



WHITE PAPER

The State of Mining Data Insights in the Life Sciences Industry — 2024

January 9, 2024

Seven Months, Four Data Vendors and Four Consultants:

Understanding the Hurdles Life Sciences Teams Face Trying To Make Sense of Real-World Data

Seven months, four data vendors, and four consultants. That's the average resource commitment for Clinical Development, Commercial, and Health Economics and Outcomes Research (HEOR) Life Sciences teams to obtain and prepare the data needed to conduct real-world evidence (RWE)–driven analyses. Those numbers are even higher for the largest pharma enterprises as data scientists, researchers and senior leaders wrestle with uneven access to disparate data types, lack of confidence in data accuracy, and imperfect data integration.

According to a new study — commissioned by [Komodo Health](#) and conducted by Frost & Sullivan — while the rapid growth of RWE and data accessibility is transforming how therapies are developed and delivered to patients, it is also creating new, complex challenges that hinder progress and increase the risk of flawed insights and decision-making based on incomplete or inaccurate information.

These findings may sound surprising when set against a backdrop of widespread growth of RWE in all aspects of drug development, medical affairs, research, and commercial strategy. Whether it's identifying eligible patient populations in the clinical trial site-selection process or studying the comparative effectiveness of a therapy based on clinical outcomes, RWE has become a cornerstone of the Life Sciences workflow.

However, that rapid growth has also produced some challenges, notably in how RWE is aggregated and sold. The legacy marketplace model of RWE, where disparate, disconnected datasets are packaged and sold with very little in the way of data integration, quality assurance, or built-in analytics capabilities, has forced Life Sciences teams to commit more resources than ever to data management.



To better understand exactly how those challenges are manifesting in day-to-day Life Sciences workflows, Komodo Health and Frost & Sullivan surveyed 300 senior leaders, managers, and data scientists/analysts working in Clinical Development, Commercial, or HEOR functions at small (\$50M+), medium (\$500M+), and large (\$1B+) Life Sciences companies. The resulting analysis serves as a benchmark for the current state of accessing data-driven insights and outlines the specific hurdles that still need to be overcome before RWE can reach its fullest potential.

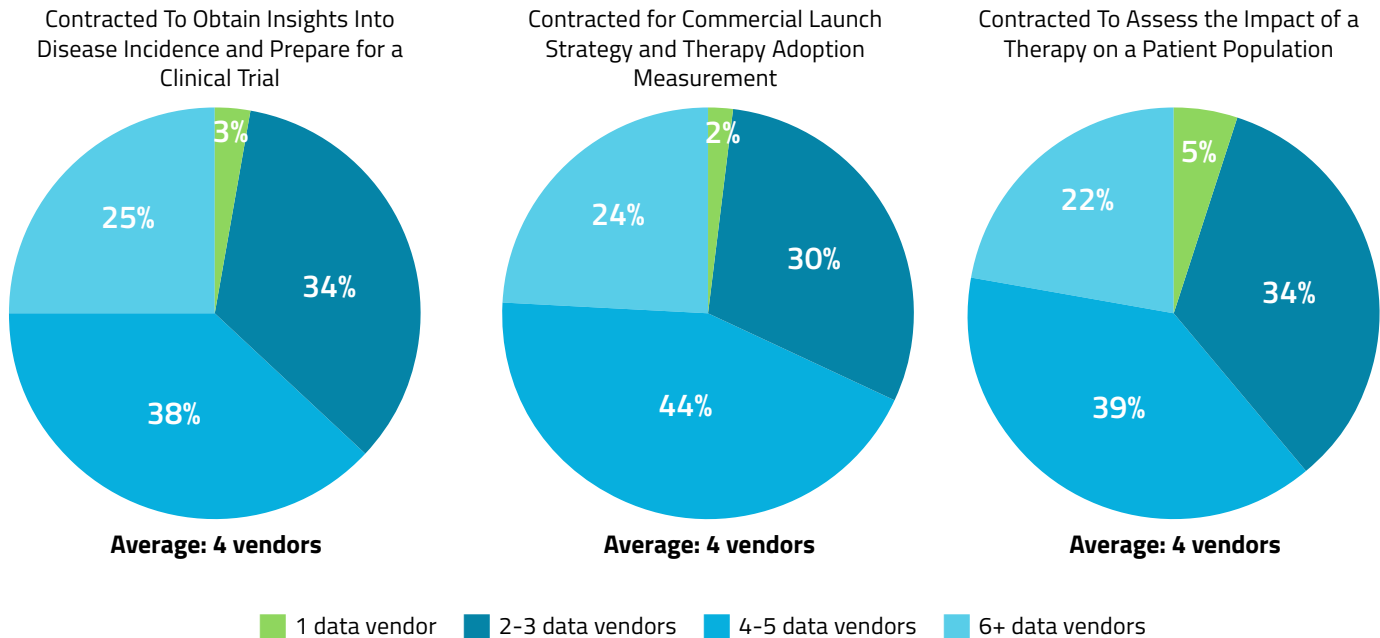
It should also sound an alarm on antiquated approaches to RWE that are ripe for transformation.

It Takes a Village

The most striking finding of the study is how many stakeholders are required to acquire RWE — from identifying the right data sources to having a usable dataset for analysis. On average, Life Sciences teams work with four different data vendors just to access the data they need, integrate it into their systems, and pressure-test it for accuracy and completeness. All told, the process typically takes seven months. In addition, teams report contracting with four consultants, on average, to obtain insights through data analysis and interpretation.

