ISSN: 2582-6751
Journal of Clinical Medical Research

ATHENAEUM SCIENTIFIC PUBLISHERS

Research Article

One-Year Outcomes of Compounded Semaglutide Therapy in a High-Touch Telehealth Platform: A Retrospective Cohort Study

Melissa Rubio[1*], Crystal Jacovino[1]

[1]Colchis Medical Services, United States

***Correspondence author:** Melissa Rubio, PhD, MSN, FNP-BC, Colchis Medical Services, United States; Email: melissa.rubio@henrymeds.com

Citation: Rubio M, et al. One-Year Outcomes of Compounded Semaglutide Therapy in a High-Touch Telehealth Platform: A Retrospective Cohort Study. Jour Clin Med Res. 2025;6(3):1-7.

https://doi.org/10.46889/JCMR.2025.6310

Received Date: 06-10-2025

Accepted Date: 20-10-2025

Published Date: 28-10-2025

Copyright: © 2025 by the authors. Submitted for possible open access publication under the terms and conditions of the Creative Commons Attribution (CCBY) license (https://creativecommons.org/licenses/by/4.0/).

Abstract

This retrospective cohort study evaluated weight loss outcomes among patients receiving compounded semaglutide injections within a high-touch, telehealth-based care model. Over one year of treatment, patients experienced early and progressive reductions in body weight and Body Mass Index (BMI), with mean weight loss approaching 20% of baseline body weight at 50 weeks on weekly doses of up to 1 mg. These results mirror or exceed those reported in randomized controlled trials of semaglutide at higher doses (up to 2.4 mg per week), underscoring the real-world effectiveness of Glucagon-Like Peptide-1 (GLP-1) receptor agonist therapy when delivered in structured virtual care programs.

The findings highlight both the therapeutic potential of compounded semaglutide and the value of digitally enabled high-engagement care models for obesity management. By facilitating frequent provider interaction, accountability and patient support, this model may help overcome traditional barriers to obesity care while achieving clinically meaningful outcomes with the potential to reduce obesity-related comorbidities and overall disease burden.

Keywords: Skeletal Compounded Semaglutide; GLP-1 Receptor Agonists; Obesity Treatment Weight Loss; Body Mass Index (BMI); Telehealth Digital Health; Real-World Evidence; Pharmacotherapy for Obesity

Abbreviations

GLP-1 Ras: Glucagon-Like Peptide-1 Receptor Agonists; BMI: Body Mass Index; STEP-1: Semaglutide Treatment Effect in People with Obesity Trial 1; FDA: US Food and Drug Administration; EHR: Electronic Health Record; IRB: Institutional Review Board

Introduction

Glucagon-like Peptide-1 Receptor Agonists (GLP-1 RAs) have emerged as a transformative class of medications for the management of obesity and related metabolic disorders. Initially developed for type 2 diabetes mellitus due to their ability to enhance glucose-dependent insulin secretion, GLP-1 RAs are now widely recognized for their substantial effects on weight reduction. Randomized controlled trials have consistently demonstrated clinically meaningful reductions in body weight among patients receiving semaglutide and other GLP-1-based therapies. For example, in the STEP-1 clinical trial, participants treated with once-weekly semaglutide achieved a mean reduction of 14.9% in body weight at 68 weeks compared to 2.4% with placebo [1]. Real-world cohort studies mirror these findings, with patients demonstrating average reductions of 5.9% at 3 months and 10.9% at 6 months of treatment [2].

In addition to weight loss, GLP-1 RAs provide a range of non-scale benefits that are highly relevant to long-term health outcomes. Recent clinical evidence highlights improvements in musculoskeletal health, including significant reductions in knee pain and enhanced physical function among patients with obesity and osteoarthritis [3]. Moreover, GLP-1 therapy has demonstrated cardioprotective effects, with the FDA expanding the indication for semaglutide to include the reduction of major adverse cardiovascular events in adults with overweight or obesity and established cardiovascular disease (U.S. Food and Drug

Administration, 2024). Observational studies further suggest potential neuroprotective and anti-inflammatory effects, as well as risk reduction for certain cancers [4]. Collectively, these findings underscore the importance of evaluating GLP-1 therapy beyond weight reduction, considering its broader impact on patient well-being.

