Patterns of Lubiprostone Utilization and Costs in Members of a Large Health Benefits Company

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Background
• Chronic constipation (CC) and irritable bowel syndrome (IBS) pose a considerable burden of illness and account for increased direct costs and healthcare utilization.
• Lubiprostone was approved by the FDA for the treatment of chronic idiopathic constipation in adults on January 30, 2006. On April 30, 2006, it was approved for the treatment of IBS with constipation (IBS-C).
• The median cost of treatment of CC is $3,600 and of IBS $2,400.
• Cost offsets, however, can be significant in patients with comorbidities.

Methods
• Retrospective analysis of medical and pharmacy claims from the Humana Inc., administrative claims database.
• Patients included Humana members 18 years and older with medical claims for chronic constipation (CC) and/or irritable bowel syndrome (IBS) between April 1, 2006 and April 30, 2008.
• The index date was the first diagnosis of CC (ICD-9 C00 - C04 or IBS (ICD-9 C15 - C18).
• Patients had at least 180-days of continuous enrollment pre-index and at least 30-days post-index.
• The study population of 92,804 patients was compared to one pre- and post-lubiprostone initiation.

Results
• Common co-morbidities in lubiprostone users versus non-users included back problems (23.0 vs. 17.0, p<0.01), and abdominal pain (21.9 vs. 17.1%, p<0.01).

Table 1a. Characteristics of Lubiprostone Users Versus Non-Lubiprostone Users in the 180 Days Prior to Resolving Index Diagnosis

<table>
<thead>
<tr>
<th>Variables</th>
<th>Lubiprostone Users</th>
<th>Non-Lubiprostone Users</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>61.4</td>
<td>60.9</td>
<td>0.01</td>
</tr>
<tr>
<td>Male Gender (%)</td>
<td>35.6</td>
<td>29.0</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>Diabetic (%)</td>
<td>14.8</td>
<td>8.9</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>Prior IBS diagnosis (%)</td>
<td>3.1</td>
<td>4.7</td>
<td>&lt;0.01</td>
</tr>
</tbody>
</table>

• About 75% of lubiprostone users were female (Table 1).
• Lubiprostone users were younger than users (51.8 vs. 60.6 yrs old) (p<0.01).
• Lubiprostone users were more likely to be prescribed opiates (35.5 vs. 24.4%), antibiotics (19.4 vs 9.3%) and topical antiperspirants (6.4 vs. 4.7%) (Table 2).

Table 1b. Predictors of Lubiprostone Utilization (N=92,804)

<table>
<thead>
<tr>
<th>Variables</th>
<th>HR</th>
<th>95% CI</th>
<th>p-value</th>
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<tr>
<td>Female Gender (%)</td>
<td>1.71</td>
<td>1.43-2.03</td>
<td>&lt;.0001</td>
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| Medical and pharmacy data were examined to assess utilization patterns and costs in patients with 6 months pre- and post-lubiprostone initiation.
• 1,605 users had both 6-months pre- and post-lubiprostone initiation data.
• In those lubiprostone users with 6 months of continuous enrollment pre- and post-lubiprostone use, there was a 5.7% increase in per member per month total health care costs. Higher healthcare costs were significantly driven by a decrease in OTC costs. (p<0.0001)
• Diabetic (%)               | 1.04   | 1.04-2.02   | 0.99   |
• Usage of tegaserod decreased from 13.96% to 2.24% (p<.0.01) in these same patients.
• Usage of prescription laxatives for these same 1605 users decreased by 4.6% (29.10% to 24.49%) (p<.0.01).

Conclusions
• Patients were younger than non-users and more likely to exhibit back pain and co-prescribed antibiotics.
• One month following lubiprostone initiation about 20% of lubiprostone users (pre- and post-index data) filled 6 or more prescriptions for lubiprostone.
• Lubiprostone users were more likely to be co-prescribed opiates (35.5% vs. 24.4%), antibiotics (19.4% vs. 9.3%) and topical antiperspirants (6.4% vs. 4.7%) (Table 2).
• Lubiprostone users were younger than non-users (51.8 vs. 60.6 yrs old) (p<0.01).
• Lubiprostone users were more likely to be prescribed opiates (35.5 vs. 24.4%), antibiotics (19.4 vs 9.3%) and topical antiperspirants (6.4 vs. 4.7%) (Table 1).
• Lubiprostone users were more likely to be a female member of a commercial PPO, Medicare HMO (Reference Group) – – –
• Commercial PPO 1.71 1.43-2.03 <.0001
• Commercial HMO 1.41 1.16-1.70 0.0005
• Medicare FFS 1.26 1.10-1.45 <0.01

Table 2c. Number of Lubiprostone Prescriptions Filled Per Patient Over 6 Months (N=1,605)

<table>
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References

Acknowledgements
This work was funded by Takeda Pharmaceuticals North America, Deerfield, IL, USA