# Investigating The Contribution of Residual Unexplained Variability Components in NLME Approach

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# Clinical trial simulation is gaining much attention in this decade

Clinical trials are going toward simulation to reduce cost and making space for predictive models.



MM. Jaber & RC. Brundage 2021

# Two levels of random effects in NLME approach: Between-subject and Residual-unexplained variability

$$\eta_i \sim \mathcal{N}(0, \omega^2) \quad (1)$$

$$\epsilon_i \sim \mathcal{N}(0, \sigma^2) \quad (2)$$

# Residuals are the left-over from the modeling cake



MM. Jaber & RC. Brundage 2021