While much of the existing literature has focused on outcomes in traditional in-person clinical settings, there is growing interest in the use of telehealth and digital health platforms to expand access to evidence-based weight management treatment. Online, high-touch care models offer patients frequent engagement through video visits, messaging and structured follow-up protocols. Such platforms may enhance adherence, support individualized dose titration and improve monitoring of adverse effects. In one 52-week telehealth-based integrative medicine program, patients prescribed semaglutide achieved a mean weight loss of 19.5%, with nearly half achieving at least 20% total body weight reduction [5]. Similarly, remotely delivered GLP-1RA supported weight management programs have demonstrated that significant and sustainable weight loss is achievable in virtual care settings [6]. Nevertheless, provider attitudes toward telehealth vary; while some clinicians recognize its potential for patient engagement, surveys reveal that only 18% of primary care physicians express comfort with patients obtaining compounded semaglutide through third-party telehealth platforms, with 57% cautioning against it [7].

The present retrospective cohort study builds on this foundation by evaluating weight reduction and safety outcomes among patients prescribed compounded semaglutide injections over a one-year period within an online, high-touch clinical platform. By leveraging frequent provider follow-up and video-based care, this study aims to contribute real-world evidence regarding both the efficacy and broader health impact of compounded semaglutide therapy delivered in a digitally enabled setting.

Ethical Statement

The project did not meet the definition of human subject research under the purview of the IRB according to federal regulations and therefore, was exempt.

Methodology

Study Design

This retrospective cohort study evaluated outcomes among patients prescribed compounded semaglutide injections through a high-touch, online clinical platform. A total of 1,200 adult patients who initiated semaglutide between 2022 and 2024 were included. All patients were naïve to GLP-1 receptor agonist therapy at the time of enrollment.

Subjects

Eligibility criteria required patients to be at least 18 years of age with either: a Body Mass Index (BMI) ≥27 kg/m² in the presence of at least one weight-related comorbidity (e.g., hypertension, dyslipidemia or obstructive sleep apnea) or a BMI ≥30 kg/m² regardless of comorbidities. Patients were excluded if they were pregnant, breastfeeding or currently prescribed other weight-reducing pharmacotherapies. At the initial intake visit, conducted synchronously via secure video conferencing, providers obtained a detailed medical history, current medication list, dietary habits and physical activity patterns. Baseline anthropometric data, including weight and BMI, were documented in the Electronic Health Record (EHR). All patients were prescribed a titration plan with dose escalations every four weeks to a maximum dose of 1 mg per week. After treatment initiation, patients were followed at an average interval of every 10 weeks through virtual synchronous or asynchronous visits with licensed healthcare providers. During each follow-up, weight and BMI were reassessed and updates to medical history, medication use and lifestyle factors were recorded. Additionally, patients were queried regarding treatment tolerability and adverse events related to compounded semaglutide use. Permission to retrieve and analyze the data for this study was granted by Colchis Medical Group. This study was conducted in accordance with the principles of the Declaration of Helsinki. The study protocol was reviewed by an independent Institutional Review Board (IRB), which determined that the research met criteria for a waiver of informed consent given its retrospective design, use of de-identified data and minimal risk to participants.

Data Collection

All study data were extracted from the platform's EHR system, including demographic characteristics, baseline anthropometric measures, follow-up data and adverse event reporting. Identifiable information was removed prior to analysis to ensure patient confidentiality.

Data Analysis

Data analysis was conducted using Intellectus Statistics™ (Intellectus Statistics, Clearwater, FL). Descriptive statistics were used to summarize baseline characteristics and follow-up measures. Continuous variables (e.g., weight, BMI) were presented as means and standard deviations or medians and interquartile ranges, as appropriate. Categorical variables (e.g., sex, presence of comorbidities, adverse events) were summarized using frequencies and percentages. Longitudinal changes in weight and BMI were analyzed using paired-samples t-tests and repeated measures analysis where applicable. Statistical significance was set at $p<0.05$.

