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The Skinny

GLP-1 / Obesity Drug Class History & Outlook to 2030

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Introduction

The glucagon-like peptide 1 (GLP-1) drug class is reshaping global healthcare markets. GLP-1s include blockbuster brands like Ozempic and Wegovy (Novo Nordisk), as well as Mounjaro and Zepbound (Eli Lilly)—for diabetes and obesity respectively. The GLP-1 drug class boasts projected sales exceeding US $150 billion by 2030 (PricewaterhouseCoopers, 2024). Initially developed for the treatment of type 2 diabetes (T2D), these therapies have rapidly expanded into obesity treatment. GLP-1s address a market where over 40% of U.S. adults are obese, a figure projected to rise to 50% by 2030 (Pearson et al., 2025; Healy, 2019).

Novo Nordisk and Eli Lilly dominate the field with advanced GLP-1 receptor agonists (GLP-1RA), drugs that activate specific biological receptors to mimic natural metabolic signals, and dual GIP/GLP-1 therapies that deliver clinically significant weight loss with relatively low patient burden. Their commercial success reflects high consumer demand and a limited field of competitive alternatives to date.

As market penetration grows, the GLP-1 market faces changes around pricing, insurance coverage, next-generation therapies, and new entrants, especially in the oral and muscle-preserving combination space.

Development History and Market Evolution

GLP-1 drug development reflects decades of scientific progress culminating in today's commercial success. Initial insights into gut-derived hormones date back to the 1930s with the discovery of incretin, a hormone stimulating insulin secretion. Development stalled until the 1990s, when researchers discovered exendin-4, a GLP-1 analog derived from Gila Monster venom, to develop exenatide (Byetta), the first approved GLP-1 drug in 2005 for T2D (Furness, 2024).

Byetta's off-label weight loss effect sparked interest in GLP-1s for obesity. In 2014, the FDA approved liraglutide (Saxenda) from Novo Nordisk for obesity. It was priced at US $1,000 a month and achieved US$230 million in first-year sales (Bush, 2025). Semaglutide, branded as Ozempic (2017) for T2D, and its higher-dose version Wegovy (2021) for obesity, redefined the market. Osempic and Wegovy boasted improved efficacy, weekly rather than daily dosing, and better tolerability (GlobalData Healthcare, 2024). Ozempic revenue grew from US $5.4 billion in 2021 to US $17.5 billion in 2024. Wegovy revenue expanded from US $220.4 million to US $8.4 billion over the same period (Novo Nordisk, 2025).

The latest evolution includes dual agonists like tirzepatide (Mounjaro, 2022) for T2D and its higher-dose version Zepbound (2023). Zepbound achieved an average 21% weight loss over 72 weeks in a Phase 3 clinical trial (Bush, 2025). Mounjaro generated US $483 million in revenue in 2022 and US $11.5 billion in 2024, while Zepbound grew from US $175.8 million in 2023 to US $4.9 billion in 2024 (Eli Lilly, 2025a).

Figure 1

Gila Monster (Heloderma suspectum), Species Whose Venom Contributed to the Development of GLP-1 Drugs

Note. Source: Wikimedia Commons (2021).

Mechanism of Action and Therapeutic Overview

GLP-1s deliver weight loss and glucose regulation by mimicking hormonal signals that occur naturally after food intake. Specifically, intestinal L-cells secrete GLP-1, which stimulates insulin secretion, slows gastric emptying, and reduces appetite through central nervous system pathways (Furness, 2025; Catanese, 2024).

Unlike lifestyle intervention alone, GLP-1 treatment modifies physiological pathways. This has the effect of reducing caloric intake with minimal patient behavior change. GLP-1 receptors are expressed in the pancreas, gastrointestinal tract, and brain, coordinating these effects (Zheng et al., 2024).

Modern GLP-1s, including Wegovy, build on this natural feedback loop through enhanced targeting of GLP-1 receptors, achieving 10-20% average weight loss. These levels are comparable to outcomes seen with bariatric surgery, without the procedural risk (Bush, 2025).

