GLP-1 medications and the future of nutrition

Key points:

- GLP-1 medications mimic a natural gut hormone that reduces appetite and improves blood glucose control
- Global obesity rates and public awareness are driving demand for GLP-1 medications globally
- GLP-1 medications can deliver significant weight loss: ~15% with semaglutide, and up to 20% with tirzepatide when paired with diet and lifestyle
- It has been reported that 65% of people stop taking GLP-1 medications within one year, and 85% within two years, and those who do stop often regain much of the lost weight
- GLP-1 medications can cut calorie intake by 16–39%, increasing the risk of nutrient shortfalls, particularly vitamin D, if a balanced diet is not maintained
- Around 15–40% of weight lost may be lean mass (which includes muscle), making protein intake and resistance exercise important to help maintain muscle health
- Rising GLP-1 medication use is shifting food purchasing patterns: fewer snacks, sweets, sugars-sweetened beverages; more high-protein, high-fibre foods
- GLP-1 medications alone cannot resolve obesity; long-term improvements require ongoing diet, lifestyle, and behavioural support, as well as broader societal action.

What are GLP-1 medications?

GLP-1 (Glucagon-Like Peptide-1) is a naturally occurring hormone released by the gut in response to food. GLP-1 medications mimic the action of the body's own GLP-1 hormone.

Although GLP-1 medications were originally developed for the treatment of type 2 diabetes, medications such as semaglutide (Wegovy/Ozempic), liraglutide (Saxenda/Victoza), and tirzepatide (Zepbound/Mounjaro) are now widely used to support weight management.

GLP-1 medications work through several mechanisms, including slowing gastric emptying (the speed at which food is released from the stomach), improving blood glucose control, and acting on appetite-regulating areas of the brain. These combined effects increase satiety (the feeling of fullness after eating), reduce appetite, and ultimately lower calorie intake, often leading to significant weight loss (1, 2).

GLP-1 medications are intended to be used as part of a comprehensive treatment plan that includes dietary change, physical activity, and behavioural support.

Eligibility and access

The availability and pricing of GLP-1 medications differ considerably between countries. Costs are generally highest in the United States, while countries such as Germany, Japan, Canada, and Australia typically have lower prices due to tighter regulatory and pricing controls.

In some countries, GLP-1 medications are available on prescription through publicly funded healthcare systems or health insurance schemes.

Globally, GLP-1 medications for weight loss are generally prescribed for individuals who have a Body Mass Index (BMI) of:

- BMI ≥30, or
- BMI ≥27 with a weight-related health condition

In some countries, the BMI criteria are more restrictive.

Why are they so popular?

GLP-1 medications have surged in popularity because they deliver much greater short-term weight-loss results than previously developed drugs, such as orlistat (reduces the absorption of dietary fat), or lifestyle changes alone. No previous treatment has matched the scale or speed of weight loss now seen with GLP-1 medication use.

Globally, an estimated 2.5 billion adults are living with overweight or obesity, helping drive rapidly growing demand for these medications. Public interest has also accelerated due to the levels of weight loss that can result from their use, amplified by celebrity use, endorsements, and social-media influencers (3).

In a 2024 health tracking poll conducted in the US, approximately 82% of adults said they had heard of GLP-1 medications (4).

Globally, the GLP-1 market was valued at around USD 14 billion in 2024, and is expected to grow to approximately USD 49 billion by 2030 (5).

In 2024, 6% of US adults reported they were currently using a GLP-1 medication, while 12% reported having used one at some point. Among those who had been clinically diagnosed with overweight or obesity, this increased to 22% (6). In the US, GLP-1 medications have seen a 700% increase in use from 2019 to 2023 (7).

Regional market trends

In 2024, North America held the largest market share (around 70%) for GLP-1 medications, especially for weight loss. Europe represents a smaller but steadily growing market share at 12%. Asia Pacific is the fastest-growing region (currently led by China, with India catching up). Latin America, the Middle East, and Africa are seen as future growth opportunities as both obesity and diabetes rates and affluence rise (8, 5).

GLP-1 medications and weight loss

The World Health Organization (WHO) 2025 global guideline on the use of GLP-1 medications recommended their use for adults (excluding pregnant women) living with obesity, as part of long-term obesity treatment (9).

