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INTRODUCTION

- The prevalence of type 1 diabetes is increasing in Italy with an estimated 209,000 people living with type 1 diabetes in Italy in 2022.^{1,2}
- Type 1 diabetes can cost an average of 16 years of healthy life per person.³
- In addition, poor glycemic control is associated with higher total healthcare costs.⁴
- In Italy, access to CGM devices can restore 3.5 years of healthy years to an average PwT1D.³
- RT-CGM systems have demonstrated clinical benefits over is-CGM systems, including better glycemic control, and reduced acute diabetic complications e.g., severe hypoglycemic event (SHE)⁵.
- However, access to RT-CGM is limited in Italy due to restrictive criteria, leading to regional inequity.

OBJECTIVE

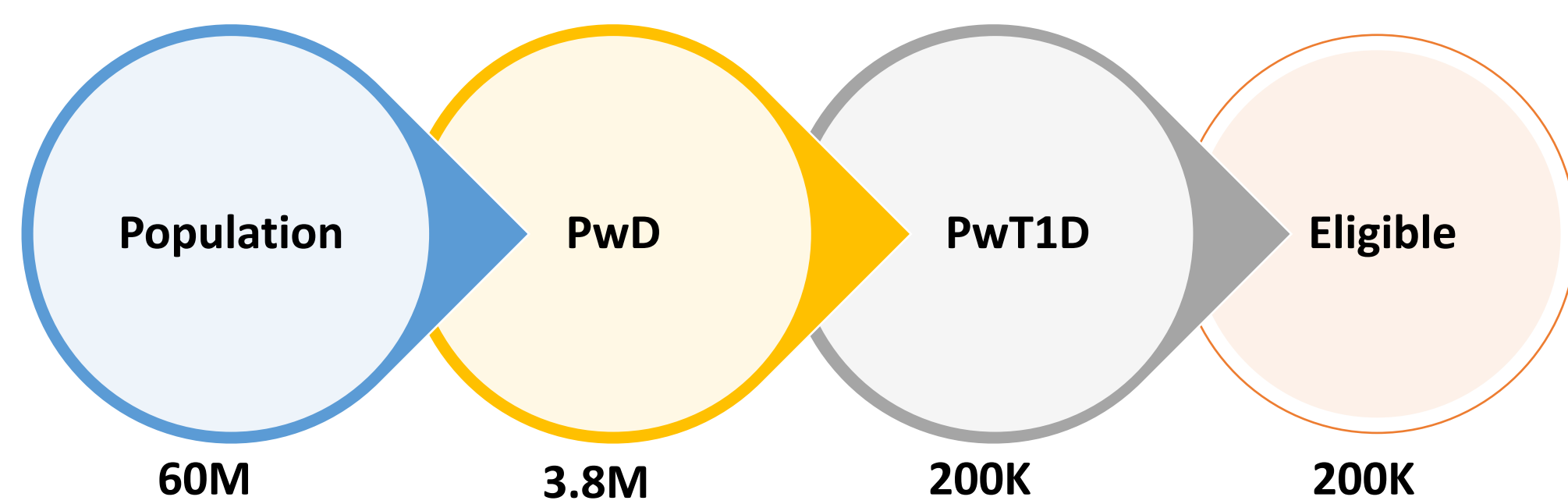
The objective of the BIA was to investigate the budgetary impact of nationwide RT-CGM adoption compared to is-CGM for PwT1D in Italy.

METHODS

- The BIA was conducted in MS Excel with interactive and customizable features and included cost comparison associated with the adoption of RT-CGM vs is-CGM from an Italian payer perspective over 5-year time horizon.
- The BIA included the following inputs.

Eligible Population:

- The total number of population with diabetes and PwT1D was based on local epidemiological data. The base case eligible population was an estimated number of all PwT1D in Italy.



Base Case Scenario:

- The base case evaluates the budgetary impact of two scenarios: one where all patients are exclusively on is-CGM, and another where all patients transition to RT-CGM. With an assumed 3% population growth, the model projected the accrued cost of adopting RT-CGM vs is-CGM over a 5-year time horizon.

Clinical Inputs:

- Clinical effectiveness data were sourced from the ALERTT1 trial which showed a -0.36% HbA1c reduction and a -3.3% reduction in SHE in RT-CGM users vs is-CGM users.⁵
- Baseline DKA rate (1.8%) was sourced from an epidemiologic study⁶ and DKA rate associated with RT-CGM (0.4%) and is-CGM (1.3%) were sourced from RESCUE⁷ and FUTURE⁸ trials, respectively. The difference in DKA rate between RT-CGM and is-CGM was -0.9%.

