The current folder includes data and code for the Connect-Home Analysis in the article “Analysis of stepped-wedge cluster randomized trials: A tutorial using marginal models” by Turner et al.

For questions or comments about the code please contact Ying Zhang at [zying@live.unc.edu](mailto:zying@live.unc.edu).

List of folders, sub-folders and files:

1. Code
   1. R codes to generate pcgs for CH study
      1. ICCs and CIs obtained from GEE outputs.Rmd code to transform estimated correlation model parameters and standard errors (SEs) (i.e. those obtained in this analysis within SAS) to ICC parameters, and to obtain confidence intervals for those ICCs
      2. ICCs-and-CIs-obtained-from-GEE-outputs.pdf Corresponding pdf of the previous file
      3. simulate\_CH\_PCGS.R code to generate the simulated data set analyzed in Section 4.1 of the manuscript
      4. TutorialPaper\_CH\_GEN\_CONT.R code to generate correlated binary outcomes, which is called by the wrapper functions in the simulate\_CH\_PCGS.R file
      5. TutorialPaper\_CH\_MarginalMean plot.pdf plot generated using the code in following file
      6. TutorialPaper\_CH\_MarginalMean plot.R
   2. SAS codes for analysis
      1. CH GEEMAEE tutorial paper simulation data FisherZ.sas SAS code to perform all analyses of the simulated Connect-Home data
      2. MAEEV2.02.sas SAS macro used for all GEE/UEE and GEE/MAEE analyses of the simulated Connect-Home data
   3. R codes for analysis
      1. CH analysis.R R code to perform all analyses of the simulated Connect-Home data
2. Data
   1. ClusterPeriodSize\_CH\_Simulated\_PCGS.csv summary of cluster-period sizes used in Figure 2 of the main manuscript
   2. sample\_data\_PCGS\_tutorial\_paper\_ICC01.csv simulated data set obtained using R code named simulate\_CH\_PCGS.R
   3. Simulation generation steps for CH data in Tutorial paper.docx a narrative summary of the steps used for simulation of the Connect-Home data set
3. Results
   1. CH GEEMAEE tutorial paper simulation data FisherZ-results.html a summary of results presented in Table 4 and Web Table 1 for the Connect-Home analysis
   2. Connect\_Home\_estimated\_CP\_means\_preparedness\_simulateddata.png plot of cluster-period means of the PCS outcome
   3. Connect\_Home\_estimated\_ICCs transformered by correlation parameters under Fisher Z.docx summary of all ICCs and 95% confidence intervals (CIs) estimated using ICCs and 95% CIs obtained from GEE outputs.Rmd, which took output from the analysis performed using CH GEEMAEE tutorial paper simulation data FisherZ.sas

NOTE: Make sure the current working directory is the current folder before running each program.