

# The drugs vs diet debate

Implications for the F&B sector as diabetes  
drug GLP-1 rides the anti-obesity wave



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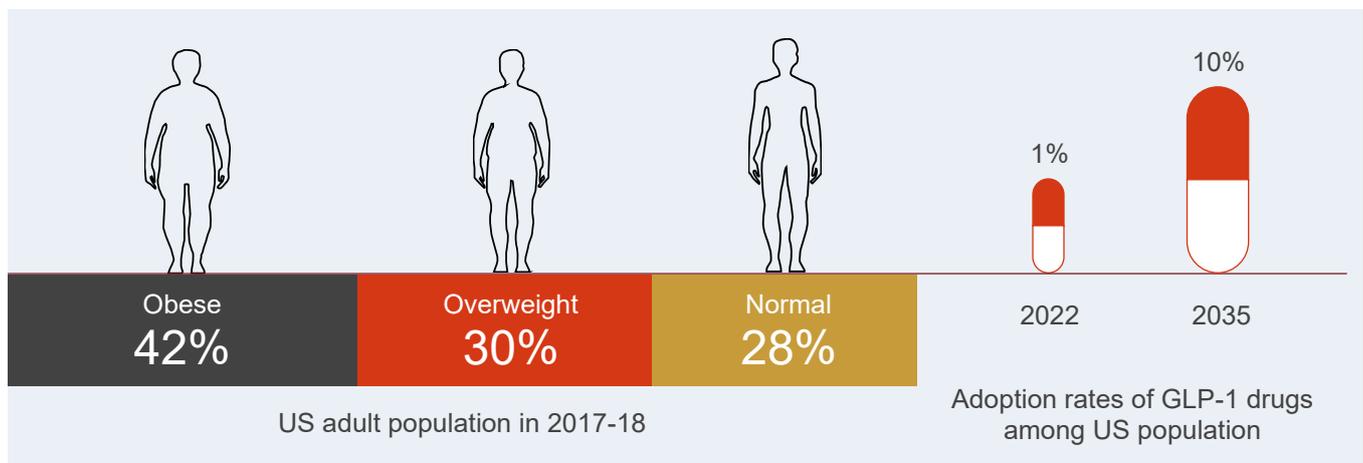
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## Executive summary

A three-letter acronym called 'GPT' was among the most talked about terms in 2023 when it came to tech space. Not far away was a similar term – 'GLP' weaving a similar magic in the pharma domain. Short for Glucagon-like peptide-1, the GLP-1 drugs serve as appetite suppressants and hence lower calorie intake. As pharma majors proceed at a brisk pace to seize this opportunity (USD 100bn+ by 2035), the popular opinion is that it will eat into the earnings of the food and beverage makers. However, players from the food and beverage industry seem unperturbed.

### GLP-1 drugs are proving to be a driving factor for pharma majors



- **Fervor aided by climbing obesity rates:** The need for lifestyle changes over the recent years is a strong impetus to the underlying growth of such drugs (market size to grow by nearly 15x in the next 10 years). Obesity rates are on the rise across genders & age groups and are not expected to slow down. Rates among US adult population has increased by more than 10pp over the last two decades with more than a third of them currently obese.
- **Strong market potential on offer:** Indications that the GLP-1 drugs, which have traditionally been consumed by those with diabetes, were starting to aid in weight loss were an opportunity that pharma majors have seized. There have been more than 10 major launches in the last 20 years, while sales of top three GLP -1 drugs have more than doubled in 2023.
- **Niche segment attracting investor interest – both public and private:** The potential for GLP-1 drugs has induced listed companies into fast tracking progress by taking the inorganic route. Private markets are equally interested in riding the wave of the GLP-1 obesity drug.
  - **Strong market momentum:** Stock prices soared by more than 40% in 2023 for listed pharma majors (Novo Nordisk and Eli Lilly) who own the top GLP-1 drugs.
  - **Private market deals on the rise:** Along with a few key acquisitions by the listed players, last year also saw multiple rounds of funding by VC firms in small players who operate in the weight loss space.

