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12-Week Weight Loss in Automated Online Obesity Treatment Implemented Pragmatically In Primary Care

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KEY POINTS

- Clinicians successfully implemented a research-based online obesity treatment program pragmatically in a 60+ practice primary care network.
- The initial 12-week weight loss program produced clinically significant 3-5% weight loss.
- Patients who engaged with the program for all 12 weeks lost an average of 7-8%.
- A relatively high proportion of men engaged with the program (30% of the sample) but members of racial and ethnic minority groups were under-represented (6%).
- The effect of the implementation interventions and maintenance interventions will be evaluated in a future research report.

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BACKGROUND

Primary care is often where obesity is first diagnosed, but clinical providers typically have few cost-effective resources to offer patients for weight loss.

Lifestyle treatment for obesity is efficacious but not widely available due to high costs, need for specially trained interventionists, and other barriers (e.g., frequent clinic visits).

Automated online adaptation of lifestyle treatment has tremendous potential to reach large numbers of patients at low cost when implemented in primary care.

Our research team has developed an online lifestyle treatment program for use in the primary care setting. In an efficacy trial, Rx Weight Loss produced a mean±SD weight loss of 5.8±4.4% of initial body weight after 12 weeks of treatment.¹

This research involves testing the effectiveness of Rx Weight Loss when independently implemented by medical teams without researcher involvement and delivered to a representative patient population.²

METHODS AND MATERIALS

Rx Weight Loss was fully integrated into the routine workflow of approximately 60 clinics in a state-wide primary care organization, the Rhode Island Primary Care Physicians Corporation (RIPCPC).²

Patients identified as eligible by RIPCPC nurse care managers, and who expressed interest in the program when approached, were given a unique referral code to access the online study platform. All consenting, eligible, participants received access to the 12-week Rx Weight Loss program.

The Rx Weight Loss program includes 3 core components: weekly online lessons, submission of self-monitored weight, energy intake, and physical activity data, and personalized, automated feedback each week.

This pragmatic type II hybrid effectiveness-implementation trial randomized clinicians to a basic or enhanced implementation intervention. Patients were randomized to one of 3 online maintenance programs *upon completion* of the initial 12 week program. **This report focuses on results of the initial 12-week program that was administered identically to all patients, regardless of randomization.**

RESULTS

A total of 464 provider-referred patients (70% female; 94% White) enrolled and entered at least 1 weight post-baseline. In a mixed effects model using all available weight observations, mean±SE weight change at week 12 was -5.1±0.2%. In similar analyses with missing values assumed to be zero after the last available observation, the mean 12-week weight loss was 3.2±0.2%.

On average, patients submitted their weight on 7.8/12 weeks and accessed 6.5/12 lessons. Thirty-seven percent submitted their weight on all 12 weeks and 20% percent accessed all 12 lessons. Those patients with high engagement (i.e., submitted weights on all 12 weeks) were estimated to have lost more than 2x the weight of those submitting less frequently (7.2% vs 3.4%). Similarly, those who accessed all 12 lessons lost an estimated 8% of initial body weight vs 4% in those watching fewer lessons.

