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**Conclusions**

- Omalizumab improves the health outcomes of patients but at a high cost to the UK NHS.

- ICERs were lower in more severe subgroup but still above conventional cost-effectiveness thresholds.

- Asthma-related mortality is one of the key cost-effectiveness drivers:
  - $\uparrow$ asthma-related mortality $\Rightarrow$ $\downarrow$ ICER

**Population and subgroups**

- Population reflects marketing authorisation
  - Patients uncontrolled at step 4
  - Patients controlled at step 5
  - Two age groups: 6-11 and $\geq$ 12
- Population subgroups defined by indicators of severity:
  - Hospitalisation for asthma in past year
  - Maintenance OCS use (step 5)
  - $\geq$ 3 exacerbations in the past year

**The model**

**Objectives**

- Evaluate cost-effectiveness of omalizumab for severe persistent asthma for the overall patient population covered by the marketing authorisation and relevant subgroups under the UK NHS perspective.
- Omalizumab 75mg or 150mg solution for injection + optimised therapy vs optimised therapy alone (step 4 or step 5)
- Assessment for response to treatment at 16 weeks:
  - Non-responders should discontinue omalizumab

**Results**

<table>
<thead>
<tr>
<th>Population</th>
<th>Age</th>
<th>ICER, /QALY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall</td>
<td>6-11 years</td>
<td>98,072€</td>
</tr>
<tr>
<td></td>
<td>$\geq$ 12 years</td>
<td>91,276€</td>
</tr>
<tr>
<td>Hospitalisation</td>
<td>6-11 years</td>
<td>54,324€</td>
</tr>
<tr>
<td></td>
<td>$\geq$ 12 years</td>
<td>51,646€</td>
</tr>
<tr>
<td>Maintenance OCS</td>
<td>$\geq$ 12 years</td>
<td>58,712€</td>
</tr>
<tr>
<td></td>
<td>6-11 years</td>
<td>91,106€</td>
</tr>
<tr>
<td></td>
<td>$\geq$ 12 years</td>
<td>89,094€</td>
</tr>
</tbody>
</table>

ICERs > conventional thresholds of cost-effectiveness used in the UK NHS of 24,400€ (€20,000) and 35,100€ (€30,000)/QALY

**References and Acknowledgements**

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