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The Relationship between Health Administration Practices and Quality of Patient Care: A Review

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Abstract: Many believe improved health administration procedures improve patient care. However, administrative procedures affect patient care in many ways, and hospitals are complicated systems. This global quantitative study examines the relationship between health administration practices and hospital care quality. Web of Science, Global Health, EconLit, EMBASE, and PubMed were thoroughly searched without language or country restrictions. Our empirical study statistically examined the relationship between administrative processes and many high-quality patient care features. Medication and equipment availability, clinical quality (treatment protocol adherence), health results, and patient pleasure or experience were examined. Every association observed in the study was statistically favourable, substantially negative, or null at 5%. Only 28 of 10,284 studies met inclusion criteria and exhibited modest bias. We have cross-sectional and intervention-based studies from high, poor, and medium-income countries. Of the 124 associations recorded, 61 (49.2%) were considerably positive, three (2.4%) were strongly negative, and 60 (48.4%) were empty. Health outcomes (59%), structural quality (75%) and clinical quality (62%) were most associated, but patient satisfaction (78%) was not. Administrative approaches may improve certain aspects of care, however the results demonstrate a mixed evidence base with roughly equal proportions of positive and null effects. Randomised research designs are rare, resulting in weak causal findings. This suggests that intervention studies and natural experiments, utilising quantitative health administration methodologies, are needed to investigate the favourable relationships in many domains.

Keywords: Health, Quality, Patient , Care , Review, Practices

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INTRODUCTION

Policy and research in the healthcare industry have switched their attention to the efficacy and efficiency of health systems as a whole in an effort to improve the results for patients and achieve universal health coverage. In the realm of health administration, the unsung heroes are the individuals who work behind the scenes to make clinical treatment feasible, coordinate care, and bring about improvements in care. It is necessary to make a variety of decisions on processes, rules, leadership styles, and strategic options while managing healthcare facilities. Both of these are together referred to as health administration. The use of information technology, the administration of supply chains, quality assurance, patient safety measures, financial management, human resource planning, and hospital governance are all components of these processes. Because of the changing nature of the healthcare environment, which includes an increase in the

number of patients, a decrease in the amount of resources available, and the need for collaboration across disciplines, it is more vital than ever before to have robust administrative procedures in place.

A significant factor that determines the quality of care that patients get is the degree to which the healthcare system is effectively administered. Having a budget that is properly allocated, for instance, may ensure that essential supplies like as pharmaceuticals, diagnostic equipment, and skilled personnel are always available. Additionally, having strong leadership and a culture that is conducive to the firm can raise morale and reduce employee turnover. It is possible that the implementation of certification standards, continuous quality improvement frameworks, and performance monitoring systems may result in improved clinical adherence to treatment protocols as well as an increase in patient safety. On the other side, poor administration may result in services that are not seamless, workflows that are not efficient, wait times that are excessive, and a drop in the level of satisfaction experienced by patients. When it comes to low- and middle-income countries, which are tasked with maximising the effectiveness of their administrative capacity, these issues are more serious because of the limited resources available to them.

Despite the rising acknowledgement of the significance of administration, there is still a difficult and inadequate understanding of the connection between administrative practices and the quality of patient care. The ever-evolving dynamics of hospitals are influenced by a variety of factors, including patient demographics, regulatory frameworks, the capabilities of health professionals, and infrastructure. Clinical treatment and administrative procedures might sometimes interact with one another in a manner that is indirect and roundabout. In addition, the research endeavours in this sector are threatened by the limitations imposed by the methodology. The difficulty in judging "good" management or administration, the heterogeneity in outcome measures, and the predominance of cross-sectional research are some of the factors that are included in this category. However, this list is not exhaustive. Because of this, it is difficult to draw broad generalisations or demonstrate a connection between cause and effect.

After taking into consideration the fragmented nature of the existing research and the growing interest of the government in improving health system governance, it is both essential and necessary to conduct a comprehensive synthesis of the information that is now available. As a means of satisfying that need, this research endeavour brings together quantitative data from all around the globe to analyse the ways in which various health administration systems influence the quality of hospital treatment. Through the identification of similarities, methodological benefits and drawbacks, and research gaps, the purpose of this study is to provide the framework for future academic research and the formulation of policy.