Cost Inputs:

- Four categories of costs were included: CGM acquisition costs, costs of SHE and DKA management, and each 1% HbA1c reduction impact on healthcare resource utilization (HCRU) costs sourced from Bansal et al, 2018.⁹
- Costs of SHE and DKA hospitalizations were assumed similar and local cost data was sourced from a published literature.¹⁰
- Acquisition costs of RT-CGM (Dexcom ONE) and is-CGM (Free Style Libre) were based on local reimbursed price.
- All costs were inflated to 2022 Euros.

METHODS (CONT.)

Deterministic Sensitivity Analysis:

- Multiple scenario analyses around market share and sensitivity analyses were conducted by varying the clinical effects, treatment and complications costs.

RESULTS

- In Italy, with an estimated 209,952 PwT1D, RT-CGM adoption will result in a **total annual savings of €33,222,033** in the first year of initiation. This equates to **savings of €158 per patient per year**.
- With a 3% population growth and increment in type 1 diabetes prevalence per year, RT-CGM will generate an **average annual savings of €35,276,057** and an **aggregated savings of €176,380,287 over 5 years**.
- While the annual incremental acquisition cost of RT-CGM stands at €400 per patient, it is mitigated by **per year per patient savings of €306, €198, and €54 from the reduction in HCRU, SHE, and DKA events**, respectively.
- Deterministic sensitivity analyses confirmed the robustness of these results under various scenarios including a 10% increase in the RT-CGM price, a 15% decrease in the is-CGM price, variable market share (RT-CGM: is-CGM=50%:50%, 20%:80%), a 15% reduction in HbA1c effect, similar DKA rate between interventions, and a ±10% variation in SHE and DKA cost.

Fig 1: 5-year aggregated net cost of adopting RT-CGM vs is-CGM per segment (Treatment cost, HCRU, SHE and DKA cost)

