

Market Research Paper

Product name: **Ozempic® by Novo Nordisk**

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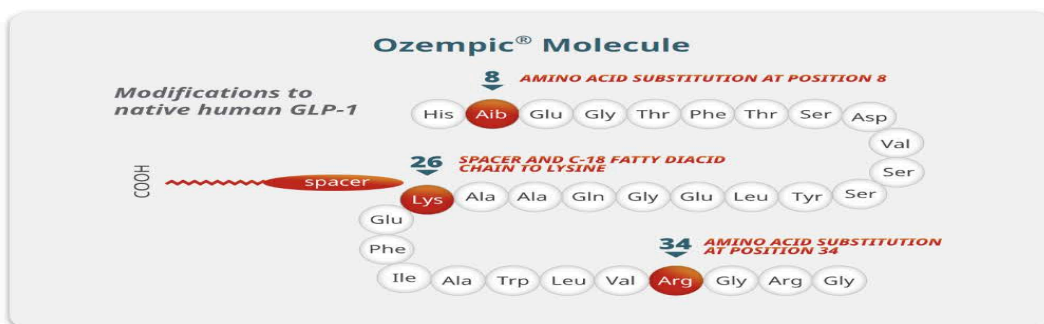
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Introduction

Novo Nordisk is a global pharmaceutical company with a strong focus on diabetes care, obesity, and rare blood disorders. Founded in Denmark in 1923 by Nobel Prize-winning physiologist August Krogh and his wife Marie, Novo Nordisk began with a stated commitment to improving the treatment of diabetes. In the 1920s, the company started producing insulin, and have since diversified into producing hemophilia treatments and growth hormone therapies. The company continues to invest in research and innovation to develop new treatments and solutions for diabetes and related conditions globally.

One of its most profitable products, Ozempic, was approved by the FDA in 2017 to treat type II diabetes. Glucagon-like peptide-1 (GLP-1) is a natural hormone with various effects on glucose regulation. Ozempic functions as a GLP-1 receptor agonist, decreasing blood glucose levels through a process in which it elevates the secretion of insulin and inhibits the secretion of glucagon. This mechanism slightly delays the emptying of the stomach after meals, as well. Ozempic is administered by subcutaneous injection, and has gained popularity for its effectiveness in helping patients with diabetes achieve better glycemic control and weight loss. Because of its effectiveness for weight loss, it has gained a lot of notoriety amongst social influencers, celebrities, and even the general public.



Source: <https://www.novomedlink.com/diabetes/products/treatments/ozempic/about/mechanism-of-action.html>

Market Overview

TAM, or Total Addressable Market, is the entire market demand for a product or service without considering practical limitations. This is a theoretical concept and it helps businesses understand the full potential of their market. According to Grand View Research, the global diabetes device market size was valued at 28.1 billion USD in 2022, and is expected to continuously grow.

