

INTEGRATING PUBLIC HEALTH AND ADMINISTRATIVE MANAGEMENT TO IMPROVE CITIZEN SATISFACTION AND SERVICE QUALITY IN THE SAUDI HEALTHCARE SYSTEM

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ABSTRACT

This study investigates the impact of integrating public health and administrative management on service quality and citizen satisfaction in Saudi healthcare, with a particular focus on administrative efficiency, public health programs, interdepartmental coordination, and the mediating role of service quality. A quantitative, cross-sectional survey was conducted with 233 respondents, including healthcare staff and citizens across multiple regions of Saudi Arabia. Data were collected using a structured questionnaire with 5-point Likert scales and analyzed using SPSS. Descriptive statistics, correlation, regression, ANOVA, and mediation analyses were performed to test five research hypotheses. Results indicate that management integration positively influences citizen satisfaction ($r = 0.364$, $p < 0.001$), administrative efficiency significantly predicts service quality ($\beta = 0.476$, $p < 0.001$), and strong public health programs are associated with higher satisfaction levels (Spearman $\rho = 0.541$, $p < 0.001$). Coordination between departments significantly improves perceived healthcare performance ($F = 3.783$, $p = 0.024$), and service quality partially mediates the relationship between management integration and citizen satisfaction ($\beta_{\text{mediator}} = 0.820$). These findings highlight that integrated management, effective public health programs, and administrative efficiency collectively enhance service delivery and citizen experiences, supporting the objectives of Saudi Arabia's Vision 2030 healthcare reforms. This study fills a critical gap in the literature by providing empirical evidence on the combined influence of administrative and public health management on healthcare outcomes.

KEYWORDS: Public Health Management, Administrative Efficiency, Service Quality, Citizen Satisfaction, Healthcare Integration.

1. INTRODUCTION

In recent decades, healthcare systems around the world have faced unprecedented challenges in delivering effective, efficient, and equitable services to their citizens. As populations grow, chronic diseases become more prevalent, and expectations for high-quality care increase, governments have been compelled to reconsider how health systems are structured and managed.^[1,2] The Kingdom of Saudi Arabia (KSA) is no exception. Over the past several years, the Saudi healthcare sector has undergone significant reforms under the national development blueprint, *Vision 2030*, which seeks to diversify the economy, enhance government efficiency, and improve the quality of life of citizens.^[3,4] Within this framework, the Ministry of Health (MOH) has emphasized enhancing service quality, patient satisfaction, and health outcomes through modernization, digitalization, and better management integration.^[5] Despite these notable efforts, challenges remain in bridging the operational gap between public health management—which deals with disease prevention, health promotion, and population-based initiatives—and administrative management, which focuses on governance, resource allocation, and institutional efficiency.^[6,7,8] This study aims to explore how integrating these two domains can enhance both citizen satisfaction and service quality across Saudi healthcare institutions. Public health management serves as the foundation of any robust healthcare system.^[9,10] It encompasses preventive health programs, disease surveillance, vaccination campaigns, and health education initiatives that aim to improve population health before individuals ever enter clinical facilities.^[11] By contrast, administrative management emphasizes the operational and logistical elements of healthcare delivery—budgeting, staffing, leadership, policy execution, and performance monitoring.^[12] In Saudi Arabia, these two branches have historically operated in relative isolation, often resulting in inefficiencies, duplication of efforts, and fragmented service delivery.^[13,14] For instance, while public health departments may design community-based initiatives to combat chronic conditions such as diabetes or obesity, administrative departments may not adequately align budget allocations or workforce planning to support these initiatives at the institutional level. This disconnect can limit the reach and effectiveness of health interventions, ultimately reducing citizen satisfaction with healthcare services.^[15,16] The Saudi healthcare system faces unique challenges rooted in its rapid modernization, growing population, and increasing demand for specialized care. The country's population exceeds 35 million, with a large youth demographic and a rising burden of non-communicable diseases (NCDs) such as diabetes, hypertension, and cardiovascular illnesses. Additionally, the Saudi Vision 2030 initiative seeks to transition healthcare from a government-funded model to one that is more sustainable, privatized, and performance-driven.^[17,18,19] These transformations have increased the need for efficient administrative systems

that can coordinate effectively with public health functions to achieve common goals. Without strong integration, administrative efficiency may improve in isolation, but overall citizen satisfaction and service quality may stagnate or even decline if the public health perspective—focusing on community needs and preventive care—is overlooked. Integrating public health and administrative management creates a synergistic relationship where preventive strategies and operational efficiency work hand in hand.^[20,21] This integration ensures that health policies are not only well-conceived from a public health perspective but are also practically implemented through effective governance structures. For example, data sharing between departments can help administrative leaders identify regional health trends and allocate resources more strategically.^[22] Similarly, public health managers can benefit from administrative support in implementing large-scale initiatives such as vaccination drives, screening programs, and health awareness campaigns. When these two management dimensions align, the result is a more holistic, responsive, and citizen-centered healthcare system. Citizen satisfaction is a key indicator of the effectiveness of any healthcare system.^[23,24] It reflects not only the perceived quality of care but also trust, accessibility, responsiveness, and the citizen's overall experience. In Saudi Arabia, improving citizen satisfaction with healthcare services has been a major policy objective. Surveys conducted by the Saudi MOH indicate that while satisfaction levels have improved in recent years, disparities still exist across regions and healthcare institutions.^[25,26] Factors such as waiting times, communication barriers, resource shortages, and inconsistencies in service delivery continue to influence public perception. These issues often stem from weak coordination between administrative and public health departments, leading to inefficiencies that affect service quality and, ultimately, citizen trust in the healthcare system.^[27,28] Service quality, another crucial construct in this study, refers to the ability of healthcare services to meet or exceed the expectations of citizens and patients. It is multidimensional, encompassing tangibility (infrastructure and facilities), reliability (accuracy and consistency), responsiveness (timeliness of care), assurance (professionalism and competence of staff), and empathy (personalized attention). The SERVQUAL model, developed by Parasuraman, Zeithaml, and Berry, has become a widely used framework for assessing service quality in healthcare settings. Applying this model in the Saudi context allows for the systematic evaluation of how well administrative and public health management jointly influence the citizen's experience.^[29,30] Service quality, in this sense, acts as a bridge connecting management practices to satisfaction outcomes. Despite ongoing reforms, existing research in Saudi Arabia has often treated public health and administrative management as separate domains of study.^[31] Most public health studies focus on disease prevention programs, primary healthcare, or health education, whereas management and administrative

