A Budget Impact Model for Two Investigational Agents for the Treatment of Nonalcoholic Steatohepatitis (NASH)

**OBJECTIVE**

To describe the drug treatment budget impact of elafibranor and obeticholic acid on a sample state Medicaid plan in the first year following their FDA-approval for the treatment of NASH.

**METHODS**

- A Medline search was conducted (timeframe: Jan. 1, 1995 to Oct. 30, 2017) to identify all published Phase II and Phase III clinical trials of elafibranor and obeticholic acid for NASH.
- Conference abstracts, manufacturer press-releases, and value assessments evaluating elafibranor and obeticholic acid for NASH during the same timeframe were also reviewed.
- A clinical and economic assessment was performed to determine the budget impact.
  - The relative efficacy as well as the safety and tolerability of both medications were evaluated to predict their place in therapy.
  - Key considerations for market uptake were identified to estimate unmanaged product uptake in the first year of market availability.
  - Available epidemiological data was extrapolated to estimate the proportion of members enrolled in a sample state Medicaid plan who would be treatment candidates.
- A clinical and economic assessment was performed to determine the budget impact.

**RESULTS**

### Table 1: Evaluation of Elafibranor and Obeticholic Acid

<table>
<thead>
<tr>
<th>Mechanism of action</th>
<th>Elafibranor</th>
<th>Obeticholic acid (OCA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Key clinical trial</td>
<td>Phase II GOLDEN-505 study*</td>
<td>Phase II FIENT study*</td>
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<tr>
<td>Study population</td>
<td>N=274; adults with NASH (NAS≥3) without cirrhosis</td>
<td>N=283; adults with NASH (NAS≥4) without cirrhosis’</td>
</tr>
<tr>
<td>Primary endpoint</td>
<td>Proportion of patients achieving resolution of NASH without worsening of fibrosis</td>
<td>Proportion of patients achieving ≥2 point reduction in NAS without worsening of fibrosis</td>
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<tr>
<td>Intervention</td>
<td>Elafibranor 80 mg or 120 mg orally once daily or placebo for 52 weeks</td>
<td>OCA 25 mg orally once daily or placebo for 72 weeks</td>
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<tr>
<td>Results</td>
<td>Resolution of NASH: 19% for elafibranor vs 12% for placebo (P=0.045)</td>
<td>Improved liver histology: 45% for OCA vs 21% for placebo (P=0.002)</td>
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<tr>
<td>Key considerations for market uptake</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Positive effects on lipid and glucose</td>
<td>• FDA-approved for PBC</td>
<td></td>
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<tr>
<td>• Mild decrease in renal function</td>
<td>• Modest weight loss</td>
<td></td>
</tr>
<tr>
<td>• Granted Fast Track designation</td>
<td>• Associated with pruritus and dyslipidemia</td>
<td></td>
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<tr>
<td>• May resolve NASH, but ~80% of patients may not respond to treatment</td>
<td>• Granted Breakthrough Therapy designation</td>
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<tr>
<td>• If untreated, NASH may progress until liver transplant is required</td>
<td>• Clinical trials evaluated surrogate endpoints</td>
<td></td>
</tr>
<tr>
<td>• No FDA-approved treatments indicated for NASH</td>
<td>• May improve liver histology</td>
<td></td>
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</tbody>
</table>

**Economic Assessment**

- **Estimated annual drug cost:** $74,551
- **Estimated prevalence of NASH:** 3.5% to 5%
- **Estimated annual cost:** $13 to $18.6 million
- **Medicaid plan budget:** $3,500-5,000

**DISCUSSION**

NASH is associated with significant morbidity and mortality and if left untreated, may progress to liver transplantation. Based on available peer reviewed literature, elafibranor and obeticholic acid may offer clinical advantages over currently available non FDA-approved therapies. Despite the treatment advancements these agents may offer, only ~30% of patients respond to therapy in clinical trials. The FDA-approval of elafibranor and obeticholic acid for NASH may present opportunities for innovative cost-containment strategies.

**LIMITATIONS**

- Clinical impact was based on Phase II trial data which assessed surrogate endpoints; Phase III trials are ongoing.
- Several assumptions were made in estimating budget impact:
  - Prevalence of disease in the Medicaid plan
  - Number of members diagnosed
  - Number of members who would seek treatment
  - Cost of the agents
- The current analysis did not utilize medical claims data to determine the prevalence of NASH in a defined Medicaid population.
- Uptake of new therapies is difficult to assess due to the many variables that may influence it.

**CONCLUSIONS**

- New agents for the treatment of NASH are likely to have a significant impact on state Medicaid program budgets.
- The projected budget impact of elafibranor and obeticholic acid highlights the need for innovative cost-containment strategies.
- Proactive pipeline monitoring and high-level budget impact modeling may assist state Medicaid programs in preparing for high-cost specialty medications that are likely to have significant cost implications.

**FUTURE STUDIES**

Continuous review and adjustment to assumptions made in this budget impact model are necessary as more clinical and economic data become available.

**DISCUSSIONS/ACKNOWLEDGMENTS**

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