

Randomized control tests (RCT) are the gold standard in clinical trials

Many patients get an inferior treatment.

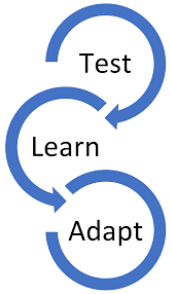


GOALS

- Save lives and improve positive outcomes with day-to-day adaptations in patient assignment to arms.
- Evaluate strengths and weaknesses when there are delayed endpoints.



What if two large trials (GUSTO-1 and EUROPA) had been adapted in real time?



Reanalyze trials using real-time adaptive randomization (RTAR) of clinical trials.

- day-to-day adaptation
- delayed outcomes
- patient beneficence
- statistical properties



- RTARs save lives and reduce adverse events
- no increase in false positives
- learn superior treatment with tighter CIs
- some statistical measures improve; others are worse
- variants finetune tradeoffs
- RTARs adapt to some changes in outcome rates



RSM Erasmus University · MIT Management Sloan School · Erasmus MC

Liberali, Boersma, Lingsma, Brugts, Dippel, Jan Tijssene, Hauser, 2024

JCE Journal of Clinical Epidemiology