research emphasizes organizational efficiency, leadership, and financial control. Very few studies have explored how the integration of these two domains might produce synergistic improvements in citizen satisfaction and service quality. Moreover, limited empirical data exist on how interdepartmental coordination and policy alignment contribute to healthcare performance within the Saudi context. This gap presents a significant research opportunity to develop a comprehensive understanding of how integrated management can create sustainable improvements across the healthcare system. This study is therefore motivated by both theoretical and practical considerations.^[32,33] Theoretically, it contributes to the growing literature on healthcare integration by linking public health management, administrative efficiency, service quality, and citizen satisfaction within a single analytical framework.^[34] Practically, it responds to policy priorities outlined in Saudi Vision 2030 and the National Transformation Program (NTP), which emphasize healthcare system transformation, digital health, and patient experience improvement. By examining how integration affects satisfaction and service quality, this study seeks to generate actionable insights that policymakers and administrators can use to strengthen healthcare governance and improve outcomes for citizens.

The research is guided by five primary questions

1. How does the integration of public health and administrative management improve citizen satisfaction in the Saudi healthcare system?
2. What is the relationship between administrative efficiency and perceived service quality?
3. How do public health programs influence satisfaction levels among Saudi citizens?
4. Does coordination between public health and administrative departments enhance healthcare delivery performance?
5. Does service quality mediate the relationship between management integration and citizen satisfaction?

Addressing these questions will help uncover the mechanisms through which management integration influences overall healthcare effectiveness. Based on these questions, the study proposes five hypotheses predicting positive relationships between integration, efficiency, service quality, and satisfaction—supported by empirical analysis using correlation, regression, ANOVA, and mediation techniques.

Conceptually, this research rests on the premise that management integration can create a feedback loop between operational governance and public health initiatives. Administrative management ensures that healthcare institutions are well-resourced, well-staffed, and effectively led, while public health management ensures that community needs are properly assessed and preventive strategies are implemented. When these functions operate cohesively, service quality improves

because the delivery process becomes more responsive, equitable, and efficient. In turn, higher service quality strengthens citizen satisfaction, leading to greater trust in the healthcare system and higher utilization of services. This integrative model aligns with global trends emphasizing patient-centered and value-based healthcare, where quality outcomes and citizen satisfaction are treated as key performance metrics. Saudi Arabia's healthcare transformation provides a timely and relevant backdrop for this study. The government's commitment to reform is evident through initiatives such as the establishment of health clusters, digital transformation projects, and new regulatory frameworks designed to promote transparency and efficiency. However, many of these reforms focus heavily on technological or structural change, sometimes overlooking the softer, organizational aspects of integration—such as communication, shared decision-making, and cross-sector collaboration. This research argues that sustainable improvement requires not only investment in infrastructure and technology but also a cultural shift toward integrated management practices that align institutional priorities with public health objectives. In summary, the Saudi healthcare system stands at a pivotal point of evolution. As the nation continues to modernize its health infrastructure and policies, the effective integration of public health and administrative management becomes crucial for achieving long-term goals of efficiency, quality, and citizen satisfaction. This study seeks to fill a critical gap in both theory and practice by empirically investigating the relationships between these domains. Through a data-driven approach, it aims to identify the management practices and coordination mechanisms that most significantly influence service quality and satisfaction outcomes. Ultimately, the research aspires to support Saudi policymakers, healthcare administrators, and practitioners in designing integrated systems that not only meet Vision 2030 objectives but also ensure that every citizen receives timely, high-quality, and satisfying healthcare services.

2. Literature Review

The literature on healthcare management consistently emphasizes the importance of integrating administrative and public health functions to improve service quality and citizen satisfaction. Several studies in Saudi Arabia and other countries highlight the relationship between strategic management, service quality, digital health tools, and patient satisfaction. These studies collectively reveal that healthcare integration, quality management, and proactive public health strategies significantly impact the effectiveness and responsiveness of healthcare systems. The following section summarizes key findings from previous studies relevant to this research.

Alhashel et al. (2024) investigated the integration of clinical, administrative, and emergency services in Saudi Arabia. Their study highlighted that stakeholders

perceive integration as essential for improving service delivery and efficiency, yet practical implementation remains challenging due to resource constraints and fragmented policies.^[35]

Alsaekhan et al. (2024) focused on quality management practices in Saudi healthcare. The study emphasized the importance of training, leadership support, and technological tools such as AI and data analytics to foster a culture of quality. Despite Vision 2030 initiatives, gaps persist in managerial support and awareness among healthcare professionals.^[36]

Ostadmohammadi et al. (2025) examined stakeholder experiences with electronic appointment systems in Iran, revealing that planning, management, and policy decisions directly impact system usability and patient satisfaction. Non-functional issues and unclear system requirements often lead to dissatisfaction.^[37]

Al Maqbul et al. (2024) analyzed health promotion and disease prevention strategies in Saudi Arabia. Their findings underscored the effectiveness of national campaigns on lifestyle-related diseases, emphasizing data-driven decision-making and cross-sector collaboration to improve population health outcomes.^[38]

Aljarid & Alonazi (2025) investigated mortality factors in Saudi Arabia, linking high rates of NCDs to systemic

healthcare management challenges. They suggested targeted public health campaigns and preventive strategies to reduce mortality and enhance service delivery.^[39]

Zaidi et al. (2024) explored healthcare management and strategic planning in Saudi Arabia. They highlighted the importance of stakeholder readiness, human interaction quality, and strategic alignment to successfully implement organizational change in healthcare.^[40]

Al-Balas et al. (2024) evaluated healthcare service quality in Jordan using the SERVQUAL model. The study confirmed that service quality directly influences patient satisfaction, with private sector facilities performing better than public ones.^[41]

