# HADES meeting

November 18, 2021

Present: Martijn Schuemie, Patrick Ryan, Frank Defalco, Marc Suchard, Kelly Li, Adam Black, Jenna Reps, Martin Lavallee, James Gilbert, Mike Arciero, Michael Cook, Kristin Kostka, Evan Minty, Ken Wilkins, Vittoria Ramella, Paul Nagy, Paul Nagy, Lee Evans, Mona Makinian, Anthony Sena, Chris Knoll, Jianxiao Yang

Kelly was awarded best community contribution at the APAC OHDSI Symposium for her work on competing risk models! This is implemented in CohortMethod in its own branch. Marc proposed to merge it into develop and then master after a thorough empirical evaluation that JianXiao will be leading. Martijn will reach out to JianXiao to see if he can help.

HADES assertions:

We currently recognize two types of study packages:

* Standard: Exact output of Hydra
* Custom: A study package in ohdsi-studies

Both types are R packages, and depend only on HADES packages or packages in CRAN.

For dependency management, we will use

* Renv (always)
* Docker (still be investigated. Will be done by someone other than Martijn)
  + Single container for all Hydra-generated packages
  + Container per custom study package

Containers for custom packages could be derived from a single base container (e.g. the container for Hydra study packages)

Custom study packages are R packages, following common conventions for R packages. We recognize that this may be challenging for folks who are not experts in R, and should provide training materials as needed. An R package can encourage a pipeline approach to doing studies, especially when it is a study that is executed only at one site: all steps in the analysis, from data in the CDM to the tables and figures that go into the paper (and ideally the paper itself), should be in a non-interactive script. To provide the intuitive understanding that comes from interactive execution without interactive execution, we could leverage RMarkdown.

Lee proposed further supporting the pipeline analogy, by clearly documenting in and outputs of steps, and possibly developing tools to support the design of a pipeline (for example like Pentaho).

HADES packages are thoroughly tested using unit test, but for study packages we recommend

* Code review
* Making sure the study package runs at at least two sites before asking more to join

JPG proposes a service for automatically testing packages against some simulated data (on multiple platforms).

Study packages should have a single execute function. The parameters of this function should be documented in machine-readable meta-data contained in the package. We still need to think about the proper way for users to upload the results of a study package to the OHDSI SFTP server. Many sites will not have internet connectivity on the computer running the study package.

Martijn mentions two changes in HADES regarding renv:

1. An ‘auto’ mode was added to OhdsiRTools::createRenvLockFile() to make it easier for non-R-experts to create lock files
2. A page was added to the HADES website explaining how to use renv in a study package: <https://ohdsi.github.io/Hades/renv.html>