Most Clinical Development teams (72%) work with anywhere from two to five different data vendors to obtain all of the information they need to conduct clinical trials, aid in site selection, and identify key patient and provider populations. One-quarter (25%) of Clinical Development teams say they work with six or more data vendors! We see a similar trend among Commercial and HEOR teams, the majority of which contract with somewhere between two and five data providers.

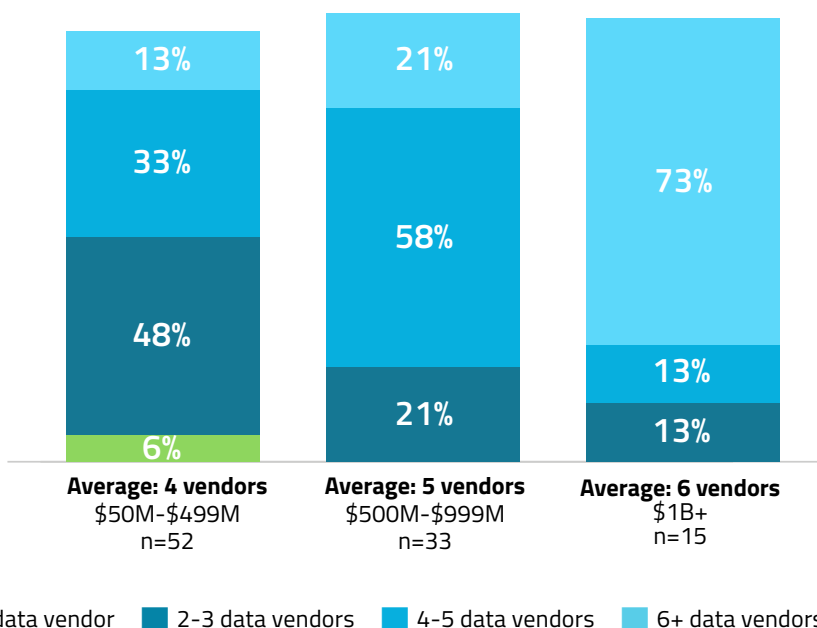
Typical Number of Data Vendors



Notably, across all three functions — Clinical Development, Commercial, and HEOR — the larger the company, the more data vendors engaged. Among Clinical Development teams, for example, 73% of companies with \$1B or more in revenue are contracting with at least six. That compares with just 21% of mid-size companies and 13% of small Life Sciences companies.

