International Journal of Economics, Commerce and Management
United Kingdom ISSN 2348 0386 Vol. 13, Issue 5, May 2025

https://ijecm.co.uk/

INFLUENCE OF SELECTED MANAGEMENT ACCOUNTING PRACTICES ON OPERATIONAL PERFORMANCE OF SMALL AND MEDIUM-SIZED MANUFACTURING ENTERPRISES IN NYERI COUNTY, KENYA

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Abstract

Small and Medium-sized Enterprises (SMEs) in the manufacturing sector play a pivotal role in driving economic growth and development in Nyeri County, Kenya. Despite their importance, many manufacturing SMEs face challenges in maintaining operational efficiency due to limited adoption of management accounting practices (MAPs). This study investigated the influence of selected MAPs—forecasting practices, production practices, controlling practices, and decision-making practices—on the operational performance of manufacturing SMEs. Grounded in Contingency Theory, Agency Theory, and the Resource-Based View Theory, the study employed a descriptive research design and collected data through structured questionnaires from key managerial personnel. Descriptive and inferential analyses were used to examine the

relationships between the practices and operational performance. The study found that forecasting, production, controlling, and decision-making practices each had a statistically significant influence on operational performance, contributing to improved efficiency, effectiveness, and competitiveness among SMEs. It concludes that the effective adoption of these practices is essential for enhancing operational performance. The study recommends increased training, financial support, and technological adoption to strengthen the implementation of MAPs. Further research is encouraged to explore the role of leadership and emerging technologies in improving the application of management accounting practices in manufacturing SMEs.

Keywords: Keywords: Management Accounting Practices, MAPs, Operational Performance, Forecasting Practices, Controlling Practices, Decision-Making practices, Production practices

INTRODUCTION

Background of the Study

Small and Medium-sized Enterprises (SMEs) are fundamental to economic growth, job creation, and poverty alleviation worldwide. They account for approximately 90% of businesses and employ over half of the global workforce. Despite their significance, many SMEs struggle with financial management, leading to high failure rates within their first few years of operation. To address these challenges, the adoption of Management Accounting Practices (MAPs) has been recognized as a key factor in improving financial performance and operational efficiency. MAPs, which include budgeting, forecasting, cost control, and performance evaluation, play a crucial role in enhancing profitability, efficiency, and competitiveness in SMEs, particularly in the manufacturing sector. In Kenya, the manufacturing sector is vital to economic development, contributing around 7% to the country's GDP and employing over 11.3% of the workforce. However, the sector faces persistent challenges such as inefficient financial management, low levels of technology adoption, and limited access to financing. Given these issues, there is a need to examine the influence of selected MAPs—forecasting, production planning, cost control, and decision-making—on the operational performance of manufacturing SMEs in Nyeri County. Studies conducted in countries such as Malaysia, Turkey, Zimbabwe, and Tanzania have established a positive relationship between MAP adoption and SME performance. In Kenya, previous research has shown that many SMEs, particularly in Nyeri County, lack structured financial management systems and instead rely on informal approaches, highlighting the need for further investigation.

The Kenyan government has prioritized the manufacturing sector as part of its Vision 2030 and Kenya Kwanza agendas, recognizing its potential to drive industrialization and economic growth. In line with this, Nyeri County has outlined strategies in its County Integrated Development Plan (CIDP) to promote SME growth through value addition, industrial parks, and technology adoption. Despite these efforts, many manufacturing SMEs in the county continue to experience operational inefficiencies and financial management difficulties, which hinder their growth and sustainability. By analyzing the impact of MAPs on the operational performance of manufacturing SMEs in Nyeri County, this study aims to provide valuable insights for SMEs, policymakers, and other stakeholders. The findings will contribute to existing knowledge on MAPs adoption in developing economies while offering practical recommendations for enhancing SME competitiveness. Understanding how SMEs can leverage MAPs for better decision-making and operational efficiency will be instrumental in supporting Kenya's broader economic development objectives.

