



The Role of New Health Regulations in Promoting Patient Quality of Care and Health Equity: Predicting the Future of Hospital Supportive departments in the Age of Health Transformational

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Abstract

Background: Global healthcare is undergoing significant change due to new regulatory frameworks that are intended to improve care quality and support health equity. These regulations, which are being strengthened by advancements in medical technology and responses to global health issues, require a significant impact on hospital operations and patient outcomes. In Saudi Arabia, the Vision 2030 initiative is leading a comprehensive overhaul of the healthcare system to improve easy access, effectiveness while and equity. The aim of current systematic review is to examine the role of new health regulations in promoting patient quality of care and health equity.

Method: Google Scholar, PubMed, Scopus and Research Gate were used to categorize research published between 2020 and 2024 to examine the role of new health regulations in promoting patients quality of care and health equity. There were sixteen studies were included in the synthesis, focusing on team dynamics and measurement scales.

Result: After the study database was searched, 1746 entries were found, and 20 of them were chosen for full-text evaluation. 16 studies that used quality management and peer-reviewed journals satisfied the criteria and were added to the systematic review following independent evaluation.

Conclusion: A study synthesis of 16 researches reveals that healthcare reform, digital transformation, and health equity require systemic reforms. Inadequate training for healthcare personnel, access to technology, and structural and policy changes are key areas that need improvement. Access to technology and digital literacy are particularly challenging, especially in underprivileged and rural areas. Policy changes are also needed to address structural injustices. Health systems must prioritize technology innovation to ensure all populations can benefit from advancements. However, challenges with workforce preparedness, equality, and technology adoption persist. Future research should focus on long-term impacts of regulatory changes,

particularly in underserved regions. A multidisciplinary approach involving health policy, technology, and community engagement is crucial.

Keywords: New Health Regulations, Patients Quality of Care, Health Equity, Worldwide, KSA, Systematic Review

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Background

The healthcare sector worldwide is experiencing rapid evolution driven by new regulatory frameworks engrossed on enhancing patient care quality and proceeding health equity. These regulations, often developed in response to global health encounters and improvements in medical technology, aim to establish robust standards for safety, transparency, and accessibility in healthcare. As these policies are executed, supportive departments within hospitals such as administration, patient services, information technology (IT), and quality reassurance play a vital role in adapting hospital operations to meet new standards. This transformation has global relevance, as countries endeavor to address both the quality and fairness of healthcare systems, with implications across various healthcare models, including in regions like the Kingdom of Saudi Arabia (KSA), where the healthcare sector is quickly proceeding under its Vision 2030 initiative (Broberg, 2020; Bhaskar et al., 2020; Gostin et al., 2020).

Worldwide, regulatory efforts increasingly focus on improving quality of care, distinct by effective patient outcomes, patient safety, and the effectiveness of service delivery. Health regulations, mainly in developed healthcare systems, instruction adherence to protocols that prevent medical errors, improve clinical outcomes, and enhance patient satisfaction. These protocols often involve implementing systems similar electronic health records (EHR) for data accuracy and endurance of care. Supportive subdivisions play a pivotal role in operationalizing these standards, helping clinical teams meet the requirements essential for regulatory compliance and ensuring continuous improvement in care delivery. The influence of these standards is visible in equally developed and developing healthcare systems; for instance, the World Health Organization (WHO) has been contributory in promoting patient safety initiatives worldwide, highlighting the importance of regulatory frameworks to support consistent care quality worldwide (Albahri et al., 2023; WHO,2021; Roberts et al., 2021;WHO,2021).

In the Kingdom of Saudi Arabia, the modification of healthcare is sturdily linked with Vision 2030, a determined inventiveness to update and improve the quality of life for all Saudi citizens. One of Vision 2030's chief aims is to produce a comprehensive, patient-centered healthcare system that both quality and approachability. Innovative regulations in the KSA order the enactment of advanced practices, advanced health technology, and improved service delivery to align with international healthcare standards (Hassan et al., 2021; Alsufyani et al., 2020; Alrashoud, 2020). Supportive subdivisions in KSA's hospitals are thus critical in adapting to these changes, as they work to implement quality-focused policies and digital health solutions. For instance, Saudi Arabia has implemented the SEHA e-health platform, which links patient data across various healthcare providers, improving continuity of care and reducing the probability of medical errors. These supportive roles within hospitals are essential in meeting the demands of a rapidly updating healthcare sector and achieving the national goal of high-quality healthcare access for all citizens (Klingmann,2023; Aldossary et al., 2023; Addas & Maghrabi, 2020; El-Bastawisy, 2020).