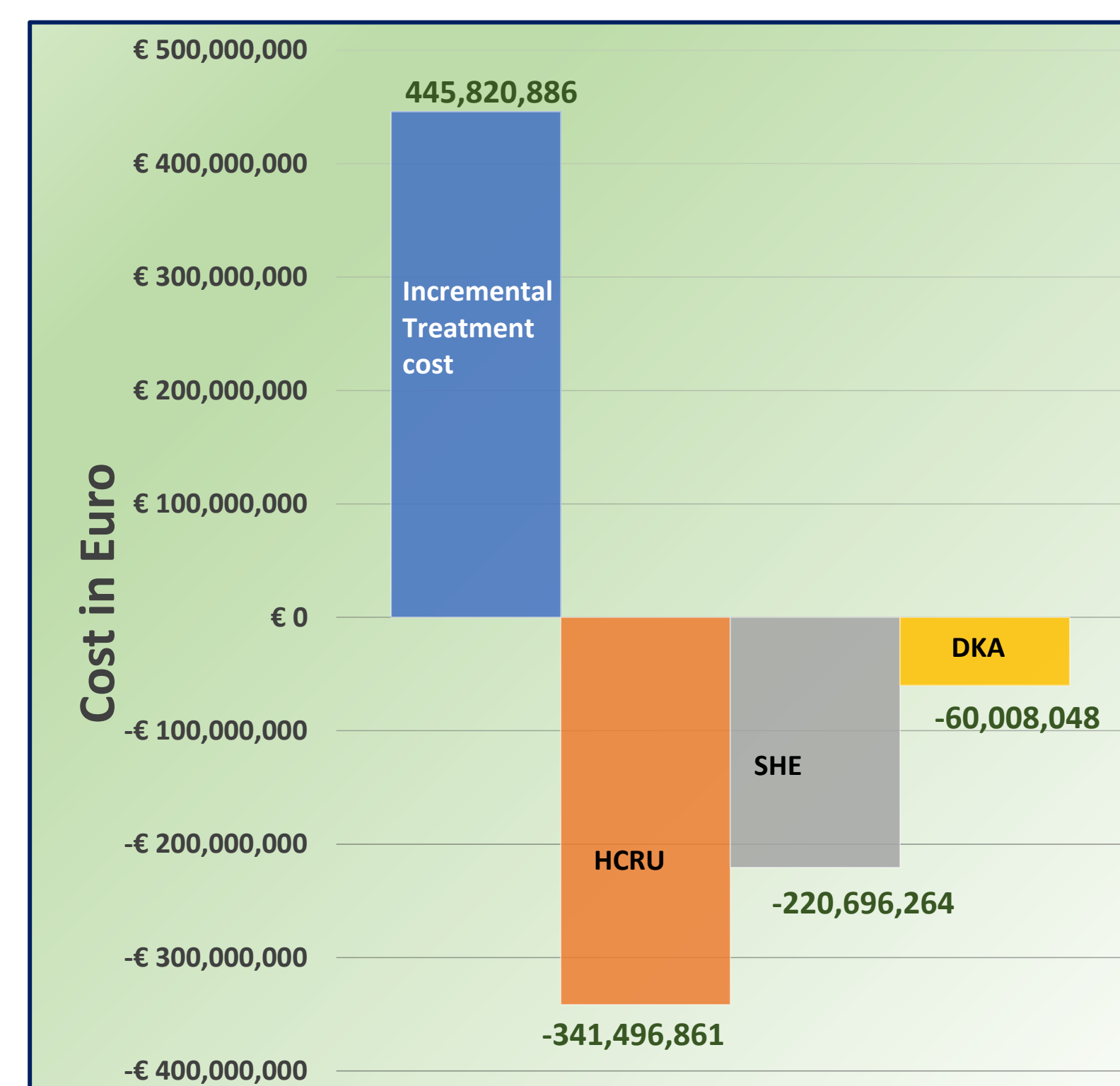
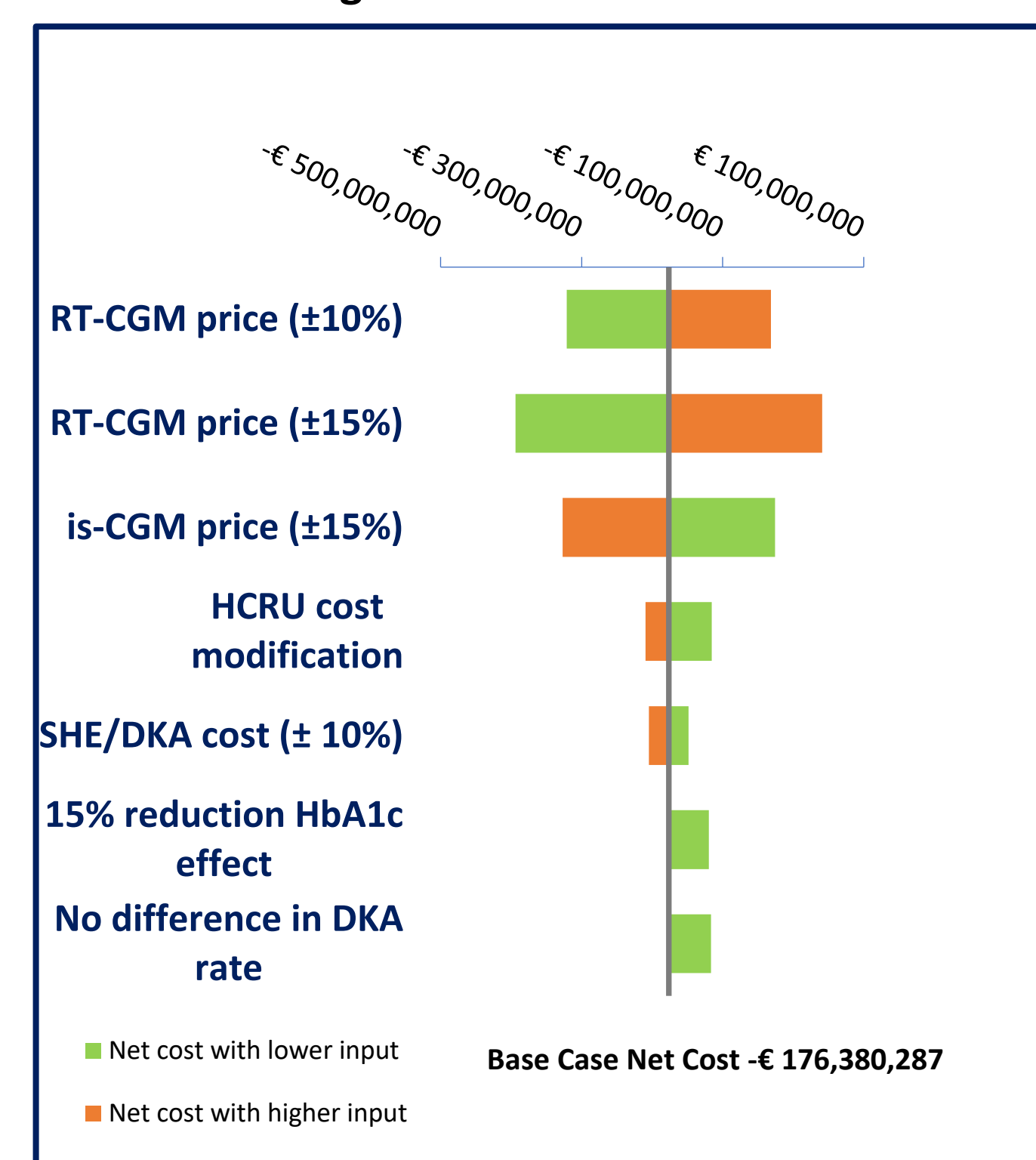


