

# TAILORED RAPID INTERACTIVE MOBILE MESSAGING (TRIMM) FOR WEIGHT MANAGEMENT AMONG UNDERSERVED ADULTS

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## ABSTRACT

**BACKGROUND** While obesity continues to escalate as an important clinical and public health problem, it remains a challenge for physicians to help obese patients lose weight. Most existing therapeutic options are limited in impact due to cost and accessibility.

**PURPOSE** Our purpose was to develop a cost-effective, proven, and scalable obesity intervention that can be deployed as a sustainable treatment option for obesity.

**METHODS** We designed TRIMM as an automated, 6-month text message program that tailored itself in two main ways to offer individualized interaction and content for weight control. First, we targeted relevant behaviors at the opportune times by personalizing the program to each individual's weight control challenges and daily routine. Second, we engaged participants with daily interactive messages that asked participants a question regarding their weight, motivation level, or health behavior. Upon receiving a participant's response, we delivered finely-tailored feedback automatically, promoting accountability and self-monitoring.

The study is a two-arm randomized controlled trial of 118 overweight or obese adults recruited from inner city Baltimore churches. With the control group, we aimed to capture the standard care for an obese patient. Participants in this group received an initial clinic assessment and follow-up at months 3, 6, and 12 at the Johns Hopkins Weight Management Center. The intervention group received daily TRIMM text messages in addition to standard care.

**RESULTS** We have captured our primary outcome data, 6-month weight loss, and we'll share our preliminary analyses here. Complete case analysis (42% of participants) indicates that the TRIMM group achieved more weight loss than the standard care group (8.0 lb vs 1.3 lb,  $p < 0.03$ ). The TRIMM group also achieved greater percent body weight loss (3.7% vs 0.6%,  $p < 0.02$ ). Participant engagement with TRIMM, as measured by the percentage of days in which a participant responded to the daily interactive messages, averaged at about 60%. Each additional percentage of engagement predicted about an additional 0.25 lb weight loss at 6 months. Participant satisfaction with the 6-month TRIMM program averaged at 4.4 on a 5-point scale. Final results from this study will be available early spring 2013.

**CONCLUSIONS** Our small pilot study has limitations. The duration of the TRIMM program was only 6 months, and our study population was recruited exclusively from Baltimore churches. While 80% of participants returned for the intended 6-month follow-up, this trial had low rates of follow-up occurring within our protocol defined 6-month window due to challenges in scheduling of the follow-up visits during clinic hours and participants' transportation to the clinic; this resulted in an underpowered study. For those participants who returned for their 6-month follow-up visit on time, our entirely automated program (that requires no personnel efforts beyond enrollment) resulted in significantly more weight loss when added to standard care. And, we observed encouragingly high levels of participant engagement and satisfaction with TRIMM. These results suggest that TRIMM can help some fraction of overweight and obese individuals lose weight. TRIMM's low cost ( $< \$1/\text{week}$  for an individual), scalability, and reach (no smartphone required) further supports its potential as a tool in the battle against obesity.

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The authors conduct research at the Johns Hopkins Weight Management Center.

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