

# Poor adherence in exacerbating COPD patients: magnitude and related factors at baseline in the MAGNIFY pragmatic trial

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## Introduction/Rationale

- Maintenance inhaled therapies can reduce exacerbation risk amongst COPD patients, but adherence is often poor.
- Little data exists about inhaler adherence amongst exacerbating COPD patients, and the potential benefit of adherence support is unknown.
- Technological devices may offer a means of improving patients' adherence to maintenance inhaled therapies and is currently being investigated in the pragmatic cluster RCT MAGNIFY.

## Aim/Objectives

- Explore inhaler adherence amongst exacerbating COPD patients.
- Explore characteristics of exacerbating COPD patients with good and poor inhaler adherence

## Methods

- Descriptive analysis of data from 5,024 patients obtained from the Optimum Patient Care Research Database (<https://opcrd.co.uk/>).
- Eligibility criteria: COPD diagnosis,  $\geq 2$  exacerbations in last 2 years, prescribed inhaled therapy, and registered at one of 54 practices participating in MAGNIFY pragmatic cluster RCT.
- Comparison of demographic and clinical characteristics stratified by less/more adherent patients (<50% vs  $\geq 50\%$  of prescription refills over the last year).

## Results

- 46.7% (2,344/5,024) exacerbating COPD patients were <50% adherent to their prescribed medication (Figure 1).
- Those with poor adherence had more health care contacts and worse inhaler technique.
- Less adherent patients had lower total exacerbations over the last 2 years
- Less adherent patients had higher BMI and lower prevalence of active asthma.
- The proportion of patients on each therapy type was different between groups.

