What is HADES?

- A set of 24 R packages (and counting)
  - PatientLevelPrediction
  - CohortMethod
  - Cyclops
  - SqlRender
  - ...
- Implementing analytics based on the CDM
- Meeting some minimum quality requirements
  - Continuous integration (including unit testing)
  - Validated
  - Documented
  - Cross-database-platform
- Used in pretty much all OHDSI studies
Visit the HADES website

https://ohdsi.github.io/Hades
Developer community developments

Increasing transparency

- Documenting requirements for HADES packages NEW
- Package releases announced on OHDSI forums
- Better organization of issues NEW
- Use of milestones for future releases NEW
- HADES milestones dashboard NEW
- Monthly HADES meetings (inc. this Thursday at noon EST)
Recent software developments

- Lots of incremental improvements, bug fixes
- HYDRA now uses renv in all its skeletons for software stability
- CohortGenerator for cohort instantiation
- Empirical calibration of MaxSPRT (EmpiricalCalibration package)
- Added the PhenotypeLibrary package (works with CohortGenerator)
Near-future software developments

- **CohortMethod v5.0.0**
  - Scaling to ridiculous cohort sizes
  - More per-outcome customization options
  - Go/no go diagnostics
  - Fully controllable via JSON input specs

- **FeatureExtraction**
  - Cohort-based covariates
  - Cohort-based-covariate table 1 (with PhenotypeLibrary)

- **Andromeda**
  - Switching back-end from SQLite to arrow for performance boost

- **DatabaseConnector**
  - Exploring switching from JDBC to DBI for offloading maintenance efforts, and maybe support dbplyr

- **OhdsiTargets**
  - Exploring using the ‘targets’ package to improve OHDSI analytics workflows
Strategus

• (JSON) analysis specs → results (no R coding required)
• Combine various analytics (modules) in a single study, e.g.
  – Cohort generation
  – Cohort diagnostics
  – Characterization
  – Estimation
  – Prediction
• OHDSI network studies would share specs instead of code
• (But still have flexibility to do custom, bleeding edge stuff)
Strategus

Analytics Specifications
- Shared resources
  - Cohort definitions
- CohortGenerator specifications
- CohortDiagnostics specifications

Execution Settings
- CDM schema
- Cohort tables and schema
- Connection details reference

JSON

Strategus

CohortGenerator Module

CohortDiagnostics Module

Results

OhdsiSharing Module

Database metadata

Zipped CSV

CDM

Cohort Tables

Modular Shiny app

Shared resources
- Connection details

Execution Settings
- Connection details reference
Thanks!