Discontinuation of GLP-1 and GLP-1/GIP Receptor Agonists Among Adults with Type 2 Diabetes, Overweight or Obesity

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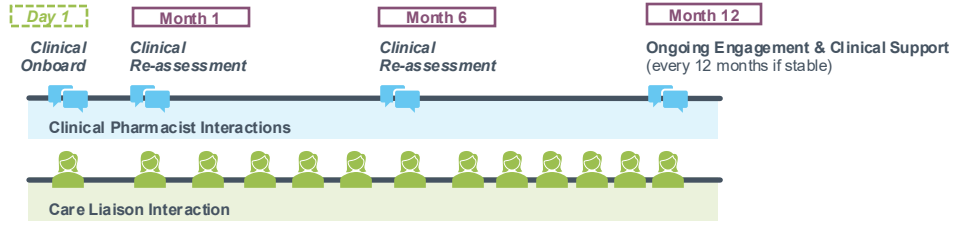
BACKGROUND

Glucagon-like peptide-1 receptor agonists (GLP-1 RAs) and GLP-1/Glucose dependent insulinotropic polypeptides (GLP-1/GIP RAs) are effective treatments for type 2 diabetes (T2D), obesity, or overweight with at least one comorbidity. Real-world persistence remains limited, with 1-year discontinuation rates ranging from approximately 35% to over 60%.[1,2] Factors contributing to discontinuation of these therapies include medication access barriers, high costs, and side effects.[1,2] Integrated Health System Specialty Pharmacies (HSSPs) can help to mitigate these barriers through coordinated care. As shown in Figure 1, HSSP clinical services integrate ambulatory care pharmacists and liaisons through structured follow-up to support medication access, adverse effect management, and long-term treatment persistence.

Figure 1: Overview of HSSP Clinical Services



METHODS

Study Design: Retrospective cohort evaluation of patients filling injectable liraglutide, semaglutide, dulaglutide, or tirzepatide at the NYU Langone Health Specialty Pharmacy between August 2022 and May 2025

Inclusion Criteria: Treatment-naïve adults newly initiated on injectable GLP-1 RA or GLP-1/GIP RA therapy for FDA-approved indications (T2D, obesity, or overweight with ≥1 comorbidity) and enrolled in pharmacist services. Switching between GLP-1 RAs and GLP-1/GIP RAs without a gap of ≥70 days between prescription fills was considered continuous treatment.

Primary Outcome: Percentage of patients who discontinued a newly initiated injectable GLP-1 RA or GLP-1/GIP RA within the first year of therapy, defined as a ≥ 70 days without medication on hand

Secondary Outcome: Median time to treatment discontinuation

Figure 2: Time to Discontinuation Calculation

RESULTS

A total of 2,943 patients meeting inclusion criteria were identified; **Table 1** summarizes patient characteristics. Overall, 115 patients (3.9%) discontinued therapy within the first year. **Figure 3** displays discontinuation rates by medication. Median time to discontinuation overall was 93 days and varied by agent (**Figure 4**).

Table 1: Patient Characteristics

Characteristic	N=2943
Age (years; n)	Average age: 49.6
0-17	9
18-34	450
35-49	1000
50-64	1056
≥65	428
Sex (n, %)	
M	996 (34)
F	1947 (66)
Diagnosis (n, %)	
Diabetes	391 (13)
Obesity	2552 (87)
Insurance (n, %)	
Commercial	2454 (83.4)
Medicare	277 (9.4)
Medicaid	28 (1)
Unknown/other	163 (5.5)
Cash pay	21 (0.7)
Medication (n, %)*	
Tirzepatide	1996 (61.9)
Semaglutide	1192 (37)
Liraglutide	20 (0.6)
Dulaglutide	17 (0.5)

*Includes medication switches

Figure 3: Discontinuation Rates by Medication

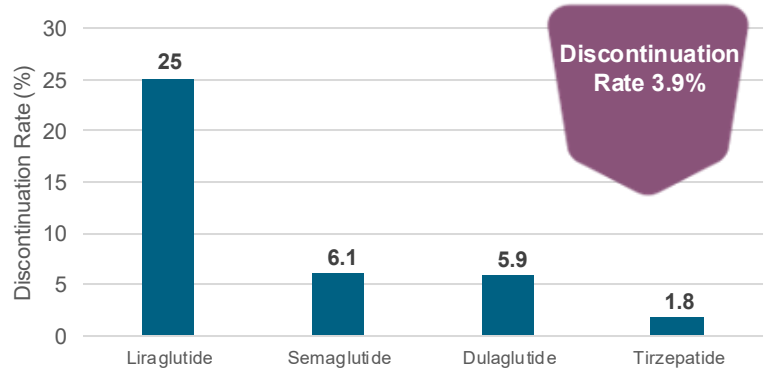
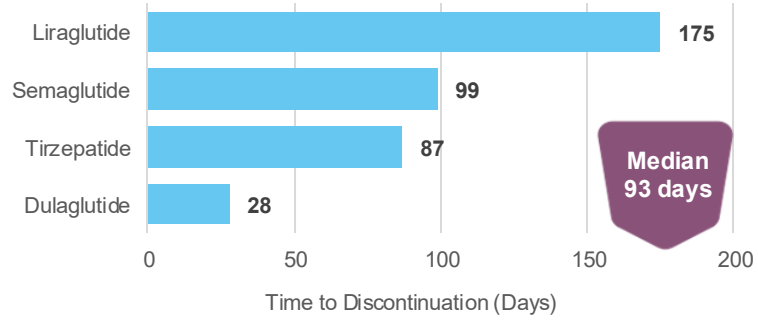


Figure 4: Median Time to Treatment Discontinuation



CONCLUSION

- Patients managed through an integrated HSSP demonstrated substantially lower 1-year discontinuation rates for injectable GLP-1 RA and GLP-1/GIP RA therapies (3.9%) than those reported in real-world populations (approximately 35%–60%).[1,2]
- A large cohort study reported a median treatment duration of 176 days among patients who discontinued therapy, compared with a median time to discontinuation of 93 days in our cohort. Although patients who discontinued therapy tended to do so early after initiation, most remained persistent on treatment. The shorter median time to discontinuation may reflect the smaller sample size, shorter study timeframe, and the impact of medication shortages during the study period.[2]
- These findings suggest that coordinated specialty pharmacy services may improve treatment persistence through enhanced medication access, patient support, and longitudinal follow-up.
- Further investigation is needed to identify predictors of discontinuation, including demographic and clinical characteristics, and to assess the impact of pharmacist-led interventions on long-term adherence and persistence.

REFERENCES

1. GLP-1 Receptor Agonist Discontinuation Among Patients With Obesity and/or Type 2 Diabetes; Do D, Lee T, Peasah SK, Good CB, Inneh A, Patel U. GLP-1 receptor agonist discontinuation among patients with obesity and/or type 2 diabetes. JAMA Netw Open. 2024;7(5):e2413172. doi:10.1001/jamanetworkopen.2024.13172
2. Rodriguez PJ, Zhang V, Gratzl S, et al. Discontinuation and reinitiation of dual-labeled GLP-1 receptor agonists among US adults with overweight or obesity. *JAMA Network Open*. 2025;8(1):e2457349. doi:10.1001/jamanetworkopen.2024.57349