

# Home versus outpatient pulmonary rehabilitation in COPD: a propensity-matched real-life study

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## Background

Conventional outpatient pulmonary rehabilitation (PR) is highly effective for improving symptoms, HRQoL and exercise tolerance in people with COPD. However, due to a multitude of accessibility barriers, less than 15% of these individuals have access to it.

Home-based PR is feasible, effective and recommended as an alternative to hospital-based PR. But, this evidence is based on randomised and controlled trials, with remote supervision (phone or video) as the main design for home sessions.

**Objective:** To evaluate the effectiveness of a face-to-face home vs centre-based PR programme in COPD in i) unselected people; ii) propensity-matched people.

## Methods

Observational study conducted on prospectively collected and non-selected data from 2010 to 2020

 1 weekly face-to-face 90-minute home session during **8 weeks** by a single care manager → **8 supervised individual home sessions**

VS

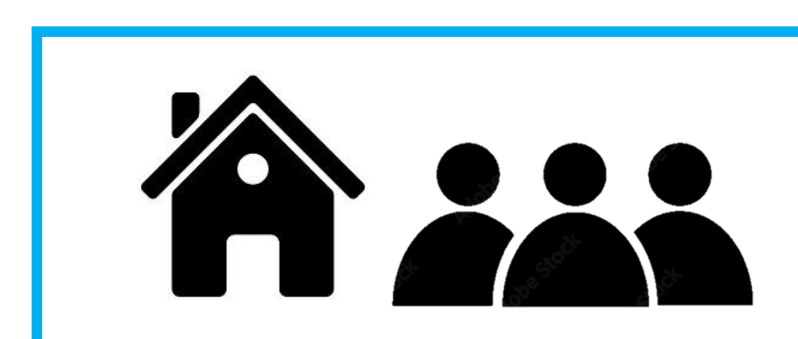
 4 weekly supervised 180-minute hospital session during **6 weeks** by a multidisciplinary team → **24 supervised sessions in group of 8**

### Assessments :

- HRQoL (Visual Simplified Respiratory Questionnaire, VSRQ)
- Anxiety and depressive symptoms (HAD)
- Exercise tolerance (6-minute stepper test, 6MST)

AGE  
BMI  
VSRQ  
6MST  
FEV<sub>1</sub>%  
GENDER  
ANXIETY  
DEPRESSION

1:1 propensity score matching



## Main Findings

1/ Both home-based (8 supervised sessions) and center-based (24 supervised sessions) PR were effective for improving HRQoL, anxiety and depressive symptoms and exercise tolerance in unselected people with COPD.

2/ Exercise tolerance improvement was higher in center-based group than home-based group, whereas depressive symptoms improvement was higher in the home group.

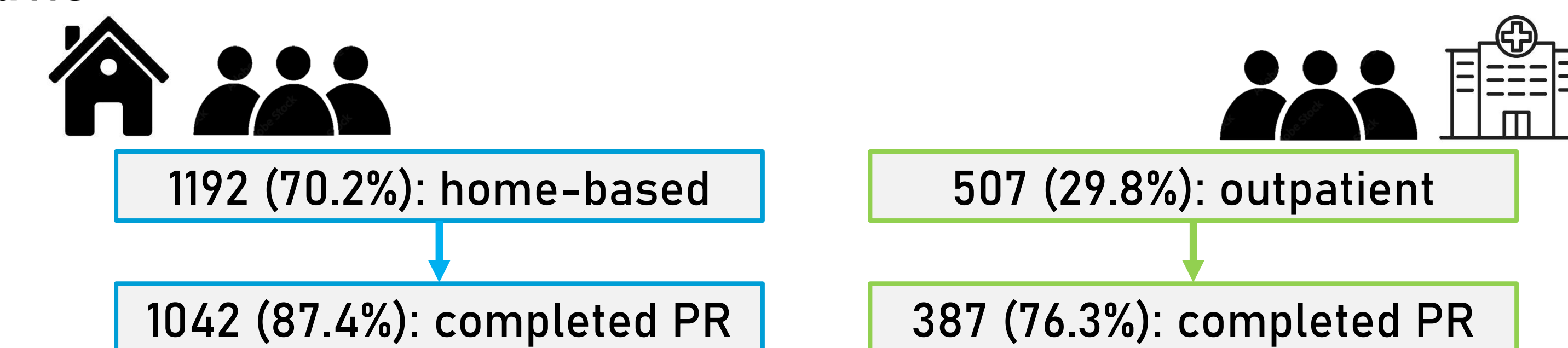
2/ Participants who enrolled in the home-based PR were younger, had a smaller BMI and FEV<sub>1</sub>, higher symptoms of depression and worse HRQoL and exercise tolerance than those who enrolled in center-based PR.

3/ The matched analysis confirmed the superiority, at short term, of the centre-based PR in improving exercise tolerance, while it showed the superiority of the home-based PR in improving depressive symptoms.

**"one size does not fit all"**



## Results



Baseline characteristics	Home	Outpatient	p-value
<b>Unselected participants</b>	<b>n=1192</b>	<b>n=507</b>	
Age, years	65.1 ± 10.2	70.5 ± 10.4	<0.001
Sex, male n (%)	786 (65.9)	350 (69.0)	0.220
BMI, kg/m <sup>2</sup>	26.6 ± 7.5	27.8 ± 7.3	<0.001
FEV <sub>1</sub> , % of predicted	38.9 ± 18.4	51.7 ± 19.6	<0.001
VSRQ, score (0-80)	31.2 ± 15.8	38.7 ± 14.6	<0.001
Anxiety symptoms, score (0-21)	9.5 ± 4.7	9.0 ± 4.3	0.067
Depressive symptoms, score (0-21)	7.9 ± 4.1	6.4 ± 3.7	<0.001
6MST, strokes	300 ± 154	463 ± 155	<0.001
<b>1:1 matched participants</b>	<b>n=144</b>	<b>n=144</b>	
Age, years	66.7 ± 11.2	67.0 ± 10.7	0.808
Sex, male n (%)	100 (69.4)	98 (68.1)	0.800
BMI, kg/m <sup>2</sup>	27.5 ± 6.6	27.4 ± 7.8	0.856
FEV <sub>1</sub> , % of predicted	47.6 ± 19.1	45.9 ± 19.1	0.475
VSRQ, score (0-80)	37.3 ± 16.3	36.3 ± 15.2	0.598
Anxiety symptoms, score (0-21)	9.3 ± 4.7	9.4 ± 4.5	0.898
Depressive symptoms, score (0-21)	7.2 ± 3.9	7.1 ± 4.0	0.787
6MST, strokes	392 ± 158	389 ± 138	0.877

