**Group Project Guidelines: Interim Report**

Due November 21st on bCourses. Throughout, please use notation from 252D/E.

1. Background
   1. Brief introduction
      1. What is known about your question, what is knowledge gap you will aim to fill, why does it matter?
      2. In words, what is the scientific question you wish to ask?
   2. A basic description of your dataset (setting, design, population, variables)
2. Expanded write ups of roadmap through identification (building on what you turned in before, as needed or your project has evolved).
   1. Causal Model
      1. Explicitly define variables, time ordering/causal ordering
         1. If there is a question about this, point that out, and specify which ordering you will choose for primary analysis, as well as any sensitivity analyses to look at other options
      2. Exclusion restrictions?
      3. Independence assumptions?
      4. Knowledge on functional forms?
   2. Your proposed causal question.
      1. Translation of your statistical question into a counterfactual query
         1. It should involve an intervention on at least two variables, with at least one non-intervention variable between them
         2. Common examples
            1. Longitudinal exposures
            2. Right censoring
            3. Mediation
            4. Joint treatment effects
      2. Be sure to define
         1. Inclusion criteria for Analysis population
         2. Outcome
         3. Intervention nodes and interventions of interest
         4. Counterfactual outcomes of interest
         5. Target casual parameter
      3. See “For Your Project” questions from R lab 2
   3. Your observed data and link to causal model
      1. Please specify your observed data explicitly, and define all notation used to refer to variables
         1. In specifying your observed data, please make explicit the time ordering/causal ordering of your variables
   4. Identification result and estimand
      1. See “For Your Project” questions from R lab 3
      2. Be sure to explicitly state your identification assumptions
         1. Using notation learned in causal 2
      3. Discuss the plausibility of your assumptions
         1. Are their unmeasured confounders you ae worried about?
      4. Explicitly state your estimand using the longitudinal G comp formula (not copied, but as it applies to your project) ASK RENA ABOUT OPTIMAL MONITORING INTERVAL
3. Estimation
   1. Describe each estimator(s) you will use.
      1. What assumptions does it rely on?
      2. Also fine to contrast to “standard methods” – e.g., a single logistic regression. This can be interesting.
   2. Describe how you will implement your estimators.
      1. OK to use R packages.
      2. You do not have to implement every estimator learned in class
      3. State how you will estimate “nuisance parameters” g and/or Q
   3. See “For Your Project” questions from R lab 4 and R lab 6.
4. Preliminary results
   1. Simulation: See also “For Your Project” questions from R lab 1.
      1. Describe your simulation
         1. Priority is to capture basic structure of your example, rather than to match data structure exactly
      2. Provide preliminary results of applying your estimator(s) to your simulated data
         1. Metrics to report: bias, variance, MSE, 95% confidence interval coverage
   2. Data example
      1. Analysis sample
         1. # of observations (individuals) meeting inclusion criteria, reasons for exclusion
         2. Consider a flow diagram
      2. Descriptive
         1. # of individuals following each regime of interest
         2. basic descriptive stats for outcome (eg if binary, how many events)
         3. “Table 1” descriptive (univariate) sample characteristics
            1. possibly stratified by outcome (if binary)
      3. Estimators
         1. Ultimately, point estimates and confidence intervals for each estimator you applied
         2. Good practice to also report unadjusted associations
         3. Briefly interpret estimate values – tie back to original scientific/causal question