Figure 1

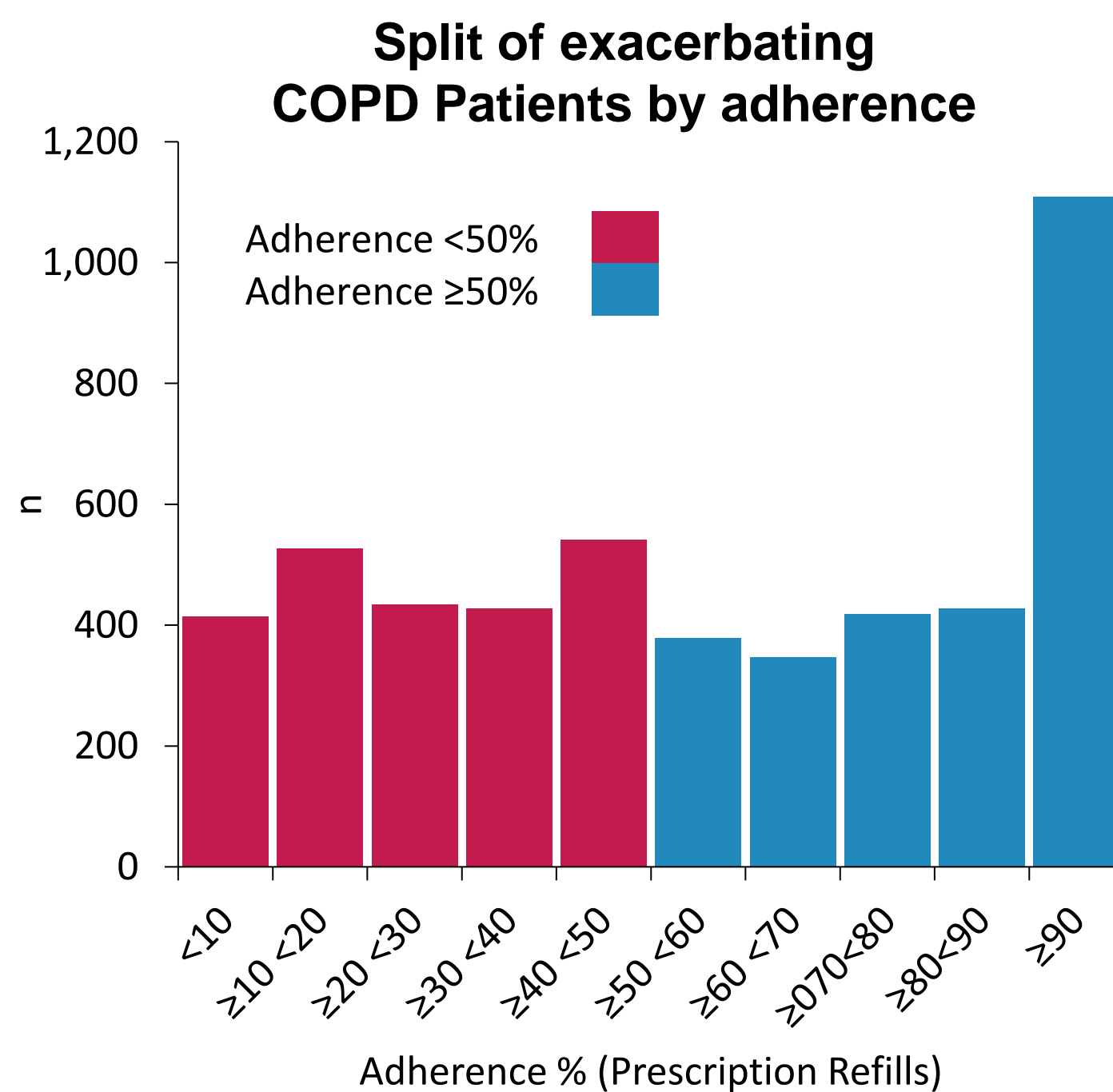


Table 1

	Adherence <50%	Adherence $\geq 50\%$	P
No. patients; n (%)	2344 (46.7)	2680 (55.3)	
<b>Demographics</b>			
Age; mean (SD)	71.2 (10.6)	71.8 (10.7)	0.06
BMI; mean (SD)	28.2 (6.9)	27.7 (6.8)	0.007*
Sex; n (%) Male	1137 (48.5)	1295 (48.3)	0.89
Ever-Smoker; n (%)	2214 (94.5)	2512 (93.7)	0.23
Active Asthma; n (%)	777 (33.1)	994 (37.1)	0.003*
<b>Clinic History</b>			
No. exacerbations in last 2 years; mean (SD)	4.4 (3.2)	4.7 (3.6)	0.004*
Health care contacts in last 1 year pre-covid; mean (SD)	19.3 (13.3)	18.5 (12.3)	0.03*
Days since last inhaler review; mean (SD)	712 (746.8)	723 (664.3)	0.6
MRC score; mean (SD)	2.9 (1.1)	2.9 (1.1)	0.83
Influenza vaccination in last 1 year; n (%)	682 (29.1)	746 (27.8)	0.31
<b>Inhaler Technique</b>			
Good Inhaler technique; n (%)	1198 (81.8)	1584 (88.3)	
Moderate Inhaler technique; n (%)	187 (12.8)	152 (8.5)	<0.0001*
Poor Inhaler technique; n (%)	79 (5.4)	57 (3.2)	
<b>Therapy Type</b>			
ICS; n (%)	19 (1)	38 (1)	
LABA; n (%)	21 (1)	18 (1)	
LAMA; n (%)	177 (8)	125 (5)	
LABA   ICS; n (%)	255 (11)	401 (15)	<0.0001*
LAMA   ICS; n (%)	24 (1)	7 (0)	
LABA   LAMA; n (%)	325 (14)	361 (14)	
LABA   LAMA   ICS; n (%)	1523 (65)	1730 (65)	

## Conclusions

- Nearly half of our exacerbating COPD cohort were <50% adherent to their inhaler medication.
- Poorly adherent patients had frequent healthcare contacts giving opportunities for interventions to improve adherence.
- Poor adherence was associated with poorer inhalation technique
- MAGNIFY pragmatic RCT will assess the impact of an adherence support device on reducing exacerbations in exacerbating patients in UK primary care

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Additional COI disclosures



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