



# Evaluating the Clinical Benefits and Economic Viability of Emerging Antidiabetic Therapies

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## DESCRIPTION

The management of diabetes has evolved significantly over the past few decades, with the introduction of various new antidiabetic medications. These advancements have provided healthcare professionals with a broader range to combat the disease, offering patients more personalized and effective treatment options. However, with the introduction of these new medications, it is important to evaluate their efficacy and balance the benefits against their cost-effectiveness. New antidiabetic medications, such as Glucagon-Like Peptide-1 (GLP-1 Receptor Agonists RAs), Sodium-Glucose Cotransporter-2 Inhibitors (SGLT2i) and Dipeptidyl Peptidase-4 inhibitors (DPP-4i), have shown potential results in managing blood glucose levels and reducing the risk of diabetes-related complications. These medications mimic the action of the incretin hormone GLP-1, which increases insulin secretion, inhibits glucagon release and slows gastric emptying. Clinical trials have demonstrated that GLP-1 RAs can significantly reduce HbA1c levels, promote weight loss and lower the risk of cardiovascular events. For instance, studies have shown that patients treated with GLP-1 RAs experienced a reduction in Major Adverse Cardiovascular Events (MACE) by up to 41% compared to those on traditional therapies. These drugs work by inhibiting the sodium-glucose co-transporter 2 in the kidneys, leading to increased glucose excretion in the urine. SGLT2i have been effective in lowering blood glucose levels, reducing body weight and providing cardiovascular and renal benefits. Research indicates that SGLT2i can reduce the risk of heart failure hospitalization and progression of kidney disease, making them a valuable addition to diabetes management. DPP-4 inhibitors enhance the activity of incretin hormones by preventing their degradation, thereby increasing insulin secretion and decreasing glucagon levels. These medications are generally well-tolerated and have a lower risk of hypoglycemia. Studies have shown that DPP-4i can effectively lower HbA1c levels and are particularly beneficial for patients who require a gentler approach to glucose control. While the efficacy of these new antidiabetic medications is well-documented, their cost-effectiveness remains a critical consideration for both healthcare systems and patients.

The high cost of these medications can be a barrier to access, particularly in underserved communities and low-income populations. To determine the cost-effectiveness of new antidiabetic medications, it is essential to consider both direct and indirect costs. Direct costs include the price of the medication, monitoring and management of side effects, while indirect costs encompass the economic impact of diabetes-related complications, such as hospitalizations and loss of productivity. Comparative studies have shown that while newer medications like GLP-1 RAs and SGLT2i are more expensive than traditional therapies, they offer significant long-term benefits that can offset their initial costs. For example, the reduction in cardiovascular events and hospitalizations associated with these medications can lead to substantial healthcare savings over time. A patient-centered approach to diabetes management involves considering individual patient needs, preferences and socioeconomic factors. Healthcare providers should engage in shared decision-making with patients, discussing the potential benefits and costs of different treatment options. This approach ensures that patients receive the most appropriate and cost-effective therapy for their specific circumstances. Insurance coverage and reimbursement policies play a key role in the accessibility of new antidiabetic medications.

## CONCLUSION

Policymakers and healthcare organizations must work together to develop strategies that ensure equitable access to these medications. This may include negotiating lower prices with pharmaceutical companies, implementing value-based pricing models and expanding insurance coverage for newer therapies. HTA is a systematic evaluation of the properties and impacts of health technologies, including medications. It provides evidence-based information to policymakers and healthcare providers, helping them make informed decisions about the adoption and reimbursement of new treatments. HTA can be instrumental in assessing the cost-effectiveness of new antidiabetic medications and guiding their integration into clinical practice.

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