

# Impute using MICE for precision.

# Impute using J2R to be conservative.

# Leverage open source tools to co-create and cascade.

# Managing dropout in mHealth interventions

Vinayak Anand Kumar 

Luisa Korte<sup>1</sup> Claas Oltmann<sup>2</sup> Prof. Dr. Margrit Schreier<sup>1</sup> Prof. Dr. Sonia Lippe<sup>1</sup>

<sup>1</sup>School of Business, Social & Decision Sciences / Constructor University  
Bremen / apprevent GmbH

## Introduction

The purpose of the study was to compare approaches and provide recommendations for managing dropouts in the evaluation of mHealth interventions targeting physical activity (PA), sedentary behaviour (SB) and selfcare in patients following cardiovascular rehabilitation. Participant's drop out between measurement time points is an issue that most studies face. Using work carried out to manage dropouts in a digital health tool, this study addresses the research question "what is the relative accuracy and precision of imputation strategies when evaluating effectiveness of digital health tools"?

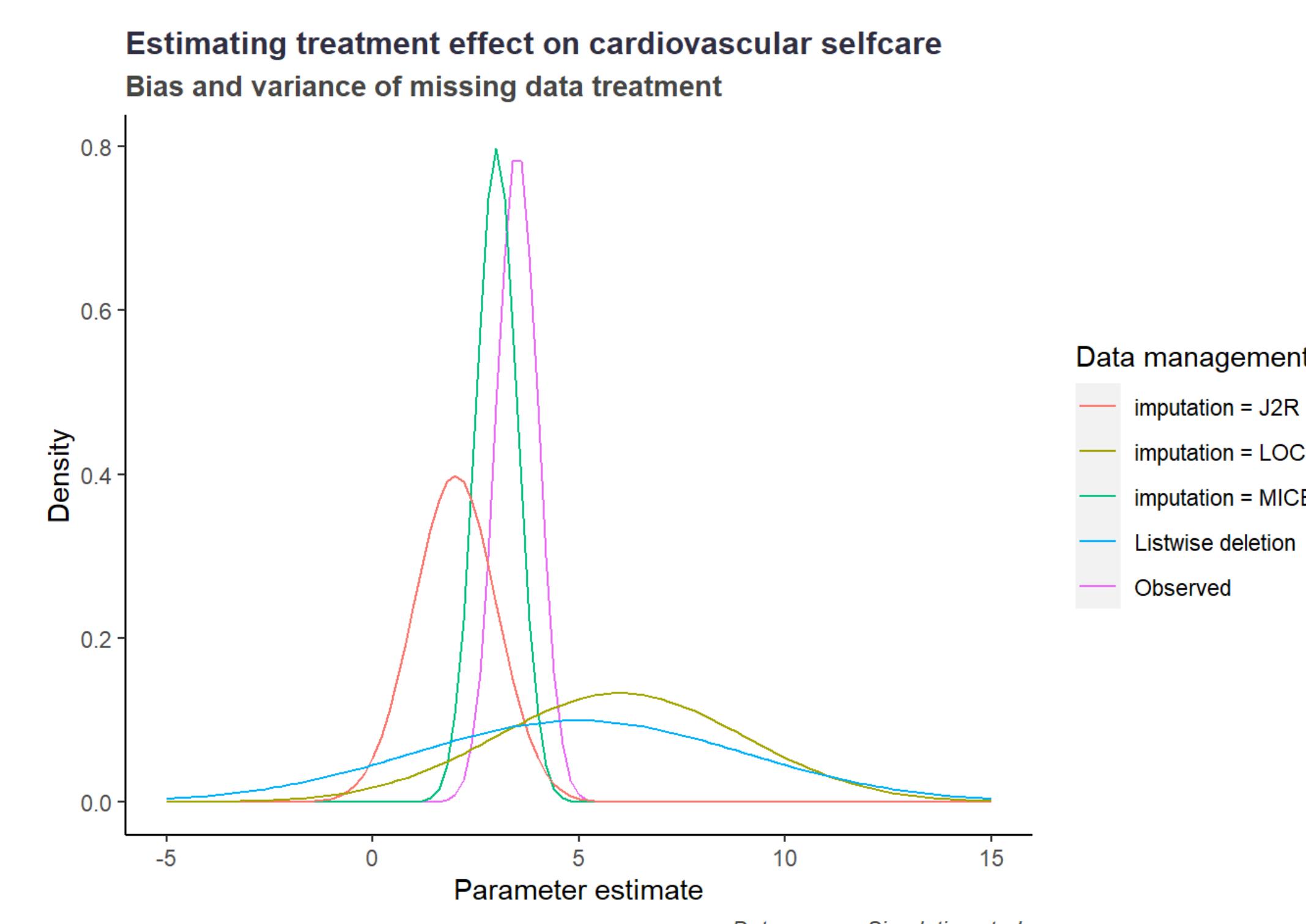
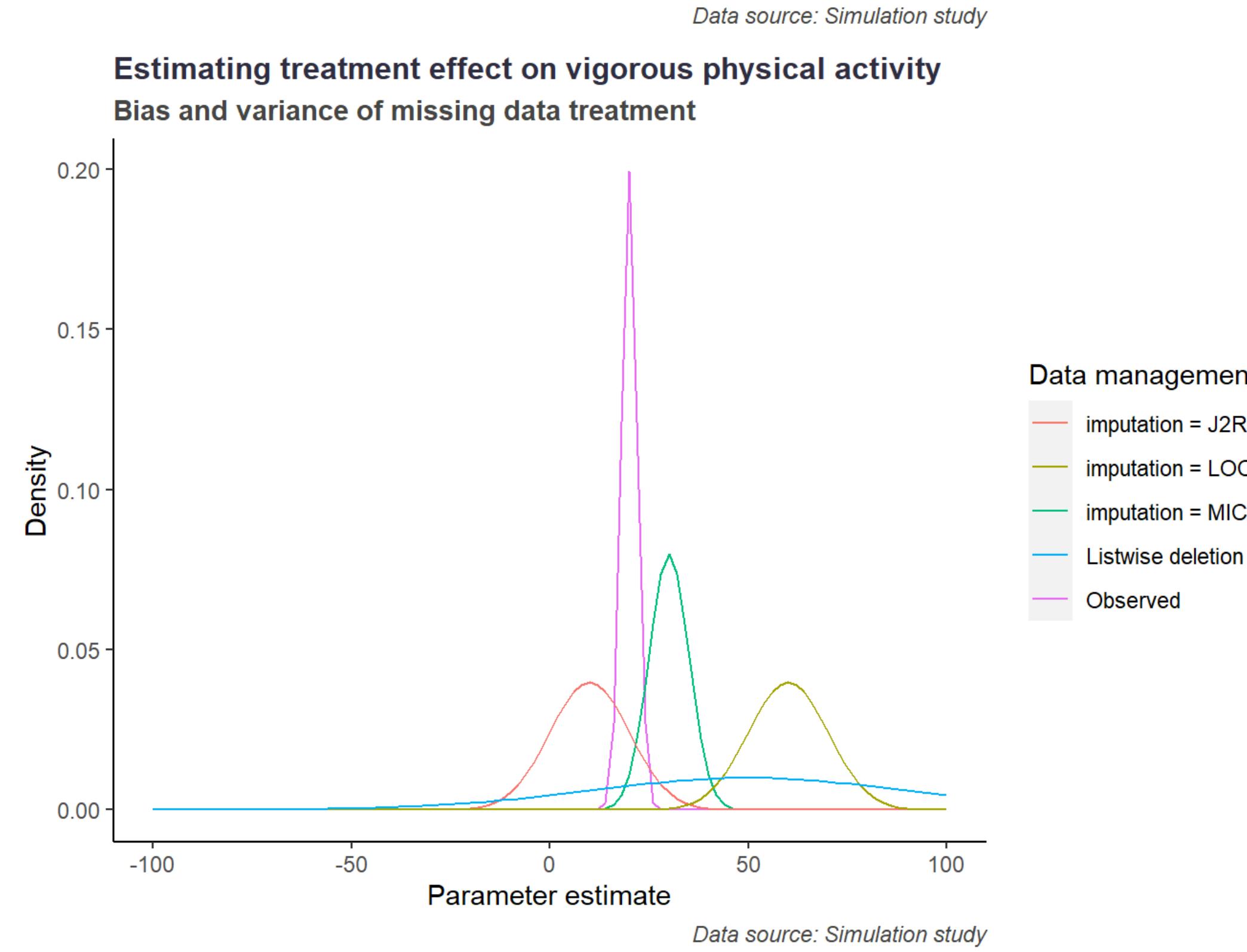
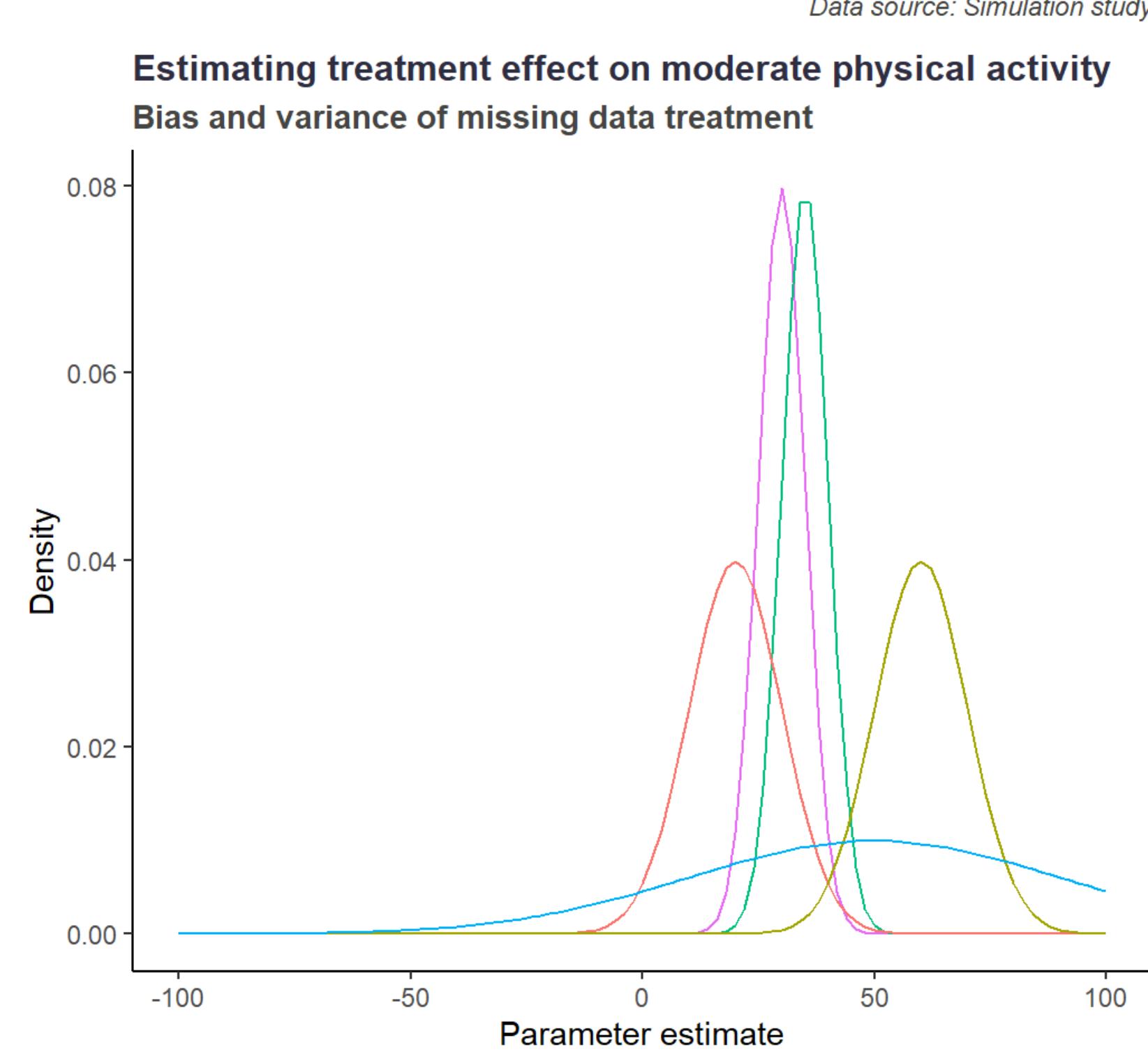
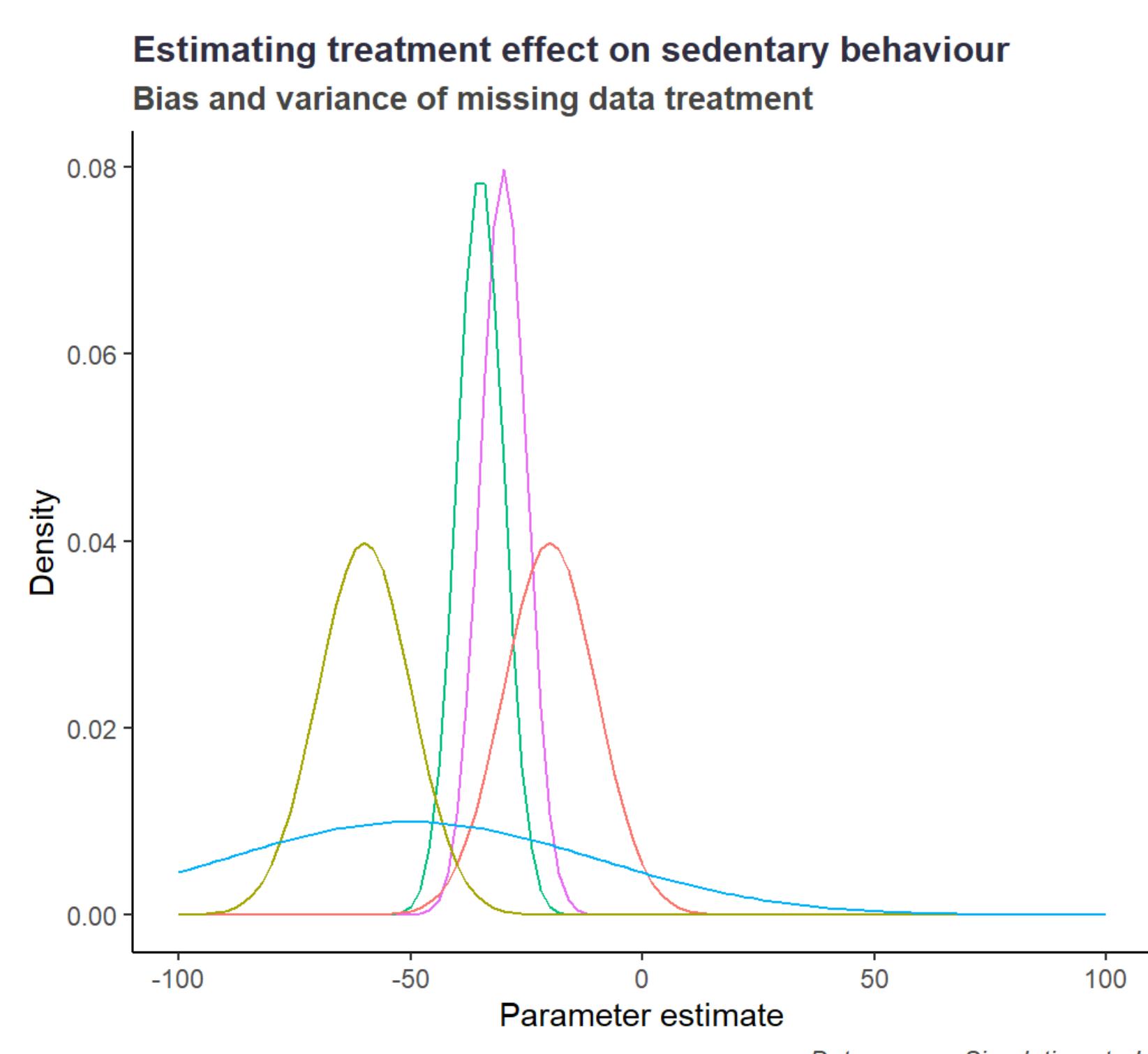
## Methods & Results

Comparing the impact of the following data management strategies on estimating the treatment effect on key outcome variables in a digital health tool:

- i. Multiple Imputation Using Chained Equations (MICE)
- ii. Jump to Reference Imputation (J2R)
- iii. Last Observation Carried Forward (LOCF)
- iv. Listwise deletion

Scan the QR code for:

- Detailed outline of the methods
- Code used to carry out the simulation study
- Code used to generate the poster
- List of references



## Application

### Co-create



### Cascade



Health CASCADE is a Marie Skłodowska-Curie Innovative Training Network funded by the European Union's Horizon 2020 research and innovation programme under Marie Skłodowska-Curie grant agreement n° 956501