Recent drug developments expand on GLP-1 mechanisms by targeting additional pathways to improve efficacy:

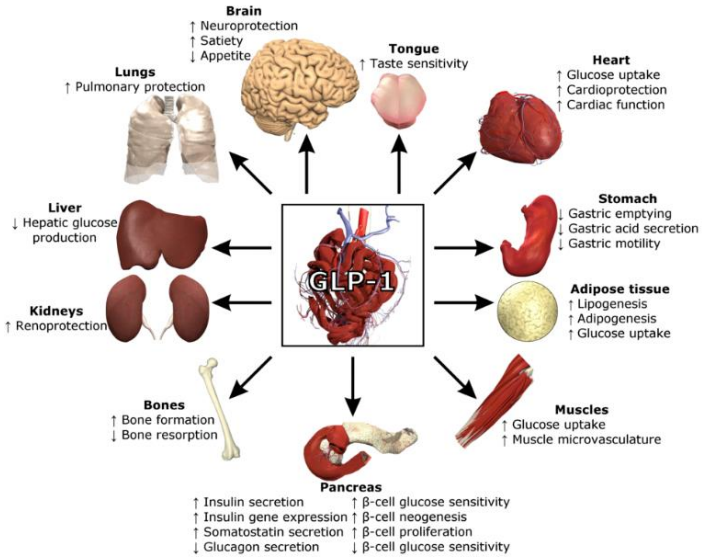
- **GIP** (glucose-dependent insulinotropic polypeptide): Secreted from the gut after eating, GIP promotes insulin secretion, regulates fat metabolism, and potentially modifies brain pathways controlling appetite and reward response (Nauck et al., 2021). When combined with GLP-1 activity, as in Eli Lilly's Zepbound, GIP amplifies weight loss and metabolic control beyond GLP-1 monotherapy.
- **Glucagon receptor activity**: Naturally raises blood glucose levels during fasting or energy deficits. When targeted alongside GLP-1 and GIP, it may increase energy expenditure, fat oxidation, and thermogenesis. Triple agonists like Retatrutide leverage this mechanism to combine reduced caloric intake with elevated metabolic rate, producing greater weight loss (Scott et al., 2018).

In short, GLP-1 suppresses appetite, GIP enhances metabolic control and may influence reward pathways, while glucagon raises blood sugar, increasing energy expenditure under certain therapeutic conditions.

Dosing varies by indication: lower doses of GLP-1s are prescribed for T2D management, while higher doses are required for obesity treatments to maximize satiety effects, delay gastric emptying, and achieve higher fat loss (Catanese, 2024).

Figure 2

Physiological Effects of GLP-1 Signaling



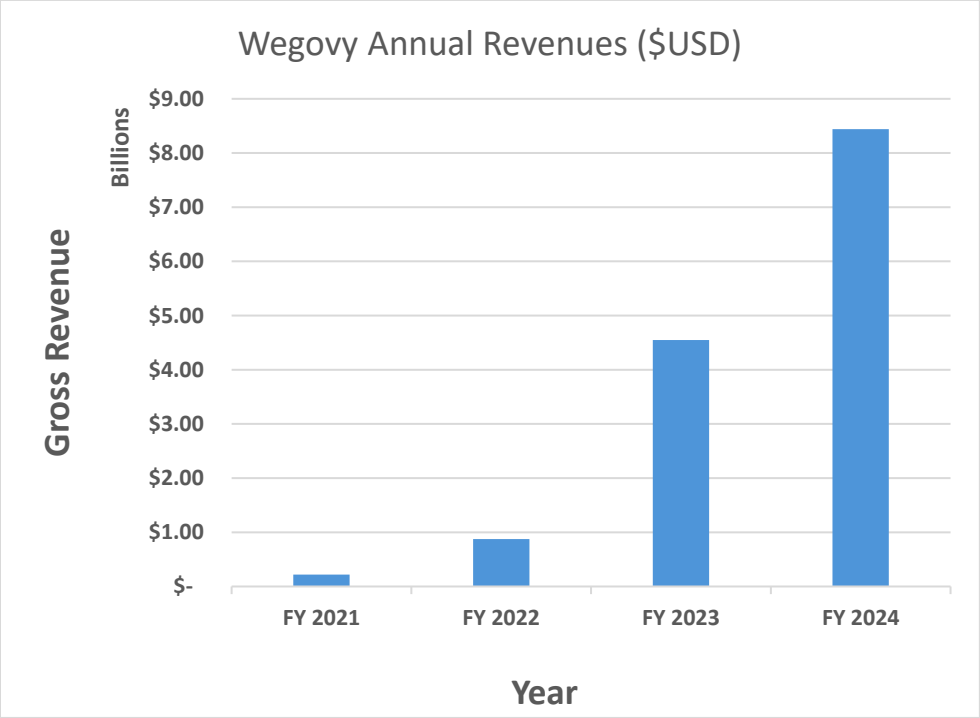
Note. Source: Wikimedia Commons (2017).

