

Texting 4 Wt Mangmnt: Results of the mDIET Study

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Overview

- Purpose of mDIET*
- Study Design & Intervention Details
- SMS and MMS Programming
- Results
- Next Steps...

* mobile Dietary Intervention Through Electronic Technology

Purpose of mDIET

Develop and evaluate in a randomized controlled trial an SMS/MMS mobile phone application (mDIET) that can be used as an intervention tool to improve dietary behaviors in overweight and moderately obese men and women age 25 through 55 years.

Study Design

Focus Groups: 2 focus groups to determine the appropriateness of the proposed study activities. (*\$50 incentive*)

Randomized Controlled Trial:

Participants were randomized to either an Intervention (mDIET) or Control group:

mDIET

- Weight loss program using text and MMS messages along with modest amount of adjunctive intervention elements

Control

- Usual care

Participants completed 3 in-office measurement visits over a 4 month period (*\$35 – 1st and 2nd visit; \$55 for final visit; \$10 per month for text message plan for mDIET group*)

mDIET Intervention Components

- **Daily Text & Picture Messages**
 - Participant could choose the # of messages to receive & times to receive the messages(2-5 messages per day)
 - Daily messages are statements or questions
 - **Printed Materials for recommended weekly reading**
 - Behavioral Skills, Nutrition, and PA topics (e.g. *Self-monitoring, Portion Control, Routine Physical Activity*) First half provided in Binder at baseline; Second half provided at mid-point measurement visit
 - **Monthly Brief Counseling Calls (5-15 minutes)**
 - Progress and counseling calls from their Health Coach addressing strategies, social support, problem solving, etc.
 - **Goals**
 - Daily 500 calorie deficit (through calorie reduction and an increase in calories burned)
 - **Self-Monitoring**
 - Weekly weigh in (text weight) and daily food & exercise journal
- Control group received monthly educational materials on nutrition & physical activity.*

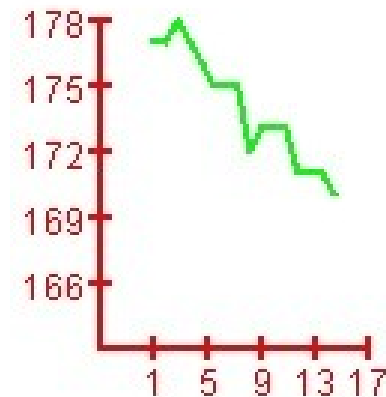
MMS used for Images and Graphs



Add a variety of colorful vegetable to your shopping list this week. Choose green, red, orange and yellow veggies.