Results

At baseline, the mean weight for participants was 199.50 pounds (SD = 38.54), with a median of 192.00 pounds and a range of 128.00 to 500.00 pounds. The mean baseline BMI was 32.84 kg/m² (SD = 5.06), with a median of 31.75 kg/m² and a range of 20.38 to 59.51 kg/m².

At the first follow-up (week 10), the mean weight was 187.10 pounds (SD = 37.31), with a median of 180.00 pounds and a range of 124.00 to 480.00 pounds. The mean weight change from baseline was -12.41 pounds (SD = 6.46), with a median of -12.00 pounds and a range of -35.00 to 10.00 pounds. The percentage of body weight lost from baseline had a mean of -6.25% (SD = 3.07), with a median of -6.08% and a range of -17.00% to 6.25%.

At the second follow-up (week 20), the mean weight was 177.35 pounds (SD = 35.89), with a median of 170.00 pounds and a range of 112.00 to 470.00 pounds. The mean weight change from baseline was -22.16 pounds (SD = 8.80), with a median of -21.00 pounds and a range of -60.00 to 5.00 pounds. The percentage of body weight lost from baseline had a mean of -11.13% (SD = 3.94), with a median of -11.04% and a range of -25.00% to 2.98%.

At the third follow-up (week 30), the mean weight was 170.87 pounds (SD = 34.76), with a median of 165.00 pounds and a range of 105.00 to 450.00 pounds. The mean weight change from baseline was -28.63 pounds (SD = 10.71), with a median of -27.00 pounds and a range of -75.00 to -7.00 pounds. The percentage of body weight lost from baseline had a mean of -14.35% (SD = 4.59), with a median of -14.08% and a range of -31.13% to -3.23%.

At the fourth follow-up (week 40), the mean weight was 166.32 pounds (SD = 33.82), with a median of 160.00 pounds and a range of 105.00 to 435.00 pounds. The mean weight change from baseline was -33.19 pounds (SD = 12.07), with a median of -31.00 pounds and a range of -94.00 to -10.00 pounds. The percentage of body weight lost from baseline had a mean of -16.60% (SD = 4.95), with a median of -16.24% and a range of -38.68% to -4.44.

At the fifth follow-up (week 50), the mean weight was 162.72 pounds (SD = 33.11), with a median of 156.00 pounds and a range of 100.00 to 420.00 pounds. The mean total weight change was -36.79 pounds (SD = 12.65), with a median of -35.00 pounds and a range of -99.00 to -13.00 pounds. The percentage of body weight lost from baseline had a mean of -18.39% (SD = 4.99), with a median of -17.95% and a range of -38.68% to -8.33%. All follow-up timepoints and results are presented in Table 1. Fig. 1 displays the mean weight loss and percentage of total body weight lost at each follow-up timepoint.

Paired-samples t-tests were conducted to compare baseline weight to each follow-up time point. The results indicated that all comparisons were statistically significant at $p < 0.001$, demonstrating a significant reduction in weight over time. These findings support a consistent and meaningful change from baseline across all follow-up assessments. Detailed t-test results at each follow-up time point are presented in Fig. 2.

Time Point	Weight (lbs) Mean (SD)	Median	Range	Change from Baseline (lbs) Mean (SD)	Median	Range	Change from Baseline (%) (SD)	Median	Range
Baseline (N=1200)	199.50 (38.54)	192.00	128.00–500.00	–	–	–	–	–	–
Week 10	187.10 (37.31)	180.00	124.00–480.00	-12.41 (6.46)	-12.00	-35.00–10.00	-6.25 (3.07)	-6.08	-17.00–6.25
Week 20	177.35 (35.89)	170.00	112.00–470.00	-22.16 (8.80)	-21.00	-60.00–5.00	-11.13 (3.94)	-11.04	-25.00–2.98
Week 30	170.87 (34.76)	165.00	105.00–450.00	-28.63 (10.71)	-27.00	-75.00––7.00	-14.35 (4.59)	-14.08	-31.13––3.23
Week 40	166.32 (33.82)	160.00	105.00–435.00	-33.19 (12.07)	-31.00	-94.00––10.00	-16.60 (4.95)	-16.24	-38.68––4.44
Week 50	162.72 (33.11)	156.00	100.00–420.00	-36.79 (12.65)	-35.00	-99.00––13.00	-18.39 (4.99)	-17.95	-38.68––8.33

Note. Values are presented as mean (standard deviation), median, and range. Negative values indicate weight loss.

