



# Insulin Glargine

## Version 2.1



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<sup>1</sup> Image source: [insulin-glargin-injection-1676098733-6758309.jpg \(146x304\)](https://www.fda.gov/oc/ohrt/insulin-glargin-injection-1676098733-6758309.jpg)

# Table of contents

Document version history.....	3
Review summary.....	4
Review background.....	7
Drug information .....	8
Health inequities.....	9
Residents prescribed.....	9
Price for the drug .....	10
Estimated average monetary price concession .....	13
Estimated total amount of the price concession.....	16
Estimated price for therapeutic alternatives.....	16
Estimated average price concession for therapeutic alternatives .....	18
Estimated costs to health insurance plans .....	19
Impact on enrollee access to the drug .....	26
Relative financial impacts to health, medical or social services costs.....	27
Estimated average enrollee copayment or other cost-sharing.....	28
Clinical information based on manufacturer material .....	29
Input from specified stakeholders .....	32
Appendix .....	33

## Document version history

Version	Date	Description
v1.0	10/07/2025	Original Release
v1.5	10/14/2025	Added new public comment to the appendix table.
v1.6	10/30/2025	Added new public comment to the appendix table.
v2.0	10/31/2025	New table formatting. 30-day WAC information updated.
v2.1	11/20/2025	30-day WAC information updated.

# Review summary

## Review drugs

Insulin product	Non-proprietary name	Manufacturer	On the CMS Drug Price Negotiation List
<b>Basaglar Kwikpen</b>	<i>Insulin Glargine</i>	Eli Lilly and Co.	No
<b>Insulin Glargine-yfgn</b>	<i>Insulin Glargine</i>		No
<b>Lantus</b>	<i>Insulin Glargine</i>	Sanofi Aventis US	No
<b>Lantus SoloStar</b>	<i>Insulin Glargine</i>	Sanofi Aventis US	No
<b>Semglee</b>	<i>Insulin Glargine</i>	Mylan Pharms Inc	No
<b>Toujeo Max SoloStar</b>	<i>Insulin Glargine</i>	Sanofi US Services	No
<b>Toujeo SoloStar</b>	<i>Insulin Glargine</i>	Sanofi US Services	No

## Price history<sup>2,3</sup>

From 2018-2024, insulin glargine drugs rose at an **average annual rate** of:

- Basaglar Kwikpen: **0.0** percent
- Insulin Glargine-yfgn: **-12.3** percent
- Lantus: **-11.6** percent
- Lantus SoloStar: **-11.6** percent
- Semglee: **28.8** percent
- Toujeo Max SoloStar: **2.4** percent
- Toujeo SoloStar: **2.4** percent

<sup>2</sup> Medi-Span. Wolters Kluwer, 2025. <https://www.wolterskluwer.com/en/solutions/medi-span/medi-span>.

<sup>3</sup> Consumer Price Index. U.S. Bureau of Labor Statistics. <https://www.bls.gov/cpi/tables/supplemental-files/>.

## Price concessions<sup>4</sup>

Based on data received from healthcare carriers, the **highest gross spend for insulin glargine products per claim for commercial carriers was \$1,086 for Toujeo Max SoloStar**. For the same product, the net spend per enrollee was \$796, resulting in the highest price concession reported by insurers of \$290 per claim.

## Cost to the payers<sup>5</sup>

*Table 1 2023 APAC payer annual total expenditure, utilization, and cost per enrollee*

Insulin product	Total Expenditure	Utilization	Cost per Enrollee	Cost per Enrollee, median
Basaglar Kwikpen	\$31,978,029	87,066	\$2,397	\$315
Insulin Glargine-yfgn	\$6,286,384	41,523	\$616	\$132
Lantus	\$11,879,620	20,128	\$2,391	\$309
Lantus SoloStar	\$44,425,416	77,732	\$2,538	\$429
Semglee	\$7,231,623	14,678	\$1,975	\$380
Toujeo Max SoloStar	\$10,209,919	8,844	\$6,169	\$1,040
Toujeo SoloStar	\$8,469,424	11,559	\$3,607	\$513

## Cost to enrollees<sup>6</sup>

*Table 2 2023 APAC annual enrollee out-of-pocket (OOP) cost*

Insulin product	OOP cost per enrollee	OOP cost per enrollee median	OOP cost per claim	OOP cost per claim median
Basaglar Kwikpen	\$101	\$0	\$19	\$0
Insulin Glargine-yfgn	\$90	\$21	\$35	\$4
Lantus	\$191	\$35	\$46	\$20
Lantus SoloStar	\$208	\$30	\$46	\$10
Semglee	\$154	\$2	\$39	\$0
Toujeo Max SoloStar	\$280	\$30	\$56	\$4
Toujeo SoloStar	\$262	\$35	\$55	\$22

<sup>4</sup> Based on data submitted to the Department of Consumer and Business Services (DCBS) by Oregon's commercial insurance carriers. Cost information from the data call is the cost of the drug after price concessions.

<sup>5</sup> Based on Oregon's 2023 All Payer All Claims (APAC) data across commercial insurers, Medicaid, and Medicare. APAC cost information is prior to any price concessions such as discounts or coupons. For more information regarding APAC data visit: <https://www.oregon.gov/oha/HPA/ANALYTICS/Pages/All-Payer-All-Claims.aspx>.

<sup>6</sup> Ibid.

## Rubric considerations

Domain	Basaglar Kwikpen	Insulin Glargine-yfgn	Lantus	Lantus SoloStar	Semglee	Toujeo Max SoloStar	Toujeo SoloStar
<b>Utilization</b>	87,066	41,523	20,128	77,732	14,678	8,844	11,559
<b>Price evaluation</b>	Stable WAC changes	Stable WAC changes	Stable WAC changes, outpaces inflation for 1 year	Stable WAC changes, outpaces inflation for 1 year	Avg % change in WAC >5%, outpaces inflation 1 year	Avg % change in WAC 0-3.99%, outpaces inflation 3 years	Avg % change in WAC 0-3.99%, outpaces inflation 3 years
<b>Price concessions</b>	25-50% of claims discounted	25-50% of claims discounted	50-75% of claims discounted	50-75% of claims discounted	76% of claims discounted	50-75% of claims discounted	50-75% of claims discounted
<b>System &amp; payer costs</b>	Total gross spend \$15-\$50M, total net spend <\$3M	Total gross spend <\$10M, total net spend <\$3M	Total gross spend \$10-\$15M, total net spend <\$3M	Total gross spend \$15-\$50M, total net spend <\$3M	Total gross spend <\$10M, total net spend <\$3M	Total gross spend \$10-\$15M, total net spend <\$3M	Total gross spend <\$10M, total net spend <\$3M
<b>Enrollee burden</b>	Total APAC OOP <\$200	Total APAC OOP <\$200	Total APAC OOP <\$200	Total APAC OOP \$200-700	Total APAC OOP <\$200	Total APAC OOP \$200-700	Total APAC OOP \$200-700
<b>Equity impact</b>	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<b>Access restrictions</b>	Yes	No	Yes	Yes	Yes	Yes	Yes
<b>Therapeutic alternative</b>	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<b>Stakeholder input</b>	Yes	Yes	Yes	Yes	No	Yes	Yes
<b>Patent expirations</b>	No	No	No	No	No	No	No
<b>On CMS Maximum Fair Price List (MFP)</b>	No	No	No	No	No	No	No

## Review background

This review incorporates supporting information from Medi-Span, FDA databases (e.g., Orange Book, Purple Book), and other publicly-available data where applicable.

Two primary data sources inform this review: the Oregon All Payers All Claims (APAC) database and the commercial carrier data call. APAC aggregates utilization data across all payer types in Oregon, including Medicaid, Medicare, and commercial plans, and presents gross cost estimates. In contrast, the data call reflects submissions from 11 commercial health insurers and reports primarily net costs after manufacturer rebates, PBM discounts, and other price concessions. As a result, APAC generally reflects larger total utilization and cost figures due to broader reporting, while the data call offers insight into actual expenditures from private payers in the commercial market.

This review addresses the affordability review criteria to the extent practicable. Due to limitations in scope and resources, some criteria receive minimal or no consideration.

In accordance with OAR 925-200-0020, PDAB conducts affordability reviews on prioritized prescription drugs selected under OAR 925-200-0010. The 2023 drug affordability review selection included the following criteria: orphan-designated drugs were removed; drugs were reviewed based on payer-paid cost data from the data call submissions; and drugs reported to the APAC program across Medicare, Medicaid, and commercial lines of business were included. To ensure broader public impact, drugs with fewer than 1,000 enrollees reported in APAC reports were excluded from consideration.