Current Landscape

The global GLP-1 market is currently dominated by Novo Nordisk and Eli Lilly, reflecting strong clinical efficacy, limited competition, and significant unmet demand for obesity and diabetes treatment. Both companies have seen explosive revenue growth for their GLP-1 drugs treating obesity and diabetes over the past few years.

Figure 3

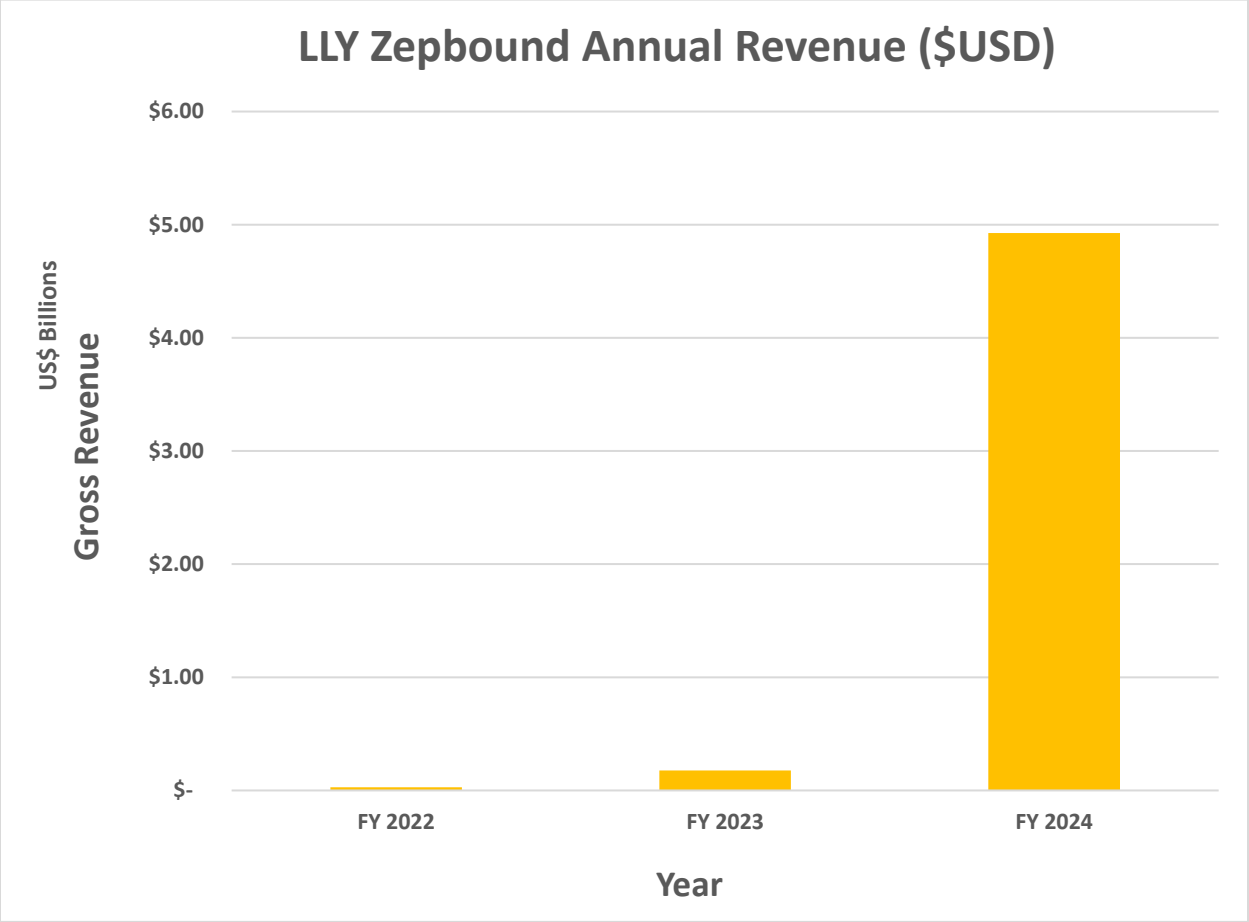
Annual Revenue From Wegovy



Note. Source: Novo Nordisk (2025).

Figure 4

Annual Revenue From Zepbound



Note. Source: Eli Lilly (2025a).

GLP-1 Prescription Trends

- National semaglutide prescriptions increased 442% between January 2021 and December 2023 (Hwang et al., 2025).
- One in eight U.S. adults has reported using a GLP-1 drug, with 30-35% expressing interest in taking GLP-1s (Radcliffe, 2024; PricewaterhouseCoopers, 2024).