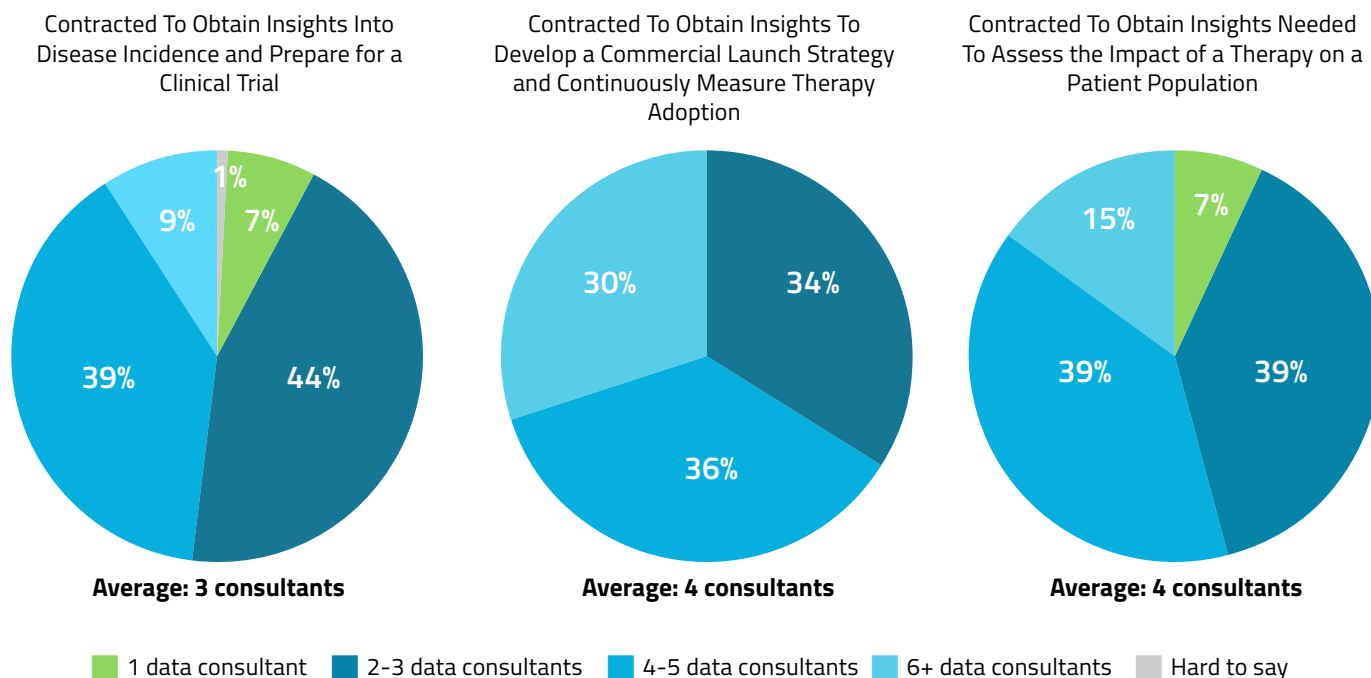


Typical Number of Data Vendors by Annual Revenue — Clinical Development



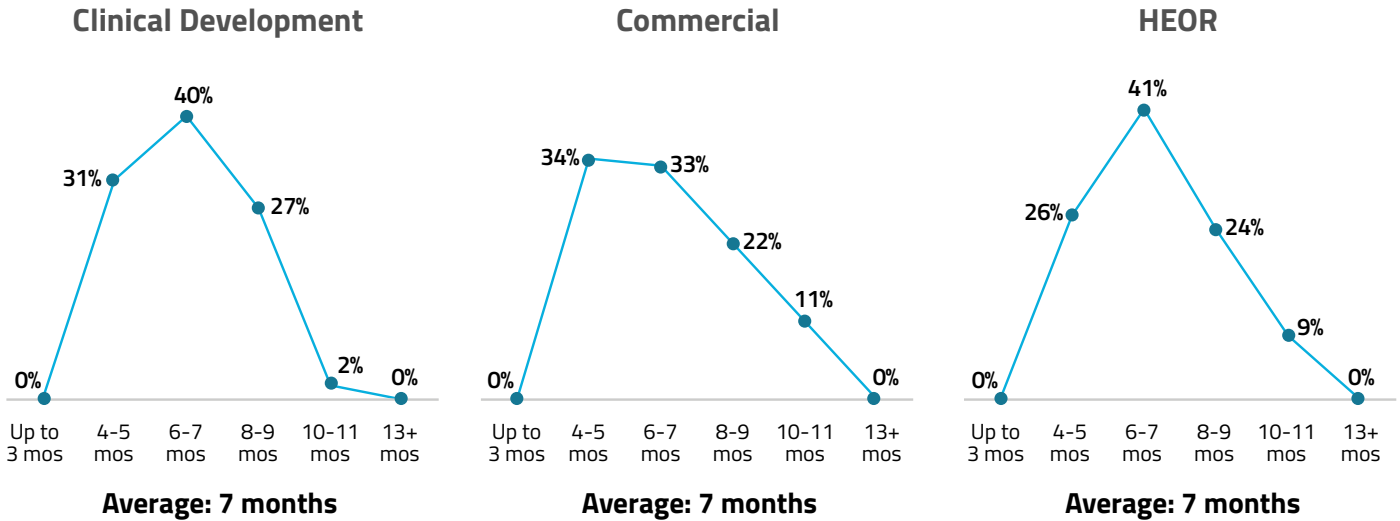
We see similar trends in the use of consultants to vet data sources, conduct analyses, and draw insights from the data. The average Clinical Development team, for example, uses three data consultants: 44% use two to three consultants; 39% use four to five, and 9% use six or more. While Commercial teams report being less likely to rely on consultants than their Clinical Development or HEOR colleagues, when they do engage this expertise, the average number of consultants used is four. HEOR teams also work with an average of four consultants.

Typical Number of Data Consultants



Similarly, larger companies tend to use more consultants, on average, than smaller companies. That increased size, scale, and use of resources does not, however, translate into faster cycle times from initial data acquisition to research-ready capabilities. Across small, medium, and large organizations — and all three functions — it takes an average of seven months to obtain and transform data into a usable state. While the largest companies in the study were able to trim that total, on average, by one month, nearly a third of all organizations (32%) say it takes even longer — eight to 12 months — to get their RWE research-ready.

Typical Time Needed by Business Unit



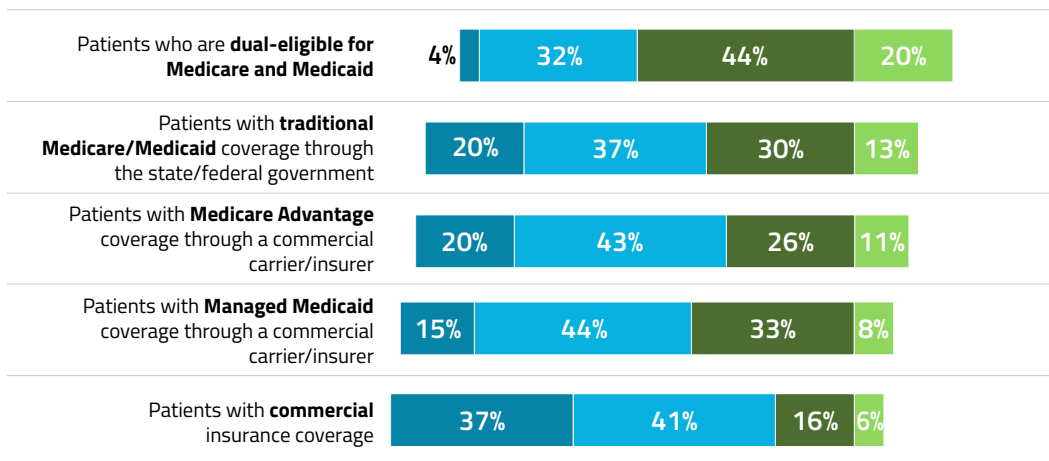
Data Disparity, Inaccuracy, and Integration Challenges Create Hurdles

Life Sciences teams integrate multiple data sources, including open claims from clearinghouses, closed claims from payers, prescription data from pharmacy benefits managers, and data from other specialty sources such as reference laboratories and EHRs. Reconciling these various datasets while also ensuring that populations with government and commercial insurance coverage are captured and accurately represented presents some of the most significant challenges across all three business units.