Senate Bill 844 (2021) created the Prescription Drug Affordability Board (PDAB) to evaluate the cost of prescription drugs and protect residents of this state, state and local governments, commercial health plans, health care providers, pharmacies licensed in Oregon and other stakeholders within the health care system from the high costs of prescription drugs.

## Drug information<sup>7</sup>

<b>Drug proprietary name(s) (Manufacturer)</b>	<b>Basaglar (Eli Lilly &amp; Co.), Lantus (Sanofi Aventis), Toujeo (Sanofi), Semglee (Mylan pharms)</b>
<b>Non-proprietary name</b>	<i>Insulin glargine, insulin glargine-yfgn*</i>
<b>Treatment:</b>	Insulin glargine is a long-acting recombinant insulin analog indicated to improve glycemic control in: <ul style="list-style-type: none"> <li>• Type 1 diabetes</li> <li>• Type 2 diabetes</li> </ul>
<b>Dosage and strength</b>	<ul style="list-style-type: none"> <li>• Individualized dosage based on metabolic needs, blood glucose monitoring, glycemic control, type of diabetes, prior insulin use.</li> <li>• 100 units/ml or 300 units/ml<sup>±</sup></li> </ul>
<b>Form/Route</b>	Subcutaneous injection
<b>*Approved as interchangeable biosimilars to Lantus</b>	
<b>± Basaglar and Lantus are provided as 100 units/ml; Toujeo is provided as 300 units/ml</b>	

## FDA approval

Insulin product	FDA approval date <sup>8</sup>	Expedited forms of approval?	Orphan Drug Act <sup>9</sup>
Basaglar Kwikpen	12/16/2015	No	No
Insulin Glargine-yfgn			
Lantus	04/20/2000	No	No
Lantus SoloStar	04/20/2000	No	No
Semglee	07/28/2021	No	No
Toujeo Max SoloStar	02/25/2015	No	No
Toujeo SoloStar	02/25/2015	No	No

<sup>7</sup> U.S. Food & Drug Administration. *Eliquis (apixaban) Prescribing Information*. Bristol-Myers Squibb Company, Action yr 2021. [https://www.accessdata.fda.gov/drugsatfda\\_docs/label/2021/202155s034lbl.pdf](https://www.accessdata.fda.gov/drugsatfda_docs/label/2021/202155s034lbl.pdf).

<sup>8</sup> FDA approval date based on the earliest occurring approval dates in the FDA Orange/Purple Book. For drugs with multiple forms/applications, the earliest approval date across all related FDA applications was used.

<sup>9</sup>At time of review, the drug had approved designations or not under the Orphan Drug Act.

# Health inequities

ORS 646A.694(1)(a) and OAR 925-200-0020 (1)(a) & (2)(a)(A-B). Limitations in scope and resources available for this statute requirement. Possible data source through APAC.

Insulin glargine products are essential for diabetes patients, yet data shows that access to insulin is a persisting issue. Affordability, complicated insurance claims, and availability issues due to formulary changes have been associated with the problem, which disproportionately impacts lower-income patients.<sup>10</sup> Furthermore, minorities historically have less access to long term care needed for chronic disease management despite the higher prevalence of diabetes in these communities, especially American Indians and Alaskan Natives, Black, and Hispanic patients.<sup>11</sup> Obstacles like cost and lack of care further exacerbates issues of access for diabetes patients.

# Residents prescribed

ORS 646A.694(1)(b) and OAR 925-200-0020(1)(b) & (2)(b). Data source from APAC.

Based on APAC claims, here are the number of Oregonians who filled a prescription for the review drugs in 2023:<sup>12</sup>

Insulin product	Oregonians
Basaglar Kwikpen	13,343
Insulin Glargine-yfgn	10,198
Lantus	4,968
Lantus SoloStar	17,503
Semglee	3,661
Toujeo Max SoloStar	1,655
Toujeo SoloStar	2,348

<sup>10</sup> William T. Cefalu, Daniel E. Dawes, Gina Gavlak, Dana Goldman, William H. Herman, Karen Van Nuys, Alvin C. Powers, Simeon I. Taylor, Alan L. Yatvin, on behalf of the Insulin Access and Affordability Working Group; Insulin Access and Affordability Working Group: Conclusions and Recommendations. Diabetes Care 1 June 2018; 41 (6): 1299–1311. <https://doi.org/10.2337/dci18-0019>. See also McEwan P, Evans M. The health economics of insulin therapy: How do we address the rising demands, costs, inequalities and barriers to achieving optimal outcomes. Diabetes Obes Metab. 2025; 27(Suppl. 5): 24-35. doi:10.1111/dom.16488.

<sup>11</sup> Hasan Nassereldine, Zhuochen Li, Kelly Compton, Parkes Kendrick, Ethan Kahn, Yekaterina O. Kelly, Mathew M. Baumann, Chris A. Schmidt, Dillon O. Sylte, Kanyin Liane Ong, Wichada La Motte-Kerr, Farah Daoud, Susan A. McLaughlin, Simon I. Hay, Erik J. Rodriguez, Anna M. Nápoles, George A. Mensah, Eliseo J. Pérez-Stable, Ali H. Mokdad, Laura Dwyer-Lindgren; The Burden of Diabetes Mortality by County, Race, and Ethnicity in the U.S., 2000–2019. Diabetes Care 20 March 2025; 48 (4): 546–555. <https://doi.org/10.2337/dc24-2259>. See also National Diabetes Statistics Report. CDC Diabetes, Public Health, May 15, 2024. [https://www.cdc.gov/diabetes/php/data-research/?CDC\\_AAref\\_Val=https://www.cdc.gov/diabetes/pdfs/data/statistics/national-diabetes-statistics-report.pdf](https://www.cdc.gov/diabetes/php/data-research/?CDC_AAref_Val=https://www.cdc.gov/diabetes/pdfs/data/statistics/national-diabetes-statistics-report.pdf).

<sup>12</sup>Number of 2023 enrollees in APAC database across commercial insurers, Medicaid, and Medicare. For more information regarding APAC data visit: <https://www.oregon.gov/oha/HPA/ANALYTICS/Pages/All-Payer-All-Claims.aspx>.

# Price for the drug

ORS 646A.694(1)(c) and OAR 925-200-0020(1)(c) & (2)(e), (f), & (g). Data source from Medi-Span, APAC, and carrier data call.

This section examines the pricing dynamics of insulin glargine products, drawing on multiple data sources to characterize its historical price trends and implications for affordability. It includes an analysis of the drug’s wholesale acquisition cost (WAC) and the Oregon Actual Average Acquisition Cost (AAAC). Together, the data provides a comprehensive view of insulin glargine’s list price trajectory and pharmacy acquisition costs, and the degree to which the list price impacts costs.

## Price history

WAC per 30-day supply was calculated with unit WAC from Medi-Span and was reviewed as an indication of historic price trends for the drugs. However, WAC does not account for discounts, rebates, or other changes to the drug’s cost throughout the supply chain.

Table 3 30-day supply for Review Drugs

	Basaglar Kwikpen	Insulin Glargine-yfgn	Lantus	Lantus SoloStar	Semglee	Toujeo Max SoloStar	Toujeo SoloStar
<b>30-day supply</b>	6 units (6ml of 100U)	2 units (2ml of 300U)	2 units (2ml of 300U)				

Table 4 2018-2024 WAC for review drugs per 30-day supply<sup>13</sup>

Year	Basaglar Kwikpen	Insulin Glargine-yfgn	Lantus	Lantus SoloStar	Semglee	Toujeo Max SoloStar	Toujeo SoloStar
<b>2018</b>	\$131		\$162	\$162		\$165	\$165
<b>2019</b>	\$131		\$170	\$170		\$173	\$173
<b>2020</b>	\$131		\$170	\$170	\$59	\$173	\$173
<b>2021</b>	\$131	\$59	\$170	\$170	\$127	\$173	\$173
<b>2022</b>	\$131	\$59	\$170	\$170	\$127	\$173	\$173
<b>2023</b>	\$131	\$59	\$175	\$175	\$127	\$181	\$181
<b>2024</b>	\$131	\$37	\$39	\$39	\$127	\$190	\$190
<b>Avg. Annual % Change</b>	0.0%	-12.3%	-11.6%	-11.6%	28.8%	2.4%	2.4%
<b>% change 2018 and 2024</b>	0.0%		-78.0%	-78.0%		5.0%	5.0%

<sup>13</sup> Medi-Span. Wolters Kluwer, 2025. <https://www.wolterskluwer.com/en/solutions/medi-span/medi-span>.

