ABSTRACT



Long-term cost-effectiveness analysis of onceweekly Semaglutide versus Dulaglutide for the treatment of type 2 diabetes after the renewal of the national drug reimbursement list in China

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Objective: Once-weekly semaglutide was considered a dominant therapy for type 2 diabetes versus dulaglutide in China in a previous study. However, after the renewal of the national drug reimbursement list in the last two years, the prices of both drugs were changed. This study aims to reassess the long-term cost-effectiveness of once-weekly semaglutide versus dulaglutide for the treatment of type 2 diabetes uncontrolled on metformin in China under new prices.

Methods: Long-term health and economic outcomes of once-weekly semaglutide 0.5 mg, 1.0 mg, and dulaglutide 1.5 mg were assessed over 40 years, using the Institute of Health Economics Diabetes Cohort Model from a Chinese healthcare system perspective, discounted at 5% annually. Baseline cohort characteristics and treatment effects were derived from the head-to-head clinical trial SUSTAIN 7. Costs included direct medical costs related to anti-hyperglycemic and complications treatment. National median bidding prices of drugs in January 2024 were used. The robustness of the results was assessed through one-way and probabilistic sensitivity analyses.

Results: Once-weekly semaglutide 0.5 mg and 1.0 mg were estimated to improve discounted life expectancy by 0.04 and 0.09 years, and discounted quality-adjusted life expectancy by 0.08 and 0.19 quality-adjusted life years (QALYs) versus dulaglutide 1.5 mg, respectively. At the new price, total costs were estimated to be 5476 Chinese yuan (CNY) lower with once-weekly semaglutide 0.5 mg versus dulaglutide 1.5 mg, among which CNY 4117 reduction came from avoidance of macrovascular and microvascular complications. Total costs were projected to be CNY 6711 lower with semaglutide 1.0 mg versus dulaglutide 1.5 mg. The higher drug cost of semaglutide 1.0 mg was fully offset by the CNY 10711 reduction in the cost of treating macrovascular and microvascular complications. Sensitivity analyses verified the robustness of the results.

Conclusion: Once-weekly semaglutide was still considered dominant (more effective and less costly) versus dulaglutide for patients with type 2 diabetes in China.

Key words: China, cost-effectiveness, diabetes, Dulaglutide, Semaglutide

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