Chimeric antigen receptor (CAR) T cell therapies have demonstrated responses in difficult-to-treat lymphoid malignancies, including large B-cell lymphoma (LBCL). However, they are associated with cytokine release syndrome (CRS) and neurological events (NE) at a rate of 21.2% and 6.5%, respectively.

**Methods**

A probabilistic sensitivity analysis was conducted using Monte Carlo simulation methods to address uncertainty surrounding the costs of key inputs. The method to estimate CRS grade 1 costs was the weighted average of NE grade 1 costs estimation, which may lead to significant differences for the upper 95% confidence interval. Costs of CRS and NE events were modeled separately for this analysis. The analysis used published all payer US costs and was performed from a commercial payer perspective. The model assumed that managing CRS or NEs did not differ across CAR T cell therapies or to settings outside of a clinical trial.

**Results**

The total costs per treated patient were $27,000-$36,000 and $20,000-$30,000 for liso-cel and axi-cel, respectively. The total costs per treated patient for liso-cel were $27,000-$36,000 and $20,000-$30,000 for axi-cel. The model assumes that managing CRS or NEs did not differ across CAR T cell therapies or to settings outside of a clinical trial.

**Conclusions**

A scenario analysis was conducted to assess the impact of varying key input assumptions on the model outcome. The model outcomes are sensitive to the assumptions made about the cost of managing CRS and NE events.

**References**

3. Bristol Myers Squibb, Princeton, NJ, USA

**Acknowledgments**

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**Table 2. CRS and NE rates**

<table>
<thead>
<tr>
<th>Grade</th>
<th>CRS Rate (%)</th>
<th>NE Rate (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grade 1</td>
<td>40.0</td>
<td>80.0</td>
</tr>
<tr>
<td>Grade 2</td>
<td>40.0</td>
<td>80.0</td>
</tr>
<tr>
<td>Grade 3</td>
<td>40.0</td>
<td>80.0</td>
</tr>
</tbody>
</table>

**Table 3. CRS and NE costs**

<table>
<thead>
<tr>
<th>CRS costs</th>
<th>NE costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>$17,394</td>
<td>$15,000</td>
</tr>
<tr>
<td>$19,035</td>
<td>$25,000</td>
</tr>
<tr>
<td>$18,694</td>
<td>$17,394</td>
</tr>
</tbody>
</table>

**Figure 3. Main costs per treated patient, commercial payer perspective, in 2021 USD**

- **Liso-cel**
  - Mean: $22,212
  - 95% CI: $19,454-$25,000

- **Axi-cel**
  - Mean: $20,621
  - 95% CI: $17,394-$24,000

**Figure 4. Base-case and scenario results: total per treated patient cost, in 2021 USD**

- **Liso-cel**
  - Mean: $22,212
  - 95% CI: $19,454-$25,000

- **Axi-cel**
  - Mean: $20,621
  - 95% CI: $17,394-$24,000