Most Adults Without Diabetes Maintain Their GLP-1 Weight Loss Through a Second Year, Though Gradual Regain Begins After the One-Year Mark

Team A: Kersten Bartelt, RN; Joe Deckert, PhD
Team B: Jen Passini, MD; Eric Barkley
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Key Findings:

- Among adults without diabetes who lost weight during their first year on a GLP-1 medication, most sustained that loss into the second year. At the two-year mark, 53.1% of semaglutide patients and 52.9% of tirzepatide patients had maintained their weight within a narrow band of their one-year weight, and a further 31.9% (semaglutide) and 39.3% (tirzepatide) had lost even more.
- By the two-year mark, up to 14.9% of patients on semaglutide and roughly 8% of patients on tirzepatide regained at least a quarter of the weight lost in year one.
- Tirzepatide patients maintained their weight loss somewhat better than semaglutide patients at every checkpoint, but the difference was modest, and both groups followed the same overall pattern of durable maintenance with slow, partial regain.

Glucagon-like peptide-1s (GLP-1s), a class of medications that includes semaglutide (sold as Ozempic and Wegovy) and tirzepatide (Mounjaro and Zepbound), have become widely used for weight management.[1] Clinical trials and research have shown substantial weight loss during the first year of treatment.[2,3] Less is known about what happens to weight among people who remain on a GLP-1 beyond a year, such as whether the weight loss they achieved in the first year was maintained or regained with continued use. Understanding this trajectory in everyday practice can help patients and clinicians set realistic expectations for long-term therapy.

We studied 25,213 U.S. adults without diabetes who started a GLP-1 medication, stayed on it continuously for at least a year, and lost at least five pounds during that first year. We then tracked their weight at monthly checkpoints from 13 to 24 months after starting treatment, measuring how much of each patient's first-year weight loss was maintained or regained. Patients were followed only while they remained on the medication; anyone with a gap of more than 60 days between prescriptions was no longer counted from that point forward.

Among adults without diabetes taking semaglutide, weight loss in the first year was largely maintained through the second year, with regain occurring slowly. One month past the one-year mark, 83.8% had held their weight steady and 9.0% had continued to lose; only 7.2% had regained at least a quarter of their first-year loss. Over the following year, that regain share rose gradually to 14.9%, while the steady-plus-continued-loss share remained the large majority (85.0% at the two-year mark). Full return to baseline weight remained rare, ending at 1.5%. Because patients were followed only while they stayed on semaglutide, those still being measured at later checkpoints reflect people who tolerated and responded to the medication, which may make weight-loss retention look more favorable than it would in a group that included those who discontinued treatment.

