

# Facebook is a useful recruitment strategy for a randomized clinical trial of a lifestyle approach to reverse Metabolic Syndrome



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## Background

**Enhanced Lifestyles for Metabolic Syndrome (ELM)** is a multi-site, randomized controlled clinical trial with the aim of reversing metabolic syndrome (MetS). MetS is diagnosed when at least 3 of the following 5 risk factors are present: High blood pressure, high blood sugar, high triglycerides, a large waistline, and low HDL cholesterol. MetS treatments suggest that lifestyle changes can reverse the diagnosis, however the best specific protocol has not been established. Therefore, over a period of 2 years, biomedical and behavioral outcomes from an intensive, group-based intervention will be compared to those from an enhanced standard of care approach in persons with a MetS diagnosis. The select medical requirements of the sample prompt attention to non-traditional recruitment methods.

## Purpose

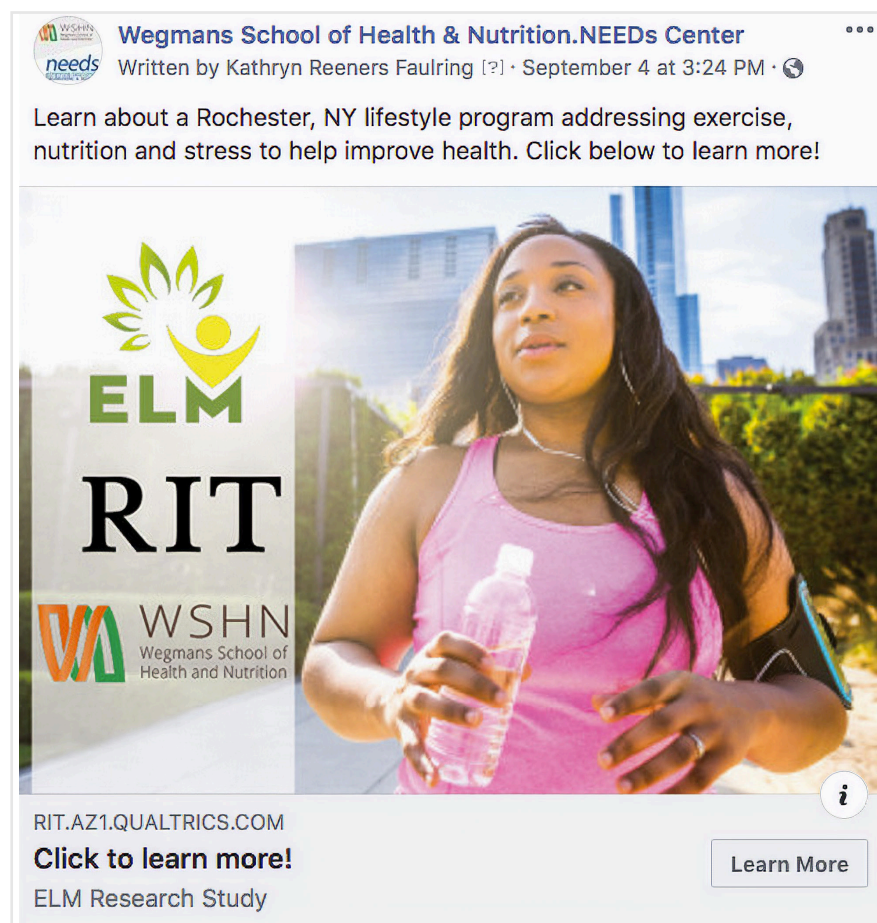
The purpose of this project was to investigate the efficiency and cost effectiveness of a Facebook (FB) ad campaign to recruit persons with MetS to participate in a telephone screening protocol to examine eligibility for the ELM study.

