RESEARCH LETTER

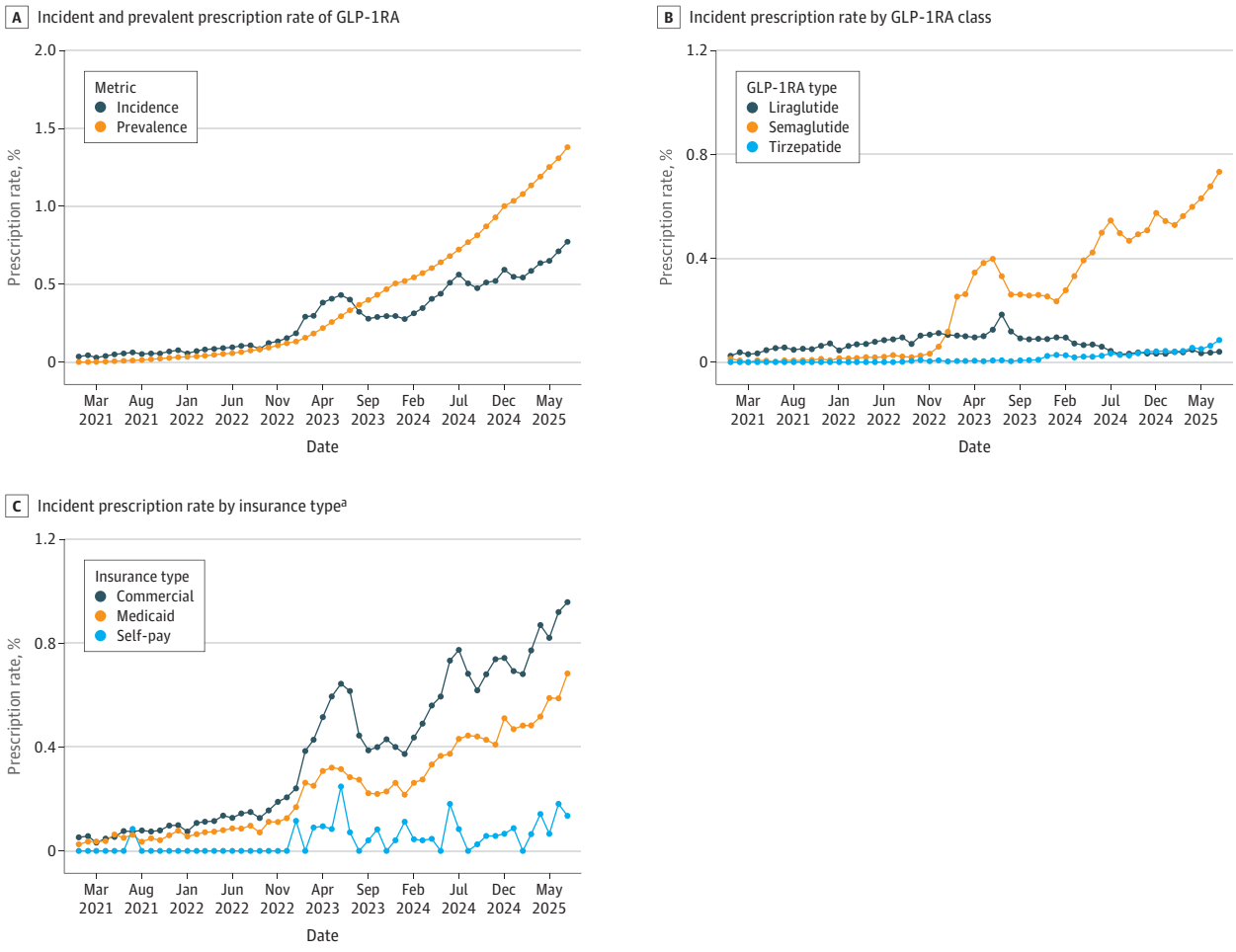
GLP-1 Receptor Agonist Prescriptions for Adolescents With Obesity and Associated Disparities

Glucagon-like peptide-1 receptor agonists (GLP-1RAs) achieve meaningful weight loss in adolescents with obesity.[1,2] Although semaglutide was approved for adolescents in December 2022, it remains unclear which adolescents are prescribed these therapies and whether access differs by demographic and socioeconomic factors. Prior studies have described eligibility and dispensing,[3,4] but not prescribing at the point of care. Using a large, national electronic health record dataset, we examined GLP-1RA prescribing patterns among adolescents in the US with obesity, including by demographic characteristics and socioeconomic status.

