

Is Your Protocol Leading to Success? The Importance of Early Engagement

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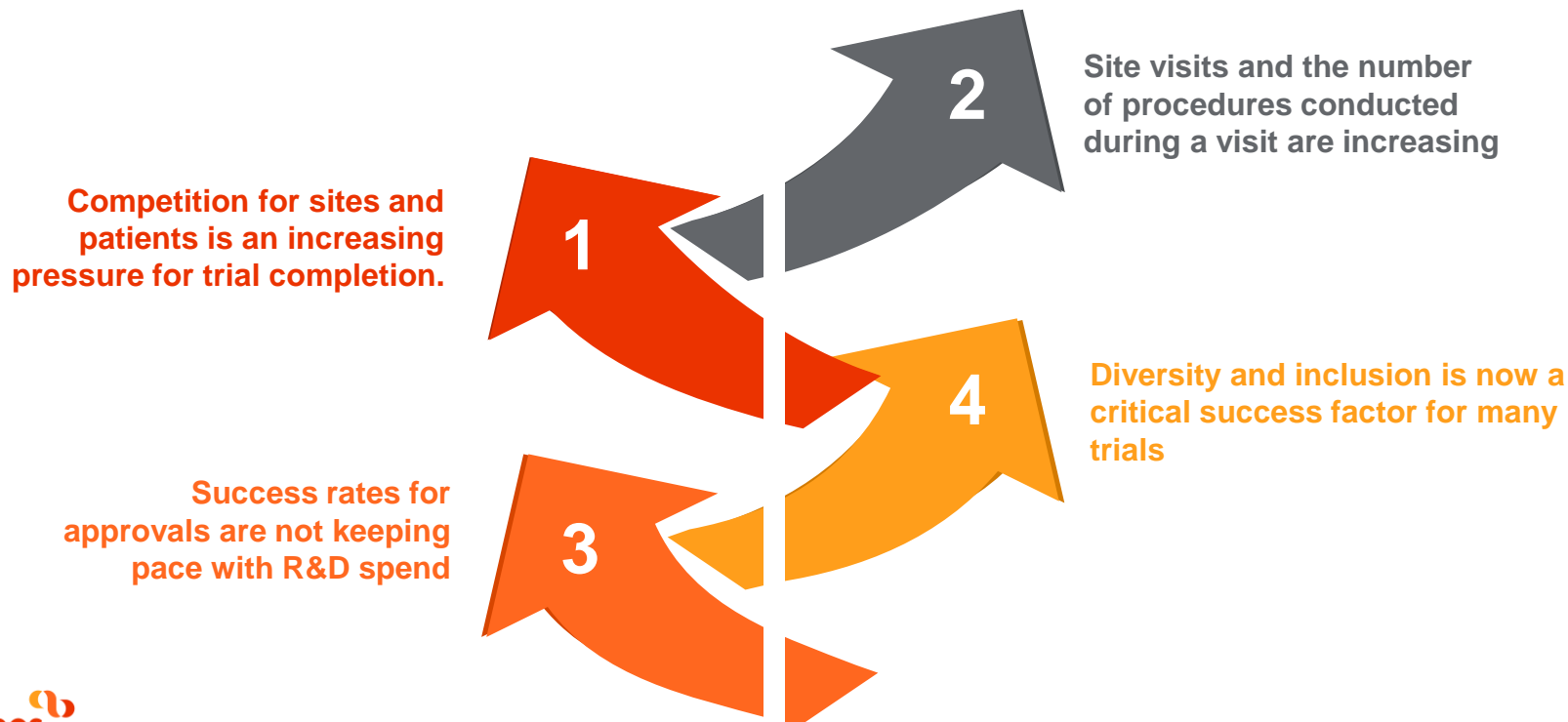
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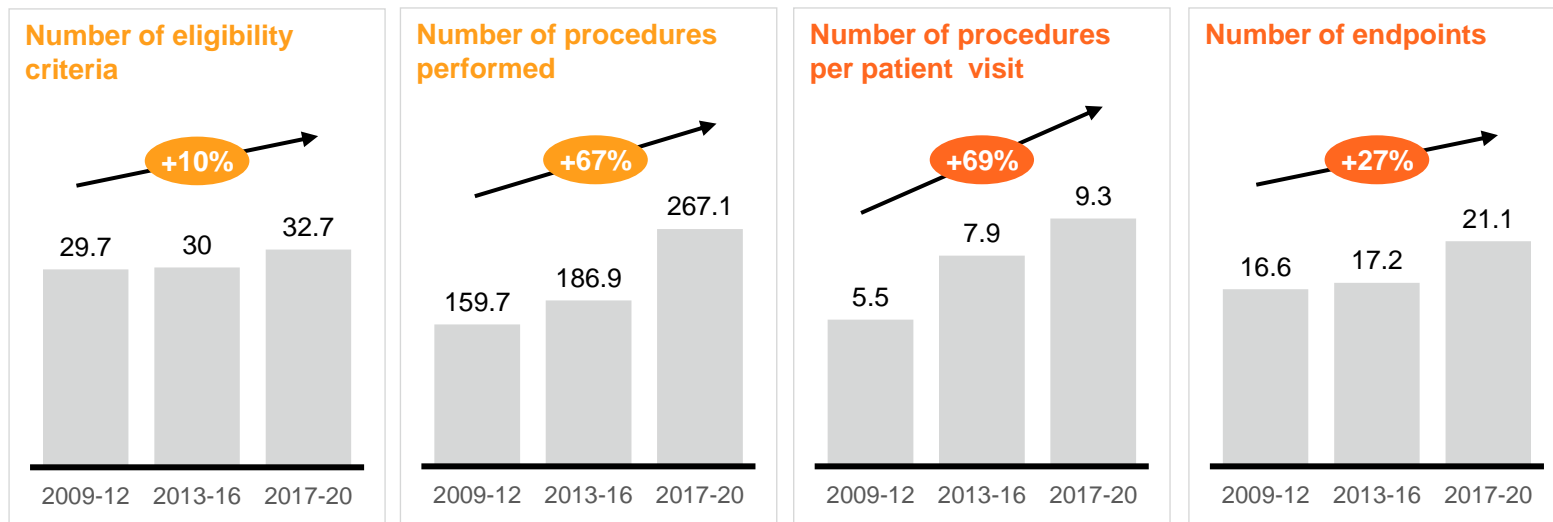
Trends in Clinical Trial Design Complexity