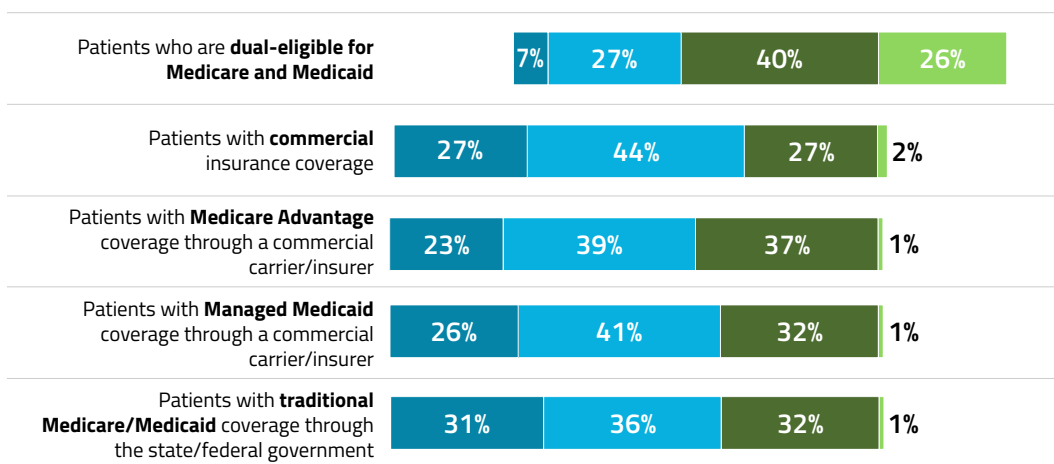
For example, the majority of Clinical Development (64%), Commercial (66%), and HEOR (72%) teams say gaining access to accurate insights for the dual-eligible Medicare and Medicaid population is a “significant” or “very significant” challenge.



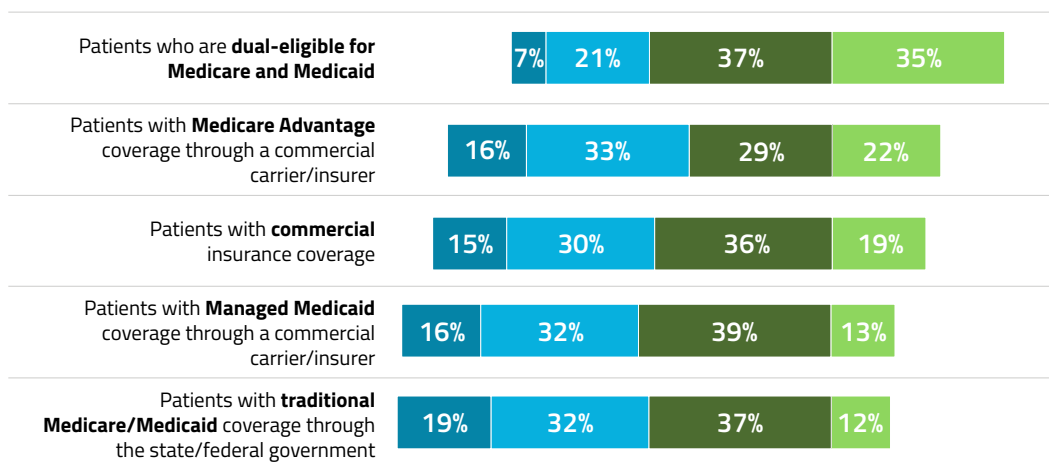
Challenges To Gaining Accurate Insights Into Payer Populations — Clinical Development



Challenges To Gaining Accurate Insights Into Payer Populations — Commercial



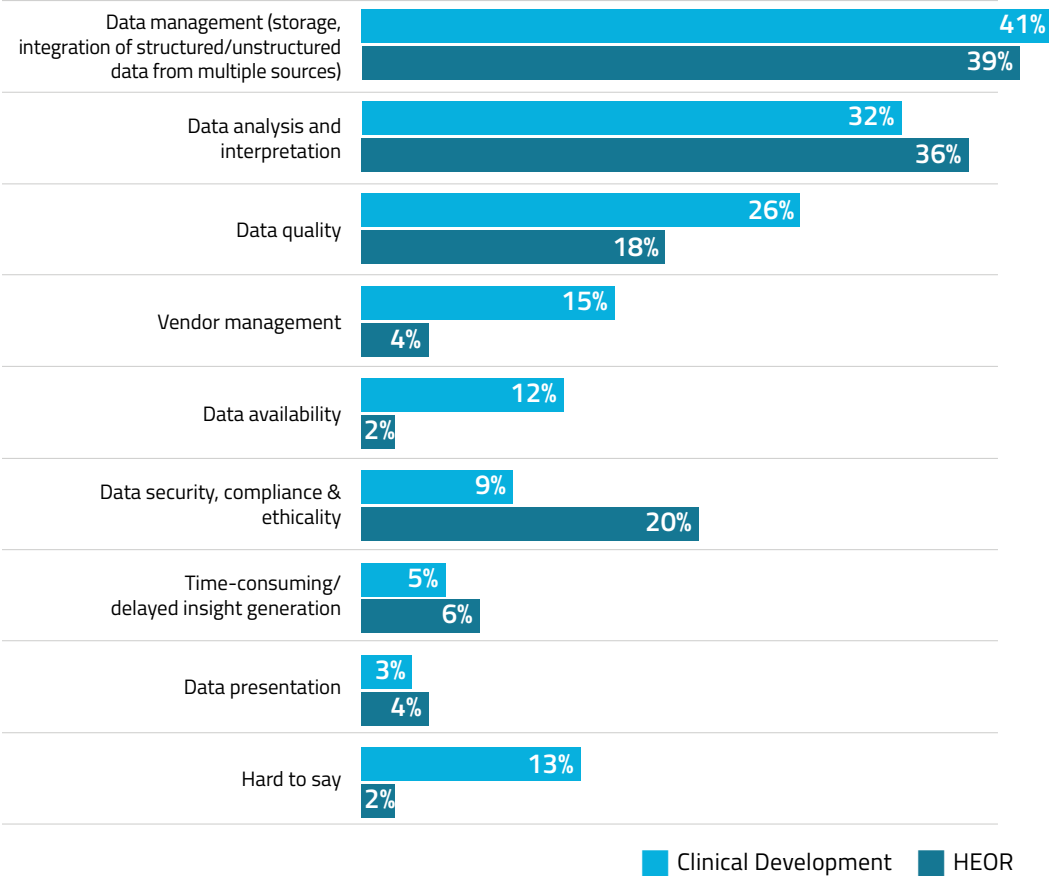
Challenges To Gaining Accurate Insights Into Payer Populations — HEOR