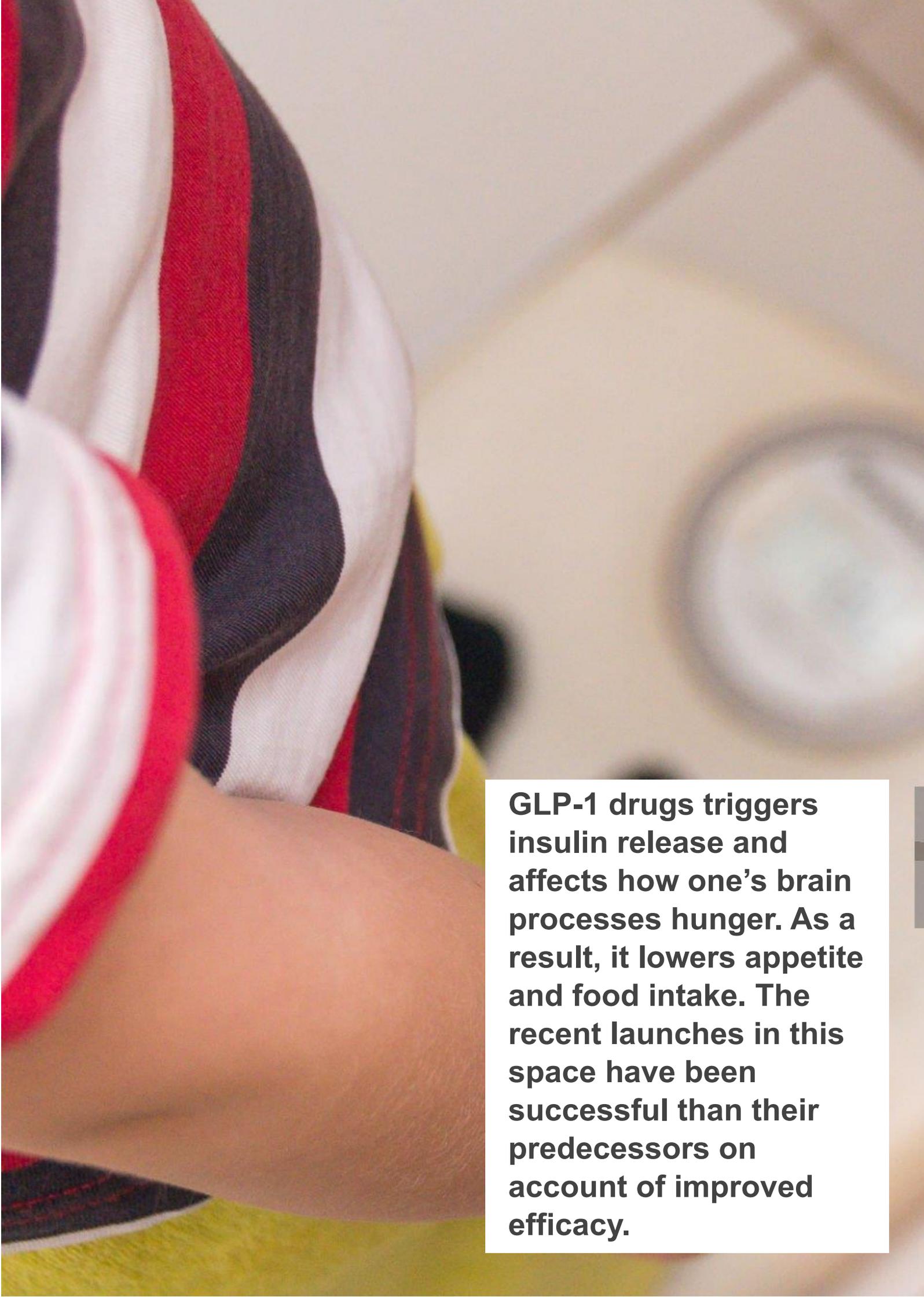
The market remains positive on this upcoming trend as noted by growing share prices of select pharma players. The benefits that are to ensue in the future are expected to be at the expense of the consumer staples sector given that the drugs would reduce calorie intake. Offerings related to 'binge eating' is touted to be the most impacted of all and includes the likes of confectionaries, soda beverages and salty snacks.

**Will these drugs prove to be a disruptor for consumer staples?**

- **Leading players remain unperturbed:** The broader consensus among consumer staples companies on this topic is that the impact is 'overblown'. Nevertheless, dedicated teams have been deployed by companies to keep a watch.
- **Sustained usage of GLP-1 drugs in question:** Affordability and severity of side effects are among the impediments when it comes to large scale adoption. Uncertainties around sustenance of weight loss post medication also serves as a key obstacle.
- **Alternatives already on offer:** While binge eating has not slowed down, the players in the consumer staples sector have been paying heed to the health-conscious segments of society. Reformulating existing offerings, downsizing packaging sizes, innovating healthier choices are measures that these companies are already undertaking.

**Not likely**

In the larger scheme of things, the recent triumph of GLP-1 drugs needs to stand the test of time to truly vindicate the resultant impact on the volumes of food and beverage items. This seems unlikely, neither in the short nor long term, and hence need not indicate the downturn of the consumer staples sector.



**GLP-1 drugs triggers insulin release and affects how one's brain processes hunger. As a result, it lowers appetite and food intake. The recent launches in this space have been successful than their predecessors on account of improved efficacy.**

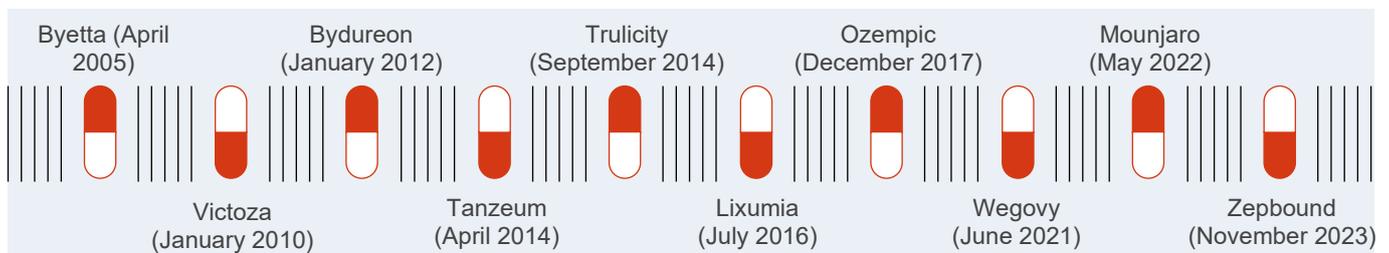
## Backdrop of GLP-1 drugs

### Consumption of drug to lower appetite

The drug in discussion, Glucagon-like peptide-1 agonists (or in short GLP-1 drug), is commonly used in the treatment of type 2 diabetes and obesity. Agonists are substances that mimic the actions of a hormone and hence, to understand the effects of the drug, it is important to know about the underlying hormone. The GLP-1 hormone triggers insulin (a hormone that allows the body to use food for energy) release, while restricting glucagon (a hormone the body uses to raise blood sugar levels) secretion. They slacken stomach emptying and affect how one's brain processes hunger. The bottom line being that the drug lowers appetite and food intake.