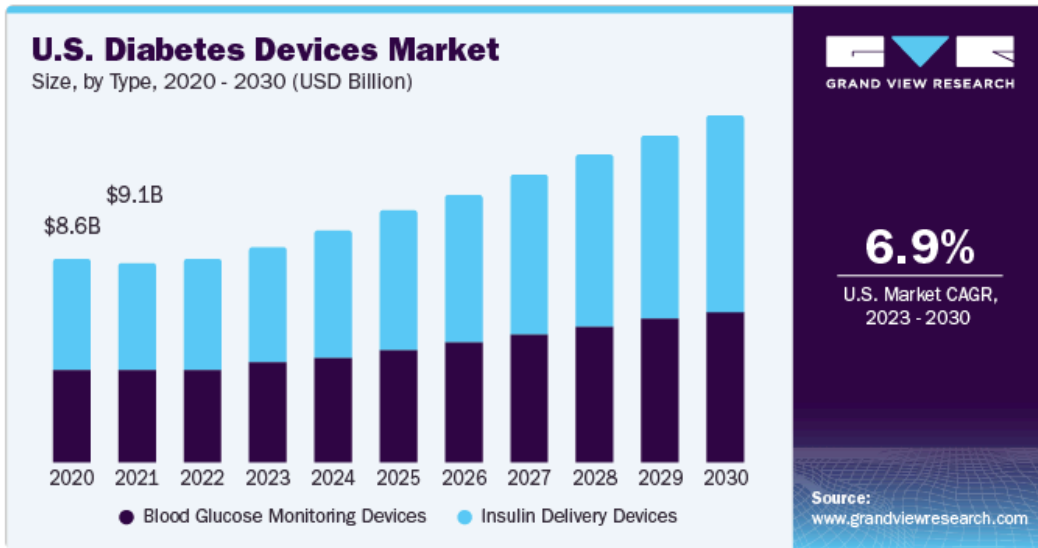
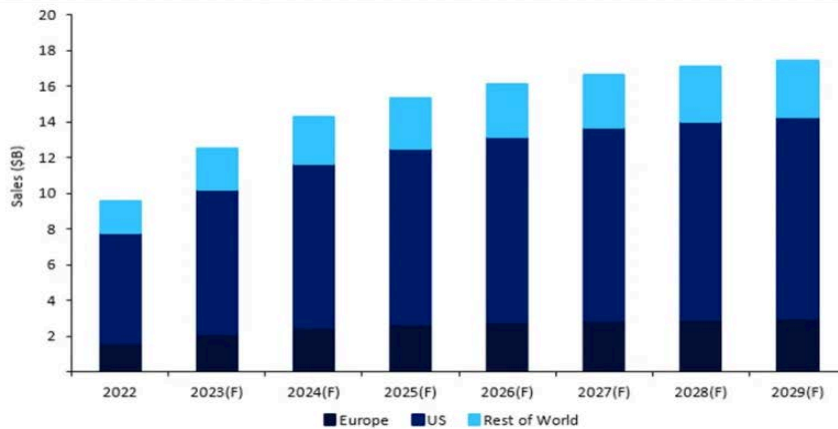


Figure 1: Forecast sales for Ozempic 2022–2029



Source: GlobalData, Drugs Database (Accessed 21 April 2023). ©GlobalData.

Novo Nordisk is renowned for its leadership in diabetes care, with a wide range of diabetes medications and devices designed to improve the lives of people with diabetes. Some of its well-known diabetes products include insulin analogs like NovoLog and Levemir, as well as GLP-1 receptor agonists like Victoza and Ozempic.

SAM, or Serviceable Addressable Market, is a subset of the TAM and represents the portion of the TAM that a business can realistically target or serve given its resources. According to Figure 1 above, Ozempic is forecasted to increase in sales 23% from the previous for a total of 12.5 billion USD. Its main competitor, Trulicity by Eli Lilly, has anticipated sales of 8 billion USD.

In 2022, the prescription weight loss drug market surpassed forecasted growth by 72%. The market is expected to continue growing and reach an estimated \$1.9 billion this year.



Source: Marketdata Enterprises Inc.
Graphic: Annette Choi, CNN

Source: <https://www.cnn.com/2023/03/17/health/ozempic-shortage-tiktok-telehealth/index.html>

Competitors

Ozempic is an approved weekly injection for the treatment of Type II diabetes in adults. It is effective at reducing hemoglobin A1C (HbA1C or A1C), which reflects your average blood glucose levels over a 3-month period. Additionally, Ozempic can reduce the risk of heart attack and stroke for individuals with both diabetes and heart disease. This medication carries a low risk of hypoglycemia (dangerously low blood glucose) and can lead to weight loss.

Rybelsus, an oral alternative to Ozempic, contains the same active ingredient, semaglutide, but is administered through daily oral pills. Despite their similarities, certain factors may make switching to Rybelsus less suitable. It is primarily intended for individuals using the lower 0.5 Ozempic dose, and Rybelsus has not received approval for the same cardiovascular advantages as Ozempic. In such cases, alternative GLP-1 agonist medications with these specific benefits may be more appropriate. Lastly, Rybelsus must be taken in the morning on an empty stomach at least 30 minutes before meals or other medications, which may not align with your preferences and needs.

