

REAL-WORLD STUDY ON LENGTH OF HOSPITAL STAY AND ECONOMIC BURDEN OF AECOPD INPATIENTS IN A TRADITIONAL CHINESE MEDICINE HOSPITAL IN CHINA

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H. ZOU¹, J. QIU², W. OUYANG², Y. FENG¹, H. SHI³, S. CHEN⁴, L. MA¹, Y. LAI¹

¹Guangzhou University of Chinese Medicine, Guangzhou, China

²Guangdong Second Provincial Traditional Chinese Medicine Hospital, Guangzhou, China

³Peking University, Beijing, China

⁴AstraZeneca Pharmaceutical Technology (Beijing) Co.,Ltd., Beijing, China

INTRODUCTION

Acute exacerbation of chronic obstructive pulmonary disease (AECOPD) is a major cause of hospitalization and healthcare burden among elderly patients. In China, Traditional Chinese Medicine (TCM) hospitals integrate Chinese and Western therapies for AECOPD management, yet evidence on their real-world impact on hospital stay and costs remains limited. Understanding treatment patterns and cost drivers can inform optimized clinical pathways and insurance reform.

OBJECTIVE

- This study aims to:
- Analyze demographic, clinical, and treatment characteristics of first-admission AECOPD inpatients in a TCM hospital.
 - Identify key determinants of hospital length of stay (LOS) using multivariate regression analysis.
 - Characterize the cost composition and evaluate the relative contributions of Western and Chinese medicines.
 - Provide evidence-based insights to guide integrated management pathways and differentiated payment models for AECOPD.