Supplementary essential aspect of existing health strategies, both globally and in the KSA, is endorsing health equity. Health equity inventiveness seek to ensure that healthcare resources and outcomes are distributed fairly crossways different population groups, addressing socio-economic, racial, and geographical disparities that contribute to unsatisfactory health outcomes (Kome,2023;Zammar, 2020). Internationally, controlling bodies have fortified healthcare providers to espouse policies that reduce barriers to care, such as expanding language services, providing culturally sensitive care, and implementing financial support programs. In KSA, health equity is particularly significant due to the country's miscellaneous population, which includes citizens, expatriates, and migrant workers. The

Ministry of Health in Saudi Arabia takes actions to reduce variances by improving healthcare access for all residents, regardless of background. Supportive departments are integral in implementing these policies by providing necessary resources, such as multilingual facilities and culturally personalized patient education, which allow hospitals to address the diverse needs of their patient populations and reduce inequalities in healthcare access (World Health Organization, 2023; Isasi et al., 2021; Carley & Konisky, 2020).

Objectives

Following are the objectives of the research

Study

Objectives

1. To examine global and Saudi Arabian health regulations' impact on supportive departments.
2. To assess how supportive departments enhance patient care through safety, efficacy, and service continuity.
3. To evaluate supportive departments' role in promoting health equity through initiatives reducing disparities.
4. To explore interconnections between health regulations, quality of care, and health equity.
5. To predict future trends in supportive departments influenced by regulatory and technological advancements.
6. To conduct a systematic review of current literature on supportive departments, regulatory impacts, quality improvement, and health equity initiatives.

Aim of the Study

This study examines the impact of new health regulations on supportive hospital departments, focusing on improving patient care quality and promoting health equity, both globally and within Saudi Arabia's Vision 2030 initiative. It seeks to understand how these departments adapt to regulatory demands and contribute to a resilient healthcare system.

Methods

The standards of the Preferred Reporting Items for Systematic Reviews (PRISMA) were adhered to by this systematic review.

Identifying Studies through Search Methods

In November, 2024, a search was made of databases and publications including Google Scholar, Research Gate and PsycINFO for the years 2020 to 2024 in order to address the methods for examining the impact of new health regulations on supportive hospital departments, focusing on improving patient care quality and promoting health equity, both globally and within Saudi Arabia's Vision 2030 initiative.

Inclusion and Exclusion Criteria

The study included empirical research, such as case-control, cross-sectional, and cohort studies, published in English, and focusing on the impact of new health regulations on hospital support departments. The research aimed to examine how these regulations improve patient care quality, promote health equity, and address healthcare access disparities. The study was eligible if it focused on the global context or Saudi Arabia, specifically within the Vision 2030 initiative. Studies published between 2020 and 2024 were included, involving healthcare providers, hospital administrators, or patients. Excluding non-empirical studies, non-English-published studies, unrelated research, and studies lacking sufficient detail or

transparency were also excluded. Only studies with substantial evidence on the impact of health regulations on patient care and equity were included.