Trulicity, much like Ozempic, is a weekly GLP-1 agonist injection. Trulicity’s highest dose (4.5 mg) achieves A1C level reduction comparable to the 1 mg Ozempic dose but appears less potent for weight loss than Ozempic's highest dose (2 mg). Owing to the increase in demand for a weight loss drug, Wegovy was FDA approved and marketed to meet this demand and has the same active ingredient, semaglutide, as Ozempic. Both Ozempic and Trulicity are brand-name drugs and do not currently have generic alternatives. Both drugs have FDA warnings that misuse of drugs may cause or put individuals at risk for thyroid cancer, additionally Trulicity may cause liver damage. Mounjaro, another competitor, was approved by the Food and Drug Administration for Type II diabetes in May 2022. It is not yet approved for weight loss.

Comparison of OZEMPIC’s competitors:

Condition treated or prevented	Ozempic	Trulicity
Type 2 diabetes in adults	✓	✓
Type 2 diabetes in children ages 10 years and older		✓
Lower the risk of certain heart problems in adults with type 2 diabetes and heart disease	✓	✓
Lower the risk for certain heart problems in adults who have type 2 diabetes and risk factors for heart disease		✓

Competitors	Ozempic	Mounjaro	Trulicity	Rybelsus
Manufacturer	Novo Nordisk	Eli Lilly & Co.	Eli Lilly & Co.	Novo Nordisk
Active ingredient	Semaglutide	Tirzepatide	Dulaglutide	Semaglutide
Administration	Injection	Injection	Injection	Oral medicine
Mechanism of action	GLP-1 agonist	GLP-1 agonist	GLP-1 agonist	GLP-1 agonist
Other benefits	Recommended for those with risk of Heart, kidney failure and weight loss	weight loss	Heart, kidney failure and weight loss	weight loss
Eligibility	Adults	Adults	Adults and children	Adults

criteria				
Price	~\$892 per fill	~\$999 per fill	~\$886 per fill	~\$900 for 30 tablets
Dose range	0.25 to 2 mg/week	2.5 to 15 mg/week	0.75 to 4.5 mg/week	3 mg/7mg/14 mg daily

Source : <https://www.medicalnewstoday.com/articles/ozempic-alternatives#comparison>

Target Customer

Ozempic may be targeted to individuals with type II diabetes. It is also recognized for its weight loss potential and can be prescribed to those seeking both weight management and blood sugar control. It is prescribed to individuals who have not achieved adequate blood sugar control through diet and exercise alone, or who show added risk of heart/kidney failure. Additionally, individuals who favor a more convenient dosing routine with fewer injections may find Ozempic's once-weekly regimen appealing.

Customer persona

Developing a customer persona for Ozempic is crucial. It helps pharmaceutical companies and healthcare providers improve marketing, better understand user preferences, and provide personalized support. This leads to enhanced communication, trust, and potentially better treatment outcomes.

Each aspect within a customer persona serves a unique role. Demographic data offers a foundational understanding of potential customers, allowing for tailored marketing strategies based on characteristics like age, gender, location, income, and education. Psychographic insights delve into their aspirations, values, interests, and lifestyle, facilitating the development of compelling messages that resonate with their desires and challenges. Grasping their motivations and goals assists in crafting product features and marketing strategies that cater to their requirements, while the identification of obstacles and difficulties empowers you to address these issues in our product and marketing materials enhancing customer satisfaction. Awareness of their online behavior informs the selection of marketing channels and strategies, and acknowledging their communication preferences ensures that our messages are well-received. A deep understanding of how they interact with products and make purchase decisions guides product development and pricing strategies, and knowledge of brand loyalty and associated values shapes our branding and messaging. An ideal customer persona targeting ozempic would look like following below:

<u>Name:</u>	<u>Medical background:</u>
<u>Demographics:</u>	Family history (hereditary diseases):
Age:	Dietary routine:
Gender:	BMI:
Location:	Current and past lifestyle:
Occupation:	
	<u>Purchase Influence</u>
<u>Objectives and requirements:</u>	Online ads:
Improving blood sugar: <input type="checkbox"/>	Recommendations from friends/family: <input type="checkbox"/>
Controlling weight: <input type="checkbox"/>	Social media: <input type="checkbox"/>
Low-cost treatment: <input type="checkbox"/>	Brand name: <input type="checkbox"/>
Interested in low frequency of dosing: <input type="checkbox"/>	
	<u>Challenges</u>
<u>Frustrations/Fears(Pain points)</u>	Finds difficult to follow recommended diet: <input type="checkbox"/>
Ineffective current treatments: <input type="checkbox"/>	Fails to adhere to the prescribed medication regimen: <input type="checkbox"/>
Effect on mental health	Resistant to considering novel treatment alternatives: <input type="checkbox"/>
(anxiety, depression, Self esteem): <input type="checkbox"/>	Concerns for side effects: <input type="checkbox"/>
Financial strain of medicines: <input type="checkbox"/>	
Dietary restrictions: <input type="checkbox"/>	<u>Motivations</u>
Disease progression to health complexities: <input type="checkbox"/>	Enhanced life quality: <input type="checkbox"/>
	Decreasing dependence on Insulin/numerous drugs: <input type="checkbox"/>
	Health Insurance coverage: <input type="checkbox"/>

PESTLE Analysis

A PESTLE analysis is used in business and industries to assess and analyze the external factors that can impact an organization. It is used to determine the impact of operations and for decision-making. PESTLE includes six factors: Political, Economic, Social, Technological, Legal, and Environmental.

1. Political factors

Novo Nordisk operates within the highly regulated pharmaceutical industry, subject to stringent oversight from governments and pharmaceutical regulatory bodies aimed at protecting people from harmful drugs. Ozempics has already established a market presence in several countries. Policies across different countries related to health care, drug approvals, and pricing will significantly impact Novo Nordisk.

Government interventions can influence the pricing of Ozempic. Since 2017 in the United States, Ozempic have been covered for type II diabetes by Medicare Part D, a federal health insurance program providing prescription drug coverage for people with certain disabilities and illness. According to surveys, the Medicare program spent approximately \$2.6 billion on Ozempic in 2021. Consequently, Ozempic may be next in line for price negotiations between manufacturer and Medicare, a process designed to lower the prices of medications that the program spends the most on.

Ozempic, as a groundbreaking medication, relies on patent protection to maintain its long-term exclusivity. This safeguard serves to prevent generic rivals from entering the market until the patent has run its course, preserving the company's market share. The patent for semaglutide in Brazil is set to expire in 2026. Although the company required an extension, the requests for patent extensions for Ozempic and its oral formulation have been denied. This denial implies that generic competitors may enter the market in the future.

Entering countries with high levels of taxation will significantly impact its profitability. Elevated taxation not only influences international trade, but also acts as a deterrent to exports. Similarly, heightened trade restrictions can intricately complicate the business environment.

2. Economic factors

Currency exchange rates pose the potential for substantial tax adjustments and an unexpected increase in tax burden. This provides a risk and could negatively impact Novo Nordisk's sales profits and market position. Consequently, this can reduce the competitiveness of its products compared to locally produced or competing alternatives.

The economic conditions in the countries where Novo Nordisk operates can have an impact on sales and profitability. Countries with robust economies may be able to afford pharmaceutical items more easily, thereby positively impacting Novo Nordisk's sales. Between 2020 and 2022, the GDP per capita of the United States expanded steadily, which may have benefited Ozempic's growth in sales during this period.