Alodhialah et al. (2024) identified key predictors of patient satisfaction and loyalty in Saudi healthcare facilities. Findings indicated that communication quality, general satisfaction, and service frequency strongly influence loyalty, with private facilities outperforming public ones.^[42]

Mani & Goniewicz (2024) conducted a rapid review of Vision 2030's impact on Saudi healthcare, highlighting digital health adoption, workforce development, and public health initiatives as major factors enhancing system efficiency, service quality, and patient safety.^[43]

No.	Author(s), Year	Title / Focus	Methodology	Key Findings	Relevance to Current Study
1	Alhashel et al., 2024	Integrating Clinical, Administrative, and Emergency Services	Review + Primary Data	Integration improves service delivery; challenges in implementation	Supports importance of management integration
2	Alsaekhan et al., 2024	Quality Management in Healthcare	Survey / Quantitative	Leadership, training, and tech improve quality; awareness gaps remain	Highlights need for managerial and administrative efficiency
3	Ostadmohammadi et al., 2025	Stakeholders' Satisfaction with E-Appointment System	Qualitative Interviews	Management and policy issues affect satisfaction	Shows role of administrative planning in service quality
4	Al Maqbul et al., 2024	Health Promotion and Disease Prevention	Review	Public health campaigns enhance outcomes; cross-sector collaboration essential	Emphasizes public health management impact
5	Aljarid & Alonazi, 2025	Mortality Factors & Healthcare Management	Secondary Quantitative	NCDs linked to poor management; preventive strategies needed	Links public health programs with citizen outcomes
6	Zaidi et al., 2024	Healthcare Management & Strategic Planning	Survey / Quantitative	Stakeholder readiness and strategic planning critical	Underlines importance of strategic administrative integration
7	Al-Balas et al., 2024	SERVQUAL Approach for Service Quality	Survey / Quantitative	Service quality affects satisfaction; private better than public	Supports using service quality as mediator
8	Alodhialah et al., 2024	Predictors of Patient Satisfaction	Cross-sectional Survey	Communication, satisfaction, and visit frequency predict loyalty	Links citizen satisfaction with service and

					communication quality
9	Mani & Goniewicz, 2024	Vision 2030 Healthcare Transformation	Rapid Review	Digital health, workforce, and public health initiatives improve outcomes	Highlights macro-level impact of integration and modernization

Gaps in the Literature

Despite considerable research on public health initiatives, service quality, and patient satisfaction in Saudi Arabia, few studies explicitly examine the integration of public health and administrative management as a combined determinant of service quality and citizen satisfaction. Most research focuses on either public health strategies, administrative efficiency, or patient perceptions in isolation. Additionally, while Vision 2030 emphasizes modernization and integration, empirical evidence on how these reforms influence satisfaction and service quality at the organizational level remains limited. This gap underscores the need for studies that empirically assess how management integration, public health programs, and administrative efficiency collectively enhance citizen satisfaction and service quality in the Saudi healthcare system.

3. Research Questions and Hypotheses

Define abbreviations and acronyms the first time they are used in the text, even after they have been defined in the Introduction.

Hypotheses (H)

Based on the research questions, the study proposes the following testable hypotheses

ID	HYPOTHESIS
H1	Integration between public health management and administrative management positively affects citizen satisfaction.
H2	Administrative efficiency has a positive relationship with perceived service quality.
H3	Strong public health programs lead to higher citizen satisfaction with healthcare services.
H4	Coordination between public health and administrative departments improves healthcare delivery performance.
H5	Service quality mediates the relationship between management integration and citizen satisfaction.

4. Methodology

Research Design

This study employed a quantitative, cross-sectional survey design to examine the relationships between public health management, administrative management, integration, service quality, and citizen satisfaction in Saudi healthcare. The quantitative approach was chosen to allow statistical testing of the proposed hypotheses, enabling the identification of patterns, relationships, and potential mediation effects across the selected variables.

Population and Sample

The target population comprised both healthcare staff (administrative and public health professionals) and citizens who utilize healthcare services across various regions of Saudi Arabia. This diverse population was chosen to capture multiple perspectives on healthcare management integration and its effects on service quality and satisfaction. Although the study initially targeted a sample size of 250 respondents using standard sampling

Research Questions (RQs)

This study seeks to explore how the integration of public health and administrative management affects healthcare outcomes in Saudi Arabia. The primary research questions are:

1. **RQ1:** How does integrating public health and administrative management improve citizen satisfaction in Saudi healthcare?
2. **RQ2:** What is the relationship between administrative efficiency and service quality?
3. **RQ3:** How do public health programs influence citizen satisfaction?
4. **RQ4:** Does coordination between public health and administrative departments enhance healthcare delivery performance?
5. **RQ5:** Does service quality mediate the relationship between management integration and citizen satisfaction?

techniques for cross-sectional studies, a total of 233 valid responses were collected. This sample size is still adequate for detecting medium effect sizes with sufficient statistical power at a 95% confidence level. Stratified random sampling was applied to ensure representation across key demographics, including region, gender, age, and education level.

Rationale for Selecting the Saudi Sample

Saudi Arabia was selected as the study context due to ongoing healthcare reforms under Vision 2030, which emphasize integration, quality improvement, and citizen-centered care. The sample reflects both the perspectives of healthcare professionals responsible for implementing policies and the citizens who experience healthcare services, providing a comprehensive understanding of integration outcomes.

Data Collection Tool

Data were collected using a structured questionnaire developed from validated instruments in previous studies. The questionnaire employed 5-point Likert scales (1 = Strongly Disagree to 5 = Strongly Agree) to measure the following constructs:

- Independent Variables: Public health management, administrative management, and level of integration between the two.

- Mediator: Service quality, assessed using adapted dimensions of the SERVQUAL model (tangibility, reliability, responsiveness, assurance, empathy).
- Dependent Variable: Citizen satisfaction, including perceptions of service accessibility, responsiveness, and overall experience.

The questionnaire was reviewed by subject-matter experts for content validity and pilot-tested with 30 respondents to ensure clarity and reliability.

