Real-world temporal and indication-specific variation in drivers of GLP-1 RA discontinuation

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Background

Existing knowledge

- The number of patients receiving glucagon-like peptide-1 receptor agonists (GLP-1 RAs) has increased[1]
- Our prior work has shown high discontinuation rates, that vary for people with and without type 2 diabetes[2]
- Little is known about how discontinuation reasons may vary for people receiving anti-obesity (AOM) and anti-diabetic (ADM) GLP-1 RAs and how the reasons may have changed over time

Objective

This study aimed to explore reasons for GLP-1 RA discontinuation over time and to understand differences by medication indication (i.e., AOM) vs. ADM)

Methods

Data

- A subset of Truveta Data was used; Truveta Data is comprised of real-world US electronic health record (EHR) data, which is aggregated, normalized, and de-identified from US health care systems comprising clinics and hospitals.
- Data included conditions, medication requests (e.g., prescriptions), medication dispensing (e.g., fills), medication discontinuation reason, and demographics.
- Medication discontinuation reasons were extracted from notes using natural language processing (NLP).

Population

- Patients with a GLP-1 RA prescription between June 2021 and December 2024
- Patients with evidence of a GLP-1 RA prescription fill
- Patients with a discontinuation reason extracted from notes
- Patients were excluded if they received a prescription fill within 60 days after discontinuation
- Patients were excluded if drug indication could not be determined

Analysis

- Drug indication (AOM vs. ADM) was determined using the data extracted from notes; if it couldn't be determined the brand of the most recent GLP-1 RA prescription fill was used to infer the indication
- If multiple discontinuation events were reported, only the last was included.
- Chi-squared tests were used to assess group differences, and we describe changes over time

Results

Patient characteristics by group, N (%)

		Overall	ADM	AOM
N		78,781	71,842	6,939
Age Group	**18-39**	9,452 (12.0)	7,378 (10.3)	2,074 (29.9)
	40-64	40,184 (51.0)	35,899 (50.0)	4,285 (61.8)
	65+	29,145 (37.0)	28,565 (39.8)	580 (8.4)
Sex	**Female**	49,801 (63.2)	44,108 (61.4)	5,693 (82.0)
	Male	28,780 (36.5)	27,540 (38.3)	1,240 (17.9)
	Unknown	200 (0.3)	194 (0.3)	6 (0.1)
Race	**American Indian or Alaska Native**	635 (0.8)	595 (0.8)	40 (0.6)
	Asian	2,518 (3.2)	2,385 (3.3)	133 (1.9)
	Black or African American	10,185 (12.9)	9,190 (12.8)	995 (14.3)
	Native Hawaiian or Other Pacific Islander	385 (0.5)	365 (0.5)	20 (0.3)
	Other Race	3,806 (4.8)	3,560 (5.0)	246 (3.5)
	Unknown	4,999 (6.3)	4,599 (6.4)	400 (5.8)
	White	56,253 (71.4)	51,148 (71.2)	5,105 (73.6)
Ethnicity	**Hispanic or Latino**	12,132 (15.4)	11,160 (15.5)	972 (14.0)
	Not Hispanic or Latino	62,813 (79.7)	57,140 (79.5)	5,673 (81.8)
	Unknown	3,836 (4.9)	3,542 (4.9)	294 (4.2)

Reasons for discontinuation, N (%)

	Overall	ADM	AOM
Side-effects	22,229 (28.2)	20,670 (28.8)	1,559 (22.5)
Multiple reasons	16,507 (21.0)	15,294 (21.3)	1,213 (17.5)
Cost	10,051 (12.8)	9,099 (12.7)	952 (13.7)
Unknown	7,246 (9.2)	6,700 (9.3)	546 (7.9)
Completed or no longer needed	6,374 (8.1)	5,584 (7.8)	790 (11.4)
Medical advice	3,885 (4.9)	3,491 (4.9)	394 (5.7)
Alternative therapy	3,295 (4.2)	3,127 (4.4)	168 (2.4)
Patient disliked	3,214 (4.1)	2,885 (4.0)	329 (4.7)
Medication not available	2,400 (3.0)	1,872 (2.6)	528 (7.6)
Ineffective	1,873 (2.4)	1,561 (2.2)	312 (4.5)
Non-compliance of drug therapy	1,653 (2.1)	1,509 (2.1)	144 (2.1)
Inconvenient	54 (0.1)	50 (0.1)	4 (0.1)

