PMU26: Budget Impact Analysis of Intravenous Biosimilars Compared with Intravenous Originators and Subcutaneous Products

Yuneung Jang1, Aidan Byrne2, Farah Toron3, Sangwook Youn1


RESULTS

• Per-patient savings ranged from £2,344 (MPA) to £5,438 (NHL) with biosimilar Truxima® (Figure 2) and from £7,837 (MGC) to £12,502 (BC) with biosimilar Herzuma® (Figure 6).
• At maximum uptake, 76% of SC patients switched to biosimilar Truxima®, resulting in annual savings of £9.5m. If 67% of SC patients switched to biosimilar Herceptin®, the annual saving was £13.5m.
• Compared with SC originators, administration costs for IV biosimilars were higher but drug costs were reduced, leading to a lower total cost for IV (Figures 4, 8).
• These cost savings could be used to expand access to 3,594 additional rituximab patients and 2,161 additional trastuzumab patients, with a neutral budget impact (Figures 5, 9).
• Scenario analysis estimated a positive income impact for a hospital provider, with increased reimbursement revenue outweighing additional IV administration costs. This has implications for expanding access and hospital resource budgets.

OBJECTIVES

This study aimed to assess the budget impact of adopting IV biosimilar rituximab (Truxima®) and IV biosimilar trastuzumab (Herzuma®) compared with subcutaneous and IV originators from the perspective of the UK National Health Service (NHS) by evaluating:
• The impact of a switch to the biosimilar on per-patient total spend.
• The offset between drug and administration costs that occurs with the adoption of the new formulation and the magnitude of cost saving (if applicable).
• The additional patients that could be treated with any savings realised.

METHODS

A budget impact model was developed using Microsoft Excel 2013® to estimate the per-patient cost of adopting Truxima® and Herzuma® biosimilars in the UK market.

The base case analysis modelled a scenario where Truxima® and Herzuma® are funded for the treatment of the indicated populations (World With), compared with a scenario where Truxima® and Herceptin® are not funded (World Without) (Figure 1).

Figure 1: Model schematic.

Comparators and indications
• The IV originators and subcutaneous products were considered as comparators.
• The model included the cost of Truxima®, Matbhera® IV and Matbhera® SC for the treatment of their shared indications and the cost of Herceptin®, Herceptin® IV and Herceptin® SC for the corresponding indication profile (Table 1).

Table 1: Relevant comparators and indications for Truxima® and Herceptin®

<table>
<thead>
<tr>
<th>Comparator</th>
<th>Indication</th>
<th>Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Truxima® IV</td>
<td>Non-Hodgkin lymphoma</td>
<td>Non-Hodgkin lymphoma (NHL) (Bruce et al. 2018)</td>
</tr>
<tr>
<td>Matbhera® IV SC</td>
<td>Chronic lymphocytic leukaemia (CLL)</td>
<td>Chronic lymphocytic leukaemia (CLL)</td>
</tr>
<tr>
<td>Truxima® SC</td>
<td>Chronic lymphocytic leukaemia (CLL)</td>
<td>Chronic lymphocytic leukaemia (CLL)</td>
</tr>
<tr>
<td>Herceptin® IV</td>
<td>Metastatic breast cancer</td>
<td>Metastatic breast cancer (MBC)</td>
</tr>
<tr>
<td>Truxima® SC</td>
<td>Metastatic breast cancer</td>
<td>Metastatic breast cancer (MBC)</td>
</tr>
<tr>
<td>Matbhera® SC</td>
<td>Metastatic breast cancer</td>
<td>Metastatic breast cancer (MBC)</td>
</tr>
<tr>
<td>Herceptin® SC</td>
<td>Metastatic breast cancer</td>
<td>Metastatic breast cancer (MBC)</td>
</tr>
</tbody>
</table>

DISCUSSION & CONCLUSIONS

• Increasing biosimilar rituximab and trastuzumab uptake can deliver substantial cost savings for the NHS.
• Increased administration costs should not act as a barrier to IV biosimilar uptake as scenario analysis found cost savings to be sensitive to IV biosimilar price but not sensitive to plausible variation in administration costs.
• The ability to realise these benefits will depend on price agreed and capacity to deliver larger number of IV infusions.

REFERENCES