To meet the increasing demand for high-quality data, clinical trials have become more complex.



Increasing Data and Evidence Requirements

To satisfy the growing need for data and evidence, clinical studies are employing more restrictive eligibility criteria and requiring patients participate in more frequent and longer visits.



Growing protocol and trial complexity

Impact of Protocol Complexity on Trial Delivery



Clinical Trial Sites

- Fewer sites willing to participate
- Research staff spends more time on training than patient care
- Study fatigue



Patients

- Number of patients who enroll in clinical studies continues to decline
- Slow patient enrollment rate and low retention
- High dropout rate



Trial Execution

- High rate of protocol non-compliance, deviations and violations
- Lower data quality
- Costly execution of the protocol

Onerous Clinical Trial Protocols Contribute to Longer, Costlier Trials and High Failure Rates



Pain Points Observed

Company Type: Small, Mid to Large Biopharma – Preclinical to Clinical

Pain Points

Company entering a new therapeutic area

- Diffuse strategy for trial conduct and endpoints due to trial complexity
- Trial overburdened with endpoints, assessments and patient visits to sites

Standardized trials with defined I/E and routine endpoints

- Superficially the trial appears straightforward to complete but the challenge to recruit sites and patients has markedly increased

KOLs are not aligned with the trial design

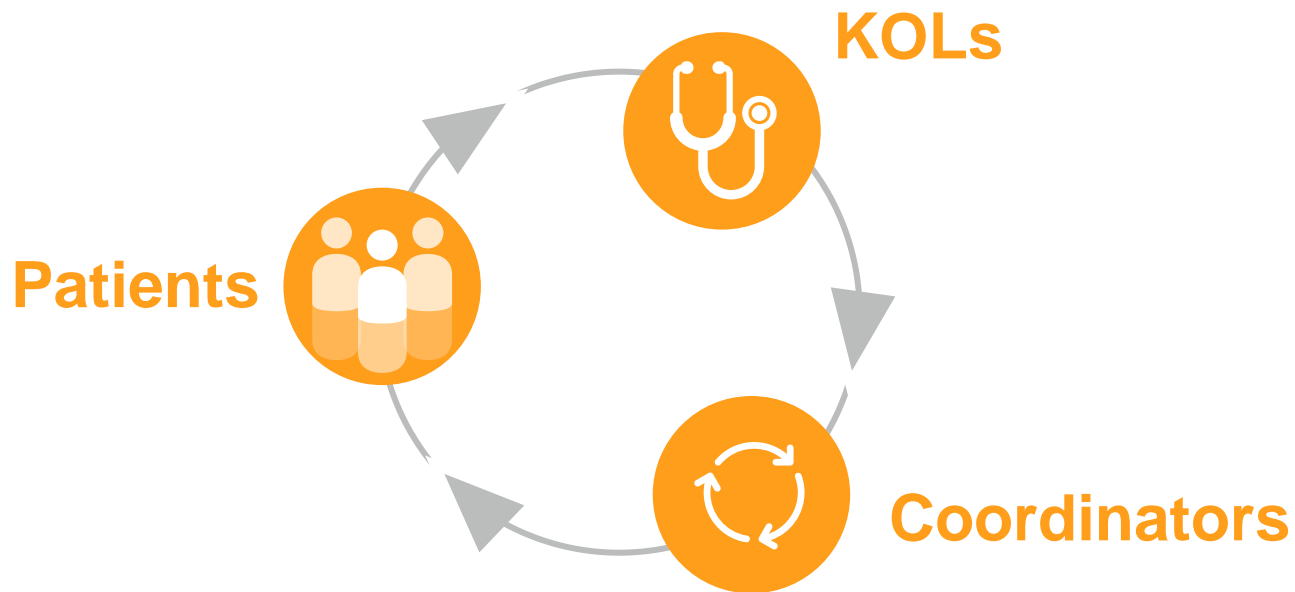
- The sponsor needs to be made aware of the potential risks to medical and operational success
- Risk of underestimating the challenges and risks to trial completion

Underperforming clinical trial

- An ongoing clinical trial is failing to meet key performance milestones

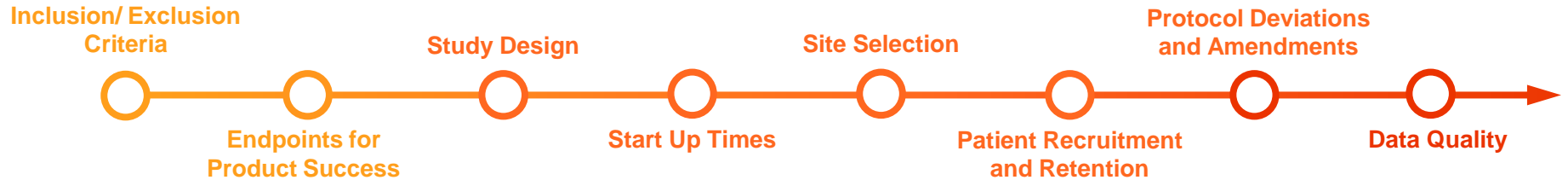
Key Stakeholders

Clinical trial benchmarking needs to be complemented by active early stakeholder engagement.



Impact on Protocol and Study Execution

Early interaction with key stakeholders positively influences clinical trials along a variety of dimensions.





Syneos Health Protocol Optimizer



Syneos Health's Protocol Optimizer

The risk of trials is reduced for sponsors when we actively engage with key stakeholders.

Sample Discussion Topics

Conduct in-depth interviews with key stakeholders to:

- Reduce potential burden on patient and site
- Identify pain points along the clinical trial journey to deploy additional resources
- Actively engage with the community during product/drug development

Patients

- Diagnosis and treatment journey
- Bothersome symptoms
- Barriers to clinical trial participation
- Reaction to the schedule of visits/burden of study design
- Perspectives on inclusion/exclusion criteria and study design

KOLs

- Characteristics of their patient population/ referral patterns
- Potential challenges and best practices recruiting and enrolling patients
- Perspectives on the clinical study and minimum clinically important difference required

Coordinators

- Best practices on enrolling and recruiting patients
- Burden on study design
- Potential challenges operationalizing the protocol design

Protocol Optimizer Solution

Proactively de-risk a protocol and ensure the trial design is patient friendly through engagement with PIs, site coordinators, and patients.