Supplemental content

Methods | We conducted a retrospective cohort study using the Epic Cosmos dataset from January 1, 2021, through July 31, 2025.[5] Eligible patients were adolescents aged 12 to 17 years with obesity, defined as body mass index (BMI) at or above the 95th percentile for sex-based and age-based growth charts by the US Centers for Disease Control and Prevention (eMethods in Supplement 1). We excluded patients with a diagnosis of diabetes. We investigated whether any received a prescription for a GLP-1RA (liraglutide, semaglutide, and tirzepatide).[1] Although not approved for adolescent obesity, we included tirzepatide to capture off-label prescribing. We excluded prescriptions for liraglutide combined with insulin.

Figure. Prescription Rates of Glucagon-Like Peptide-1 Receptor Agonist (GLP-1RAs) in Adolescents With Obesity, Overall and by GLP-1RA Type and Insurance Type



All prescription rates are unadjusted rate.

[a]Patients with Medicare coverage were excluded due to the small sample size.

Table. Demographic and Socioeconomic Status of Adolescents Eligible for and Prescribed Glucagon-Like Peptide-1 Receptor Agonist (GLP-1RAs) for Obesity

Characteristics[a]	No. (%) Adolescents		Proportion, %[b]
	With obesity (n = 2 090 467)	With GLP-1RA prescription (n = 19 097)	
Age at baseline, mean (SD)	14.2 (1.9)	15.0 (1.7)	NA
BMI,[c] mean (SD)	32.0 (7.6)	41.3 (8.0)	NA
Severe obesity[d]	769 349 (36.8)	16 690 (87.3)	2.2
Demographics			
Female	981 212 (46.9)	11 825 (61.9)	1.2
Male	1 109 255 (53.1)	7272 (38.1)	0.7
Hispanic/Latino	512 698 (24.5)	3942 (20.6)	0.8
Non-Hispanic Asian	51 266 (2.5)	374 (2.0)	0.7
Non-Hispanic Black	432 833 (20.7)	4354 (22.8)	1.0
Non-Hispanic White	982 474 (47.0)	9456 (49.5)	1.0
Other races[e]	66 257 (3.2)	584 (3.1)	0.9
Missing race	44 939 (2.1)	387 (2.0)	0.9
Overall SVI quartile			
1st (Last vulnerable)	275 152 (13.2)	3242 (17.0)	1.2
2nd	379 578 (18.2)	3710 (19.4)	1.0
3rd	506 155 (24.2)	4649 (24.3)	0.9
4th (Most vulnerable)	904 742 (43.3)	7220 (37.8)	0.8
Missing	24 840 (1.2)	276 (1.4)	1.1
Urbanicity[f]			
Urban	1 740 935 (83.3)	16 006 (83.8)	0.9
Nonurban	328 536 (15.7)	2840 (14.9)	0.9
Missing	20 996 (1.0)	251 (1.3)	1.2
Preferred language			
English	1 840 696 (88.1)	17 408 (91.2)	0.9
Spanish	209 381 (10.0)	1424 (7.5)	0.7
Other	40 390 (1.9)	265 (1.4)	0.7
Insurance type			
Commercial	737 390 (35.3)	9273 (48.6)	1.3
Medicaid	903 996 (43.2)	7240 (37.9)	0.8
Medicare	3981 (0.2)	37 (0.2)	0.9
Self-pay	44 277 (2.1)	45 (0.2)	0.1
Unmapped/missing[g]	400 823 (19.2)	2502 (13.1)	0.6

Abbreviations: BMI, body mass index; NA, not applicable; SVI, social vulnerability index.

