



Estimating the Cost of New Treatments for Diabetes and Obesity

Benedic N. Ippolito and Joseph F. Levy

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The rising popularity of drugs to treat obesity and diabetes, including Ozempic, has focused attention on their costs. However, existing research has incompletely characterized prices by focusing on only undiscounted list prices. We estimate that net prices received by drugmakers are 48–78 percent lower than list prices. In effect, we document a large difference between net payments to manufacturers and the prices faced by some consumers who pay list prices, even after we adjust for currently available coupons from manufacturers. We conclude by highlighting uncertainty surrounding future prices of drugs in this class and policy implications.

The introduction of glucagon-like peptide-1 agonists (GLP-1s), which include drugs such as Ozempic, represents a milestone in the treatment of diabetes and obesity. Clinical evidence suggests that these products can help control blood sugar among diabetics, lower weight, reduce cardiovascular events, and ease symptoms of heart failure.¹

With mounting evidence of clinical benefit, these drugs have attracted understandable levels of policy attention, much of it focused on their cost. Recent projections suggest revenue for GLP-1s could reach \$100 billion annually over the next decade (Erman 2023).

The majority of news coverage and research on these drugs has focused on their publicly available list price.² While list prices are relevant for some patients, prior research has shown that this is often a highly incomplete summary of typical transaction prices in the US. This reflects the relatively opaque use of “rebates” and other discounts, which alter the prices paid for branded drug products.

In this report, we aim to characterize the prices of these drugs more completely. In doing so, we hope to give researchers, policymakers, and journalists a fuller and more accurate understanding of these products’ current costs.

¹ For a discussion of evidence on glucagon-like peptide-1 agonists (GLP-1s), see Herman (2023). For recent evidence on semaglutide’s effect on major adverse cardiovascular events, see Novo Nordisk (2023). For recent evidence on semaglutide’s effect on heart failure, see Kosiborod et al. (2023).

² For example, see Amin et al. (2023) and Cirruzzo and Leonard (2023).

Table 1. Estimated Discount from List to Net Price, Select GLP-1 Drugs, First Quarter of 2023

| | Ozempic | Rybelsus | Wegovy | Mounjaro |
|---|---------|----------|--------|----------|
| Average Discount from List Price to Net Payment (Four-Quarter Moving Average) | 69% | 64% | 48% | 79%* |

Note: Discounts are calculated as four-quarter moving averages. We report the value for the first quarter of 2023. * Mounjaro does not yet have four quarters of data, so the most recent quarter estimate is provided. Because it is based on fewer data, we view Mounjaro’s net price estimate with greater uncertainty.

Source: Data are from SSR Health.

Data

Our analysis focuses on four notable GLP-1s: Ozempic (semaglutide), Rybelsus (semaglutide), Wegovy (semaglutide), and Mounjaro (tirzepatide). The first three are all manufactured by Novo Nordisk and contain semaglutide. Rybelsus is similar to Ozempic but is a pill rather than an injection. Wegovy is an injection but has a higher dose than Ozempic. Mounjaro is made by Eli Lilly. At present, all these medications are approved for a single indication: obesity for Wegovy and diabetes for the other three. However, Mounjaro may be approved for obesity later this year (Johnson 2023).

To characterize prices for notable GLP-1s, we combine data from several sources. First, we assemble data on the full list price of each product from manufacturer websites. These data are reported at the monthly level, though patients take each medication indefinitely.

Second, we collect information about coupons offered by manufacturers to offset costs to individuals. These coupons are listed on manufacturer websites and designed to lower patients’ out-of-pocket spending. Coupons can be targeted at different groups of consumers: those with insurance and coverage of the drug, those with insurance but no coverage for the drug, and those paying cash (including the uninsured). Information on the value of these coupons can give context for likely out-of-pocket spending for consumers who use them. (Note that coupons cannot be applied to Medicare out-of-pocket costs.)

Third, we use the SSR Health US Brand Rx Net Price Tool to provide an estimate of the net price for each product, which we define as the average payment the manufacturer receives after all price concessions,

including rebates and coupons. This reflects payments across commercial purchasers, government purchasers, and those paying cash. The price paid by any specific purchaser may meaningfully differ from the average.