Weight Change During the Second Year of Semaglutide Use

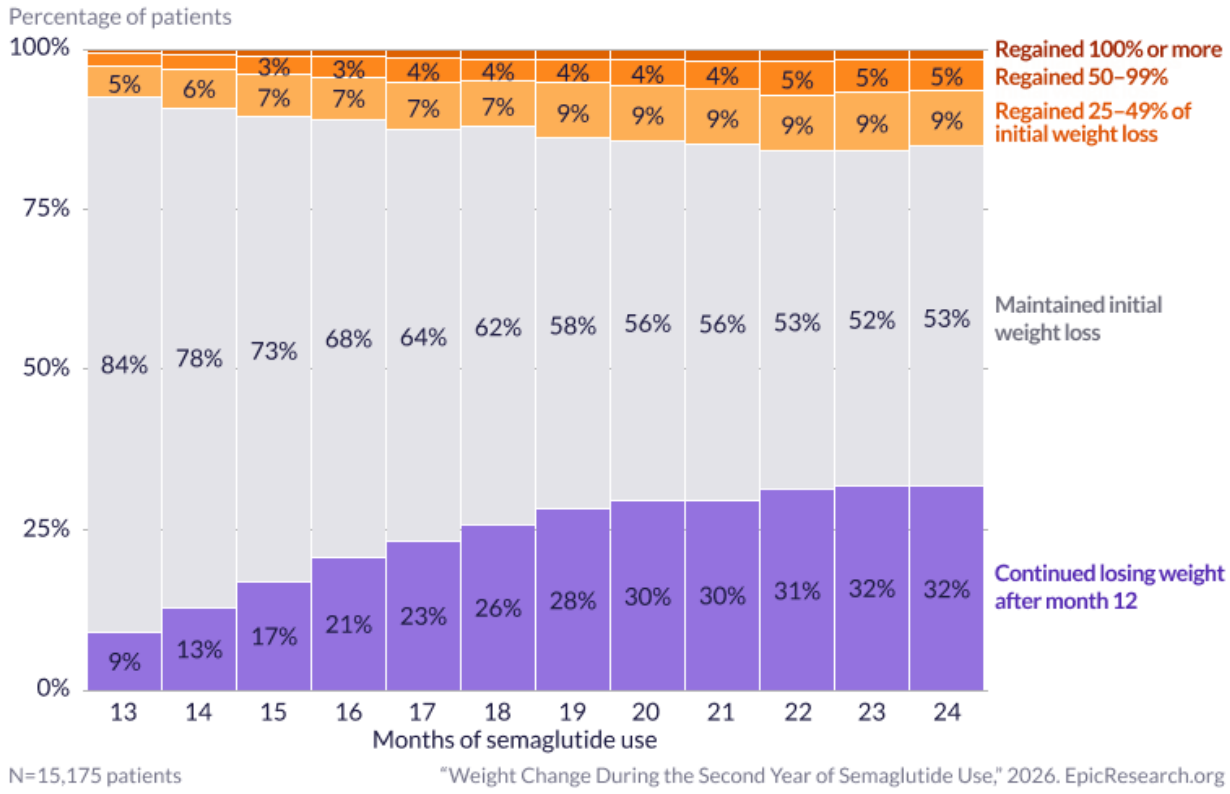

Figure 1. The distribution of patients without diabetes by whether they maintained or regained a portion of their first-year semaglutide weight loss, at monthly checkpoints from 13 to 24 months after starting treatment.

Patients on tirzepatide without diabetes maintained their first-year loss even more consistently than semaglutide patients. At one month past the one-year mark, 89.0% had held steady and only 4.2% had regained at least 25% of their weight loss. By the two-year mark, 52.9% remained steady, and a notably large 39.3% were still losing weight, while meaningful regain reached only about 8% and full regain to baseline remained at or below 1% of the population. As with semaglutide, this favorable picture partly reflects that the patients at later months are those who stayed on the medication, so the figures describe weight trends among continuing users rather than everyone who ever started.

