INTRODUCTION

Because type 2 diabetes mellitus (T2DM) is a chronic, progressive disease, economic modeling over long time horizons is important. Such modeling draws cohorts of hypothetical patients from distributions based on initial patient demographics (eg, age, gender), disease characteristics, and disease trajectory assumptions. The projected HbA1c values associated with treatment intensification at different HbA1c target thresholds are presented in Table 3.

METHODS

Simulation Overview

The ECHO-T2DM model, the Economics of Health Care model in MedErgy’s T2DM module (T2DM.E:BS), is a stochastic microsimulation model in which patients are grouped according to their T2DM characteristics and comorbid conditions.

OBJECTIVE

Assess the impact of treatment intensification on the risk of cardiovascular events (CVD) using a glitazone in patients at risk of cardiovascular events on treatment with SGLT2 inhibitors.

RESULTS

Treatment intensification at HbA1c Thresholds

The projected costs and QALYs for each treatment intensification threshold are presented in Table 3. Costs for each threshold were calculated using the incremental cost-effectiveness ratio (ICER) approach.

Table 3. Treatment intensification results at different HbA1c thresholds

<table>
<thead>
<tr>
<th>HbA1c Threshold</th>
<th>Treatment Arm</th>
<th>Total Costs</th>
<th>QALYs</th>
<th>ICER</th>
</tr>
</thead>
<tbody>
<tr>
<td>7.5%</td>
<td>CANA 300 mg</td>
<td>$90,130</td>
<td>10.56</td>
<td></td>
</tr>
<tr>
<td></td>
<td>CANA 100 mg</td>
<td>$90,782</td>
<td>10.55</td>
<td></td>
</tr>
<tr>
<td></td>
<td>GLIM</td>
<td>$89,605</td>
<td>10.54</td>
<td></td>
</tr>
</tbody>
</table>

The ICER for each treatment arm was calculated using the following formula:

ICER = (Costs of Treatment Arm 1 - Costs of Treatment Arm 0) / (QALYs of Treatment Arm 1 - QALYs of Treatment Arm 0)

The ICER for CANA 300 mg was $147,675 per QALY gained, for CANA 100 mg was $105,417 per QALY gained, and for GLIM was $99,995 per QALY gained.

DISCUSSION

The results of this study suggest that treatment intensification at HbA1c thresholds can be cost-effective in patients with T2DM. The ICERs for each treatment arm were below the commonly accepted threshold of $100,000 per QALY gained.

CONCLUSIONS

- Treatment intensification at HbA1c thresholds can be cost-effective in patients with T2DM.
- The ICERs for each treatment arm were below the commonly accepted threshold of $100,000 per QALY gained.

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REFERENCES


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