



# Tresiba & Tresiba FlexTouch Affordability Review<sup>1</sup>

Version 2



<sup>1</sup> Image. <https://www.novomedlink.com/diabetes/products/treatments/tresiba/>. Accessed 01/08/2024.

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## Revisions Made

- Page 3: Updated summary section and tables.
- Page 4: Added information regarding ORS 743A.069 and added name of manufacturer.
- Page 5: Additional information added to clinical profile section.
- Page 7: Updated Table 3 Alternative long-acting insulin analogues.
- Pages 8 & 9: Updated graphs to include therapeutic alternative WAC from 2019-2023.
- Pages 11: Updated the cost to health benefit plans section. Removed commercial and Medicaid tables. Added a new table for all health coverage cost profiles.
- Page 13: Expanded information in the therapeutic alternative tables and updated information statement.

## Review Summary

The Prescription Drug Affordability Board (PDAB) conducted affordability reviews for Tresiba and Tresiba FlexTouch. The Oregon All Payer All Claims (APAC) reporting program indicated the drugs were prescribed to 6068<sup>2</sup> (Tresiba 220, Tresiba FlexTouch 5,848) Oregonians in 2022 with a prescription drug benefit from an Oregon health insurance carrier.

*Table 1 Summary of costs to the patient*

| Costs to the patient  |        |  |
|---|--------|--|
|   | Source | Amount   |
| Average annual out of pocket cost per commercially insured enrollee | APAC   | Tresiba: \$150.92<br>Tresiba FlexTouch: \$169.64 |

*Table 2 Summary of costs to the healthcare system*

| Costs to the healthcare system                               |  |  |
|--|--|--|
|  | Source   | Amount   |
| Total annual gross spends for payers <sup>3</sup>            | APAC   | \$25,879,188.21<br>(Tresiba \$696,955.57,<br>Tresiba FlexTouch<br>\$25,182,232.64) |
| Average annual gross spends for payers per enrollee          | APAC   | Tresiba: \$3,167.98<br>Tresiba FlexTouch: \$4,306.13                               |
| Annual drug gross cost per enrollee                          | Data call <sup>4</sup>   | Drugs not on data call   |
| Average annual drug net cost                                 | Data call  | Drugs not on data call   |
| Percentage of drug price concessions                         | Data call  | Drugs not on data call   |
| Average Quarterly Medicaid fee for service cost <sup>5</sup> | OSU Drug Research Management Utilization Reports 2022 <sup>6</sup> | Tresiba and Tresiba FlexTouch not among the top drugs listed for 2022              |

<sup>2</sup> Number of 2022 unique enrollees from Oregon's All Payers All Claims (APAC) data. For more information regarding APAC data visit: <https://www.oregon.gov/oha/HPA/ANALYTICS/Pages/All-Payer-All-Claims.aspx>

<sup>3</sup> Costs from the All Payers All Claims (APAC) database are prior to any price concessions such as discounts or coupons. Cost information from the data call is the cost of the drug after price concessions.

<sup>4</sup> Data call refers to cost information collected from the health insurance plans by the Department of Consumer and Business Services on prescription drugs under both pharmacy and medical benefits after price concessions.

<sup>5</sup> Quarterly metric used in lieu of annual as the drug may not have been on the 2022 reports for all four quarters.

<sup>6</sup> Source: Oregon State University Drug Use and Research Management DUR utilization reports 2022. [DUR Reports | College of Pharmacy | Oregon State University](#)

## Review background

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.

In accordance with OAR 925-200-0020, the Prescription Drug Affordability Board (PDAB) will conduct an affordability review on the prioritized subset of prescription drugs, selected under OAR 925-200-0010, and identify nine prescription drugs and at least one insulin product that may create affordability challenges for health care systems or high out-of-pocket costs for patients in Oregon.

Enacted in 2021, ORS 743A.069 provides that health benefit plans offered in Oregon may not require enrollees in their plans to incur cost-sharing or other out-of-pocket costs above certain inflation-adjusted limits for insulin prescribed for the treatment of diabetes. Plans covered by this provision insure approximately 1 million Oregonians. For 2024, the out-of-pocket cost limits are \$85 for each 30-day supply or \$255 for each 90-day supply.<sup>7</sup> These limits reflect an increase of 13.3% from 2021.

In addition to information provided by the Department of Consumer and Business Services (DCBS) pursuant to ORS 646A.694, this review reflects information from various sources, including Oregon's All Payers All Claims (APAC) database, state licensed insurance carriers responding to a DCBS data call, Medi-Span, and resources from the U.S. Food and Drug Administration (FDA) such as the Orange Book (small molecule drugs) and the Purple Book (biologics).

## Drug information

Drug proprietary name(s): **Tresiba, Tresiba FlexTouch**

Non-proprietary name: **Insulin Degludec**

Manufacturer: **Novo Nordisk**

## FDA approval

Tresiba and Tresiba FlexTouch were first approved by the FDA on 9/25/2015.<sup>8</sup>

The drugs qualified for the following expedited forms of approval: None.

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<sup>7</sup> OAR 836-053-0025 (available at <https://secure.sos.state.or.us/oard/viewSingleRule.action?ruleVrsnRsn=303523>). ORS 743A.069 requires the Department of Consumer and Business Services, by rule, to annually adjust the cost limits based on changes to the Consumer Price Index for All Urban Consumers, West Region (All Items).

<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.

At the time of the review, the drugs had no approved indications with designations under the Orphan Drug Act.

## Clinical profile

### Drug indications<sup>9</sup>

- FDA Approved: To improve glycemic control in patients 1 year of age and older with diabetes mellitus (type 1 or type 2)
- Off Label Uses: None

### Clinical Efficacy

- Insulin degludec is a long-acting insulin analog with a duration of action exceeding 42 hours.
- FDA approval of insulin degludec was based on 3 trials evaluating it as part of a basal-bolus regimen in type 1 diabetes mellitus (T1DM) and 6 studies in type 2 diabetes mellitus (T2DM).<sup>10</sup> Most of these studies were non-inferiority studies designed to test the non-inferiority of long-acting insulin degludec to another long-acting insulin analogue, most often being insulin glargine. These studies were randomized, open label, and ranged from 26-52 weeks.<sup>11</sup> Basal insulin dose was adjusted weekly to achieve a fasting morning glucose level between 70 and 90 mg/dl.
- In T1DM, insulin degludec was shown to be non-inferior to insulin detemir and glargine on the primary endpoint of change from hemoglobin A1c (HbA1c) from baseline and resulted in an average change from baseline of -0.36 to -0.70.<sup>12</sup> None of the 3 studies showed insulin degludec was statistically superior to the long-acting comparator.<sup>13</sup>
- In T2DM, insulin degludec was found to be non-inferior to insulin glargine in 5 studies with the upper bound of the 95% confidence interval below the 0.4 non-inferiority margin. The average change from baseline in HbA1c was from -1.07 to -1.53.<sup>14</sup> This larger reduction in HbA1c in T2DM was likely due to higher levels at baseline (8%-9%). The treatment difference between insulin degludec and insulin glargine always favored glargine and quality of life outcomes did not differ between groups. One additional study

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<sup>9</sup> Tresiba Prescribing Information. Novo Nordisk Inc. Plainsboro, NJ: 2022.

