Research Challenges and Solution

OHDSI offers a great potential in conducting scientific research based upon statistical evidence provided by collaborators.

But, the following need to be overcome:

- Lack of a consistent approach in conducting observational research
- Lack of a trusted environment to enable study workflow
- Lack of an environment allowing to conduct collaborative, federated research
- Siloed, locked down and scattered patient health data sources
- Lack of easy and secure data access
- Regulatory compliance risks
- Lack of consistent analytical tools and standards

ARACHNE addresses these challenges and enables effective Healthcare Research

Business Questions

Epidemiologist
- “What is the cause and conditions of the disease and the most effective treatment in a certain population?”
- “Are there any unsolved medical needs in a certain disease area?”
- “Are there previously unknown effective indications (drug repositioning)?”

Pharma Clinical Trial Manager
- “What are the optimal investigator sites for a clinical trial?”
- “What is the optimal set of inclusion or exclusion criteria for patient enrollment and effect size?”

Pharma Safety
- “Is spontaneous report about a person and adverse event? And what is the sub-population I am observing it on?”
- “What is the drug effectiveness and safety in real world after commercial launch in contrast to controlled clinical trial?”

Pharma Marketing
- “What is the competitive effectiveness and safety of a drug against competitor’s drug?”
- “What is the competitive drug pricing based on effectiveness in certain market?”

Process Flow

Key Features

- Conduct federated collaborative research studies across healthcare organizations, data owners and researches

- Study lifecycle and workflow management
- Discover federated data sets in RWE data catalog
- Build study team
- Federated analysis across organizational boundaries
- Secure, compliant and trusted data access
- Data access and execution controls
- Exchange and store analysis results
- Elastic, parallel and remote job execution
- Support for R, SQL and complex packages
- Integration with OHDSI Platforms (ATLAS, Achilles)
- Support for OHDSI OMOP CDM

Research Network

- Exchange and store analysis results
- Elastic, parallel and remote job execution
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Product Roadmap

- Network of Networks
- Pre-generate final paper template
- Support for Python
- Cohort Characterization Wizard & Self-contained package
- Patient Level Prediction Wizard & Self-contained Package
- Study dashboard and visualization
- Support for OHDSI study protocol exchanges standards, published API

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