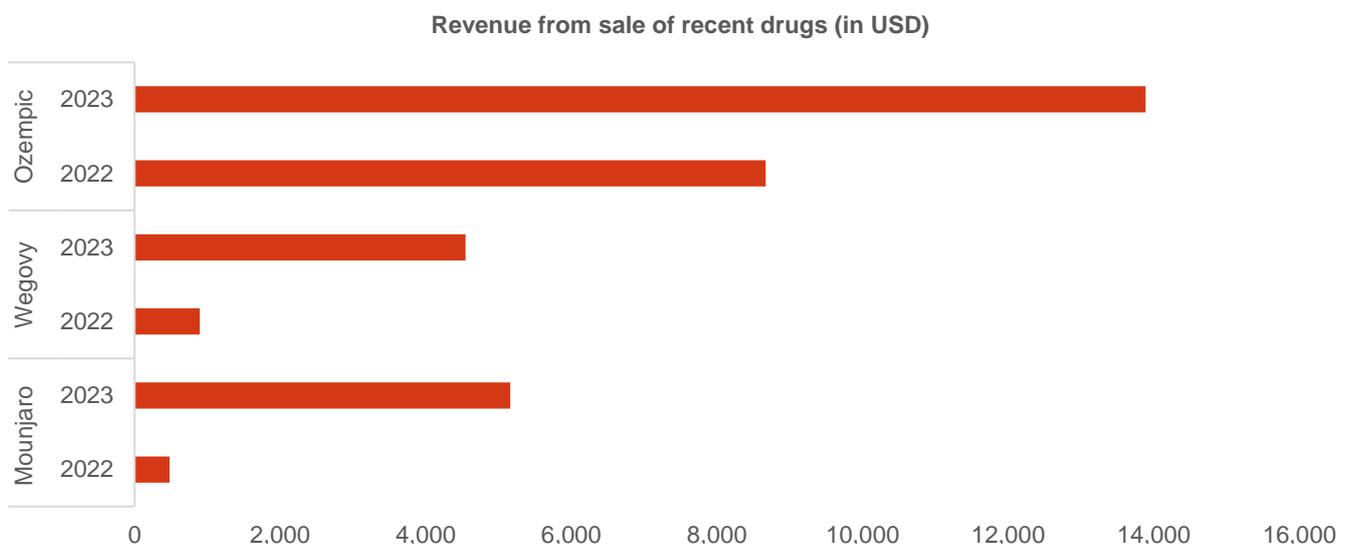
### More than 10 launches in the last 20 years

The first US FDA approved GLP-1 agonist was exenatide in 2005. It was made by Amylin Pharmaceuticals and commercialized by AstraZeneca with a half-life of 2.4 hours. As the years passed, drugs with improved half-lives were getting approved. Following is a timeline of the popular drugs in this space approved by FDA over time.



### Sale of three GLP-1 drugs have more than doubled in 2023

The recently approved drugs have been more successful compared to their predecessors. This is naturally owing to improved half-life and efficacy levels. Focusing on these recent ones for now - Mounjaro and Ozempic are approved to aid in control of blood sugar levels in patients with type 2 diabetes whereas Wegovy and Zepbound are approved for chronic weight management in overweight and obese people. Revenue from these drugs also saw a significant rise in the last three quarters.



Source: Company filings

## Early movers in the booming market

Two pharmaceutical majors have benefitted largely from the recent positive results of the GLP-1 drugs. Revenue from their drugs as well as their share price have risen above expectations. The potential market size on offer have also led to more companies joining the race.

Shares rise by more than 40% last year for Eli Lilly and Novo Nordisk

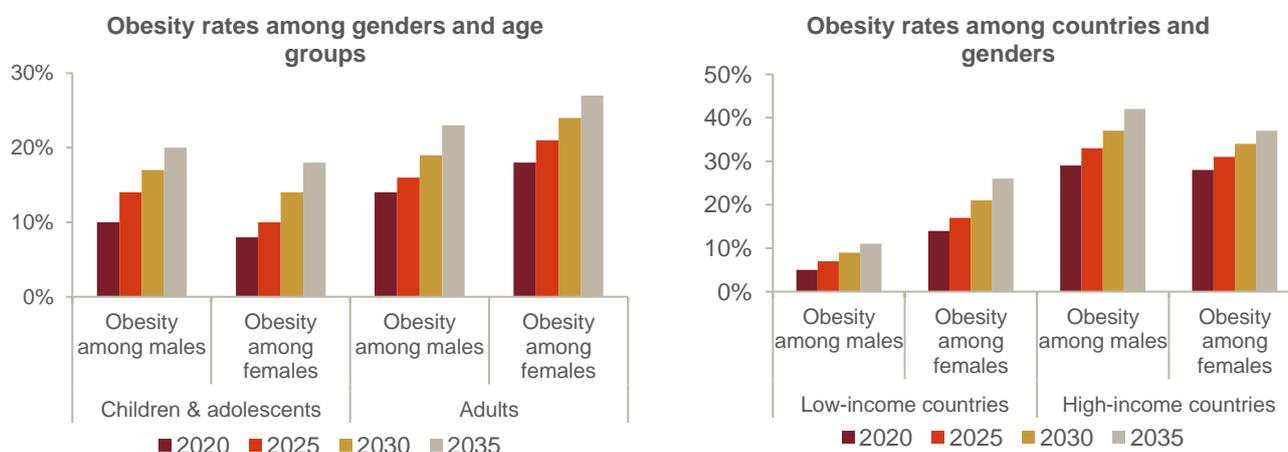


Source: NASDAQ, CRISIL analysis

Ozempic & Wegovy are from the Danish Pharmaceutical major, Novo Nordisk while Mounjaro & Zepbound are from its American counterpart, Eli Lilly. The recent momentum for the GLP-1 drugs is starting to reflect on their market cap of both these companies with both these companies currently trading at historical highs. It is worth noting that the FDA approval for Zepbound (Eli Lilly's obesity drug) was only obtained in November 2023 and yet, it generated sales of USD 176mn before end of the year.

## Market size to grow by more than 15x backed by obesity rates

The rise in the share price of the above-mentioned companies is reflective of not only the numbers exhibited so far but also of what is to come. According to Goldman Sachs Research, the market for anti-obesity drugs alone is expected to surpass USD 100bn in a decade's time from ~USD 6bn in 2023. The rate of obesity is on the rise and varies across parameters such as age, region, gender, income levels. High-income countries look to be the most vulnerable now.