Problem Statement

SMEs are essential to Kenya's economy, driving employment, innovation, and growth, with manufacturing SMEs playing a key role in industrialization. However, challenges such as limited capital, inadequate infrastructure, and slow adoption of modern management methods hinder their performance. Low adoption of Management Accounting Practices (MAPs) negatively affects efficiency and competitiveness, limiting financial transparency and access to credit. Many SMEs still rely on outdated accounting systems, despite available training and government support. A research gap exists in understanding the impact of MAPs on manufacturing SMEs in Nyeri County. While studies have examined SME financial constraints and technological challenges, the role of MAPs in improving operational performance remains underexplored. This study examines how forecasting, controlling, decision-making, and production practices influence SME efficiency and competitiveness, offering insights for business owners and policymakers to enhance performance in the manufacturing sector.

Objectives, Purpose and Significance of the Study

This general objective of this study is to investigate the influence of selected Management Accounting Practices (MAPs) on the operational performance of small and medium-sized manufacturing enterprises (SMEs) in Nyeri County, Kenya, focusing on forecasting, production, controlling, and decision-making practices. By addressing the existing research gap, the study provides empirical insights into how these MAPs enhance efficiency and competitiveness in the manufacturing sector. The findings will benefit SME owners and

managers by offering practical recommendations for improving financial management and decision-making, while policymakers can use the insights to develop targeted strategies that promote SME growth. Additionally, the study contributes to academic literature by exploring the role of MAPs in a developing economy, with potential applications in other regions facing similar challenges. Ultimately, the research supports efforts to strengthen the SME sector as a key driver of industrialization and economic development.

LITERATURE REVIEW

Contingency Theory

Contingency Theory, developed in the 1960s and 1970s, argues that there is no universal management approach, and that the most effective management practices are contingent upon specific circumstances or organizational contexts (Widener, 2007; Otley, 1980). Challenging the earlier notion of a one-size-fits-all management style, the theory emphasizes the need for flexibility in managerial decision-making based on factors like organizational size, industry characteristics, and the nature of the environment in which the firm operates (Donaldson, 2001; Mahama & Cheng, 2014). This approach is particularly relevant for small and medium-sized enterprises (SMEs), where conditions can vary widely. Empirical evidence supports the idea that management practices should be tailored to the unique contingencies of an organization to optimize performance. Studies such as Mahama and Cheng (2014) demonstrated that the effectiveness of management accounting practices (MAPs) in SMEs depends on factors like firm size, managerial expertise, and environmental uncertainty. This reinforces the importance of adapting MAPs to the specific needs of SMEs for improved outcomes. In the context of this study, Contingency Theory provides a useful framework to explore how MAPs—such as forecasting, production planning, controlling, and decision-making—can influence operational performance in manufacturing SMEs in Nyeri County. The theory suggests that the impact of these practices may vary depending on factors such as the size of the firm, its production processes, and the regulatory environment in which it operates, highlighting the dynamic and diverse nature of SMEs.

Agency Theory

Agency Theory, developed in the 1970s, addresses the relationship between principals (owners) and agents (managers), emphasizing the challenges arising from the potential misalignment of their interests. It suggests that when owners delegate decision-making authority to managers, conflicts may arise as agents often pursue their own interests, which may not align with those of the principals (Jensen & Meckling, 1976). This misalignment can lead to agency

problems, which can be mitigated by implementing appropriate control mechanisms such as performance measures, incentive systems, and monitoring mechanisms. These tools align the interests of both parties, ensuring that agents work towards achieving the goals of the owners. Research supports the use of management accounting practices (MAPs) as a means to align interests. Studies such as Elarde and Chong (2012) and Muriithi and Mukulu (2015) show that performance measures and incentives positively influence the financial performance of SMEs. However, Agency Theory has been critiqued for assuming managers are solely motivated by financial incentives, which may not always be the case, and for the difficulty in designing effective performance measures. In the context of this study, Agency Theory provides a framework to understand how the implementation of MAPs, including forecasting, production planning, and decision-making, can mitigate agency problems. The findings of this study aim to demonstrate how MAPs can serve as mechanisms to align managers' actions with owners' goals, thereby improving operational performance in SMEs.