The WAC of the insulin products was based off one reported NDC. The exceptions were Lantus SoloStar, Semglee, and insulin glargine-yfng, which were averaged across, two, three, and four NDCs reported respectively. The number of NDC's used to calculate each insulin product was determined by the NDC's reported from the carriers to Drug Price Transparency program. The most expensive insulin products, Toujeo SoloStar and Toujeo Max SoloStar, were approximately **\$95.24 per unit** at the end of 2024.<sup>14</sup> The generic version of insulin glargine-yfng was the least expensive with the average of \$6.22 per unit at the end of 2024.<sup>15</sup> For the same product, between 2021-2024, the unit WAC decreased at an average annual rate of **-12.3 percent**. Moving in the other direction, between 2020-2024, the unit WAC of Semglee increased at an average annual rate of **28.8 percent**. The most notable increases in unit WAC, when comparing to the general consumer price index (CPI-U) inflation rate, occurred in 2018-2019, 2020-2021, and 2023-2024 (see Table 5).<sup>16</sup> Lantus, Lantus SoloStar, Toujeo Max SoloStar, and Toujeo SoloStar all had significant price increases from 2018-2019 that far outpaced the CPI-U. Between 2020 and 2021, Semglee had a 115.4% increase of unit WAC price, which is a stark contrast to the 5.3% inflation rate. However, from 2023-2024, insulin glargine-yfng, Lantus, and Lantus SoloStar all had large unit WAC decreases.

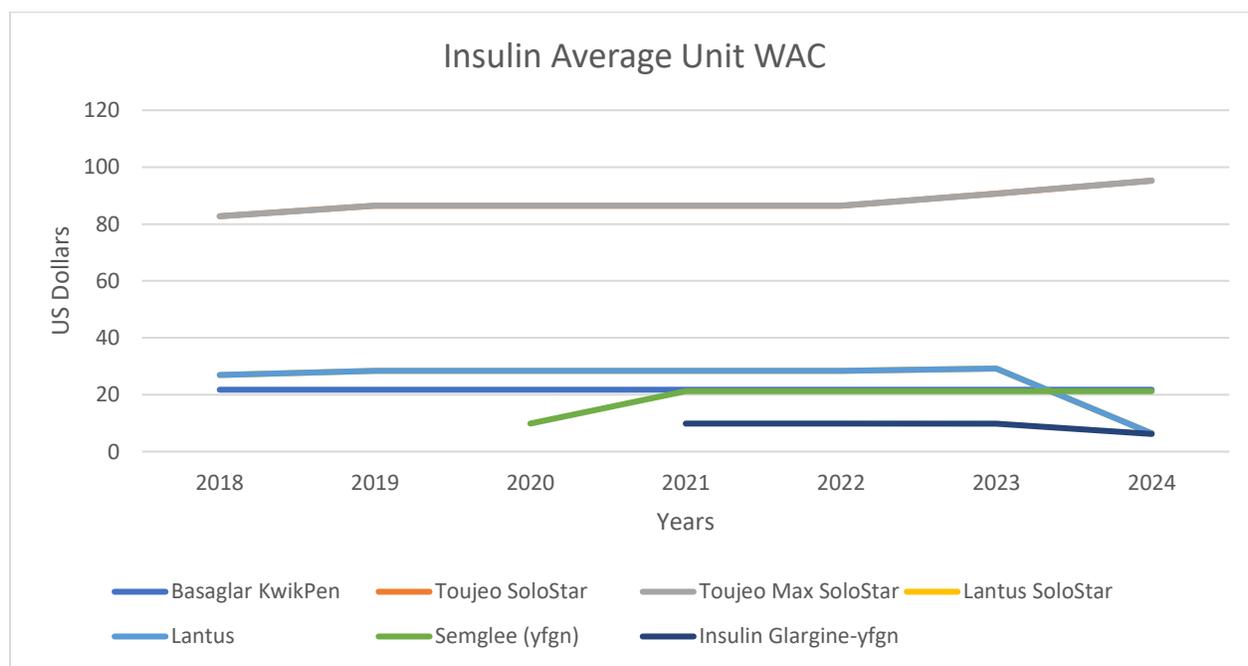


Figure 1 Insulin average unit WAC from 2018-2024<sup>17</sup>

<sup>14</sup> Medi-Span. Wolters Kluwer, 2025. <https://www.wolterskluwer.com/en/solutions/medi-span/medi-span>.

<sup>15</sup> Ibid.

<sup>16</sup> Consumer Price Index. U.S. Bureau of Labor Statistics. <https://www.bls.gov/cpi/tables/supplemental-files/>.

<sup>17</sup> Toujeo SoloStar and Toujeo Max SoloStar have comparable numbers for average unit WAC; therefore, their lines are overlapping with Toujeo SoloStar residing behind Toujeo Max SoloStar.

Table 5 Percent change of WAC of review drugs with CPI comparison

Year	Basaglar Kwikpen	Insulin Glargine-yfgn	Lantus	Lantus SoloStar	Semglee	Toujeo Max SoloStar	Toujeo SoloStar	CPI-U
2018-2019	0.0%		5.2%	5.2%		4.4%	4.4%	1.7%
2019-2020	0.0%		0.0%	0.0%		0.0%	0.0%	0.7%
2020-2021	0.0%		0.0%	0.0%	115.4%	0.0%	0.0%	5.3%
2021-2022	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	9.0%
2022-2023	0.0%	0.0%	3.0%	3.0%	0.0%	5.0%	5.0%	3.1%
2023-2024	0.0%	-37.0%	-78.0%	-78.0%	0.0%	5.0%	5.0%	3.0%

### Pharmacy acquisition costs

The AAAC, which reflects pharmacies’ actual purchase prices for Medicaid fee-for-service claims, is consistently lower across insulin glargine products when compared to the unit WAC, except for Semglee. Four insulin glargine products were found in the AAAC data and are listed below in Table 6.

While WAC provides a standardized benchmark of list price, it does not account for negotiated price concessions. In contrast, the AAAC offers a more representative estimate of the net price incurred by Medicaid payers in Oregon, derived from regular pharmacy surveys conducted by the Oregon Health Authority. Monitoring these trends over time contextualizes drug price trajectory relative to inflation and affordability for public and private payers.

Table 6 2020-2024 AAAC Medicaid FFS quarterly purchase prices for review drugs

Insulin products	Cost	2020	2021	2022	2023	2024
Lantus	Annual AAAC Avg	\$27.16	\$27.19	\$27.23	\$28.06	\$6.17
	Avg Unit WAC	\$28.36	\$28.36	\$28.36	\$29.21	\$6.43
Semglee	Annual AAAC Avg			\$26.12	\$26.03	\$25.98
	Avg Unit WAC	\$9.87	\$21.25	\$21.25	\$21.25	\$21.25

Insulin products	Cost	2020	2021	2022	2023	2024
Toujeo Max SoloStar	Annual AAAC Avg	\$83.03	\$82.79	\$82.82	\$87.10	\$91.45
	Avg Unit WAC	\$86.38	\$86.38	\$86.38	\$90.70	\$95.24
Toujeo SoloStar	Annual AAAC Avg	\$82.84	\$82.77	\$82.93	\$87.11	\$91.41
	Avg Unit WAC	\$86.38	\$86.38	\$86.38	\$90.70	\$95.24

## Estimated average monetary price concession

ORS 646A.694(1)(d) and OAR 925-200-0020(1)(d) & (2)(d) & (2)(L)(A-B). Data source information provided from data call.

This section provides an analysis of the average monetary discounts, rebates, and other price concessions applied to insulin glargine product claims in the commercial market. Drawing on data submitted through the carrier data call, it evaluates the extent to which these concessions reduced gross drug costs and estimates the average net costs to payers after adjustments. The analysis includes claim-level data on the proportion of claims with applied discounts, and the breakdown of the total concession amounts by type, offering insight into the reduced costs provided through manufacturer, PBM, and other negotiated price reductions.

Based on carrier-submitted data for 2023, the **highest average gross cost per enrollee in the commercial market was approximately \$4,476 for Toujeo Max SoloStar**. The lowest average gross cost per enrollee is \$458 for insulin glargine-yfgn. After accounting for manufacturer rebates, pharmacy benefit manager (PBM) discounts, and other price concessions, the **average net cost per enrollee declined to approximately \$1,194 for Toujeo Max SoloStar**, reflecting an **estimated mean discount of 73.3 percent** relative to gross costs. Semglee was reported to be the highest mean discount while insulin glargine was reported to be the lowest, with 75.6 and 34.4 percent respectively.

Across all reporting carriers and market segments, the **total cost of Lantus SoloStar before concessions was \$4,998,478**, with the highest total reported **price concessions amounting to approximately \$3,490,855**, as detailed in Table 7. Notably, Toujeo SoloStar had the highest **percentage of claims that benefited from some form of price concessions**, with 95.6 percent.

