PatientLevelPrediction (PLP)

Purpose and 2023 OKRs

We aim to establish a standardized process for developing accurate and well-calibrated patient-centered predictive models

The main research focusses are:

- Do methods research into best practices for prediction model development
- Apply our data, tools and framework to develop new clinically useful prediction models or validate existing ones
- Run network studies for methods research and clinical model development

Next meeting: Wednesday 8th March @ 9am ET

Objective: We should meet f2f to help further collaboration

Key result:

Organise work group meetings at:

1. European OHDSI Symposium
2. OHDSI Global Symposium
3. OHDSI APAC Symposium

Objective: We want set of benchmark problems

Key Results:

1. Have a moment in every workgroup meeting to discuss potential models
2. Identify 5-10 prediction tasks of interest
3. Add existing prediction models for the tasks of interest into DELPHI to make benchmarking easy

Objective: We would like to investigate learning models for rare outcomes

Key Results

1. Perform large scale study creating learning curves for stacker ensembles on new data
2. Perform large scale study creating learning curves for transfer learning on new data
3. Publish a paper comparing local model fitting, stacker ensemble and transfer learning on new data with rare outcomes

Objective: We want to better understand external validation

Key results

1. Develop tools to estimate external validation performance
2. Develop tools to understand external validation performance

Objective: We want to be able to locally update models

Key Results

1. Provide methods within the package to update models locally
2. Compare local to general models in terms of performance
3. Publish a paper on a framework for updating models locally
4. Develop a process for monitoring in situ model performance

Objective: We want to be able to stratify PLP based on risk of outcome

Key results:

1. Add tools to be able to identify subgroups with different risks
2. Apply existing method for counterfactual deep learning as an OHDSI network study
3. Produce a paper looking at counterfactual prediction