3. Social factors

In every society, distinctive norms and values play a crucial role in shaping consumer behavior, influencing the decision to purchase products. Given Novo Nordisk's focus on health-related products, societal trends toward healthier lifestyles create advantageous opportunities for the company. The heightened demand for weight loss solutions has led to a shortage of the medication since 2022.

In the 2010s, weight loss promotion declined in popularity due to the rise of body positivity and "health at every size" movements, making traditional diet programs less appealing. Companies shifted marketing to focus on "holistic" approaches. The recent surge in popularity of drugs like Ozempic is influenced by the persuasive elements of diet culture and the willingness of weight loss advocates to endorse these medications.

4. Technological factors

The evolution of information and communication technologies has prompted the adoption of marketing strategies to foster engagement with customers. Platforms like TikTok and Instagram have witnessed a surge in discussions surrounding Ozempic and Wegovy since the beginning of 2023. Celebrities have actively shared their testimonials highlighting the side effect of semaglutide in assisting with weight loss. An example is Elon Musk, who publicly credited Ozempic and Wegovy for his weight loss.

5. Legal factors

Lawsuits against Ozempic are arising for its association with gastroparesis, a condition characterized by delayed movement of food through the stomach and intestines, resulting in symptoms such as nausea, vomiting, and malnutrition. In August 2023, a lawsuit was initiated against Ozempic and Mounjaro concerning gastroparesis, and Novo Nordisk and Eli Lilly received summonses. In August 2022, seven lawsuits against generic drug manufacturers alleging patent infringement were consolidated into multidistrict litigation in Delaware. These manufacturers had sought FDA approval for generic alternatives. Furthermore, following a study associating Ozempic with an elevated risk of gallbladder disease and gallstones, lawsuits addressing Ozempic-related gallbladder issues began to emerge. As of October 2023, there has been no moves to consolidate Ozempic lawsuits into multidistrict litigation, although this may change.

6. Environmental factors

Ozempic injection supplies the use of a pre-filled pen constructed from a combination of single-use plastics like polypropylene, polyoxymethylene, polycarbonate, and acrylonitrile butadiene styrene materials. Given that these products are non-biodegradable, they can contribute to environmental harm. In April 2022, Novo Nordisk launched the Sustainability Advisory Council, an external group of experts specializing in social and environmental sustainability. Such practices have the potential to elevate stakeholder satisfaction and enhance the brand image.

Porter's Five Forces Analysis

A Porter's Five Forces Analysis is used to assess the competitive environment and attractiveness of an industry. The analysis, as the name would suggest, examines five key forces that influence the competitive dynamics within an industry and help businesses understand the different opportunities and threats they face. The five forces include: barrier to entry, bargaining power of suppliers, bargaining power of buyers, threat of substitute products, and rivalry among existing competitors. By analyzing these five forces organizations can develop strategies to navigate potential obstacles and be successful within an industry.

Ozempic's main market competitors include fellow GLP-1 type II diabetes medications such as Mounjaro, Trulicity, and Rybelsus, as well as products targeted towards weight loss for diabetics, such as Saxenda and Wegovy. All existing direct competitors work in a similar manner, by inhibiting pancreatic glucagon release to stimulate insulin production. All of the mentioned medications are priced similarly, and require a prescription. Preference for one drug over the other can be attributed wholly to brand recognition, oral vs. injection delivery, or a doctor-advised switch due to adverse side effects. The strong market competition makes this force a key deterrent for the industry, especially given each product's proneness to shortages. Of the five forces, market competition is the strongest.

Because of the strong rivalries present, the induced insulin drug market has an extremely high barrier to entry, as the vast majority (> 90%) of industry capital is controlled by Novo Nordisk, Eli Lilly, and Sanofi. Additionally, stringent FDA approval policy necessitates that any competitors produce a tangibly differentiated and/or more effective solution to even reach the market in the first place. Global deficiencies in insulin availability necessitate the constant expansion and re-design of these companies' production lines in order to meet demand, and smaller companies are dedicated to producing cheaper, more readily available insulin solutions. Despite the effective oligopoly between the three companies mentioned, the inability to completely horizontally integrate - whether due to FDA policy, international law, or ethical committee guidance - keeps the market open. So, while the barrier to entry is high, the threat of substitute products remains constant at a medium clip, as the second and third-strongest outside forces.

