The R program *make prediction for external data.R* predicts risk of three composite events: 1) probable dementia, amnestic MCI or death ("pd\_mci\_amnestic\_death") 2) probable dementia or death ( "pd\_death") and 3) probable dementia, protocol defined MCI, or death ( "pd\_mci\_protocol\_death") using models fitted using the SPRINT data. In this folder are all files needed to make prediction of risk on new data.

To do the prediction, users need to:

1. Prepare a dataset to make prediction on. The dataset needs to contain the variables listed in the file *variables needed for prediction.csv.*
2. Open the R program *make prediction for external data.R,* and make some modification in the first 10 lines as instructed by the comments in the R program and run it.

Notes:

1. The input data file needs to include the variables listed in *variables needed for prediction.csv.* Please make sure that IntensiveTrt should be coded as -0.5 for standard treatment and 0.5 for intensive treatment. An example dataset named *example data.csv* is provided as reference. If you want to calibrate baseline survival, the event and event time variables should also be included in the dataset.
2. *baseline survival.csv* :baseline survival estimated using SPRINT data
3. *beta on raw scale.csv:* regression coefficients.
4. Natural cubical spline terms of age and MOCA are included in the model*, coefficients for spline terms.csv* contains the coefficients to construct the spline terms.
5. *example data.csv*: is an example dataset for the user to use as a reference of the format of his input data and do a testing run.
6. Formulas.csv: formulas to calculate risk scores.