BUSINESS QUESTIONS ADDRESSED

- How enthusiastic are principal investigators and patients with the therapy and the trial design?
- Are there protocol changes that will enhance the level of enthusiasm for the trial?
- What are potential operational challenges to the study as per PIs and site coordinators?
- Are there concerns from patients regarding the frequency of the schedule of events?

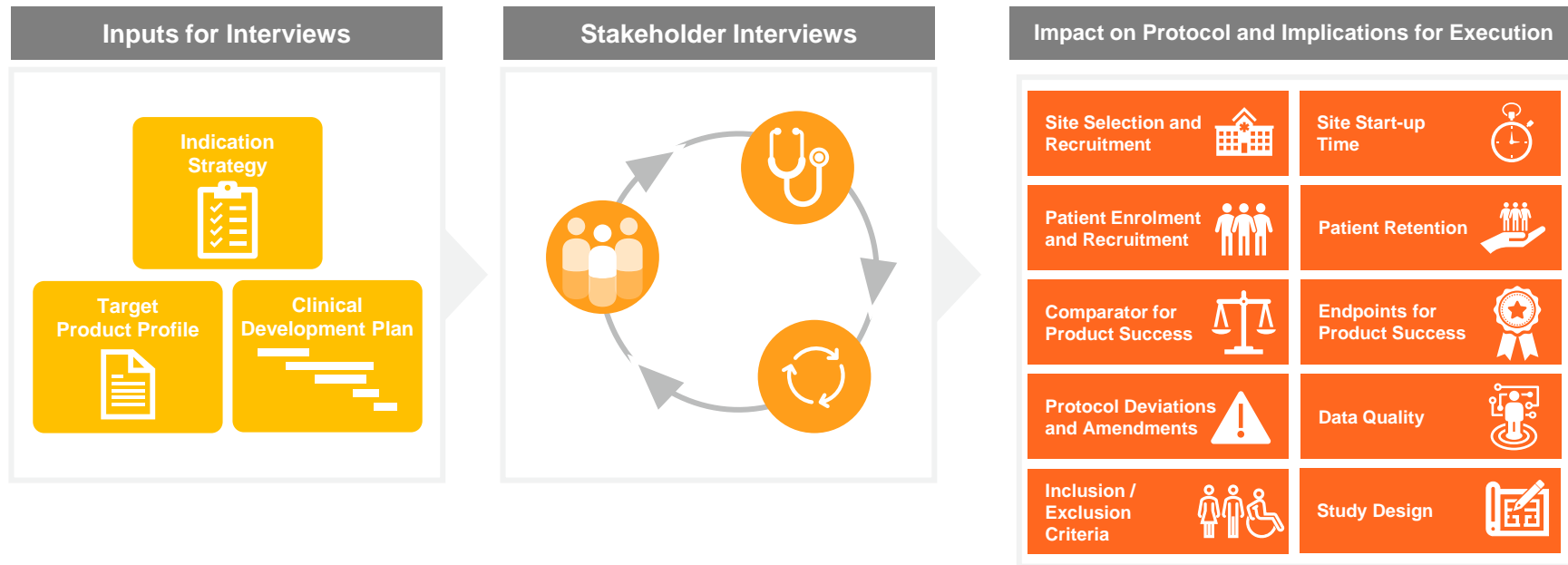


VALUE FOR DRUG DEVELOPER

- Understanding of clinical trial feasibility from the investigator, site coordinator and patient perspective
- Operationally optimized clinical protocol with considerations as how to increase enrollment and decrease dropouts
- An aggressively de-risked and optimized, clinical protocol design