Weight Change During the Second Year of Tirzepatide Use

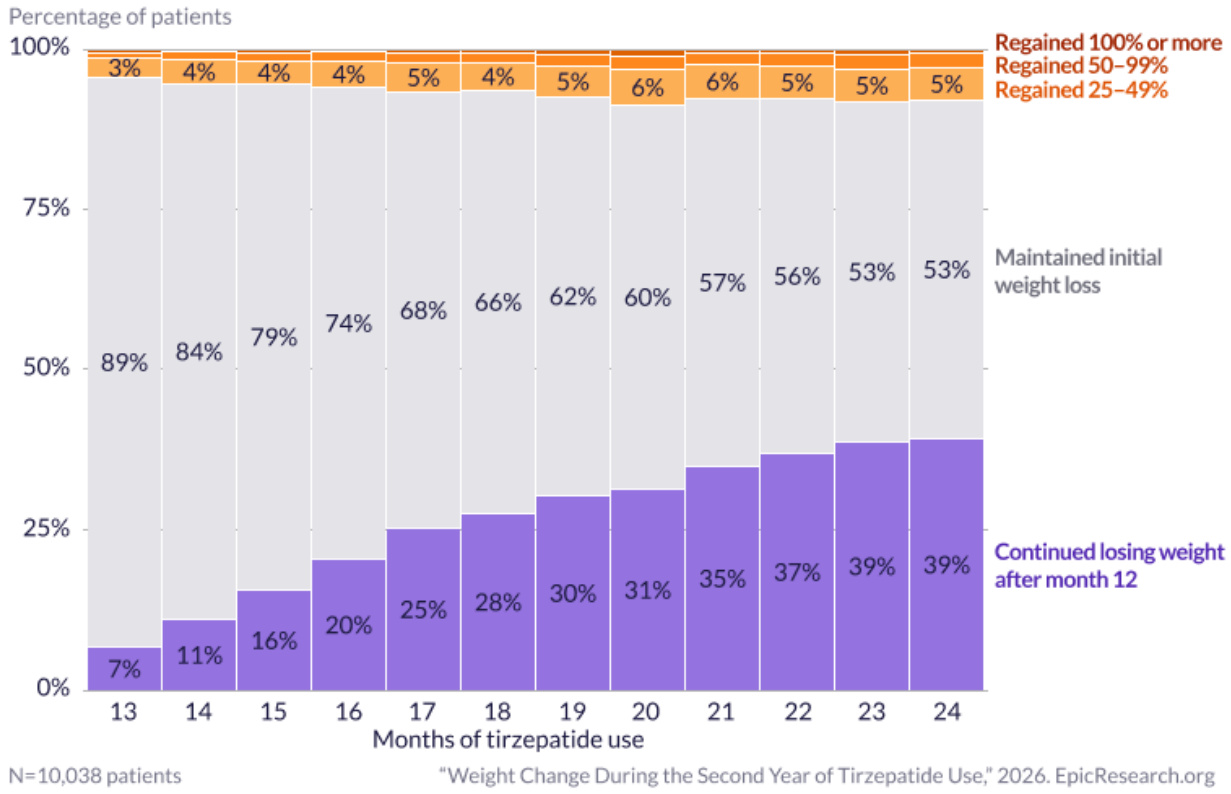

Figure 2. The distribution of patients without diabetes by whether they maintained or regained a portion of their first-year tirzepatide weight loss, at monthly checkpoints from 13 to 24 months after starting treatment.

These data come from Cosmos, a dataset created in collaboration with a community of Epic health systems representing more than 310 million patient records from 2,100 hospitals and more than 49,000 clinics from all 50 U.S. states, Canada, Lebanon, and Saudi Arabia. This study was completed by two teams that worked independently, each composed of a clinician and research scientist. The two teams came to similar conclusions. Graphics by Brian Olson.

References

1. Müller TD, Finan B, Bloom SR, et al. Glucagon-like peptide 1 (GLP-1). Mol Metab. 2019;30:72-130. doi:10.1016/j.molmet.2019.09.010
2. Wilding JPH, Batterham RL, Calanna S, et al. Once-Weekly Semaglutide in Adults with Overweight or Obesity. N Engl J Med. 2021;384(11):989-1002. doi:10.1056/NEJMoa2032183
3. Little D, Deckert J, Bartelt K, Ganesh M, Stamp T. Weight Change With Semaglutide. Epic Research. https://epicresearch.org/articles/diabetes-drug-helps-with-weight-loss-in-both-diabetics-and-non-diabetics. Accessed on June 26, 2026.

Data Definitions

Term	Definition
Study period	1/1/2022 to 5/1/2026
Study population: inclusion	Adult patients (18+) without **diabetes** with all of the following: • First exposure to a **GLP-1 medication** lasting over one year