Table 1: Summary of weight outcomes across follow-up visits.

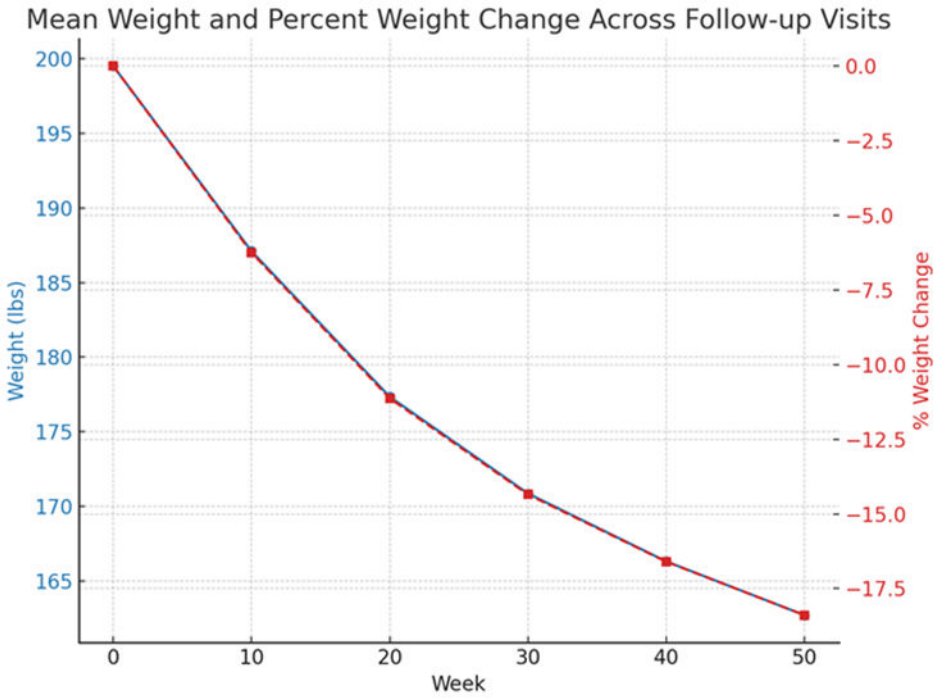

Figure 1: Mean weight and % total body weight change over 50 weeks.

Follow-Up Week	t(1199)	p value
Week 10	66.56	< .001
Week 20	87.23	< .001
Week 30	92.57	< .001
Week 40	95.24	< .001
Week 50	100.74	< .001

Note. Results reflect two-tailed paired samples t-tests comparing baseline weight with follow-up weights at 10, 20, 30, 40, and 50 weeks. All comparisons were statistically significant at α = .05.

Figure 2: Results of paired samples t-tests comparing baseline weight to follow-up weights.

Discussion

The findings from this retrospective cohort provide compelling evidence that compounded semaglutide therapy, delivered through an online, high-touch care platform, produces clinically and statistically significant weight loss over time. Patients demonstrated progressive reductions in body weight and BMI across all follow-up assessments, with improvements evident as early as 10 weeks and sustained through 50 weeks of therapy. At baseline, the study population had a mean weight of nearly 200 pounds and an average BMI in the obese range. By week 10, patients had already achieved a mean weight loss of 12.41 pounds (-6.25% of baseline body weight), a reduction that exceeds the clinically meaningful threshold of 5% weight loss established by obesity treatment guidelines. These early results are notable, as modest reductions in body weight are associated with improvements in metabolic risk factors, including blood pressure, lipid levels and glycemic control.

