



Shared Savings and Associations With Stroke Outcomes, Spending, and Service Utilization : A Systematic Review



Yun-Xuan Zheng, PhD student¹; Yu-Chi Tung, PhD^{1,2}

¹ Institute of Health Policy and Management, College of Public Health, National Taiwan University, Taiwan

² Master of Public Health Program, National Taiwan University, Taiwan

2026 ISPOR Asia Pacific Summit, 6–8 September | Bangkok, Thailand

Introduction

- Stroke imposes a substantial clinical and economic burden, driving a shift in healthcare systems from traditional volume-based reimbursement to value-based payment models, such as the Medicare Shared Savings Program (MSSP) and bundled payment.
- This systematic review aims to examine the impact of shared savings models on stroke clinical outcomes, utilization, and spending by including only peer-reviewed quantitative studies and updating the existing evidence.
- The findings offer insights for policymakers on the feasibility of using shared savings as an alternative payment approach for stroke care, and guide future reforms in post-acute payment policy and resource allocation.

Research Objective

- To assess the effect of participation in the Medicare Shared Savings Program (MSSP) on clinical outcomes such as mortality and readmissions.
- To evaluate its impact on healthcare utilization, including acute admission length of stay and post-acute care (PAC) use.
- To analyze changes in overall Medicare spending associated with shared savings models.

Search Strategy

- This systematic review was conducted in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines.
- Searches were conducted in PubMed (National Library of Medicine), Ovid MEDLINE (Wolters Kluwer), Embase (Elsevier), Scopus (Elsevier), and the Cumulative Index to Nursing and Allied Health Literature (CINAHL, EBSCO) from database inception through April 14, 2025.
- Search terms combined subject headings and keywords for stroke, bundled payment, shared savings, and accountable care organizations.

Eligibility Criteria and Study Selection

- Eligible studies were required to report at least one outcome in three categories: (a) clinical outcomes (e.g., mortality, readmissions), (b) healthcare utilization (e.g., length of stay, post-acute care use), or (c) spending (e.g., total episode costs, shared savings, losses).
- Only English-language studies were included. Studies based solely on self-reported outcomes, theoretical models, conference abstracts, non-quantitative designs, or lacking a control group were excluded.
- Study quality was assessed using the modified Newcastle-Ottawa Quality Assessment Scale (NOS) for cohort and cross-sectional designs.
- The NOS assigns scores across three domains: selection (4 points), comparability (2 points), and outcome (3 points), for a maximum of 9 points. Studies scoring ≥ 7 overall and at least 1 point in each domain were classified as high quality.

Results

- All studies were assessed using the Newcastle-Ottawa Quality Assessment Scale and each received a full score of 9.
- Seven studies evaluated the shared savings model (MSSP), and one study evaluated the bundled payment model (BPCI).
- Clinical outcomes:** Some studies indicated that MSSP participation reduced 30-day readmission rates among stroke patients, but had no significant effect on mortality.
- Spending:** The impact of shared savings models on Medicare spending was mixed, with one study reporting an annual reduction of approximately \$775 per patient.
- Healthcare utilization:** MSSP participation was associated with reduced length of stay, higher discharge-to-home rates, and increased use of hospice care.
- Bundled payment:** BPCI participation did not significantly affect the volume or concentration of referrals to skilled nursing facilities (SNFs).

Contact Information

Yun-Xuan Zheng, Institute of Health Policy and Management, College of Public Health, National Taiwan University, No. 17, Xu Zhou Rd., Zhongzheng Dist., Taiwan, R.O.C.