Table 7 Net cost estimate based on carrier-submitted, 2023 data

	Basaglar Kwikpen	Insulin Glargine- yfgn	Lantus	Lantus SoloStar	Semglee	Toujeo Max SoloStar	Toujeo SoloStar
<b>Total number of enrollees</b>	267	2,853	1,106	2,549	1,271	430	626
<b>Total number of claims</b>	983	7,311	3,036	8,611	4,229	1,772	2,719
<b>Total number of claims with price concessions applied</b>	497	4,772	1,559	7,203	3,812	1,636	2,600
<b>Percentage of claims with price concessions applied</b>	50.6%	65.3%	51.4%	83.7%	90.1%	92.3%	95.6%
<b>Percentage of cost remaining after concessions</b>	64.9%	65.7%	44.9%	30.0%	24.4%	26.7%	29.6%
<b>Percentage of discount</b>	35.1%	34.3%	55.1%	70.0%	75.6%	73.3%	70.4%
<b>Manufacturer price concessions for all market types</b>	\$57,121	\$449,189	\$630,016	\$2,712,159	\$1,702,087	\$1,239,688	\$1,283,929
<b>PBM price concessions for all market types</b>	\$81,005	\$0	\$89,322	\$778,541	\$22,746	\$171,535	\$102,338
<b>Other price reductions for all market types</b>	\$15	\$0	\$180	\$155	\$30	\$0	\$0
<b>Cost before price concessions across all market types</b>	\$393,989	\$1,307,504	\$1,305,619	\$4,998,478	\$2,281,562	\$1,924,725	\$1,970,087
<b>Total price concessions across all market types</b>	\$138,142	\$449,189	\$719,518	\$3,490,855	\$1,724,863	\$1,411,223	\$1,386,267
<b>Cost of after price concessions across all market types</b>	\$255,847	\$858,315	\$586,101	\$1,497,623	\$556,698	\$513,502	\$583,820
<b>Avg. payer spend per enrollee without price concessions</b>	\$1,476	\$458	\$1,180	\$1,957	\$1,795	\$4,476	\$3,147
<b>Avg. payer spend per enrollee with price concessions</b>	\$958	\$301	\$530	\$588	\$438	\$1,194	\$933

Including all market segments, the **highest gross spend of insulin glargine products per claim for commercial carriers was \$1,086 for Toujeo Max SoloStar** before any discounts, rebates, or other price concessions. For the same product, the net cost per enrollee with discounts, rebates, and other price concessions was \$796. This resulted in the highest price concession reported by insurers of \$290 per claim on the initial drug cost as shown in Table 8.

*Table 8 The average price concessions across market types from Data Call<sup>18</sup>*

Insulin product	Spend per claim	Average	Individual market	Large market	Small market
<b>Basaglar Kwikpen</b>	Spend per Claim, gross	\$401	\$512	\$390	\$536
	Spend per Claim, net	\$260	\$512	\$237	\$536
	Price Concessions per Claim	\$141	\$0	\$153	\$0
<b>Insulin Glargine-yfgn</b>	Spend per Claim, gross	\$179	\$179	\$178	\$182
	Spend per Claim, net	\$117	\$108	\$122	\$109
	Price Concessions per Claim	\$61	\$71	\$57	\$73
<b>Lantus</b>	Spend per Claim, gross	\$430	\$559	\$384	\$435
	Spend per Claim, net	\$193	\$209	\$196	\$155
	Price Concessions per Claim	\$237	\$349	\$187	\$280
<b>Lantus SoloStar</b>	Spend per Claim, gross	\$579	\$636	\$566	\$553
	Spend per Claim, net	\$174	\$199	\$171	\$152
	Price Concessions per Claim	\$405	\$437	\$395	\$401
<b>Semglee</b>	Spend per Claim, gross	\$540	\$578	\$521	\$568
	Spend per Claim, net	\$132	\$128	\$134	\$125
	Price Concessions per Claim	\$408	\$450	\$386	\$442
<b>Toujeo Max SoloStar</b>	Spend per Claim, gross	\$1,086	\$1,006	\$1,055	\$1,303
	Spend per Claim, net	\$290	\$254	\$286	\$345
	Price Concessions per Claim	\$796	\$752	\$769	\$958
<b>Toujeo SoloStar</b>	Spend per Claim, gross	\$725	\$737	\$731	\$678
	Spend per Claim, net	\$215	\$228	\$222	\$165
	Price Concessions per Claim	\$510	\$509	\$509	\$513

<sup>18</sup> Based on data submitted to the Department of Consumer and Business Services (DCBS) by Oregon’s commercial insurance carriers.

## Estimated total amount of the price concession

*ORS 646A.694(1)(e) and OAR 925-200-0020(1)(e) & (2)(d) & (2)(L)(A-B). Limitations in scope and resources available for this statute requirement. Possible data source carrier data call.*

This section is intended to quantify the total discounts, rebates, or other price concessions provided by the manufacturer of insulin glargine products to each pharmacy benefit manager, expressed as a percentage of the drug price. At the time of this review, there was no specific data available to PDAB to determine the total amount of such price concessions in the Oregon market.

The statutory and regulatory criteria calls for consideration of such information to the extent practicable. However, due to limitations in available evidence and reporting, this analysis was not performed. Future reviews may incorporate this data as it becomes available through improved reporting or additional disclosures from manufacturers, PBMs, and payers.

## Estimated price for therapeutic alternatives<sup>19</sup>

*ORS 646A.694(1)(f) and OAR 925-200-0020(1)(f), (2)(c) & (2)(m). Data source information provided from APAC.*

This section presents information on the estimated spending associated with insulin glargine products and its therapeutic alternatives using data from APAC and the 2023 data call. APAC data reflects gross spending across Medicare, Medicaid, and commercial health plans in Oregon, while the data call includes net spending submitted by 11 commercial health insurers. All therapeutic alternatives are represented using APAC data, which does not reflect price concessions, discounts or rebates.

**Lantus SoloStar's gross total payer paid**, based on APAC data, **was \$44.4 million**, which is the highest of the insulin glargine products. Basaglar Kwikpen followed behind with \$32.0 million of gross total payer paid. The lowest gross total payer paid is insulin glargine-yfgn with \$6.3 million. **Basaglar Kwikpen had the most utilization among the insulin glargine products with 87,066 claims**. Conversely, Toujeo Max SoloStar has the least utilization with 8,844 claims and the **highest payer paid per claim at \$1,154**.

**Reflecting the gross total payer paid, Lantus SoloStar also has the highest total enrollee paid at \$3.4 million and Basaglar Kwikpen is the second highest with \$907,351**. Lantus SoloStar, Toujeo Max SoloStar, and Toujeo SoloStar had the **highest patient paid per claim of \$70**. The drug with the **lowest patient paid per claim is Basaglar Kwikpen, which is \$10**.

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<sup>19</sup> Therapeutic alternative to mean a drug product that contains a different therapeutic agent than the drug in question, but is FDA-approved, compendia-recognized as off-label use for the same indication, or has been recommended as consistent with standard medical practice by medical professional association guidelines to have similar therapeutic effects, safety profile, and expected outcome when administered to patients in a therapeutically equivalent dose. [ORS 925-200-0020\(2\)\(c\)](#).

The highest total net payer paid received from the carriers indicated a cost of **\$3.0 million for Lantus SoloStar**. Semglee was the second highest at \$2.2 million and **Basaglar Kwikpen had the lowest total net payer paid \$355,470**. The carriers reported that Lantus SoloStar had the highest utilization among the insulin glargine products, and the generic insulin glargine-yfgn followed behind in utilization, with 8,611 and 7,311 claims respectively. Toujeo Max SoloStar had the **highest payer paid per claim at \$835, as compared to insulin glargine-yfgn at \$137 with the lowest payer paid per claim**.

**Based on the carrier data, Lantus SoloStar also has the highest total enrollee paid at \$417,965 and Basaglar Kwikpen had the lowest total enrollee paid at \$60,276**. Semglee and Toujeo SoloStar had the highest patient paid per claim of \$65. The drug with the lowest patient paid per claim is insulin glargine-yfgn, which is \$42.

None of the insulin glargine products were reported by the FDA for drug shortage, thus availability is assumed to be unaffected.

*Table 9 Average healthcare and average patient OOP costs for review drugs based on APAC*

Insulin product	No. of enrollees <sup>20</sup>	No. of claims	Total payer paid	Total enrollees paid <sup>21</sup>	Payer paid/claim	Patient paid/claim <sup>22</sup>
<b>Basaglar Kwikpen</b>	13,343	87,066	\$31,978,029	\$907,351	\$367	\$10
<b>Insulin Glargine-yfgn</b>	10,198	41,523	\$6,286,384	\$416,738	\$151	\$10
<b>Lantus</b>	4,968	20,128	\$11,879,620	\$870,253	\$590	\$43
<b>Lantus SoloStar</b>	17,503	77,732	\$44,425,416	\$3,423,174	\$572	\$44
<b>Semglee</b>	3,661	14,678	\$7,231,623	\$552,076	\$493	\$38
<b>Toujeo Max SoloStar</b>	1,655	8,844	\$10,209,919	\$427,723	\$1,154	\$48

<sup>20</sup> The number of enrollees is derived from unique individuals collected from APAC at the drug level. A single unique individual may occur across multiple lines of business indicating, meaning that an enrollee can be counted for each claim line of business. As a result, this leads to the elevated enrollment numbers presented in Table 2, as compared to other totals indicated in this report.