OBJECTIVES

1. To evaluate the relationship between patient care quality and health administration practices.
2. To identify knowledge gaps and direct next research on the administrative effect of healthcare.

MATERIAL AND METHOD

Protocol

The rigour and openness of this systematic review were guaranteed by its adherence to PRISMA standards..

Eligibility Criteria

We compiled this list of empirical research that objectively evaluated the link between hospital administration procedures and patient care quality published after the year 2000. Research required to document results pertaining to health outcomes, patient happiness, clinical quality (such as protocol adherence), structural quality (such as resource availability), or both. In this case, both intervention and observational studies might be considered..

Sources and Search Strategy

We did thorough searches in five databases: Web of Science, EconLit, PubMed, EMBASE, and Global Health. Search terms included hospital settings, healthcare quality, and management. We also looked through the included studies' reference lists to see if we could uncover any more relevant papers.

Study Selection

We effectively managed a large number of records during screening by combining manual review with machine learning-assisted prioritisation (ASReview LAB). The process began with a screening of titles and abstracts, and then two separate reviewers read the whole texts and provided feedback. A consensus was reached to settle the disagreements..

Data Extraction

Study designs, nation income categories, management metrics, quality of care outcomes, and statistical data were all extracted using a standardised form. We extracted data for each meaningful connection when papers reported multiple analyses.

Risk of Bias Assessment

The ROBINS-I tool was modified to assess potential bias in the following areas: reporting bias, confounding, exposure categorisation, outcome measurement, and participant selection. We did not include studies in our analysis if they had a high potential for bias.

Data Synthesis and Analysis

A meta-analysis was omitted because of the diversity of measuring methods. Instead, at a significance level of 5%, each relationship between health administration and quality outcomes was classified as either substantially positive, significantly negative, or null. Summary statistics were provided for the distribution of these correlations both overall and broken down by income setting, outcome type, and risk of bias level.

RESULT

Study Selection

Figure 1 shows the papers that were chosen according to PRISMA criteria (Moher et al., 2009). We identified 10,284 entries after searching PubMed, EMBASE, EconLit, Global Health, and Web of Science. We examined 28 publications for inclusion after full-text review and bias assessment. These studies, which included both intervention- and cross-sectional designs, demonstrated acceptable degrees of bias. Additional information was uncovered by meticulously reviewing citations and inspecting webpages. The

selected studies fairly reflect high-, low-, and medium-income countries..

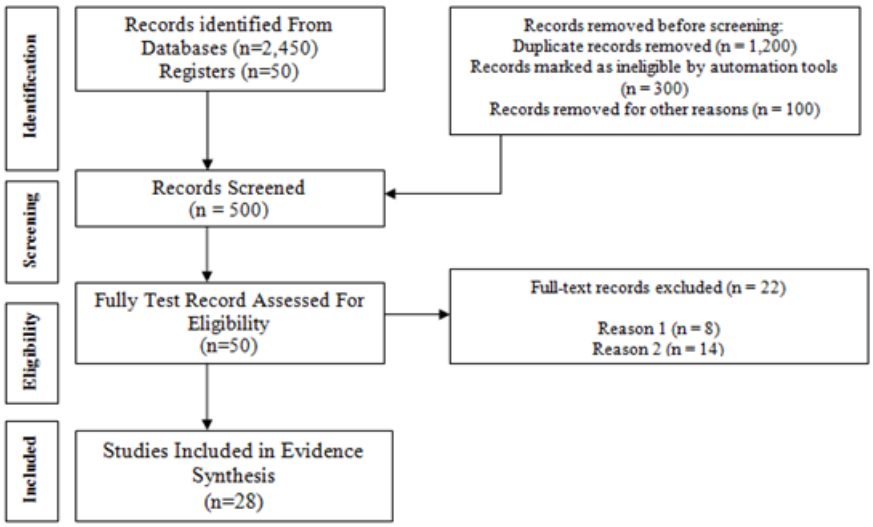

Figure 1. PRISMA flow diagram.

