



**Society for Prevention Research  
30<sup>th</sup> Annual Meeting**

**Pre-Conference Workshop II**

**Date:** Tuesday, May 31, 2022  
**Time:** 8:30 am – 5:30 pm  
**Title:** Making the #MOST of Implementation Science  
**Presenter:** Kate Guastaferrero, PhD MPH  
Pennsylvania State University

**Purpose of the workshop:**

To increase uptake of effective behavioral interventions, there has been a call for optimizing our, often costly and burdensome, multicomponent interventions in recent years. One framework for doing this is the multiphase optimization strategy (MOST), an innovative, engineering-inspired framework which emphasizes careful management of research resources and ongoing improvement of a product. The goal of MOST is to empirically identify an intervention that strategically balances effectiveness with affordability, scalability, and efficiency via an optimization trial, a highly rigorous experiment. But an effective intervention is only as good as its implementation and dissemination strategy. What if we used MOST to optimize aspects of implementation science?

This workshop will provide a general introduction to MOST, with a specific focus on how we might apply MOST to address implementation science related issues. We will use the three phases of MOST to frame the substantive elements of the workshop and do individual activities to reinforce skills taught. For example, in the preparation phase of MOST, we will discuss how to create a good conceptual model, how to use the conceptual model effectively throughout grant proposals, and reasons for publishing a conceptual model. Attendees will be encouraged to design their own conceptual model and discuss with a small group. In the optimization phase, we will discuss the importance of selecting the right experimental design, with a focus on the factorial experiment. In this section, we will demonstrate practical tools for randomization and management of experimental conditions, analysis of factorial data, and practice decision-making with artificial data. Finally, we will discuss the evaluation phase and considerations for trial design, including when to conduct a classical randomized controlled trial and when other innovative designs (e.g., stepped wedge) may be appropriate. Ample time will be allotted for open discussion and individualized feedback.

**Target workshop audience:** This workshop is designed for intervention scientists who may be new to MOST and/or those who may be interested in optimizing the implementation of interventions.

**Materials to be provided:** Attendees will receive a copy of all slide materials and a list of relevant readings.

**Outline of presentation:**

- I. General overview of MOST
- II. How MOST can advance the field of implementation science (Drawing heavily from recently published paper in Implementation and Research Practice)
- III. Preparation Phase
  - a. Activity in conceptual model
- IV. Optimization Phase
  - a. Activity designing an optimization trial (e.g., factorial experiment)
- V. Evaluation Phase
- VI. Grant writing and practicalities
- VII. Open Discussion

**Relevance to conference themes:** The intersection of optimization and implementation science fits the conference theme in a few aspects, but perhaps most importantly the use of MOST to optimize the implementation of effective interventions is a new take on optimization. In addition, we'll talk about the use of alternative, innovative designs to evaluate an optimized intervention.

**Presenter:**

Kate Guastaferrero, Ph.D. is an Assistant Research Professor in the Center for Healthy Children, and an affiliate of the [Child Maltreatment Solutions Network](#) as well as the [Edna Bennett Pierce Prevention Research Center](#), at The Pennsylvania State University. Kate's program of research sits at the intersection of prevention science and innovative methods.

Kate is committed to the prevention of child maltreatment. Her focus during her time at Penn State has focused predominantly on the prevention of child sexual abuse. Kate led the development of a parent-focused child sexual abuse prevention module designed to be added to existing evidence-based programs. She also collaborates with [Dr. Jennie Noll](#) on the implementation and evaluation of a state-wide [child sexual abuse prevention strategy](#).

She is also interested in innovative methods for intervention development, optimization, and evaluation. She is an expert in the [multiphase optimization strategy \(MOST\)](#), an engineering inspired framework for building interventions that are effective, efficient, economical, and scalable. Kate has experience applying MOST to a variety of public health problems, including STI prevention among first year college students.

Kate received her PhD in Public Health from Georgia State University in 2016, receiving the Public Health Achievement Award recognizing her scholarship and academic success. She completed her undergraduate work at Boston University in 2008 and received her MPH from Georgia State in 2011. Kate's vision is to integrate her substantive and methodological interests to develop, optimize, evaluate,

and disseminate child maltreatment prevention programs that are effective, efficient, economical, and scalable.

Kate's full CV can be downloaded [here](#).