<sup>10</sup> Food and Drug Administration Center for Drug Evaluation and Research. Application Number: 203313Orig1s000 203314 and Orig1s000 Summary Reviews. Available at: [https://www.accessdata.fda.gov/drugsatfda\\_docs/nda/2015/203313Orig1s000\\_203314Orig1s000SumR.pdf](https://www.accessdata.fda.gov/drugsatfda_docs/nda/2015/203313Orig1s000_203314Orig1s000SumR.pdf)

<sup>11</sup> Ibid.

<sup>12</sup> Ibid.

<sup>13</sup> Ibid.

<sup>14</sup> Ibid.

found insulin degludec to be superior in reducing HgA1c compared to sitagliptin, an oral DPP4-inhibitor (-1.53 vs. -1.09; treatment difference -0.44; 95% CI -0.62 and -0.25).<sup>15</sup>

- At the time of FDA approval, there was no evidence to conclude that insulin degludec has effects on mortality, microvascular outcomes, or macrovascular outcomes.

### Clinical Safety<sup>16</sup>

- FDA safety warnings:
  - Hypoglycemia
  - Hyperglycemia due to medication errors or changes in insulin products
  - Hypersensitivity reactions
  - Hypokalemia
- Common side effects:
  - Hypoglycemia (5-18%), injection site reactions (4%), weight gain (~2 kg)
- Safety advantages or disadvantages
  - In 7 out of the 8 studies, hypoglycemia rates were similar with degludec and insulin glargine. One study showed insulin degludec to be superior to glargine regarding hypoglycemia.
  - Longer acting insulin analogues may result in lower risks of nocturnal hypoglycemia and severe hypoglycemia than alternatives.
  - Rates of other adverse events are similar between insulin degludec and insulin glargine.
  - Insulin degludec has a longer duration of action over other basal insulin analogues that can allow for more flexibility in once daily dosing regimens.

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<sup>15</sup> Food and Drug Administration Center for Drug Evaluation and Research. Application Number: 203313Orig1s000 203314 and Orig1s000 Summary Reviews. Available at:

[https://www.accessdata.fda.gov/drugsatfda\\_docs/nda/2015/203313Orig1s000\\_203314Orig1s000SumR.pdf](https://www.accessdata.fda.gov/drugsatfda_docs/nda/2015/203313Orig1s000_203314Orig1s000SumR.pdf)

<sup>16</sup> Tresiba Prescribing Information. Novo Nordisk Inc. Plainsboro, NJ: 2022.

## Therapeutic alternatives<sup>17</sup>

Table 3 Alternative long-acting insulin analogues

| Drug  | FDA Approved Indications   | Duration        | Frequency                    | Formulations   | Biosimilars Available  |
|---|--|-----------------|------------------------------|--|--|
| <b>Insulin degludec</b><br><i>(subject drugs)</i>                                       | <ul style="list-style-type: none"> <li>• T1DM</li> <li>• T2DM</li> </ul> | ≥ 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</b><br><i>(therapeutic alternative)</i><br>Basaglar, Lantus, Toujeo | <ul style="list-style-type: none"> <li>• T1DM</li> <li>• T2DM</li> </ul> | ~24 hours       | Once daily at the same time  | <ul style="list-style-type: none"> <li>• U-100 vial</li> <li>• U-100 pen</li> <li>• U-300 pen</li> </ul> | <ul style="list-style-type: none"> <li>• Semglee (Lantus)</li> <li>• Rezvoglar (Lantus)</li> </ul> |
| <b>Insulin detemir*</b><br><i>(therapeutic alternative)</i>                             | <ul style="list-style-type: none"> <li>• T1DM</li> <li>• T2DM</li> </ul> | 7 to > 24 hours | Once or twice daily          | <ul style="list-style-type: none"> <li>• U-100 vial</li> <li>• U-100 pen</li> </ul>                      | No   |

\*Will be discontinued by end of 2024 due to manufacturing constraints.

### Comparative effectiveness to therapeutic alternatives:

- Clinical guidelines do not give preference to one long-acting insulin over another.<sup>18</sup>
- One randomized, double-blind, multicenter, cardiovascular outcomes trial compared insulin degludec to insulin glargine in patients with T2DM at high risk of cardiovascular events (n=7637).<sup>19</sup> 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).<sup>20</sup> 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).<sup>21</sup> 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).

<sup>17</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. OAR 925-200-0020(2)(c) [PDAB 1-2023: Prescription Drug Affordability Review \(oregon.gov\)](#). Accessed 01/09/2024.

<sup>18</sup> American Diabetes Association Professional Practice Committee. 9. Pharmacologic Approaches to Glycemic Treatment: Standards of Care in Diabetes-2024. *Diabetes Care*. 2024 Jan 1;47(Suppl 1):S158-S178

<sup>19</sup> Marso SP, McGuire DK, Zinman B, et al.; DEVOTE Study Group. Efficacy and Safety of Degludec versus Glargine in Type 2 Diabetes. *N Engl J Med*. 2017 Aug 24;377(8):723-732.

<sup>20</sup> Ibid.

<sup>21</sup> Ibid.

- There is not a clinically meaningful difference in HbA1c reduction between insulin degludec and insulin glargine in T2DM or T1DM based on high quality evidence in T2DM and moderate in T1DM.<sup>22</sup>

## Cost profile

### Pricing information

The package wholesale acquisition cost (WAC) for Tresiba (NDC 00169266211) was \$338.95 and Tresiba FlexTouch (NDC 00169266015) was \$508.43 as of 01/08/2024.<sup>23</sup>

The WAC for the drugs was reviewed using Medi-Span’s price history tables for the package WAC from 2019 to 2023. From 2019-2023 the average year-over-year change to the package WAC was calculated and determined to be 1%. This historical change in the package WAC is displayed in Figure 1 for Tresiba and in Figure 2 for Tresiba FlexTouch. The comparison of the year over year change in WAC and the 2019-2023 inflation rates<sup>24</sup> is shown in Figure 3 for Tresiba and Figure 4 for Tresiba FlexTouch.