That said, one can characterize the relative prices paid by some payers. Net prices paid by Medicaid are typically lower than average, while those paid by commercial insurers are likely higher, but with considerable variation.³ If a particularly large share of purchasers buy products at full list prices (e.g., because insurers infrequently cover a drug), then the observed net price may overstate the price insurers pay.

To generate net price estimates, SSR links information on the total net revenues for each product with third-party data on the volume of each product sold. Doing so requires making assumptions about the level of inventory kept by wholesalers, which can vary over short time horizons. As a result, we focus on four-quarter moving averages of net prices when possible and highlight potential uncertainty when relevant. For a full description of these data and underlying assumptions, see Ippolito and Levy (2022).

Results

We begin by reporting the average difference between list prices and net payments to manufacturers for each product. Table 1 shows that, in all cases, list and net prices differ significantly. Ozempic and Rybelsus have similar average discounts, ranging between 64 and 69 percent. (Recall that these are both made by Novo Nordisk and have a diabetes indication but use different routes of administration.)

³ While one can attempt to generate estimates of payer-specific prices, doing so requires additional assumptions and is beyond the scope of this analysis.

Table 2. Estimated Monthly Prices of Select GLP-1 Drugs, 2023

| | Ozempic | Rybelsus | Wegovy | Mounjaro |
|---|---------|----------|---------|----------|
| List Price | \$936 | \$936 | \$1,349 | \$1,023 |
| Implied Net Price (Received by Manufacturer) | \$290 | \$337 | \$701 | \$215* |
| Value of Manufacturer Coupons for Patient Out-of-Pocket Cost | | | | |
| Insured with Coverage for Product | \$150 | \$300 | \$225 | \$150 |
| Insured Without Coverage for Product | — | — | \$500 | \$575 |
| Cash Pay (No Coverage) | — | — | \$500 | — |
| Implied Out-of-Pocket Cost with Coupons | | | | |
| Insured Without Coverage | \$936 | \$936 | \$849 | \$448 |
| Uninsured | \$936 | \$936 | \$849 | \$1,023 |

Note: Discounts are calculated as four-quarter moving averages, when possible. See Table 1 for estimates. * Mounjaro does not yet have four quarters of data, so its net price is based only the most recent quarter. Because it is based on less data, we view Mounjaro’s net price estimate with greater uncertainty.

Source: List pricing data and coupon availability are taken from manufacturer websites, all accessed in August 2023. Net prices are based on data from SSR Health. Data on coupons are from NovoCare (n.d.a. and n.d.b.) and Mounjaro (n.d.).

Novo Nordisk’s Wegovy, which is indicated specifically for obesity, has a smaller average difference of nearly 50 percent. This estimate has been slightly more volatile than the others in recent quarters, which may reflect the short-term influence of wholesaler inventory increases or decreases.⁴ We anticipate that this will become less important over time. As that occurs, it will be interesting to see whether pricing trends converge with those of the products with diabetes indications.

Eli Lilly’s Mounjaro has been on the market for less time than the other products, so we cannot calculate a four-quarter rolling average. Instead, we report its estimated discount for the first quarter of 2023. Because of this, its estimate may be more likely to change in future quarters. However, during that period, its estimated net price was 79 percent lower than its list price.

In Table 2, we report the list price of a month’s supply of each product. We then apply estimates from Table 1 to translate them into estimated net prices for each product. On average, the net price for one month of Ozempic is \$290, and for Rybelsus it is \$337. We

estimate Wegovy’s monthly net price at \$701. Finally, Mounjaro is estimated to have a monthly net price of just over \$200. Because Mounjaro has fewer data available, we view its net price estimate with greater uncertainty.

In addition, we include information on manufacturer coupons, which can cover some portion of individual out-of-pocket costs. Among our sample of products, coupons are always offered for those who have eligible coverage, but only Wegovy and Mounjaro offer discounts for those who are insured but do not have coverage for the product. In addition, only Wegovy currently indicates that their discount is available to those paying without any insurance. These patterns are consistent with insurers being less likely to cover Wegovy, which is indicated only for obesity.

We use these data to show estimated out-of-pocket costs using coupons for those who are uninsured or who are insured without coverage for the specific product. We include coupons for those with coverage of each product for context, but estimating out-of-pocket costs for them is more challenging because it depends heavily

⁴ For a discussion, see Ippolito and Levy (2022).

on specific features of their coverage (e.g., what their cost sharing is before coupon use).

