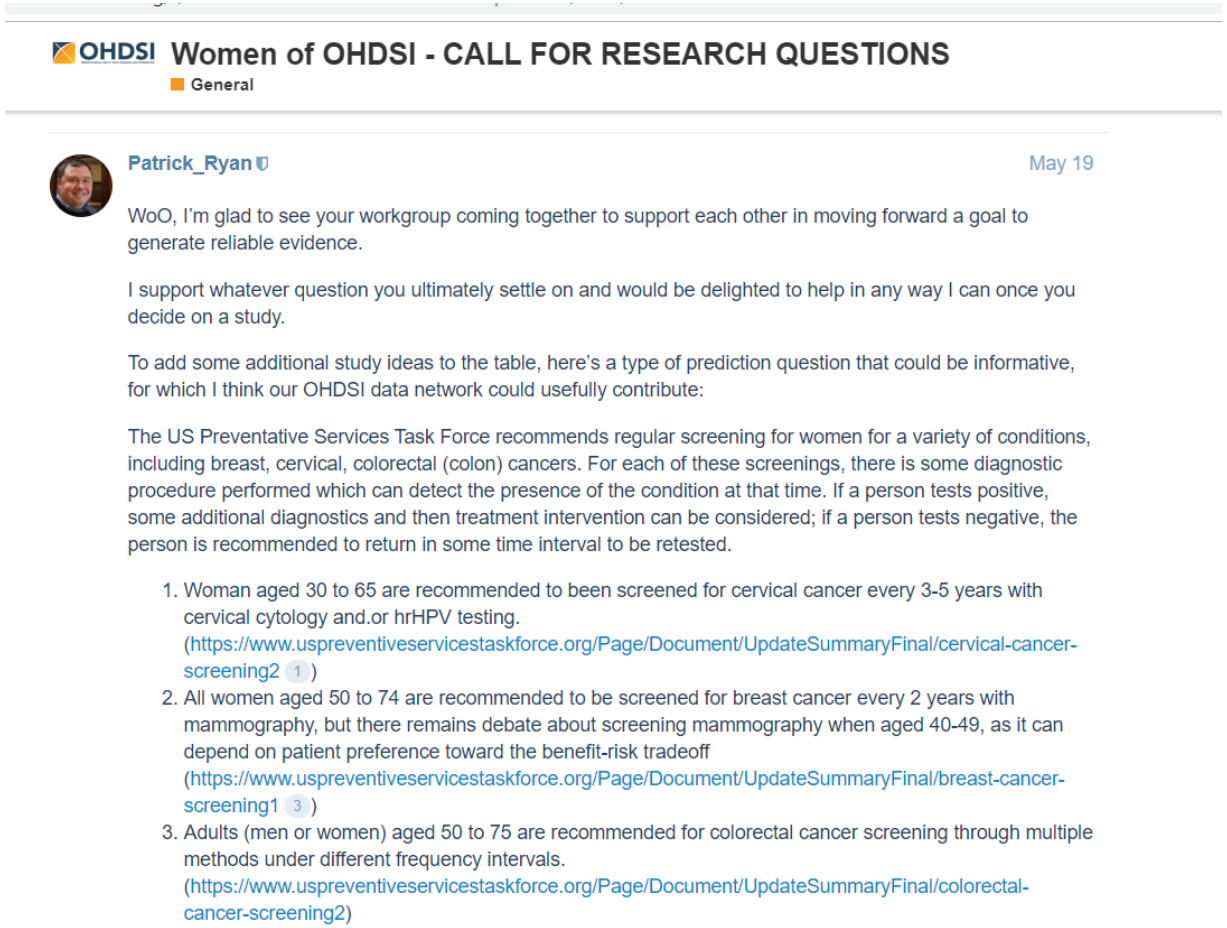
How to build an OHDSI Study

Mui Van Zandt

Put your idea in the Forums



OHDSI **Women of OHDSI - CALL FOR RESEARCH QUESTIONS**

General

Patrick_Ryan May 19

WoO, I'm glad to see your workgroup coming together to support each other in moving forward a goal to generate reliable evidence.

I support whatever question you ultimately settle on and would be delighted to help in any way I can once you decide on a study.

