

The amount of healthcare data is skyrocketing. Waiting on answers from this data just one day, can mean thousands of lives lost – as seen in the COVID pandemic. Beyond the cost of human lives, the financial costs of needed hardware for delivering these crucial answers are rising. Between the issues of financial costs and the urgency for rapid insights, there is clear need in the OHDSI community to encourage tooling that can bridge this problem. Using the tools provided by the Julia Interop organization, the JuliaConnectoR R package and the RCall Julia package can be used to bridge R to Julia and Julia to R respectively. Using these packages, two basic exercises for benchmarking were done:

- Task 1: Read SynPUF4 CSV
- Task 2: Query Eunomia5

For Task 1, a 5x's speedup is seen by embedding Julia in R over R's CSV reader. For Task 2, by leveraging Julia, the R in Julia example is 2x's fast as the R implementation. This highlights bridging between the two languages and illustrates the potential for high performance health analytics in OHDSI.