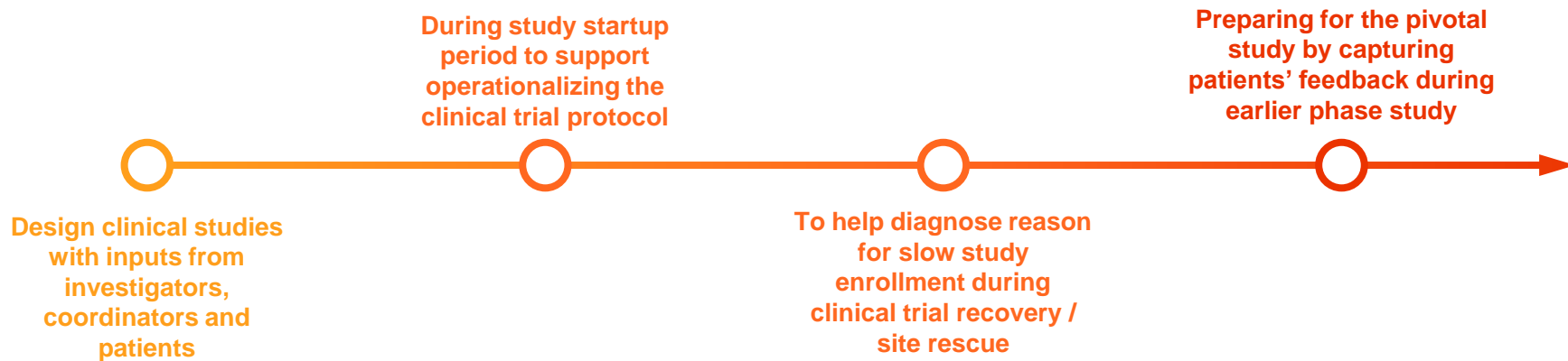
Protocol Optimizer Approach

Protocol Optimizer combines key inputs with insights from patients, coordinators, and investigators to de-risk the achievement of key metrics as well as impact optimal protocol design and trial operations.