Life Sciences teams also report several operational challenges associated with accessing, sharing, and drawing insights from RWE. When asked to rate data challenges common to their specific functions, Clinical Development, Commercial, and HEOR teams reported a range of issues that included inconsistent approaches to data management and cloud storage, siloed teams with uneven access to information, and difficulties with data analysis and interpretation.

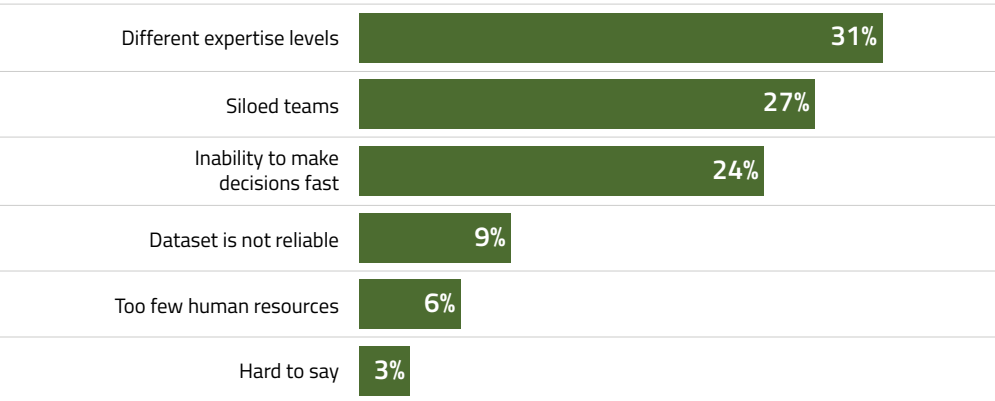
Biggest Challenges To Gaining Data Insights

Based on spontaneous answers



Biggest Challenges To Gaining Data Insights – Commercial

Based on single response answers

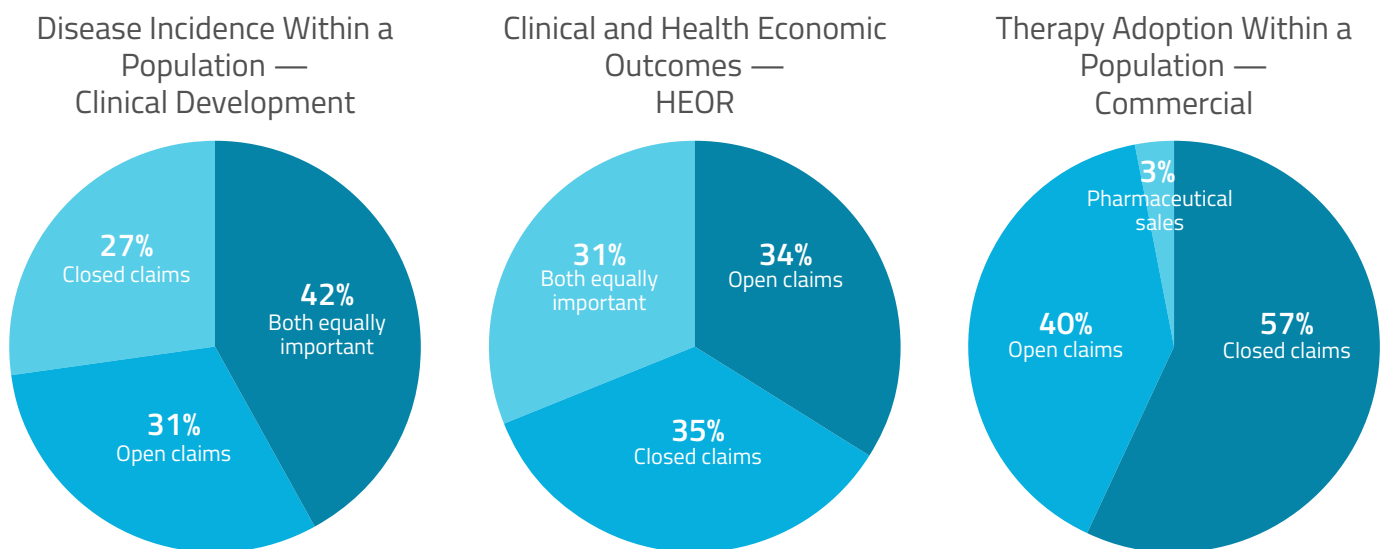


For example, both Clinical Development (41%) and HEOR (39%) teams cite data management, including storage and integration of unstructured data from multiple sources, as their single biggest challenge. Data analysis and interpretation ranks second at 32% for Clinical Development and 36% for HEOR teams. Commercial teams cite varying levels of expertise among team members (31%), siloes among teams (27%) and the inability to make decisions fast enough (24%) as the main challenges.