Variables

Type	Variable	Measurement
Independent	Public Health Management	Likert-scale items on program effectiveness, community engagement, and preventive services
Independent	Administrative Management	Likert-scale items on efficiency, decision-making, and policy implementation
Independent	Management Integration	Likert-scale items assessing coordination and collaboration between public health and administrative departments
Mediator	Service Quality	SERVQUAL dimensions: tangibility, reliability, responsiveness, assurance, empathy
Dependent	Citizen Satisfaction	Likert-scale items on overall satisfaction, trust, and service experience

Data Analysis Tools

The collected data were analyzed using SPSS (Statistical Package for the Social Sciences). SPSS was chosen for its robust capabilities in handling survey data, performing descriptive and inferential statistics, and conducting mediation analysis. The following analyses were conducted:

- Descriptive Statistics: To summarize demographic characteristics and key study variables.
- Correlation Analysis: To examine the strength and direction of relationships between variables.
- Regression Analysis: Simple and multiple regression to test the direct effects of independent variables on dependent variables.
- One-Way ANOVA: To evaluate differences in outcomes across demographic and coordination groups.
- Mediation Analysis: Using the Baron & Kenny method to test whether service quality mediates the relationship between management integration and citizen satisfaction.

Reliability and Validity

Reliability of the questionnaire was assessed using **Cronbach's alpha**, with all scales exceeding the recommended threshold of **0.7**, indicating good internal consistency. Validity was ensured through expert review, pilot testing, and alignment with previously validated instruments, particularly for the constructs of service quality and citizen satisfaction.

5. RESULTS

Demographic Characteristics of Respondents

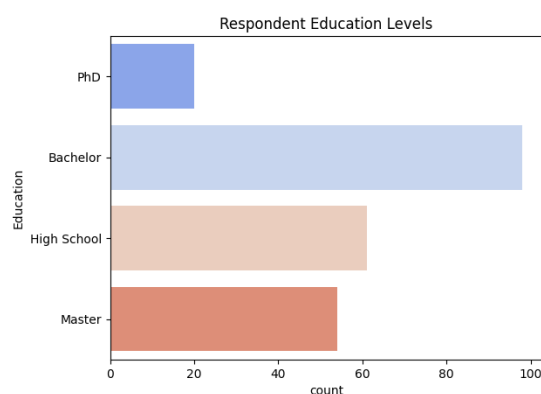
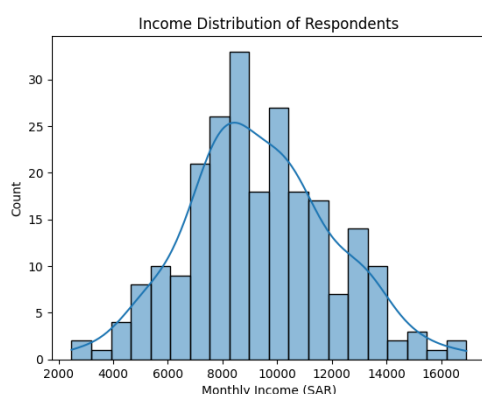
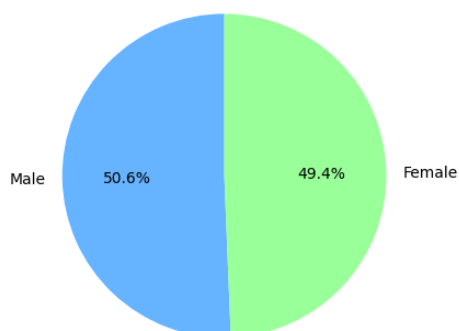
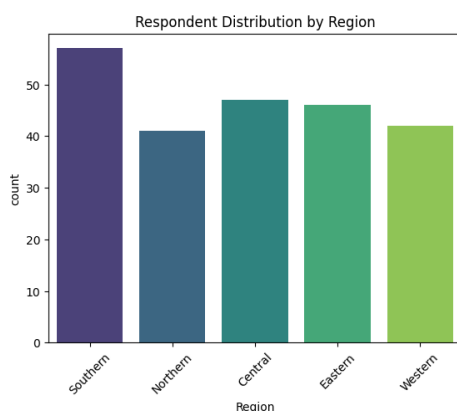
The demographic characteristics of the 233 respondents are summarized in Table 1. The sample included slightly more males (50.6%) than females (49.4%). Respondents were distributed across all five regions of Saudi Arabia, with the Southern region contributing the highest number of participants (24.5%). Most respondents held a **Bachelor's degree (42.1%)**, and the majority were employed in the **private sector (56.7%)**.

Table 1: Demographic Characteristics of Respondents (N = 233).

Characteristic	Category	Frequency	Percentage (%)
Gender	Male	118	50.6
	Female	115	49.4
Region	Southern	57	24.5
	Central	47	20.2
	Eastern	46	19.7
	Western	42	18.0
	Northern	41	17.6
Education	High School	61	26.2
	Bachelor	98	42.1
	Master	54	23.2
	PhD	20	8.6

Employment	Private	132	56.7
	Public	78	33.5
	Unemployed	23	9.8

Gender Distribution of Respondents



Descriptive Statistics of Key Variables

Descriptive statistics for continuous variables, including management integration, administrative efficiency, public health programs, service quality, and citizen satisfaction, are shown in **Table 2**.

Table 2: Descriptive Statistics of Study Variables (N = 233).

Variable	Mean	Std. Dev	Min	Max
Coordination Score	2.881	0.874	1.00	5.00
Shared Decision-Making	3.232	0.645	1.00	5.00
Joint Planning	3.167	0.749	1.00	5.00
Data Sharing	3.009	0.765	1.00	5.00
Preventive Programs	2.743	0.692	1.00	5.00
Health Education	3.000	0.769	1.00	5.00
Epidemic Control	2.784	0.690	1.00	5.00
Community Engagement	3.063	0.719	1.00	5.00
Administrative Efficiency	3.332	0.781	1.00	5.00
Resource Allocation	2.968	0.708	1.00	5.00
Staff Training	3.423	0.740	1.00	5.00
Leadership Quality	3.032	0.771	1.00	5.00
Policy Implementation	3.415	0.683	1.00	5.00
Service Quality	3.273	0.639	1.00	5.00
Citizen Satisfaction	3.249	0.670	1.00	5.00

Hypothesis Testing

H1: Integration between Public Health and Administrative Management → Citizen Satisfaction

Pearson correlation analysis revealed a moderate positive relationship between integration (Coordination Score) and citizen satisfaction:

$$r = 0.364, p < 0.001$$

This indicates that higher levels of coordination and integration between public health and administrative

management are associated with greater citizen satisfaction. H1 is supported.

