**Impact of a pharmacist-initiated core measure review program on the care of patients with COPD**

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**Abstract**

**Background:** Chronic obstructive pulmonary disease (COPD) is a preventable and treatable lung disease affecting 16 million Americans. Pharmacists are well equipped with their knowledge of medicine to help manage the complex COPD therapies associated with both stable COPD and acute exacerbations of COPD (AECOPD). On January 1, 2021, Novant Health Presbyterian Medical Center initiated a COPD core measure review program to allow dedicated pharmacists to assess the use of guideline-directed medical therapy (GDMT) for all COPD patients on the pulmonary progressive unit.

**Objective:** To evaluate the impact of pharmacist-managed COPD core measure review on the optimal use of GDMT for maintenance therapy and exacerbation management.

**Methods:** This study was an IRB-approved, single-center, retrospective study evaluating the use of GDMT in patients with COPD who received a pharmacist-directed core measure review compared to those who did not. Patients were included if they were 18 years of age or older and diagnosed with COPD as identified by ICD-10 diagnosis codes. Patients were excluded if they were discharged to hospice care, expired within 30 days following discharge, tested positive for COVID-19 on or during admission, or had chronic use of systemic steroid therapy prior to admission. The primary endpoints included the percentage of patients optimally treated with GDMT for AECOPD, stable COPD during admission, and stable COPD upon discharge. Secondary endpoints included the percentage of patients on optimal systemic corticosteroids for AECOPD, on optimal antibiotic use for AECOPD, those using duplicate inhaled therapy for stable COPD, and all-cause 30-day readmission rate. A sample size of 197 patients was calculated to determine a 20% difference at 80% power with an alpha of 0.05. Primary and secondary endpoints were assessed for significance with chi-square. Descriptive statistics were used to assess baseline characteristics.

**Results:** A total of 236 patients were included in the study (118 in each group). Of these 236 patients, 84 patients in the core measure review group and 48 patients in the no core measure review group presented with an AECOPD. Patients without a definitive COPD group were not included in the final statistical analysis of optimal GDMT for stable COPD during admission and for stable COPD upon discharge. This resulted in the inclusion of 82 patients for the core measure review group and 51 patients for the no core measure review group. For patients presenting with AECOPD, 20 patients (23.8%) in the core measure review group and 8 patients (16.7%) in the no core measure review group were optimally treated (P=0.33). A total of 65 patients (79.3%) in the core measure review group and 39 patients (76.5%) in the no core measure review group were optimally treated for stable COPD during admission (P=0.7). The incidence of optimal GDMT upon discharge occurred in 68 patients (82.9%) in the core measure review group and 41 patients (80.4%) in the no core measure review group (P=0.71). However, power was not achieved to detect statistical significance in the primary endpoints. The all-cause 30-day readmission rate was significantly lower in patients with a core measure review when compared to those without a core measure review, 8.5% and 24.6%, respectively (P<0.01).

**Conclusion:** This study showed a higher incidence of patients optimally treated with GDMT for AECOPD in patients who received a COPD core measure review when compared to patients who did not; however, additional evaluation is needed to determine the statistical significance of the clinical intervention, as power was not met. Further studies are needed to assess the impact of the COPD core measure review program on optimal GDMT and opportunities for optimization.