Whilst GLP-1 medications are effective for weight loss, how well they work varies depending on factors such as the type of GLP-1 used, dose, treatment duration, adherence, and the individual (10).

Clinical studies show that GLP-1 therapies can produce significant weight loss in most individuals with obesity when paired with diet and lifestyle modifications—up to 15% with semaglutide and 20% with tirzepatide (11). However, around 10–15% of people in clinical studies were classed as non-responders, meaning they lost less than 5% of their body weight.

In real-world settings—where the structured support of clinical trials is absent—weight loss tends to be lower, averaging about 12%. It is important to note that these estimates are based on observational data, not clinical trial evidence.

To put this into perspective, lifestyle (diet and physical activity) changes alone usually lead to about 3–5% weight loss in 6–12 months. While more intensive programs, such as very low-calorie diets, can help people lose around 6–8% if they stay engaged (12).

GLP-1 medications discontinuation and weight regain

It is important to recognise that obesity is a chronic condition that is difficult to manage long-term, and weight regain is common once treatment ends without sustained dietary and lifestyle support (13).

A large 2025 study that tracked more than 125,000 patients found that nearly 65% stopped taking their prescribed GLP-1 medication within one year, and 85% stopped at two years. It was reported that this was largely due to side effects, cost, access issues, and people reaching their weight loss goals (14).

As one would expect, when GLP-1 medications are stopped, weight regain is common (6). A study reported that one year after stopping taking GLP-medications (and without further diet and lifestyle changes), participants regained, on average, two-thirds of their prior weight loss (10).

In a recent large analysis, it was estimated that in those who stopped taking GLP-1 medications, body weight would return to pre-treatment levels in less than two years (15).

While GLP-1 medications can support meaningful weight loss, sustaining these benefits long-term is more likely when paired with ongoing diet and lifestyle, and behavioural change support.

Benefits beyond weight loss

In addition to their established role in improving blood glucose control in people with diabetes, clinical studies show that GLP-1 medications can reduce the higher risk of heart disease faced by people living with obesity (19, 20).

Research also suggests that GLP-1 medications may help support kidney health (16), and emerging research suggests they may offer neuroprotective benefits (17).

Because living with overweight or obesity increases the risk of several cancers, some preliminary studies have explored whether GLP-1s might reduce the risk of obesity-related cancers (18).

However, the evidence for these potential benefits—including kidney, neurological, and cancer-related effects—comes largely from observational studies and is not yet proven.

Side effects of GLP-1 medications

Like most medications, GLP-1 medications can cause side effects. Clinical trials show that more than 70% of patients experience adverse events—most often mild gastrointestinal symptoms (14).

The most common side effects are nausea, diarrhoea, vomiting, and constipation. Symptoms typically occur at the start of treatment or when the dosage is increased (21). Some reports suggest that up to 28% of users experience symptoms severe enough to stop treatment.

GLP-1 medications have also been associated with an increased risk of pancreatitis (inflammation of the pancreas). However, the current evidence from clinical trials is not strong (22).

It has been suggested that the cases of pancreatitis may be due to weight-loss-induced gallstones rather than a direct drug effect (23). Although weight loss in general has been shown to reduce the risk of gallstones, rapid weight loss increases the risk of developing gallstones (24).

Nutritional considerations

By reducing hunger and increasing fullness, GLP-1 medications often lead to lower overall food intake. Although the evidence in this area is emerging, available data show that GLP-1s reduce calorie (energy) intake by approximately 16%–39% (25). This can make it harder to meet nutrient needs, particularly if dietary variety is limited. Consequently, maintaining diet quality (how healthy the diet is) becomes essential to ensure nutritional needs are met despite reduced calorie intake (1).

A cross-sectional study of adults using GLP-1 medications found widespread nutrient shortfalls, with over 90% failing to meet recommended intakes for key micronutrients such as vitamin D, potassium, and choline (25).

In one study, nutritional deficiencies were diagnosed in 13% of patients within 6 months and 22% within 12 months of starting to take GLP-1 medications – the most common nutritional deficiency was vitamin D (26). In part, this may be due to people having a lower intake of vitamin D-rich foods.