<sup>21</sup> The cost includes all lines of business.

<sup>22</sup> Ibid.

Insulin product	No. of enrollees <sup>20</sup>	No. of claims	Total payer paid	Total enrollees paid <sup>21</sup>	Payer paid/claim	Patient paid/claim <sup>22</sup>
<b>Toujeo SoloStar</b>	2,348	11,559	\$8,469,424	\$583,479	\$733	\$50

Table 10 Average healthcare and average patient OOP costs for review drugs based on carrier data<sup>23</sup>

Insulin product	No. of enrollees	No. of claims	Total payer paid	Total enrollees paid <sup>24</sup>	Payer paid/claim	Patient paid/claim <sup>25</sup>
<b>Basaglar Kwikpen</b>	267	983	\$355,470	\$60,276	\$362	\$61
<b>Insulin Glargine-yfgn</b>	2,853	7,311	\$998,657	\$309,211	\$137	\$42
<b>Lantus</b>	1,106	3,036	\$927,202	\$129,845	\$305	\$43
<b>Lantus SoloStar</b>	2,549	8,611	\$2,966,945	\$417,965	\$345	\$49
<b>Semglee</b>	1,271	4,229	\$2,156,714	\$276,978	\$510	\$65
<b>Toujeo Max SoloStar</b>	430	1,772	\$1,480,263	\$108,090	\$835	\$61
<b>Toujeo SoloStar</b>	626	2,719	\$1,460,303	\$175,761	\$537	\$65

## Estimated average price concession for therapeutic alternatives

ORS 646A.694(1)(g) and OAR 925-200-0020(1)(g) & (2)(d) & (2)(L)(A-B). Limitations in scope and resources available for this statute requirement.

This section addresses the estimated average of discounts, rebates, or other price concessions associated with therapeutic alternatives to insulin glargine products, as compared to the subject

<sup>23</sup> Information from the data call with the cost information after price concessions.

<sup>24</sup> The cost includes all lines of business.

<sup>25</sup> Ibid.

drug itself. At the time of this review, there was no quantifiable data available to PDAB to assess the average price concessions for the identified therapeutic alternatives in the Oregon market.

The statutory and regulatory criteria calls for consideration of such information to the extent practicable. However, due to limitations in available evidence and reporting, this analysis was not performed. Future reviews may incorporate this data as it becomes available through carrier reporting, manufacturer disclosures, or other sources.

## Estimated costs to health insurance plans

*ORS 646A.694(1)(h) and OAR 925-200-0020(1)(h) & (2)(h) & (m). Data source information provided from APAC and data call.*

This section quantifies the financial impact of insulin glargine products on health insurance plans in Oregon, based on claims and expenditure data from APAC and the carrier data call. Costs are delineated by payer type—including commercial, Medicaid, and Medicare—as well as by market segment within the commercial population. These estimates highlight the distribution of expenditures across different health coverage lines and inform assessments of the drug’s budgetary implications for public and private payers.

Table 11 provides enrollee count across all lines of business. Basaglar Kwikpen had the most enrollees in the commercial and Medicaid market, while Lantus SoloStar had the most enrollees in the Medicare market. Overall, **Lantus SoloStar had the most enrollees across all lines of business with 18,031 enrollees.**

*Table 11 Estimated APAC payer 2023 enrollees of review drugs*

Insulin product	Commercial enrollees	Medicaid enrollees	Medicare enrollees	Total enrollees <sup>26</sup>
<b>Basaglar Kwikpen</b>	4,528	8,328	4,591	17,447
<b>Insulin Glargine-yfgn</b>	2,753	6,108	1,904	10,765
<b>Lantus</b>	1,252	489	3,432	5,173
<b>Lantus SoloStar</b>	3,774	1,398	12,859	18,031
<b>Semglee</b>	1,242	155	2,380	3,777
<b>Toujeo Max SoloStar</b>	539	166	1,003	1,708
<b>Toujeo SoloStar</b>	783	158	1,471	2,412

Table 12 provides utilization for the healthcare system for insulin glargine products, distinguished by lines of business. **Basaglar Kwikpen has the most utilization** among the drugs,

<sup>26</sup> The total number of enrollees is the summation of enrollees across all markets which differs from the unique enrollees at the drug level.

with **87,066 claims** in the commercial and Medicaid markets. In the Medicare market, Lantus SoloStar is the most utilized with 57,577 claims, making it the **second most utilized insulin glargine with 77,732 claims**.

*Table 12 Estimated APAC payer 2023 utilization of review drugs<sup>27</sup>*

Insulin product	Commercial utilization	Medicaid utilization	Medicare utilization	Total claims <sup>28</sup>
Basaglar Kwikpen	21,372	40,428	25,266	87,066
Insulin Glargine-yfgn	7,798	29,588	4,137	41,523
Lantus	4,282	1,390	14,456	20,128
Lantus SoloStar	16,087	4,068	57,577	77,732
Semglee	4,329	361	9,988	14,678
Toujeo Max SoloStar	2,781	1,140	4,923	8,844
Toujeo SoloStar	3,918	987	6,654	11,559

Table 13 shows the overall payer expenditure for insulin glargine, distinguished by lines of business. Lantus SoloStar has a **total expenditure of \$44.4 million** with **Medicare holding the largest portion at \$34.2 million**. The insulin glargine product with the **lowest expenditure is insulin glargine-yfgn, at \$6.3 million**.

*Table 13 Estimated 2023 APAC payer annual gross expenditures of the review drugs from all lines of business<sup>29</sup>*

Insulin product	Commercial expenditure	Medicaid expenditure	Medicare expenditure	Total <sup>30</sup>
Basaglar Kwikpen	\$6,649,633	\$15,206,910	\$10,121,486	\$31,978,029
Insulin Glargine-yfgn	\$1,085,018	\$4,748,734	\$452,632	\$6,286,384
Lantus	\$1,940,281	\$435,983	\$9,503,355	\$11,879,620
Lantus SoloStar	\$8,720,783	\$1,506,993	\$34,197,640	\$44,425,416
Semglee	\$2,196,565	\$84,086	\$4,950,972	\$7,231,623

<sup>27</sup> Based on 2023 Oregon APAC data across commercial insurers, Medicaid, and Medicare. APAC cost information is prior to any price concessions such as discounts or coupons.

<sup>28</sup> Total is the sum of all utilization for the drug across all lines of business.

<sup>29</sup> Based on 2023 Oregon APAC data across commercial insurers, Medicaid, and Medicare. APAC cost information is prior to any price concessions such as discounts or coupons.

<sup>30</sup> Total is the sum of all expenditure for the drug across all lines of business.

Insulin product	Commercial expenditure	Medicaid expenditure	Medicare expenditure	Total <sup>30</sup>
<b>Toujeo Max SoloStar</b>	\$2,962,928	\$1,037,925	\$6,209,066	\$10,209,919
<b>Toujeo SoloStar</b>	\$2,607,225	\$636,035	\$5,226,164	\$8,469,424

Table 14 compares the overall payer cost per enrollee of insulin glargine products, distinguished by lines of business. **Toujeo Max SoloStar has the highest total cost per enrollee at \$6,169**, across all lines of business. The highest median cost per enrollee is also Toujeo Max SoloStar at \$1,040. **Insulin glargine-yfgn has the lowest total cost per enrollee at \$616 and the lowest median cost per enrollee at \$132.**

*Table 14 Estimated 2023 APAC payer annual gross cost per enrollee of the review drugs<sup>31</sup>*

Insulin product	Commercial cost/enrollee	Medicaid cost/enrollee	Medicare cost/enrollee	Total <sup>32</sup> cost per enrollee	Cost per enrollee, median	IQR	Cost per enrollee, 75 <sup>th</sup> percentile	Cost per enrollee, 95 <sup>th</sup> percentile
<b>Basaglar Kwikpen</b>	\$1,469	\$1,826	\$2,205	\$2,397	\$315	\$151	\$380	\$1,152
<b>Insulin Glargine-yfgn</b>	\$394	\$777	\$238	\$616	\$132	\$70	\$150	\$416
<b>Lantus</b>	\$1,550	\$892	\$2,769	\$2,391	\$309	\$597	\$831	\$2,138
<b>Lantus SoloStar</b>	\$2,311	\$1,078	\$2,659	\$2,538	\$429	\$541	\$839	\$1,872
<b>Semglee</b>	\$1,769	\$542	\$2,080	\$1,975	\$380	\$456	\$716	\$1,575
<b>Toujeo Max SoloStar</b>	\$5,497	\$6,253	\$6,190	\$6,169	\$1,040	\$1,312	\$1,815	\$3,895
<b>Toujeo SoloStar</b>	\$3,330	\$4,026	\$3,553	\$3,607	\$513	\$802	\$1,145	\$2,468

Table 15 compares the overall payer cost per claim of insulin glargine products, distinguished by lines of business. **Toujeo Max SoloStar has the highest total cost per claim at \$1,154**, across all lines of business. The highest median cost per claim is also Toujeo Max SoloStar at \$894. **Insulin**

<sup>31</sup> Based on 2023 Oregon APAC data across commercial insurers, Medicaid, and Medicare. APAC cost information is prior to any price concessions such as discounts or coupons.