Empirical Literature

Management Accounting Practices (MAPs) encompass a variety of tools and techniques designed to aid in decision-making, strategic planning, and performance evaluation within organizations. These practices, including forecasting, production, controlling, and decision-making, are crucial for providing timely and relevant information to managers. Studies highlight that the adoption of MAPs in manufacturing SMEs directly influences operational performance by enhancing resource allocation, improving production efficiency, and enabling informed decision-making. Forecasting practices help SMEs plan effectively, while controlling and decision-making practices contribute to better alignment of operations with organizational goals, which is essential for improving performance. Various studies have examined the impact of specific MAPs on the operational performance of manufacturing SMEs. Research on forecasting practices, for instance, shows that planning and forecasting positively influence performance across several regions, including China, Ghana, and Kenya, by enabling better resource allocation and informed decision-making. Similarly, production planning and control practices have been found to significantly improve operational performance in SMEs by enhancing productivity, quality, and delivery. Studies on controlling practices, including budgeting and performance evaluation, confirm their positive effects on operational performance by ensuring that operations remain aligned with strategic goals. Decision-making practices also play a vital role in improving operational outcomes, with research emphasizing the importance of participative decision-making and managerial capabilities in enhancing performance. The empirical literature consistently underscores the positive influence of MAPs on the operational

performance of manufacturing SMEs, regardless of geographical context. Studies conducted in diverse regions such as Malaysia, Vietnam, Nigeria, and Kenya reveal that adopting effective MAPs, such as lean production, budgeting, and decision-making strategies, helps SMEs navigate competitive challenges and achieve better operational efficiency. The research also highlights the importance of integrating employee involvement, training, and strategic planning into decision-making practices, which significantly contributes to improved operational performance. Thus, manufacturing SMEs across different countries benefit from similar MAPs, which suggests the broad applicability of these practices in enhancing operational performance globally.

Conceptual Framework

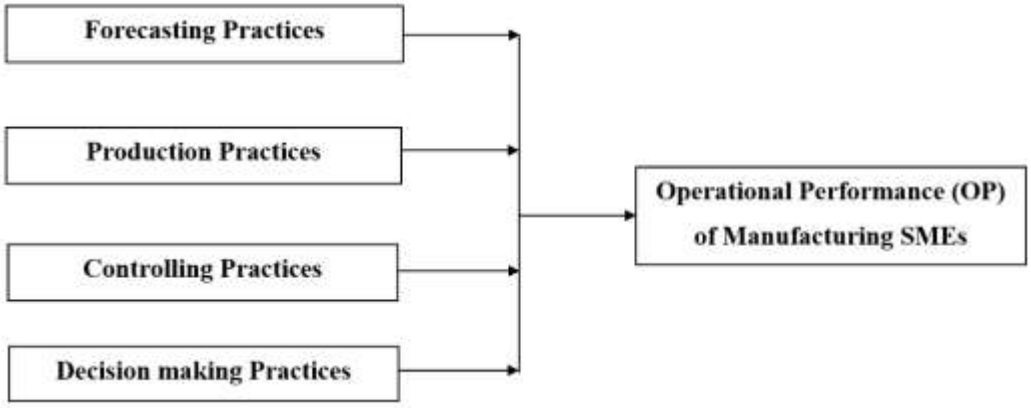

Figure 1: Conceptual Framework for Influence of Selected Management Accounting Practices on Operational Performance of Small and Medium-Sized Manufacturing Enterprises in Nyeri County, Kenya.

Research Gaps

This study addresses a gap in the literature regarding the impact of Management Accounting Practices (MAPs) on operational performance in manufacturing SMEs in Nyeri County, Kenya. While existing studies often focus on broader firm outcomes like profitability, they overlook the specific operational challenges faced by SMEs, such as resource utilization, production efficiency, and regulatory compliance. Additionally, research tends to examine MAPs in isolation, neglecting their integrated impact on operations. This study bridges these gaps by examining how MAPs—specifically forecasting, production, controlling, and decision-making practices—affect operational performance in manufacturing SMEs. It provides actionable insights for SME managers and policymakers to optimize MAPs for improved operational

outcomes, contributing to a deeper understanding of SME challenges in Nyeri County and similar contexts.

Research Methodology

Research Design

This study employed a descriptive research design to explore the impact of selected Management Accounting Practices (MAPs) on the operational performance of small and medium-sized manufacturing enterprises (SMEs) in Nyeri County, Kenya. The design allowed for an in-depth investigation of the relationships between MAPs (forecasting, production, controlling, and decision-making) and operational performance without manipulation. A correlational approach was used to measure associations between these practices and operational outcomes such as efficiency and cost management.