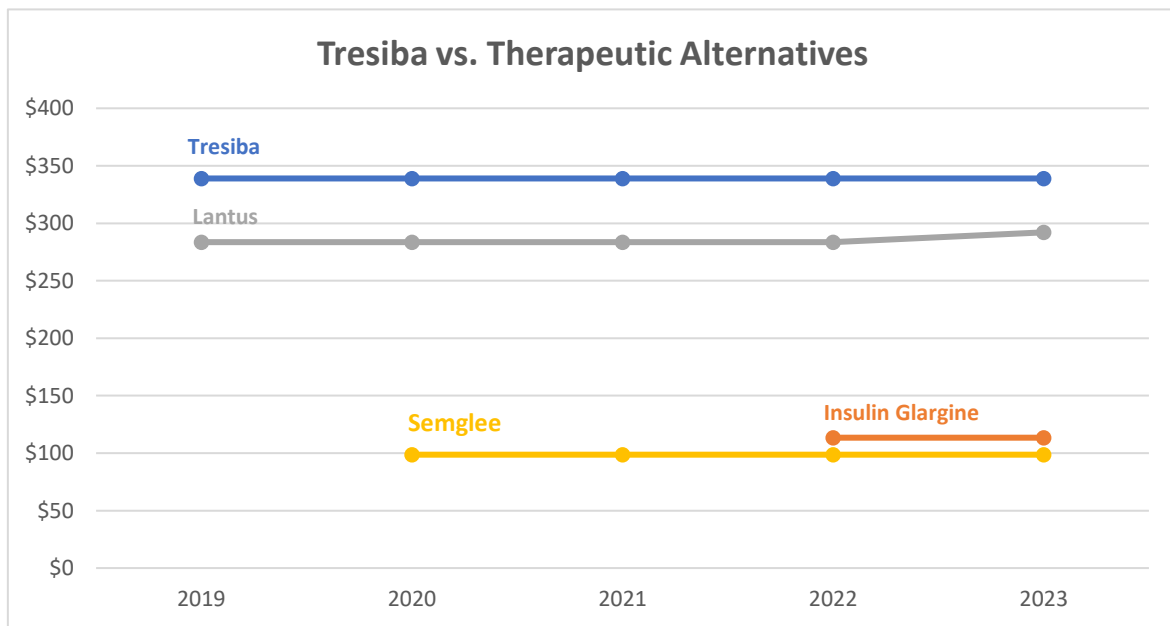


Figure 1 Tresiba and therapeutic alternative WAC from 2019-2023

<sup>22</sup> Holmes RS, Crabtree E, McDonagh MS. Comparative effectiveness and harms of long-acting insulins for type 1 and type 2 diabetes: A systematic review and meta-analysis. *Diabetes Obes Metab.* 2019 Apr;21(4):984-992.

<sup>23</sup> To determine which NDC to use for the WAC price history, the available 2022 utilization data was analyzed and the NDC with the highest volume of claims in 2022 was used.

<sup>24</sup> Inflation rates obtained from the US Bureau of Labor Statistics website. Accessed from page <https://www.bls.gov/cpi/tables/supplemental-files/> on 01/08/2024.