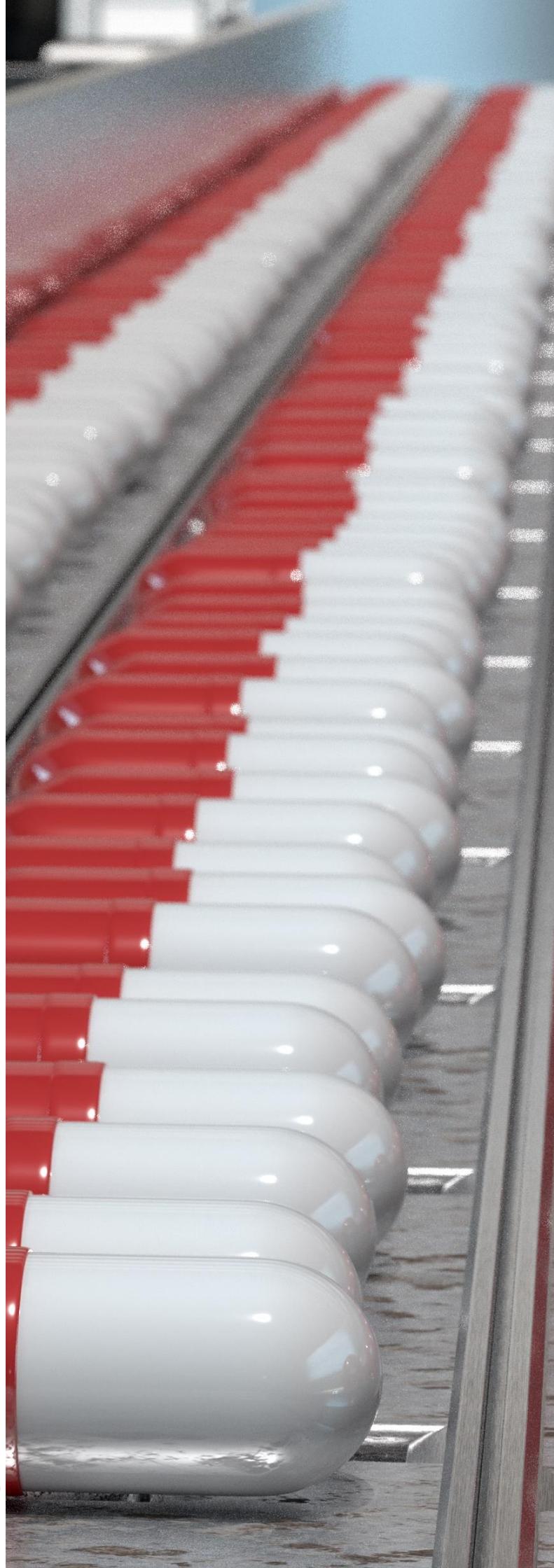


Source: World Obesity Atlas 2023

## Competitors up their in-house research

Eli Lilly and Novo Nordisk might be front runners at this point, but they are not alone when it comes to this space. Starting with the organic method, a few companies are currently choosing to look more in house for their own foray into the obesity drug space.

- **Merck & Co**, is looking at GLP-1 based treatments whose benefits extend beyond weight loss. Its current drug in development is being developed as a solution for non-alcoholic steatohepatitis and making a compelling case for weight loss. The company believes that this aid prospects for obtaining reimbursement for these drugs.
- **Regeneron**, which has several early programs in the obesity space, noted that there is an increasing recognition that the quality of weight loss from GLP-1 drugs is suboptimal owing to muscle loss. Hence, it is leveraging its capability in genetics to provide a new mechanism to fight obesity.
- **Amgen**, has two candidates in developmental phase when it comes to obesity with six in preclinical phase. Its CEO also spoke on the possibility of monthly dosing as opposed to the daily/weekly dosage available with the currently available obesity options in the market.

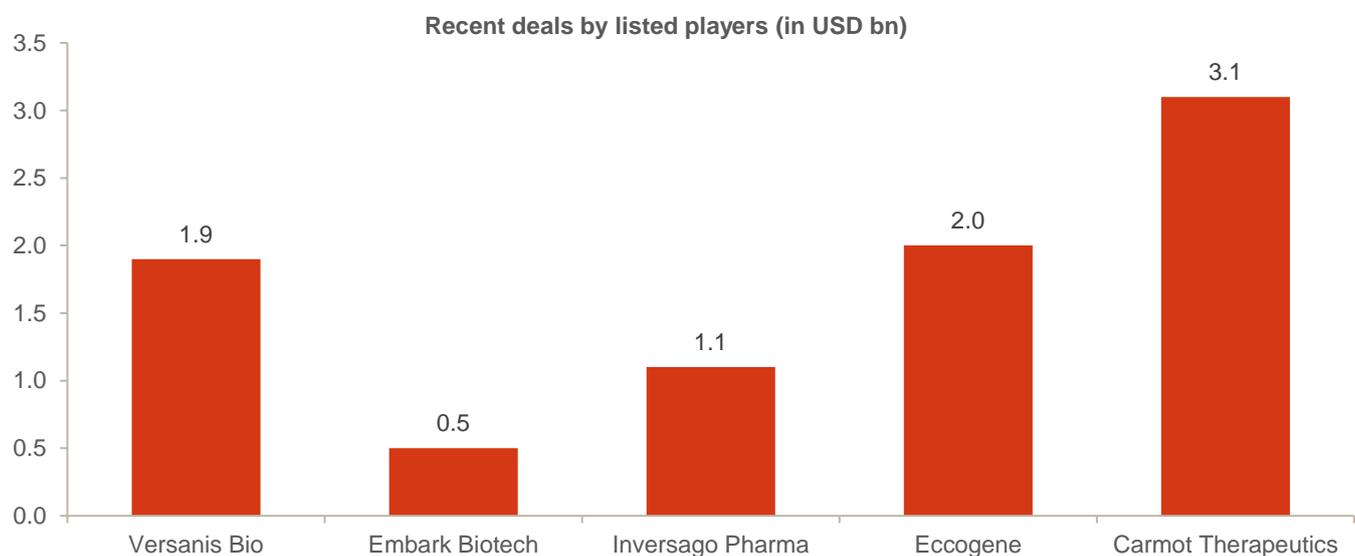


## Acquisitions and VC deals on the rise

In-house work aside, the pharma majors have also resorted to take-overs and licensing as ways to further their strides. Contract development opportunities for the smaller players are also being observed. VCs on their end have shown keen interest in firms that operate around the anti-obesity space.

