



Mobile Health Intervention Optimization

Abstract

Mobile devices along with wearable sensors facilitate our ability to deliver supportive behavioral treatments to users anytime and anywhere. These treatments can include a wide variety of content such as cognitive, behavioral, social and motivational support. These interventions are being developed and employed across a variety of health fields, including to improve medication adherence, encourage physical activity and healthier eating as well as to support recovery in addictions. Critical questions in the optimization of mobile health interventions include: “Which type of mobile health notification or text message is most beneficial?” and “Does the individual’s current context such as location, time, mood impact the usefulness of the mobile health notification?” In this talk we discuss the micro-randomized trial design and associated data analyses for use in optimizing mobile health interventions. We illustrate this approach with the micro-randomized trial of HeartSteps, a physical activity mobile intervention.



SUSAN MURPHY
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Biography

Susan Murphy is Professor of Statistics at Harvard University, Radcliffe Alumnae Professor at the Radcliffe Institute, Harvard University, and Professor of Computer Science at the Harvard John A. Paulson School of Engineering and Applied Sciences. Her current research interests concern clinical trial design and the development of data analytic methods for informing multi-stage decision making in health, particularly in mobile health. She is a 2013 MacArthur Fellow, a member of the National Academy of Sciences and the National Academy of Medicine, both of the US National Academies. She is currently president of the Bernoulli Society and incoming president of the Institute for Mathematical Statistics.

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