In terms of primary data sources, all job functions report using open or closed claims data or a combination of both, though the mix varies by use case. Among Clinical Development teams, for example, 31% of respondents say open claims data is their primary data source, 27% primarily work with closed claims data, and 42% use both equally. HEOR teams report being evenly divided in their choice of open claims, closed claims, or a combination. When asked which data source is considered primary from among three choices (open claims, closed claims, or pharmaceutical sales), a 57% majority of Commercial teams say they rely most heavily on closed claims data.

Each business unit's lack of a clear and consistent approach to using data sources reflects the growing pains associated with the rapid evolution and availability of RWE.

Primary Data Sources Used To Assess:



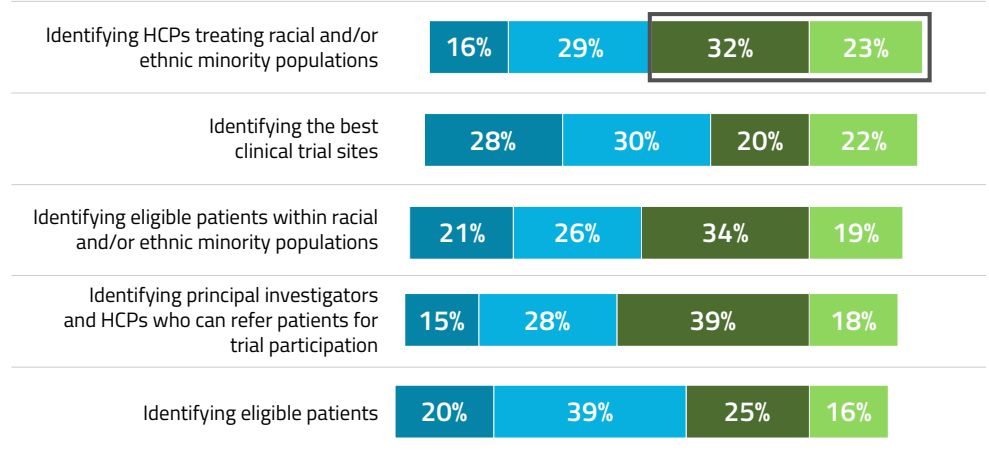
The Devil Is in the Details

The vast majority of Clinical Development (90%), Commercial (98%), and HEOR (95%) teams report being confident in the accuracy and reliability of their RWE-driven insights. When asked to rate their ability to extract specific insights crucial to data reliability and decision-making, however, a discrepancy surfaces: Half of respondents report that many insights are “challenging” or “very challenging” to obtain.

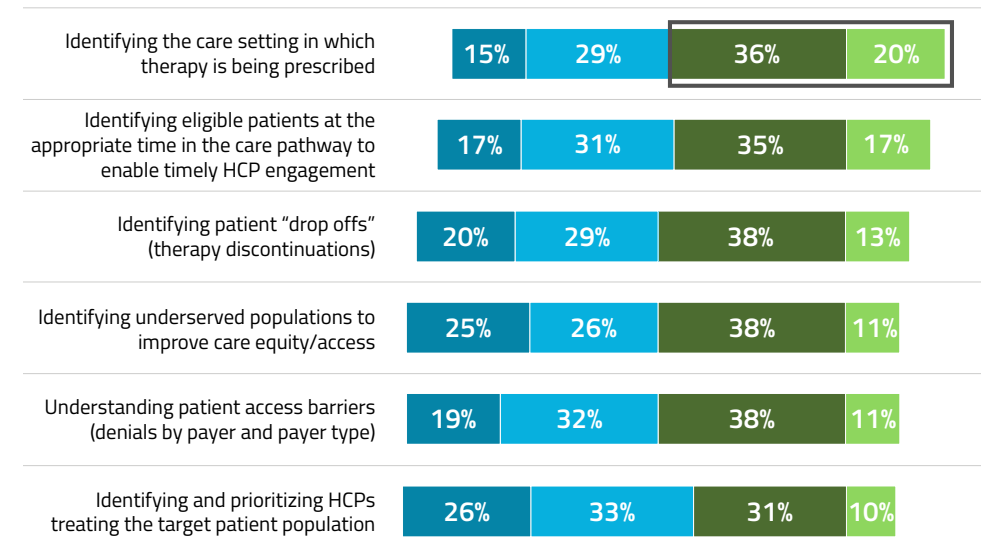
In Clinical Development, for example, 55% cite identifying healthcare providers who treat racial and/or ethnic minority populations as a “significant” or “very significant” challenge. Likewise, more than half of Commercial respondents cite identifying the care setting where therapy is being provided as a top challenge. And 50%+ of HEOR respondents report they face multiple “significant” to “very significant” challenges in conducting research.