To add some additional study ideas to the table, here's a type of prediction question that could be informative, for which I think our OHDSI data network could usefully contribute:

The US Preventative Services Task Force recommends regular screening for women for a variety of conditions, including breast, cervical, colorectal (colon) cancers. For each of these screenings, there is some diagnostic procedure performed which can detect the presence of the condition at that time. If a person tests positive, some additional diagnostics and then treatment intervention can be considered; if a person tests negative, the person is recommended to return in some time interval to be retested.

1. Woman aged 30 to 65 are recommended to been screened for cervical cancer every 3-5 years with cervical cytology and.or hrHPV testing. (https://www.uspreventiveservicestaskforce.org/Page/Document/UpdateSummaryFinal/cervical-cancer-screening2 1)
2. All women aged 50 to 74 are recommended to be screened for breast cancer every 2 years with mammography, but there remains debate about screening mammography when aged 40-49, as it can depend on patient preference toward the benefit-risk tradeoff (https://www.uspreventiveservicestaskforce.org/Page/Document/UpdateSummaryFinal/breast-cancer-screening1 3)
3. Adults (men or women) aged 50 to 75 are recommended for colorectal cancer screening through multiple methods under different frequency intervals. (https://www.uspreventiveservicestaskforce.org/Page/Document/UpdateSummaryFinal/colorectal-cancer-screening2)

https://forums.ohdsi.org/c/researchers

How to formulate a Question?

Target cohort

Outcome cohort

Time At Risk

Among patients who **[insert patient cohort]**, which patients will go on to have **[insert outcome of interest]** within **[time window]**?

Women of OHDSI Study Initiated:

Amongst **[women aged 40-74 who undergo a screening mammography who do not have prior breast cancer]**, which patients will go on **[to develop breast cancer]** in the **[90d to 3 years following the screening mammography]**?

Why this question matters?

- Demonstrates the risk of developing breast cancer between screenings
  - Encourages patients who underestimate their risk to get regular mammograms
  - Helps patients who overestimate their risk to understand their true likelihood of developing breast cancer
- Ultimately allows patients to make informed, confident decisions about preventative care

Study Protocol

Target cohort

Outcome cohort

Time At Risk

- Study Populations

Projects Item	Definition
Target (T)	Women aged 40-74 who are undergo a screening mammography who do not have prior breast cancer.
Outcome (O)	Individuals who develop breast cancer
Time at Risk (TAR)	90 days after index day to 1095 days after index day