### Acquisition by listed players for drugs in development

With stakes high and the rush to be the early bird, some companies take the deal and/or partnership route. **Bayer**, for instance, is looking to partner with companies having the right expertise when it comes to venturing in the obesity market. **Pfizer** expressed a similar opinion by saying that it is looking for licensing deals or less expensive early-stage obesity assets that can be acquired. The following are examples of recent deals from listed players.



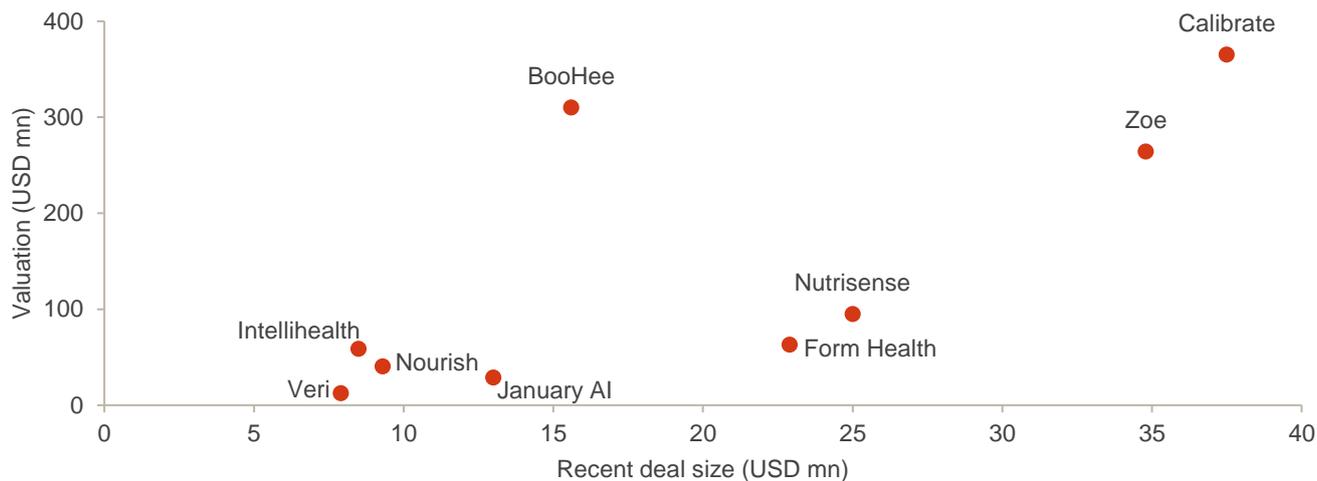
Source: News articles and company filings

Target	Acquirer	Announcement	Rationale
Versanis Bio	Eli Lilly	July 2023	Versanis is into developing therapies for cardiometabolic ailments. The lead asset is currently in clinical trials along with semaglutide in obese/overweight adults.
Embark Biotech	Novo Nordisk	August 2023	Embark's lead metabolic program as well as a 3-year R&D collaboration for the development of treatment of obesity and type 2 diabetes.
Inversago Pharma	Novo Nordisk	August 2023	Inversago is into therapies aimed at those with obesity, diabetes, and metabolic disorders and is currently developing an appetite regulator.
Eccogene (licensed)	AstraZeneca	November 2023	The experimental (obesity) pill from Eccogene would cause fewer side effects than the current injectable options and comes with lower production costs.
Carmot Therapeutics	Roche	December 2023	Carmot's lead asset is a weekly injection like the offerings of Eli Lilly and Novo Nordisk. It believes that the market is large enough for 'me too' products at the right price.

**VCs backing smaller firms in the anti-obesity space**

While pole positions in the obesity drug race are currently occupied by the large pharmaceutical companies, startups are also making small inroads. The former looks to evolve the current GLP-1 space by enhancing existing biology, while the latter is experimenting with metabolic accelerators. In the recent past, VCs have started supporting firms in this space which includes the likes of telemedicine and coaching. For instance, Lark, an AI weight loss startup, closed a USD 100mn funding round in October 2021 with the intent of using the funds to expand its virtual care integrations. As of June 2023, the company was valued at USD 800mn.

**Notable deals for weight loss startups since 2021**



Source: Based on data from PitchBook (as of June 30, 2023)

**Startups aside, there are private players who are benefiting from the ramping up of the frontrunners**

This is primarily because of capacity constraints. The booming market for weight-loss drugs is giving opportunities on the contract development front. One of the latest examples being CordenPharma whose multiyear agreement with one of the leading drugmakers in this category would be worth about USD 1bn. It is noteworthy that CordenPharma was among the key private equity acquisitions in 2022.