Patient characteristics

- 78,781 patients had evidence of a GLP-1 RA prescription and a reason for discontinuation between June 2021 and December 2024
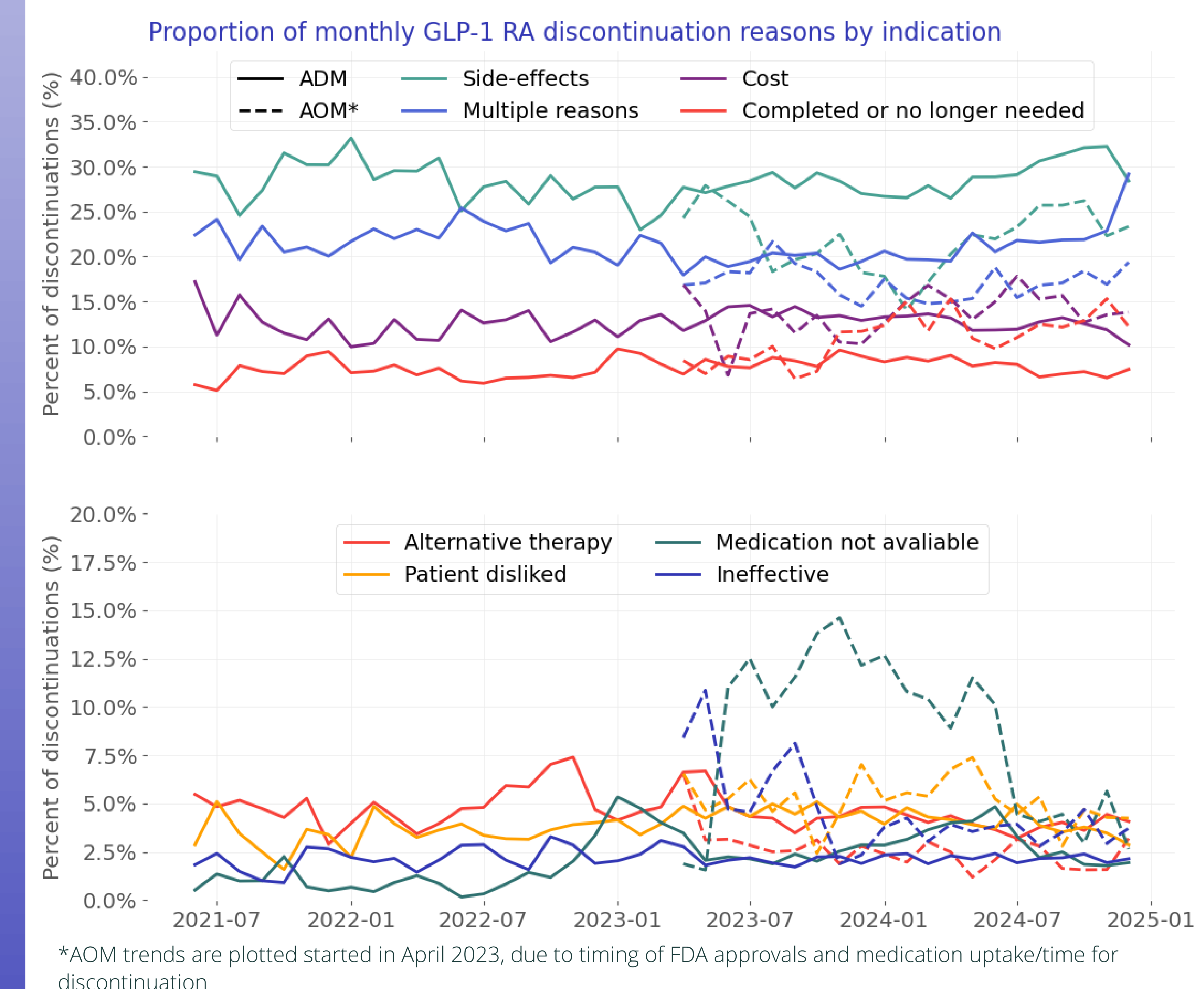- Most of the population discontinued from an ADM medications (91.2%)

Overall Trends

- Side effects were the primary reason for discontinuation (28.2%)
- A higher percentage of the population discontinued for multiple reasons; highlight the complexity of use in GLP-1 RAs
- 12.8% of the population discontinuation due to cost
- Significant differences were observed in discontinuation reasons between groups (p<0.001)

ADM Trends

- Discontinuation rates by reason remained stable across the study period
- Discontinuation due to side effects remained high (28.8%) and higher than AOM users across the study period
- Discontinuation due to medication availability peaked in January 2023 (5.3%) and June 2024 (4.8%)

AOM Trends

- Discontinuation due to therapy completion or no longer needing the medication were higher for patients discontinuing from AOMs compared to patients discontinuing from ADMs
- Discontinuation due to medication availability remained high for patients discontinuing from AOMs throughout 2023 and into the first half of 2024; peaking at 14.6% in November 2023

Proportion of monthly GLP-1 RA discontinuation reasons by indication

*AOM trends are plotted started in April 2023, due to timing of FDA approvals and medication uptake/time for discontinuation

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Side effects are the most common reported reason for AOM and ADM GLP-1 RA discontinuation; the discontinuation of AOM was high in 2023 due to medication unavailability.

REFERENCES
[1] Gratzl, S., et. al. Monitoring Report: GLP-1 RA Prescribing Trends - March 2025 Data
[2] Rodriguez, P. et. al. Discontinuation and Reinitiation of Dual-Labeled GLP-1 Receptor Agonists Among US Adults With Overweight or Obesity/ JAMA Netw Open. 2025.