



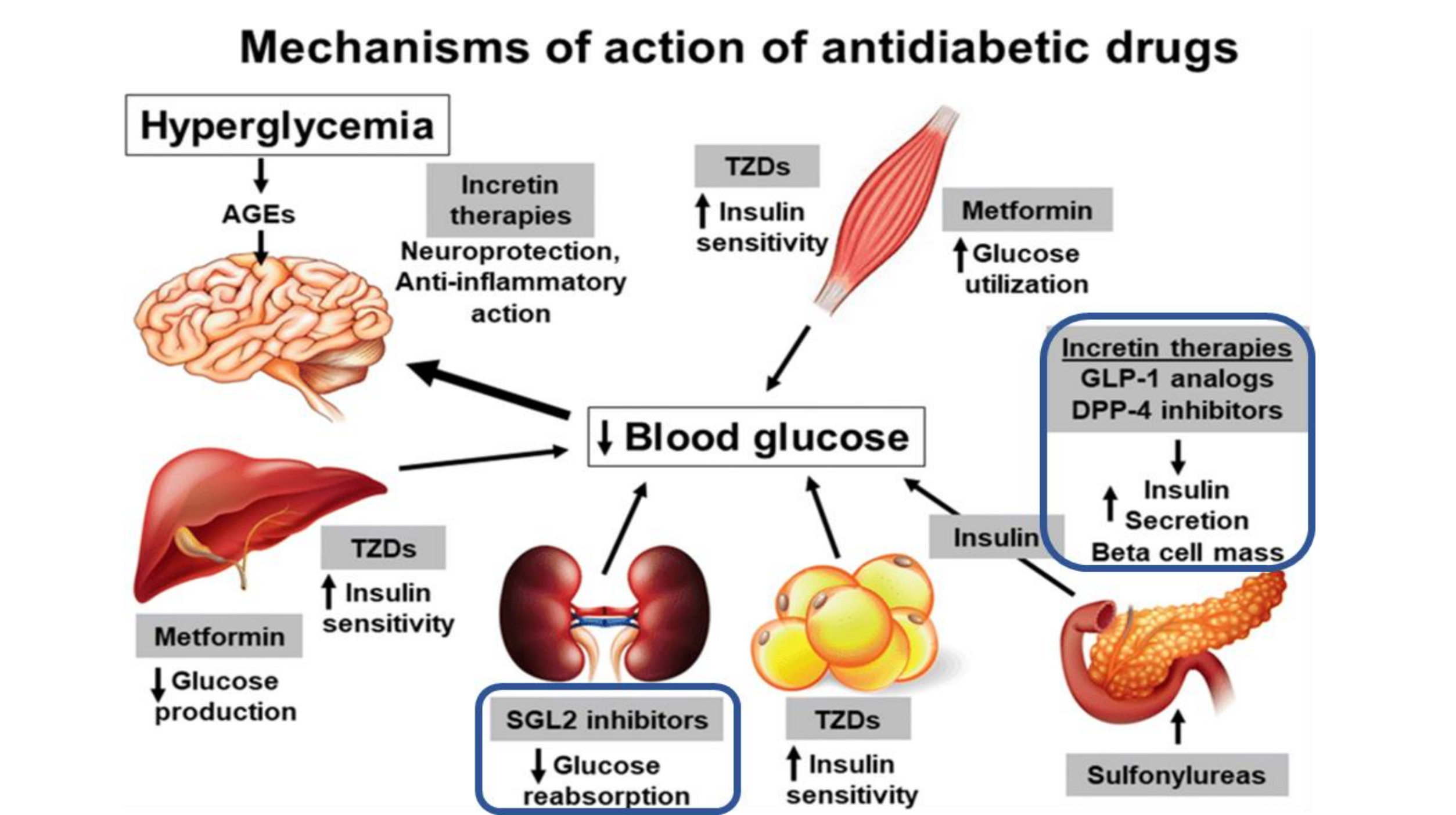
Cost-Effectiveness Analysis of Empagliflozin versus Albiglutide among Individuals with Type 2 Diabetes in the US

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Introduction

Recent trials have shown that Empagliflozin and Albiglutide can both reduce the risk of cardiovascular death and complications. It is unclear which one can produce higher clinical benefits and is more cost-effective.



Objective:

The study aimed to compare the cost-effectiveness of empagliflozin versus albiglutide among individuals with type 2 diabetes (T2D) in the US.