## Consumer staples in the eye of the storm

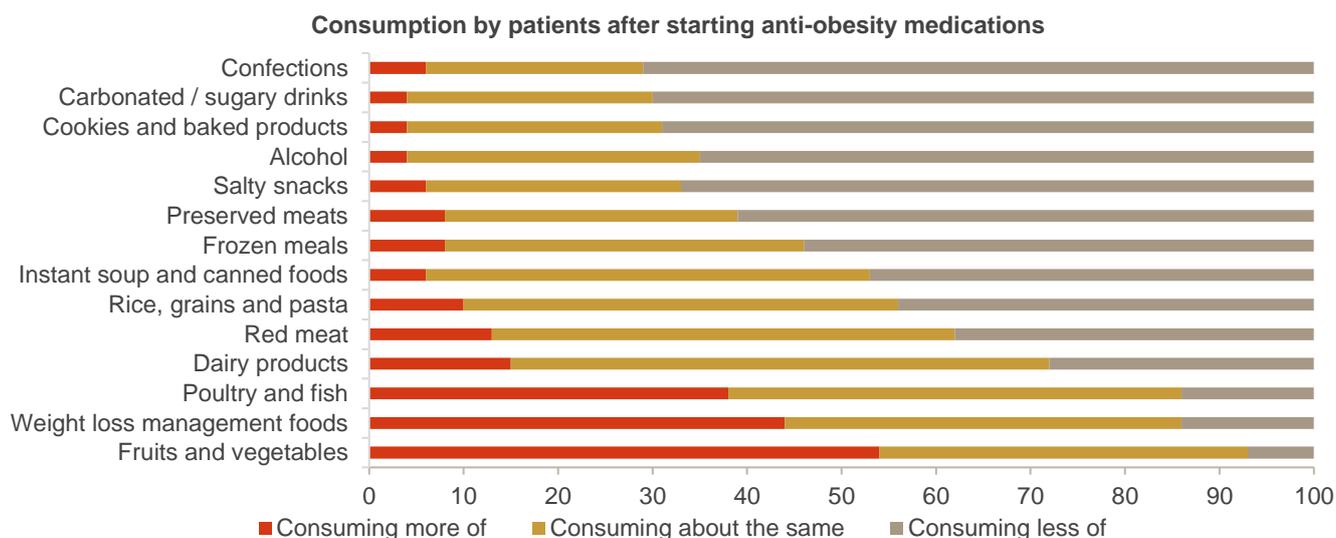
Usage of GLP-1 drugs is expected to reduce the caloric intake and hence makers of packaged food and beverages are first in line to be negatively impacted. Be that as it may, the conventional food & beverage segment in the private market space continues to remain strong.

### Impact beyond pharmaceuticals

The impact of GLP-1 drugs extends beyond the healthcare segment. For instance, those who have benefitted from the GLP-1 drugs may update their wardrobes as their body sizes change lending a temporary boost to clothing retailers. Improved health and mobility may enable individuals to travel more actively, widening the scope for tourism operators. However, many believe that the biggest losers with the success of the GLP-1 drugs would be the consumer staples sector industry.

### 'Binge eating' to be the most impacted

GLP-1 drugs suppress dopamine that is responsible for the "happy effect" on consuming food. Hence, consumption linked volumes of confectioneries, carbonated drinks, snack item and the like are expected to fall over time as these drugs achieve a higher penetration rate. As can be seen from the below graph, those who are on anti-obesity medication are expected to lower their consumption of different offerings from the food and beverages segment.

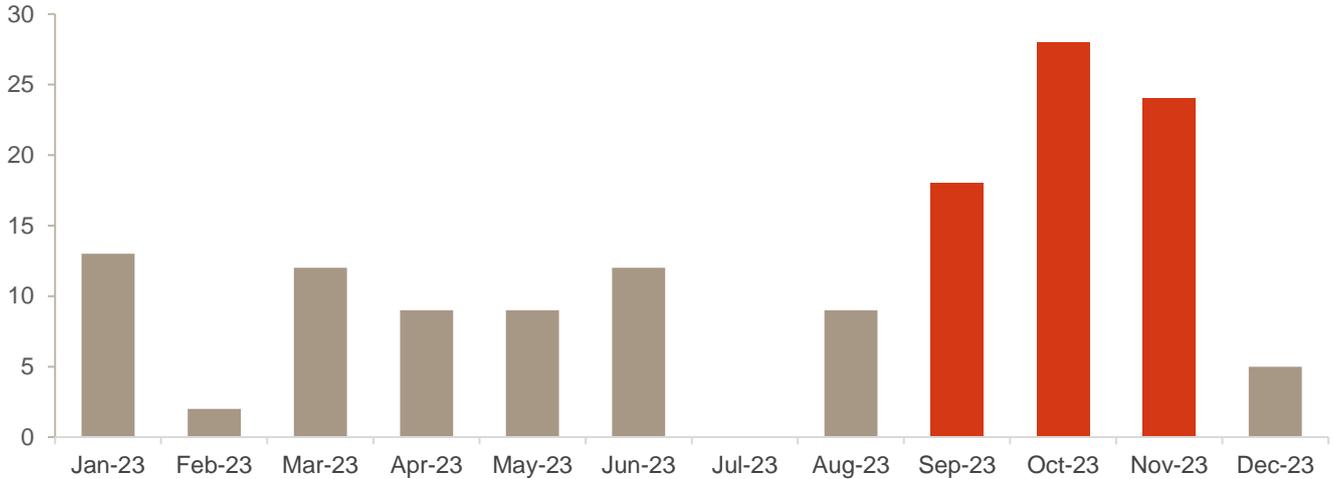


Source: Morgan Stanley

### Companies talking more about 'GLP'

The GLP-1 drugs were creating quite the buzz in the pharma circles for some time now. However, investors in the food and beverage space were not stirred until recently. The topic gained momentum in the consumer staples space in the first week of October 2023 with shares of soda giants Pepsi and Coca Cola falling by ~5% each. Other US companies in the food and beverage sector also followed suit, albeit showing a lower price fall. The sell-off was driven by Walmart, world's largest retailer, remarking that (according to its proprietary data), people who bought GLP-1 drugs from its pharmacies were buying 'slightly' less food at its stores.

Mentions of 'GLP' in company filings of S&P consumer staples index



Source: Company filings, CRISIL analysis

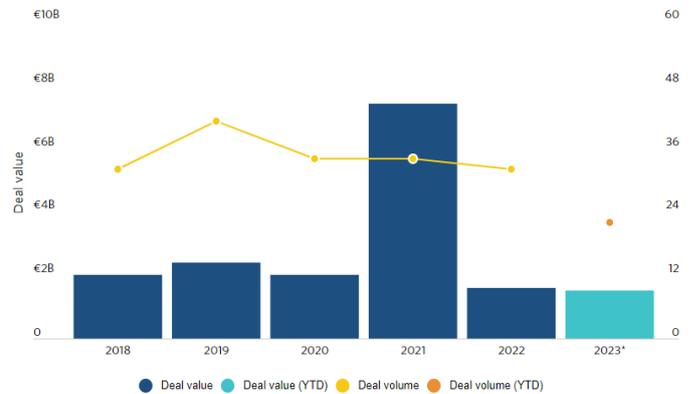
**Deals not stacked against the conventional food & beverage space**

There has been a decline in foodtech deal values and counts off late. Companies in this category include the ones which aid in access to healthier food options. While this is on the downturn. The deal activity in the conventional food and beverage space remains strong with no major fall observed. Hence, despite the recent interest from investors on avenues related to GLP-1 drugs, there have not been any major trends that indicate a structural shift away from the conventional food and beverage space.