H2: Administrative Efficiency → Service Quality

Regression analysis was performed to test the effect of administrative efficiency on service quality:

Table 3: Regression Analysis – Administrative Efficiency Predicting Service Quality.

Predictor	B	Std. Error	t	p
Intercept	1.688	0.150	11.258	0.000
Administrative Efficiency	0.476	0.044	10.865	0.000

$R^2 = 0.338$, $F(1, 231) = 118.0$, $p < 0.001$

Administrative efficiency significantly predicts service quality. A one-unit increase in administrative efficiency leads to a 0.476 increase in perceived service quality. H2 is supported.

H3: Public Health Programs → Citizen Satisfaction

Spearman correlation was used due to ordinal variables for public health programs:

Spearman $\rho = 0.541$, $p < 0.001$

Strong public health programs, including preventive initiatives and community engagement, are associated with higher citizen satisfaction. H3 is supported.

H4: Coordination → Healthcare Performance

One-way ANOVA was used to test whether different levels of coordination between departments influenced perceived healthcare performance:

$F(4, 228) = 3.783$, $p = 0.024$

There is a statistically significant difference in perceived healthcare performance across levels of coordination, suggesting that better coordination improves healthcare delivery outcomes. H4 is supported.

H5: Mediation – Service Quality Mediating Integration → Satisfaction

Mediation analysis using the **Baron & Kenny method**

Step	Predictor	Mediator	Outcome	β
1	Integration	–	Citizen Satisfaction	0.279
2	Integration	Service Quality	–	0.261
3	Integration	Service Quality	Citizen Satisfaction	0.065 (Integration), 0.820 (Mediator)

Service quality partially mediates the relationship between integration and citizen satisfaction. The effect of integration decreases when service quality is included, while service quality itself has a strong effect on satisfaction. H5 is supported.

Table 4: Summary of Hypothesis Testing.

Hypothesis	Test Type	Statistic	p-value	Result
H1	Pearson Correlation	$r = 0.364$	0.000	Supported
H2	Regression	$\beta = 0.476$	0.000	Supported
H3	Spearman Correlation	$\rho = 0.541$	0.000	Supported
H4	ANOVA	$F = 3.783$	0.024	Supported
H5	Mediation (Baron & Kenny)	$\beta_{\text{mediator}} = 0.820$	0.000	Supported

Integration between public health and administrative management, strong administrative efficiency, and well-implemented public health programs all positively impact service quality and citizen satisfaction.

Coordination between departments significantly enhances perceived healthcare performance.

Service quality acts as a key mediator, amplifying the effect of management integration on citizen satisfaction. These results indicate that Saudi healthcare reforms emphasizing integration, quality improvement, and coordination are effectively aligned with improved citizen experiences and service outcomes.

6. DISCUSSION

The results of this study provide compelling evidence that integrating public health and administrative management significantly improves citizen satisfaction in Saudi healthcare, supporting the broader findings from prior research emphasizing the role of strategic management in service delivery. Our first hypothesis, showing a moderate positive correlation ($r = 0.364$, $p < 0.001$) between management integration and citizen satisfaction, aligns with Alhashel et al. (2024), who emphasized that integration across clinical, administrative, and emergency services is essential for improving efficiency and service delivery, although practical implementation challenges remain. This finding suggests that Saudi healthcare reforms under Vision

2030 are indeed fostering the intended organizational cohesion, enabling citizens to experience more coordinated and responsive care. The positive impact of administrative efficiency on service quality ($\beta = 0.476$, $p < 0.001$) observed in H2 further corroborates the literature, particularly Alsaekhan *et al.* (2024), who identified leadership, staff training, and technological support as critical drivers of quality management. This implies that healthcare facilities that optimize administrative processes, resource allocation, and staff competencies are likely to enhance perceived service quality, which is a crucial mediator between management integration and satisfaction. H3, which demonstrated a strong positive association between public health programs and citizen satisfaction (Spearman $\rho = 0.541$, $p < 0.001$), resonates with findings from Al Maqbul *et al.* (2024) and Aljarid & Alonazi (2025), where effective disease prevention campaigns and health promotion initiatives were linked to improved population health outcomes and patient perceptions. Our results highlight that citizens value not only the efficiency of administrative operations but also the tangible benefits of well-executed public health programs, confirming that preventive and community-focused initiatives enhance the perceived responsiveness of the healthcare system. H4, which examined the effect of coordination on healthcare performance through ANOVA ($F = 3.783$, $p = 0.024$), provides empirical support for Zaidi *et al.* (2024), who stressed that stakeholder readiness and strategic alignment are critical for successful organizational change. In our study, higher coordination levels between departments translated into better perceived performance, underscoring that integration is not merely an administrative exercise but a practical determinant of healthcare outcomes. Furthermore, H5 confirmed that service quality partially mediates the relationship between management integration and citizen satisfaction ($\beta_{\text{mediator}} = 0.820$), echoing the conclusions of Al-Balas *et al.* (2024) and Alodhialah *et al.* (2024), who demonstrated that service quality dimensions—tangibility, reliability, responsiveness, assurance, and empathy—directly influence patient satisfaction and loyalty. This finding emphasizes that while integration and efficiency lay the foundation for improved service, it is the perceived quality of services that ultimately drives citizen satisfaction, highlighting the necessity of considering service delivery processes in tandem with organizational reforms. Collectively, these results address a critical gap identified in the literature, which noted that few studies have empirically examined the combined effects of public health management, administrative efficiency, and integration on citizen outcomes in Saudi Arabia. Our findings extend the existing knowledge by showing that integration, when operationalized through coordinated planning, shared decision-making, and data-driven practices, can lead to measurable improvements in both service quality and satisfaction. Importantly, the results also align with broader observations from Mani & Goniewicz (2024), who highlighted the role of digital

