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Achieving intervention *EASE* with the multiphase optimization strategy (MOST)

Multicomponent behavioral and biobehavioral interventions are used widely for prevention and treatment of health problems and promotion of health and educational achievement. These interventions have typically been developed and evaluated within the classical treatment package paradigm, in which the intervention is assembled a priori and evaluated by means of a two-group evaluation randomized control trial (ERCT).

In this presentation, Linda will briefly introduce an alternative paradigm for developing, optimizing, and evaluating behavioral and biobehavioral interventions. This paradigm, called the multiphase optimization strategy (MOST), integrates ideas from behavioral science, engineering, multivariate statistics, health economics, and decision science.

MOST enables the investigator to select intervention components so as to balance intervention effectiveness, affordability, scalability, and efficiency strategically to achieve intervention *EASE.* Guiding the selection of components is the investigator's optimization objective, which may be any reasonable goal, such as identifying the combination of components that offers the best expected outcome achievable without exceeding a specified upper limit on implementation cost or time.

MOST relies heavily on carefully designed optimization RCTs (ORCTs) that are efficient for the purpose of assessing the performance of individual intervention components. Recent advances include an approach to identifying value-efficient interventions. Linda proposes that MOST offers several benefits, including more rapid long-run improvement of interventions, without requiring a dramatic increase in research resources.