

# Design of clustered sequential multiple assignment randomized trial (cSMART)

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## Abstract

In behavioral intervention research, group/community based clinical trials are quite common. In recent times, sequential multiple assignment randomized trials (SMART) are being used to develop optimal treatment strategies for patients based on their medical history. In this work, we design clustered SMART (cSMART) for group/community based intervention. Assuming the outcome variable is continuous and introducing intra-class correlation, the sample size formula for cSMART has been derived. A simulation study shows estimated power corresponding to the derived sample size formulae.

**Key words:** Intra-class correlation, SMART design, sample size, clustered data.

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