

# Two Years After Stopping GLP-1s, Most Patients Sustain at Least Some Weight Loss

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## Key Findings

- At 24 months post-cessation, 56% of semaglutide, 52% of liraglutide, and 55% of tirzepatide patients kept the weight off or lost additional weight.
- Complete weight regain occurred in 23% of semaglutide, 21% of tirzepatide, and 27% of liraglutide users at 24 months.
- Weight trajectories stabilized after 12 months, with only small variations in the distribution of weight outcomes through year two.

GLP-1 medications, including semaglutide, liraglutide, and tirzepatide, are increasingly used for weight loss. While effective during treatment, their long-term benefit hinges on whether weight loss persists after discontinuation. We previously showed promising one-year outcomes,<sup>1</sup> but questions remain about longer-term trends.

To understand the durability and stability of weight outcomes after stopping GLP-1s, we studied 188,722 patients who stopped using a GLP-1 medication after being on it for at least 90 days and who lost at least 5 pounds while on it. Patients were grouped based on whether they regained weight, maintained their weight loss, or experienced further weight reduction.

Two years after stopping GLP-1 treatment, most patients had sustained at least some of their weight loss. For semaglutide, 25.9% doubled their weight loss, 15.6% had some additional weight loss, and 14.6% maintained their initial loss, totaling 56.1% in the sustained or improved categories.