Instrumentation and Data collection

Targeting all 31 manufacturing SMEs in Nyeri, the study used a structured questionnaire administered to 124 respondents, including key managers and accountants, who were directly involved in MAPs implementation. The questionnaire used a five-point Likert scale to quantify respondents' perceptions, ensuring reliable data collection. Prior to deployment, the questionnaire underwent expert review and pilot testing to ensure validity.

A census approach was adopted to collect data from the entire population of SMEs, ensuring accuracy and comprehensive representation. Data was analysed using SPSS, with Cronbach's Alpha calculated to verify internal consistency, achieving a minimum acceptable value of 0.8. The study followed national-level best practices, ensuring data completeness, reliability, and validity, and reducing biases in the findings.

Stability and Validity of Instrumentation of Data Collection Tool

The stability and validity of the data collection instrument were ensured through several steps. A pilot test was conducted with selected manufacturing SMEs outside Nyeri County to evaluate the clarity, relevance, and effectiveness of the questionnaire. Expert reviews were also sought to confirm that the instrument appropriately captured the key aspects of Management Accounting Practices (MAPs) and their influence on operational performance. These steps helped refine the questionnaire by eliminating ambiguities and aligning it with the study objectives. Reliability was assessed using Cronbach's Alpha, which yielded a value of 0.800, indicating high internal consistency and reliability. Since values above 0.70 are considered acceptable, this confirmed that the instrument was reliable in measuring the influence of MAPs

on operational performance. The high consistency also ensured that respondents interpreted the questionnaire items in a similar way, enhancing the robustness of the data collection tool.

FINDINGS & DISCUSSIONS

Response Rate

The response rate for this study was good, reflecting strong engagement from the targeted participants. Out of 124 questionnaires distributed to managers of manufacturing SMEs in Nyeri County, 116 were completed and returned, yielding a response rate of 94%. This high level of participation enhances the reliability and validity of the study findings. The minimal non-response rate of 6% is considered negligible and unlikely to significantly affect the overall analysis, as nonresponse rates below 15% are generally not expected to impact study outcomes (Roth, 1994; Rogelberg et al., 2003).

Test of Regression Assumptions

Normality Test for Operational Performance

A Q-Q test was performed to assess the normality of the operational performance data. The Normal Q-Q Plot reveals that the data points closely align with the reference line, indicating that the operational performance variable is approximately normally distributed. This suggests that the assumption of normality is satisfied for the regression analysis. For data that are normally distributed, the data points are close to the diagonal line (Scott et al, 2011). Figure 2 below shows the normal Q-Q plot for operational performance.

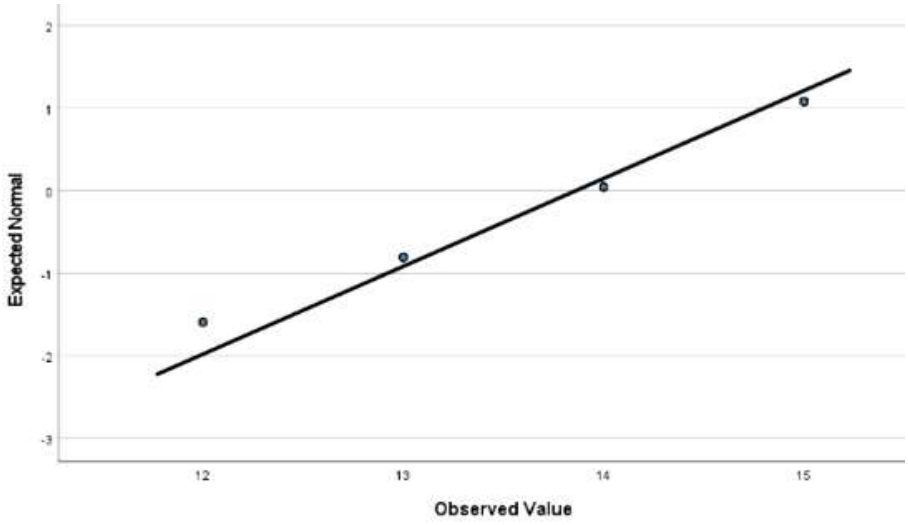

Figure 2: Normal Q-Q Plot for Operational Performance of Manufacturing SMEs in Nyeri County, Kenya

Test of Linearity

The correlation analysis reveals significant relationships between selected management accounting practices and operational performance in manufacturing SMEs. Table one below shows the correlation test results.