Fig 2: Deterministic Sensitivity Analysis: Tornado Diagram of Model Drivers



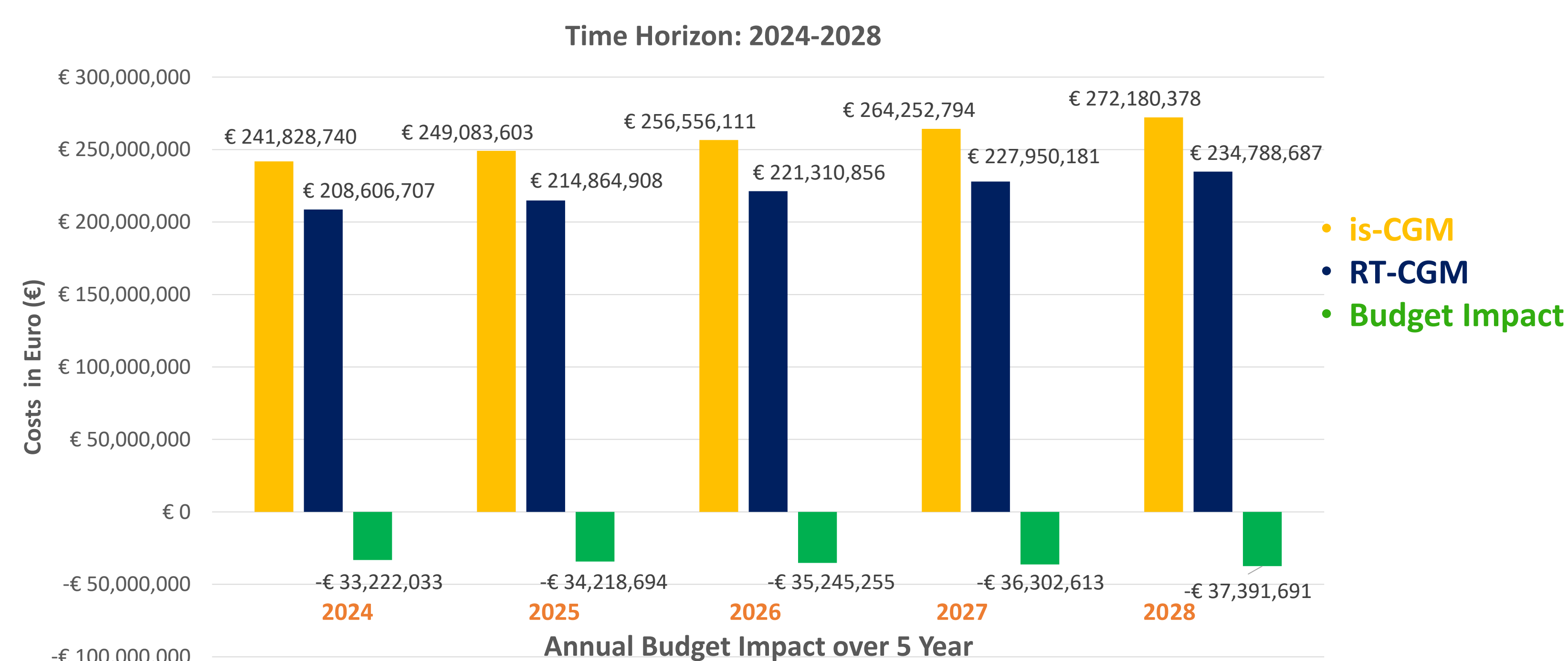
CONCLUSION

- The BIA suggests that the **adoption of RT-CGM can be cost-saving to the Italian healthcare system** relative to is-CGM.
- Even with a 10% increase in the current reimbursed price, the adoption of RT-CGM remained cost-saving.**
- RT-CGM adoption projected cost savings across various scenarios that addressed uncertainties related to clinical benefits and the costs of acute event-related hospitalizations.
- The findings can inform regional and national policy toward increasing access to RT-CGM in Italy.

DECLARATION OF INTEREST & ACKNOWLEDGEMENT

All authors and the presenter are employees of Dexcom, Inc.
The authors would like to thank Katia Hannah for presenting the poster at ISPOR EU 2023.

HIGHLIGHTS



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