it often looks deceptively normal. CRO teams typically retain the full experimental narrative, while sponsors receive curated result files. The reasoning behind experimental designs, intermediate failures and exploratory iterations may be discussed in meetings or emails and yet never fully captured in a shared system of record.

While a project is in motion, the arrangement may appear sufficient. However, complications often emerge when a programme transitions phases, leadership changes, or critical go/no-go decisions must be made. At these junctures, teams discover that vital context is unrecoverable. Data may satisfy contractual requirements, though remain scientifically deficient. The result is a subtle but consequential failure: data has been delivered, yet it cannot adequately inform decision-making.

Why "Data Delivery" Falls Short of True Collaboration

Many collaboration models still operate under the assumption that timely delivery of complete datasets constitutes success. This mindset may have worked when drug discovery programmes were more linear and less interconnected. It is now increasingly misaligned with modern R&D.

Today's research environments are iterative and cumulative. Experiments build on one another, hypotheses evolve over time and data must be reinterpreted repeatedly as new insights emerge. Decisions rely not only on final results, but on historical comparisons, negative data and experimental rationale.

File-based handoffs, spreadsheets, PDFs and static reports falter in this environment. Detached from their broader context, data becomes static rather than explanatory. Security, meanwhile, relies heavily on contractual agreements and procedural discipline instead of granular, system-level controls. Consequently, when a collaboration ends, the underlying knowledge often leaves with it.

None of this reflects a lack of effort or expertise; rather, it reveals collaboration models that were not designed for data-centric, longitudinal science.

Why Some Organisations Prefer to Build In-House

This structural tension helps explain why large pharmaceutical companies often attempt to internalise as much research as possible. The motivation is not necessarily distrust of CRO capabilities, but control over continuity.

Within a single organisation, data systems, access permissions, experimental context and decision histories are naturally integrated. Collaboration challenges still exist, but they are managed internally rather than across corporate boundaries.

The cost of this approach is significant. Building and maintaining internal R&D capacity requires deep resources, mature infrastructure and long-term investment. For many biotech companies and innovation-focused pharma organisations, this path is neither feasible nor desirable.

As a result, the industry remains caught in a persistent contradiction: CROs are essential for speed and scale, yet sponsors often struggle to fully trust that the data generated through these partnerships will remain secure, interpretable and reusable over time.

Toward Sustainable, Scalable Collaboration

When pharma-CRO collaborations function smoothly over the long term, it is rarely the result of heavier processes or more frequent communication. Instead, success tends to stem from a shared data foundation established at the outset of the project.

In these cases, data is created and managed within a controlled collaborative environment. Access is role-based and purpose-driven. Every action is recorded and traceable. Experimental context is preserved alongside results. When a collaboration ends, the accumulated knowledge remains intact within the sponsor's ecosystem rather than dispersing across disconnected files and inboxes.

This approach addresses a central challenge in modern R&D collaboration: how to allow external partners to contribute as if they were internal teams, without transferring ownership or control of critical scientific assets.

Solving this problem requires more than just better project management. It requires deliberate design of research data systems that treat collaboration, security and long-term usability as interdependent rather than competing goals.

The Cost of Ignoring the Issue

Failure is an inherent part of drug discovery and few organisations are surprised by unsuccessful experiments. What proves far more damaging is discovering, at a critical decision point, that years of work cannot be confidently reused or re-examined.

Organisations invest enormous resources into generating data. When that data cannot be safely, completely and reliably leveraged over time, the loss extends beyond individual projects; it undermines institutional learning itself.

As R&D becomes increasingly distributed across organisations, geographies and specialities, the consequences of fragmented data practices will only intensify. Collaboration will continue to expand; however, without strategic oversight of how scientific data is shared and governed, its value will continue to decay.

A Final Reflection

For leaders overseeing active research programmes, one question is worth asking: how much of the data generated today would you trust to guide decisions two years from now, after teams change and priorities shift?

In conversations across pharmaceutical companies and CROs of all sizes, the underlying concerns are strikingly consistent, yet they are rarely addressed at a systemic level. As the industry moves toward increasingly collaborative models of discovery, the ability to design data environments that preserve context, security and scientific continuity may be as vital as the experiments themselves.

Ultimately, the future of collaborative drug discovery will be shaped not only by who conducts the science but by how the science is captured, shared and sustained.

REFERENCES

1. https://www.mckinsey.com/industries/life-sciences/our-insights/building-a-shared-vision-for-pharma-r-and-d-supplier-partnerships

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