<sup>32</sup> The total is the overall cost per enrollee across commercial insurers, Medicaid, and Medicare.

**glargine-yfgn has the lowest total cost per claim at \$151 and the lowest median cost per claim at \$139.**

Table 15 Estimated 2023 APAC payer annual gross cost per claim of the review drugs

Insulin product	Commercial cost/ claim	Medicaid cost/ claim	Medicare cost/ claim	Total <sup>33</sup> cost/ claim	Cost per claim, median	IQR	Cost per claim, 75 <sup>th</sup> percentile	Cost per claim, 95 <sup>th</sup> percentile
Basaglar Kwikpen	\$311	\$376	\$401	\$367	\$316	\$91	\$345	\$949
Insulin Glargine-yfgn	\$139	\$160	\$109	\$151	\$139	\$54	\$149	\$373
Lantus	\$453	\$314	\$657	\$590	\$312	\$532	\$800	\$1,825
Lantus SoloStar	\$542	\$370	\$594	\$572	\$427	\$435	\$732	\$1,582
Semglee	\$507	\$233	\$496	\$493	\$373	\$330	\$592	\$1,347
Toujeo Max SoloStar	\$1,065	\$910	\$1,261	\$1,154	\$894	\$1,043	\$1,559	\$3,017
Toujeo SoloStar	\$665	\$644	\$785	\$733	\$430	\$525	\$878	\$2,069

Data submitted via the carrier data call further stratifies commercial expenditures by market segment. Tables 16 through 20 examine the financial impacts of insulin glargine products through different metrics.

Table 16 provides utilization by the healthcare system for insulin glargine products, distinguished by market. **Lantus SoloStar has the most utilization** among the drugs, with **8,611 claims** and in all market segments. **The second most utilized insulin glargine is 7,311 claims for insulin glargine-yfgn.**

<sup>33</sup> The total is the overall cost per enrollee across commercial insurers, Medicaid, and Medicare.

Table 16 Estimated data call 2023 claims utilization of review drugs<sup>34</sup>

Insulin product	Individual market claims	Large group market claims	Small group market claims	Total claims
Basaglar Kwikpen	21	904	58	983
Insulin Glargine-yfgn	1,387	4,964	960	7,311
Lantus	671	1,912	453	3,036
Lantus SoloStar	1,927	5,241	1,443	8,611
Semglee	795	2,716	718	4,229
Toujeo Max SoloStar	304	1,186	282	1,772
Toujeo SoloStar	649	1,657	413	2,719

Table 17 provides enrollee count across all market segments. **Insulin glargine-yfgn has the most enrollees in the large group market, at 1,996 enrollees, and the most total enrollees at 2,853.** Lantus SoloStar had the most enrollees in the individual and small group market. Lantus SoloStar has the second highest number of enrollees overall at 2,549.

Table 17 Estimated data call 2023 enrollees of review drugs

Insulin product	Individual market enrollees	Large group market enrollees	Small group market enrollees	Total enrollees
Basaglar Kwikpen	9	245	13	267
Insulin Glargine-yfgn	512	1,996	345	2,853
Lantus	203	765	138	1,106
Lantus SoloStar	570	1,550	429	2,549
Semglee	234	817	220	1,271
Toujeo Max SoloStar	83	278	69	430
Toujeo SoloStar	149	387	90	626

Table 18 shows the overall annual spending of insulin glargine products, distinguished by market segments. Lantus SoloStar has a **total annual spending of \$3.4 million** with the **large group market being the biggest portion at \$1.7 million.** Basaglar Kwikpen has the least annual spending at \$415,746.

<sup>34</sup> Cost information from the data call is the cost of the drug after price concessions.

Table 18 Estimated 2023 data call annual net spending of the review drugs from all markets

Insulin product	Individual market annual spending	Large group market annual spending	Small group market annual spending	Total annual spending
Basaglar Kwikpen	\$6,954	\$337,673	\$31,119	\$415,746
Insulin Glargine-yfgn	\$247,798	\$884,778	\$175,292	\$1,307,868
Lantus	\$333,109	\$553,043	\$170,895	\$1,057,047
Lantus SoloStar	\$1,061,577	\$1,709,929	\$613,405	\$3,384,911
Semglee	\$459,500	\$1,565,785	\$408,409	\$2,433,693
Toujeo Max SoloStar	\$296,258	\$995,987	\$296,107	\$1,588,352
Toujeo SoloStar	\$418,115	\$992,149	\$225,800	\$1,636,064

Table 19 shows the overall payer expenditure of insulin glargine, distinguished by market segments. Lantus SoloStar has the highest **total payer expenditure of \$3.0 million with the large group market being the biggest portion at \$1.5 million**. Basaglar Kwikpen has the least expenditure at **\$355,470**.

Table 19 Estimated 2023 data call payer net gross expenditures of the review drugs from all markets

Proprietary name	Individual market payer paid	Large group market payer paid	Small group market payer paid	Total payer paid
Basaglar Kwikpen	\$4,513	\$326,281	\$24,677	\$355,470
Insulin Glargine-yfgn	\$179,765	\$703,727	\$115,166	\$998,657
Lantus	\$300,536	\$479,470	\$147,195	\$927,202
Lantus SoloStar	\$923,576	\$1,523,664	\$519,705	\$2,966,945
Semglee	\$397,883	\$1,405,717	\$353,114	\$2,156,714
Toujeo Max SoloStar	\$271,137	\$933,320	\$275,806	\$1,480,263
Toujeo SoloStar	\$365,396	\$896,923	\$197,985	\$1,460,303

Table 20 shows the enrollee out-of-pocket of insulin glargine, distinguished by market segments. Lantus SoloStar has the highest **enrollee OOP cost of \$417,965 with the large group market being the biggest portion at \$186,266**. Basaglar Kwikpen has the least enrollee OOP cost of **\$60,276**.

Table 20 Estimated 2023 data call annual enrollee out-of-pocket cost of the review drugs from all markets

Proprietary name	Individual Market Enrollee OOP cost	Large Group Market Enrollee OOP Cost	Small Group Market Enrollee OOP Cost	Total Enrollee OOP Cost
Basaglar Kwikpen	\$2,441	\$51,392	\$6,443	\$60,276
Insulin Glargine-yfgn	\$68,034	\$181,051	\$60,126	\$309,211
Lantus	\$32,573	\$73,573	\$23,699	\$129,845
Lantus SoloStar	\$138,000	\$186,266	\$93,700	\$417,965
Semglee	\$61,616	\$160,067	\$55,295	\$276,978
Toujeo Max SoloStar	\$25,121	\$62,668	\$20,301	\$108,090
Toujeo SoloStar	\$52,720	\$95,226	\$27,815	\$175,761

Table 21 details the average spend per claim and per enrollee for different parties (plan, payer, and enrollee) in the healthcare system across all market segments. The net average spend for each of the insulin glargine products is broken down below.