As of 2023, Novo Nordisk derived approximately 66% of Ozempic sales and 90% of Wegovy sales from the U.S. market (Reed, 2024). Eli Lilly's Q1 2025 results indicate that the U.S. accounted for 69.3% of Mounjaro sales, with overall U.S. revenue representing 66.7% of total company sales (Eli Lilly, 2025).

Table 1

Product Comparison of Leading GLP-1 Drugs

Product	Company	Mechanism	Dosing	Active Ingredient	Approved Indication(s)
Saxenda	Novo Nordisk	GLP-1RA	Daily shot	Liraglutide	Obesity
Victoza	Novo Nordisk	GLP-1RA	Daily shot	Liraglutide	T2D, off-label obesity
Wegovy	Novo Nordisk	GLP-1RA	Weekly shot	Semaglutide	Obesity
Rybelsus	Novo Nordisk	GLP-1RA	Daily pill	Semaglutide	T2D, off-label obesity
Ozempic	Novo Nordisk	GLP-1RA	Weekly shot	Semaglutide	T2D, off-label obesity
Zepbound	Eli Lilly	Dual GIP/GLP-1 agonist	Weekly shot	Tirzepatide	Obesity
Mounjaro	Eli Lilly	Dual GIP/GLP-1 agonist	Weekly shot	Tirzepatide	T2D, off-label obesity
Trulicity	Eli Lilly	GLP-1RA	Weekly shot	Dulaglutide	T2D, off-label obesity

Note. Data compiled from Bush (2025); PricewaterhouseCoopers (2024); Adkison (2022).

Wegovy and Zepbound represent significant improvements over earlier GLP-1s, offering greater efficacy, weekly dosing, and expanded obesity-specific indications. To qualify for these drugs in the U.S., patients must have a physician-confirmed BMI of ≥30 kg/m^2, or a BMI ≥27 kg/m^2 and confirmation of a comorbidity like hypertension, dyslipidemia, or T2D (Horton, 2024).

Pricing

Despite manufacturing costs estimated by multiple analyses to be below US $1 per dose (Backman, 2024), both drugs go for high list prices. Wegovy's list price is US $1,349 for a 28-day supply, while Zepbound lists at US $1,100/month (Ghoshal, 2022; Bush, 2025). Patients typically purchase monthly supplies, aligning with manufacturer refill programs every 28 days (Novo Nordisk, n.d.).

Patient out-of-pocket costs vary significantly based on insurance status and program participation:

- 62% of obesity-related GLP-1 prescriptions were denied by insurers in 2024 (Gilbert, 2025).
- Novo Nordisk and Eli Lilly both offer savings plans for uninsured individuals.
    - NovoCare offers Wegovy at US $499/month for cash-paying individuals, down from US $650 as of March 2025 (Jr, 2025).
    - Lilly Direct provides Zepbound for US $349-$499/month, though doses are dispensed in vials rather than prefilled injector pens (Jr, 2025).
- Final patient costs depend on individual prescription plans (Eli Lilly, 2024).

Competitive Dynamics and Market Share

Novo Nordisk and Eli Lilly are projected to control 94% of GLP-1 market revenue by 2030. Analysts expect Eli Lilly to overtake Novo Nordisk by the end of the decade, driven by a superior pipeline including (Warren, 2025):

- Zepbound (a dual GIP/GLP-1 agonist)
- Orforglipron (an oral GLP-1)
- Bimagrumab (an antibody that preserves lean muscle mass)

Novo Nordisk's defensive strategy focuses on differentiated pipeline products such as (Warren, 2025):

- CagriSema: A combination of semaglutide and cagrilintide (an amylin analog) targeting appetite suppression.
- Amycretin: A long acting GLP-1 and amylin receptor agonist designed to improve metabolic efficiency and further reduce caloric intake.

Emerging Competitors & Pipeline Landscape

Numerous biotech companies are advancing GLP-1 candidates, especially in differentiated mechanisms and oral formulations.

