# **Estimating the Cost at Which GLP-1 RA Would Become Cost-effective for Multimorbid Type 2 Diabetes Patients in Canada**

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#### Introduction

- Glucagon-like peptide-1 receptor agonists (GLP-1 RA) are novel treatments that have demonstrated success reducing cardiorenal events and deaths for patients with type 2 diabetes (T2D)<sup>1.</sup>
- The CDA reports that GLP-1 RA annual expenditures have increased nationally from **\$13.5 million** to **\$178.7** million between 2018 and 2022<sup>2</sup>.

#### Objective

- To determine the annual price at which GLP-1 RA are cost effective from a Canadian healthcare payer's perspective for a multimorbid and high cardiorenal risk population.
- We compared immediate GLP-1 RA initiation against immediate Sodium-glucose cotransporter 2 inhibitor (SGLT2i) initiation and "baseline treatment", which represents other, standard of care treatments for T2D.

### Methods

- We developed a health economic microsimu model using initial patient data from a high cardiovascular and renal risk cohort.
- We adapted UKPDS-OM 2 equations<sup>3</sup>, recal the endpoints of GLP-1 RA and SGLT2i trial model captures health outcomes, QALYs, di and treatment costs over a lifetime horizon. 3% discount rate for all costs and QALYs.

# **Results at Current Prices**



• Using the average annual price of GLP-1 RA in Quebec (\$2370), GLP-1 RA are not cost effective compared to baseline treatment at the commonly used threshold of \$50,000 per QALY.

#### What Price makes GLP-1 RA cost effective ?

| ulation  | WTP (\$)  | Probability | GLP-1 RA vs<br>Baseline<br>Treatment | GLP-1 RA vs<br>SGLT2i |
|--|-----------|-------------|--------------------------------------|-----------------------|
| librated to<br>als. Our<br>lrug costs<br>. We used a | \$50,000  | 50%         | \$1,339                              | \$636                 |
|  | \$50,000  | 80%         | \$1,147                              | \$429                 |
|  | \$100,000 | 50%         | \$2,251                              | \$492                 |
|  | \$100,000 | 80%         | \$1,893                              | \$125                 |

# Conclusions

- population.
- alternatives<sup>4</sup>.

#### References

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• Despite proven health benefits, GLP-1 RA require substantial price reductions to be considered cost effective in Canada against SGLT2i or baseline therapies in this

Annual prices would need to fall by 44% or 73% to have >50% probability of being cost effective against baseline therapy or SGLT2i, respectively.

The patent on Semaglutide will expire in 2026, potentially leading to the introduction of cheaper generic