Risk of Bias

The 28 studies that were considered have a moderate risk of bias. Since most research used observational or cross-sectional methods, it was difficult to draw any conclusions about causality. Interventional or randomised designs were used by a small number of research. One common cause of bias was the possibility of confounding variables, which often occurred while defining and measuring administrative processes. There was a lack of rationale for certain research that depended on subjective staff reports or used restricted management items. The total risk of bias was deemed acceptable for inclusion in this synthesis, notwithstanding these constraints.

Study Settings and Characteristics

Table 1 summarises the studies that were considered. Several aspects of patient care quality, including structural quality (access to medications, equipment, and guidelines), clinical quality (following treatment protocols), health outcomes (mortality, morbidity), and patient satisfaction or experience, have been studied in relation to health administration practices. healthcare and structural quality measurements were mostly acquired from standardised patients, healthcare records, direct observation, or facility surveys. Primary data collection and regular health data were used to get health outcomes. Standardised questionnaires were used to gauge patient satisfaction with regard to communication, trust, and overall care experience.

Among the 28 studies, some focused only on hospitals while others covered a variety of healthcare providers and institutions. The majority of research made an effort to account for potential confounding factors, such as staff positions, patient demographics (such as age, gender, and socioeconomic status), and facility characteristics (such as type, rurality, and size). The World Management Survey and its variants, employee feedback, and cluster analysis for the purpose of defining management models were among the methods used to quantify administrative procedures.

Out of 124 connections between administrative procedures and patient care outcomes reported in studies, 49.2% were found to be statistically favourable, 48.4% were found to be non-significant, and 2.4% were found to be significantly negative. Associations for patient satisfaction were mostly nil (78%), in contrast to stronger positive connections for structural quality (75%), clinical quality (62%), and health outcomes (59%). Further intervention research is required to address these areas, since these results demonstrate a complicated and varied link between administrative procedures and patient care quality.

Table 1. Study characteristics in evidence synthesis

Characteristic	Number of Studies	Percentage (%)
Income setting		
High-income	12	48.0
Low- and middle-income	13	52.0
Study design		
Cross-sectional association	22	78.6
Before and after intervention	4	14.3
Randomized controlled trial	2	7.1
Health facility type		
Hospital only	14	50.0
Hospitals and other types of facilities	14	50.0
Sector		
Private	3	10.7
Public	6	21.4
Private and public	13	46.4
Not stated	6	21.4
Management measure		

World Management Survey	5	17.9
Adapted from the World Management Survey	8	28.6
Other	15	53.6
Proportion of positive management-quality associations (at 5% level)		
All associations	61	49.2
Majority (≥50%) of associations	8	28.6
Minority (<50%) of associations	3	10.7
No associations	6	21.4

Figure 2. Management-quality relationships by income.

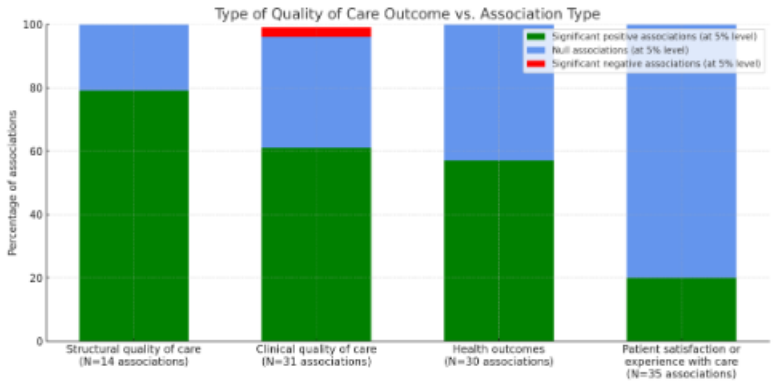

Figure 3. Management–quality relationships by care outcome type

Association Between Management and Quality of Care

As can be shown in Table 1, out of the 28 studies that were taken into consideration, only eight of them

(representing 32 percent of the total) demonstrated positive connections between management practices and care quality, while six of them (representing 24 percent of the total) discovered no relationships at all. A total of 111 associations between management quality and outcomes were investigated, and it was discovered that 55 of them were found to be considerably positive, 55 of them were found to be null, and one of them was found to be significantly negative. Figure 2 shows that studies done in high-income countries and those conducted in low- and middle-income countries (LMICs) show very little variation in terms of the distribution of significant positive versus null associations by country income level. These variations are likewise determined to be rather insignificant.