[a] Summary statistics of the eligible adolescent is based on patients who meet the eligible criteria within the same period with the patients prescribed GLP-1RA (January 2021-July 2025).

[b] Proportion was calculated as the number of patients prescribed GLP-1RA products over the eligible population within each characteristic group (by row).

[c] Calculated as weight in kilograms divided by height in meters squared.

[d] Severe obesity was defined as class II or class III of adolescent obesity with BMI 120% or higher of the 95th percentile or BMI 35 or higher.

[e] Included American Indian or Alaska Native, Native Hawaiian, and Pacific Islander and recorded as other in the electronic health record.

[f] Urbanicity was classified based on Rural and Urban Commuting Area (RUCA) code. Urban was defined as RUCA code 1 to 3 and nonurban was defined as RUCA 4 to 10. [g]Included a payer or payer-like entity that does not yet have a released reference payer value.

Patient characteristics included demographics, obesity class, preferred language, insurance type, neighborhood social vulnerability, and urbanicity. We calculated the monthly incident and prevalent prescription rate, with incident prescription rates stratified by ingredient, obesity class, and insurance type. Adjusted odds ratios (aORs) and 95% CIs for GLP-1RA prescribing were estimated using multivariable logistic regression models adjusting for aforementioned characteristics. Insurance type was included as a nontime varying variable for the model. This study followed the Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) reporting guidelines and was deemed exempt from ethics review and informed consent by the US Department of Health and Human Services, Office for Human Research Protections, because it used deidentified data.

Results | Among 2 090 467 adolescents with obesity, 19 097 (0.9%) received at least 1 prescription for a GLP-1RA. The mean (SD) age of those prescribed was 15.0 (1.7) years and 87.4% (n = 16 690) had severe obesity. From the approval of semaglutide in December 2022 through July 2025, the prevalent prescription rate of GLP-1RAs increased from 0.12% to 1.38%, the incident prescription rate increased from 0.15% to 0.77% (**Figure**). Semaglutide rapidly surpassed liraglutide in uptake and off-label prescribing of tirzepatide has exceeded liraglutide prescribing since early 2025.

After adjustment through a multivariable model, prescribing varied across demographics and socioeconomic groups (**Table**). Compared with females, males were less likely to receive a prescription (aOR, 0.53; 95% CI, 0.51-0.54). Compared with non-Hispanic White adolescents, Hispanic/Latino and non-Hispanic Black adolescents had lower odds of prescriptions (aOR, 0.93; 95% CI, 0.89-0.98 and aOR, 0.89; 95% CI, 0.86-0.93, respectively). Adolescents in obesity class III were more likely to be prescribed that those in class I (aOR, 21.19; 95% CI, 20.33-22.10). Youth whose primary language was neither English nor Spanish (eg, Chinese and Arabic) vs English also had lower odds (aOR, 0.83; 95% CI, 0.73-0.94). Households in the most dis-

advantaged neighborhoods (aOR, 0.61; 95% CI, 0.58-0.64) and those living in nonurban areas (aOR, 0.89; 95% CI, 0.85-0.93) were less likely to receive a prescription. At baseline, Medicaid (aOR, 0.57; 95% CI, 0.55-0.59) was associated with lower odds compared with commercial insurance.

Discussion | In this national cohort of over 2 million adolescents with obesity, prescribing of GLP-1RAs increased to 1.4% over time but remained low. Moreover, there were disparities in prescribing, as males, Hispanic/Latino and non-Hispanic Black adolescents, those living in socioeconomically disadvantaged or rural areas, and patients insured by Medicaid were significantly less likely to receive these therapies. These disparities may reflect differences in patient or parent preferences, affordability, and insurance coverage. Collectively, these factors suggest that access to GLP-1RAs is most limited among groups already disproportionately affected by obesity and adverse obesity-related outcomes.

Our denominator-based results demonstrate Medicaid-covered youth were prescribed these medications at markedly lower rates. This divergence underscores the potential influence of insurance coverage restrictions and prior authorization requirements on prescribing practices, even setting aside the unapproved nature of tirzepatide. Limitations include the lack of information on prescription indication, insurance authorization outcomes, and medication adherence.

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