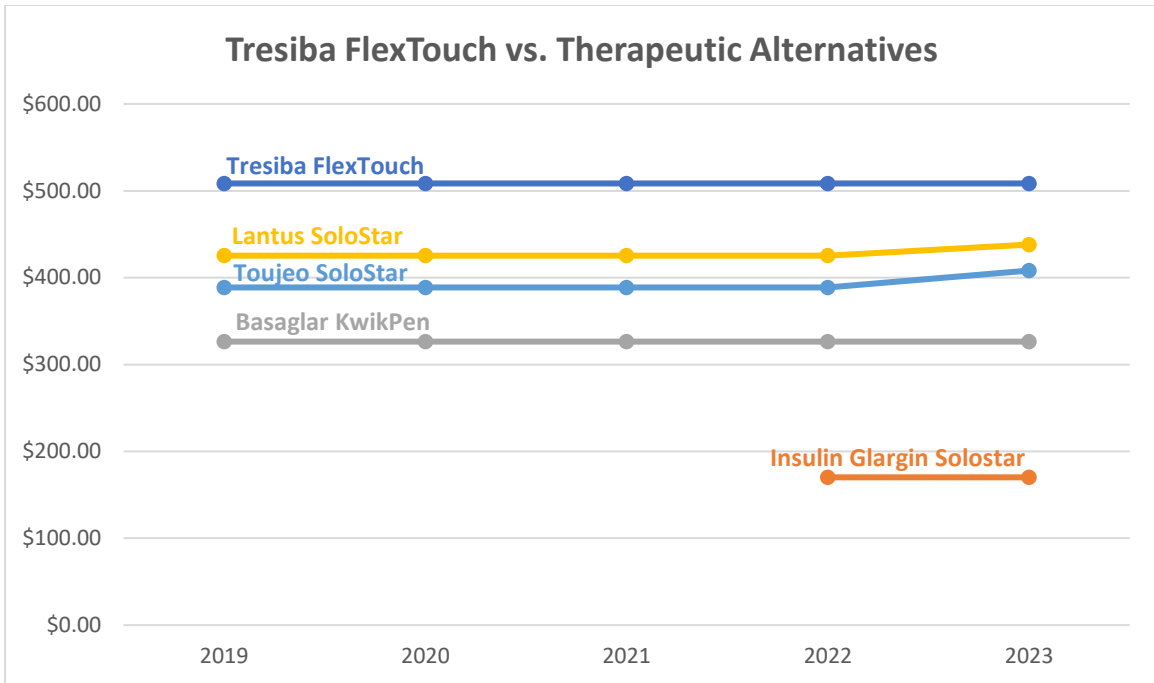


Figure 2 Tresiba FlexTouch and therapeutic alternative WAC from 2019-2023

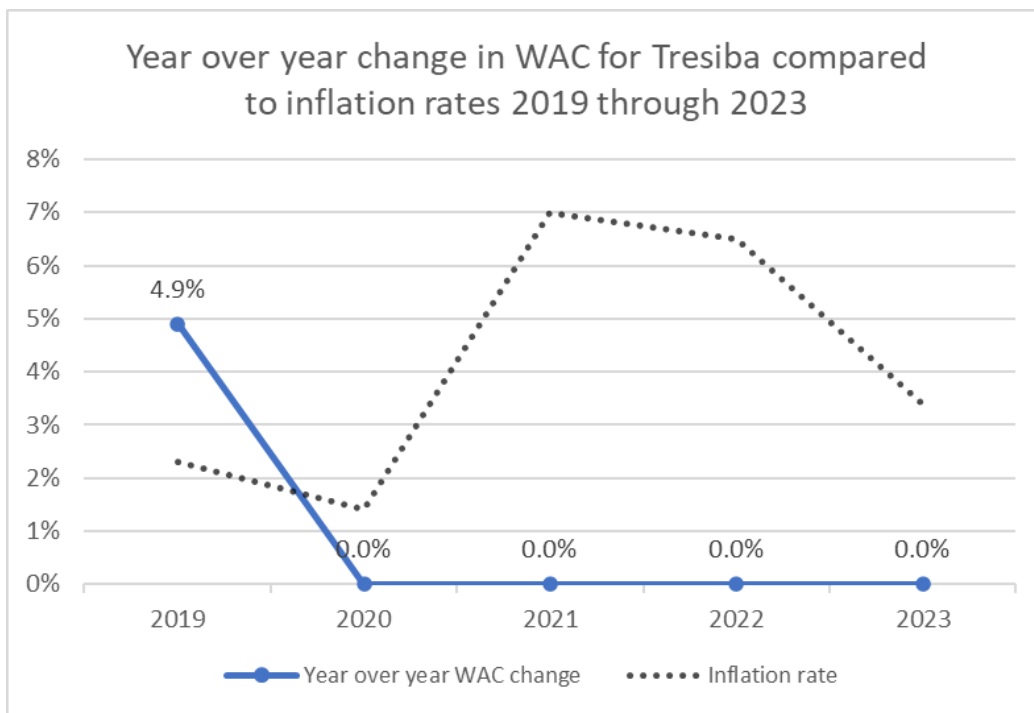


Figure 3 Year over year change in WAC for Tresiba compared to inflation rates<sup>25</sup>

<sup>25</sup> Inflation rates obtained from the US Bureau of Labor Statistics website. Accessed from page <https://www.bls.gov/cpi/tables/supplemental-files/> on 01/08/2024.

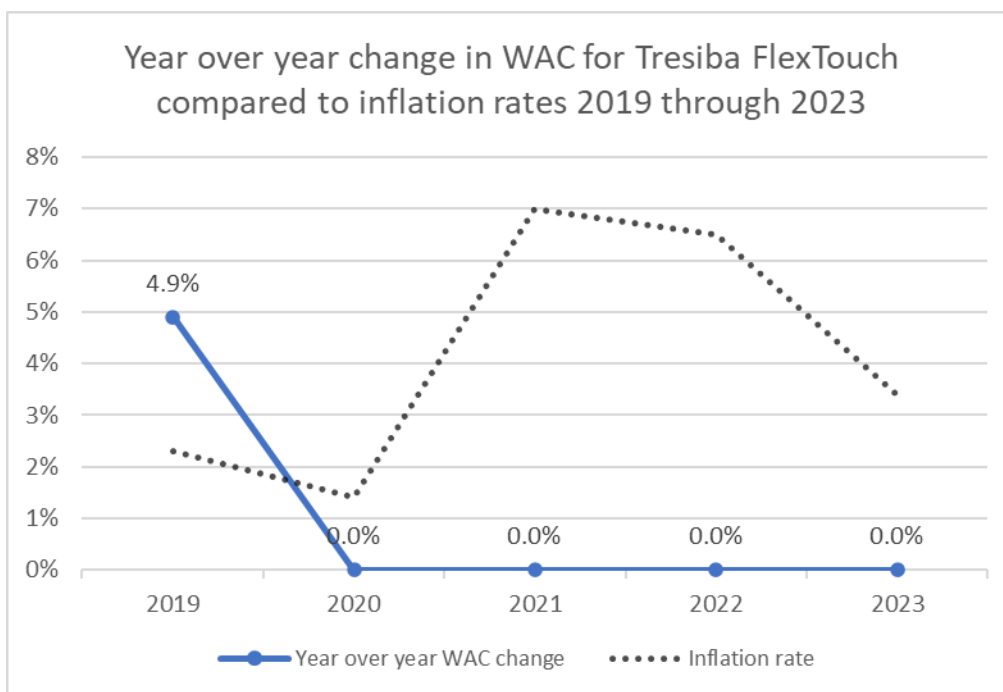


Figure 4 Year over year change in WAC for Tresiba FlexTouch compared to inflation rates<sup>26</sup>

Package WAC 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.

No additional data or information was found or provided to reflect the relative financial effects of the prescription drugs on broader health, medical, or social services costs, compared with therapeutic alternatives or no treatment.

No additional data or information was found or provided to quantify the total cost of the disease and the drugs price offset.

## Cost to stakeholders

### Cost to patients

The APAC database<sup>27,28</sup> was analyzed to determine the average copayment for commercially insured enrollees or other cost-sharing for the prescription drugs.

<sup>26</sup> Inflation rates obtained from the US Bureau of Labor Statistics website. Accessed from page <https://www.bls.gov/cpi/tables/supplemental-files/> on 01/08/2024.

<sup>27</sup> Costs from the All Payers All Claims (APAC) database are prior to any price concessions such as discounts or coupons. Cost information from the data call is the cost of the drug after price concessions.

<sup>28</sup> APAC total cost may include a dispensing fee and physician administration fees.

Table 4 Out of Pocket Costs

| 2022 Average annual patient out of pocket costs <sup>29,30</sup> |                 |                   |                        |
|--|-----------------|-------------------|------------------------|
| Value  | APAC            |                   | Data Call              |
|  | Tresiba         | Tresiba FlexTouch |                        |
| Average Co-Pay   | \$93.20         | \$120.93          | Drugs not on data call |
| Average Deductible   | \$43.12         | \$16.49           | Drugs not on data call |
| Average Coinsurance  | \$14.61         | \$32.22           | Drugs not on data call |
| Other Cost Sharing   | \$0             | \$0               | Drugs not on data call |
| <b>Total Out-of-Pocket Costs for Patients</b>                    | <b>\$150.92</b> | <b>\$169.64</b>   | Drugs not on data call |

### Cost to health benefit services

The APAC database<sup>31, 32</sup> was analyzed to determine the total gross paid amount, total number of enrollees and claims, and the average paid per claim and per enrollee for all Oregon health benefit services.

Table 5 2022 Annual costs to health benefit services

| Tresiba                | Gross paid amount   | Total unique claims | Total unique patients | Average paid per claim | Average paid per patient |
|------------------------|---------------------|---------------------|-----------------------|------------------------|--------------------------|
| Commercial             | \$217,615.99        | 419                 | 78                    | \$519.37               | \$2,789.95               |
| Medicaid <sup>33</sup> | \$139,115.02        | 339                 | 47                    | \$410.37               | \$2,959.89               |
| Medicare               | \$340,224.56        | 410                 | 95                    | \$829.82               | \$3,581.31               |
| <b>Total</b>           | <b>\$696,955.57</b> | <b>1168</b>         | <b>220</b>            | <b>\$596.71</b>        | <b>\$3,167.98</b>        |

| Tresiba FlexTouch      | Gross paid amount      | Total unique claims | Total unique patients | Average paid per claim | Average paid per patient |
|------------------------|------------------------|---------------------|-----------------------|------------------------|--------------------------|
| Commercial             | \$8,930,940.87         | 12280               | 2281                  | \$727.28               | \$3,915.36               |
| Medicaid <sup>34</sup> | \$4,853,176.53         | 7385                | 1214                  | \$657.17               | \$3,997.67               |
| Medicare               | \$11,398,115.24        | 12164               | 2353                  | \$937.04               | \$4,844.08               |
| <b>Total</b>           | <b>\$25,182,232.64</b> | <b>31829</b>        | <b>5848</b>           | <b>\$791.17</b>        | <b>\$4,306.13</b>        |

<sup>29</sup> Medicaid and Medicare were excluded from cost information.