Figure 3 presents a breakdown of the associations according to the various quality of care domains. Eleven out of fourteen correlations, which accounts for fifteen percent, were positive when assessing structural quality. Seventy-seven percent of the thirty interactions that were examined had a positive influence on health outcomes, whereas twenty-one percent of the thirty ties had a positive impact on clinical quality. However, only seven out of thirty-five (20%) patient satisfaction or experience markers were shown to have a positive association when the significance threshold was set at 5%. Among the 80 studies, there were 36 positive associations (45%) with a moderate risk of bias. When the studies were stratified according to the risk of bias, there were 19 positive relationships out of 31 studies (61%).

When looking at linkages that were only taken into consideration inside the public sector, sector-specific analysis revealed that eleven out of fourteen (or 79%) of the links were statistically positive. On the other hand, the reverse was true in study that was conducted only with the private sector; three out of seven relationships (43%) were positive. The study that used the World Management Survey (WMS) methodology had a larger number of positive connections (12 out of 14, 85.7%), which is a measure of the effectiveness of the approaches to measurement. When compared to research that used either other methods (29 out of 60, 48%) or modifications of the WMS methodology (14 out of 37, 37.8%), this was in contrast to the other methods. For instance, when measuring structural and clinical quality using standardised management measurement tools such as the WMS, these findings demonstrate that positive linkages between management practices and quality outcomes are more commonly seen. There is a wide range of results across different regions, sectors, and measurement procedures, which highlights the complexity of these relationships and the need of doing more in-depth research investigations.

Table 2. Description of eligible study management measures

Author (year)	Survey tool name	Management measure type	What did the management measure include?
Acharya et al. (2022)	Other	Multiple management items	Monthly management meetings, external monitoring, quality assurance, opinion collection and review system
Adhikari (2024)	Other	Multiple items of management	Quality assurance activities, external supervision, client opinion systems, frequency of health facility meetings

Adler-Milstein et al. (2014)	World Management Survey	Index	Operations, performance targets, talent management
Asaria et al. (2021)	Other	Index	Staff survey responses on management quality, choices, feedback, and communication
Bloom et al. (2015b)	World Management Survey	Index	Operations and monitoring, targets, incentives management
Bloom et al. (2020)	World Management Survey	Index	Operations, monitoring, targets, human resources
Byabagambi et al. (2017)	Other	Multiple items of management	Pharmaceutical management practices: SOPs, stock cards, job descriptions, stock monitoring
Fanelli et al. (2020)	Other	Index	Performance review, benchmarking, leadership, clinical guidelines, staff satisfaction
Groene et al. (2015)	Other	Index	Quality, infection, and complaint policies
Kim et al. (2022)	Based on World Management Survey	Index	Operations, HR, monitoring, community involvement, target setting
King et al. (2021)	Other	Index	Governance, HR, patient rights, IT, healthcare services, facility management
Macarayan et al. (2019)	Based on World Management Survey	Index	Operations, HR, monitoring, community involvement, target setting
McConnell et al. (2013)	World Management Survey	Index	Operations, goals, talent
Mwencha et al. (2017)	Other	Index	Quantity, transit, inventory, logistics, tracking, planning
Plough et al. (2017)	Based on World Management Survey	Index	Communication, resource management, scheduling, conflict management, teamwork
Powell-Jackson et al. (2024)	Based on World Management Survey	Index	Finance, HR, performance tracking, and operations