Table 2

Companies with ongoing pipeline trials for GLP-1 Market Expansion

GLP-1:	GLP-1/GIP	GLP-1/GIP/Glucagon
Eli Lilly, Novo Nordisk, Roche, AstraZeneca, Structure Therapeutics, Regor Therapeutics, Metsera, Sciwind Biosciences, Ascletis (China), Huadong Medicine, Corxel (China), QL Biopharm (China), Sun Pharma, Gan & Lee Pharmaceuticals, Gilead Sciences, Hengrui/Kailera	Novo Nordisk, Amgen, Viking Therapeutics, Roche, Roche, Terns Pharmaceuticals, Hengrui/Kailera, Boehringer Ingelheim/Zealand Pharma	Eli Lilly, Novo Nordisk/United Laboratories, Boehringer Ingelheim/Gubra, GLP-1/GLP-2, Zealand Pharma, Rani Therapeutics/ProGen

Patent Landscape

- Wegovy holds U.S. exclusivity through 2032-33, with earlier expirations possible internationally (*Generic Wegovy Availability*, 2025).
- Zepbound's compound patent expires in 2036, with additional patent protections likely extending to 2039 (*Generic Zepbound Availability*, 2025).

Generic competition remains unlikely before these dates, reinforcing market dominance in the short term.

Oral GLP-1s: Growth & Disruption

Oral GLP-1s represent a major competitive shift, expanding the addressable market beyond injectables and targeting patient populations reluctant to receive injectable treatment:

- Rybelsus (Novo Nordisk): First oral GLP-1 approved for T2D in 2019; not yet approved for obesity. Novo filed for FDA approval in 2025 following successful Phase 3 results in 2023 (Dunleavy, 2025).
- Orforglipron (Eli Lilly): A small-molecule oral GLP-1 showing 7.9% weight loss in Phase 3 trials for obesity among patients with diabetes. The drug does not require food or water restrictions, improving patient convenience and adherence. Results in non-diabetic patients are expected in Q3 2025, with regulatory submission targeted by year-end (Beasley, 2025; Mullin, 2025).

Unlike injectables, oral formulations are positioned to offer several advantages: higher patient preference, greater scalability, lower production costs, and elimination of cold-chain storage requirements (Mullin, 2025). However, oral GLP-1s face challenges around matching efficacy shown by injectables, achieving sufficient bioavailability, and potential loss of injectable market share.

Challenges

Despite rapid growth, the GLP-1 market faces structural headwinds that could affect long term adoption, pricing power, and competitive dynamics.

1. Pricing and Access

The commercial success of GLP-1s hinges on a trade-off: high list prices sustain margins but limit access, while broader coverage expands the addressable market but hurts pricing power. U.S. prices are inflated compared to peer nations, with GLP-1s costing 4-10x more than in Europe or Asia (Amin et al., 2023). This price differential supports short-term profitability for Novo Nordisk and Eli Lilly but may fuel political pressure and payer resistance in the long term.

Figure 5

List Prices for a One-Month Supply of GLP-1 Drugs

	Ozempic (semaglutide, injection)	Rybelsus (semalglutide, tablets)	Wegovy (semaglutide, injection)	Mounjaro (tirzepatide, injection)
U.S.	$936	$936	$1,349	$1,023
Japan	$169	$69	-	$319
Canada	$147	$158	-	-
Switzerland	$144	$147	-	-
Germany	$103	-	$328	-
Netherlands	$103	$203	$296	$444
Sweden	$96	$103	-	-
United Kingdom	$93	-	-	-
Australia	$87	-	-	-
France	$83	-	-	-

Note: List prices in $USD based on web searches as of August 15, 2023. Prices are for one-month supply of Ozempic 1mg, Rybelus 7mg, Wegovy 2.4mg, and Mounjaro 15mg. Some drugs are not available in all countries and prices were unable to be found in other countries. Some drugs are approved for diabetes and prescribed off-label for weight loss.

Note. Source: Amin et al. (2023).

Medicare's refusal to broadly cover anti-obesity drugs, enforced by 2003 policy exclusions, remains a barrier to widespread adoption (Pearson et al., 2025). A 2024 Biden-era proposal to expand Medicare coverage to include anti-obesity drugs was rescinded in April 2025 by the Trump administration, citing legal limitations. The Center for Medicare & Medicaid Services (CMS) said the decision might be reconsidered later but did not provide a timeline (Hoadley, 2025).

However, under the Inflation Reduction Act, the CMS selected semaglutide, the active ingredient in Ozempic and Wegovy, for mandated price negotiations in 2025, with lower prices taking effect in 2027. Historical reductions under this framework have ranged from 38% to 79% (CMS, 2025).

The CMS will likely target tirzepatide, the active ingredient in Mounjaro and Zepbound, by 2033, signaling an inevitable decrease in prices (Pearson et al., 2025).

