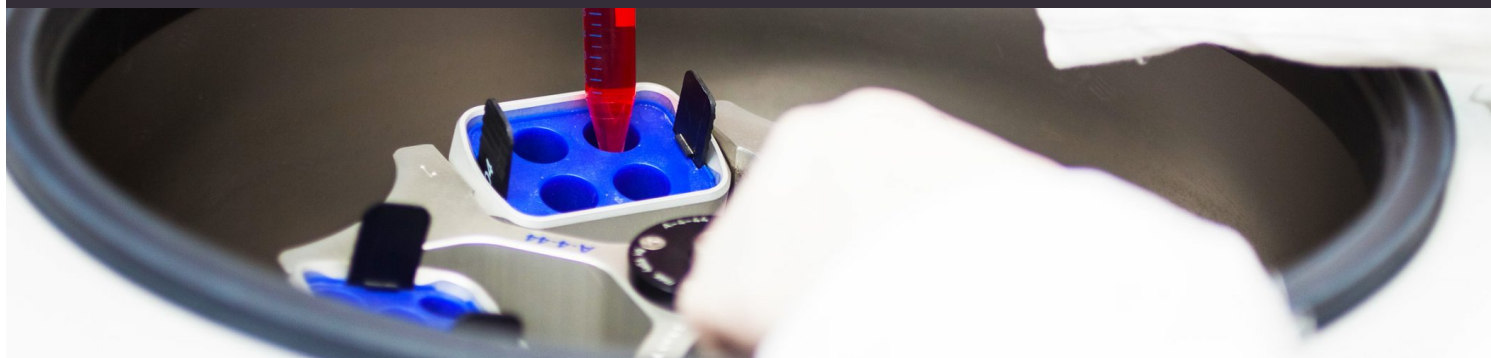


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AI-Driven Patient Cohort Selection: Transform Trials and Save Big!

Blog, posted on April 26, 2023 in Healthcare



Clinical trials play a vital role in bringing ‘molecules to market.’ Traditional methods of recruiting patients in clinical trials rely on manual screening and matching methods to meet the eligibility criteria. However, the clinical trial landscape is fraught with challenges, particularly regarding patient recruitment. Slow enrolment, high dropout rates and inadequate diversity in clinical trial populations are major roadblocks in the drug development process.

An Artificial Intelligence (AI) centric data approach can be used to tackle these hurdles and make the process of running clinical trials more efficient, accurate, and inclusive. By increasing the speed and efficiency of the patient recruitment process in clinical trials, the ‘molecules to the market’ journey can be made faster, thus, potentially improving clinical outcomes, and saving lives. In this blog, we will highlight the transformative potential of AI in clinical trials and how organizations can leverage this technology to stay ahead of the curve.

Why is Patient Recruitment Critical?

The rising costs of conducting clinical trials is a major concern for Biopharmaceutical companies.

- ✎ The average cost of clinical trials is **19M USD**.
- ✎ Patient recruitment adds up to **40%** of clinical trials’ expenditure.
- ✎ Recruitment shortfalls could lead to a daily loss of up to **\$1-5M USD**.

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Figure 1: Rising costs of Clinical Trials in Biopharmaceutical Companies.

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In a **survey** conducted with 150 leaders at Biotech and Pharmaceutical organizations around the globe, identified the following trends:

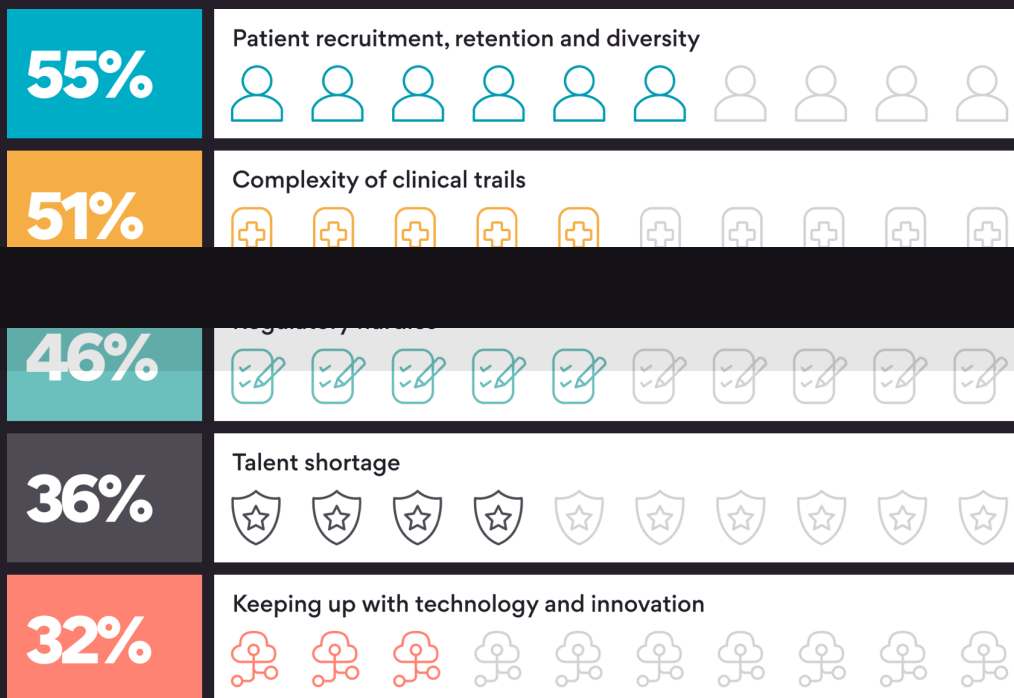


Figure 2: Trends for Clinical Trials in Biotech and Pharmaceutical organizations.

It takes an average of 2-3 Billion USD for a drug to reach the market. Only 1 in 10 drugs make it into clinical practice highlighting the high rate of failure in clinical trials. One of the criteria (as highlighted in **Figure 2**) that plays a major role in predicting the outcome of a clinical trial is choosing suitable patients for the study.

It is a well-known fact that 'Patient Centricity' is the key to ensuring clinical trial success. However, with the increasing complexity of the trial protocols coupled with complex data, patient recruitment in clinical trials using traditional methods is no longer efficient.

AI-Powered Cohort Identification – A Revolutionary Solution Accelerator

A data-centric approach coupled with AI-powered precision is the need of the hour. At Persistent Systems, we have developed a solution accelerator that can significantly reduce the time for patient **recruitment from weeks to minutes** and identify the right cohort of patients for your clinical trials using an AI-powered data-centric approach.

Figure 3: Step-by-Step Simplified Process for “Smart Trials”.

In this cutting-edge solution, we utilize **Generative AI techniques** to obtain patient criteria and query on the patient database. We are also utilizing **Snowpark**, which is a framework from Snowflake for performing pre-processing, feature engineering, model training, and inferencing within Snowflake’s virtual environment; without any additional compute or configuration.

Business Benefits of Our Solution

By partnering with Persistent, you can benefit from:

Targeted and efficient recruitment : Traditional trial matching methods are time-consuming.

Use of **AI-powered** workflows eliminates the need for a manual screening process and reduces the time and cost associated with participant recruitment.

Improved clinical outcomes : Matching patients with the most appropriate clinical trials allows access to potentially life-saving treatments that may not have been available otherwise.

Accelerated ‘molecule to market’ journey : With advanced algorithms, AI can match eligible patients to appropriate clinical trials based on specific inclusion and exclusion criteria, minimizing the risk of screen failures and dropouts. AI can facilitate the enrolment of diverse patient populations and enhance the generalizability of clinical trial results. By streamlining the patient recruitment process, AI-powered matching reduces the time to market for the drugs.

In today’s fast-evolving healthcare landscape, it is more important than ever to stay ahead of the curve. By embracing AI technology, Pharma and CRO companies can optimize recruitment strategies, ensure diverse and representative trial populations, and ultimately accelerate the drug development process. Thus, cohort identification solution delivers value-added benefits like **reduced costs, faster time-to-market, and improved patient outcomes.**

At Persistent, we have significant expertise in conducting data analysis at scale to cater to the growing clinical research needs. Go through [this case study](#), to know how we helped a leading CRO company adopt digital engineering for their clinical trial management system.

Get in touch with our experts today to learn more about how our game-changing ‘Smart Trials’ technology solution and other [Healthcare & Life sciences](#) offerings are digitally transforming clinical trials and research.

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