Value = Competitive Advantage

Arachne Approach

Insights & Decisions
Knowledge
Information
Data

Traditional approach

Effort = Cost

Arachne Research Network and Workflow Suite

Study Notebook → Build a research team → Find relevant clinical data → Perform Data Analysis → Create Research Paper → Publish into Insights Library

Study Write up
Expert Finder
Clinical Data Catalog
Analysis Execution
Study Publisher
Insights Library

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ARACHNE Research Network

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

- Study lifecycle and workflow management
- RWE data catalog
- Build study team
- Secure, compliant and trusted data access
- Federated analysis across organizational boundaries
- Store analysis aggregate results
- Elastic, parallel, remote job execution
- Integration with OHDSI Tools (ATLAS/WebAPI, Achilles)
- Support for OHDSI standards and tools
  - SQL, R, Python and complex packages
  - OHDSI analytical methods library (cohort features, incidence rates, PLP and PLE)
  - OHDSI OMOP CDM
Case study 1: Executing OHDSI Treatment Pathways Study (Christian Reich)

**Author**: Jon Duke; **Revised by**: Ray Chen, Yuri Khoma

**Study goals**: Among patients with cancer, characterize the prevalence, variety, and distribution of different initial treatment pathways for three chronic diseases: Hypertension, Type II Diabetes, and Depression.
Case study 2: Recurrence/Relapse in EGFR positive NSCLC Patients (Aaron Galaznik)

Author: Aaron Galaznik, Eldar Allakhverdiiev, Yuri Khoma, Christian Reich, Gregory Klebanov

Patient Level Prediction: Peter R. Rijnbeek, Revised: Yuri Khoma

Study goals: In NSCLC patients, Characterizing the real-world rate of treatment non-response to EGFR-inhibitors, which are increasingly being used in NSCLC as well. Develop a predictive modeling algorithm for identifying patients at higher risk of treatment non-response to these agents. The role of the algorithm would be to aid in identifying patients likely to benefit from novel therapeutics through clinical parameters, thereby complementing genomic/biomarker based approaches. Such an approach has potential applications to characterizing population needs, clinical study recruitment, and treatment decision-making for patients with NSCLC.
Questions?