Because their manufacturers offer no coupons to consumers without coverage, Ozempic and Rybelsus would cost these consumers \$936 per month. The cost of Wegovy after coupons would be \$849 per month. Mounjaro remains \$1,023 for those without insurance, but it is reduced to \$448 for those with insurance but no coverage for the product.

Discussion

These data provide a fuller understanding of prices among these notable products and help inform a few key takeaways.

List prices are a highly incomplete summary of the pricing landscape. As with most branded drug products, information on list prices alone is not sufficient to characterize the price for these products. This is particularly true when trying to characterize payments drug manufacturers receive, since the majority of purchases will be made by insurers at lower net prices.

In this market, the difference between those prices is large. For three of the four products we study, net prices are 64–79 percent lower than list prices. List prices will remain relevant for some consumers, including those who lack coverage for these products or those with insurance that sets coinsurance based on the list price, though coupons will offset this to various degrees. Indeed, the variance in prices paid by different purchasers (e.g., insurers versus some patients) is an important feature of this market.

Policy questions about list versus net pricing are likely to remain highly relevant. While some consumers purchase drugs directly from manufacturers at (or near) undiscounted prices, list prices are often most relevant because of how they are treated by insurers. In particular, many insurers set cost sharing as a percentage of a drug’s list price, rather than the lower net price they pay to the drugmaker. This can increase costs for those taking the medications while implicitly reducing

premiums for nonusers. This dynamic is particularly pronounced in cases like the one studied here, in which list and net prices differ substantially.

Many policymakers have criticized this arrangement because it generates unpredictable cost-sharing amounts for patients and partly undermines the purpose of insurance. Policymakers have proposed remedies ranging from the Trump-era “rebate rule” to more-recent legislative proposals that would affect cost sharing’s structure.⁵ In general, these policies aim to better align prices paid by insurers and individuals. Given their prominence, large differences between these GLP-1s’ list and net prices are likely to further amplify such efforts.

There are significant questions about how prices will evolve moving forward. This market is currently in flux. The past few years have seen the introduction of new products, different formulations of existing products (e.g., the introduction of a product in pill form), and the expansion of approved indications (e.g., obesity). The estimated net price of existing treatments has generally trended downward in recent years.⁶ A robust drug discovery pipeline for similar drugs suggests that more competing treatments may come to market in the coming years.⁷ Thus, the results presented in this report are relevant to the current market, but they may not capture the future GLP-1 market.

A relevant question is whether prices will differ based on the indication of the same molecule, beyond any pricing differences attributable to variation in underlying costs. In part, the answer will depend on whether coverage for obesity products expands. One might expect such a change if the products are shown to significantly lower the rates of severe cardiovascular events, as in the SELECT trial for Wegovy (Novo Nordisk 2023). If Mounjaro is also approved for obesity, we anticipate that competition for formulary placement will likely put downward pressure on net prices for those indications in that scenario. Particularly if it is challenging to control off-label use of these products, we would not be surprised if net pricing trended toward similar levels across indications in coming years.

⁵ For a discussion of a recent, related proposal from the US House Energy and Commerce Committee, see Adler, Fiedler, and Ippolito (2023).

⁶ For example, see Ippolito (2023).

⁷ For example, see Beasley (2023).

Conclusion

The price of relatively new diabetes and obesity treatments is of central interest to numerous policy questions. In this report, we characterized the pricing landscape for selected products. Like with many branded drugs, the prices paid across settings differ greatly.

Publicly available list prices will remain important for understanding the costs to some consumers—notably

those without insurance coverage for products or whose insurers choose to set cost sharing based on the list price. However, these data poorly characterize typical transactions with drugmakers. There is meaningful uncertainty about how this market will evolve moving forward, but we anticipate list pricing and its impact on patient and insurer costs to be significant policy topics in the future.

About the Authors

Benedic N. Ippolito is a senior fellow in Economic Policy Studies at the American Enterprise Institute, where his research focuses on public finance and health economics.

Joseph F. Levy is an assistant professor at Johns Hopkins Bloomberg School of Public Health, where his research focuses on methods and policy to improve value-based decision-making in health care.

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Robert Doar, President; Michael R. Strain, Director of Economic Policy Studies; Stan Veuger, Editor, AEI Economic Perspectives

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