Table 21 Estimated 2023 data call net average plan, payer, and enrollee spending per claim and per enrollee in all markets

Proprietary name	Market	Avg. plan spend/claim	Avg. payer paid/claim	Avg. enrollee paid/claim	Avg. plan spend/enrollee	Avg. payer paid/enrollee	Avg. OOP/enrollee
Basaglar Kwikpen	Individual	\$331	\$215	\$116	\$773	\$501	\$271
	Large Group	\$418	\$361	\$57	\$1,542	\$1,332	\$210
	Small Group	\$537	\$425	\$111	\$2,394	\$1,898	\$496
Insulin Glargine-yfgn	Individual	\$179	\$130	\$49	\$484	\$351	\$133
	Large Group	\$178	\$142	\$36	\$443	\$353	\$91
	Small Group	\$183	\$120	\$63	\$508	\$334	\$174
Lantus	Individual	\$496	\$448	\$49	\$1,641	\$1,480	\$160
	Large Group	\$289	\$251	\$38	\$723	\$627	\$96
	Small Group	\$377	\$325	\$52	\$1,238	\$1,067	\$172
Lantus SoloStar	Individual	\$551	\$479	\$72	\$1,862	\$1,620	\$242
	Large Group	\$326	\$291	\$36	\$1,103	\$983	\$120
	Small Group	\$425	\$360	\$65	\$1,430	\$1,211	\$218
Semglee	Individual	\$578	\$500	\$78	\$1,964	\$1,700	\$263
	Large Group	\$577	\$518	\$59	\$1,917	\$1,721	\$196
	Small Group	\$569	\$492	\$77	\$1,856	\$1,605	\$251
	Individual	\$975	\$892	\$83	\$3,569	\$3,267	\$303

Proprietary name	Market	Avg. plan spend/claim	Avg. payer paid/claim	Avg. enrollee paid/claim	Avg. plan spend/enrollee	Avg. payer paid/enrollee	Avg. OOP/enrollee
<b>Toujeo Max SoloStar</b>	Large Group	\$840	\$787	\$53	\$3,583	\$3,357	\$225
	Small Group	\$1,050	\$978	\$72	\$4,291	\$3,997	\$294
<b>Toujeo SoloStar</b>	Individual	\$644	\$563	\$81	\$2,806	\$2,452	\$354
	Large Group	\$599	\$541	\$57	\$2,564	\$2,318	\$246
	Small Group	\$547	\$479	\$67	\$2,509	\$2,200	\$309

Table 22 indicates CCOs reported insulin glargine-yfgn having an annual greatest increase from 2022-2023 (rebates not included) with a **\$1.2 million year-over-year increased cost growth**.

*Table 22 Medicaid CCOs greatest increase in share to total cost from 2022-2023 (rebates not included)<sup>35</sup>*

Medicaid CCOs				
Insulin product	2022	2023	YoY change in spending	Percent of total CCO cost 2023
<b>Insulin Glargine-yfgn</b>	\$3,224,199	\$4,462,220	\$1,238,021	0.1%

## Impact on enrollee access to the drug

ORS 646A.694(1)(i) and OAR 925-200-0020(1)(i). Data source information provided from carrier data call.

### Review of rejected claims and drug benefit designs

This section summarizes information reported by carriers regarding plan design features that relate to coverage of insulin glargine products, including prior authorization requirements, step therapy protocols, and formulary placement. The data describes how the drug is positioned within insurance benefit designs and the extent to which utilization management processes were applied during the reporting period.

Based on information reported through the carrier data call, the following plan design features were observed for insulin glargine products. For Basaglar Kwikpen, approximately **73.3 percent of reporting plans required prior authorization (PA)** for coverage of the drug, and **54.8 percent of plans required step therapy** before approving its use, which are the highest percentages for both categories.

<sup>35</sup> CCO Pharmacy spend provided by Oregon State University drug use research and management program. Oregon State University Drug Use and Research Management DUR utilization reports 2023. College of Pharmacy, Oregon State University. <https://pharmacy.oregonstate.edu/research/pharmacy-practice/drug-use-research-management/dur-reports>.

For formulary placement, Basaglar Kwikpen has **96.2 percent of plans that categorized the drug as a non-preferred drug**, the highest of the insulin glargine products. For Semglee, however, **3.5 percent of plans excluded it entirely from the formulary**.

*Table 23 Plan design analysis from 2023 data call*

Insulin products	Required prior authorization	Required step therapy	On a non-preferred formulary	Not covered
<b>Basaglar Kwikpen</b>	73.3%	54.8%	96.2%	2.4%
<b>Insulin Glargine-yfgn</b>	6.0%	0.0%	6.3%	3.1%
<b>Lantus</b>	60.7%	22.3%	82.3%	1.3%
<b>Lantus SoloStar</b>	58.3%	21.3%	79.3%	0.8%
<b>Semglee</b>	48.2%	0.0%	46.5%	3.5%
<b>Toujeo Max SoloStar</b>	40.9%	0.4%	41.6%	0.4%
<b>Toujeo SoloStar</b>	41.2%	0.4%	41.8%	0.4%

Note: percentages can equal over 100 percent as some carrier and market combos may have multiple plans that fall under different designs. For example: Carrier A may have three plans in the small group market that require prior authorization but two other plans in the small group market that do not require prior authorization.

## Relative financial impacts to health, medical or social services costs

*ORS 646A.694(1)(j) and OAR 925-200-0020(1)(j) & (2)(i)(A-B). Limitations in scope and resources available for this statute requirement.*

This section addresses the extent to which the use of insulin glargine products may affect broader health, medical, or social service costs, as compared to alternative treatments or no treatment. At the time of this review, there was no quantifiable data available to PDAB to assess these relative financial impacts in the Oregon population.

The statutory and regulatory criteria calls for consideration of such information to the extent practicable. However, due to limitations in available evidence and reporting, this analysis was not performed. Future reviews may incorporate this data as it becomes available through carrier reporting, manufacturer disclosures, or other sources.

Future reviews may incorporate findings from real-world evidence, health technology assessments, or economic modeling as such data become available.

## Estimated average enrollee copayment or other cost-sharing

ORS 646A.694(1)(k) and OAR 925-200-0020(1)(k) & (2)(j)(A-D). Data source information provided from APAC and carrier data call. Data limitations with patient assistance programs

This section summarizes the average annual enrollee out-of-pocket (OOP) costs for insulin glargine products in Oregon, as reported in 2023 by the Oregon All Payers All Claims (APAC). These costs include enrollee copayments, coinsurance, and deductible contributions for the drug and are presented by insurance type.

Tables 24 and 25 presents the average annual enrollee cost-sharing amounts derived from APAC. The APAC data, which includes claims from commercial and Medicare enrollees, showed average per-claim and per-enrollee OOP gross costs. For example, **Medicare enrollees recorded higher average annual OOP costs**. Due to the absence of Medicaid OOP costs, the insurance type has been omitted entirely from the following tables.

Table 24 Annual out-of-pocket cost per enrollee for review drugs<sup>36</sup>

Insulin product	Annual Medicare OOP cost/enrollee	Annual Commercial OOP cost/enrollee	Total <sup>37</sup>	Median	IQR	75 <sup>th</sup> percentile	95 <sup>th</sup> percentile
Basaglar Kwikpen	\$167	\$32	\$101	\$0	\$20	\$20	\$225
Insulin Glargine-yfgn	\$90	\$89	\$90	\$21	\$74	\$74	\$141
Lantus	\$201	\$144	\$191	\$35	\$84	\$84	\$305
Lantus SoloStar	\$204	\$213	\$208	\$30	\$94	\$94	\$337
Semglee	\$133	\$190	\$154	\$2	\$75	\$75	\$220
Toujeo Max SoloStar	\$260	\$310	\$280	\$30	\$100	\$100	\$379
Toujeo SoloStar	\$246	\$284	\$262	\$35	\$100	\$100	\$355

<sup>36</sup> Based on 2023 Oregon APAC data across commercial insurers and Medicare. APAC cost information is prior to any price concessions such as discounts or coupons.

<sup>37</sup> The total is the overall cost per enrollee across commercial insurers and Medicare.

Table 25 Annual out-of-pocket cost per claim for review drugs

Insulin product	Medicare OOP cost/claim	Commercial OOP cost/claim	Total <sup>38</sup>	Median	IQR	75 <sup>th</sup> percentile	95 <sup>th</sup> percentile
Basaglar Kwikpen	\$30	\$7	\$19	\$0	\$10	\$10	\$105
Insulin Glargine-yfgn	\$41	\$31	\$35	\$4	\$60	\$60	\$120
Lantus	\$48	\$42	\$46	\$20	\$65	\$65	\$150
Lantus SoloStar	\$45	\$50	\$46	\$10	\$70	\$70	\$150
Semglee	\$32	\$54	\$39	\$0	\$60	\$60	\$150
Toujeo Max SoloStar	\$53	\$60	\$56	\$4	\$70	\$70	\$180
Toujeo SoloStar	\$54	\$57	\$55	\$22	\$70	\$70	\$195

## Clinical information based on manufacturer material

ORS 646A.694(1)(L) and OAR 925-200-0020(1)(L). Information provided from manufacturers and information with sources from contractor(s).