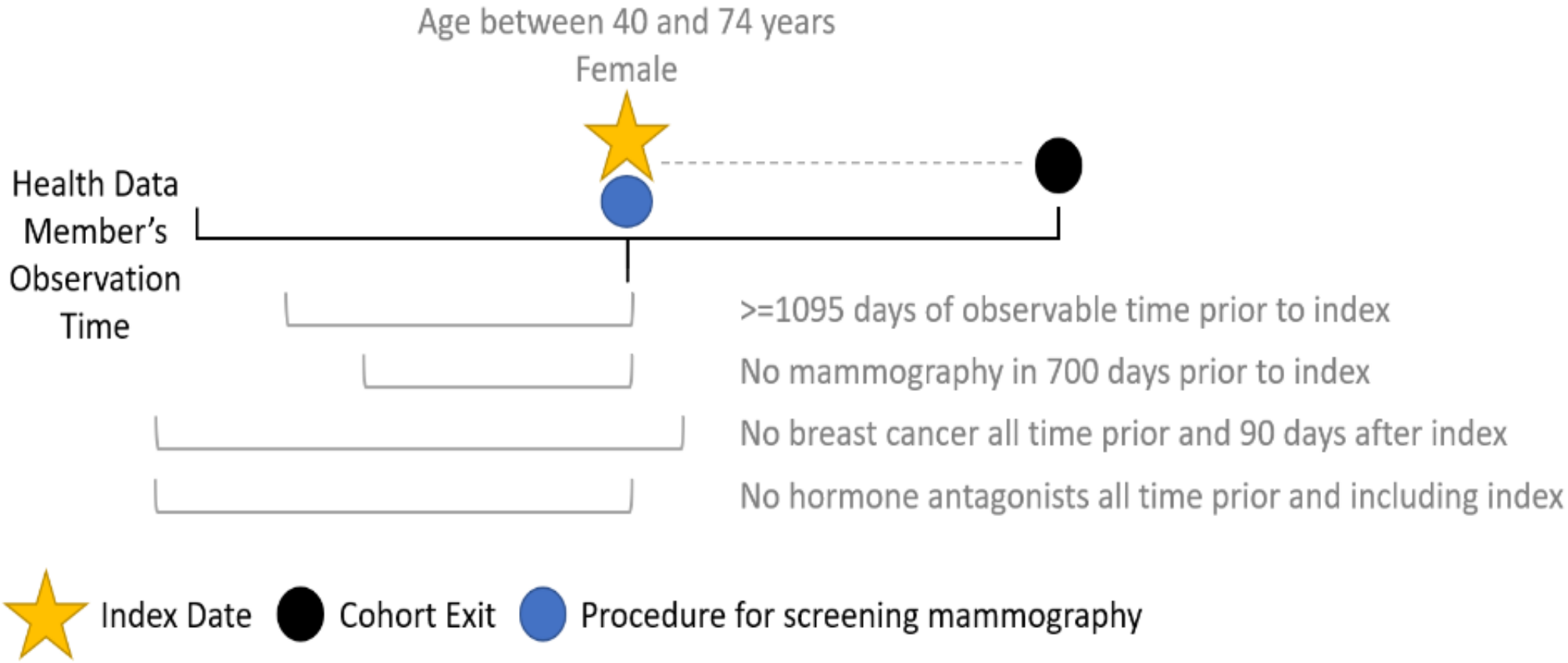
Study Protocol

Target cohort

Outcome cohort

Time At Risk

- Target Cohort



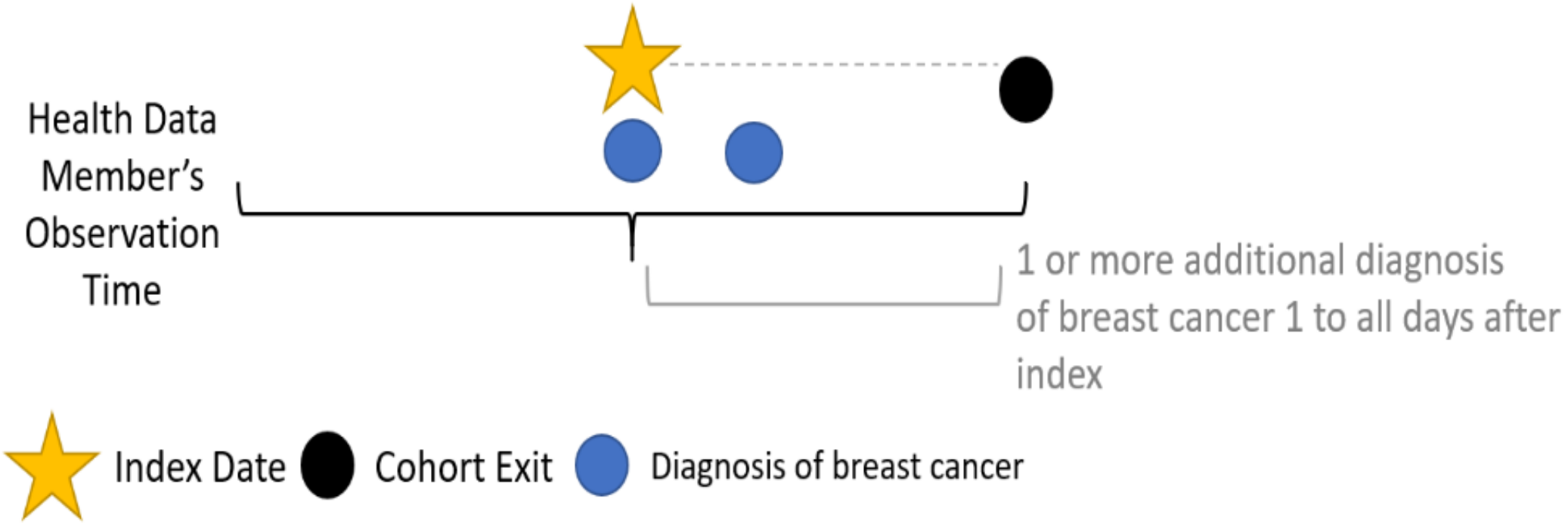
Study Protocol

Target cohort

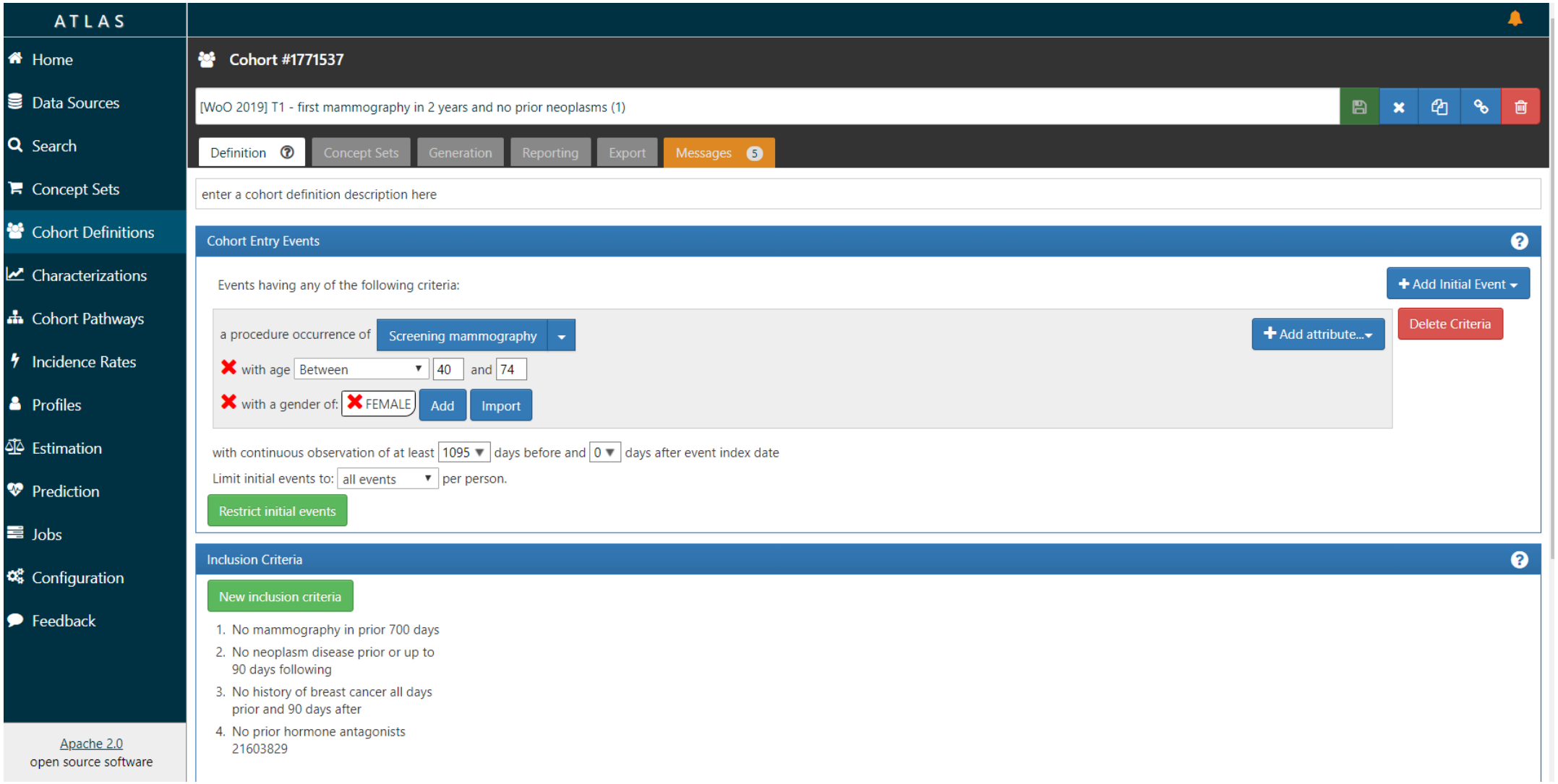
Outcome cohort

Time At Risk

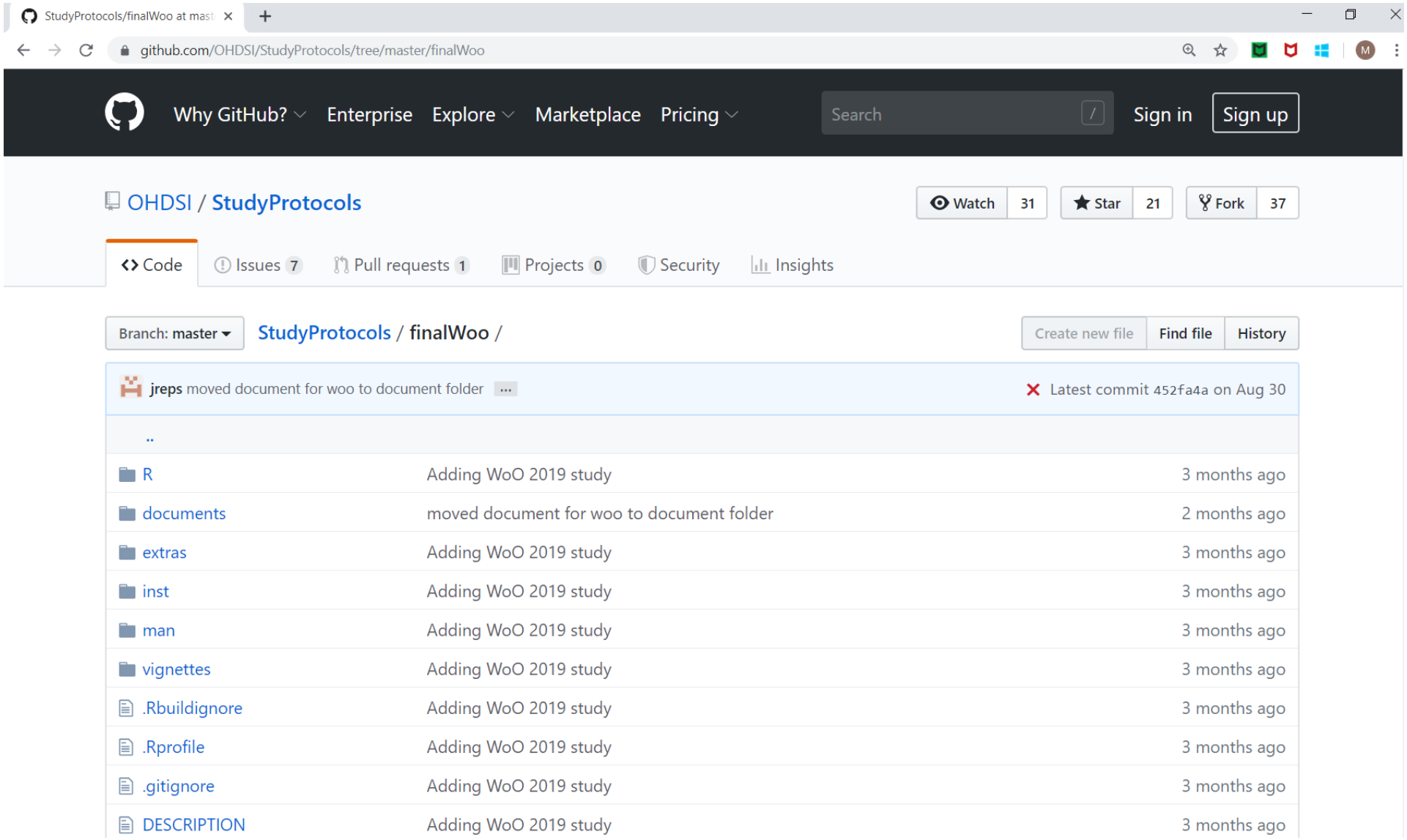
- Outcome Cohort



Build your cohorts



Put your code in github



Ask organizations to run your study

RJ

Reps, Jenna [JRDGB] <jreps@ITS.JNJ.com>

Maura Beaton; Blacketer, Clair [JRDUS]; Noemie Elhadad; Anupama E. Gururaj; Hardin, Jill [JRDUS]; Hester, Laura [JRDUS]; Jiang, Xinzhuo; Shinyoung Ju; Kristin Kostka; Chun Yee Lau; + 12

Re: WoO at the symposium

You replied to this message on 8/8/2019 5:31 PM.

Our study is now live on github!

Study Atlas Design: http://www.ohdsi.org/web/atlas/#/prediction/78

Study package: https://github.com/OHDSI/StudyProtocols/tree/master/finalWoo
To run the package:

1) Open an Rstudio session
2) Make sure to install PatientLevelPrediction see https://github.com/OHDSI/PatientLevelPrediction
3) Install the package:

```
install.packages("devtools")
# install the network package
devtools::install_github("OHDSI/StudyProtocolSandbox/finalWoo")
```

