

Weight regain after stopping newer weight management drugs is faster than anticipated

This systematic review and meta-analysis, published in the *BMJ*, demonstrated that people regain weight at an average rate of 0.4 kg per month after cessation of any weight management medication, with a return to baseline weight after an estimated 1.7 years. Weight regain is faster in those stopping semaglutide or tirzepatide, at an average rate of 0.8 kg per month, with estimated return to baseline weight by 1.5 years after cessation. Although behavioural weight management programmes result in a lower average weight loss of 5.1 kg, the rate of weight regain is consistently slower than after drug treatment. Perhaps surprisingly, the rate of weight regain was not influenced by current support programmes during drug treatment or after cessation. The data presented are averages, however, and the authors highlight that a small number of people will maintain sustained weight loss after drug treatment is stopped. Although treatment with incretin therapies results in improvements in glycaemia, blood pressure, total cholesterol and triglycerides, these return to baseline levels at an estimated 1.4 years after treatment stops. The time to return to baseline weight after cessation in this study was shorter than estimates used in cost-effectiveness modelling in NICE guidelines.

According to the Office for Health Improvement and Disparities, the prevalence of obesity in the UK in 2025 was 26.2%. Overweight and obesity are associated with multiple long-term conditions and contribute to both morbidity and mortality. Modern weight management medications, such as semaglutide and tirzepatide, are highly effective at facilitating weight loss and are prescribed to large numbers of people, both privately and on the NHS, in the UK. Real-world data show around 50% of people who take weight management drugs discontinue within 1 year, although some people reinstate therapy at a later date (Rodriguez et al, 2025).

Weight regain following weight loss, however that weight loss is achieved, is common. In a previous systematic review of weight regain following behavioural weight management programmes, Hartmann-Boyce et al (2023a) identified that, after a mean weight loss of 2.4 kg, weight regain occurred at a rate of 0.02 kg per month, with evidence of cardiometabolic benefit persisting for 5 years.

The present study

In this systematic review and meta-analysis published in the *BMJ*, [West and colleagues](#)

sought to identify rates of weight regain after cessation of weight management medications, and to compare rates of weight regain with the newer, more effective agents compared with the older, less effective drugs. Data from 37 studies in people with overweight or obesity were evaluated (35 randomised controlled trials, of which 28 had a control group in both the intervention and follow-up phases), including 63 intervention arms.

Included studies used weight management medications for at least 8 weeks, with a follow-up of at least 4 weeks after stopping treatment, comparing drug therapy with any non-drug weight loss intervention or placebo. In total, 9341 participants (6322 on previously or currently licensed weight management drugs and 3019 on non-drug therapies or placebo) were included. Three different methods were used to analyse the data: mixed-effects, meta-regression and time-to-event models. A prespecified sensitivity analysis, including only studies with a low risk of bias, was also undertaken; this showed similar findings.

Drugs included in the analysis, and the number of treatment arms, are listed in *Box 1*. The primary outcome was weight regain after cessation of weight management drugs,



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Box 1. Drugs included in the analysis (number of treatment arms listed in brackets).

- Liraglutide (12)
- Semaglutide (8)
- Tirzepatide (7)
- Orlistat (7)
- Fenfluramine (7)
- Cagrilintide (5)
- Sibutramine (5)
- Dexfenfluramine (3)
- Rimonabant (3)
- Phentermine (2)
- Diethylpropion hydrochloride (1)
- Lorcaserin (1)
- Topiramate (1)



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Table 1. Weight loss and regain with behavioural weight management interventions (using reanalysed data from Hartmann-Boyce et al, 2023a) and weight management medications.

	Behavioural intervention (indirect comparison)	All weight management drugs	All incretin drugs	Semaglutide and tirzepatide
Mean weight loss achieved	5.1 kg	8.3 kg	10.1 kg	14.7 kg
Estimated rate of weight regain (mixed-effects model)	0.1 kg/month	0.4 kg/month (95% CI 0.3–0.5)	0.5 kg/month (95% CI 0.4–0.7)	0.8 kg/month (95% CI 0.7–0.9)
Estimated weight regain within 1 year	Not estimated	4.8 kg	6.0 kg	9.9 kg
Projected return to baseline weight	3.9 years	1.7 years	1.6 years	1.5 years

and secondary outcomes were changes in cardiometabolic markers (HbA_{1c}, blood pressure, total cholesterol and triglycerides).

Results

Mean treatment duration was 39 weeks (range 11–176 weeks) and average post-cessation follow-up was 32 weeks (range 4–104 weeks); only one study had a follow-up greater than 1 year. Mean weight loss for those on weight management drugs was 8.3 kg (95% confidence interval [CI] 7.2–9.5), compared with 3.2 kg in controls. Data were analysed across three groups: all weight management drugs, all incretin mimetics and the newer incretin drugs semaglutide and tirzepatide.

The average rate of weight regain was 0.4 kg per month (95% CI 0.3–0.5) in the intervention groups and 0.3 kg per month (95% CI 0.2–0.4) in controls. *Table 1* compares the rate of weight regain between the different groups of weight management drugs, alongside re-evaluation of a previous review of behavioural weight management programmes assessing weight change to 2 years post-treatment (Hartmann-Boyce et al, 2023a).