Email: yxzhengg@gmail.com
d13848007@ntu.edu.tw

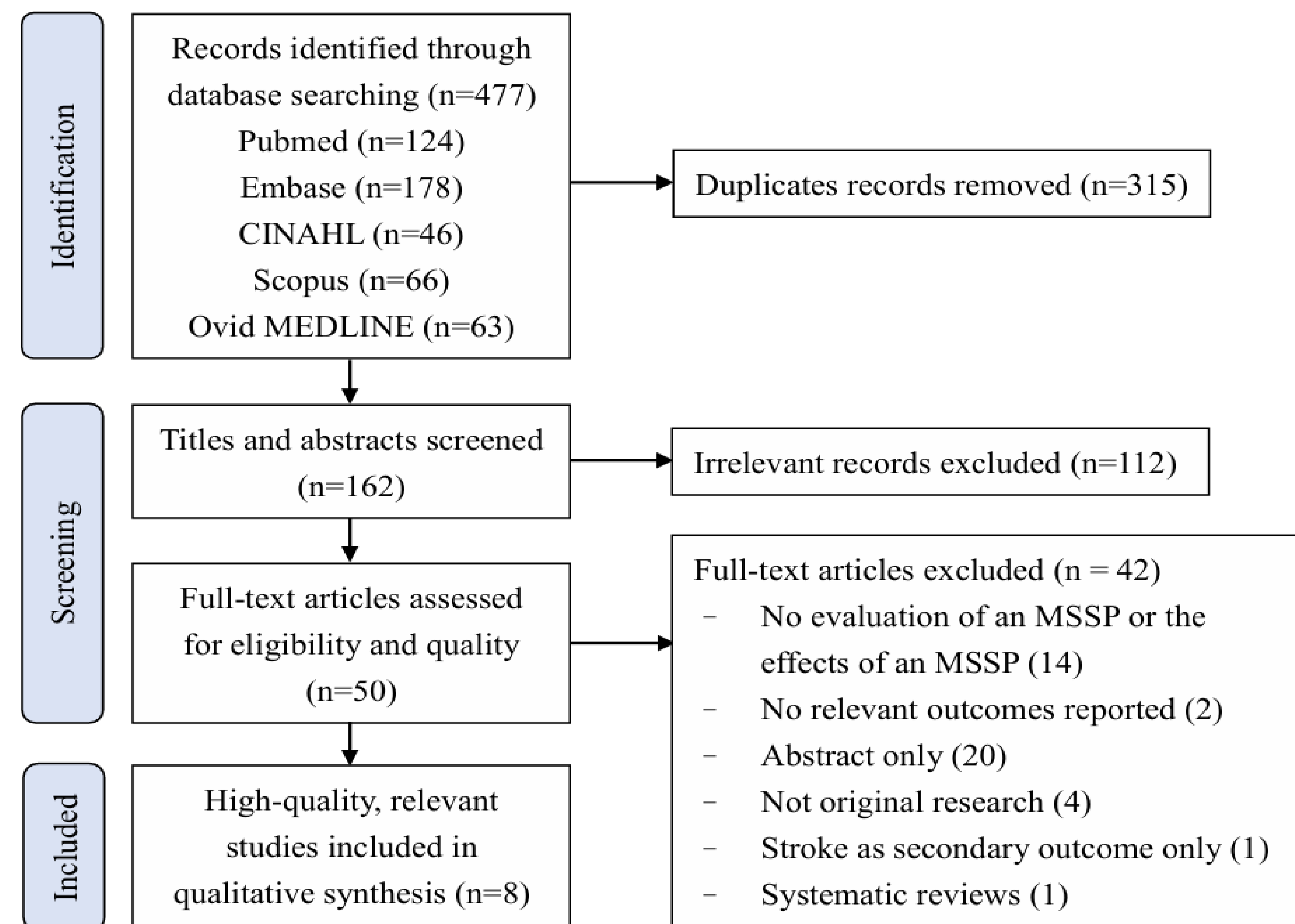


Figure 1. PRISMA Flow Diagram of Systematic Review Results

Table 1. All Outcomes by Payment Model Category

	Accountable Care Organization			Bundle payment		
Clinical outcomes	Increase	Null	Decrease	Increase	Null	Decrease
All-cause or stroke mortality		3,4,5				
Readmission or rehospitalization		3,4	5,6			
Readmission rates for SNHs		5				
Mortality rates for SNHs		5				
Spending						
Total spending		4	7			
Utilization						
length of stay			3			
Acute admission Utilization		3				
IRF utilization	1		4			
SNF utilization	1		4		8	
HHA utilization		4				
Hospice utilization	2					
Time in community	3					

Abbreviations: HHA, home health agency; IRF, inpatient rehabilitation facilities; SNF, skilled nursing facilities.

*The numbers represent different reference citations.

Discussion

- Recent evidence suggests that ACOs reduce 30-day readmissions, while evolving incentives may improve care quality without increasing mortality..
- Physician-led ACOs may manage costs more effectively due to greater organizational flexibility.
- ACOs shortened hospital stays and increased home discharge rates, indicating their potential to enhance community-based recovery and patient outcomes.
- BPCI showed no early impact on skilled nursing facility (SNF) use, whereas a 2024 CMS report indicated reduced utilization.

Conclusions

- ACO MSSP participation is associated with lower stroke readmission without increased mortality, with stronger effects in later stages; evidence on BPCI remains limited.
- The MSSP has the potential to improve stroke care quality and efficiency, but ongoing evaluation is needed to assess its long-term and subgroup-specific effects.

Funding

Supported by research grants from the National Science and Technology Council (grant number NSTC 113-2410-H-002-052-MY3) and the Population Health and Welfare Research Center from the Featured Areas Research Center Program within the framework of the Higher Education Sprout Project by the Ministry of Education (grant number NTU-115L900401) in Taiwan.