Table 1: Correlation Test Results for Relationships Between Selected Management Accounting Practices and Operational Performance of Manufacturing SMEs in Nyeri County, Kenya

Correlations		Forecasting Practices	Production Practices	Controlling Practices	Decision Practices	Operational Performance
Forecasting Practices	Pearson Correlation	1				
	Sig. (2-tailed)					
Production Practices	Pearson Correlation	0.516**	1			
	Sig. (2-tailed)	0.000				
Controlling Practices	Pearson Correlation	0.592**	0.215*	1		
	Sig. (2-tailed)	0.000	0.021			
Decision Making Practices	Pearson Correlation	-.113	0.116	-.070	1	
	Sig. (2-tailed)	0.228	0.214	0.458		
Operational Performance	Pearson Correlation	0.436**	0.397**	0.429**	0.439**	1
	Sig. (2-tailed)	0.000	0.007	0.000	0.010	
	N	**116**	**116**	**116**	**116**	**116**

Forecasting practices exhibit a strong positive correlation with operational performance ($r = 0.436$, $p < 0.01$), indicating that improved forecasting enhances efficiency and resource utilization. Similarly, production practices ($r = 0.397$, $p < 0.01$) and controlling practices ($r = 0.429$, $p < 0.01$) positively influence operational performance, suggesting that effective production management and financial control contribute to better outcomes. Decision-making practices show a weaker but still positive correlation with operational performance ($r = 0.439$, $p < 0.05$), indicating a less pronounced impact.

Additionally, forecasting practices strongly correlate with both production ($r = 0.516$, $p < 0.01$) and controlling practices ($r = 0.592$, $p < 0.01$), emphasizing their interdependence. Production and controlling practices are also positively correlated ($r = 0.215$, $p < 0.05$),

reinforcing their complementary role in operational efficiency. However, decision-making practices show no significant correlation with forecasting, production, or controlling practices, suggesting their relative independence.

Test of independence

Table 2: Durbin-Watson Test Results for Management accounting Practices

Variables	Durbin-Watson Statistics
Forecasting Practices	2.037
Production Practices	1.986
Controlling Practices	1.781
Decision Making Practices	1.924

The Durbin-Watson statistics for all the four variables fall within the acceptable range of 1.5 to 2.5, indicating that there is no significant autocorrelation. These values suggest that the residuals are independent, and the assumption of no autocorrelation is not violated in the regression model.

Homoscedasticity test

A normal P-P plot of the regression standardized residuals was used to test for homoscedasticity, which checks if the variance of errors is constant across all levels of the independent variables. Figure 3 below shows the normal P-P plot results.

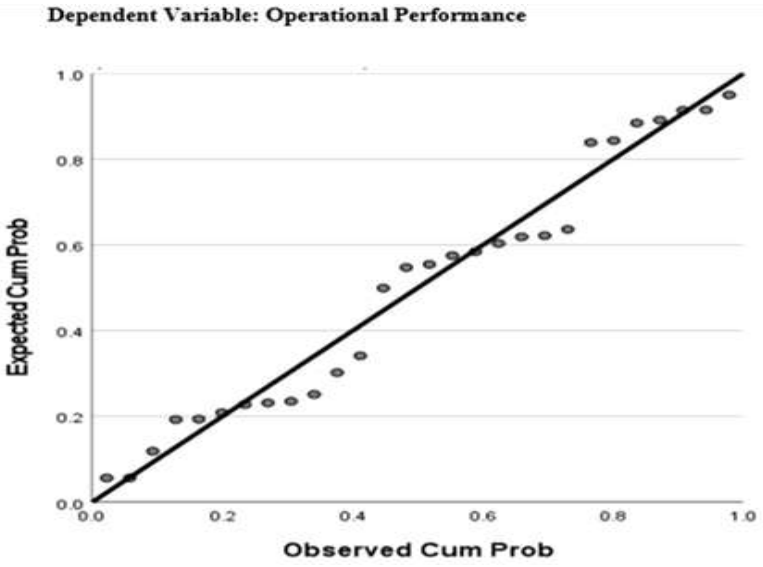

Figure 3: Normal Q-Q Plot for Operational Performance of Small and Medium-sized Manufacturing Entreprises in Nyeri county, Kenya

In the plot, the standardized residuals (on the y-axis) are compared against the expected cumulative probabilities (on the x-axis). From the visual inspection of the plot, the points closely align along the reference line, indicating that the residuals are approximately normally distributed.

