

Making the case for COPD case finding linked to Lung Cancer Screening Programmes: Who do we need to target?

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Introduction

Many people live with undiagnosed, symptomatic Chronic Obstructive Pulmonary Disease (COPD) for many years prior to diagnosis. The FRONTIER Programme, a targeted COPD case finding initiative, invites Lung Cancer Screening Programme participants that reported symptoms +/- or had an incidental finding of emphysema on low dose computed tomography (LDCT), to attend a one-stop nurse led COPD diagnostic clinic.

Aims

Methods

To investigate the relationship between incidental radiological findings of emphysema on LDCT, COPD diagnosis rate and COPD disease severity at the point of diagnosis amongst FRONTIER Programme participants reviewed between October 2023 and October 2024.

A retrospective analysis of FRONTIER Programme participants attending the one stop clinic over a 12-month period was conducted. We report participant characteristics and diagnosis rate according to reported severity of radiological emphysema on LDCT and COPD severity according to degree of airflow limitation as per Global Initiative for Chronic Obstructive Lung Disease (GOLD) criteria.

Results

819 patients with mean (SD) age 68.2 (7.4) years, 53.7% males (n= 440), were reviewed with LDCT previously performed in 818 participants. 37% (n=304) had no emphysema, 42% (n=340) mild emphysema, 20% (n=165) moderate emphysema and 1% (n=9) severe emphysema reported as an incidental finding on LDCT with an overall COPD diagnosis rate of 46.8% (n=383).

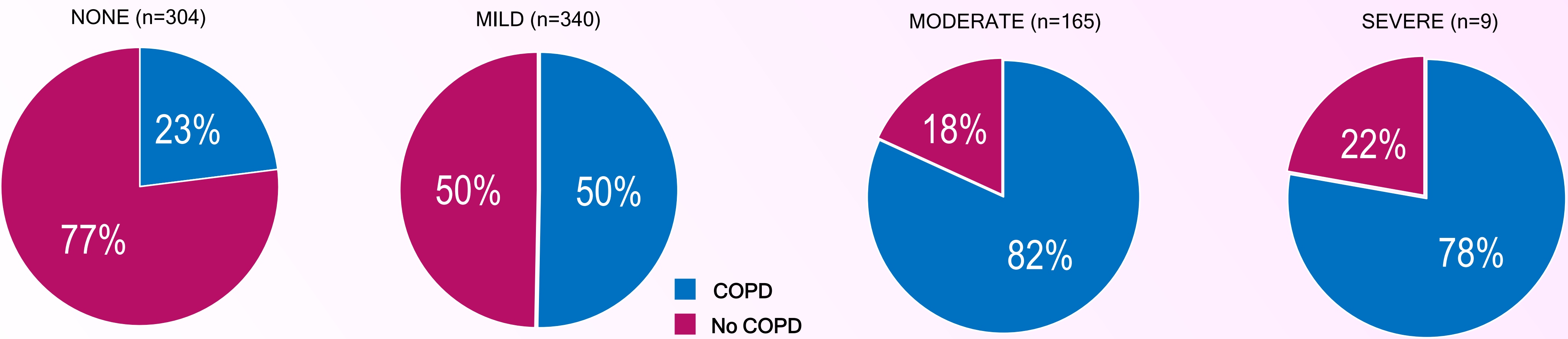


Figure1. Pie charts illustrating the proportion of FRONTIER Programme participants newly diagnosed with COPD according to severity of emphysema on LDCT.

	COPD Severity based on GOLD Criteria				
Emphysema Severity on LDCT	MILD	MODERATE	SEVERE	VERY SEVERE	All COPD Severities
NIL	28 (40)	40 (57)	2 (3)	0 (0)	70 (100)
MILD	108 (63)	58 (34)	5 (3)	0 (0)	171 (100)
MODERATE	72 (53)	52 (39)	10 (7)	1 (<1)	135 (100)
SEVERE	2 (29)	5 (71)	0 (0)	0 (0)	7 (100)
All	210 (55)	155 (40)	17 (4)	1 (<1)	383 (100)

Table 1. COPD severity based on GOLD criteria stratified by emphysema severity on LDCT. Expressed as number of patients (%), with percentages based on the number of patients per emphysema severity.

Conclusion

Our data supports the value of proactive COPD case finding amongst symptomatic lung cancer screening participants. Whilst the incidental finding of emphysema on LDCT may predict an increased risk of undiagnosed COPD, the relationship between emphysema and COPD severity is less clear. In light of the significant burden of COPD among lung cancer screening programme participants that report symptoms without emphysema on LDCT, our findings support the inclusion of such patients in future COPD case finding programmes aligned to Lung Cancer Screening.

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