<sup>30</sup> For patients who used the drug at least once in the 2022 calendar year.

<sup>31</sup> Costs from the All Payers All Claims (APAC) database are prior to any price concessions such as discounts or coupons. Cost information from the data call is the cost of the drug after price concessions.

<sup>32</sup> APAC total cost may include a dispensing fee and physician administration fees.

<sup>33</sup> Medicaid costs include care coordination organization (CCO) and fee for service (FFS). Amount paid on the claim = 1) Ingredient Cost ([AAAC/NADAC/WAC] x Dispense Quantity) + Dispensing Fee. If billed amount was lower, pay billed amount, minus TPL amount. [DUR Reports | College of Pharmacy | Oregon State University](#).

<sup>34</sup> Ibid.

No additional data or information was found or provided to reflect the relative financial effects on health, medical, or social services costs, compared with therapeutic alternatives or no treatment.

## Cost of Therapeutic Alternatives

Table 6 Therapeutic alternative (TA) comparison

|                         | NDC                  | Drug Name                | Package size            | 2022 WAC package size | Price per package | Package strength in mL | 2022 WAC unit price | AAAC <sup>35</sup> unit price | NADAC <sup>36</sup> unit price | Percent difference of NADAC from subject Rx & TA |
|-------------------------|----------------------|--------------------------|-------------------------|-----------------------|-------------------|------------------------|---------------------|-------------------------------|--------------------------------|--|
| <b>Subject drug</b>     | <b>00169-2662-11</b> | <b>Tresiba</b>           | <b>1 vial</b>           | <b>\$338.95</b>       | <b>\$338.95</b>   | <b>10 mL</b>           | <b>\$33.90</b>      | <b>\$32.66</b>                | <b>\$32.32</b>                 |  |
| Therapeutic alternative | 00955-1729-01        | Insulin Glargine         | 1 vial                  | \$113.42              | \$113.42          | 10 mL                  | \$11.34             | \$10.96                       | \$10.89                        | 196.79%  |
| Therapeutic alternative | 00088-2220-33        | Lantus                   | 1 vial                  | \$283.56              | \$283.56          | 10 mL                  | \$28.36             | \$27.23                       | \$27.23                        | 18.69%   |
| Therapeutic alternative | 49502-0195-80        | Semglee                  | 1 vial                  | \$98.65               | \$98.65           | 10 mL                  | \$9.87              | \$26.12                       | \$9.44                         | 242.37%  |
| <b>Subject drug</b>     | <b>00169-2660-15</b> | <b>Tresiba FlexTouch</b> | <b>5 prefilled pens</b> | <b>\$508.43</b>       | <b>\$101.69</b>   | <b>3 mL</b>            | <b>\$33.90</b>      | <b>\$32.66</b>                | <b>\$33.89</b>                 |  |
| Therapeutic alternative | 00955-1728-05        | Insulin Glargin SoloStar | 5 prefilled pens        | \$170.12              | \$34.02           | 3 mL                   | \$11.34             | N/A                           | \$10.90                        | 210.92%  |
| Therapeutic alternative | 0002-7715-59         | Basaglar KwikPen         | 5 prefilled pens        | \$326.36              | \$65.27           | 3 mL                   | \$21.76             | N/A                           | \$20.93                        | 61.92%   |
| Therapeutic alternative | 49502-0196-75        | Semglee pen-injector     | 5 prefilled pens        | \$148.00              | \$29.60           | 3 mL                   | \$9.87              | \$26.13                       | \$9.53                         | 255.61%  |
| Therapeutic alternative | 00088-2219-05        | Lantus SoloStar          | 5 prefilled pens        | \$425.30              | \$85.06           | 3 mL                   | \$28.35             | N/A                           | \$27.23                        | 24.46%   |
| Therapeutic alternative | 00024-2869-03        | Toujeo SoloStar          | 3 prefilled pens        | \$388.72              | \$129.57          | 1.5 mL                 | \$86.38             | \$82.87                       | \$82.93                        | -59.13%  |

<sup>35</sup> Oregon Average Actual Acquisition Cost (OR-AAAC) means the rate that is established by the Division or its contractor by rolling surveys of enrolled pharmacies to verify the actual invoice amount paid by the pharmacy or corporate entity to wholesalers, manufacturers, or distribution centers for the product.

<sup>36</sup> National Average Drug Acquisition Cost (NADAC) means the rate that is established by CMS or its contractor by rolling surveys of pharmacies nationwide to verify the actual invoice amount paid by the pharmacy or corporate entity to wholesalers, manufacturers, or distribution centers for the product. [https://secure.sos.state.or.us/oard/viewSingleRule.action?ruleVrsnRsn=242930#:~:text=\(y\)%20E2%80%9COregon%20Average%20Actual,distributio%20centers%20for%20the%20product](https://secure.sos.state.or.us/oard/viewSingleRule.action?ruleVrsnRsn=242930#:~:text=(y)%20E2%80%9COregon%20Average%20Actual,distributio%20centers%20for%20the%20product)

Price comparisons were made between the wholesale acquisition cost (WAC), the National Average Drug Acquisition Cost (NADAC), and the Average Actual Acquisition Cost (AAAC). Tresiba was compared to three therapeutic alternatives. The percentage difference between the therapeutic alternative NADAC was compared to the baseline drug's NADAC. The NADAC percentage indicates that the therapeutic alternative Semglee vial is 242.37% less expensive than Tresiba. Semglee was approved by the FDA in 2021 and is an interchangeable insulin with Lantus (insulin glargine).

Tresiba FlexTouch was compared to five therapeutic alternatives. Semglee pen injector showed a 255.61% difference in compared price to Tresiba FlexTouch. Toujeo SolorStar shows to be costlier than the Tresiba FlexTouch.