Following post-coverage expansion, the market may experience a volume driven growth phase accompanied by a margin reset. Companies with diversified pipelines and next-generation assets are better positioned to maintain profitability.

2. Discontinuation

Real world adherence to GLP-1s is a key weakness. Less than half of patients remain on semaglutide beyond twelve weeks, the timeframe required for statistically significant weight loss (Blue Health Intelligence, 2024). A 2024 study by the Journal of the American Medical Association found that 50-75% of users discontinue GLP-1 drugs within the first year, driven by high costs, side effects, or supply shortages. (Samuelson, 2024; Pearson et al., 2025)

Weight loss outcomes correlate with treatment duration (Lapid, 2025):

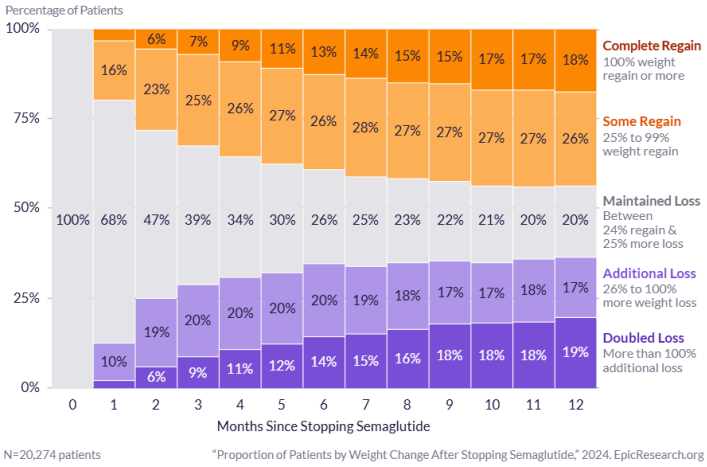
- Early discontinuers (≤3 months) lost ~3.6% body weight
- Discontinuers between 3-12 months lost ~6.8% body weight
- Full adherents averaged ~12% body weight

These figures fall short of clinical benchmarks of 15-20% weight loss, with many patients regaining weight after discontinuation. However, this discontinuation cycle fuels both demand volatility and repeat market entry as patients re-enter treatment.

Figure 6

Proportion of Patients by Weight Change After Stopping Semaglutide.

Not Everyone Regains Weight Following Discontinuation.



Note. Source: Epic Research (2024).

3. Compounded Drugs

The compounded drug surge of 2023-2024, where custom formulations were created during supply shortages using the active ingredients list, exposed vulnerabilities in pricing integrity and supply chains. The FDA maintains a list of drugs that are in low supply and allows compounding accordingly (FDA, 2024). Semaglutide and tirzepatide were designated as in short supply in 2023 and 2024, creating a market for companies like Weight Watchers and Hims & Hers Health to sell compounded versions of these drugs at much lower prices (Pearson et al., 2025).

While the FDA has now restricted large scale compounding, the precedent exists. If branded GLP-1 costs remain high without any access improvements, consumers may seek offshore or compounded alternatives. Therefore, market leaders must continue to expand production capacity and create lower-cost alternatives to defend market share.

4. Safety Risks

While GLP-1s deliver dramatic weight loss, they carry physiological risks beyond fat reduction. Muscle mass and bone density loss are well documented, with the FDA mandating a hip fracture warning on Wegovy, emphasizing the regulatory concern (Yecies, 2025). Severe but less common adverse events include pancreatis, bowel obstruction, and gastroparesis (Catanese, 2024). Additionally, rodent studies suggest a possible association between GLP-1 agonists and thyroid tumors, though human relevance remains under investigation (Castro, 2022). These effects represent risks that could lead to new regulatory barriers, prevent long-term adoption, or force costly changes in products.

Ramifications

The commercial success of these GLP-1 drugs is reshaping healthcare, consumer goods, and social norms, with implications for adjacent industries and investors.

Healthcare System Impact

GLP-1 drugs have the potential to reduce obesity-related comorbidities like T2D, cardiovascular disease, and sleep apnea (Pearson et al., 2025; Hwang et al., 2025). Proponents argue that healthier, leaner populations will translate to reduced sick days, increased workforce productivity, and lower long-term medical costs.

However, economic projections reveal a more complicated picture. Medicare is projected to spend US $65.9 billion on GLP-1 receptor agonists for obesity treatment over the next decade, with only US $18.2 billion in direct offsetting healthcare savings, resulting in a US $47.7 billion net expenditure increase (Hwang et al., 2025). The Congressional Budget Office further estimates that expanded obesity drug coverage could raise federal healthcare spending by US $35 billion over nine years (CBO, 2024).

