

Gait Speed and Readmission following Hospitalisation for Acute Exacerbations of COPD

ONLINE DATA SUPPLEMENT

Authors:

Samantha S.C. Kon ¹	email: s.kon@rbht.nhs.uk
Sarah E. Jones ¹	email: s.jones5@rbht.nhs.uk
Susie J. Schofield ²	email: s.schofield@imperial.ac.uk
Mandy J. Dickson RGN ³	email: mandy.dickson@thh.nhs.uk
Jane L. Canavan ¹	email: j.canavan@rbht.nhs.uk
Claire M. Nolan ¹	email: c.nolan@rbht.nhs.uk
Winston Banya ¹	email: w.banya@rbht.nhs.uk
Brigitte M. Haselden ³	email: mimi.haselden@thh.nhs.uk
Michael I. Polkey ¹	email: m.polkey@rbht.nhs.uk
Paul Cullinan PhD ²	email: p.cullinan@imperial.ac.uk
William D-C. Man ¹	email: research@williamman.co.uk

Affiliations:

1. NIHR Respiratory Biomedical Research Unit, Royal Brompton & Harefield NHS Foundation Trust and Imperial College, Harefield Hospital, Hill End Road, Middlesex UB9 6JH, UK
2. Department of Occupational and Environmental Medicine, Imperial College, London, Emmanuel Kaye Building, 1b Manresa Road, London SW3 6LR, UK
3. The Hillingdon Hospital NHS Foundation Trust, Pield Heath Rd, Uxbridge, Middlesex UB8 3NN, UK

Corresponding Author:

Dr Samantha Kon, Clinical Research Fellow, Department of Respiratory Medicine, Harefield Hospital, Hill End Road, Middlesex, UB9 6JH, United Kingdom, Tel/Fax: +44 (0)1895 828 851, Email: s.kon@rbht.nhs.uk

Table E1 Other baseline characteristics of the total sample and stratified by quartiles of gait speed. Data expressed as mean (standard deviation) unless otherwise stated.

Baseline Characteristic	Total population	Quartiles of gait speed				p-value
		Q1 <0.40ms ⁻¹ (n=54)	Q2 0.40- 0.59ms ⁻¹ (n=53)	Q3 0.60- 0.79ms ⁻¹ (n=54)	Q4 ≥0.80 ms ⁻¹ (n=52)	
Social Deprivation Index	21 (10)	22 (11)	22 (12)	21 (9)	19 (9)	0.292
Cardiovascular co-morbidity (ischemic heart disease or congestive cardiac failure)	46 (21.6)	14 (27.5)	12 (22.2)	14 (25.9)	6 (11.1)	0.161
Long acting muscarinic antagonist (LAMA), n (%)	166 (77.9)	44 (86.3)	39 (72.2)	45 (83.3)	38 (70.4)	0.122
Long acting beta 2 agonist (LABA), n (%)	6 (2.8)	2 (3.9)	0 (0)	3 (5.6)	1 (1.9)	0.327
Combination LABA / inhaled corticosteroid, n (%)	120 (56.3)	29 (56.9)	32 (59.3)	30 (55.6)	29 (53.7)	0.949
Requiring non-invasive ventilation, n (%)	22 (10.3)	7 (13.7)	7 (13.0)	6 (11.1)	2 (3.7)	0.304
Requiring intubation and ventilation, n (%)	2 (0.9)	2 (0.9)	0 (0)	0 (0)	0 (0)	0.093
Completed post-hospitalization early pulmonary rehabilitation, n (%)	15 (7.0)	4 (7.8)	1 (1.9)	8 (14.8)	2 (3.7)	0.043

Table E2 Univariable and multivariable logistic regression predicting all cause readmission at 90 days in whole cohort. Data expressed as odds ratio (95% confidence interval).

n = 213	Univariable analysis		Multivariable analysis	
	OR (95% CI)	p value	OR (95% CI)	p value
Gait speed (quartiles)				
1 (median 0.32ms ⁻¹)	7.12 (2.61 to 19.44)	<0.001	-	
2 (median 0.50 ms ⁻¹)	3.32 (1.18 to 9.32)			
3 (median 0.69 ms ⁻¹)	1.96 (0.67 to 5.76)			
4 (median 0.91 ms ⁻¹)	1			
Gait speed continuous per 0.1 m/s decline	1.30 (1.14 to 1.48)	<0.001	1.24 (1.05 to 1.46)	0.013
Charlson Index	1.63 (1.27 to 2.09)	<0.001	1.55 (1.16 to 2.07)	0.003
DECAF ¹	1.60 (1.22 to 2.09)	0.001	-	
KATZ index	0.54 (0.37 to 0.78)	0.001	-	
One or more admissions (last year)	2.70 (1.46 to 5.00)	0.002	4.44 (2.04 to 9.68)	<0.001
Age	1.05 (1.02 to 1.09)	0.002	1.05 (1.01 to 1.09)	0.023
Exacerbations	1.21 (1.07 to 1.37)	0.002	1.36 (1.15 to 1.59)	<0.001
Total comorbidities	1.28 (1.09 to 1.51)	0.003	-	
Length of stay	1.11 (1.03 to 1.19)	0.005	1.06 (0.97 to 1.15)	0.198
Daily Energy Expenditure	1.00 (0.99 to 1.00)	0.057	-	
MRC ²				
1-3	1	0.062	-	
4	1.09 (0.42 to 2.84)			
5	2.15 (1.04 to 4.43)			
FEV ₁ % pred ³	0.98 (0.97 to 1.00)	0.066	0.98 (0.96 to 1.00)	0.041
BMI ⁴	0.97 (0.92 to 1.12)	0.227	-	
Lives alone	1.43 (0.78 to 2.62)	0.241	-	
SGRQ ⁵ Total	1.01 (0.99 to 1.03)	0.309	-	
Male	0.81 (0.44 to 1.48)	0.490	-	

¹ DECAF score = extended MRC Dyspnoea Score, Eosinopenia, Consolidation, Acidaemia, atrial Fibrillation

² Medical Research Council Dyspnoea Score

³ Forced Expiratory Volume in one second

⁴ Body mass index

⁵ St George's Respiratory Disease Questionnaire

FIGURE E1 Readmission rates according to quartile of gait speed (n=213). Q1= $<0.40\text{ms}^{-1}$; Q2= $0.40\text{-}0.59\text{ms}^{-1}$; Q3= $0.60\text{-}0.79\text{ ms}^{-1}$; Q4= $\geq 0.80\text{ ms}^{-1}$. Grey line indicates cumulative hospital bed days in 90-day period after hospital discharge according to gait speed quartiles.