## Access profile

### Utilization and Health Equity

According to the CDC, in 2021 8.9% of the US population (all age groups) had diagnosed diabetes.<sup>37</sup> Of those diagnosed with diabetes, 5.7% of US adults reported using insulin to treat type 1 diabetes. In 2013, 8.3% of Oregon adults aged 18 or older reported being diagnosed with diabetes.<sup>38</sup>

The prevalence of type 1 and type 2 diabetes varies widely by race and ethnicity, education level, and family income level. According to a 2019-2021 national health interview survey of US adults 18 years or older, 6.9% of people who identified as white, non-Hispanic were diagnosed with diabetes compared to 9.1% of people who identified as Asian, 11.7% of people who identified as Hispanic, 12.1% of those who identified as black, non-Hispanic, and 14.5% of people who identified as American Indian or Alaska Native.<sup>39</sup> Education also showed a relationship to adults diagnosed with diabetes, with 13.1% of adults with less than a high school level of education diagnosed with diabetes, compared to 6.9% of adults with more than a high school level education.<sup>40</sup> Family income level also showed a relationship to adults diagnosed with diabetes, 13.1% of adults with a family income level less than 100% of the federal poverty income level were diagnosed with diabetes compared to only 5.1% of adults with a family income level of 500% or more over the federal poverty income level.<sup>41</sup>

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<sup>37</sup> Centers for Disease Control and Prevention. Estimates of Diabetes and Its Burden in the United States Available at <https://www.cdc.gov/diabetes/data/statistics-report/index.html>. Accessed on 12/11/2023

<sup>38</sup> Centers for Disease Control and Prevention. Diabetes State Burden Toolkit, Oregon Health Burden. Available at: <https://nccd.cdc.gov/Toolkit/DiabetesBurden/Prevalence>. Accessed on 01/04/24.

<sup>39</sup> Centers for Disease Control and Prevention. By the Numbers: Diabetes in America. Available at: <https://www.cdc.gov/diabetes/health-equity/diabetes-by-the-numbers.html>. Accessed on 12/11/2023.

<sup>40</sup> Ibid.

<sup>41</sup> Ibid.

To review how the prevalence of diabetes ranges throughout Oregon, Figures 5 and 6 show 2018 rates of diabetes by county from the CDC website.<sup>42</sup> In addition to the rate of diabetes, the data included the Social Vulnerability Index (SVI) scores for each county.

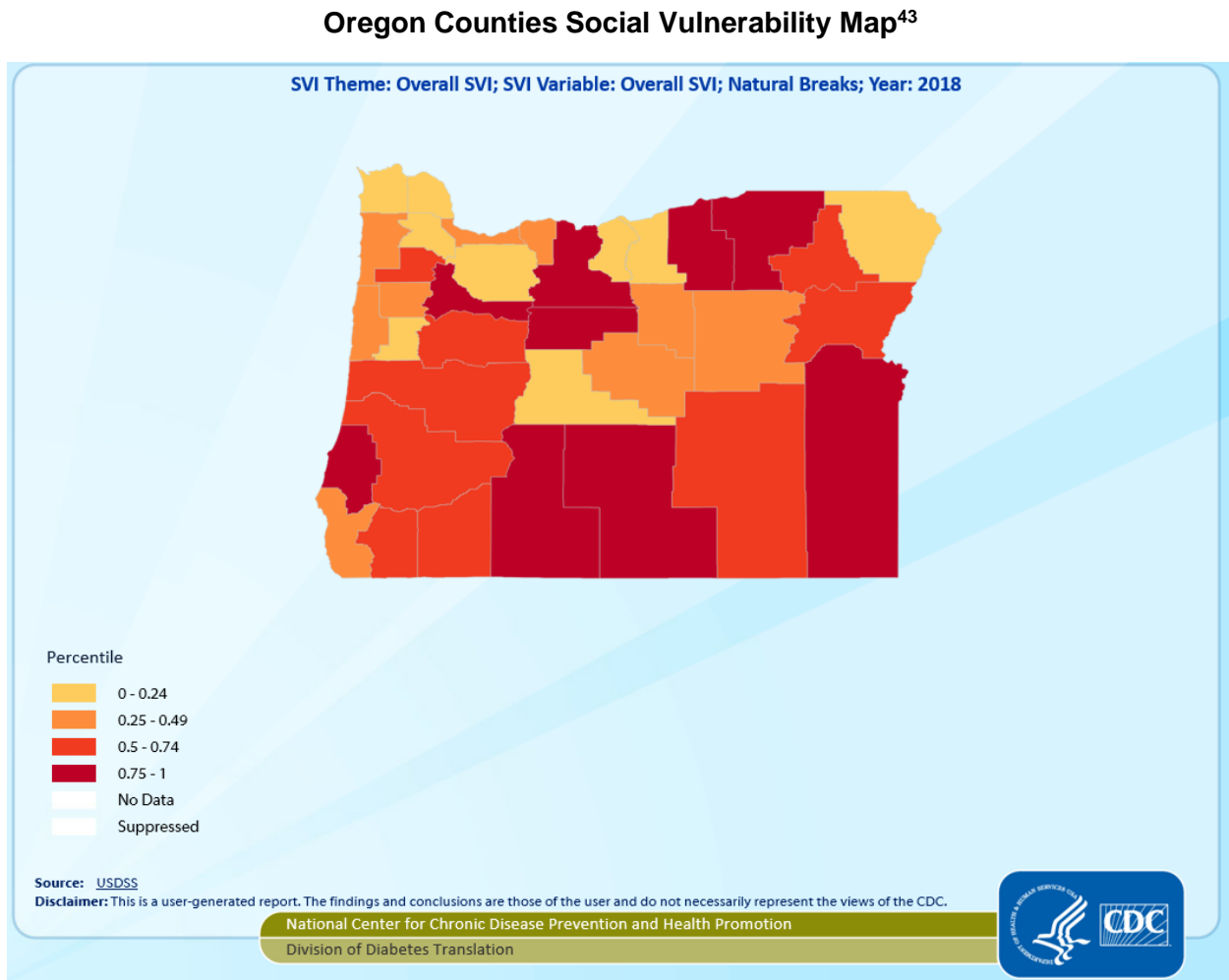


Figure 5 Oregon Counties Social Vulnerability Map

<sup>42</sup> Centers for Disease Control and Prevention. US Diabetes Surveillance System website. Diabetes analysis, Oregon 2018. Available at <https://gis.cdc.gov/grasp/diabetes/diabetesatlas-analysis.html>. Accessed on 12/11/2023.

<sup>43</sup> Ibid.

