Beyond Inhalers: Transforming COPD Care Through Pharmacist-Led Biologic Optimization

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Background

Chronic Obstructive Pulmonary Disease (COPD) exacerbations remain a major driver of healthcare utilization, contributing to frequent emergency department visits and hospitalizations despite advances in disease management.

The 2026 GOLD guidelines recommend two FDA-approved biologics for eligible COPD patients:

- Nucala (mepolizumab): 100 mg subcutaneously every 4 weeks
- Dupixent (dupilumab): 300 mg subcutaneously every 2 weeks

Clearway Health developed a pharmacist-led COPD optimization workflow that integrates clinical pharmacists, pharmacy liaisons and pulmonologists to improve biologic access and facilitate timely treatment initiation.

Objective

To evaluate the clinical outcomes and operational impact of a clinical pharmacist-led COPD optimization workflow that enhances collaboration among clinical pharmacists, pharmacy liaisons and pulmonologists to improve identification of patients eligible for biologic therapy, medication access and treatment initiation.

Methods

Study Design: Single-center, prospective observational study

Inclusion Criteria:

- 18 years of age or older
- Patients who had a COPD-related hospitalization within previous 12 months identified in the electronic medical record with ICD10 codes for COPD
- Being seen by a pulmonologist at Signature Healthcare
- Receiving maximized inhaled triple therapy (ICS/LABA/LAMA) or documented intolerance/contraindication to triple therapy
- Evidence of type 2 inflammation, defined as:
- Blood eosinophil count
  - Dupixent:≥300 cells/µL
  - Nucala: >150 cells/µL

Exclusion Criteria:

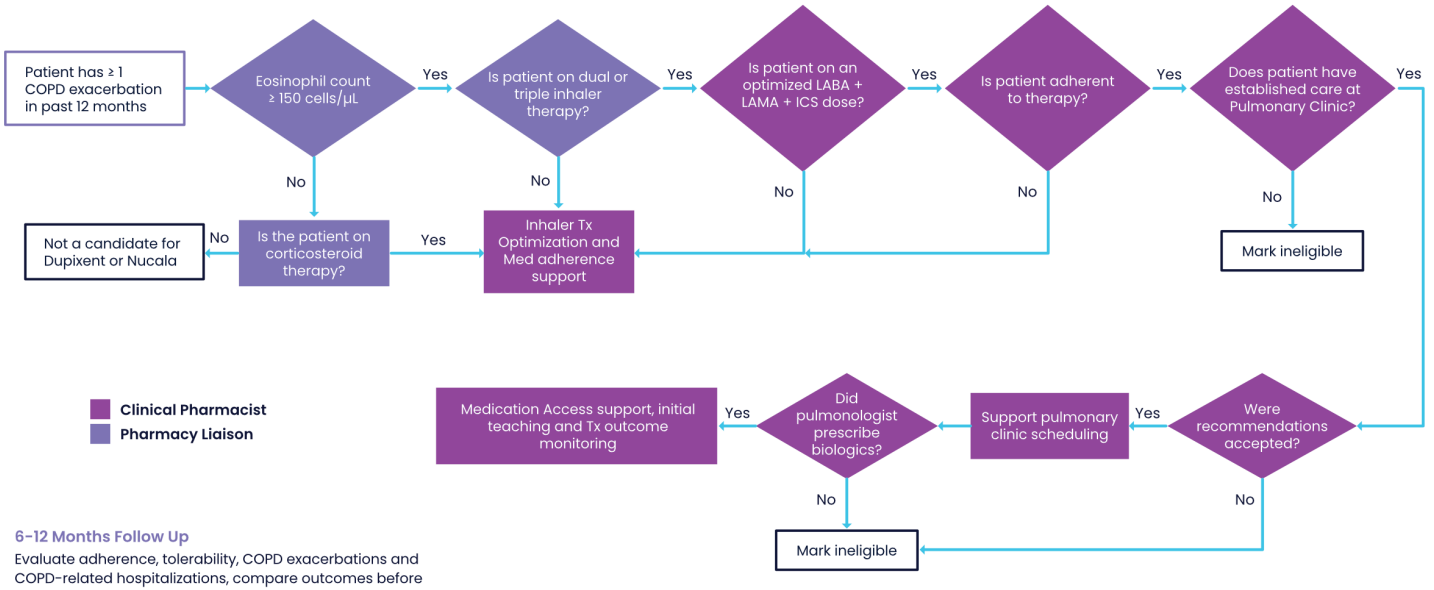
- Current use of a COPD biologic prior to study enrollment
- Patients who have transferred out of pulmonology care at Signature Healthcare or lost to follow up during the study time frame
- Life expectancy <12 months or receiving hospice/palliative care
- Incarcerated patients
- Pregnant patients

Study Period: 1 year

Statistical Analysis: Descriptive statistics

IRB Status: Research in progress; IRB determination not required at this time

COPD Therapy Optimization Workflow



6-12 Months Follow Up

Evaluate adherence, tolerability, COPD exacerbations and COPD-related hospitalizations, compare outcomes before and after biologic initiation.

Anticipated Results

- Evaluate whether a pharmacist-led COPD optimization workflow improves identification of patients eligible for biologic therapy
- Improve patient identification, monitoring and referral processes within Signature Healthcare to support workflow optimization and create standardization
- Provide preliminary evidence supporting the integration of clinical pharmacists into multidisciplinary COPD care to improve access to biologic therapy and the impact they have on ER/hospitalization rates related to COPD

Limitations

- Medication adherence and confirmation of appropriate inhaler techniques may be difficult to assess, potentially affecting identification of eligible candidates for biologic therapy
- Missed clinic appointments and loss to follow-up may delay biologic initiation and limit evaluation of clinical outcomes
- Poor adherence and follow up may affect evaluation of clinical outcomes
- Single-center study design may limit the generalizability of findings to other health systems
- Limited follow-up duration may not capture long-term clinical outcomes or treatment persistence

Future Directions

- Extend the study duration to evaluate the long-term clinical and operational impact of a pharmacist-led COPD optimization workflow
- Expand the workflow to include patients managed by primary care providers to improve identification of eligible candidates for biologic therapy
- Identify opportunities to standardize assessment of inhaler technique and medication adherence before biologic initiation

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