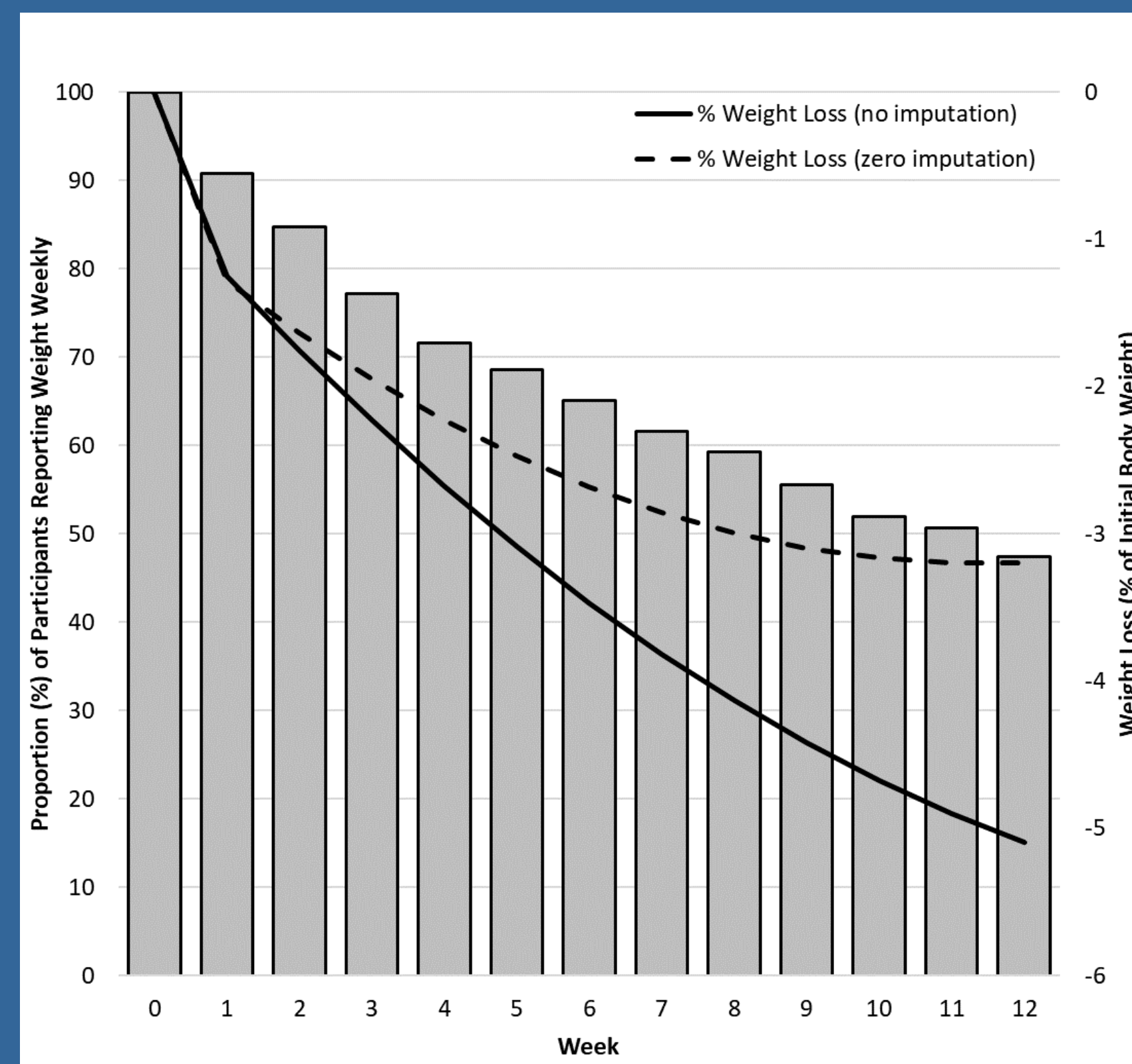


Figure 1. Proportion of Patients Reporting Weight and Weight Loss by Week of Treatment in Online Obesity Treatment Program. Figure depicts the % of all primary care patients who reported their weight (a metric of engagement), and weight loss (% of initial body weight) by the number of weeks since enrollment in the program. Two estimates of weight loss are presented from ITT analysis using linear mixed effects models; the first involved no imputation and the second involved zero-imputation of missing data after the last reported weight.

DISCUSSION

RIPCPC medical teams identified potential patients, enrolled them, and supported their participation. The research team had no contact with participants except to resolve basic technical problems with the online platform.

ITT analysis using all available data yielded an estimated mean weight loss of 5.1% of initial body weight at 12-weeks. A conservative ITT analysis in which zero weight loss was imputed for missing values after the last available observation yielded an estimated mean weight loss of 3.2%. Both estimates are consistent with guidelines for the treatment of obesity, which recommend a minimum clinically significant weight loss of at least 3% of initial body weight in order to reduce risk and severity of common comorbidities.

Engagement with the treatment program was variable, as expected, given the pragmatic implementation of the Rx Weight Loss program in the RIPCPC practice network. Highly adherent patients achieved very substantial weight losses of 7-8% of initial body weight.

Weight loss outcomes did not differ significantly across sex, age, BMI, or race/ethnicity.

CONCLUSIONS

Pragmatic implementation of an established, fully-automated online lifestyle treatment in a large primary care practice network produced a mean weight loss of 3-5% at 12-weeks. This is consistent with national guidelines for minimum clinically significant weight loss for first-line treatment.

Additional work is needed to build strategies for engaging members of overburdened and under-resourced populations.

REFERENCES

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