## Oregon Counties Diagnosed Diabetes Map<sup>44</sup>

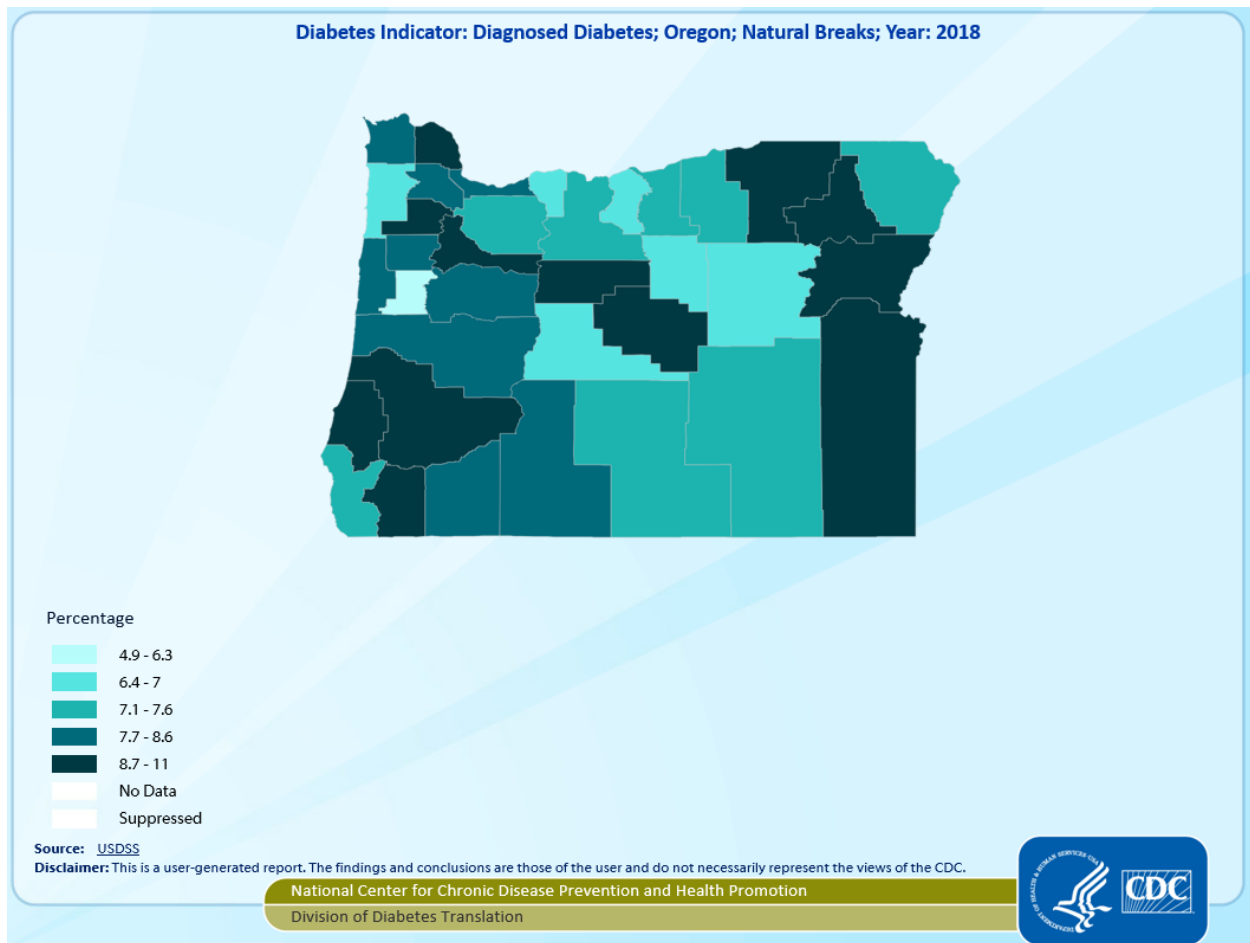


Figure 6 Oregon Counties Diagnosed Diabetes Map

<sup>44</sup> Centers for Disease Control and Prevention. US Diabetes Surveillance System website. Diabetes analysis, Oregon 2018. Available at <https://gis.cdc.gov/grasp/diabetes/diabetesatlas-analysis.html>. Accessed on 12/11/2023.



## 2018 Diabetes rates and social vulnerability by Oregon Counties<sup>45</sup>

Table 3 2018 Diabetes rates and social vulnerability by Oregon Counties

| County            | Diabetes (diagnosed) rate | Social Vulnerability |
|-------------------|---------------------------|----------------------|
| Coos County       | 11.00%                    | 77.1%                |
| Yamhill County    | 10.40%                    | 65.7%                |
| Marion County     | 10.30%                    | 88.6%                |
| Crook County      | 10.30%                    | 45.7%                |
| Umatilla County   | 9.50%                     | 97.1%                |
| Union County      | 9.50%                     | 51.4%                |
| Columbia County   | 9.40%                     | 8.6%                 |
| Baker County      | 9.20%                     | 60.0%                |
| Douglas County    | 8.90%                     | 68.6%                |
| Josephine County  | 8.80%                     | 62.9%                |
| Jefferson County  | 8.70%                     | 94.3%                |
| Malheur County    | 8.70%                     | 100.0%               |
| Linn County       | 8.50%                     | 57.1%                |
| Washington County | 8.40%                     | 14.3%                |
| Jackson County    | 8.30%                     | 71.4%                |
| Lincoln County    | 8.20%                     | 37.1%                |
| Clatsop County    | 8.10%                     | 20.0%                |
| Multnomah County  | 8.10%                     | 42.9%                |
| Lane County       | 8.00%                     | 54.3%                |
| Polk County       | 7.80%                     | 34.3%                |
| Klamath County    | 7.70%                     | 91.4%                |
| Clackamas County  | 7.60%                     | 5.7%                 |
| Wallowa County    | 7.60%                     | 11.4%                |
| Morrow County     | 7.60%                     | 80.0%                |
| Harney County     | 7.50%                     | 74.3%                |
| Wasco County      | 7.40%                     | 85.7%                |
| Curry County      | 7.30%                     | 31.4%                |
| Gilliam County    | 7.20%                     | 22.9%                |
| Lake County       | 7.20%                     | 82.9%                |
| Wheeler County    | 6.90%                     | 25.7%                |
| Deschutes County  | 6.90%                     | 0.0%                 |
| Tillamook County  | 6.90%                     | 48.6%                |
| Sherman County    | 6.80%                     | 2.9%                 |
| Hood River County | 6.70%                     | 40.0%                |
| Grant County      | 6.60%                     | 28.6%                |
| Benton County     | 5.40%                     | 17.1%                |

<sup>45</sup> Centers for Disease Control and Prevention. US Diabetes US Diabetes Surveillance System website. Diabetes analysis, Oregon 2018. Available at <https://gis.cdc.gov/grasp/diabetes/diabetesatlas-analysis.html>. Accessed on 12/11/2023.

Upon review of the CDC data, Coos County, Yamhill County, and Marion County have the top three highest rates of diabetes in Oregon. Additionally, Coos and Marion counties had high SVI scores, indicating these counties may have some of the most vulnerable populations in Oregon. The correlation between the Diabetes (diagnosed) rate and the Social Vulnerability is 0.43 indicating a positive relationship between the two population health measures.

## Stakeholder Feedback

Feedback was submitted from December 20, 2023, to January 5, 2024.

Links to the full feedback documents are included in the sections below.

### Input received from the medical and scientific community

- No information was provided by the medical or scientific community.

### Manufacturer submitted information

- Kelsey Lovell, Associate Director, with Novo Nordisk submitted information January 5, 2024. Information submitted can be reviewed under Appendix A.

### Patient feedback and additional stakeholder feedback

- No information was provided by additional stakeholders.