By week 20, mean weight loss had nearly doubled to 22.16 pounds (-11.13% of baseline body weight), surpassing the 10% threshold frequently associated with more substantial health benefits, such as reduced cardiovascular risk and improvement in obesity-related comorbidities. Continued weight loss was observed throughout the study, with patients achieving an average reduction of -28.63 pounds (-14.35%) at week 30, -33.19 pounds (-16.60%) at week 40 and -36.79 pounds (-18.39%) at week 50. These results align with and extend prior clinical trial findings, highlighting the real-world effectiveness of semaglutide in achieving sustained double-digit percentage weight reductions.

The statistical analyses support the robustness of these findings. Paired-samples t-tests demonstrated highly significant differences ($p < .001$) between baseline and each follow-up time point for both weight and BMI, underscoring the consistency of treatment effects across the study population. Importantly, weight loss was not only statistically significant but also clinically meaningful, with the magnitude of reduction comparable to or exceeding outcomes reported in pivotal clinical trials of GLP-1 receptor agonists.

The delivery model of care also adds significance. The use of a digital, high-touch platform with structured video-based visits and regular follow-up intervals appears to have supported patient adherence and continuity of care, resulting in meaningful and sustained outcomes. This model may represent an important strategy to expand access to obesity treatment, particularly for patients facing barriers to in-person care. The degree of weight reduction observed in this study has well-established clinical benefits. A ≥5% weight loss is associated with improvements in glycemic control, reductions in triglycerides and lower blood pressure, thereby reducing risk of type 2 diabetes progression and early cardiovascular disease. A ≥10% weight loss: Linked to greater improvements in insulin sensitivity, reduced risk of nonalcoholic fatty liver disease and decreased severity of obstructive sleep apnea. A ≥15% weight loss: Associated with profound improvements in physical function, mobility and quality of life, along with substantial reductions in cardiovascular morbidity and mortality [8,9].

In this cohort, patients on average achieved nearly a 20% reduction in baseline weight by 50 weeks, positioning them well beyond the highest clinically significant threshold. This magnitude of weight loss is expected to translate into durable improvements across multiple domains of health, including metabolic, cardiovascular and musculoskeletal outcomes. These findings underscore that compounded semaglutide, when delivered within a structured, high-touch virtual care model, has the potential to meaningfully alter the trajectory of obesity and its complications in real-world practice.

Limitations

Despite its strengths, several limitations should be noted. First, this was a retrospective analysis without a control group, which limits causal inference. Second, data were derived from a single telehealth platform, which may reduce generalizability to other populations or care settings. Third, reliance on patient-reported weight during virtual visits may introduce reporting bias, although consistency across multiple time points strengthens confidence in the findings. Finally, while weight loss outcomes were robust, the study did not evaluate other non-scale benefits such as blood pressure, glycemic indices, lipid levels or patient-reported quality of life measures, which represent important avenues for future research.

Future studies should prospectively evaluate compounded semaglutide outcomes in broader populations, incorporate metabolic and cardiovascular endpoints and compare telehealth-based care models to traditional in-person management. Additionally, qualitative research exploring patient experiences with high-touch virtual care could provide insights into adherence, satisfaction and long-term sustainability.

Conclusion

This retrospective cohort study demonstrates that compounded semaglutide therapy, delivered within an online, high-touch care platform, is associated with substantial and progressive weight loss over the course of one year. Patients experienced clinically meaningful reductions in weight as early as 10 weeks, with nearly 20% average total body weight loss achieved by week 50. These outcomes are not only statistically significant but also surpass the thresholds associated with broad improvements in cardiometabolic health, quality of life and long-term disease risk. The magnitude of weight reduction observed in this cohort is consistent with and in some respects, exceeds findings from randomized controlled trials of semaglutide. In the STEP 1 trial, adults with obesity treated with once-weekly semaglutide achieved a mean weight loss of 14.9% at 68 weeks [1]. Real-world evidence has also demonstrated meaningful reductions, with observational studies reporting average losses of 5-11% within 6 months [2]. In the current study, patients achieved comparable or greater outcomes in a real-world, virtual care environment, highlighting the potential for digital platforms to deliver evidence-based obesity treatment at scale.