A growing concern with people taking GLP-1 medication is that it can reduce lean body mass, including muscle. Studies suggest that 15%–40% of the weight people lose on GLP-1 medications may come from lean mass, and some reports show losses as high as 50% (27).

Such reductions can negatively affect metabolism, muscle quality, and strength—all of which are crucial for long-term health (28).

For those using GLP-1 medications, maintaining adequate protein intake becomes especially important. A higher-protein diet can help offset losses in lean mass, improve muscle quality, and help support long-term weight-loss maintenance (28, 29).

Alongside prioritising protein, strategies that preserve muscle—such as regular resistance-based exercise—can help reduce losses in muscle, strength, and physical function during GLP-1-induced weight loss (29).

How are GLP-1 medications influencing food preferences and choices?

Current research has not yet clarified exactly how GLP-1 medications influence food preferences, though they are believed to affect food intake because GLP-1 receptors are found in brain regions involved in taste and smell (3).

Although current evidence is based largely on self-reported experiences, GLP-1 users commonly describe having a reduced desire for certain foods and noticeable shifts in preferred foods (30). Although the research is limited, case reports and small observational studies suggest a shift from highly processed, energy-dense foods toward more minimally processed foods (31).

In one study, people taking GLP-1s reported a lessened desire for certain foods (64%), and about 21% noticed a heightened perception to sweet tastes (foods taste sweeter) — a change associated with less desire for sweet foods, feeling fuller and eating less (32).

In a small study of 15 participants, energy intake from high-fat, sweet foods was almost 39% lower in the GLP-1 group compared with placebo but energy intake from low fat sweet food intake wasn't significantly lower (33).

While some GLP-1 users report eating fewer high-sugars-containing foods, this seems to occur indirectly through the desire to eat certain foods, taste changes, and sweet foods not being as enjoyable. Although these changes have been documented, most studies rely on self-reported behaviour rather than objective measures of actual intake of sugars (30).

How GLP-1 medications are changing the food environment

The potential for GLP-1 medications to reshape consumer food demand is becoming increasingly significant for the food industry in countries where GLP-1 usage is rapidly growing.

In countries where GLP-1 use has risen, consumers have been reported to buy fewer sweets, baked goods, salty snacks, and sugars-sweetened beverages, with demand shifting toward smaller portions and higher-protein, higher-fibre choices. Protein-rich products are especially valued, given concerns about GLP-1-related muscle loss. In response, companies are reducing portion sizes of some products, boosting nutrient density, and placing greater emphasis on high-protein offerings (34).

GLP-1 users are not only changing their food preferences—they are also buying less, and this may affect the dietary intakes of others in the household too. In one study based on US households, it showed that those with a GLP-1 user cut grocery spending by 5% in six months, rising to 8% among higher-income households.

The biggest reductions were in calorie-dense processed foods—especially savoury snacks, which fell by 10%. These purchasing shifts continued for a year, though they eased after six months. When GLP-1 use stopped, households tended to revert to less healthy food purchases (35).

In the UK alone, a report has suggested that the grocery market has lost an estimated £136 million, driven by GLP-1 users cutting their food and drink spending by around 2% more than non-users (36).

Summary and future considerations

Despite delivering significant weight-loss and health benefits, GLP-1 medications also present important limitations, including gastrointestinal side effects, nutrient shortfalls from the diet, loss of muscle mass, high costs, frequent discontinuation, and weight regain once treatment stops.

As GLP-1 medications become cheaper, more effective, easier to use, and cause fewer side effects, their adoption is likely to increase further around the world. The next generation of GLP-1 medications—especially oral versions and longer-acting injectables—is expected to improve access and make it easier for people to stay on the treatment (37).

However, GLP-1 medications alone will not solve the obesity crisis. The WHO highlights that obesity is a complex societal issue requiring multisectoral action. The WHO also highlights that nutrition support strategies are essential for addressing the challenges associated with GLP-1 use.

Looking ahead, it remains uncertain whether people will stay on GLP-1 medications long-term, cycle on and off them, or eventually stop treatment altogether. It is also unclear whether any negative health effects may emerge with prolonged use, how pill-based options might influence adherence, and how regulators, insurers and health systems will adapt as usage grows. What is clear is that the food industry in some countries is already responding in anticipation of lasting change.

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