# Appendix

## Appendix A: Novo Nordisk

January 5, 2024

**VIA ELECTRONIC FILING**

**Oregon Division of Financial Regulation**

**ATTN: Oregon Prescription Drug Affordability Review Board (PDAB)**

**350 Winter St. NE**

**Room 410**

**Salem, OR 97309-0405**

**RE: January 17th, 2024 Oregon Prescription Drug Affordability Board Meeting and Review of Tresiba®**

Dear Members of the Oregon Prescription Drug Affordability Board:

Novo Nordisk appreciates the opportunity to submit written comments to the Oregon Prescription Drug Affordability Board regarding Tresiba®, one of the selected prescription insulin drugs under review by the Board.

Novo Nordisk is a global healthcare company committed to improving the lives of those living with serious chronic conditions, including diabetes, hemophilia, growth disorders and obesity. The Novo Nordisk Foundation, our majority shareholder, is among the top five largest charitable foundations in the world. Accordingly, our company's mission and actions reflect the Foundation's vision to contribute significantly to research and development that improves the lives of people and the sustainability of society.

While we appreciate that part of the Board's purpose is to review prescription drugs that could pose an affordability challenge to Oregonians, we have numerous concerns regarding the Board's information and processes, including:

- the validity of the data upon which the Board has relied, in part because the Board repeatedly revised its product selections as a result of data errors and limitations;
- the Board's methodology for drug selection and lack of insight into the rationale for the Board's decision-making;
- the Board's failure to capture all of the factors necessary to arrive at a more accurate and complete picture of a medication's price;
- an insufficient amount of time allocated towards review, discussion, and a vote on each selected drug; and
- the untenable and undefined standard of whether a drug may create unaffordability challenges.

Given these concerns, we believe that the Board's review will provide an inaccurate picture of Tresiba®'s cost-effectiveness and overall benefit to patients. We also remain concerned that the Board's review will not accurately reflect all the factors and investment required to bring a drug to market. Finally, as a company we have taken numerous actions – through our patient assistance programs and the introduction of an unbranded biologic – to ensure that patients have affordable access to Tresiba. **Taken together, we urge the Board not to move forward with this review.** However, should the Board proceed as planned, below we have provided an

overview of Tresiba®'s clinical benefits and a summary of the measures Novo Nordisk has taken to ensure that Tresiba® is affordable to patients.

### **Tresiba Clinical Overview**

Tresiba® is a long-acting insulin used to control high blood sugar in adults and children who are 1 year of age and older with diabetes. According to the Centers for Disease Control, diabetes mellitus is a chronic health condition that affects how the body turns food into energy. In healthy individuals, beta cells in the pancreas release the hormone insulin to help regulate glucose levels in the blood.

Most patients living with diabetes have either Type 1 diabetes (T1D), an autoimmune disease where beta cells have been destroyed by the body's own immune system yielding insufficient and/or total loss of insulin production by the pancreas, or Type 2 diabetes (T2D), where the body suffers from a combination of disorders involving glucose metabolism, including inadequate insulin secretion, insulin resistance, and metabolic syndrome. Thus, the cornerstone of diabetes management is ensuring that treatment approaches are tailored to the individual patient needs, particularly when insulin therapy is necessary. Furthermore, landmark clinical data in patients with both T1D and T2D have shown that targeting appropriate overall blood sugar control reduces the risk of developing microvascular complications directly associated with diabetes, including vision impairment (or even blindness), loss of kidney function, nerve damage which can increase the risk of amputations, as well as macrovascular, or cardiovascular complications, including myocardial infarction, stroke, heart failure, and peripheral arterial disease.

Insulin dosing is a complex process that requires the consideration of multiple factors on an individual basis. For patients with T1D and the subset of patients with T2D who require insulin, insulin coverage is necessary throughout the day. This 24-hour insulin coverage is provided through a basal insulin component and a mealtime insulin component, both of which are intended to maintain blood sugar levels in the desired target range. The basal insulin works in the background to keep blood sugar levels in the desired target range between meals and while the individual is not eating. The mealtime insulin works to keep blood sugar levels after meals, known as PPG, from rising too high. Since insulin dictates how much sugar cells in the body will absorb, individualizing insulin dosing based on the patient's needs is critical. For instance, too much insulin can cause hypoglycemia, or low blood sugar, while too little insulin can result in hyperglycemia, or too high of blood sugar levels in the blood.

Increased hypoglycemia increases the risk of complications, including decreased sensitivity to hypoglycemia over time which can lead to hypoglycemic unawareness, and with more hypoglycemic events comes increased risk of impaired cognitive function, heart arrhythmias, and mortality. Fear of hypoglycaemia often results in delayed initiation and intensification of insulin therapy for many patients with type 2 diabetes (1-7). In addition to concerns about hypoglycaemia, surveys have shown that both patients and physicians would like a treatment that could be dosed more flexibly to accommodate patients' needs, making it easier for patients to remain compliant and to achieve their glycemic targets (8). (76).

Tresiba® is a basal insulin with an ultra-long duration of action that exceeds 42 hours, with a half-life of ~25 hours. The pharmacokinetic and pharmacodynamic profiles of degludec are flat and stable and were preserved in patient populations independent of age, ethnicity, or injection site, and in patients with renal or hepatic impairment, and it is also associated with lower day-to-

day variability in glucose levels. Tresiba® is indicated for the treatment of individuals with type 1 or type 2 diabetes from the age of one. Furthermore, in situations when it is not possible for adult patients to take their basal insulin injection at the same time each day, individuals will not suffer from compromised control of blood sugar levels from delays between injections, as long as consecutive injections are separated by at least eight hours. And results from the BEGIN clinical trials performed for regulatory approval from the FDA demonstrated that Tresiba® administered once daily was non-inferior to once-daily insulin glargine U100, as well as significantly reduced the risk of nocturnal hypoglycaemia (9-11) and significantly lowered FPG (10-11) compared with insulin glargine U100.

**Novo Nordisk is committed to ensuring patients living with diabetes can afford our insulins, a responsibility we take seriously.**

Novo Nordisk remains committed to ensuring affordable access to insulins by reducing the out-of-pocket cost burden, helping to transform the complex pricing system, and fostering better pricing predictability.

Currently, we have a savings offer for Tresiba®, and we recently launched an unbranded biologic for Tresiba®, Insulin Degludec. This unbranded biologic is currently available at 65% off the list price of Tresiba®. In addition, all our insulins, including Tresiba®, are available through our MyInsulinRx program, which provides eligible people living with diabetes a 30-day supply of any combination of our insulin products for \$35.

At Novo Nordisk, we strive to develop sustainable affordability options that balance patient affordability, market dynamics, and evolving policy changes. Our commitment to insulin affordability in the U.S. is longstanding, as exemplified by our affordability programs for those living with diabetes.

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Thank you for the opportunity to provide comments and for considering our concerns. Should you have any questions or concerns, please contact Kelsey Lovell, Associate Director, Policy, at [KLLV@novonordisk.com](mailto:KLLV@novonordisk.com) with any questions or for further information.

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