

The Impact of Continuity of Care on Healthcare Utilization and Direct Costs in Elderly COPD Patients

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INTRODUCTION

- Chronic Obstructive Pulmonary Disease (COPD) is a major global public health issue. With population growth and aging trends, COPD cases are projected to increase by 23% by 2050, affecting nearly 600 million people.
- COPD also poses a significant challenge to the elderly population and is one of the leading causes of death and disability among this population. COPD affects patients' quality of life and imposes a substantial economic burden on healthcare systems.

AIM

- According to the study, higher Continuity of Care (COC) leads to reduced hospitalization rates, emergency visits, and healthcare costs for COPD patients.
- In Taiwan, with the implementation of the National Health Insurance (NHI) system, patients have the freedom to choose their doctors. However, few studies have explored the impact of COC across different specialties on patient outcomes.
- This study aims to analyze whether continuity of care in different specialties is associated with better medical outcomes and lower costs.

METHOD

- We identified COPD patients aged 65 and older based on healthcare utilization claims data from a medical center in Taiwan and conducted a 5-year follow-up observation to monitor their healthcare outcomes over time.
- Regression analysis and a negative binomial regression model were utilized to quantify the association between specialty-specific COC and the incidence of hospital or emergency department visits, as well as medical outcomes and total medication costs.

RESULTS

Table1. Characteristics of the Study Population.

Variables	Subjects, n (%)	COCI Score, mean (SD)	COCI Groups by Score, n (%)			P - Value
			Low (<0.3)	Medium (0.3 - 1)	High (1)	
All Subjects	404 (100)	0.37 (0.22)	153 (38)	164 (40)	87 (22)	0.09
Sex						
Female	141 (34.9)	0.42 (0.25)	41 (29.08)	63 (44.68)	37 (26.24)	
Male	263 (65.1)	0.35 (0.2)	112 (40.69)	101 (38.4)	55 (20.91)	0.533
Age Group						
65 - 75 years	224 (55.44)	0.38 (0.22)	80 (35.72)	97 (43.3)	47 (20.98)	
76 - 85 years	138 (34.16)	0.35 (0.21)	59 (42.75)	49 (35.51)	30 (21.74)	
> 85 years	42 (10.4)	0.4 (0.24)	14 (33.33)	18 (42.86)	10 (23.81)	0.136
CCI Score						
0	242 (59.9)	0.36 (0.23)	102 (42.15)	87 (35.95)	53 (21.9)	
1-2	143 (35.4)	0.39 (0.2)	46 (32.17)	67 (46.85)	30 (20.98)	
≥ 3	19 (4.7)	0.43 (0.19)	5 (26.32)	10 (52.63)	4 (21.05)	

Table2. Parameter estimates and odds ratios [95% confidence intervals] for the three outcomes; any hospitalization, any emergency department visit and costs during the follow-up period

Variables	Hospitalization Odds ratio [95% CI]	P - Value	Emergency Department Visit Odds ratio [95% CI]	P - Value	Costs Relative Increase [95% CI]	P - Value
Sex						
Female (ref.)						
Male	1.84 [1.15 – 2.53]	< 0.01	1.52 [0.92 – 2.12]	< 0.01	1.31 [1.03 – 1.59]	< 0.01
Age Group						
65 - 75 years (ref.)						
76 - 85 years	1.36 [1.21 – 1.51]	< 0.01	0.89 [0.82 – 0.97]	< 0.01	1.07 [1.03 – 1.11]	< 0.01
> 85 years	1.86 [1.65 – 2.07]	< 0.01	1.28 [1.12 – 1.44]	< 0.01	1.11 [1.05 – 1.17]	< 0.01
CCI Score						
0 (ref.)						
1-2	1.58 [1.23 – 1.93]	< 0.01	1.37 [1.2 – 1.54]	< 0.01	1.87 [1.79 – 1.95]	< 0.01
≥ 3	1.96 [1.75 – 2.17]	< 0.01	1.54 [1.38 – 1.7]	< 0.01	2.23 [2.11 – 2.35]	< 0.01
COCI Group						
High (1) (ref.)						
Medium (0.3 - 1)	1.57 [1.41 – 1.73]	< 0.01	1.65 [1.52 – 1.75]	< 0.01	1.32 [1.28 – 1.36]	< 0.01
Low (<0.3)	2.17 [1.93 – 2.41]	< 0.01	2.06 [1.92 – 2.2]	< 0.01	1.59 [1.52 – 1.66]	< 0.01

CONCLUSIONS

- This study highlights the importance of improving specialty continuity in the care of elderly COPD patients. Enhancing specialty continuity can reduce direct medical costs and decrease unnecessary emergency and hospital admissions, thereby improving patient safety and care quality.
- These findings support the importance of implementing measures to improve specialty continuity in COPD management and chronic disease care, offering valuable insights for medical practice to promote the establishment of a culture of quality and safety.