The study setting offers important insights into how treatment delivery may influence outcomes. Patients received structured, synchronous video visits at intake and follow-up approximately every 10 weeks, which facilitated personalized medication titration, lifestyle counseling and monitoring of tolerability. This high-touch approach may have enhanced adherence, minimized treatment discontinuation and promoted accountability, all of which are critical to achieving sustained weight loss. Such findings align with emerging literature suggesting that telehealth-based interventions, when delivered with frequent provider engagement, can achieve outcomes on par with or superior to in-person care [5,6].

The clinical implications of these findings are substantial. Weight loss of ≥5% is known to improve glycemic control, hypertension and dyslipidemia, while ≥10% loss confers additional benefits in reducing the risk of type 2 diabetes and nonalcoholic fatty liver disease. Losses of ≥15% are rarely achieved with lifestyle intervention alone yet were routinely observed in this cohort, suggesting that compounded semaglutide therapy delivered in a virtual, structured manner may provide transformative benefits to patients struggling with obesity. The nearly 20% reduction in baseline weight achieved at one year rivals or exceeds outcomes typically seen after some bariatric procedures, underscoring the potential of GLP-1-based therapy as a non-surgical alternative to weight management.

Conflict of Interest

The authors declare no conflicts of interest that may have influenced the research, authorship or publication of the article.

Informed Consent Statement

Informed consent was not required for this retrospective, chart review study.

Funding
No external funding was received for this case report.

Acknowledgment
Thank you to the following individuals who contributed to the support of this study: Dr. Steven Peacock, Dr. Elizabeth Lowden and Michi McClure.

Authors' Contributions
All authors have contributed equally to this work and have reviewed and approved the final manuscript for publication.

Consent for Publication
Informed consent for publication was obtained from Colchis Medical Services, PC, as documented in the manuscript.

References

1. Wilding JPH, et al. Once-weekly semaglutide in adults with overweight or obesity. N Engl J Med. 2021;384(11):989-1002.
2. Ghusn W, et al. Weight-loss outcomes associated with semaglutide treatment in a real-world clinical setting. JAMA Netw Open. 2022;5(10):e2231971.
3. Moiz A, et al. The expanding role of GLP-1 receptor agonists: Evidence from the STEP-9 trial on osteoarthritis outcomes. Obes Med. 2025;37:101581.
4. US Food and Drug Administration. FDA expands Wegovy (semaglutide) label to reduce risk of major adverse cardiovascular events in adults with obesity and cardiovascular disease. FDA Press Release. 2024. [Last accessed on: October 21, 2025]. https://www.fda.gov/news-events/press-announcements
5. Duncan J. Individualized virtual integrative medicine (IVIM) clinical protocol on semaglutide: 52-week telehealth outcomes. J Integr Digit Health. 2025.
6. Richards R. A remotely delivered GLP-1RA-supported specialist weight management program: Feasibility and outcomes. JMIR Form Res. 2025;9:e72577.
7. MPL Association. Primary care physicians concerned about GLP-1 via telehealth. Inside Med Liab. 2025 Spring. [Last accessed on: October 21, 2025]. https://www.mplassociation.org/Web/Publications/Inside_Medical_Liability/Issues/2025/Spring/Primary_Care_Physicians_Concerned_About_GLP-1.aspx
8. Ryan DH, Yockey SR. Weight loss and improvement in comorbidity: Differences at 5%, 10%, 15% and over. Curr Obes Rep. 2017;6(2):187-94.
9. Xie Y, Choi T, Al-Aly Z. Mapping the effectiveness and risks of GLP-1 receptor agonists: A large-scale observational analysis. Nat Med. 2025;31(2):234-45.

Journal of Clinical Medical Research

ATHENAEUM SCIENTIFIC PUBLISHERS

Publish your work in this journal

Journal of Clinical Medical Research is an international, peer-reviewed, open access journal publishing original research, reports, editorials, reviews and commentaries. All aspects of medical health maintenance, preventative measures and disease treatment interventions are addressed within the journal. Medical experts and other related researchers are invited to submit their work in the journal. The manuscript submission system is online and journal follows a fair peer-review practices.

Submit your manuscript here: https://athenaeumpub.com/submit-manuscript/