The Global Initiative for Chronic Obstructive Lung Disease (GOLD) clinical management guidelines recommend an escalation to triple therapy (inhaled corticosteroid [ICS]-long-acting β2 agonist [LABA]-long-acting muscarinic antagonist [LAMA]) for patients with COPD with persistent symptoms or exacerbations.\(^1\)

In 2017, once-daily single-inhaler triple therapy (SITT) with fluticasone furoate/umeclidinium/vilanterol (FF/UMEC/VIL) was approved by the US Food and Drug Administration for the long-term maintenance treatment of patients with COPD.\(^2\)

In 2020, twice-daily SITT with budenoside/propiolactone/formoterol fumarate was approved for the maintenance treatment of patients with COPD.\(^3\)

There is limited literature on treatment patterns in patients with COPD since the introduction of SITTs, particularly regarding medication switching around a COPD exacerbation.

Introduction

Methods

Objective

A retrospective descriptive study using medical and pharmacy claims data and enrollment information from the Optum® Clininformatics® Data Mart database from September 1, 2016 to September 30, 2020 (Figure 1).

Treatment patterns were evaluated during baseline and follow-up, with a focus on medication switching in the 90 days pre- and post-COPD exacerbation.

Results

Table 1. Baseline characteristics

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Overall (N=307,727)</th>
<th>Moderate COPD exacerbation (n=181,785)</th>
<th>Severe COPD exacerbation (n=125,942)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age, years, (SD)</td>
<td>72.8 (10.1)</td>
<td>71.3 (10.0)</td>
<td>74.9 (9.9)</td>
</tr>
<tr>
<td>Female, (n (%))</td>
<td>173,313 (56.3)</td>
<td>104,232 (57.3)</td>
<td>69,081 (54.9)</td>
</tr>
<tr>
<td>Quan-CCI, mean (SD)</td>
<td>3.1 (2.3)</td>
<td>2.3 (1.9)</td>
<td>4.1 (2.4)</td>
</tr>
<tr>
<td>All-cause total healthcare costs (USD) 2020, (mean)</td>
<td>49,406 (71,991)</td>
<td>26,776 (44,153)</td>
<td>82,070 (89,696)</td>
</tr>
<tr>
<td>COPD-related total healthcare costs (USD) 2020, (mean)</td>
<td>26,412 (49,589)</td>
<td>8,864 (20,603)</td>
<td>51,757 (65,638)</td>
</tr>
</tbody>
</table>

Figure 1. Study design

Eligibility start: Date of visit or discharge date for the first COPD exacerbation on or after Sept 1, 2016

Eligibility end: Date of visit or discharge date for the last COPD exacerbation on or after Sept 30, 2020

The earliest date between end of eligibility, end of data availability (Sept. 30, 2020), and death

Baseline period (12 months): Observation (pre-exacerbation) - Evaluation of baseline patient characteristics and treatment patterns

Follow-up period (12 months): Observation (post-exacerbation) - Evaluation of treatment patterns, medication switch, and treatment discontinuation

Core inclusion criteria

1. Patient had ≥1 COPD exacerbation on or after September 1, 2016

2. Diagnosis of COPD during the baseline period or on the index date

3. ≥12 months of continuous health insurance coverage with both medical and pharmacy coverage prior to the index date

4. ≥12 months of continuous health insurance coverage after the index date

5. ≥12 years of age at the index date

Core exclusion criteria

1. Patients with severe exacerbation within 12 months of each other who were excluded as a single exacerbation instead and classified according to the highest severity

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21. Patients with severe exacerbation within 12 months of each other who were excluded as a single exacerbation instead and classified according to the highest severity

Conclusions

• Many COPD exacerbations occur among patients who are not treated with controller medications.

• Although the proportion of patients receiving a controller medication increased following a COPD exacerbation, less than half of the patients in this study were using controller medications.

• Of the patients receiving controller medications prior to an exacerbation, only a small proportion escalated to triple therapy after an exacerbation.

• Healthcare providers should consider initiating controller therapy for patients with evidence of symptoms of exacerbation.

References


2. GlaxoSmithKline, Research Triangle Park, NC, USA; 2 Groupes d’analyse, L’île, Montréal, QC, Canada; 3 Analysis Group, Boston, MA, USA

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