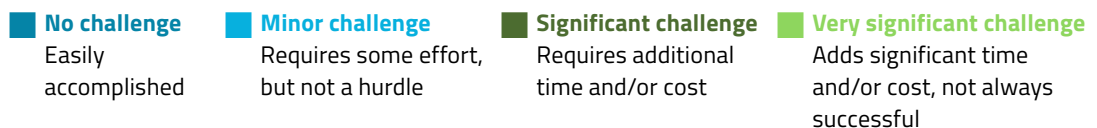
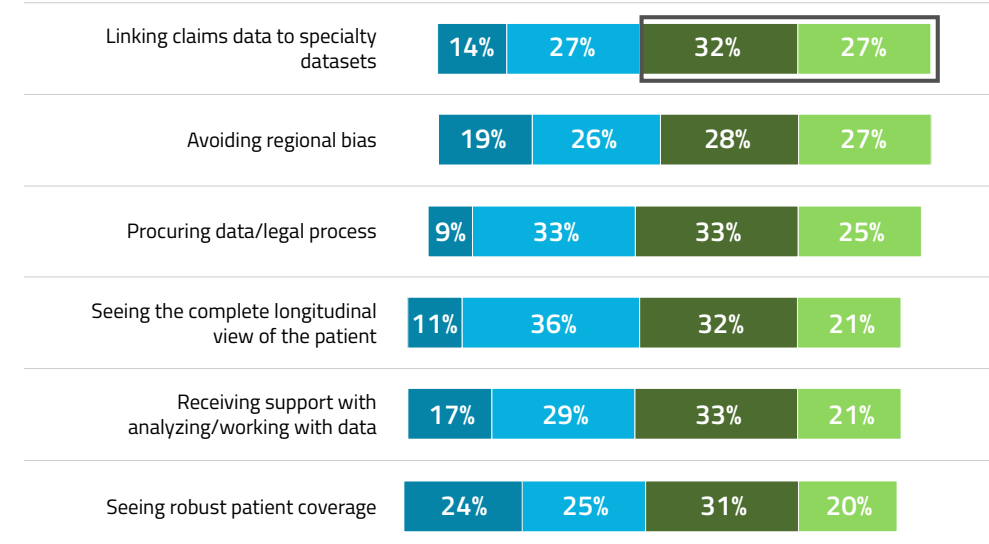
Challenges To Initiating/ Completing Clinical Trials



Challenges in Launching a New Therapy or New Indications Into Market

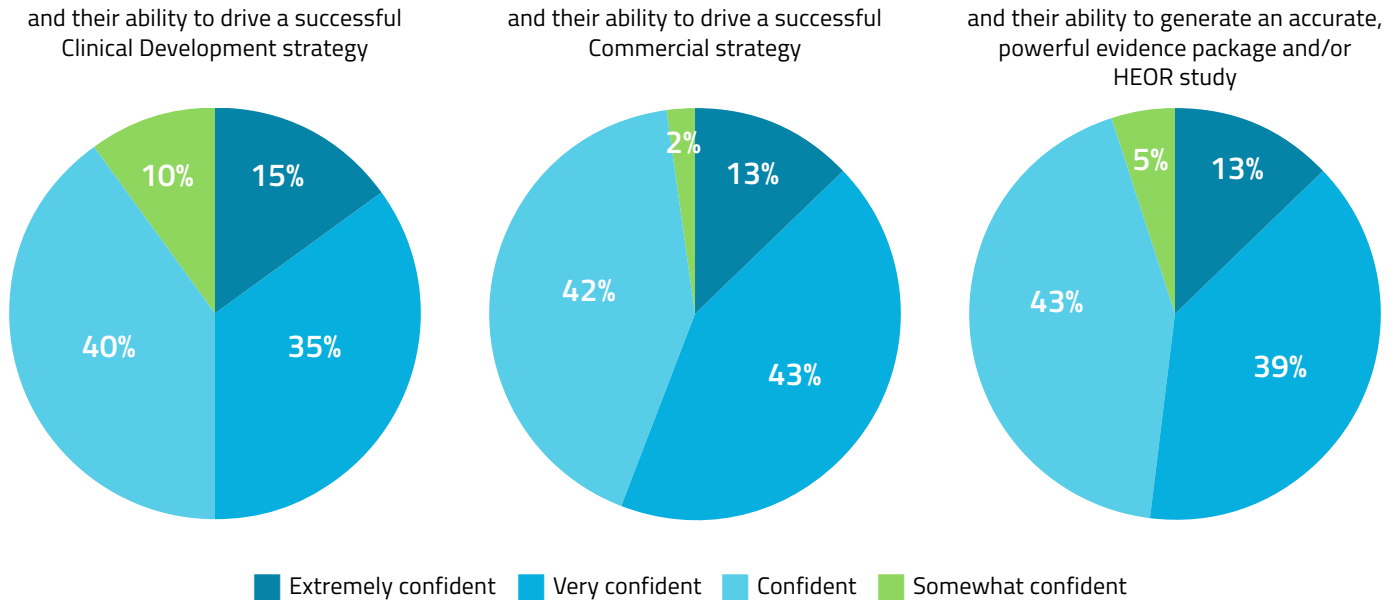


Challenges To Conducting an HEOR Study



Further, confidence in data insights may vary according to an individual's role and function in an organization. For example, Clinical Development data scientists, who are responsible for preparing data and conducting analyses, report being much less confident in their organization's data insights than are executives, who typically make decisions based on those insights and are also the decision-makers for data and solution purchases.

