Optimizing Just-In-Time Adaptive Interventions for Mobile Health

Smart wt loss

JOOLHEALTH

Bari-Fit

HeartSteps

SARA

Pedja Klasnja

&

Susan A Murphy

Sense²Stop

MD2K
Center of Excellence for
Mobile Sensor
Data-to-Knowledge

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The Methodology Center
advancing methods, improving health

Learning Goals

Be able to

- give an example of a JITAI and an MRT
- know the difference between a JITAI and an MRT
- discuss the parts of a JITAI and an MRT
- think about whether a JITAI might be useful in your area
- know the difference between an MRT and a randomized clinical trial
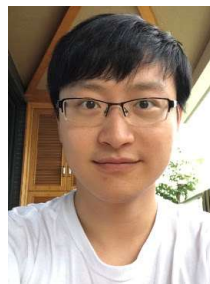- critique the utility of an MRT for your research

The Team

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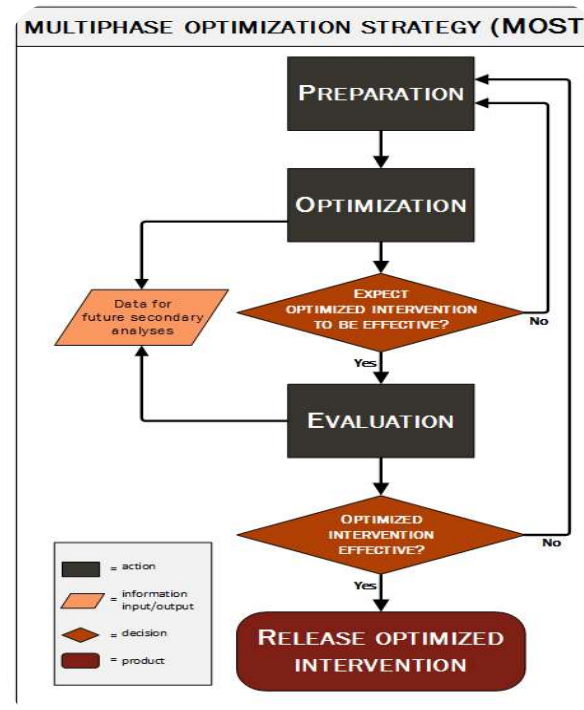
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Intervention Optimization

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Goal of Optimization Studies

- Gather empirical evidence that can inform decisions about how to improve the design of an intervention
  - Success defined via a set of optimization criteria
  - Optimization criteria usually include both efficacy/effectiveness and constraints (cost, burden, duration, etc.)

- Optimization studies are <u>not</u> intended to evaluate an intervention in its current form

Optimization via Factorial Experiments

- Goal: Collect data that can inform <u>selection of intervention components</u> to include in the intervention package from a set of options under considerations

- This achieved by examining…
  - Main effects of individual components
  - 2-way interactions between components
  - Moderation by baseline factors (e.g., sex)

Optimization via MRTs

- Goals:
  - Select push intervention components to include in the intervention package from a set of components under considerations
  - Determine decision rules for push components that are kept
  - Select the design of the push components

- MRTs can help optimize both an intervention package (by choosing components) and individual components (by refining decision rules and component design)

- How? That's what this workshop is about!

Please reorganize to sit with your Group!

Group membership is on your handout. If your name does not appear please join a group!