Table 1

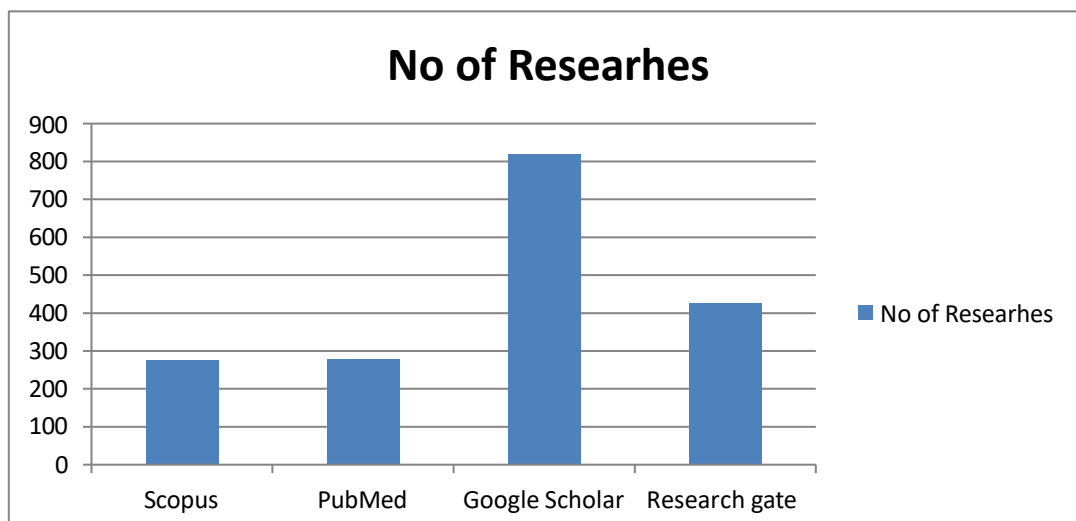
Syntax Search and Search Data Base

No	Database	Syntax Title	Year (2020-2024)	No of Researches
		"New Health Regulations" "Patient Quality of Care" and" Health Equity"		140
1	PubMed	The Role of New Health Regulations in Promoting Patient Quality of Care and Health Equity	2020-2024	87
		"New Health Regulations" "Patient Quality of Care" and" Health Equity"		198
2	Scopus	The Role of New Health Regulations in Promoting Patient Quality of Care and Health Equity	2020-2024	77
		"New Health Regulations" "Patient Quality of Care" and" Health Equity"		560
3	Google Scholar	The Role of New Health Regulations in Promoting Patient Quality of Care and Health Equity	2020-2024	259
		"New Health Regulations" "Patient Quality of Care" and" Health Equity"		280
4	Research Gate	The Role of New Health Regulations in Promoting Patient Quality of Care and Health Equity	2020-2024	145

Statistics from the Data Base

The study utilized Google Scholar, Research Gate and PsycINFO databases to identify relevant research publications from 2020-2024. The most significant articles were found in Google Scholar 819 and Research Gate 425 whereas Scopus had 275 and PubMed has 227 demonstrating thoroughness in the scientific search. The total researches were searched as 1746. Systematic Review Criteria for examining the impact of new health regulations on supportive hospital departments, focusing on improving patient care quality and promoting health equity, both globally and within Saudi Arabia's Vision 2030 initiative.