## Proportion of Patients by Weight Change After Stopping Semaglutide

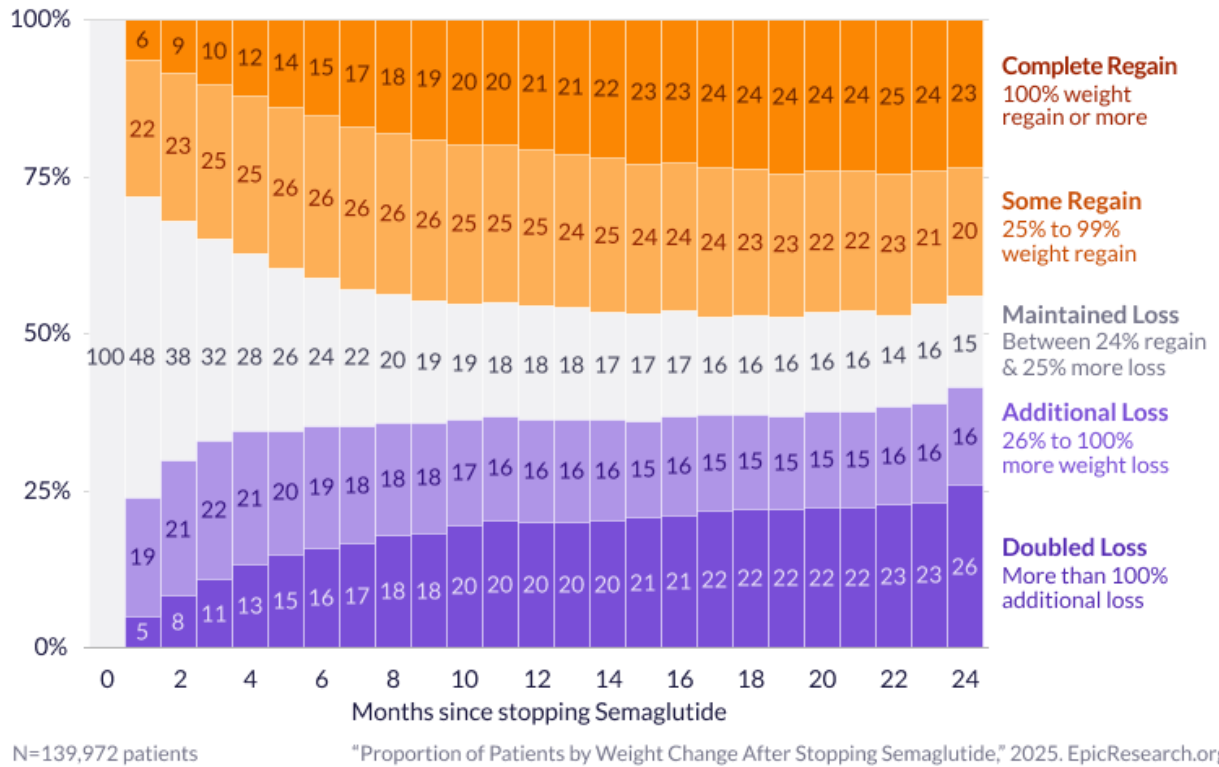
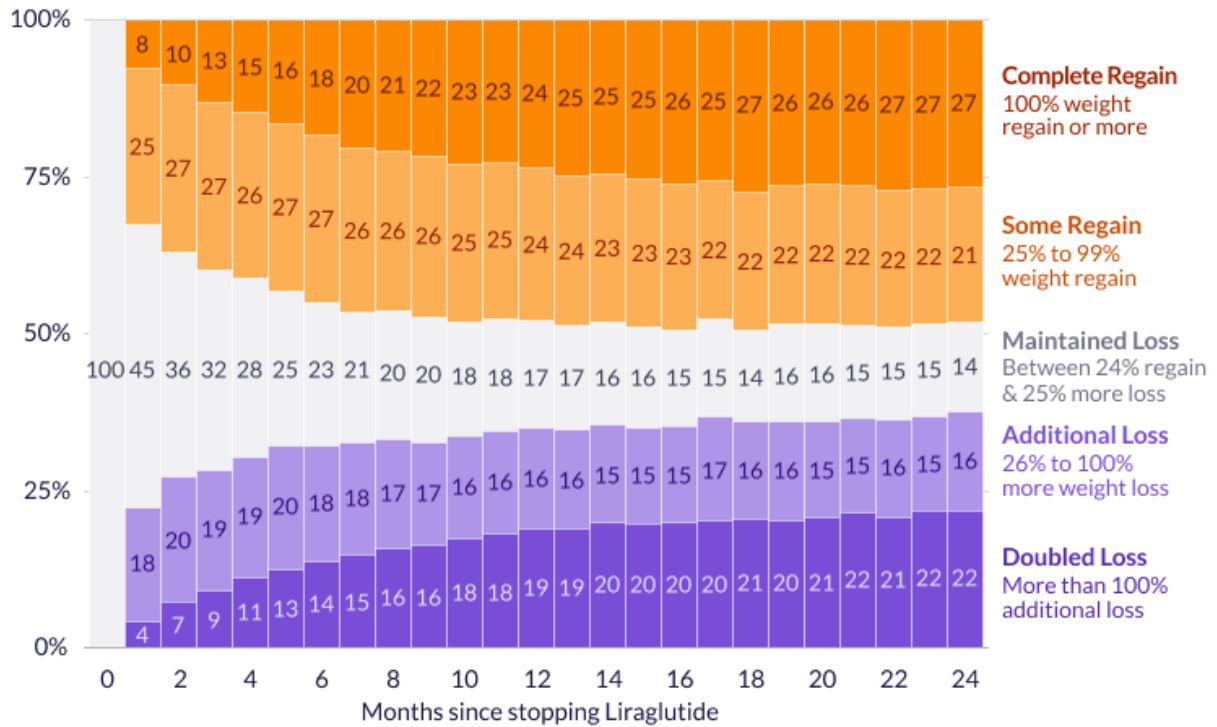


Figure 1. The proportion of patients by amount of weight regained or lost after stopping semaglutide.

For liraglutide, 21.8% of patients doubled their weight loss, 15.9% lost some additional weight, and 14.2% maintained their loss, with 51.9% in total maintaining or losing more weight.

