

# Day 4, Practical 1

Helene Charlotte Wiese Rytgaard

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This practical consists of understanding the study and the results of ?. You should read the items listed below in Section 1 and write up your responses.

## 1 Questions for ?

1. What is the overall research question considered in the paper?
2. What are the observed variables? How many longitudinal time-points are there and how are they defined?
  - e.g., what do  $A_t$ ,  $Z_t$  and  $Y_t$  measure?
3. Which variables affect each other? Are there any time-dependent confounders?
4. What are the hypothetical regimes that are considered? Static regimes? Dynamic? What are the corresponding causal parameters?
5. Go over the stated causal assumptions required to identify the causal parameters. Is positivity equally likely to hold for all regimes/strategies considered?
6. Results: The authors consider a 'naive' approach, an IPW estimator, a g-formula estimator and a TMLE estimator. What results do they find with each method (see Figure 1 of the paper)? How do they differ in terms of bias and variance?