health tools, workforce development, and public health initiatives in enhancing system efficiency and safety under Vision 2030. The empirical evidence provided by our study indicates that these macro-level reforms are indeed translating into positive micro-level outcomes, suggesting that Saudi healthcare institutions are beginning to realize the benefits of strategic integration. Moreover, our results indicate that administrative efficiency and public health programs operate synergistically: administrative processes enhance the delivery and accessibility of public health initiatives, which in turn improve citizen perceptions of service quality and satisfaction. This dual pathway highlights a critical mechanism through which policy reforms can yield tangible benefits for citizens. Notably, while previous studies often examined either administrative management, public health initiatives, or patient satisfaction in isolation, our research demonstrates that these components interact in a meaningful way, providing a more holistic understanding of the determinants of healthcare performance and citizen satisfaction. For example, the mediation role of service quality indicates that integration alone is insufficient; citizens' experiences are ultimately shaped by how well services are delivered and perceived, which aligns with the SERVQUAL-based findings in Al-Balas *et al.* (2024). Additionally, our demographic analyses underscore the importance of considering diverse perspectives from both healthcare staff and citizens across different regions, reflecting the heterogeneous context of Saudi healthcare. In practical terms, these findings suggest that policymakers and healthcare administrators should prioritize not only structural integration and efficiency improvements but also invest in quality enhancement initiatives, staff training, and community-centered public health programs to maximize satisfaction outcomes. The consistency of our results with prior research reinforces the validity of the integration-satisfaction framework while providing new empirical evidence from a sample of 233 respondents spanning multiple regions of Saudi Arabia. In conclusion, this study confirms that effective integration of public health and administrative management, coupled with strong public health programs and efficient administrative practices, significantly improves service quality and citizen satisfaction, thereby supporting ongoing Vision 2030 healthcare reforms. These findings bridge a critical gap in the literature, demonstrating that integrated management strategies are essential for delivering responsive, high-quality healthcare that meets citizen expectations and contributes to the broader goals of health system modernization in Saudi Arabia.

7. CONCLUSION

This study aimed to examine the impact of integrating public health and administrative management on service quality and citizen satisfaction in Saudi healthcare, with additional attention to the roles of administrative efficiency, public health programs, coordination between departments, and the mediating effect of service quality.

Drawing on a sample of 233 respondents, including both healthcare staff and citizens across multiple regions of Saudi Arabia, the study employed a quantitative, cross-sectional survey design, enabling empirical testing of five key hypotheses derived from the research objectives. The findings provide robust evidence that management integration, administrative efficiency, and public health programs are all critical determinants of citizen satisfaction and perceived service quality in the Saudi healthcare system. The first key conclusion is that integration between public health and administrative management significantly enhances citizen satisfaction. Pearson correlation results ($r = 0.364$, $p < 0.001$) demonstrated a moderate positive relationship, indicating that higher levels of coordination, shared decision-making, and joint planning translate into improved citizen experiences. This supports the notion that integration is not only a structural or procedural goal but also a practical driver of positive healthcare outcomes. In the context of Saudi Arabia's ongoing Vision 2030 reforms, this finding confirms that efforts to align administrative and public health functions are beginning to yield tangible benefits for citizens. By combining policy, management, and operational efforts across departments, healthcare organizations can ensure a more cohesive and responsive service delivery system. Second, administrative efficiency emerged as a strong predictor of service quality ($\beta = 0.476$, $p < 0.001$), confirming that the effectiveness of administrative operations is foundational to the delivery of high-quality healthcare services. Efficient processes, adequate resource allocation, and well-trained staff contribute directly to how citizens perceive the quality of services. These findings resonate with previous literature emphasizing leadership, training, and technological support as essential drivers of quality management in healthcare (Alsaekhan et al., 2024). Consequently, healthcare administrators should continue to invest in process optimization, staff capacity building, and the deployment of supportive digital tools to enhance efficiency and service delivery outcomes. Third, the study highlights the critical role of public health programs in influencing citizen satisfaction. Strong preventive initiatives, health education campaigns, epidemic control measures, and community engagement activities were all associated with higher levels of satisfaction (Spearman $\rho = 0.541$, $p < 0.001$). These results confirm that citizens value both the accessibility and effectiveness of public health interventions, echoing prior findings from Al Maqbul et al. (2024) and Aljarid & Alonazi (2025). In practical terms, this indicates that health promotion and preventive strategies should be integrated with administrative management efforts to maximize their impact on overall citizen satisfaction and healthcare outcomes. Fourth, coordination between departments significantly improves perceived healthcare performance (ANOVA $F = 3.783$, $p = 0.024$), supporting the idea that interdepartmental collaboration is a key factor in effective service delivery. Healthcare organizations that foster communication, data sharing,

and collaborative planning are better positioned to respond to citizen needs and deliver consistent, high-quality care. This finding aligns with Zaidi et al. (2024), who emphasized that strategic planning and stakeholder readiness are essential for successful healthcare reforms and organizational change. Finally, service quality was found to partially mediate the relationship between management integration and citizen satisfaction ($\beta_{\text{mediator}} = 0.820$). This indicates that while integration and efficiency lay the groundwork for improved satisfaction, the quality of services experienced by citizens ultimately determines their perceptions of care. The mediation effect reinforces the relevance of the SERVQUAL dimensions—tangibility, reliability, responsiveness, assurance, and empathy—as central determinants of satisfaction, supporting evidence from Al-Balas et al. (2024) and Alodhialah et al. (2024). In conclusion, this study provides empirical support for the integrated management framework, demonstrating that the combined effects of public health management, administrative efficiency, and interdepartmental coordination significantly enhance service quality and citizen satisfaction. The findings highlight that Saudi healthcare reforms under Vision 2030 are positively influencing organizational processes and citizen experiences. Policymakers and healthcare administrators are encouraged to maintain and expand initiatives that promote integration, efficiency, and high-quality public health programs. By emphasizing both structural coordination and service delivery excellence, the Saudi healthcare system can achieve sustainable improvements in citizen satisfaction, operational efficiency, and overall health outcomes. This research fills an important gap in the literature by providing a comprehensive, data-driven analysis of how integrated management strategies function in practice, offering actionable insights for both local and broader healthcare contexts.