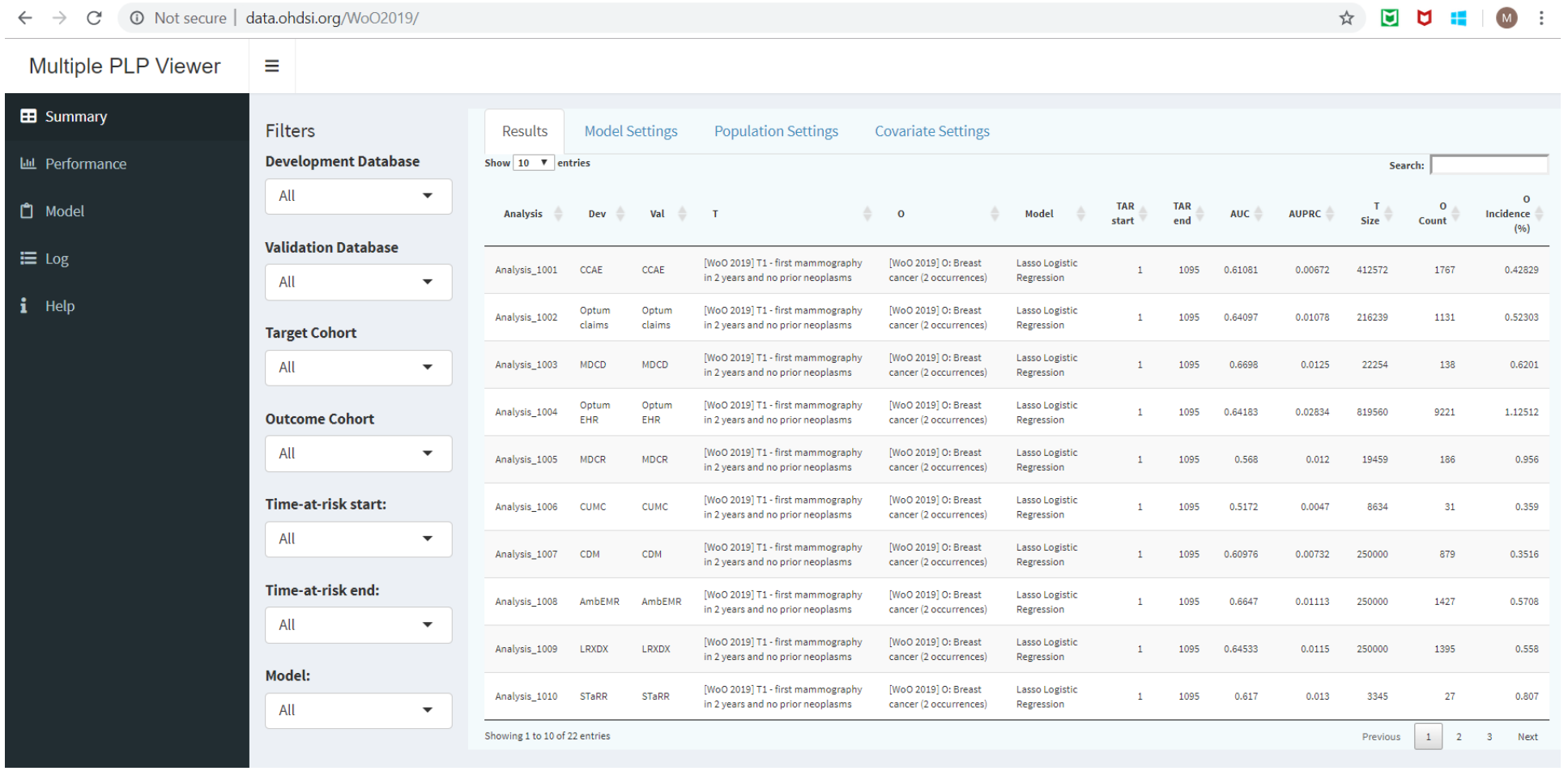
4) Run the code in codeToRun.R found here: https://github.com/OHDSI/StudyProtocols/blob/master/finalWoo/extras/CodeToRun.R

Then you will have a compressed folder with the results (sensitive data removed) that can be shared back to me (jreps@its.jnj.com). If you have any questions, send me an email.

I'm currently running this on 3 claims datasets and 1 EHR we have at JNJ. If you have lots of data it can take a day to run.

Best wishes,
Jenna

Gather results from the sites



http://data.ohdsi.org/WoO2019/

Create the paper (from Atlas)

Patient-Level Prediction:
Predicting breast cancer 90 days to 3 years after a mammography

Prepared on: 2019-08-08
Created by: ()

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Verify results and get IRB approval

Publish Paper!