Compared with controls in the randomised trials, weight loss was 5.7 kg, 8.0 kg and 12.3 kg for all weight management drugs, all incretins and semaglutide/tirzepatide, respectively, with significantly higher rates of monthly regain of 0.3 kg, 0.6 kg and 0.8 kg. Across the trials, the time-to-event model estimated that the time to no difference between the intervention and controls was 1.4 years, 1.1 years and 1.3 years, respectively, after cessation of the three groups of drugs.

The time-to-event model also suggested that fasting glucose, systolic blood pressure, total cholesterol and triglycerides would return to baseline levels within a year of drug cessation, while HbA_{1c} and diastolic blood pressure were predicted to return to baseline by 1.4 years.

The rate of weight regain was not influenced by intensity of behavioural support during drug treatment, nor by behavioural support or metformin compared to no support after drug cessation. However, in studies with any incretin mimetic, participants receiving behavioural weight management during active therapy achieved an average of 6.7 kg greater weight loss than those receiving medication alone (although weight regain was also faster). The NICE (2025) weight management Quality Standard recommends provision of support after drug cessation, but this study demonstrated that support offered during or after treatment did not influence rates of weight regain in the studies analysed.

The authors conclude that weight regain following discontinuation of weight management drugs is rapid, and faster than that seen following cessation of behavioural weight management programmes. They remind us, however, that the data are averages and that a small number of people do achieve sustained weight loss after ceasing weight management drugs. Further studies are needed to identify how to support people using these drugs, and to identify cost-effective strategies for long-term weight control. Primary prevention of obesity remains important.

Implications for practice

This study provides clarity around weight regain

and loss of cardiometabolic benefits when weight management medications are stopped, which we as clinicians are in the ideal position to share with people who qualify for treatment on the NHS, as well as those considering private purchase. A survey of US adults suggested that, although 45% of adults were interested in GLP-1 receptor agonist use for weight management, this proportion declined to 14% after sharing that weight regain was likely after discontinuation (Montero et al, 2023).

A previous systematic review and meta-analysis highlighted the longer-term benefits, in terms of cardiometabolic risk factors, of achieving weight loss with behavioural weight management programmes, even if weight is later regained (Hartmann-Boyce et al, 2023b; Saul et al, 2023). However, whether these benefits translated into reduced incidence of cardiovascular disease and diabetes was less certain.

There is an urgent need for studies to clarify how to maintain weight loss over the long term in those who choose the drug management route, and to identify how to help people engage and be more successful with the behavioural weight management programmes currently available, including the [NHS Digital Weight Management Programme](#) and the [NHS Weight Loss Plan](#).

Workload related to requests for weight management drugs in people who do not currently qualify for NHS prescribing, and from those with questions about planned private purchase, remains high. In England, where the Quality and Outcomes Framework continues, two new indicators will be funded for 2026–27 to incentivise appropriate referral to weight management support services and to support weight management medicines optimisation. These should encourage practices to improve recording of BMI, and thus identification of those with obesity.

I believe we have an important role in sharing the outcomes from this study to allow people to make an informed decision on whether to take weight management medications (particularly whether to self-fund the drugs), and to encourage more people to participate in behavioural weight management programmes. But perhaps our most important role is finding simple ways to support and encourage obesity prevention, such as raising awareness of the impact of ultraprocessed foods

and sugary fizzy drinks. As practices, we need to decide how to share this information and optimise our incentive funding, if we receive it, to encourage positive action. ■

Hartmann-Boyce J, Cobiac LJ, Theodoulou A et al (2023a) Weight regain after behavioural weight management programmes and its impact on quality of life and cost effectiveness: Evidence synthesis and health economic analyses. *Diabetes Obes Metab* **25**: 526–35

Hartmann-Boyce J, Theodoulou A, Oke JL et al (2023b) Long-term effect of weight regain following behavioral weight management programs on cardiometabolic disease incidence and risk: Systematic review and meta-analysis. *Circ Cardiovasc Qual Outcomes* **16**: e009348

Montero ASG, Kirzinger A, Valdes I, Hamel L (2023) *KFF health tracking poll July 2023: The public's views of new prescription weight loss drugs and prescription drug costs*. Available at: <https://bit.ly/4bxSOov>

Rodriguez PJ, Zhang V, Gratzl S et al (2025) Discontinuation and reinitiation of dual-labeled GLP-1 receptor agonists among US adults with overweight or obesity. *JAMA Netw Open* **8**: e2457349

Saul H, Deeney B, Kwint J, Aveyard P (2023) Weight regain does not eliminate the long term benefits of weight management programmes. *BMJ* **383**: 2403

West S, Scragg J, Aveyard P et al (2026) Weight regain after cessation of medication for weight management: Systematic review and meta-analysis. *BMJ* **392**: e085304



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Practice points

1. Inform people that, while the newer weight management drugs can be highly effective during treatment, weight regain is likely when treatment is stopped.
2. Encourage people living with obesity to engage with weight management programmes; for example, the [NHS Digital Weight Management Programme](#) and the [NHS Weight Loss Plan](#).
3. Look for simple ways to support and encourage obesity prevention, such as raising awareness of the impact of ultraprocessed foods and sugary fizzy drinks.
4. In England, two new QOF indicators for obesity – one concerning referral to weight management programmes and one concerning shared decision-making and pharmacotherapy – will be funded for 2026–27.