

# SGLT2 inhibitors and GLP1 receptor antagonists improve type-2 diabetes outcomes, but are not cost effective

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A cost-effectiveness study of sodium–glucose cotransporter-2 (SGLT2) inhibitors and glucagon-like peptide-1 (GLP1) receptor agonists has found that the use of these medications as first-line treatment for type-2

diabetes would improve outcomes, but their costs would need to decrease by at least 70 percent to be cost-effective. The study is published in *Annals of Internal Medicine*.

Type-2 diabetes affects more than 30 million Americans and costs \$327 billion annually, up from \$174 billion in 2007. The cost increase is partially attributed to the increased use of SGLT2 and GLP1, which have been demonstrated to reduce [atherosclerotic cardiovascular disease](#) (ASCVD), microvascular disease, and mortality in addition to improvements in glycated hemoglobin (HbA1c) and cardiovascular risk factors. These medications have been recommended for second-line therapy in both American and European guidelines but may be a prohibitively expensive treatment option for some payers.

Researchers from the University of Chicago Department of Medicine created an individual patient-level model to simulate the lifetime incidence, prevalence, mortality, and costs associated with having [type-2 diabetes](#). They created several treatment outcomes, including the first-line use of metformin and second-line use of SGLT2 or GLP1, the first-line use of SGLT2, and the first-line use of GLP1. After conducting analyses, the authors found that first-line SGLT2 inhibitors and GLP1 receptor agonists had lower lifetime rates of congestive heart failure, [ischemic heart disease](#), [myocardial infarction](#), and stroke compared with metformin. However, they also found that the costs for SGLT2 inhibitors would need to be reduced by 70 percent and by 90 percent for oral GLP1 receptor agonists to be cost-effective compared to metformin. According to the authors, their study results indicate the need to reduce SGLT2 inhibitor and GLP1 receptor agonist medication costs substantially for patients with type 2 patients to improve [health outcomes](#) and prevent exacerbating diabetes health disparities.

**More information:** Jin G. Choi\* et al, First-Line Therapy for Type 2 Diabetes With Sodium–Glucose Cotransporter-2 Inhibitors and

Glucagon-Like Peptide-1 Receptor Agonists, *Annals of Internal Medicine* (2022). [DOI: 10.7326/M21-2941](https://doi.org/10.7326/M21-2941)

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