Overall Confidence in Accuracy and Reliability of Findings

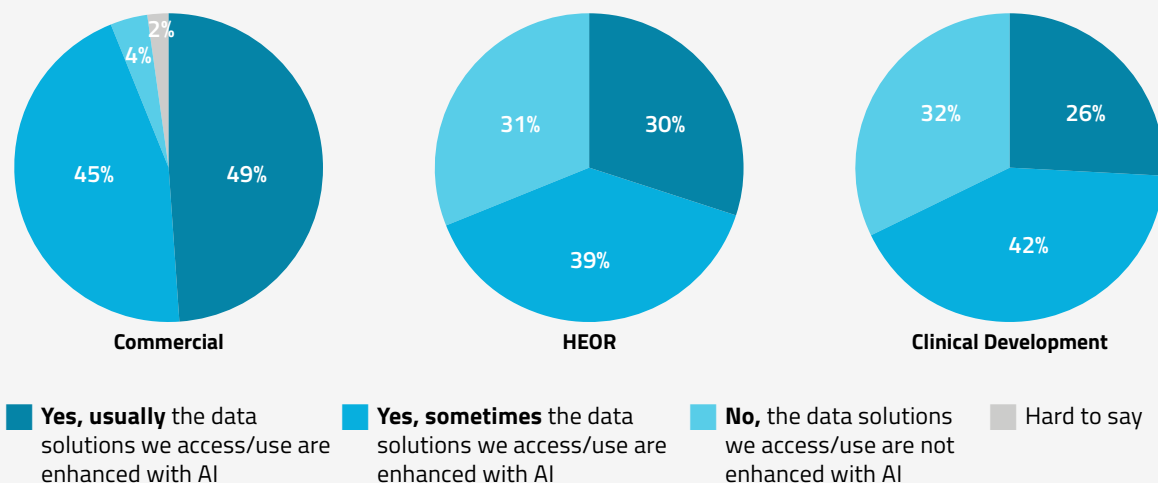


All-In on AI

The role of AI in healthcare has been a hot-button issue for the better part of the last decade. While many have debated the relative merits of the technology in the wake of [high-profile failures](#) and [growing concerns](#) about risks associated with it, Life Sciences companies have been quietly ramping up their use of AI in RWE-driven analytics.

All told, more than three-quarters (78%) of survey respondents working across all Commercial, HEOR, and Clinical Development functions say they are currently using data solutions that are enhanced by AI. Usage rates are highest among Commercial teams, where 94% of respondents report using AI-infused analytics.

Use of Data Solutions Enhanced by AI



Pulling the Pieces Together

The specific challenges that Life Sciences teams face across all three business units can be summarized as growing pains on the path to large-scale industry transformation. The phenomenon is an outgrowth of the manner in which the availability of RWE has evolved over the last two decades, from the first insurance claims databases to marketplace-style data aggregators. The volume of data being generated and shared has grown exponentially, but fidelity of insights has suffered from a lack of reliable integration and synthesis. This task is now a very significant — and frustrating — hurdle that delays drug research, development, and delivery.

Fortunately, Life Sciences leaders are developing more sophisticated, enterprise-wide approaches to obtaining data and analytics as software partners such as Komodo deliver fully integrated, full-stack approaches to real-world patient data and analytics.

Danny Ritt, Associate Director, Pipeline Analytics at Seagen Inc., describes what's possible when RWE, analytics, and software come together: "We're really pivoting from a healthcare provider-focused view of the landscape and understanding new markets to a more patient-centric view," he explains. "When you focus only on providers, you tend to get a very siloed view of the world that's colored by a handful of key opinion leaders. By pulling in RWE earlier in the process, we can triangulate a view of the market based on individual patient experiences. That is helping to guide site selection and has become a pivotal part of go/no-go decisions and strategic planning."

Innovators are working together to replace the fragmented, stitched-together approach of the legacy marketplace and aggregators' datasets. End users can now quickly and easily conduct comprehensive and longitudinal research on real-world patient journeys across every disease category from a single, cloud-based platform. This is the next frontier for RWE. By working with data and analytics partners that are able to link insights across Medicare, Medicaid, and commercial insurance, as well as lab, clinical, and specialty datasets along the entire patient journey, the amount of time and cost required to drive new insights is being reduced significantly. The result will be a more efficient workflow with patients at the center.

Methodology

The results of this study are based on a survey of 300 senior leaders, analysts, and data scientists working in Clinical Development, Commercial, or HEOR functions at small (\$50M+), medium (\$500M+), and large (\$1B+) Life Sciences companies in the U.S, conducted by Frost & Sullivan. The margin of error is +/- 5.7% at a 95% confidence level. The survey was fielded from September through October of 2023.

Learn More about Komodo Health

Komodo Health is a technology platform company creating the new standard for real-world data and analytics by pairing the industry's most complete view of patient encounters with enterprise software and machine learning that connect the dots between individual patient journeys and large-scale health outcomes. Across Life Sciences, payers, providers, and developers, Komodo helps its customers unearth patient-centric insights at scale — marrying clinical data with advanced algorithms and AI-powered software solutions to inform decision-making, close gaps in care, address disease burden, and help the enterprise create a more cost-effective, value-driven healthcare system. For more information, visit [Komodohealth.com](https://www.komodohealth.com).



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