



## Imputation of Incomplete Multilevel Data with **mice**

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### Abstract

Tutorial paper on imputing incomplete multilevel data with **mice**. Including methods for ignorable and non-ignorable missingness. AKA missing on so many levels.

*Keywords:* missing data, multilevel, clustering, R.

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## 1. Outline door Thomas

- Waarom zijn standaard (ad hoc) methoden niet geschikt?
- Wat is heterogeniteit? (i.e. variability binnen studies vs. variability tussen studies). Random effects voor intercept term, predictor effects, en/of variance residual error
- JOMO aanpak (misschien buiten beschouwing laten?)
- MICE aanpak: one-stage imputation versus two-stage imputation methods
- Imputatie van studie-level versus patient-level covariates
- Omgaan met MNAR

## 2. References

- <https://onlinelibrary.wiley.com/doi/abs/10.1002/9781119333784.ch18>
- [https://www.gerkovink.com/miceVignettes/Multi\\_level/Multi\\_level\\_data.html](https://www.gerkovink.com/miceVignettes/Multi_level/Multi_level_data.html)

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