## Methodology

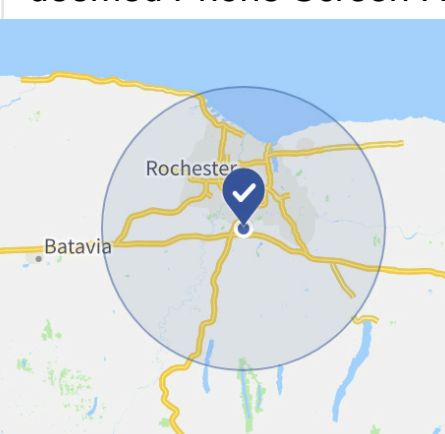
### Data Collection

A Facebook ad campaign, 14 days in length, was developed utilizing the ELM inclusion and exclusion criteria and Facebook guidelines. The geographic region for the ad was a 20 mile radius around Henrietta, NY. The ad was posted in English. The Facebook ad utilized 11 key phrases to drive page impressions:

- Cholesterol
- Stress management
- Obesityhelp.com
- About stress management
- Body fat percentage
- Management of hypertension
- Blood pressure
- Fitness and wellness
- NutritionFacts.org
- Weight loss (fitness and wellness)
- American Society of Metabolic and Bariatric Surgery



The Facebook ad included a link to a survey using the Qualtrics platform (Provo, UT) for persons interested in learning more. Respondents to the survey were siphoned from the survey as soon as they failed an eligibility criterion. Eligible persons who indicated further study interest were considered Phone Screen Eligible. Those who then provided details and consented to be contacted for subsequent phone screening were deemed Phone Screen Ready.



The study was reviewed and approved by the Human Subjects Review Board of the Rochester Institute of Technology.

Images. Facebook ad; map displaying 20 mile FB ad target area around Henrietta, NY.

## Methodology (continued)

### Data Analysis

Survey data were captured in the Qualtrics platform. Phone screen eligibility and phone screen readiness frequencies were compared to Facebook campaign performance metrics of reach, impressions, and clicks as well as the demographics and costing reports. Results were analyzed and framed using the **CHERRIES (Checklist for Reporting Results of Internet E-Surveys) System<sup>1</sup>**.

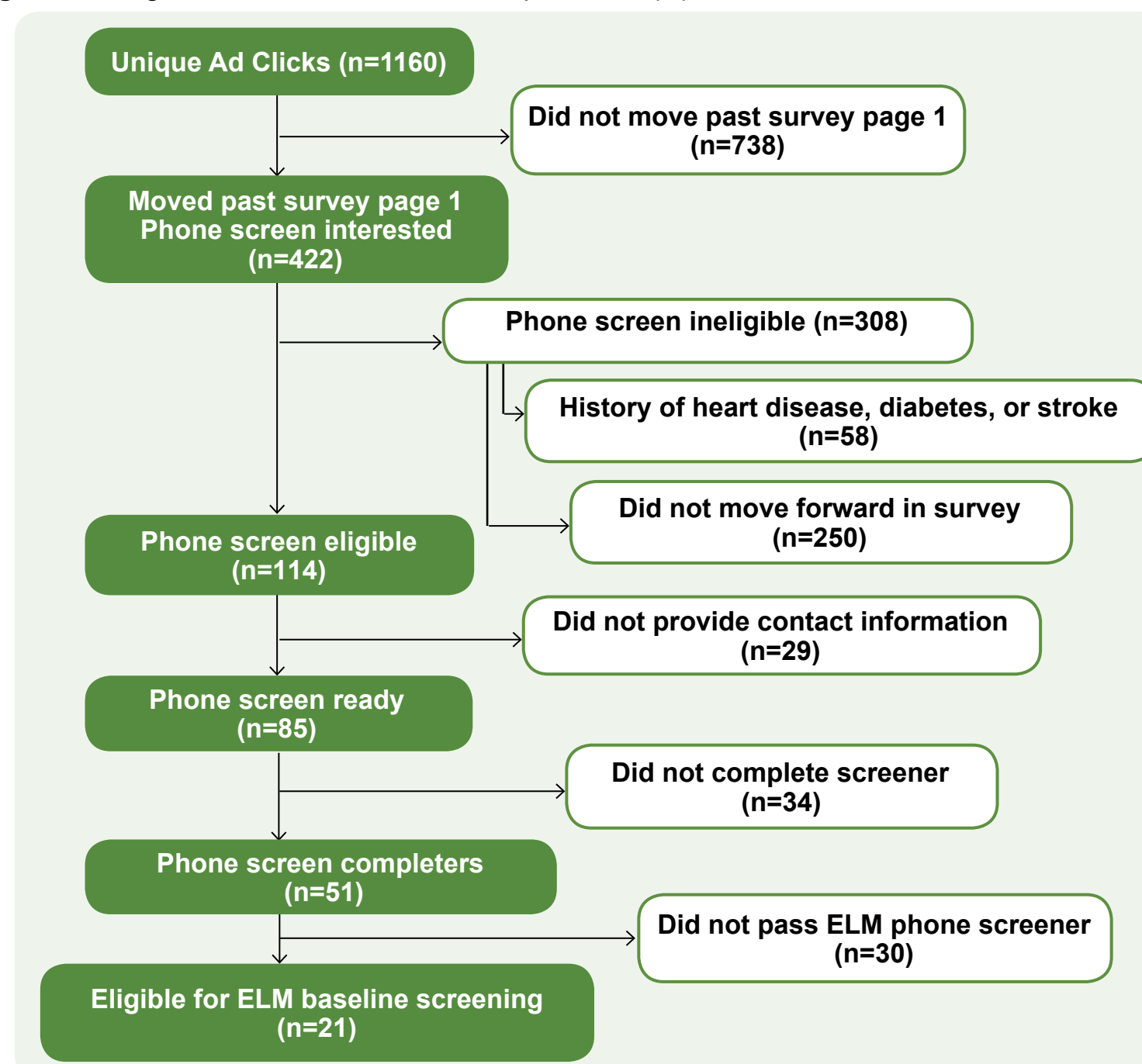
### Definitions:

- Market: an estimate of the audience size eligible to see the ad, based on targeting criteria
- Reach: the number of unique Facebook accounts where ad appears over the ad's lifetime
- Impressions: total number of times the content is displayed on a Facebook page
- Link clicks: number of times the Facebook ad is clicked

## Results

The Facebook ad as designed provided a potential **MARKET** audience of 690,000. The ad appeared 59, 449 times with a **REACH** to 33,243 unique Facebook accounts; ad appearance is also termed **IMPRESSIONS**. 1,160 unique accounts **CLICKED** on the ad. **CLICK** costs were temporally modified based on observed and projected Facebook activity to optimize campaign performance. Ad performance is detailed in Figure 1. Facebook metrics revealed that most respondents were over 45 years of age and female.

Figure 1. Progression of Facebook Ad Respondents (N)



## Results (continued)

Table 1. Demographic Information of Responders

Sex	Ad Reach	Ad Clicks
Male	5,055 (15%)	90 (8%)
Female	27,836 (84%)	1,049 (90%)
Not Reported	352 (1%)	21 (2%)

Table 2. Cost Effectiveness of Facebook Ad Campaign

Metric	\$
Total Cost	708.57
Cost / Click	0.61
Cost / Phone Screen Eligible	6.22
Cost / Phone Screen Ready	8.34
Cost / ELM Phone Screen Completer	13.89
Cost / Eligible for ELM Baseline Screening	33.74

Table 3. Phone Screen Ready Recruitment Rates

Phone Screen Ready rate based on:	Calculation (n)	%
# Unique Ad Clicks	85 / 1,160	7.3
# Phone Screen Interested	85 / 422	20.1
# Phone Screen Ready	85 / 114	74.6
# Phone Screen Completers	51 / 85	60
# Eligible for ELM Baseline Screening	21 / 51	41.2

Table 4. CHERRIES Response Rate Definitions and Outcomes<sup>1</sup>

Rates	Ratio Definition	Ratio Calculation (n)	%
View	$\frac{\# \text{ Unique clicks (Qualtrics survey visitors)}}{\# \text{ Unique Facebook impressions}}$	1,160 / 33,243	3.5
Participation	$\frac{\# \text{ Unique consenters}}{\# \text{ Unique ad clicks}}$	422 / 1,160	36.4
Completion	$\frac{\# \text{ Phone screen eligible}}{\# \text{ Consenters}}$	114 / 422	27.0

## Conclusion

Facebook was a cost-effective, efficient strategy to recruit eligible participants to a randomized MetS clinical trial with demanding inclusion and exclusion criteria. Campaign keywords, temporal and geographic control, which enhanced Reach to the target sample in a short time frame, are critical moderators of this recruitment strategy.

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### Reference

1. Eysenbach G. Improving the quality of Web surveys: the Checklist for Reporting Results of Internet E-Surveys (CHERRIES). J Med Internet Res 2004 Sep 29;6(3):e34 [FREE Full text] [doi: 10.2196/jmir.6.3.e34] [Medline: 15471760]

