



Does Age Independently Predict Risk of Overprescribing in COPD?

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The investigators retained full independence in the conduct of this research.



What We Found

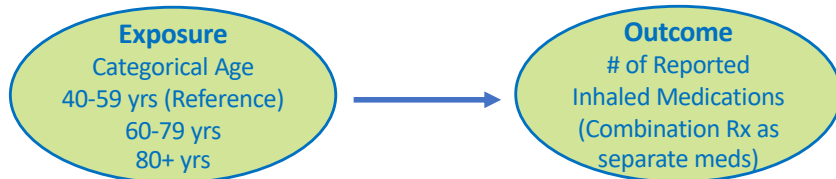
- Older adults are prescribed more COPD medications compared to younger adults with the same severity of symptoms.
- Providers may assume older adults are sicker and prescribe more drugs.
- Obtaining PFTs to ensure accurate diagnoses and diligently assessing medication response may help avoid polypharmacy in older adults.

Background

- Chronic obstructive pulmonary disease (COPD) guidelines recommend treatment escalation by level of dyspnea.
- Dyspnea is often multifactorial in older adults, increasing their risk for polypharmacy.
- Objective: Analyze the relationship between age and the # of COPD medications.
- Hypothesis: Older adults with COPD would be on significantly more COPD medications even after controlling for disease severity.

Methods

- Secondary analysis of **COPD Outcomes-based Network for Clinical Effectiveness & Research Translation (CONCERT)**
- Cross-sectional data of participants diagnosed with COPD
 - All underwent interview and spirometry
- Model: **Negative binomial regression**



Three Different Models:

- Included all COPD diagnosed participants (n=727) and all inhaled medications
 - Included all COPD diagnosed participants (n=727) but excluded albuterol
 - Only COPD misdiagnosed participants (n=315) included & excluded albuterol
- Excluded those with asthma.

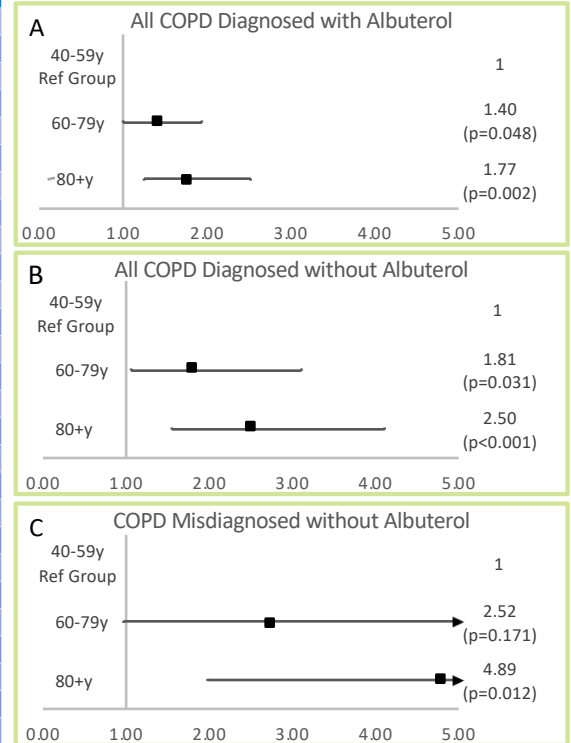
All models adjusted for COPD severity, dyspnea related comorbidity, gender, race, education, and income

Results

Table 1: Characteristics

Characteristics	%	
Age	40-59	20.6
	60-79	64.2
	80+	15.1
Gender	Male	62.6
	Female	37.4
Race	White	74.3
	Non-White	25.7
Education	<HS	38.2
	HS or more	61.8
Income	<50,000	65.9
	50,000+	34.1
Exacerbations	none	94.1
	one or more	5.9
Dyspnea	Mild	64.0
	Mod-Severe	36.0
Gold Stages	A	56.9
	B	20.2
	C	10.7
	D	12.1
Number of Inhaled medications	0	47.3
	1	21.5
	2	12.9
	3	9.9
	4	7.8
Albuterol	No/Blank	63.4
	Yes	36.6

Figure 1: Risk of Overprescribing Inhalers in Older Adults with COPD Compared to Younger Adults



Conclusion

- Older age associated with more inhaled medications even after controlling for disease severity.
- Compared to those aged 40-59 years, older adults aged 60-79 years are on 1.4 times as many medications and those aged 80+ years are on 1.8 times as many COPD medications.
- Excluding albuterol (a multipurpose drug) exacerbates this relationship.
- Older adults misdiagnosed with COPD are at much higher risk for overprescribing.