The final two of Porter's Five Forces are the bargaining power of suppliers and buyers. The ingredients in Ozempic (semaglutide, disodium phosphate dihydrate, propylene glycol, phenol, and water) are all produced by Novo Nordisk or are easily acquired. Semaglutide, the active ingredient in Ozempic as well as Wegovy and Rybelsus, all Novo Nordisk products, can be made through recombinant production and later synthetic modification to harvested intestinal epithelial endocrine cells, which Novo Nordisk controls in-house. As a result, supplier power is a non-factor. Similar non-semaglutide products, including liraglutide (Saxenda) and dulaglutide (Trulicity), are produced in essentially the same way.

Buyer power is largely inflexible due to type II diabetes' high associated lethality, making Ozempic-type treatments a non-negotiable necessity.

Summary

- **Market Overview, Trends and competition:**

The global market for type 2 diabetes drugs was valued at \$29.81 billion in 2021, and it is projected to reach \$61.6 billion by 2030, with a growth rate of 8.4% from 2022 to 2030. This growth is driven by the increasing demand for insulin worldwide, as insulin remains a central component of diabetes management. An aging population, an increase in sedentary lifestyles, and poor eating practices are among the factors behind this surge.

However, the market faces challenges in countries with insufficient healthcare infrastructure and strong government regulations, which can hinder research and development. Nonetheless, the introduction of generic insulin and a surge in research and development investments provide opportunities for future market expansion, making the diabetes market a promising sector. Patient-centric care is also on the rise, emphasizing personalized treatment, telemedicine, and technology like continuous glucose monitoring. Preventive measures, including lifestyle changes, are being prioritized to address the risk of type 2 diabetes. Regulatory changes play a role in the market, influencing competition and drug accessibility. While Novo Nordisk offers GLP-1 treatments, they are the exclusive provider of semaglutide products in the U.S. until 2032 due to their patent. Eli Lilly's Mounjaro, Trulicity and various other companies, including Pfizer, are in the process of developing their own injectable GLP-1 treatments making the competition fierce.

- **Outlook of Ozempic:**

Based on our analysis, the outlook for Ozempic appears promising. Novo Nordisk already has a strong hold on the majority of industry capital, and the patent protection for Semaglutide presents a substantial barrier for potential new competitors. Additionally, recent societal trends and the effective use of social media platforms have been pivotal in promoting the product. Furthermore, the latest clinical trial findings indicate that Ozempic may offer kidney-related benefits, strengthening its case for controlling blood sugar and aiding weight reduction in individuals with type II diabetes. This positive data also positions Ozempic as a strong contender in the battle for market share against existing competitors like Eli Lilly.

However, there are still some potential concerns regarding Ozempic, particularly related to side effects like gastroparesis. If the number of lawsuits associated with Ozempic continues to rise, it

could pose a risk to the product's outlook. Novo Nordisk should vigilantly address this issue and work on mitigating these negative side effects to maintain a positive trajectory for Ozempic.

- If this was our business product, we would try to eliminate its side effects by making the product more suitable for patients in need. We would also invest in manufacturing eco-friendly equipment, biodegradable packaging materials for a sustainable environment. We would establish comprehensive patient education programs to guarantee that individuals receiving Ozempic prescriptions have a thorough understanding of its usage, advantages, and possible side effects. These initiatives would also involve the creation of supportive tools such as mobile applications or online platforms, enabling patients to monitor their treatment progress, receive medication reminders, and access valuable resources for effective diabetes management. We would make the product more convenient by reducing the dosage frequency and making it affordable for patients to get maximum reach globally.

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