	• At least one **GLP-1** order or dispense with no gap >60 days between consecutive orders/dispenses during the first year (each order/fill assumed to cover 60 days) • Weight readings within 30 days of beginning the GLP-1 and within 30 days of the one-year mark • Weight loss of at least five pounds in the first year • Care received in the United States
Study population: exclusion	Any of the following before starting the GLP-1: • **Bariatric surgery** • **Malignancy** • **CKD stage 4+** • **CHF** Additional exclusion: • Patients who switch GLP-1 type during the first year of exposure • Patient-reported GLP-1s only (no order or dispense)
Index date	Date of first GLP-1 order or dispense meeting continuity criteria
Follow-up window	Discrete weight measurement checkpoints monthly from 13 to 24 months after the **index date**
Censoring	A patient is censored at a given checkpoint if any of the following apply: • More than 60 days since the last **GLP-1** order or dispense • **Pregnancy** • Development of **CHF, amputation**, or **CKD stage 4+**
Exposure	Weight change relative to first year of **GLP-1** use, by **GLP-1** ingredient
Outcome	Percent of the initial weight loss retained or regained at each monthly checkpoint, calculated as: (weight at checkpoint − weight at year one) / (weight at year one − weight on **index date**) × 100
GLP-1 medication	Orders or dispenses for: • Semaglutide (Ozempic, Wegovy, Rybelsus) • Tirzepatide (Mounjaro, Zepbound)
Bariatric surgery	CPT codes 43644, 43645, 43770, 43775, 43842, 43843, 43845, 43846, 43847, 43848
Malignancy	ICD-10-CM codes C00*–C96*
Pregnancy	ICD-10-CM codes O* or a pregnancy episode
Amputation	A procedure with ICD-10-PCS code 0Y6* or a diagnosis with ICD-10-CM Z89.41*–Z89.44*, Z89.51*, or Z89.56*
CKD stage 4+	ICD-10-CM N18.4, N18.5, N18.6
CHF	ICD-10-CM code I50*
Diabetes	Type 1 diabetes: ICD-10-CM E10* Type 2 diabetes: ICD-10-CM E11* Other specified diabetes: ICD-10-CM E08*, E09*, E13*
Stratifications	GLP-1 ingredient
Model specifications	Descriptive analysis: percent of year-1 weight loss retained at monthly checkpoints from 13 to 24 months, reported overall and within each ingredient
Limitations	Patients were followed only while on the GLP-1, so later checkpoints are enriched for adherent responders (survivor bias) and reflect weight trends among continuing users, not all initiators. Dosage changes alter the expected weight trajectory. Patients switching directly between GLP-1 types are excluded. Lifestyle and dietary factors influencing weight regain are not captured in EMR data.

	Weight measurements vary in setting, timing, and instrumentation across encounters.

Table 1. Weight Change During the Second Year of Semaglutide Use, Overall

Month	N	Continued Loss (%)	Maintained (%)	Regain 25 to 49 (%)	Regain 50 to 99 (%)	Full Regain (%)
13mo	15,175	9	83.8	4.8	1.9	0.5
14mo	13,776	12.9	78.1	6	2.3	0.7
15mo	12,928	16.9	72.8	6.7	2.7	0.9
16mo	10,297	20.8	68.3	6.6	3.3	1
17mo	8,778	23.4	64.4	7.4	3.6	1.3
18mo	9,158	25.9	62.1	7.1	3.5	1.3
19mo	6,670	28.3	58	8.5	3.7	1.4
20mo	5,637	29.6	56.4	8.6	4	1.5
21mo	4,751	29.7	55.5	8.7	4.4	1.6
22mo	4,027	31.4	52.9	8.7	5.1	1.8
23mo	3,353	32.1	52.3	9.2	5	1.5
24mo	3,710	31.9	53.1	8.7	4.7	1.5

Table 2. Weight Change During the Second Year of Semaglutide Use, Female

Month	N	Continued Loss (%)	Maintained (%)	Regain 25 to 49 (%)	Regain 50 to 99 (%)	Full Regain (%)
13mo	12,295	8.3	85.3	4.5	1.6	0.4
14mo	11,142	12.3	79.5	5.5	2.1	0.6
15mo	10,465	16.6	74	6.1	2.4	0.9
16mo	8,374	20.7	69.4	6.1	3	0.8
17mo	7,174	23.7	65	6.6	3.4	1.2
18mo	7,342	26.4	62.8	6.3	3.3	1.2
19mo	5,447	28.7	58.8	7.9	3.3	1.2
20mo	4,607	29.9	57.2	7.8	3.7	1.4
21mo	3,929	30.7	55.9	7.9	4	1.5
22mo	3,355	32.1	53.6	8.1	4.4	1.7
23mo	2,770	32.5	53.1	8.4	4.6	1.4
24mo	3,028	32.9	53.2	8.2	4.4	1.3