Foodtech VC deal activity by quarter



PE investment in Europe's beverage sector has continued at a relatively strong pace this year



Source: PitchBook

## Food & beverage remain unflustered

Opinions have been sought from the players from the food & beverage in the wake of recent buzz. They are largely unshaken and have effectively written off any possible threat. Those in the pharma space who have been touted to be potentially impacted from these drugs' success also remain unruffled.

### Themes emerging from consumer staples segment



If the theory of ‘consumption of GLP-1 drugs leads to lower calorie intake’ were to hold good, expectations are that companies from the food and beverage industry must be starting to panic given the anticipated fall in volumes, top-line and eventually earnings. Yet, they do not seem to be setting off alarm bells. In fact, some of them seem to be warding off any major threat from GLP-1 drugs altogether. The following are reactions from some leading players in the consumer staples sector based out of the US region as part of their earnings calls or investor days.

### Commentary from leading US players

 <b>Retail</b>	<p><b>Kroger</b> noted the rapid growth of GLP-1 drugs in its pharmacies. It stated that the long-term impacts of the drugs on consumer buying habits remain unknown and that the sale of these drugs is having a negative effect on its margin rate.</p> <p><b>Walmart</b> maintained that it is still early to comment on consumer behavior in this regard. While it sees some shifts in categories, it did not have anything to add beyond its earlier comment that those on GLP-1 drugs were buying ‘slightly’ less food.</p>
 <b>Packaged food</b>	<p><b>Conagra Brands</b>, noted that what the consumer deems as healthy has evolved over the years and this has been factored in its formulations. Change, if any, from the GLP-1 drugs will be spread over a 10–15-year period and not in the short term.</p> <p><b>Mondelez</b> has ruled out any possibility of a short-term impact and that even by the most ‘optimistic’ forecast, the impact on its volumes would be modest (0.5-1.0%) ten years down the line. This period would be adequate to adjust for any changes.</p> <p><b>Hershey</b> ruled out any short-term impact while also highlighting the unknowns around adoption rates and related impact on food choices. It touched upon the emotional nature of its categories &amp; brands when it comes to celebratory moments.</p>



**Beverages**

**Constellation Brands** limited the potential to a small subset (3%) of the US consumers. It claimed that only 2% of the 2.6 million social conversations on these drugs it had listened to mention the topic of reduced alcohol consumption.

**Pepsi**, drew the analysts' attention to the question marks over the scalability and reliable impact from the drugs' usage. It expressed confidence in its offerings, in the light of the work it has done in terms of reducing sodium, fat, and sugar.

**Keurig Dr Pepper** cautioned on the limited data available on the topic. It said that here is no hard evidence that people are drinking less in terms of beverages. It remains surprised at the attention the GLP-1 drugs are getting.

**Optimism not unanimous among pharma players**

It comes as no surprise that those who are already making strides in the GLP-1 drug phase remain upbeat about its prospects. But it is always better to know what the others are saying in the industry on the same to get a more neutral view. Considering this, one gets a slightly different picture.

**Medtronic**  
*(producer of medical devices)*

**Intuitive Surgical**  
*(maker of surgical robot used in bariatrics)*

**Boston Scientific**  
*(cardiovascular medical device manufacturer)*

- GLP-1 drugs could have a 'modest but temporary' impact on the weight-loss surgery market.
- Surgeries will continue to remain the gold standard to address obesity.
- US growth rate for weight-loss surgery is slowing as patients consider using the new drugs instead.
- However, the impact from GLP-1 drugs will be limited given the reimbursement hurdles and unaffordable prices for the drugs.
- Short-term impact of GLP-1 drugs on cardiovascular disease to be 'very limited' due to barriers such as cost, convenience, and tolerability
- Over the longer term, the drugs' impact on US coronary and peripheral procedure volume will be minor, even at peak usage.



## Impediments to adoption of GLP-1 drugs

The impact of GLP-1 drugs on the food and beverage would be at best negligible to marginal in both short and long run owing to multiple factors. These factors would mean that the adoption rates of GLP-1 drugs would not scale drastically.

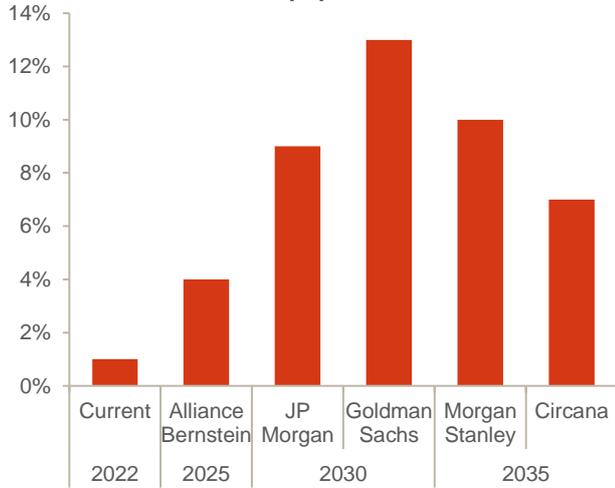
### Reasons for slower uptake of GLP-1 drugs