### Drug indications

- FDA approved: Insulin glargine is a long-acting recombinant insulin indicated to improve glycemic control in:
  - Type 1 diabetes (T1DM)
  - Type 2 diabetes (T2DM)
- Limitations of use: Not recommended for treatment diabetic ketoacidosis (DKA)
- Off label uses:
  - Hyperglycemia in hospitalized patients with non-critical illness

### Clinical efficacy

Insulin glargine is a long-acting insulin analogue with a duration of approximately 24 hours recommended for the treatment of T1DM and T2DM. Insulin is essential in the treatment of T1DM due to a lack of  $\beta$ -cell function. Insulin replacement should include a basal insulin, mealtime insulin, and correction insulin. Basal insulin includes NPH insulin or long-acting analogues, including insulin glargine. Recommendations do not give preference to one long-acting analogue over another. A 2021 Cochrane review found no clear differences in all-cause mortality, health-related quality of life, severe hypoglycemia, severe adverse events, and

<sup>38</sup> The total is the overall cost per claim across commercial insurers and Medicare.

hemoglobin A1c (HgA1c) between long-acting and ultra-long-acting insulin analogues in the treatment of T1DM.

In the treatment of T2DM, insulin is recommended for consideration with background glucose-lowering therapy if symptoms of hyperglycemia are present or when HgA1C or blood glucose levels are very high (A1C > 10% or blood glucose  $\geq$  300 mg/dl). Basal insulin with NPH or a long-acting insulin analogue is often used as initial insulin treatment in T2DM. Guideline recommend that choice of basal insulin should be based on patient-specific considerations, including cost. A Cochrane review found that insulin glargine had a reduced risk of hypoglycemia and nocturnal hypoglycemia when compared to NPH insulin.

Insulin glargine U-300 (Toujeo) has a longer duration of action than U-100 and may have a lower risk of nocturnal hypoglycemia risk than U-100 glargine. Multiple studies have demonstrated no difference in HgA1C between U-300 glargine and U-100 glargine in both T1DM and T2DM. with similar effects on HgA1C. Studies in both T1DM and T2DM demonstrated no difference in severe hypoglycemia or severe adverse events. Three studies provided evidence that rates of nocturnal hypoglycemia were lower with U-300 than U-100 in T2DM (38% vs. 51%).

## Clinical safety

- FDA safety warnings and precautions:
  - Hyperglycemia or hypoglycemia with changes in insulin regimen
  - Hypoglycemia
  - Hypersensitivity reactions
  - Hypokalemia
  - Fluid retention and heart failure with concomitant use of PPAR-gamma agonists, including thiazolidinediones
  - Diabetic ketoacidosis: should not be used as monotherapy
- Contraindications:
  - During episodes of hypoglycemia
  - Hypersensitivity to insulin glargine
- Common side effects:
  - Severe hypoglycemia
  - Hypertension
  - Peripheral edema
  - Diarrhea
  - Urinary tract infection
  - Antibody development
  - Nasopharyngitis and upper respiratory tract infection

Table 26 Dosing and route

Insulin product	Duration	Frequency	Formulations	Biosimilars available
<b>Insulin degludec (Tresiba)</b>	≥ 42 hours	Once daily (flexible timing)	<ul style="list-style-type: none"> <li>• U-100 vial</li> <li>• U-100 pen</li> <li>• U-200 pen</li> </ul>	No
<b>Insulin glargine (Lantus)</b>	About 24 hours (10.8-24)	Once daily at the same time	<ul style="list-style-type: none"> <li>• U-100 vial</li> <li>• U-100 pen</li> </ul>	<ul style="list-style-type: none"> <li>• Semglee</li> <li>• Rezvoglar</li> </ul>
<b>Insulin glargine (Basaglar)</b>	About 24 hours	Once daily at the same time	<ul style="list-style-type: none"> <li>• U-100 vial</li> <li>• U-100 pen</li> </ul>	No
<b>Insulin glargine-yfgn (Semglee)</b>	About 24 hours	Once daily at the same time	<ul style="list-style-type: none"> <li>• U-100 vial</li> <li>• U-100 pen</li> </ul>	Interchangeable biosimilar to Lantus
<b>Insulin glargine-aglr (Rezvoglar)</b>	About 24 hours	Once daily at the same time	U-100 pen	Interchangeable biosimilar to Lantus
<b>Insulin glargine (Toujeo)</b>	>24 hours	Once daily at the same time	U-300 pen	No

### Comparative clinical efficacy

- Clinical guidelines do not give preference to one long-acting insulin over another.
- There is consistent evidence that long-acting insulin analogues have less hypoglycemia than intermediate insulin analogues (NPH). There is low quality evidence that long-acting insulins have a greater HbA1c reductions compared to intermediate insulins.
- One randomized, double-blind, multicenter, cardiovascular outcomes trial compared insulin degludec to insulin glargine in patients with T2DM at high risk of cardiovascular

<sup>39</sup> U.S. Food & Drug Administration. *Eliquis (apixaban) Prescribing Information*. Bristol-Myers Squibb Company, Action yr 2021. [https://www.accessdata.fda.gov/drugsatfda\\_docs/label/2021/202155s034lbl.pdf](https://www.accessdata.fda.gov/drugsatfda_docs/label/2021/202155s034lbl.pdf).

<sup>40</sup> U.S. Food & Drug Administration. *Pradaxa (dabigatran etexilate) Prescribing Information*. Boehringer Ingelheim Pharmaceuticals, Inc., Action yr 2021.

[https://www.accessdata.fda.gov/drugsatfda\\_docs/label/2021/022512s041lbl.pdf](https://www.accessdata.fda.gov/drugsatfda_docs/label/2021/022512s041lbl.pdf).

<sup>41</sup> U.S. Food & Drug Administration. *Savaysa (edoxaban) Prescribing Information*. Daiichi Sankyo, Co., LTD., Action yr 2021. [https://www.accessdata.fda.gov/drugsatfda\\_docs/label/2021/206316s017lbl.pdf](https://www.accessdata.fda.gov/drugsatfda_docs/label/2021/206316s017lbl.pdf).

<sup>42</sup> U.S. Food & Drug Administration. *Xarelto (rivaroxaban) Prescribing Information*. Janssen Pharmaceuticals, Inc., Action yr 2022.

[https://www.accessdata.fda.gov/drugsatfda\\_docs/label/2022/022406Orig1s039,202439Orig1s038correctedlbl.pdf](https://www.accessdata.fda.gov/drugsatfda_docs/label/2022/022406Orig1s039,202439Orig1s038correctedlbl.pdf)

events (n=7637). Overall, insulin degludec was non-inferior to insulin glargine in the primary outcome of major cardiovascular events (8.5% vs. 9.3%; hazard ratio [HR] 0.91; 95% CI 0.78 to 1.06; p<0.001 for noninferiority). There was a higher rate of severe hypoglycemic events in the insulin glargine group (6.25 events per 100 patient-years) compared to the insulin degludec group (3.70 events per 100 patient-years) (rate ratio [RR] 0.60; 95% CI 0.48 to 0.76; p<0.001). There was also a lower rate of nocturnal severe hypoglycemia in the degludec group compared to glargine (0.65 vs. 1.40 events per 100 patient-years).

- A systematic review of adult patients with T1DM and T2DM found no difference in HbA1c, hypoglycemia, nocturnal hypoglycemia, or severe hypoglycemia between insulin degludec and insulin glargine 300 units/ml.
- Insulin glargine -yfgn (Semglee) was approved as the first biosimilar to Lantus and was later FDA approved as an *interchangeable* biosimilar to Lantus. Based on evidence of a similar clinical effect with insulin glargine (Lantus), including HgA1C lowering and rates of hypoglycemia, it was approved as interchangeable that can be automatically substituted.
- Insulin glargine 300 units/ml has been shown to have similar reductions in HbA1c as insulin glargine 100 units/ml with possibly lower rates of nocturnal hypoglycemia.

## Input from specified stakeholders

ORS 646A.694(3) and OAR 925-200-0020(2)(k)(A-D)

Input from individual stockholder groups, including patient and caregivers, scientific and medical professions, and safety net providers, was not collected for the insulin glargine products included in this review. However, the board received public comments about insulin glargine. The comments are posted on the PDAB website and listed in the table in the appendix.

## Appendix

### Stakeholder feedback:

Name of speaker	Association to drug under review	Drug	Format	Date	Exhibit website link
Carissa Kemp	Sanofi	Insulin glargine	Letter	6/17/2025	<a href="#">Exhibit A</a>
Cynthia Ransom	Eli Lilly	Basaglar	Letter	4/25/2025	<a href="#">Exhibit B</a>
Carissa Kemp	Sanofi	Lantus	Letter	6/17/2025	<a href="#">Exhibit C</a>
Carissa Kemp	Sanofi	Toujeo	Letter	6/17/2025	<a href="#">Exhibit D</a>
Warren Westmoreland	Patient	Basaglar	Letter	10/29/2025	<a href="#">Exhibit E</a>