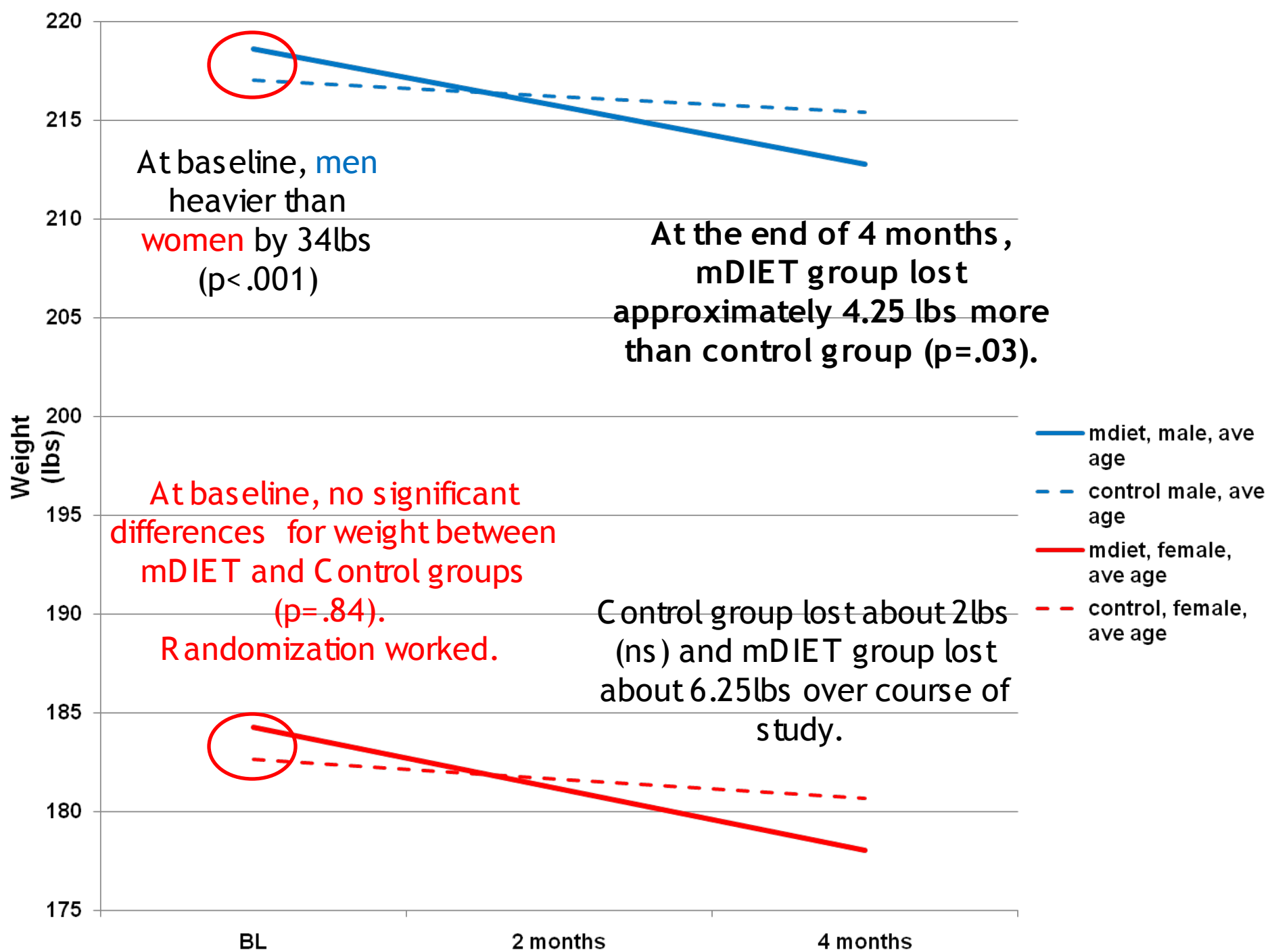
A one-cup serving size is about the size of a tennis or baseball.



Nice progress. You're on your way to reaching your goal. It will take time, but you have the motivation to succeed.

Study Sample Characteristics

- Sample N = 63
- 81% Women
- Mean age 45.9 years
 - Women ranged 26 – 55 yrs.
 - Men ranged 33 – 55 yrs.
- Race/Ethnicity
 - 76.2% Caucasian or White
 - 15.9% African American or Black
 - 3.2% Asian American/Pacific Islander/Native Hawaiian
 - 4.8% Prefer not to state
 - 22.2% Hispanic/Latino(a)