This suggests that the assumption of homoscedasticity holds, meaning the residuals have constant variance across all levels of the independent variables. The plot shows no systematic patterns or funnelling of residuals, further confirming the absence of heteroscedasticity, which could indicate non-constant variance of errors. As a result, the homoscedasticity assumption is satisfied, and the regression model is reliable for inference.

Inferential Results

The regression analysis for management accounting practices, as shown in Table 3 below, explores the relationship between management accounting practices and operational performance.

Table 3: Regression Analysis Results for Management Accounting Practices.

Management Accounting Practices Components	R	R^2	Sum of Squares	F	Beta (β)	t	Std. Error	Sig.
Model Fitness	0.455	0.207		7.236				**0.000**
Regression			21.054					
Residual			80.739					
Total			101.793					
Constant					2.541	1.200	2.117	**0.023**
Forecasting Practices					0.073	1.693	0.043	**0.000**
Production Practices					0.021	0.689	0.030	**0.007**
Controlling Practices					0.075	1.921	0.039	**0.050**
Decision- Making Practices					0.077	2.835	0.027	**0.005**

The regression analysis reveals a positive and statistically significant relationship between operational performance and the selected Management Accounting Practices (MAPs) — forecasting, production, controlling, and decision-making. The model's fitness (R = 0.455, R^2 = 0.207) shows that 20.7% of the variation in operational performance is explained by these practices. The ANOVA results (F = 7.236, p = 0.01) indicate that the model is statistically significant, confirming that the independent variables collectively explain the variation in operational performance. The coefficients table demonstrates that forecasting practices (B = 0.073, t = 1.693) have a significant positive effect on operational performance at the 5% level. Similarly, production practices (B = 0.021, t = 0.689) and controlling practices (B = 0.075, t =

1.921) show positive relationships, though production practices exhibit a weaker effect. Decision-making practices (B = 0.077, t = 2.835) also significantly influence operational performance, highlighting the importance of effective decision-making in improving operational outcomes.

In conclusion, the results suggest that all four practices positively influence operational performance, with forecasting and decision-making showing the strongest significant effects. The regression equation for operational performance (Y) is: Y = 2.541 + 0.073X1 + 0.021X2 + 0.075X3 + 0.077X4. These findings align with previous studies, reinforcing the role of effective MAPs in enhancing the operational performance of manufacturing SMEs.

CONCLUDING REMARKS

Conclusions

This study confirms that forecasting, production, controlling, and decision-making practices significantly influence the operational performance of manufacturing SMEs in Nyeri County, Kenya. The study confirms that forecasting, production, controlling, and decision-making practices significantly influence the operational performance of manufacturing SMEs in Nyeri County, Kenya. Forecasting practices had the greatest impact by improving demand prediction, resource management, and production scheduling. Production practices also enhanced efficiency and productivity, though they rely heavily on effective forecasting. Controlling practices contributed moderately through cost management and variance analysis, while decision-making practices supported strategic planning and risk management. Overall, an integrated approach to these practices is vital for improving operational performance and sustainability.

Recommendations

This study offers key recommendations for enhancing operational performance in manufacturing SMEs in Nyeri County. Future research should develop integrated models that account for the interdependence of forecasting, production, controlling, and decision-making practices, considering contextual factors. Policymakers should support manufacturing SMEs by promoting advanced forecasting tools, providing financial incentives for technology adoption, and encouraging continuous training. Manufacturing SMEs should adopt an integrated approach by investing in forecasting tools, implementing lean production, conducting cost variance analyses, and fostering evidence-based decision-making. Collaboration with policymakers and industry stakeholders will help manufacturing SMEs improve efficiency, reduce costs, and remain competitive.

Limitations & Future Studies

This study focused exclusively on manufacturing SMEs in Nyeri County, which may limit the generalizability of the findings to other sectors or geographic regions. Additionally, the study relied on self-reported data through questionnaires, which may be subject to response bias. The relatively small sample size, though comprehensive within the study context, may also constrain the broader applicability of the results. Future studies could benefit from including a more diverse sample across multiple counties or incorporating longitudinal data to assess the influence of MAPs over time.

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