Figure 1

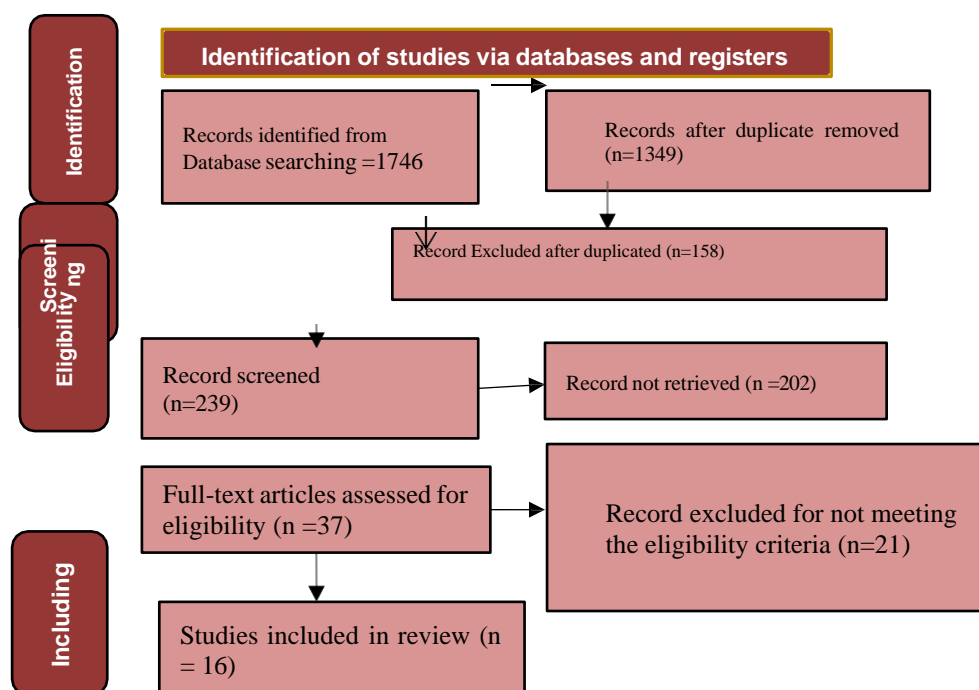


Gathering and Analysing Data

Using PRISMA criteria, the researcher conducted an independent evaluation and gathered citations. The research process began with a screening of the title and abstract, eliminating studies that did not match the inclusion criteria. Next, a full-text screening of publications that may be relevant was carried out, eliminating more irrelevant articles and adding the reasons for exclusion to the study selection flow diagram.

Figure 1

PRISMA 2020 flow diagram for new systematic reviews which included searches of databases and databases



Result

Quality Assessment

The included studies were evaluated for quality and methodological rigor using suitable instruments, such as the Joanna Briggs Institute Critical Appraisal Checklist for different research designs. The evaluation took into account variables including sample size, data gathering techniques, research design,

and potential biases. The quality evaluation led to the exclusion of certain studies, but the results were nonetheless interpreted considering the strengths and limits of the respective methods.

Table 3

Assessment of the literature quality matrix

Sr #	Author(s)	Selection of Studies	Literature Coverage	Method Description	Findings Description	Quality Rating
1	Akdere, M., Top, M., & Tekingündüz, S. (2020)	Service quality in Turkish hospitals	Focuses on hospital service quality using the SERVPERF model	Quantitative study using SERVPERF model for patient perception of service quality	Identified key factors influencing patient perceptions of service quality in Turkish hospitals	High
2	Zaid, A. A., Arqawi, S. M., et al. (2020)	Total quality management and patient satisfaction in Palestine	Focuses on TQM and perceived service quality in healthcare	Quantitative survey-based research assessing satisfaction and intention	Found significant correlation between TQM, service quality, and patient satisfaction in Palestinian hospitals	Medium
3	Alderwick, H., Hutchings, A., et al. (2021)	Collaboration in healthcare and non-healthcare organizations	Reviews collaboration between healthcare and non-healthcare sectors	Systematic review of existing reviews on collaboration in healthcare systems	Highlighted key factors shaping successful collaborations and their impact on health outcomes	High
4	Rahman, R., & Qattan, A. (2021)	Vision 2030 and sustainable development in Saudi Arabia	Focus on Vision 2030's healthcare reforms in Saudi Arabia	Descriptive analysis of Vision 2030 and its impact on healthcare reform	Discussed Saudi Arabia's Vision 2030 goals to enhance healthcare infrastructure and sustainability	High
5	Chowdhury, S., Mok, D., Leenen, L. (2021)	Transformation of healthcare models in Saudi Arabia	Focuses on healthcare transformation under Saudi Vision 2030	Qualitative review of healthcare model transformation in Saudi Arabia	Reviewed the shift towards a more sustainable and integrated healthcare system under Vision 2030	Medium
6	Alharbi, M. W. S., Almagrabi, E. M. S. (2022)	Knowledge of healthcare workers about Vision reforms	Reviews of healthcare workers' knowledge about Vision 2030 reforms	Survey-based study assessing awareness and understanding among healthcare workers	Revealed gaps in knowledge about Vision 2030 reforms among healthcare workers in Saudi Arabia	Medium