Random Coefficients Regression

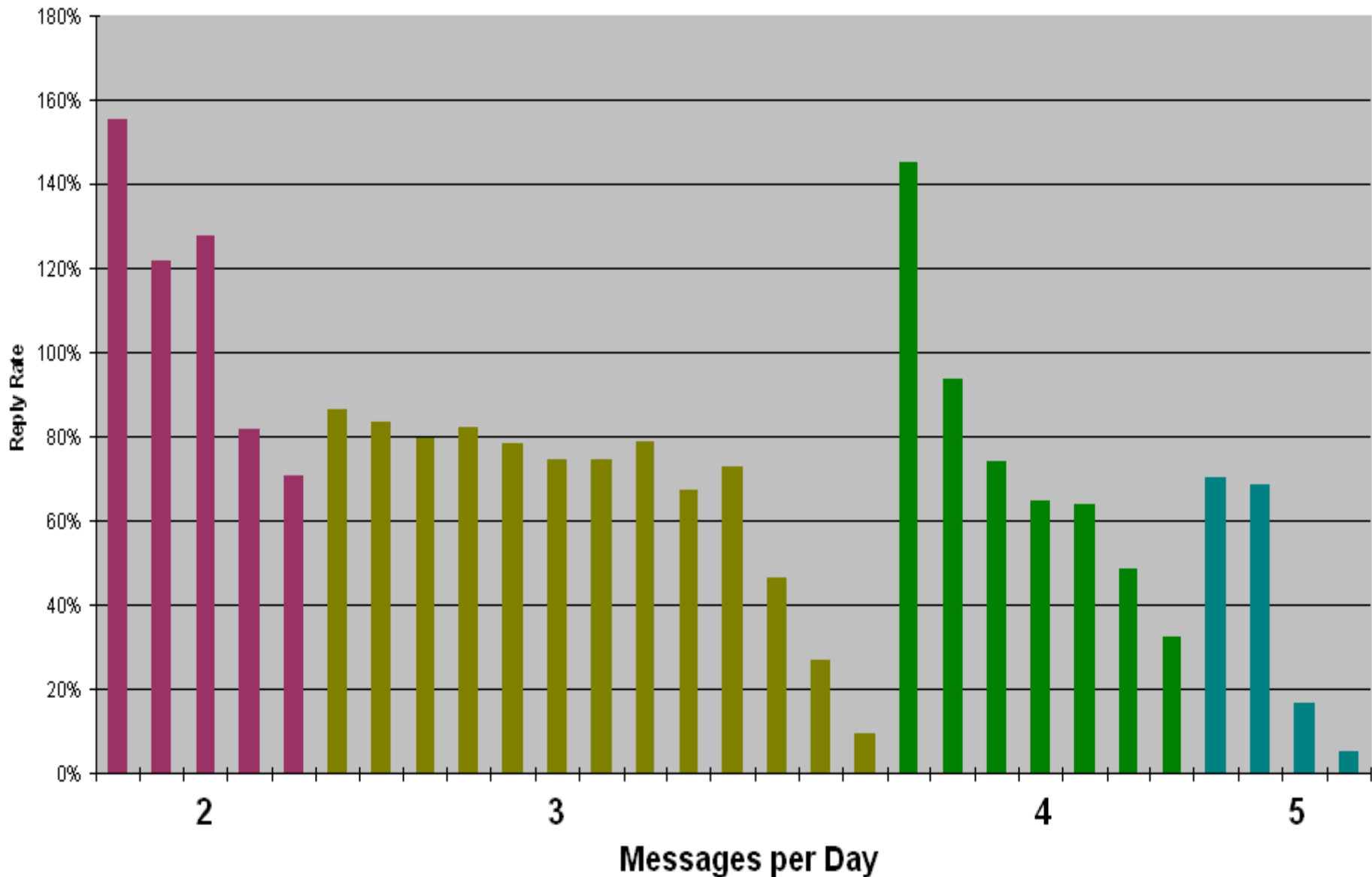
Fixed Effects		Parameter	Model		
			Coefficient	SE	p-value
<i>Initial status</i>	Intercept	γ_{00}	182.65	4.73	<.001
	Group	γ_{01}	1.60	6.71	0.814
	Sex	γ_{02}	34.36	8.01	0.001
	Age	γ_{03}	-0.99	0.44	0.037
<i>Rate of Change</i>	Intercept	γ_{10}	-1.00	0.59	0.121
	Group	γ_{11}	-2.11	0.83	0.028
	Sex	γ_{12}	0.19	0.97	0.847
	Age	γ_{13}	0.04	0.06	0.496