## Proportion of Patients by Weight Change After Stopping Liraglutide



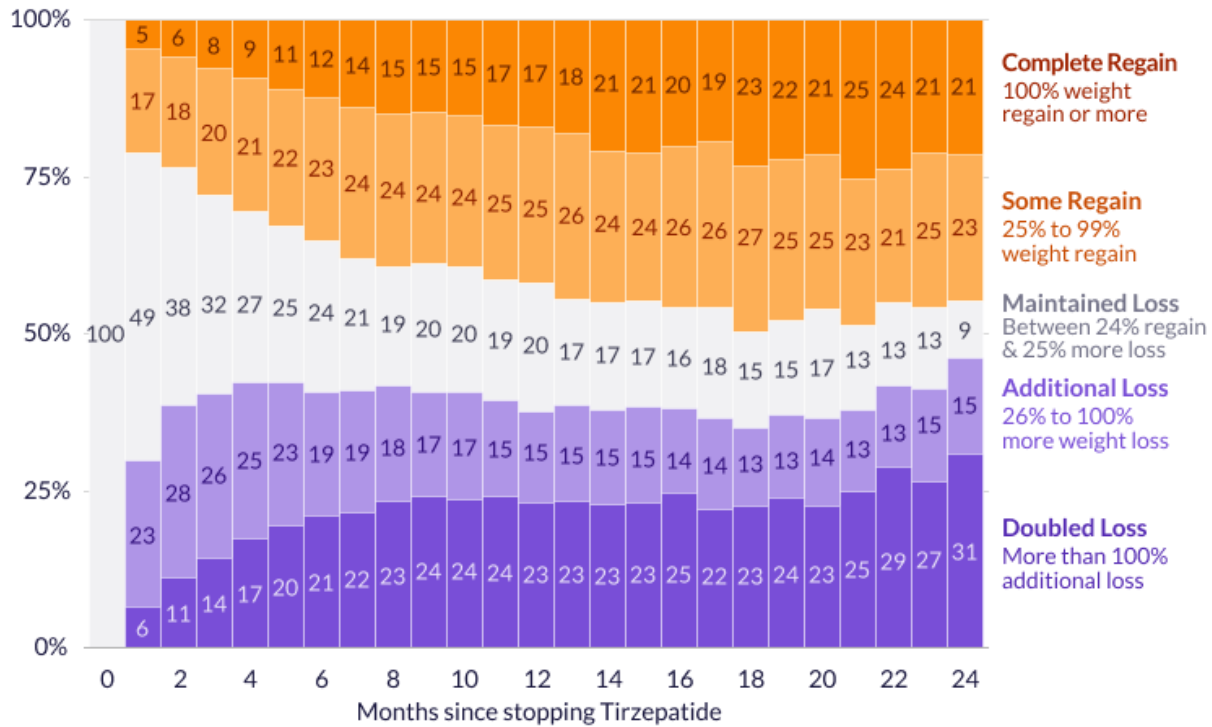
N=23,377 patients

"Proportion of Patients by Weight Change After Stopping Liraglutide," 2025. EpicResearch.org

Figure 2. The proportion of patients by amount of weight regained or lost after stopping liraglutide.

Among patients who stopped taking tirzepatide, 31.0% doubled their weight loss after two years, 15.2% lost some additional weight, and 9.0% maintained their initial loss, with 55.2% in total maintaining or losing more weight.

## Proportion of Patients by Weight Change After Stopping Tirzepatide



N=25,373 patients

"Proportion of Patients by Weight Change After Stopping Tirzepatide," 2025. EpicResearch.org

Figure 3. The proportion of patients by amount of weight regained or lost after stopping tirzepatide.

Across all groups, proportions in each weight category stabilized after 12 months, with small variations between months 12 and 24, suggesting long-term weight trajectories are largely set by one-year post-cessation. Stratification by patient sex and age showed similar distributions.

*These data come from Cosmos, a dataset created in collaboration with a community of Epic health systems representing more than 300 million patient records from 1,700 hospitals and more than 40,000 clinics from all 50 U.S. states, Lebanon, and Saudi Arabia. This study was completed by two teams that worked independently, each composed of a clinician and research scientists. The two teams came to similar conclusions. Graphics by Brian Olson.*

## References

1. Bartelt K, Mast C, Deckert J, Gracianette M, Joyce B. Many Patients Maintain Weight Loss a Year After Stopping Semaglutide and Liraglutide. Epic Research. <https://epicresearch.org/articles/many-patients-maintain-weight-loss-a-year-after-stopping-semaglutide-and-liraglutide>. Accessed on August 4, 2025.