Table 3. Weight Change During the Second Year of Semaglutide Use, Male

Month	N	Continued Loss (%)	Maintained (%)	Regain 25 to 49 (%)	Regain 50 to 99 (%)	Full Regain (%)
13mo	2,875	11.9	77.6	6.5	3.2	0.8
14mo	2,625	15.5	72	8.2	3.4	0.8
15mo	2,456	18	67.8	9.4	3.8	1.1
16mo	1,920	21.5	63.8	8.6	4.6	1.5
17mo	1,601	21.5	61.7	10.7	4.2	1.8
18mo	1,812	24.1	59.2	10.3	4.6	1.8
19mo	1,220	26.3	54.6	11.1	5.6	2.4
20mo	1,028	28.2	52.7	12.1	5.3	1.8

21mo	821	25	53.7	12.5	6.5	2.3
22mo	670	27.6	49.7	11.8	8.5	2.4
23mo	581	30.1	48.2	13.3	6.5	1.9
24mo	681	27.6	52.9	11.2	6.2	2.2

Table 4. Weight Change During the Second Year of Tirzepatide Use, Overall

Month	N	Continued Loss (%)	Maintained (%)	Regain 25 to 49 (%)	Regain 50 to 99 (%)	Full Regain (%)
13mo	10,038	6.8	89	3	0.9	0.3
14mo	8,359	11.2	83.6	3.8	1.3	0.2
15mo	7,621	15.6	79.2	3.6	1.2	0.4
16mo	5,575	20.4	73.8	4.1	1.5	0.2
17mo	4,558	25.4	68.2	4.5	1.6	0.4
18mo	4,644	27.7	66	4.4	1.5	0.4
19mo	3,121	30.4	62.3	4.8	1.8	0.7
20mo	2,412	31.3	60.2	5.6	1.9	1
21mo	1,968	35	57.4	5.5	1.7	0.4
22mo	1,587	37	55.6	5	1.9	0.5
23mo	1,285	38.8	53.2	5.2	2.2	0.6
24mo	1,344	39.3	52.9	5.2	2.2	0.4

Table 5. Weight Change During the Second Year of Tirzepatide Use, Female

Month	N	Continued Loss (%)	Maintained (%)	Regain 25 to 49 (%)	Regain 50 to 99 (%)	Full Regain (%)
13mo	7,696	6.1	90.3	2.6	0.8	0.3
14mo	6,418	10.5	85.1	3.1	1.1	0.2
15mo	5,850	15.4	80.2	3	1.1	0.3
16mo	4,306	20.4	74.6	3.5	1.3	0.2
17mo	3,536	26	68.5	3.7	1.4	0.4
18mo	3,523	29.2	65.7	3.6	1.1	0.3
19mo	2,447	31.6	62	4.1	1.7	0.7
20mo	1,858	32.6	59.7	4.8	1.9	1
21mo	1,480	36.8	56.9	4.3	1.6	0.4
22mo	1,228	38.4	54.7	4.8	1.8	0.3
23mo	992	42.2	50.6	4.3	2	0.9
24mo	1,020	40.4	52.6	4.7	1.8	0.5

Table 6. Weight Change During the Second Year of Tirzepatide Use, Male

Month	N	Continued Loss (%)	Maintained (%)	Regain 25 to 49 (%)	Regain 50 to 99 (%)	Full Regain (%)
13mo	2,339	9	84.5	4.4	1.5	0.6
14mo	1,941	13.5	78.4	5.8	2.1	0.2
15mo	1,768	16.3	76	5.5	1.7	0.5
16mo	1,268	20.3	71	6.3	2.2	0.2
17mo	1,022	23.5	67.1	7	2.1	0.3
18mo	1,120	22.9	66.7	6.9	2.9	0.6

19mo	674	26.3	63.5	7.3	2.1	0.8
20mo	554	26.9	61.9	8.3	2	0.9
21mo	488	29.3	58.8	9	2.3	0.6
22mo	359	32.3	58.8	5.8	2.3	0.8
23mo	293	27	61.8	8.2	2.4	0.6
24mo	324	35.8	53.7	6.8	3.4	0.3