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Real-World Weight Outcomes Following Initiation of GLP-1 Receptor Agonist Anti-Obesity Medications in a Mississippi Medicaid Population

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Background

- Obesity is a chronic, complex condition that places substantial burden on patients, communities, and health systems.
- Mississippi (MS) has one of the highest obesity rates in the United States, with 40.4% adult obesity prevalence in 2024 (95% CI: 38.1%-42.7%).[1]
- Beginning July 1, 2023, Mississippi Medicaid began covering select glucagon-like peptide-1 receptor agonist (GLP-1 RA) anti-obesity medications (AOMs) for members with obesity (body mass index [BMI] ≥ 30) or overweight (BMI ≥ 27) with certain comorbidities.[2]
- Because clinical trial populations may differ from Mississippi Medicaid members, real-world evidence is needed to understand GLP-1 RA AOM outcomes in this population.
- This study aims to provide an early real-world assessment of weight outcomes among Mississippi Medicaid members initiating GLP-1 RA AOMs.

Objective

- To evaluate real-world weight and BMI changes among MS Medicaid members initiating GLP-1 RA AOMs, and to assess the impact of adherence, persistence, and treatment switching on weight outcomes.

Methods

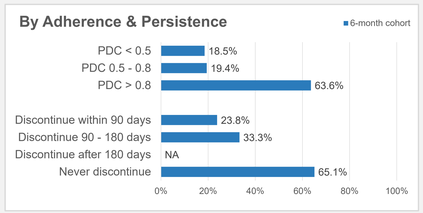
- **Study Period:** Cohort entry from July 2023 to June 2024, with up to 12 months of follow-up through June 2025.
- **Data Sources:** MS Medicaid fee-for-service and coordinated care organization administrative claims linked with MS Prior Authorization (PA) data for Medicaid-enrolled members.
- **Study Population and Cohorts:**
- Included adults ≥ 18 years initiating GLP-1 RA AOM therapy with continuous enrollment in the 12-month post-initiation period.
- Had baseline (within 60 days prior to the initiating prescription fill date) and reauthorization PA assessments.
- Two analytic cohorts were created based on the timing of reassessment, including a 6-month and a 12-month cohort.
- **Covariate Analysis:** Assessed baseline demographic and clinical characteristics, including age, sex, race, health plan enrollment, baseline weight and BMI, comorbid conditions, Elixhauser Comorbidity Index (ECI), medication adherence measured by proportion of days covered (PDC), persistence defined by < 60-day gaps, and medication switching patterns (between semaglutide and liraglutide).
- **Statistical Analysis:** Descriptive statistics summarized member demographic and clinical characteristics, as well as changes in weight and BMI. Univariate analysis evaluated the impact of clinical and demographic characteristics on weight change from baseline.

Achieved ≥ 5% weight loss

Higher adherence and sustained persistence were associated with greater likelihood of clinically meaningful weight loss

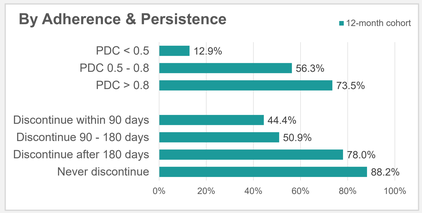
6-month follow up cohort (N = 393)

57.0% achieved 5% weight loss



12-month follow up cohort (N = 267)

64.4% achieved 5% weight loss

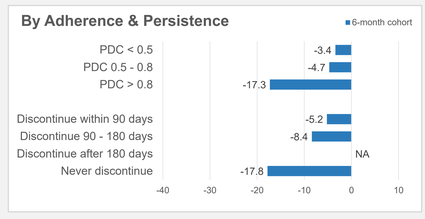


Weight change (lbs) from baseline

Higher adherence and sustained persistence were associated with greater weight loss

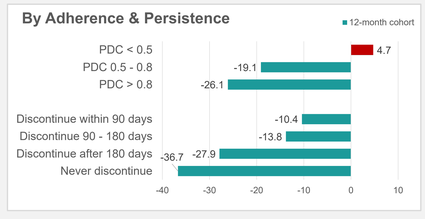
6-month follow up cohort (N = 393)

-15.3 lbs mean weight change



12-month follow up cohort (N = 267)

-21.7 lbs mean weight change



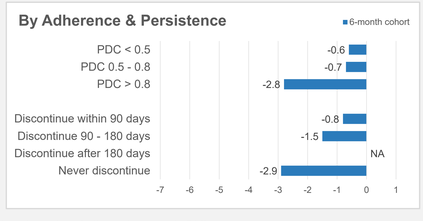
Negative values indicate weight loss

BMI Change (kg/m²) from baseline

BMI change followed a similar trend to weight change, with larger decreases among members with higher adherence and persistence

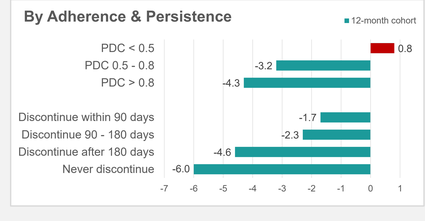
6-month follow up cohort (N = 393)

-2.5 mean BMI change



12-month follow up cohort (N = 267)

-3.6 mean BMI change



Negative values indicate decrease in BMI

Results

Baseline Characteristics:

- The 6-month and 12-month cohorts included 393 and 267 members, respectively; most members were female, and nearly half identified as Black.
- Members had high baseline obesity burden, with mean baseline weight of 268.7 lbs and 271.8 lbs, and mean baseline BMI of 44.4 kg/m² and 44.7 kg/m² in the 6- and 12-month cohorts.
- Comorbidity burden was common across both cohorts, particularly hypertension (~55%), depression (~45%), and osteoarthritis (~35-40%).

Clinical Outcomes and Covariates:

- Clinically meaningful outcomes were observed: mean weight loss was 15.3 lbs at 6 months and 21.7 lbs at 12 months; mean BMI decreased by 2.5 and 3.6 kg/m², respectively. More than half of the members achieved 5% weight loss in both follow-up cohorts.
- Higher adherence and sustained persistence were consistently associated with better outcomes, while low adherence, early discontinuation, and medication switching were associated with less favorable weight-loss patterns.

Univariate Analysis:

- Medication-use patterns, including adherence (p = 0.006 at 6 months; p < 0.001 at 12 months), persistence (p = 0.007 at 6 months; p < 0.001 at 12 months), and switching (p = 0.024 at 6 months; p = 0.017 at 12 months), were significantly associated with weight loss versus weight gain, whereas demographic characteristics, comorbidities, and comorbidity burden were not significant.

Conclusions and Implications

- Among MS Medicaid members initiating GLP-1 RA AOMs, clinically meaningful weight and BMI reductions were observed in real-world practice, with medication-use patterns emerging as the primary drivers of outcomes.
- Strategies that support adherence and reduce early discontinuation may improve real-world obesity treatment outcomes in Medicaid populations.

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References:

1. Centers for Disease Control and Prevention. Adult Obesity Prevalence Maps. U.S. Dept of Health and Human Services; 2025.
2. Mississippi Division of Medicaid. Standardized One Page Pharmacy Prior Authorization Form.

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