## Data Definitions

Term	Definition
<b>Study period</b>	1/1/2017 to 7/1/2025
<b>Study population: inclusion</b>	Patients with A GLP-1 prescription for at least 90 days At least five pounds of weight loss while on the GLP-1 A weight reading between 30 days prior through 3 days after starting the GLP-1 A weight reading within 30 days of stopping the GLP-1 At least one weight reading 1 to 24 months following end of the GLP-1
<b>Study population: exclusion</b>	Thyroid conditions (ever): ICD-10-CM E03* or E05* Eating disorders (ever): ICD-10-CM F50* Pregnancy within a year before GLP-1 start through GLP-1 stop
<b>Censoring</b>	Other weight loss medication or restart of GLP-1 Amputation Bariatric surgery Pregnancy that started in period after GLP-1 was stopped
<b>Outcomes</b>	Percent of weight change relative to initial weight loss after end of GLP-1 treatment
<b>GLP-1</b>	A medication with a simple generic of semaglutide, liraglutide, or tirzepatide.
<b>Other weight loss medications</b>	Orders with one of the following pharmaceutical classes and not associated with any GLP-1 simple generics: ANTI-OBESITY SEROTONIN 2C RECEPTOR AGONISTS ANTI-OBESITY-OPIOID ANTAG-NOREPI,DOPAMINE RU INHIB ANTI-OBESITY - ANOREXIC AGENTS ANTI-OBESITY - MELANOCORTIN 4 RECEPTOR AGONISTS
<b>End of GLP-1 treatment</b>	Calculate the date following the last end date of GLP-1 agonist drug represented by the end date calculated based on the number of refills as (refills + 1) * 28 after the treatment start date.
<b>Amputation</b>	A diagnosis with ICD-10-CM code Z89.2*, Z89.6*, S78.011A, S98.011A, S78.012A, S98.012A, S78.019A, S98.019A, S78.021A, S98.021A, S78.022A, S98.022A, S78.029A, S98.029A, S78.111A, S98.111A, S78.112A, S98.112A, S78.119A, S98.119A, S78.121A, S98.121A, S78.122A, S98.122A, S78.129A, S98.129A, S78.911A, S98.131A, S78.912A, S98.132A, S78.919A, S98.139A, S78.921A, S98.141A, S78.922A, S98.142A, S78.929A, S98.149A, S88.011A, S98.211A, S88.012A, S98.212A, S88.019A, S98.219A, S88.021A, S98.221A, S88.022A, S98.222A, S88.029A, S98.229A, S88.111A, S98.311A, S88.112A, S98.312A, S88.119A, S98.319A, S88.121A, S98.321A, S88.122A, S98.322A, S88.129A, S98.329A, S88.911A, S98.911A, S88.912A, S98.912A, S88.919A, S98.919A, S88.921A, S98.921A, S88.922A, S98.922A, S88.929A, S98.929A or a procedure with ICD-10-PCS code 0Y6[23478CDFGHJ]* or 0X6[012389BCDF]*
<b>Pregnancy</b>	A diagnosis with ICD-10-CM code O*, a pregnancy episode, or a birth record
<b>Bariatric surgery</b>	A procedure with CPT code 43644, 43645, 43659, 43770, 43771, 43772, 43773, 43774, 43775, 43845, 43846, 43847, 43848, 43886, 43887, 43888, 43842, or 43843

<b>Limitations</b>	We allow a patient to be included in each month, using their highest weight in that month. Patients who have repeated weight measurements might be the extremes of weight change.
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**Table 1: Characteristics of Study Population**

		Patients
Overall	Total	323,782
Age	12 to 17	1,026
	18-34	40,024
	35-49	83,482
	50-64	114,996
	65+	84,222
Drug	Liraglutide	23,377
	Semaglutide	139,972
	Tirzepatide	25,373
Sex	Female	196,768
	Male	126,979
Weight lost	10 to 19 pounds	119,301
	20 to 39 pounds	63,689
	40+ pounds	17,125
	5 to 9 pounds	123,667
Diabetic Status	Non-diabetic	167,082
	Diabetic	156,700

**Table 2: Proportion of Patients by Weight Change After Stopping Semaglutide**

Months Since End	Doubled Loss	Some Addl Loss	Maintained Loss	Some Regain	Complete Regain	Patients
1	5.01	19.01	47.80	21.80	6.39	68,754
2	8.47	21.46	38.07	23.48	8.52	56,898
3	10.92	22.13	32.11	24.66	10.18	50,380
4	13.32	21.13	28.26	25.23	12.05	41,709
5	14.92	19.75	25.71	25.78	13.84	36,833
6	16.02	19.32	23.54	25.81	15.31	33,489
7	16.77	18.49	21.79	25.86	17.10	29,566
8	17.94	18.01	20.30	25.61	18.14	25,045