Therefore, in the short-term, GLP-1 therapies would inflate healthcare budgets despite downstream health benefits and savings. Cost containment pressures will likely intensify, sparking price negotiations between the government and companies and creating a preference for cost-effective alternatives. Expect policy volatility in U.S. markets.

Consumer Market Impacts

Early data suggests GLP-1 users alter purchasing behaviors, consuming fewer calories and gravitating toward healthier products. A 2024 joint study by Cornell University and Numerator found that households with at least one GLP-1 user reduced total grocery spending by 5.5%, with higher-income households (>US $125,000/year) cutting back by 8.6%. Notably, these reductions persisted for at least twelve months after GLP-1 initiation, indicating durable shifts in consumption patterns (Hristakeva et al., 2024).

A 2025 Bloomberg Intelligence survey of over 1,000 GLP-1 users in the U.S. reported that 54% were eating out less (Rogelberg, 2025). Snack frequency declined as well: a 2024 Kearney study found that 51% of GLP-1 users consumed fewer snacks, particularly those that were calorie-dense or processed (Chafin et al., 2024). These evolving patterns are expected to pressure high-margin food service and beverage companies while boosting demand for functional foods with health or nutritional benefits (Grodyńska, 2024).

Meanwhile, wellness spending on weight loss programs, fitness equipment, personal training, and wearable devices continues to grow (PricewaterhouseCoopers, 2024). However, reduced discretionary income from high out-of-pocket drug expenses may dampen broader consumer spending, complicating demand forecasts across non-essential sectors.
Companies that facilitate strength training and lean muscle preservation are well-positioned to capture secondary demand from GLP-1 users prioritizing strength and body composition (Mozaffarian, 2025).

Social, Cultural, and Ethical Considerations

The rise of GLP-1s has sparked debates regarding (Grodyńska, 2024):

- The ethics of pharmacological weight loss for cosmetic purposes
- Equity concerns, since high costs limit access for lower-income populations
- Celebrity-fueled trends like “Ozempic parties” that distort public perception of these drugs
- Cosmetic-driven criticism like “Ozempic face” and cultural skepticism towards weight loss drugs

The influence of cultural acceptance of GLP-1s on long term adoption is unpredictable.

Horizon

The GLP-1 market is approaching a critical point as next-generation therapies advance through clinical development. Three innovation areas determine future market leadership and shape competitive dynamics: oral formulations, lean muscle preservation, and expanded disease indications.

Oral GLP-1s

Oral GLP-1s represent one of the clearest market expansion opportunities. Historically, oral drugs achieve higher patient acceptance and adherence than injectables. However, injectables like Wegovy and Zepbound currently set the efficacy benchmark at 10-20% weight loss with weekly administration (Bush, 2025).

Novo Nordisk’s Rybelsus demonstrated feasibility in T2D but requires significantly higher doses to approach injectable efficacy, raising production costs and pricing concerns (Furness, 2025). Emerging candidates like Lilly’s orforglipron and AstraZeneca’s AZD5004/ECC5004 aim to close this efficacy gap, butthere is a trade-off: rapid rollout of orals could increase market penetration, but this also risks taking profits and market share from injectables. Delayed entry invites competition from companies like Viking, Roche, and China-based biotechs. Companies that strategically design their portfolios – by using injectables for weight loss and orals for maintenance – could optimize market share and profitability. There is a trade-off: rapid rollout of orals could increase market penetration, but this also risks taking profits and market share from injectables. Delayed entry invites competition from companies like Viking, Roche, and China-based biotechs. Companies that strategically design their portfolios – by using injectables for weight loss and orals for maintenance – could optimize market share and profitability.

Lean Muscle Preservation

Weight loss from GLP-1 therapies is accompanied by significant muscle mass and bone density loss: up to 40% comes from lean muscle mass, a key predictor of long-term morbidity and mortality (Grodyńska, 2024; Denman, 2024). In recognition of these risks, the FDA issued draft guidance in 2025 recommending that sponsors of obesity therapies measure body composition changes, specifically lean muscle mass and fat distribution, alongside total weight loss (FDA, 2025). While mechanisms remain under investigation, evidence suggests much of the loss of muscle mass and bone density stems from rapid weight reduction itself, with factors like nutrient deficiency also contributing (Cassata, 2023; Yecies, 2025; Cassata, 2024).