8. REFERENCES

1. Al-Ahmadi, H., & Roland, M. (2005). Quality of primary health care in Saudi Arabia: A comprehensive review. *International Journal for Quality in Health Care*, 17(4): 331–346.
2. Al-Hanawi, M. K., Khan, S. A., & Al-Borie, H. M. (2019). Healthcare human resource development in Saudi Arabia: Emerging challenges and opportunities—a critical review. *Public Health Reviews*, 40(1): 1–16.
3. Alharbi, M. A. (2018). The status quo of health information technology and health information management efficiency in Saudi Arabia: A narrative review. *International Journal of Health Research Innovation*, 6(1): 11–23.
4. Alkhamis, A., Hassan, A., & Cosgrove, P. (2014). Financing healthcare in Gulf Cooperation Council countries: A focus on Saudi Arabia. *International Journal of Health Planning and Management*, 29(1): e64–e82.

5. World Health Organization. (2025). Environmental Health Saudi Arabia 2025 country profile. Available from: <https://www.who.int/publications/m/item/environmental-health-sau-2025-country-profile>
6. Alomi, Y., Alghamdi, S., & Alattyh, R. (2015). Strategic plan of the general administration of pharmaceutical care at the Ministry of Health in Saudi Arabia 2012–2022. *Journal of Pharmacy & Pharmaceutical Sciences*, 1(13): 1–8.
7. Alomi, Y. A., Al-Muwallad, N. H., Khayat, N. A. Y., Bamagauas, Y. A., Bakhsh, M. R., Khayat, N. A., et al. (2020). National mass gathering pharmaceutical care program at healthcare institution in Saudi Arabia. *International Journal of Pharmacology and Clinical Science*, 9(1): 1–4.
8. Alomi, Y. A., Alghamdi, S. J., Alattyh, R. A., & Elshenawy, R. A. (2018). The evaluation of pharmacy strategic plan in past 2013–2016 and forecasting of new vision 2030 at Ministry of Health in Saudi Arabia. *Journal of Pharmacy Practice and Community Medicine*, 4(2): 93–101.
9. Alomran, M. (2019). Implementation of strategic management practices in healthcare sector in Saudi Arabia. *International Journal of Business Administration Studies*, 5(3): 131–144.
10. Alsharif, S., Benslimane, N., Khalifa, M., & Price, C. (2018). Healthcare IT strategic alignment: Challenges and recommendations. In *Data, Informatics and Technology: An Inspiration for Improved Healthcare* (pp. 207–210): IOS Press.
11. Altuwaijri, M. (2011). Health information technology strategic planning alignment in Saudi hospitals: A historical perspective. *Journal of Health Informatics in Developing Countries*, 5(2).
12. Bennett, B. (2016). *Competing on healthcare analytics: The foundational approach to population health analytics* (1st ed.). CreateSpace Independent Publishing Platform.
13. Ginter, P. M., Duncan, W. J., & Swayne, L. E. (2018). *The strategic management of health care organizations* (8th ed.). John Wiley & Sons.
14. Hinings, C., & Greenwood, R. (2019). *The dynamics of strategic change* (1st ed.). Basil Blackwell.
15. Khalifa, M. (2013). Barriers to health information systems and electronic medical records implementation: A field study of Saudi Arabian hospitals. *Procedia Computer Science*, 21: 335–342.
16. Lewin, K. (2017). Frontiers in group dynamics. *Human Relations*, 1: 5–41.
17. Lukas, C. V., Holmes, S. K., Cohen, A. B., Restuccia, J., Cramer, I. E., Shwartz, M., et al. (2017). Transformational change in health care systems: An organizational model. *Health Care Management Review*, 32: 309–320.
18. Phelps, C., Madhavan, G., Rappuoli, R., Levin, S., Shortliffe, E., & Colwell, R. (2016). Strategic planning in population health and public health practice: A call to action for higher education. *Milbank Quarterly*, 94(1): 109–125.
19. Rahman, R., & Alsharqi, O. (2019). What drove the health system reforms in the Kingdom of Saudi Arabia? An analysis. *International Journal of Health Planning and Management*, 34: 100–110.
20. Rahman, R., & Al-Borie, H. M. (2021). Strengthening the Saudi Arabian healthcare system: Role of Vision 2030. *International Journal of Healthcare Management*, 14(4): 1483–1491.
21. Khudair, A., & Bawden, D. (2007, July). Healthcare libraries in Saudi Arabia: Analysis and recommendations. In *Aslib Proceedings*. Emerald Group Publishing Limited.
22. Sweis, R. J., Al-Mansour, A., Tarawneh, M., & Al-Dweik, G. (2013). The impact of total quality management practices on employee empowerment in the healthcare sector in Saudi Arabia: A study of King Khalid Hospital. *International Journal of Productivity and Quality Management*, 12(3): 271–286.
23. Wittenstein, R. (2008). *Factors influencing individual readiness for change in a health care environment*. The George Washington University.
24. Aboneama, W. A. (2018). Creating a unique sustainable rating system for Saudi Arabia to achieve environmental assessment and 2030 vision. *European Journal of Sustainable Development*, 7: 269–284.
25. Al-Wathinani, A. M., Barten, D. G., Borowska-Stefańska, M., Golda, P., AlDulijan, N. A., Alhallaf, M. A., Samarkandi, L. O., Almuhaiddly, A. S., Goniewicz, M., Samarkandi, W. O., et al. (2023). Driving sustainable disaster risk reduction: A rapid review of the policies and strategies in Saudi Arabia. *Sustainability*, 15: 10976.
26. Mani, Z. A., Sultan, M. A. S., Plummer, V., & Goniewicz, K. (2023). Navigating interoperability in disaster management: Insights of current trends and challenges in Saudi Arabia. *International Journal of Disaster Risk Science*, 14: 873–885.
27. Noor, A. (2019). The utilization of e-health in the Kingdom of Saudi Arabia. *International Research Journal of Engineering and Technology*, 6: 11.
28. Alghamdi, S. M., Alsulayyim, A. S., Alqahtani, J. S., & Aldhahir, A. M. (2021). Digital health platforms in Saudi Arabia: Determinants from the COVID-19 pandemic experience. *Healthcare*, 9: 1517.
29. Dawood, S., Dawood, A., Alaskar, H., & Saba, T. (2021). COVID-19 artificial intelligence based surveillance applications in the kingdom of Saudi Arabia. In *2021 1st International Conference on Artificial Intelligence and Data Analytics (CAIDA)*, 200–205. IEEE.
30. Alaboudi, A., Atkins, A., Sharp, B., Balkhair, A., Alzahrani, M., & Sunbul, T. (2016). Barriers and challenges in adopting Saudi telemedicine network: The perceptions of decision makers of healthcare facilities in Saudi Arabia. *Journal of Infection and Public Health*, 9: 725–733.