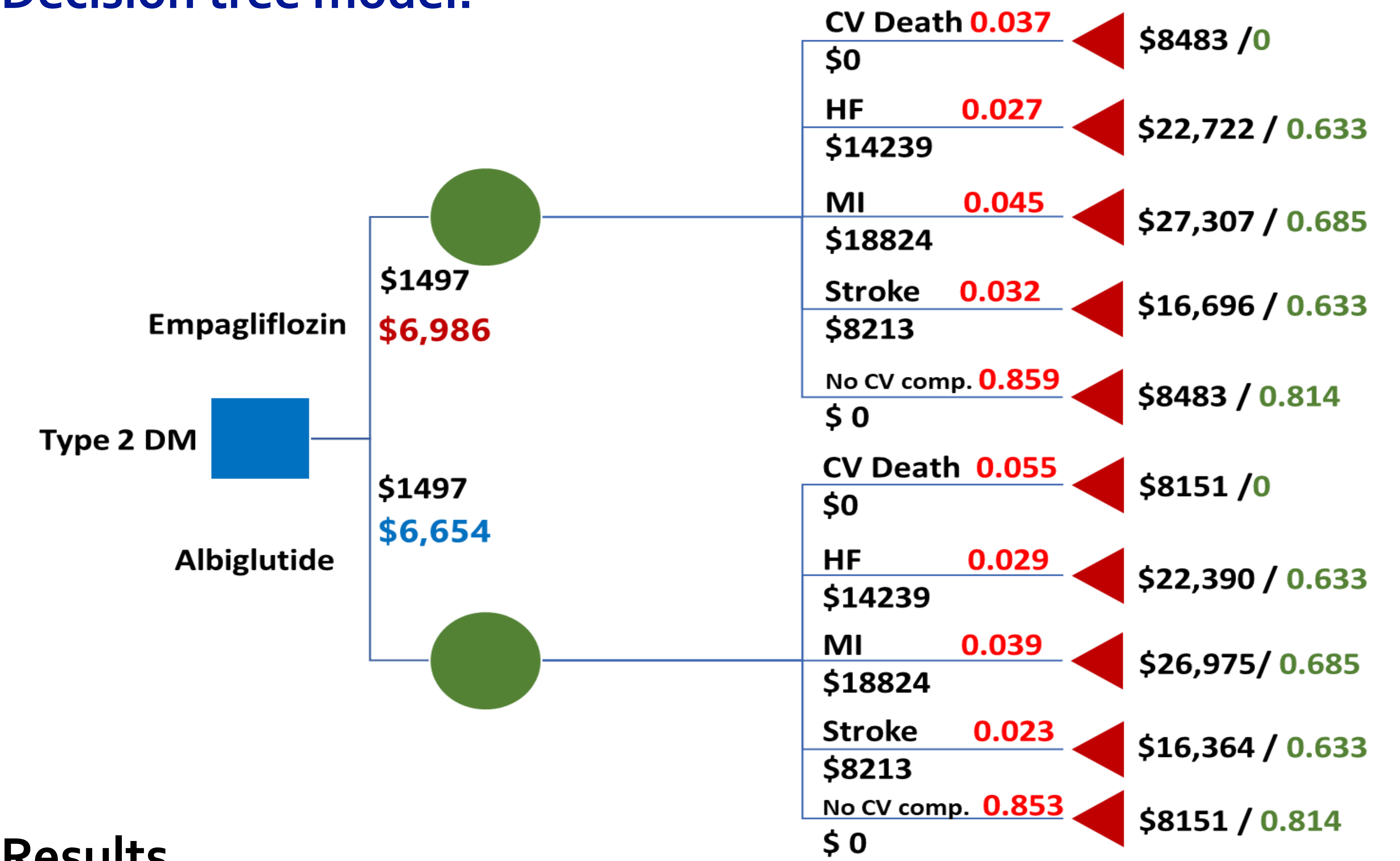
Methods

Population: Adults with Type 2 Diabetes Mellites in the US.
Intervention & comparator: empagliflozin vs. albiglutide

- Cost: inflated to 2021 US Dolla.
- Rate of cardiovascular death, hospitalization for heart failure, nonfatal myocardial infarction, and nonfatal stroke.
- Quality-adjusted life year (QALY).
- Incremental cost-effectiveness ratio (ICER).
- Incremental net benefits (INB).

Perspective: US payer perspective.
Time horizon: over a one year.