Combination therapies that target the activin receptor pathway, particularly through myostatin or activin inhibition, could mitigate these risks while enhancing fat loss and preserving favorable body composition (Mastaitis, 2025).

Key Companies to Watch:

- Regeneron's trevogrumab + semaglutide combo preserved 51.3% lean muscle mass; addition of garetosmab boosted retention to 80%, though tolerability declined with a 28% discontinuation rate (Tracy, 2025).
- Scholar Rock's apitegromab + Zepbound preserved 54.9% lean muscle mass, achieved greater fat loss, and demonstrated no apparent toxicities in the EMBRAZE POC study (LifeSci Capital, 2025).
- Lilly's bimagrumab + semaglutide showed 22.1% weight loss of which 92.8% was from fat vs. 15.7% weight reduction and 71.8% from fat on semaglutide alone (Eaton, 2025).
- Biohaven's taldefgrobep (t-alfa) showed a meaningful percent change in fat mass, preservation of lean muscle, and increases in bone density (Biohaven Ltd., 2024).

Expanded Disease Indications

Substance Use Disorder (SUD)

Emerging evidence indicates that GLP-1 therapies, particularly GIP/GLP-1 agonists, may confer benefits beyond diabetes and obesity, including in SUD management. Recent studies indicate (Chopping, 2024):

- A 40% lower rate of opioid overdose among patients on GIP/GLP-1 therapies compared to non-users.
- A 50% reduction in alcohol intoxication episodes among individuals with alcohol use disorder (AUD) receiving GLP-1RAs.

Preclinical studies show that GLP-1RAs reduce alcohol intake, blunt reward-related motivation to drink, and prevent relapse in rodent models (Qeadan et al., 2024). Human studies, including those using exenatide (Byetta) and liraglutide (Saxenda), report reduced alcohol consumption in overweight individuals with AUD. Genetic studies further link GLP-1 receptor variations to AUD risk, suggesting a biological basis for these effects (Jerlhag, 2025).

While mechanisms are not fully elucidated, GLP-1R activation is believed to suppress central reward pathways implicated in both food and substance cravings (Jerlhag, 2025). This "pie in the sky" therapeutic expansion represents an early-stage, untapped market with meaningful social and commercial implications. Companies with diversified portfolios and CNS-focused development capabilities may be best positioned to capitalize on this opportunity.

Infertility

Unexpected pregnancies following initiation of GLP-1RA initiation, popularly termed "Ozempic babies," have drawn attention to a potential fertility effect of this drug class (Cleveland Clinic, 2025). The underlying mechanisms are unclear, but research suggests that GLP-1 therapies may restore ovulation in patients with obesity or polycystic ovary syndrome (PCOS) by regulating hormonal imbalance and improving metabolic functioning (Sola-Leyva et al., 2024; Telek, 2024).

According to the World Health Organization (WHO), infertility affects approximately one in six adults globally (World Health Organization, 2023). As of 2024, the global infertility treatments size was valued at US $1.6 billion, a figure projected to grow to US $3.0 billion by 2032 (Precedence Research, 2024). These figures demonstrate an opportunity: a GLP-1 therapy with clinically validated fertility benefits could find premium positioning in fertility clinics and secure lucrative partnerships through reproductive health channels.

That said, usage guidance of GLP-1s for fertility is murky, and follow-up studies would be needed to validate this target as a reproductive therapy.

Conclusion

What began as a hormone found in lizard venom has become one of the most disruptive forces in modern medicine. GLP-1s have not only reshaped chronic disease treatment but are actively shaping consumer habits, industry margins, and cultural attitudes toward weight and health. As future formulations push into new territory, whether it be oral delivery, muscle preservation, addiction, or fertility, the line between medical drug and lifestyle product is blurring. The market is growing and mutating over time, and to treat GLP-1 drugs as just diabetes and obesity treatments would be to overlook the full scope of what this class is becoming.

Disclaimer

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Appendix

A - Metformin Mechanism

Metformin is one of the most widely prescribed medications for the treatment of T2D and operates by a different mechanism than GLP-1 drugs (Shmerling, 2021). Its primary actions include: 1) suppression of hepatic gluconeogenesis, the process by which the liver continuously produces glucose, and 2) improvement of the body's insulin sensitivity. Notably, metformin has also been shown to increase GLP-1 secretion in the gastrointestinal tract. Like GLP-1 drugs, its most common side effects are gastrointestinal in nature (Sørensen et al., 2024).