How to build an OHDSI Study

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Put your idea in the Forums

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

<table>
<thead>
<tr>
<th>Projects Item</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Target (T)</td>
<td>Women aged 40-74 who are undergo a screening mammography who do not have prior breast cancer.</td>
</tr>
<tr>
<td>Outcome (O)</td>
<td>Individuals who develop breast cancer</td>
</tr>
<tr>
<td>Time at Risk (TAR)</td>
<td>90 days after index day to 1095 days after index day</td>
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</tbody>
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Study Protocol

- **Target Cohort**

  - Age between 40 and 74 years
  - Female
  - >=1095 days of observable time prior to index
  - No mammography in 700 days prior to index
  - No breast cancer all time prior and 90 days after index
  - No hormone antagonists all time prior and including index

  **Index Date**  **Cohort Exit**  **Procedure for screening mammography**
Study Protocol

- **Outcome Cohort**

  Health Data
  Member’s Observation Time

  Index Date • Cohort Exit • Diagnosis of breast cancer

  1 or more additional diagnosis of breast cancer 1 to all days after index
Build your cohorts
Put your code in github
Ask organizations to run your study

Your study is now live on GitHub!

Study Atlas Design: http://www.ehdsi.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/StudyProtocolsSandbox/finalWoo")
   
   ```

Then you will have a compressed folder with the results (sensitive data removed) that can be shared back to me (reps@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!