Key barriers to adoption	Supporting industry-research view
<p><b>Lower profitability:</b> Retailers have expressed their concerns over negative impact the GLP-1 drugs are having on margins despite the pickup in demand</p>	<p>On low adherence rates, <b>Walgreens</b> stated that many consumers are getting these drugs in channels other than their primary care doctors. Lower profitability from these drugs due to the need for refrigeration and patient counseling</p>
<p><b>Higher costs:</b> Medicare is currently prohibited according to a 2003 law regarding weight loss. How political orientation manifests will play a crucial role in coverage of the same in the years to come</p>	<p><b>Constellation Brands</b> stated that as per its internal studies ~71% of people would not try the GLP-1 drugs even if price were accessible (list price of USD 1,000 per month ~15% of median household income for a US household)</p>
<p><b>Reports of side-effects:</b> Credible studies along with reports from media keep onlookers at bay when it comes to health concerns as side effects range from nausea and vomiting to more serious forms such as inflammation in the pancreas and intestinal blockage</p>	<p>Research by the <b>University of Columbia</b> showed that those taking GLP-1s had a higher risk (9x greater) of pancreatitis and a higher (4x greater) risk of both obstructed bowels and gastroparesis</p>
<p><b>Persistence with medication:</b> Naturally, the period of drug consumption depends on whether it aids in weight loss and the implications of the resultant side effects from the drug consumption. As per the US Department of Health and Human Services, if one does not lose 5% of the initial weight in the first 12 weeks of full dosage, the medication would be recommended to be stopped</p>	<p>A study by the <b>Cleveland Clinic's Center</b> for Value-Based Care Research showed that the rate of persistence to the medications overall dropped from 44% at 3 months to 33% at 6 months and just 19% at 12 months</p>
<p><b>Sustenance post medication:</b> Persistence is just one hurdle beyond which comes the period when the patient goes off medication. The issue here is that there is no guarantee of lifestyle changes sustaining once the dosage stops</p>	<p>A study funded by <b>Novo Nordisk</b> found that within a year of discontinuing the drug, patients regained two-thirds of the lost weight. This stood at a rate slower than previously known</p>

### Adoption rates continue to remain low

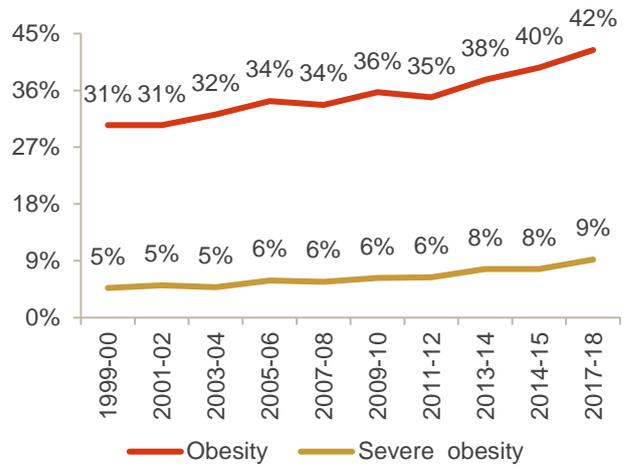
Obesity and overweight are not problems that have cropped up recently in a country like United States. Obesity rates in adults stood at 42% with overweight rates going as high as 72% in 2021. Even if only obesity were to be considered, there has not been a major change in the overall rate in the past five years. However, despite such high obesity levels, only 1% of the adult population is currently using prescription weight loss medications and this number is not to scale up drastically anytime soon.

**Anti obesity drug adoption rates as % of US adult population**



Source: Estimates from publicly available research articles

**Trends in obesity prevalence among adults aged 20 and over in United States**



Source: U.S. Department of Health and Human Services

## Healthier alternatives already available

In a bid to make healthier options available, companies in the food and beverage sector have been taking requisite measures over the years with no major hit to overall margins.

One of the main reasons why the players in the food and beverage industry are not hitting the panic button is that the threat posed by the GLP-1 drugs is not altogether new. The need for lowering sugar levels and increasing the nutritional value of offerings has been around for a long time now. The management of the food and beverage players have been trying to convey this in different ways in their recent earnings calls and filings but little of that voice has been able to cut through the noise from the other end.

Measures	Instances
<b>Reformulation</b> of existing offerings involves reducing sodium, sugar, and unhealthy fats to improve nutrition profile.	Since 2016, <b>Pepsi</b> has reformulated products, including 7UP, Mountain Dew and Mirinda recipes with 30-50% less added sugars, with plans continuing in 2023.
<b>Innovation</b> to bring in new food and drink options to the market that are focused on health and nutrition to address the demand for more balanced choices.	In 2022, <b>Keurig Dr Pepper</b> announced the launch of Dr Pepper Zero Sugar, which is a 'one-of-a-kind' blend of its signature 23 flavors in a zero-sugar soda.
Strategic <b>acquisitions</b> of established brands known for their natural, or organic, positioning helps fast track company's efforts to strengthen its wellness status.	In 2021, <b>Hershey</b> acquired Lily's which specializes in low-sugar, 'better-for-you' confectionary products for a consideration of USD 425mn.
The application of natural and artificial low / <b>no calorie sweeteners</b> allow formulations to satisfy taste requirements while reducing sugar content and calories.	<b>Coca Cola</b> sweetens Coke Zero Sugar with a blend of aspartame and acesulfame potassium which creates a great taste with zero sugar and zero calories.
<b>Downsizing</b> standard package sizes help address concerns around excessive consumption and calorie intake.	<b>Coca Cola</b> has ~44% of its sparkling soft drink brands that come in packages of 8.5 ounces or less. In North America, its 10-pack mini cans grew 39% in 2022.

## Summing up

Initial results from clinical trials of these drugs are promising enough to spur a slew of deals in the private market space. We expect sales of the GLP-1 to rise sizably in the next few years given the initial frenzy.

Moving to the diet side of the debate, the food and beverage players seem at ease in the face of analyst questions over impacts from rising adoption of GLP-1 drugs.

- No negative impact in the short run owing to higher costs and fear over side-effects.
- A marginal one (at best) in the long term given the continued persistence that is required and lack of sustenance of weight post medication.
- Alternate choices are already on offer in case the consumer wants to go the healthy way.

The drug versus diet debate is one that will continue to go on with facts and projections being put forward from either side. However, taking all things into consideration, the drug team might win the battle but would certainly find it tough to win the war.

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