9	18.32	17.61	19.31	25.79	18.97	23,087
10	19.66	16.66	18.52	25.31	19.86	21,541
11	20.42	16.41	18.09	25.29	19.79	19,181
12	20.07	16.33	18.20	24.84	20.55	17,772
13	20.08	16.21	17.84	24.41	21.45	16,123
14	20.21	16.12	17.17	24.51	21.98	14,610
15	20.89	15.34	17.06	23.80	22.92	13,157
16	21.08	15.88	16.78	23.58	22.68	12,180
17	21.86	15.22	15.71	23.60	23.61	11,333
18	22.24	14.99	15.70	23.30	23.76	10,344
19	22.02	14.99	15.65	22.88	24.46	9,406
20	22.38	15.28	15.91	22.40	24.02	8,479
21	22.35	15.36	16.00	22.22	24.06	7,592
22	22.88	15.55	14.46	22.55	24.56	6,731
23	23.11	15.88	15.70	21.24	24.08	5,938
24	25.89	15.58	14.64	20.42	23.47	2,650

**Table 3: Proportion of Patients by Weight Change After Stopping Liraglutide**

Months Since End	Doubled Loss	Some Addl Loss	Maintained Loss	Some Regain	Complete Regain	Patients
1	4.37	18.03	45.15	24.78	7.68	11,580
2	7.32	19.89	35.93	26.61	10.26	9,839
3	9.08	19.37	31.69	26.83	13.02	8,907
4	11.36	19.17	28.47	26.43	14.57	7,763
5	12.66	19.64	24.62	26.67	16.40	7,127
6	13.80	18.47	22.81	26.71	18.21	6,545
7	14.84	17.85	20.65	26.40	20.26	6,045

8	15.97	17.41	20.30	25.50	20.81	5,203
9	16.31	16.55	19.76	25.72	21.66	4,985
10	17.52	16.17	18.23	25.12	22.96	4,909
11	18.14	16.49	17.84	24.85	22.67	4,591
12	18.93	16.14	17.14	24.24	23.55	4,336
13	19.12	15.71	16.56	23.81	24.80	4,137
14	20.09	15.43	16.46	23.43	24.59	3,888
15	19.86	15.33	16.07	23.35	25.41	3,641
16	19.99	15.47	15.21	23.30	26.02	3,536
17	20.31	16.54	15.47	22.18	25.50	3,530
18	20.65	15.51	14.47	22.06	27.31	3,255
19	20.44	15.59	15.66	22.00	26.31	3,155
20	20.76	15.47	15.54	22.19	26.04	3,064
21	21.68	14.91	14.81	22.20	26.40	2,924
22	20.84	15.65	14.63	21.68	27.20	2,735
23	21.78	15.12	14.63	21.63	26.83	2,672
24	21.85	15.93	14.20	21.37	26.66	1,268

**Table 4: Proportion of Patients by Weight Change After Stopping Tirzepatide**

Months Since End	Doubled Loss	Some Addl Loss	Maintained Loss	Some Regain	Complete Regain	Patients
1	6.49	23.30	48.92	16.57	4.72	12,909
2	11.16	27.51	37.91	17.64	5.78	9,951
3	14.43	26.02	31.54	20.35	7.66	8,397
4	17.43	24.85	27.21	21.16	9.35	6,655
5	19.66	22.56	24.96	21.74	11.08	5,580
6	21.19	19.49	24.21	22.85	12.25	4,945

7	21.60	19.32	21.10	24.08	13.89	4,203
8	23.41	18.32	19.09	24.27	14.91	3,494
9	24.19	16.57	20.33	24.26	14.65	3,059
10	23.59	17.27	19.89	23.99	15.26	2,785
11	24.29	15.26	19.08	24.63	16.74	2,359
12	23.18	14.55	20.32	24.93	17.02	2,062
13	23.42	15.34	16.73	26.50	18.01	1,721
14	22.87	15.06	17.02	24.13	20.92	1,434
15	23.27	15.06	16.92	23.52	21.24	1,182
16	24.69	13.59	15.89	25.65	20.19	1,045
17	22.11	14.43	17.75	26.23	19.47	873
18	22.63	12.52	15.17	26.55	23.14	791
19	24.03	13.02	15.16	25.46	22.32	699
20	22.70	13.81	17.46	24.60	21.43	630
21	25.10	12.85	13.44	23.32	25.30	506
22	28.93	12.98	12.98	21.41	23.69	439
23	26.54	14.80	12.85	24.58	21.23	358
24	31.03	15.17	8.97	23.45	21.38	145