

# Budget Impact Analysis of Insulin Glargine-300U/mL (Gla-300) for Treatment of T1DM and T2DM in Adults Population in Algerian Setting

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Poster #  
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## BACKGROUND

- As many countries in the world the prevalence of diabetes continues to increase, and it is about 14.4% among 20–69 year old people in Algeria.
- Insulin-based treatments often cause hypoglycemic episodes, which lead to higher healthcare resources utilization and thus an economic burden.

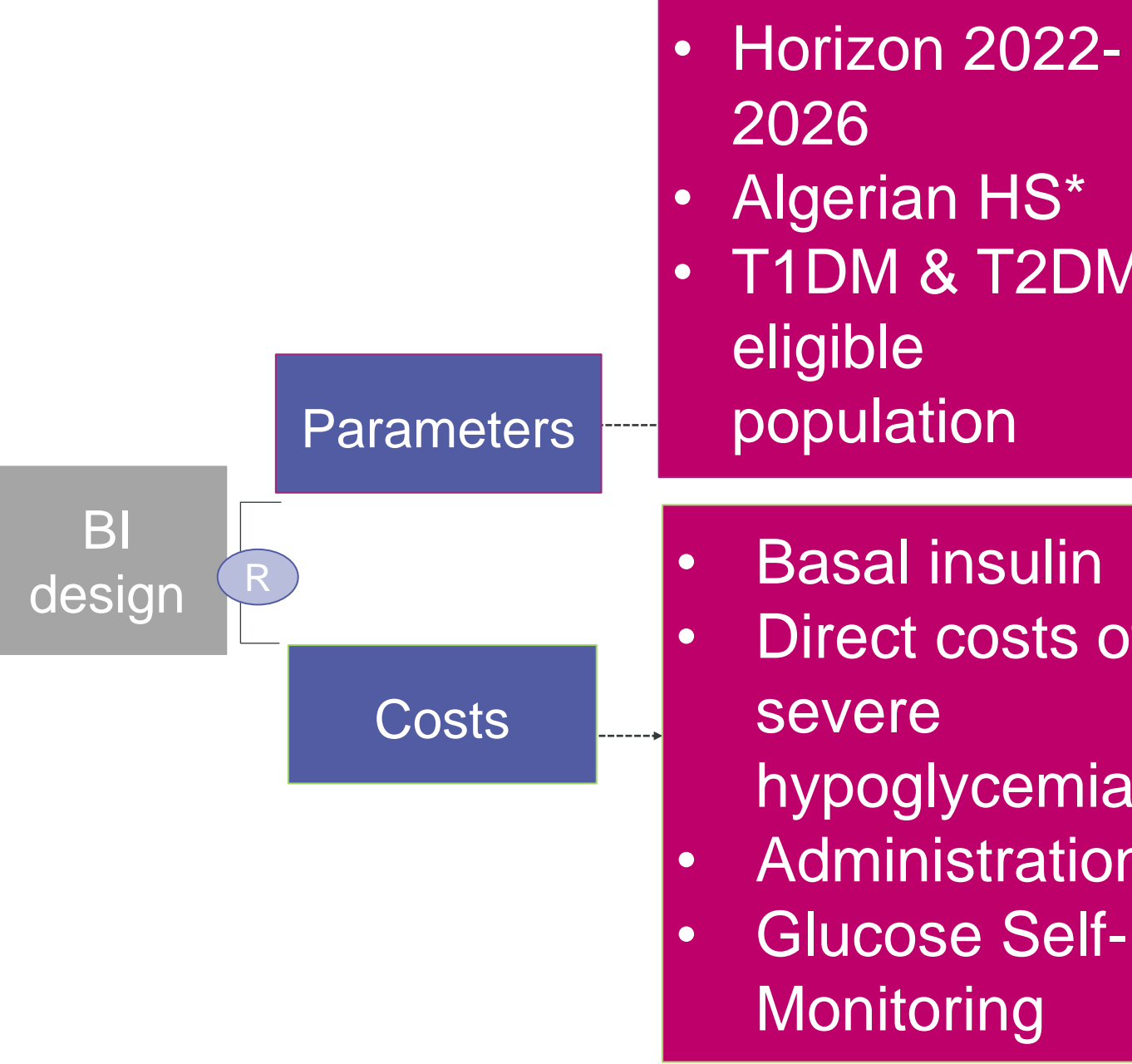
## OBJECTIVE

This budget impact analysis objective is to estimate the impact of insulin Glargine-300U/mL (Gla-300) introduction for targeted and eligible population, over a time horizon of 5 years, from Algerian health care system's perspective.