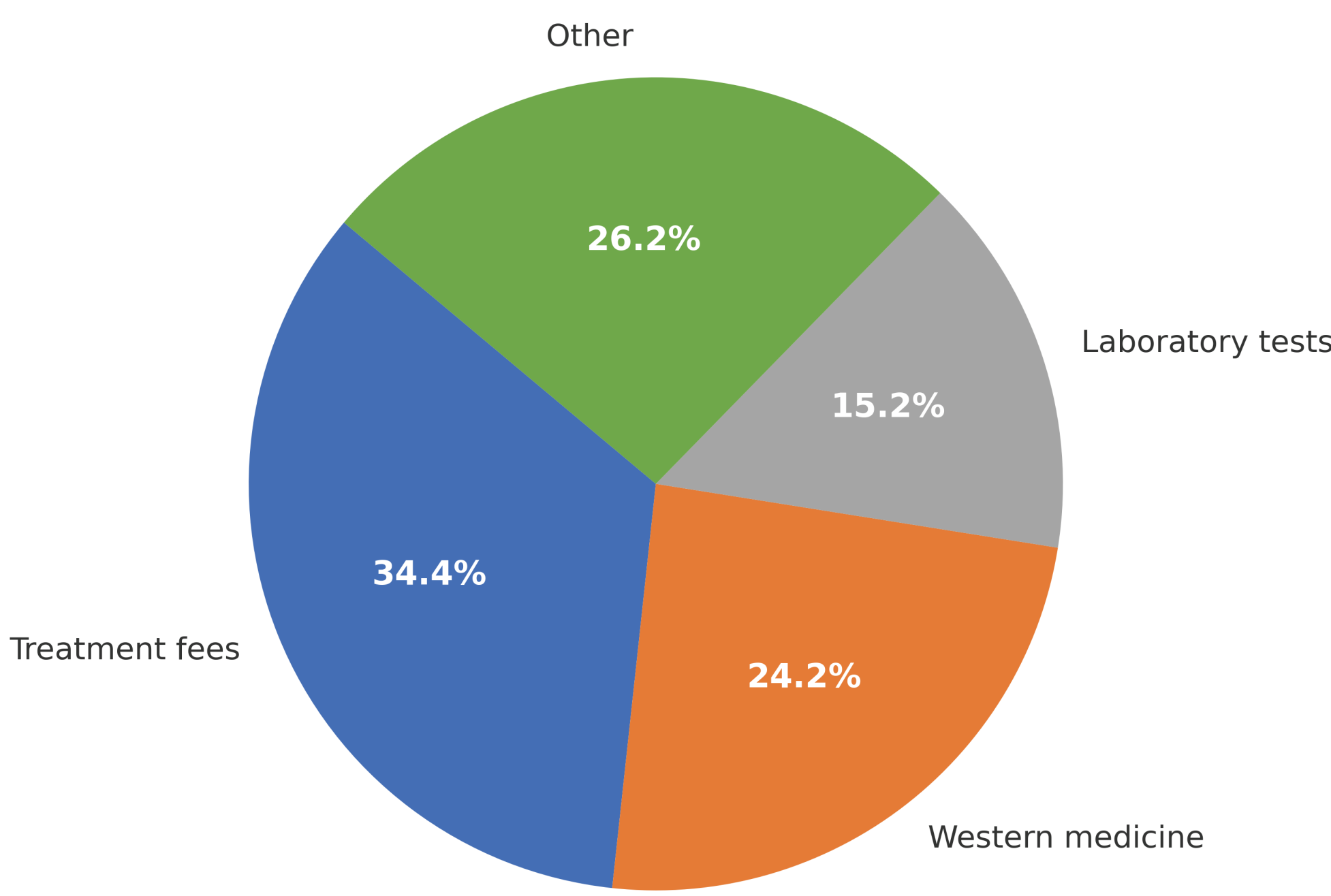
METHOD

We retrospectively analyzed 1,015 first-admission AECOPD inpatients at the Guangdong Second Provincial Traditional Chinese Medicine Hospital from 2018 to 2023, integrating electronic medical records and cost data. Multiple linear regression examined LOS as the dependent variable, with age, sex, test frequency, Western medicine use, Chinese medicine use and granule prescriptions as independent variables. Descriptive statistics summarized test and prescription frequencies and cost composition (n = 1,027 for cost analysis).

RESULTS

Mean age was 75.9 ± 7.2 years; 84.5% were male. Median LOS was 11.7 days (IQR 7.0–14.0). Age ($\beta = 0.165$, $p < 0.001$) and test frequency ($\beta = 0.087$, $p < 0.001$) were positively associated with LOS, while Western medicine use shortened LOS ($\beta = -2.72$, $p = 0.013$). Chinese medicine use showed a non-significant LOS increase ($\beta = 2.20$, $p = 0.102$). A total of 3,647 laboratory tests were performed; there were 24,197 Western medicine prescriptions (mean 23.8 per case) and 21,969 Chinese medicine granule prescriptions (mean 21.6 per case), most commonly *Glycyrrhiza uralensis* and *Pinellia ternata*. Median total cost was ¥14,239.3 (mean ¥19,713.7); treatment fees accounted for 34.4%, Western drugs 24.2% and tests 15.2%. Reimbursement rate was 77.7%; patient co-payment 22.3%.

Distribution of Hospital Costs for AECOPD Inpatients in a Traditional Chinese Medicine Hospital



Treatment costs accounted for the largest proportion of hospitalization expenses (34.4%), followed by Western medicine (24.2%) and laboratory tests (15.2%). These categories represent the main cost drivers among AECOPD inpatients, highlighting areas for optimizing clinical and economic efficiency in integrated care settings.

Key Findings of AECOPD Inpatients in a TCM Hospital

Category	Variable / Indicator	Result / Value
Demographics	Mean age (years)	75.9 ± 7.2
	Male (%)	84.5
Hospitalization	Median LOS (days, IQR)	11.7 (7.0–14.0)
Regression Analysis (LOS)	Age (β)	+0.165 ($p < 0.001$)
	Test frequency (β)	+0.087 ($p < 0.001$)
	Western medicine use (β)	-2.72 ($p = 0.013$)
	Chinese medicine use (β)	+2.20 ($p = 0.102$)
Medication Usage	Western prescriptions	24,197 (23.8 per case)
	Chinese granule prescriptions	21,969 (21.6 per case)
	Top granules	<i>Glycyrrhiza uralensis</i> , <i>Pinellia ternata</i>
Cost Composition	Median total cost (¥)	14,239.3 (mean 19,713.7)
	Treatment fees (%)	34.4
	Western medicine fees (%)	24.2
	Lab test fees (%)	15.2
Economic Burden	Reimbursement rate (%)	77.7
	Patient co-payment (%)	22.3

CONCLUSIONS

Older age and greater test frequency significantly prolong LOS in AECOPD inpatients at a TCM hospital. Western medicine reduces LOS, while Chinese granules—despite frequent use—have minimal impact on LOS and cost share. Standardizing testing, optimizing medication use and implementing differentiated payment models may enhance integrated care and insurance reform.

CORRESPONDENCE

Yunfeng Lai: yunfeng.lai@hotmail.com

Lijun Ma: malj@gzucm.edu.cn