**Medication Adherence and COPD-Related Costs Among Patients with COPD Treated with Umeclidinium/Vilanterol (UMEC/VI) versus Tiotropium (TIO)**

**Poster No. 1467**

### Aims
- Low levels of medication adherence to maintenance therapy among patients with chronic obstructive pulmonary disease (COPD) is a prevalent issue that is important for patient management.
- Studies have shown that patients treated with UMEC/VI have improved medication adherence over those treated with budesonide/formoterol and fluticasone propionate/salmeterol; however, studies had not been conducted among patients treated with TIO.
- To add to this understanding, this study examined COPD-related medication adherence and costs among patients with COPD initiating maintenance therapy with UMEC/VI versus TIO.

### Methods
**Retrospective Cohort Study**

Using Optum’s de-identified Clininformatics Data Mart Database to identify patients initiated on UMEC/VI or TIO between January 1, 2014 and December 31, 2017, with the earliest prescription fill defined as the index date.

**Included:** Patients aged ≥40 years at index, ≥ 12 months continuous enrollment pre- and post-index, ≥1 diagnosis of COPD in the 12-month pre-index period or on the index date.

**Excluded:** ≥1 pharmacy claim for ICS, LABA, or LAMA-containing controller pre-index and on the index date, ≥1 pharmacy claim for UMEC/VI and TIO on the index date, ≥1 diagnosis of asthma, moderate/severe COPD-related exacerbation on the index date.

### Outcomes
- **Propensity Score Matching**
  - UMEC/VI patients were matched 1:1 with TIO patients.

### Results

#### Table 1. Matched Cohorts' Demographic Data at Baseline

<table>
<thead>
<tr>
<th></th>
<th>UMEC/VI (N = 3,929)</th>
<th>TIO (N = 3,929)</th>
<th>Std. Diff. (%)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (Mean)</td>
<td>70.9 (0.7)</td>
<td>70.8 (0.5)</td>
<td>0.4</td>
</tr>
<tr>
<td>Female (%)</td>
<td>46.9</td>
<td>47.0</td>
<td>0.2</td>
</tr>
<tr>
<td>Commercial Insurance (%)</td>
<td>19.0</td>
<td>19.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Medicare Insurance (%)</td>
<td>81.0</td>
<td>81.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Quan-Charlson Comorbidity Index (Mean)</td>
<td>3.1 (2.3)</td>
<td>3.0 (2.3)</td>
<td>1.8</td>
</tr>
<tr>
<td>COPD-Related Exacerbations (Mean)</td>
<td>0.5 (0.8)</td>
<td>0.4 (0.8)</td>
<td>1.4</td>
</tr>
<tr>
<td>COPD-Related Outpatient Visits (Mean)</td>
<td>2.9 (5.6)</td>
<td>2.7 (6.9)</td>
<td>2.8</td>
</tr>
<tr>
<td>COPD-Related Total Medical Costs (Mean)</td>
<td>$9,042 (25,234)</td>
<td>$8,642 (20,558)</td>
<td>1.7</td>
</tr>
</tbody>
</table>

#### Figure 1. Matched Cohorts' ExhaleXA Comorbidities at Baseline (%)

- **COPD-Related Medical Costs**
  - COPD-related costs, included hospitalization costs, ER visit costs, OP visit costs, and other visit costs, evaluated per patient per month during on-treatment period.

#### Figure 2. Adherence at 12 Months Post-Index

- Mean PDC: UMEC/VI = 6.37, TIO = 6.44
- % of Patients with PDC > 0.80: UMEC/VI = 22.9%, TIO = 16.4%

#### Figure 3. Mean On-Treatment COPD-Related Medical Costs Per Patient Per Month

- Total COPD-Related Costs (Mean): UMEC/VI = $123 (2006), TIO = $125 (2007)
- Total COPD-Related Costs (Mean): UMEC/VI = $228 (95% CI: -$504, -$15), TIO = $236 (95% CI: -$520, -$26)
- % of Patients with PDC > 0.80: UMEC/VI = 22.9%, TIO = 16.4%

### Conclusion
- Patients initiated on UMEC/VI had significantly better medication adherence and incurred significantly lower total COPD-related medical costs compared with patients initiated on TIO.

### Acknowledgments
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### References

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