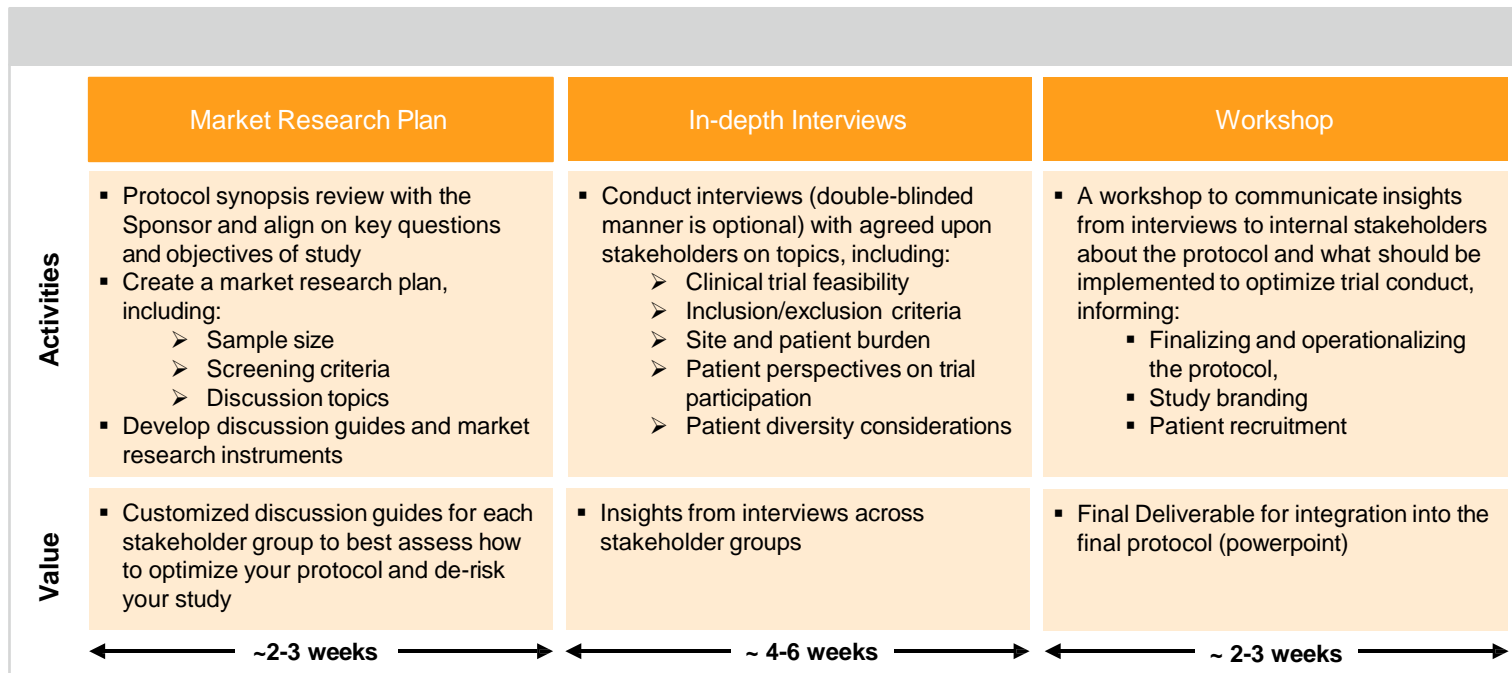
When Do You Need Protocol Optimizer

In addition to during protocol development, Protocol Optimizer can be deployed at later time-points to support study rescue or to capture patient experience during exit interviews.



Protocol Optimizer – Service Offering Process

Blinded, in-depth interviews will be conducted with investigators, site coordinators and patients to proactively de-risk and optimize trial conduct to create a protocol as patient and site friendly as possible.



Select Customer Feedback

Protocol Optimizer is well received by our customers

- "Overall, this **clearly contributes** to a much more refined version of the protocol that will be easier to implement and **will make this a successful trial...** and will **make this trial easier for patients and sites** while still generating all the data that we need"
- "I do think it [protocol optimizer] is **best practice**, it should be **deployed for later phase trials for sure**"
- "Very helpful... all the feedback... it has **clearly led to an improved version of the protocol**"
- "Your research was the **deciding factor** in changing the schedule of events"
- "There are things we can do regarding implementation here that can have **a big impact**"

Exploring GenAI for optimizing end-to-end study design and execution

We expect customer programs to benefit from our investments in AI-enabled solutions for enabling better study design and introducing operational efficiencies across the growing portfolio.

Syneos Health Generative AI/ LLM Toolkit

Protocol Development

- | | | |
|----------------------------|--|-----------------------------------|
| ● Protocol Digitization | ● Geographic/Diversity Site selection | ● Insights Engine |
| ● Protocol Optimization | ● QI Monitoring | ● Disease Ontology |
| ● Protocol Authoring | ● Dynamic Resource Allocation | ● HCP Insights and Classification |
| ● Protocol Search/QA | ● Medical coding | ● Biometrics automation |
| ● Patient Burden | ● Adverse Event Detection and prediction | ● AI Enabled marketing |