31. Alshammari, M. (2021). Electronic-health in Saudi Arabia: A review. *International Journal of Advanced Applied Sciences*, 8: 9942873.
32. Alghamdi, S. A., & Alashban, Y. (2024). Medical science students' attitudes and perceptions of artificial intelligence in healthcare: A national study conducted in Saudi Arabia. *Journal of Radiation Research and Applied Sciences*, 17: 100815.
33. Zaidi, A. R. Z., Monica, M., & Nisa, N. (2024, January 8). An investigation into healthcare management and strategic planning: A study on healthcare in Saudi Arabia. *GSAR Journal of Applied Medical Sciences*. Available from: <https://gsarpublishers.com/gsarjams-home/>
34. Hassounah, M., Raheel, H., & Alhefzi, M. (2020). Digital response during the COVID-19 pandemic in Saudi Arabia. *Journal of Medical Internet Research*, 22: e19338.
35. Abdulaziz Jaber Alhashel, Basem Saud Abdullah Alghamdi, Hussain Muteb Jaber Harise, Mohammed Ahmed Ibrahim Al-Hazmi, Hussam Mohsen Mashuof, Ibrahim Ismail Hamaml, Abdul Aziz Abdo Ali Agili, Marwah Mohammed Nasser, Zakia Abdelmalek Alhothali, Sarah Ahmed Aljehani, Amaal Muhammed Althomali, Sara Atiah Alharthi. *Transforming Healthcare: Integrating Clinical, Administrative, and Emergency Services*. Journal of International Crisis and Risk Communication Research, 2024; 7(S11): 1756. ISSN: 2576-0017.
36. Shahad Abdullah Alsaekhan, Saud Obaed Alrasheedi, Nasser Hanas Alotaibi, Turki Hanas Alotaibi, Abdullah Mohammed Saad Alotaibi, Abdulaziz Saban Awad Alotaibi, Ahmed Hadi Mohammed AlAsiri, Fatima Ali Youssef Almajed, Maryam Mahdi Hassan Aljamed, Naif Aedh Bin Mohammed Alshabawi, Saad Aeydh Salem Alqahtani, Nouf Mohsin Almefqae, Hana Nadian Alrwailiy, Sultan Obaed Alrasheedi, Abdullah Yahea Ahmed Zalah. *Quality Management in Healthcare: Insights and Strategies for Saudi Arabia*. Journal of International Crisis and Risk Communication Research, 2024; 7(S9): 2984. ISSN: 2576-0017.
37. Faezeh Ostadmohammadi, Ehsan Nabovati, Fatemeh Rangraze Jeddi, Leila Shokrizadeh Arani. *Stakeholders' Experiences, Perceptions and Satisfaction with an Electronic Appointment System: A Qualitative Content Analysis*. BMC Health Services Research, 2025; 25: Article 220.
38. Faris Musaad Hussain Al Maqbul, Yaqoub Ahmed Ahmed Al Murthimah, Gasam Mohammad Hamad Balhareth, Samer Ahmed Ali Al Murdhimah, Mousa Ahmed Ahmed Al Murthimah, Saleh Mohammed Hassan Al Mansour, Saleh Mohammed Hamad Al Irfan Al Yami, Saleh Abdullah Ail Al Alhareth, Hamad Ahemad Azan Al Askar, Masoud Ali Hussein Al Mansour, Ali Faraj Ali Alyami. *Health Promotion and Disease Prevention Strategies in Saudi Arabia*. Journal of International Crisis and Risk Communication Research, 2024; 7(S9): 2568. ISSN: 2576-0017.
39. Sarah Aljarid, Wadi Alonazi. *Examining Factors Contributing to Mortality in Saudi Arabia: Proposing Effective Healthcare Management Approaches*. BMC Public Health, 2025; 25: Article 1801.
40. Abdul Rehman Zia Zaidi, Maria Monica, Noor un Nisa. *An Investigation into Healthcare Management and Strategic Planning: A Study on Healthcare in Saudi Arabia*. GSAR Journal of Applied Medical Sciences, 2024; 22.
41. Samir M. Al-Balas, Hindya O. Al-Maqableh, Seif Athamneh, Aram M. Odeibat. *Quality Status: A SERVQUAL Approach to Evaluate the Effect of the Quality of Healthcare Services on Patient Satisfaction in Jordan*. Taylor & Francis Online, 2024; 351–367.
42. Abdulaziz M. Alodhialah, Ashwaq A. Almutairi, Mohammed Almutairi. *Key Predictors of Patient Satisfaction and Loyalty in Saudi Healthcare Facilities: A Cross-Sectional Analysis*. Healthcare, 2024; 12(20): 2050.
43. Zakaria A. Mani, Krzysztof Goniewicz. *Transforming Healthcare in Saudi Arabia: A Comprehensive Evaluation of Vision 2030's Impact*. Sustainability, 2024; 16(8): 3277.