## METHODS

- The budget impact analysis was designed with a 5-year time horizon for adults with type 1 diabetes mellitus (T1DM) and type 2 diabetes mellitus (T2DM), the eligible population considered was:
  - Newly diagnosed with T1DM.
  - Adults with T1DM insufficiently controlled (HbA1C>9%).
  - Adults with T2DM insufficiently controlled on OAD (HbA1C >7%).
  - Adults with T2DM insufficiently controlled on insulin (HbA1C>9%).
- The analysis included :
  - Treatment costs.
  - Costs of glycemic self-monitoring which are covered by the health insurance.
  - Administration costs.
  - Direct costs related to the management of severe hypoglycemia (glycemic control costs + assistance costs, transport, healthcare utilization).
- All costs were reported in euros (EUR).
- Deterministic sensitivity analysis was carried out on all relevant costs and parameters included in the budget impact assessment

## Figure 1: Budget Impact design



\*Healthcare system

## RESULTS

- The results showed a negative budget impact of (BI =(-) 4 M € cumulative over 5 years. The breakdown of the budget impact per population is:

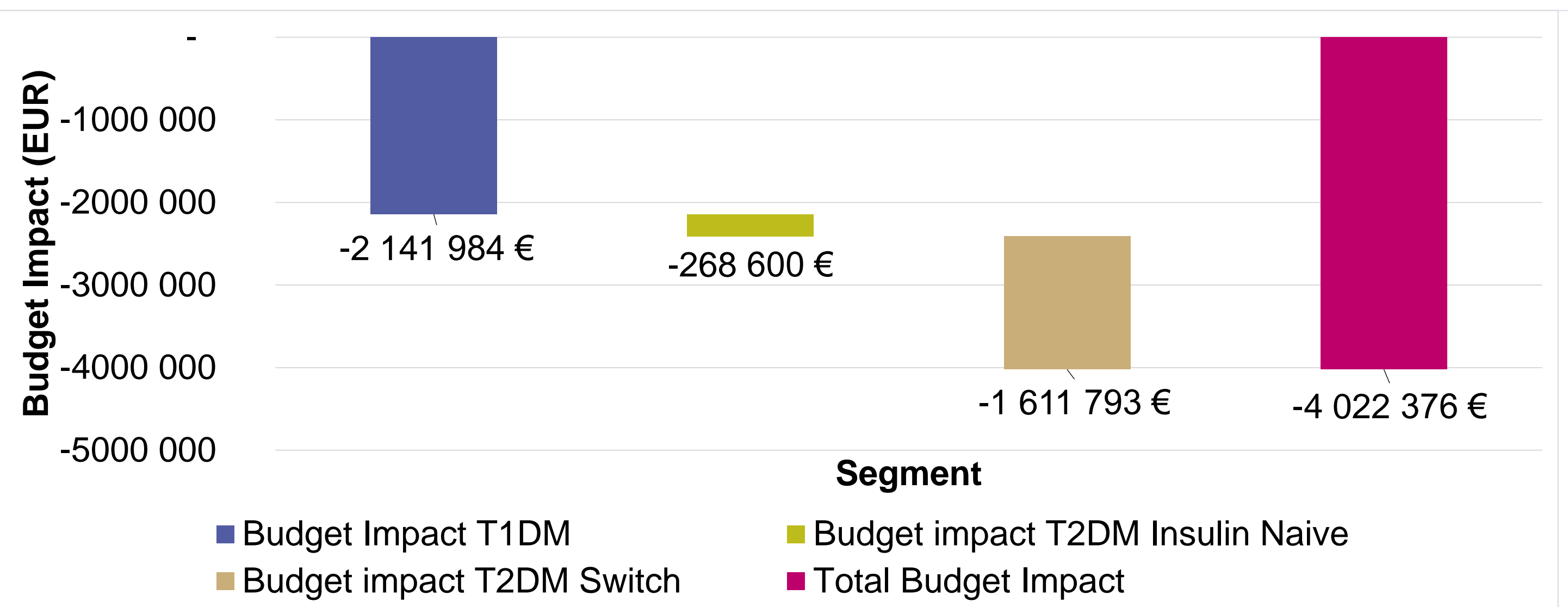


## POSTER HIGHLIGHTS

Table 1: Budget Impact Ressources

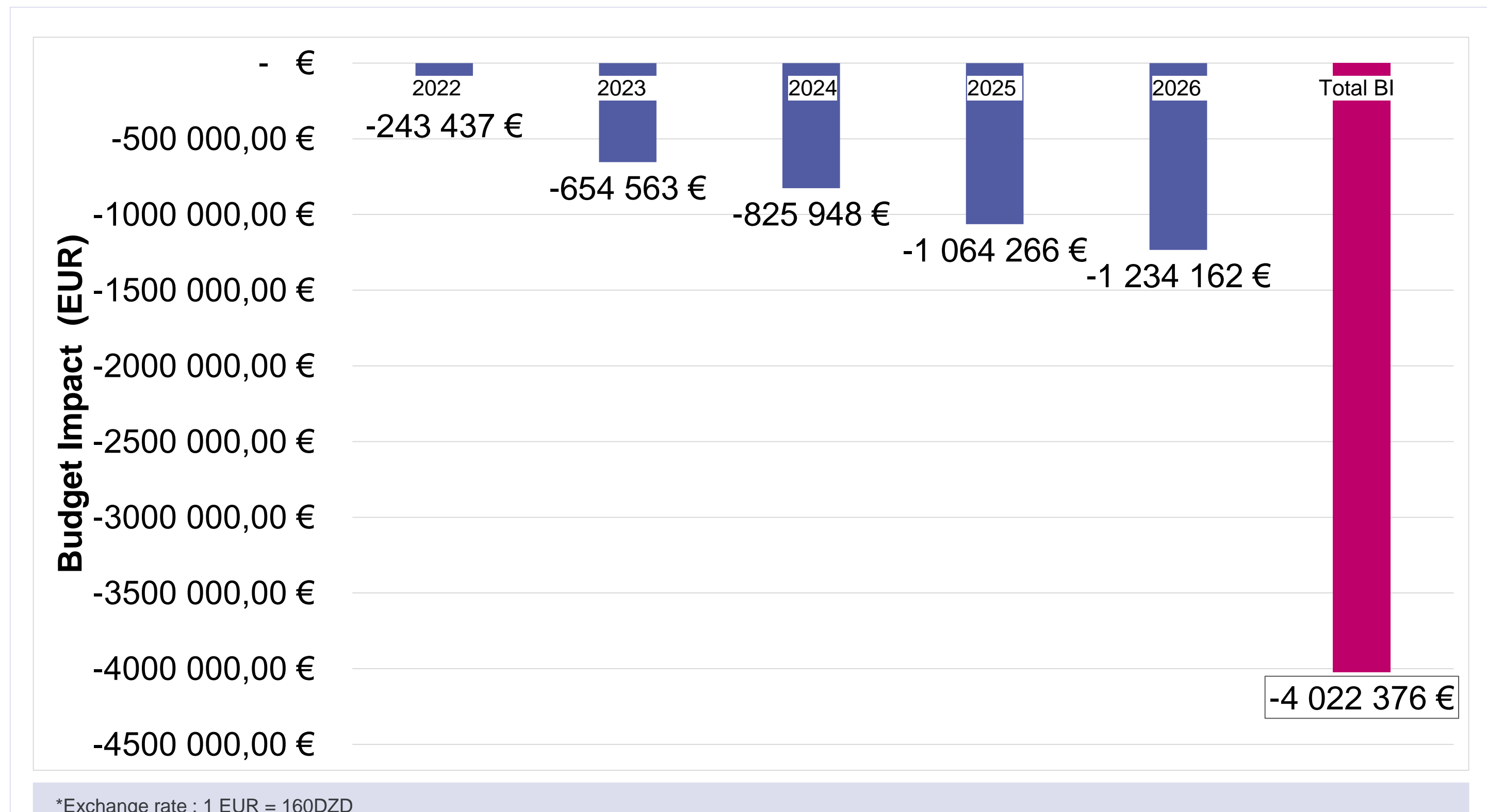
	Populations	Costs	Severe Hypoglycemia Frequency	Basal insulin dose
Methodology	<ul style="list-style-type: none"><li>T1DM newly diagnosed</li><li>T1DM insufficiently controlled with (HbA1C&gt;9%)</li><li>T2DM insufficiently controlled on OAD (HbA1C &gt;7%)</li><li>T2DM insufficiently controlled on insulin (HbA1C&gt;9%)</li></ul>	<ul style="list-style-type: none"><li>Treatment costs<sup>1</sup></li><li>Glycemic self-monitoring costs<sup>1</sup></li><li>Administration costs<sup>1</sup></li><li>Direct costs related to the management of severe hypoglycemia (glycemic control costs + assistance costs, transport, healthcare utilization)<sup>2</sup></li></ul>	<ul style="list-style-type: none"><li>Gla-300 , Gla-100 "Glagine-100 U/mL" (T1DM)<sup>1</sup></li><li>IDet (T1DM)<sup>2</sup></li><li>(T2DM)<sup>3</sup></li></ul>	<ul style="list-style-type: none"><li>T1DM=19,2UI</li><li>T2DM = 22,3 UI</li></ul>
References	<ul style="list-style-type: none"><li>National office of statistics, Stepwise WHO</li><li>IDMPS wave 7</li></ul>	<ul style="list-style-type: none"><li>IMS data 2022<sup>1</sup></li><li>Y. Sellam and al : Economic Burden of Insulin-Related Hypoglycemia in Adult Patients<sup>2</sup></li></ul>	<ul style="list-style-type: none"><li>Clinical study Edition IV<sup>1</sup></li><li>Dawoud and al Metaanalysis<sup>2</sup></li><li>Real-World LIGHTNING Study<sup>3</sup></li></ul>	<ul style="list-style-type: none"><li>IDMPS wave 7</li></ul>