Participant Feedback on the mDIET Text Messages

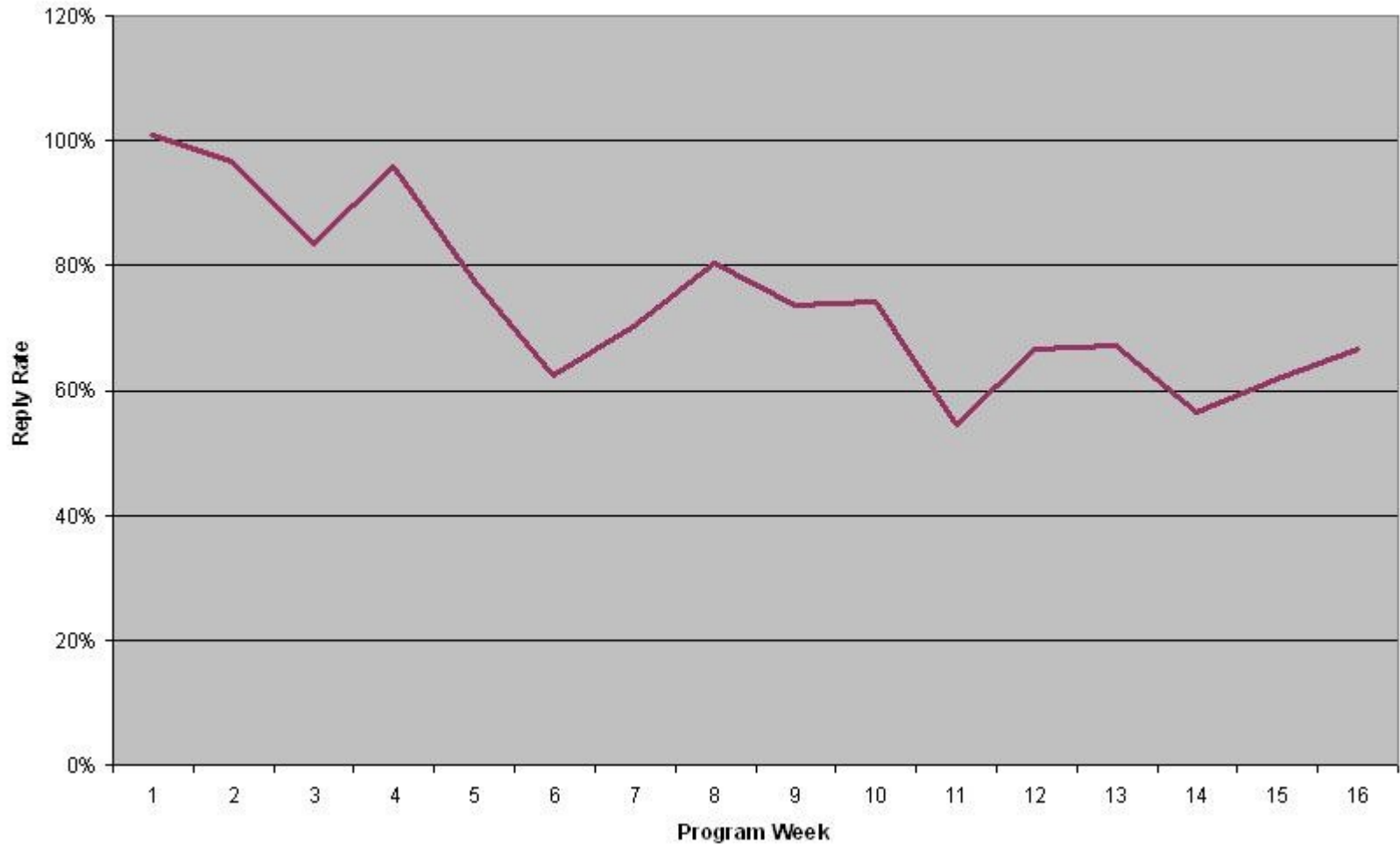
- “Steady reminder – keeping health on my mind”
- “Felt commitment every day – could not let myself forget my goals”
- “They served as an excellent reminder to watch what I ate”
- “Keeps me focused”
- “Constant reminders to believe in myself and make the right choices”
- “I found that texting your weight every week was extremely helpful”
- “I miss my 6am message!”

Overall satisfaction with mDIET program for weight loss *95.6% of participants would recommend mDIET to friends/family*

Reply Rate by User



Reply Rate over Time



mDIET dynamically adjusts the number of questions to the user's reply rate. Only one question is pending for every 24 hours.

Population-level impact?

- 217 million adults in US, two thirds are overweight/obese: 143 million
4.25 pounds lost/person = 608 million lbs.

= weight of 70,698 Hummer H2s (@ 8600 lbs. each)

or



225,185 Mini Coopers (@ 2700 lbs. each)



Next Steps...

- Latino mDIET
 - Culturally tailored mDIET system
 - 2 Focus Groups
 - Feasibility Study (n=20)
- Continue to explore the use of SMS & MMS for weight loss intervention including theoretical basis and exploration of separate & combined effects of SMS/MMS and other intervention components

Questions?