

Increasing the impact of e/mhealth interventions: The multiphase optimization strategy (MOST)

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In this presentation I will propose that the impact of multicomponent e/mhealth interventions can be increased by taking a different approach to intervention development and evaluation. Typically, interventions have been developed and evaluated using the classical treatment package approach, in which the intervention is assembled a priori and evaluated by means of a two-group randomized controlled trial (RCT). I will describe an alternative framework called the multiphase optimization strategy (MOST). MOST is a principled approach that has been inspired by ideas from engineering. It includes the RCT for intervention evaluation, but also includes other steps before the RCT aimed at intervention optimization. This optimization is based on empirical information obtained via experimentation, using designs carefully chosen to make the best use of available research resources. Using MOST, an intervention can be optimized based on a criterion chosen by the intervention scientist. The criterion may specify that the goal is an intervention made up exclusively of components with detectable effects; the most effective intervention that can be obtained while requiring no more than, say, one hour of participant time; or any other reasonable goal. I propose that MOST offers several long-range benefits. These include development of a coherent base of scientific knowledge about what works, and steady cumulative improvement of e/mhealth interventions.