Figure 2: Budget Impact per segment 2022-2026



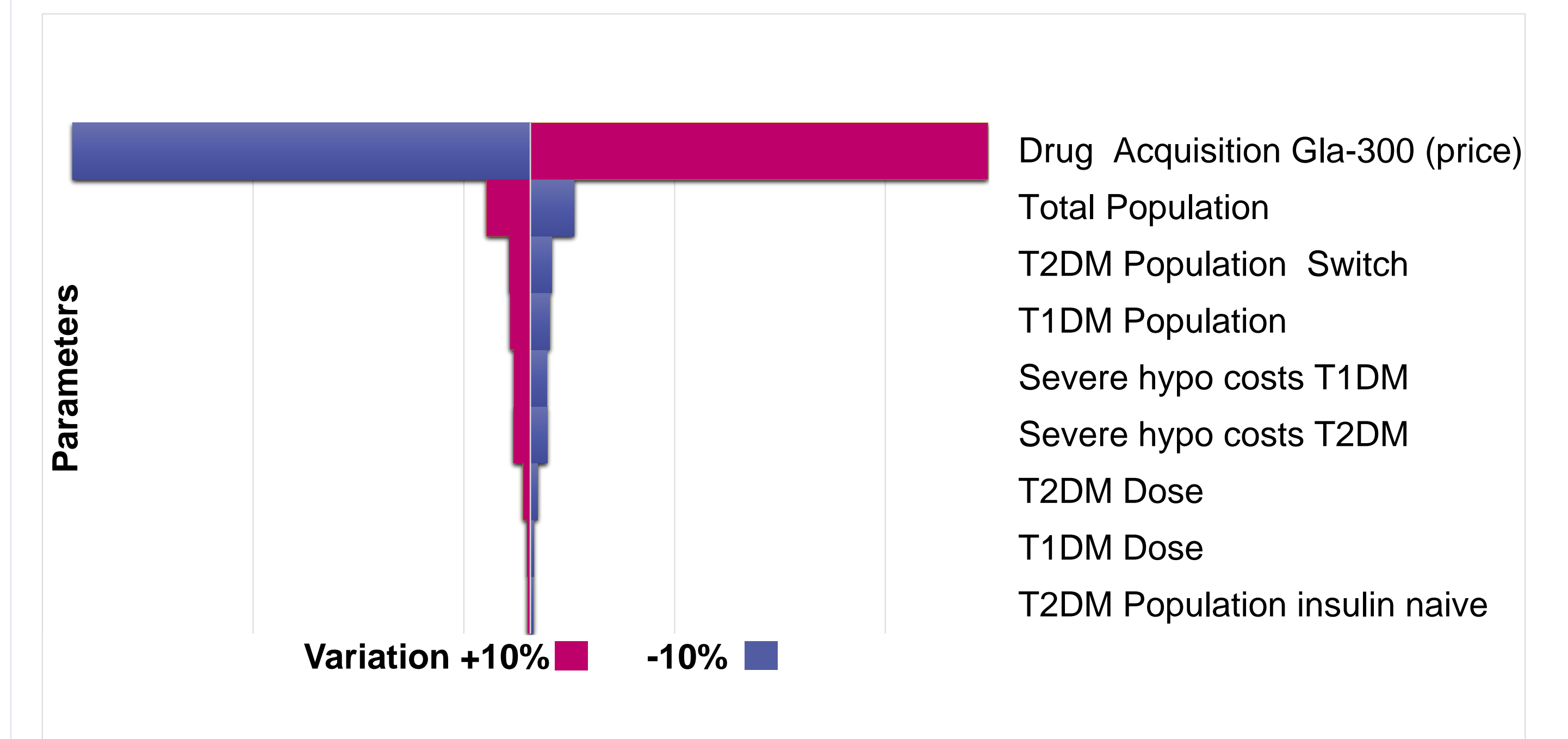
\*Exchange rate : 1 EUR = 160DZD

Figure 3: Budget impact 2022-2026



\*Exchange rate : 1 EUR = 160DZD

Figure 4 : Tornado Diagram - Sensitivity Analysis



## RESULTS (continued)

- (-) 2,1 M € for T1DM,
- (-) 268 600 € for T2DM insulin naive patients,
- (-) 1,6 M € for T2DM previously treated with insulin (switch).
- Sensitivity analyses determined that the cost of insulin Glargine-300U/mL (Gla-300) and eligible population had the potential to impact the base case analysis.

## DISCUSSION

- The BI model was developed in MS Excel, it is a dynamic and flexible model that allows payers to adjust scenarios.
- The 2<sup>nd</sup> Generation basal insulin Gla-300 demonstrates a lower risk of overall hypoglycemic events than the 1<sup>st</sup> Generation basal insulin analogues, therefore costs related to management of severe hypoglycemia was considered in the analysis.
- After introducing Gla- 300 in Algeria, this study has shown saving mainly by reducing the costs related to severe hypoglycemia, however administrations & glucose self-monitory had no impact on the results.
- The sensitivity analysis has shown that the budget impact is sensitive to drug acquisition costs and also the size of targeted population.
- The study limit is the daily dose of basal insulins, as assumption made was “no dose difference” between the insulins, based on Gupta Shaloo & al study.

## CONCLUSIONS

- The total budget for the introduction of insulin Glargine-300U/mL (Gla-300) in Algeria has a considerable saving on health expenses and on the social security budget (-4M € over 5 years).Hence insulin Glargine-300U/mL (Gla-300) as 2nd Generation basal insulin is characterized with beneficial clinical and economic value.

## REFERENCES

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