Salas-Ortiz et al. (2019)	Based on World Management Survey	Index	Performance financing, penalties, oversight, community involvement, governance
Salehnejad et al. (2022)	Other	Multiple items of management	Communication, worker feedback, workplace flexibility, incident reporting, decentralization
Thatte and Choi (2015)	Other	Multiple items of management	Supervision, provider training, documented job descriptions
Tsai et al. (2015)	World Management Survey	Index	Operations, monitoring, targets, human resources
Wang et al. (2022)	Based on World Management Survey	Index	Standardized operations, performance monitoring, goals, talent management
West et al. (2002)	Other	Multiple management items	HR management procedures and policies
West et al. (2006)	Other	Index	Performance management, participation, decentralization, teamwork, job security
Yoo et al. (2019)	Based on World Management Survey	Index	Operations, goals, talent
Zhu et al. (2021)	Based on World Management Survey	Index	Goal, effectiveness, talent

DISCUSSION

Health administration procedures and hospital patient care quality were examined in this global quantitative evidence review. This assessment comprised 28 cross-sectional to intervention studies from high, poor, and middle income countries with 124 connections. The relationship between administrative processes and care quality is still unclear, with virtually as many positive as null relationships. According to the newest findings, health outcomes, clinical quality (including treatment protocol adherence), and structural quality (medication and equipment availability) had the most positive connections. These administrative practices may improve patient health and treatment. Administrative procedures had no effect on patients' happiness or experiences. This may be because management focusses on clinical and operational factors rather than patients' views, and it's hard to quantify patients' reported results across settings.

Since few studies utilised randomised designs, causal inference was limited. Since most qualifying studies employed observational, cross-sectional methodologies, confounding and reverse causality should be considered when analysing links. However, some natural experiments and intervention studies indicate promising future research. Effective quality of care metrics and quantitative administrative process

evaluations should be used in these investigations. Differences in administrative practice assessment and result evaluation across research and country income settings make data synthesis problematic. Since our study found no significant variations in association patterns across high-income and low- and middle-income countries, the relationship between administration and treatment quality may be constant across health system settings.

Policy-wise, improved administrative processes, especially those that improve structural and clinical quality, may improve patient care. Hospitals should strengthen their administration as part of quality improvement activities. Limited patient satisfaction links highlight the need for better patient-centered management framework integration. This research confirms previous findings that healthcare systems are complex, including administrative processes, organisational culture, leadership, and resource constraints. Leadership and corporate culture affect management efficiency and product quality, which needs more study. Qualitative and mixed-methods research may illuminate these relationships' contexts and processes.

Use of novel measurement methods with established instruments like the World Management Survey is a field strength. Standardising and improving administrative practice metrics may increase study reliability and comparability. We urgently need natural experiments and randomised controlled trials to establish causal pathways and analyse how management interventions improve patient care. The review does not include grey literature, which may give additional insights from government and non-government sources, and cannot directly compare impact estimates owing to study heterogeneity. We also examined administration quality but not management resource allocation across health systems.

CONCLUSION

The significance of health administration processes in influencing the quality of hospital services is brought to light by this investigation. There are statistics that contradict each other; nonetheless, a number of studies have shown that administrative procedures that are well-structured contribute to improvements in structural quality, clinical processes, and health outcomes. The bulk of the associations, on the other hand, did not meet the criteria for statistical significance, which means that the influence on patients' satisfaction is less clear. The assessment of health administration is a complex and ever-evolving process, and the wide range of management measurement tools reflects this complexity and movement. There is a wide variety of instruments available, ranging from multi-item constructs that are locally designed to globally known indices such as International Management Survey. There is a significant limitation on the use of experimental research designs, which is a significant factor to take into account. This limitation limits the strength of causal findings. In order to ascertain which aspects of administration have the most influence on the enhancement of patient care, it is necessary to conduct intervention studies that are more narrowly focused and supported by data systems that are reliable and consistent. It is important for policymakers and hospital administrators to include management strengthening programs into wider quality improvement strategies in order to enhance the efficiency of hospitals and the outcomes for patients.

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