

Increasing Utilization of Pulmonary Function Testing for Patients Prescribed Albuterol

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Background

- Asthma and chronic obstructive pulmonary disease (COPD) affect more than 40 million Americans, cost more than \$100 billion annually, and together constitute the fourth-leading cause of death in the United States.¹
- Clinical diagnosis alone significantly underperforms compared to spirometry-confirmed diagnosis for both asthma and COPD.¹
- Use of spirometry is associated with increased medication prescriptions for COPD,² suggesting that spirometry increases appropriate treatment rather than confirming diagnosis.²

COPD in the US in 2021



Gap Analysis

Patient Factors

- Limited understanding
- Poor follow-up/missed PFT appointments
- Transportation barriers
- Physical/cognitive limitations affecting ability to perform spirometry
- Preference for symptom-based treatment over testing

Teamwork Factors

- Limited communication between primary care and other providers (Emergency Department, Pulmonology)
- Lack of shared team expectations around diagnostic confirmation

Knowledge Factors

- Provider unfamiliarity w/ guidelines
- Under recognition of alternative diagnoses
- Lack of awareness of outdated or absent prior PFTs in the chart

- Limited PFT lab availability or scheduling delays – found only limited on Mondays and Wednesdays when Pulmonary has clinic
- Inefficient referral pathways in the VA system
- High clinic volume and competing clinical priorities
- Staffing constraints affecting test scheduling and follow-up

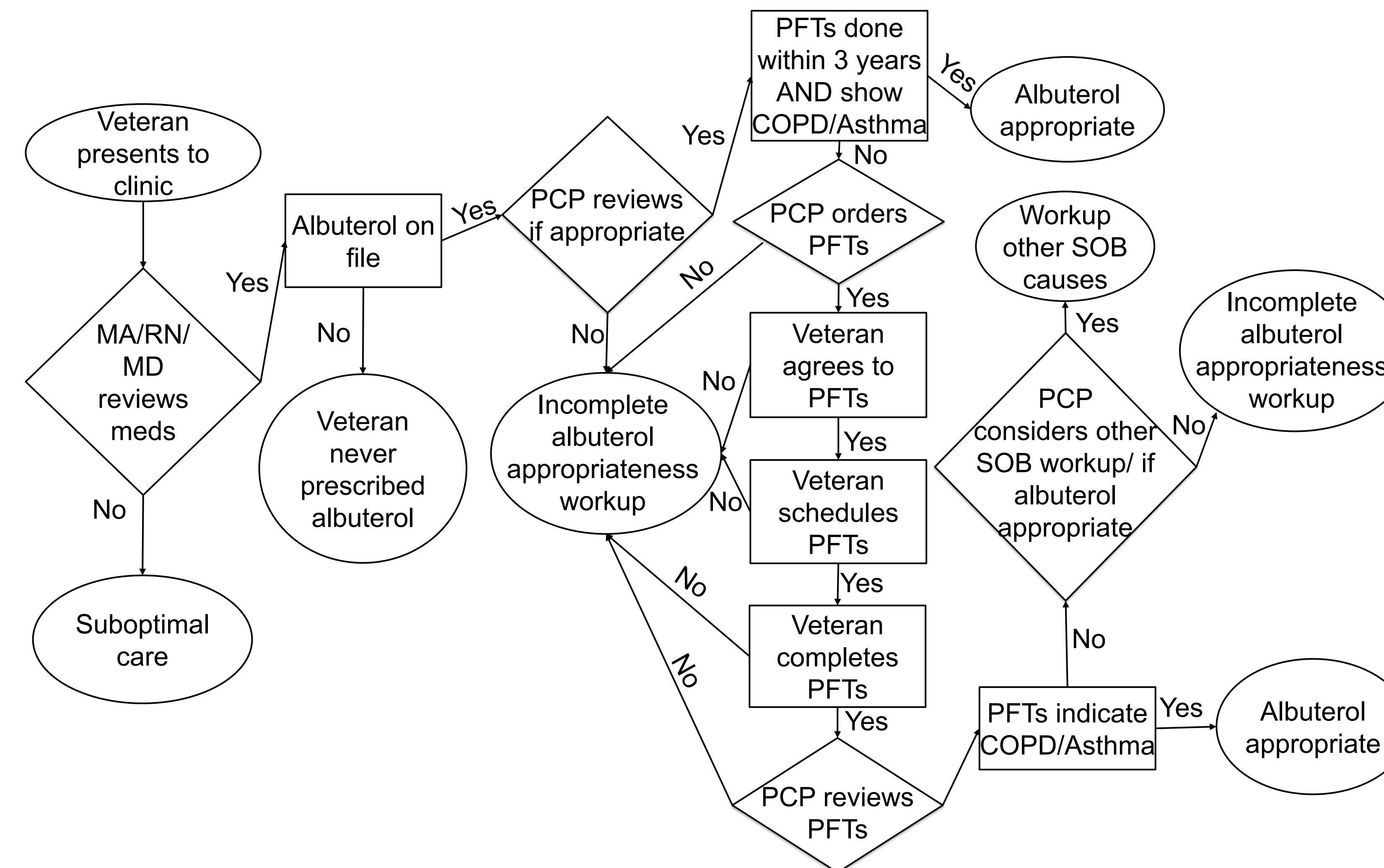
- No EHR prompt when prescribing or re-prescribing albuterol without PFTs
- Fragmented documentation of prior PFT results
- Complex or non-intuitive PFT ordering process
- Lack of standardized workflow linking albuterol prescriptions to spirometry

Equipment / Materials / Process Factors

Clinic Factors

Veteran with albuterol prescription does not get PFTs

Process Map



Aim

Improve diagnostic confirmation of obstructive airway disease among VA Internal Medicine Resident Primary Care clinic patients who are prescribed albuterol but do not have a pulmonary function test within the last 3 years by increasing the prevalence of up-to-date pulmonary function testing by 15% from April 2026 and April 2027.*

Measures:

Initial Data Pull:

- Requested Veterans at VA Primary Care Clinics who had albuterol prescription but no PFTs in last 2 years.

Issues:

- Out-of-Scope: veterans not at Resident Clinics or deceased.
- Incorrect Data: veterans had PFT testing within last 2 years; some no longer had active albuterol prescription.

Data Pull Revisited (*Reflected in Aim Statement):

- Alive veterans seen by PACT White Team (resident clinic) within the last 14 months
- Outpatient VA prescription at Iowa City VA Pharmacy with at least 1 refill, issued 2021-2025.
- No active lung cancer diagnosis as of 1/10/2026.
- No active hospice flag as of 1/10/2026.

Lessons Learned

- Variables and parameters need to be carefully defined when requesting data.
- Data pulls are imperfect, and it is important to anticipate need to refine data request parameters.
- PFT appointment availability at the Iowa City VA open – may be less of a barrier than hypothesized.

Future Directions

- Repeat data pull with improved parameter design.
- Manually review 100 charts of Veterans at Resident Clinics with albuterol prescriptions without PFTs using a random number generator.
- Identify residents of 100 identified veterans and notify providers of those patients who may benefit from PFT testing.
- Review 100 identified charts and repeat data pull to see if there is a decrease in veterans with albuterol prescriptions without PFTs and an increase in PFT testing among 100 pre-identified veterans

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