| ● Language Translation | ● Image Analytics | ● Country Profiling |
| ● Regulatory Documentation | ● eTMF automation | ● Expanded Recruitment |

In the past year, more sponsors are realizing the benefits of AI on protocol development...

- * Draft new protocols faster -- reduce protocol creation from months to weeks
- * Find ideal participants globally, including under-represented areas.
- * Analyze countries for feasibility & commercial potential, optimizing recruitment.
- * Manage cost and duration of trials (subject to trial complexity – e.g., manage patient burden, duration and enrollments)
- * Minimize trial “rescue” through improved enrollment management and site issue monitoring
- * Optimize protocols for approval and better success
- * Help overall design failure vs trial failure

Clinical Trial Benchmarking

GenAI can help isolate key influencing factors across a multitude of trial domains while at the same time offering solutioning support based on immediately relevant, data-driven intelligence

**GenAI-
generated
comparative
insights can
help...**



speed up trial design process

by quickly
comparing and
analyzing a trial's
positioning relative
to the historical and
current trial
landscape



accentuate market advantage

by identifying
distinct features
that may present
market
dis/advantages
within the context of
the current trial
landscape



derisk trial design & operations

by detecting risk
factors that might
hinder trial success
within a given
therapeutic area and
recommend risk
mitigation tactics



understand patient & site burden

relative to similar
trials and suggest
strategies to lower
overall burden to
increase site
engagement,
patient enrollment,
and retention



optimize protocols & trial design

by uncovering
potential
recruitment barriers
and proposing
areas for protocol
optimization

Recap



What to Remember

Increasing Complexity in Clinical Trials

Negative Impact on Trial Delivery and Patient Enrollment

Leveraging AI for Enhanced Trial Design

Importance of Stakeholder Engagement

Optimizing Protocols and Reducing Risks