Decision tree model:

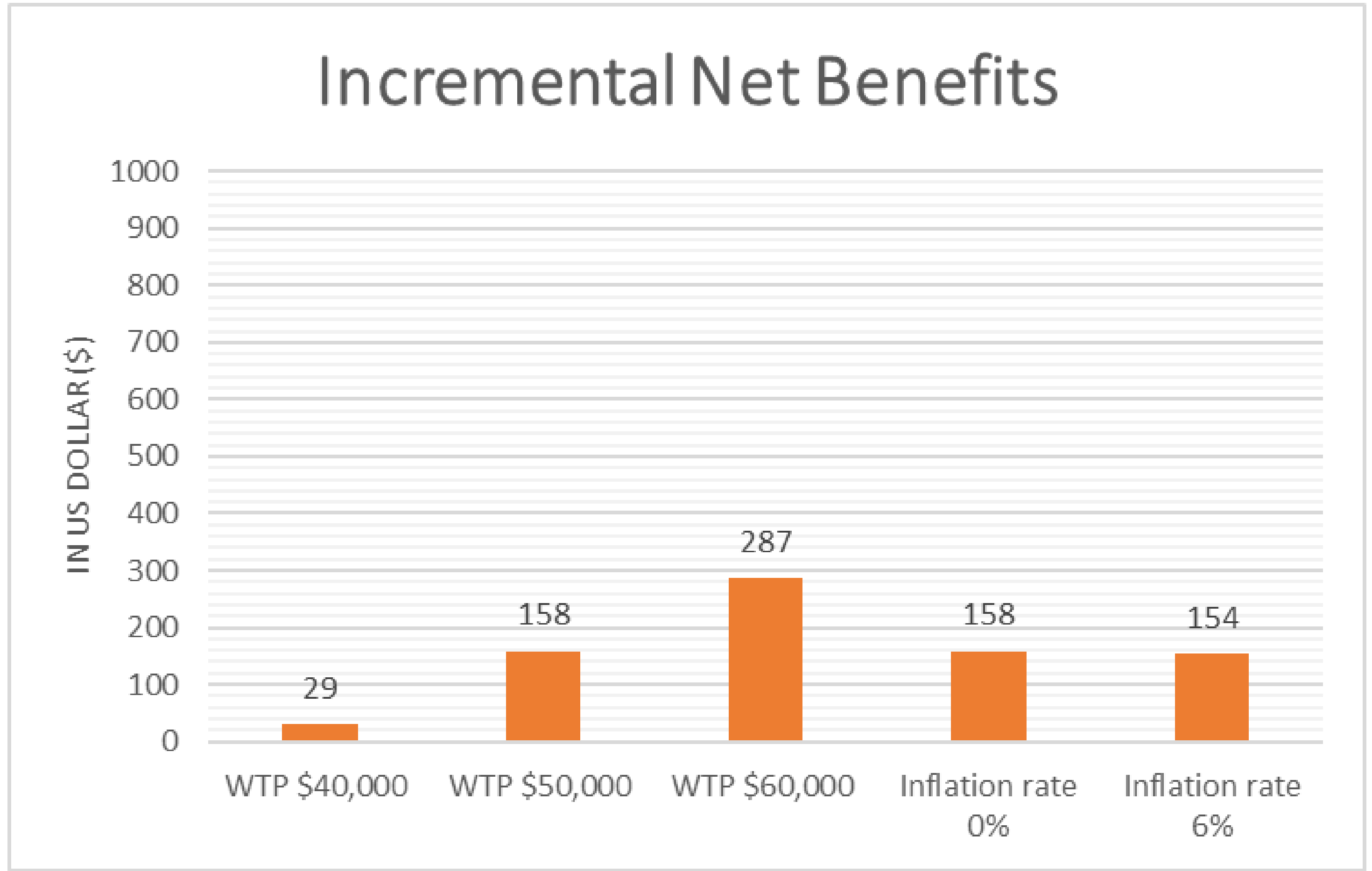


Results

Compared with albiglutide, the use of empagliflozin was associated with risk reductions in cardiovascular death (-33%) and hospitalization for heart failure (-8%), but risk increase in nonfatal myocardial infarction (+16%), and nonfatal stroke (+37%). The use of empagliflozin was associated with a higher cost (+\$486) but also a higher QALY (0.013) in one year.

Medications	Expected cost	Expected benefit	Incremental cost	Incremental benefit	ICER
Empagliflozin	\$9977	0.767	\$486	0.013	\$37,721 / QALY
Albiglutide	\$9491	0.755			

Sensitivity analysis:



The incremental cost-effectiveness ratio (ICER) is \$37,721/QALY, suggesting a favorable economic value for empagliflozin over albiglutide. Results from sensitivity analysis show that our results are robust to parameter uncertainties.

Conclusions

Empagliflozin is cost-effective compared to albiglutide from the US payer perspective.

Reference:

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