Run faster, smarter clinical trials with the AWS Cloud

Clinical trials bring costs, time-consuming challenges. Modernized trials powered by the AWS Cloud can accelerate timelines and reduce costs.

**Trial management**

**CHALLENGE**

- Clinical trial programs can take 13-15 years.
- Trials make up about 2/3 of R&D costs.
- Sponsors must wait for the optimal trial protocol designs.

**CLOUD-POWERED ADVANCEMENTS**

- In the AWS Cloud, trial simulations that took 60 hours can run in under 1 hour — a 98% improvement.
- Virtually unlimited computational capacity allows sponsors to run thousands, rather than hundreds, of trial simulations.
- Better simulations can reduce trial durations required by one-third and cut study length by almost a year.

**Trial recruitment and enrollment**

**CHALLENGE**

- 48% of sites fail short of enrollment targets.
- 80% of trials face recruitment-related delays.

**CLOUD-POWERED ADVANCEMENTS**

- KnowledgeBase is an Analytics-Intelligent Trial Planning platform on the AWS Cloud allows predictive analysis of recruitment timelines in countries, instead of 1-6 weeks, and power a clinical trial status dashboard that sends real-time alerts.
- Machine-learning tools help identify the right combination of site, country and trial protocol — eliminating poor-performing sites and costs to correct.
- AI/ML can identify the right patients faster by cutting the analysis of unstructured clinical record data from hours to seconds.

**Better use of historical trial data**

**CHALLENGE**

- Limited, non-standardized and siloed data hinder decision-making.
- 47% of trials take place outside the US, complicating data coordination.

**CLOUD-POWERED ADVANCEMENTS**

- Medidata’s Synthetic Control Database increases disease understanding using advanced analytics on hundreds to thousands of control patients.
- Virtually unlimited computational capacity allows sponsors to run thousands, rather than hundreds, of trial simulations.
- Better simulations can reduce trial durations required by one-third and cut study length by almost a year.

**Patient monitoring and engagement**

**CHALLENGE**

- Site visits can be burdensome and time-consuming for trial participants.
- Sponsors face difficulty recruiting and retaining the right patients, enrolling time and cost.

**CLOUD-POWERED ADVANCEMENTS**

- Secure movement of data from mobile devices to the cloud can reduce site visits and increase engagement while getting a more complete picture of the therapy.
- An arthritis and pain study using mobile devices and AWS Cloud monitored 13,500 participants and yielded 38 million data points.
- In the AWS Cloud, trial simulations that took 60 hours can run in under 1 hour — a 98% improvement.

**Trial development**

**CHALLENGE**

- Sponsors face difficulty recruiting and retaining the right patients, enrolling time and cost.
- 89% of trials meet enrollment, but timelines slip, half of sites under-enroll.

**CLOUD-POWERED ADVANCEMENTS**

- AWS cloud-based tools help sponsors comply with regulations including HIPAA, HITRUST and GxP standards.
- AWS can process data from digital technologies, store it securely and isolate it from the cloud.
- Use of advanced analytics enables faster, more accurate data-driven decisions, leveraging hundreds of thousands in savings for every month used in a trial.

To learn more about clinical trials powered by AWS, please visit, https://aws.amazon.com/thefutureofclinicaltrials/

Healthcare & Life Sciences

Business Development

Michael Strickland

mstrickland@amazon.com

+1 (415) 951-4951

Healthcare

Clinical Trials

Biopharma

Genomics

Medicine

Clinical Research

Healthcare Innovation

Healthcare Ecosystem

Healthcare IT

E-Health

Clinical Trials

Biopharma

Genomics

Medicine

Clinical Research

Healthcare Innovation

Healthcare Ecosystem

Healthcare IT

E-Health


Pugatch Consilium: BCI survey – 2015

CSDD Impact Report: Measuring the global biomedical pulse: The biopharmaceutical investment & competitiveness