Sr #	Author(s)	Selection of Literature Studies Coverage	Method Description	Findings Description	Quality Rating	
7	Raimo, N., De Turi, I., et al. (2023)	Digital transformation in healthcare in Italy	Examines digital transformation in healthcare institutions	Empirical analysis based on surveys from Italian hospitals	Identified key drivers of digital transformation, such as technology adoption and training, in healthcare settings	High
8	Kraus, S., Schiavone, F., et al. (2021)	State of research on digital transformation in healthcare	Analyzes the current state of digital transformation in healthcare	Literature review on the impact of digital transformation in healthcare	Discussed challenges and benefits of digital transformation in healthcare, including patient outcomes and efficiency	High
9	Peek, N., Sujan, M., & Scott, P. (2020)	Digital health and care during COVID-19 pandemic	Focuses on digital health and its response during COVID-19	Review of digital health technologies and their role in pandemic care	Found digital health technologies played a crucial role in managing healthcare delivery during the COVID-19 pandemic	High
10	Ajegbile, M. D., et al. (2024)	Integrating business analytics in healthcare	Focuses on business analytics in improve healthcare outcomes	Empirical research to analyzing impact business analytics healthcare	Highlighted how data-driven decision-making improves patient outcomes and operational efficiency	Medium
11	Alcaraz, K. I., et al. (2020)	Social determinants of health and cancer equity	Addresses cancer health equity through social determinants	Policy and practice review for addressing social determinants in cancer care	Emphasized the need for addressing social determinants to improve cancer care and reduce disparities	High
12	Shadmi, E., et al. (2020)	Health equity and COVID-19	Focuses on global health equity perspectives during COVID-19	Systematic review on global health equity during COVID-19 pandemic	Found that COVID-19 disproportionately affected marginalized communities and worsened health inequities	High
13	Griffith, D. M., et al. (2021)	Trust in medical care and health equity	Focuses on the role of trust in promoting health equity	Conceptual and theoretical review of trust in healthcare settings	Identified that trust plays a key role in achieving health equity, especially for marginalized populations	Medium

Sr #	Author(s)	Selection Studies	of Literature Coverage	Method Description	Findings Description	Quality Rating
14	Shaw, J., Brewer, L. C., & Veinot, T. (2021)	Health equity and virtual care during COVID-19	Examines health equity and virtual care post-COVID-19	Narrative review of virtual care and health equity during the pandemic	Found that virtual care models can improve health equity but require careful consideration of barriers to access	High
15	Churchwell, K., et al. (2020)	Structural racism and health disparities	Examines structural racism as a driver of health disparities	Conceptual analysis from a public health perspective	Argues that structural racism is a key factor contributing to health disparities and must be addressed in policy	High
16	Yearby, R. (2020)	Structural racism and social determinants of health	Focuses on the reconfiguration of social determinants of health	Theoretical framework on the impact of structural racism on health	Explored how rethinking social determinants can help address the root causes of health disparities	Medium

The systematic review of studies provided clear descriptions, methods, selection processes, literature coverage, and clear conclusions, resulting in a "High or Medium" rating for their quality.

Study Selection

Two independent reviewers screened retrieved studies for eligibility, then reviewed full-text articles against inclusion and exclusion criteria, with disagreements resolved through discussion or consultation with a third reviewer.

Table 4

Selected Studies for SR (Systematic Review)

No	Author(s)	Research Title	Year
1	Akdere, M., Top, M., & Tekingündüz, S.	Examining patient perceptions of service quality in Turkish hospitals: The SERVPERF model	2020
2	Zaid, A. A., Arqawi, S. M., Mwais, R. M. A., et al.	The impact of Total quality management and perceived service quality on patient satisfaction and behavior intention in 2020 Palestinian healthcare organizations	
3	Alderwick, H., Hutchings, A., Briggs, A., & Mays, N.	The impacts of collaboration between local health care and non-health care organizations and factors shaping how they work: a 2021 systematic review of reviews	
4	Rahman, R., & Qattan, A.	Vision 2030 and sustainable development: state capacity to revitalize the healthcare system in Saudi Arabia	2021
5	Chowdhury, S., Mok, D., & Leenen, L.	Transformation of health care and the new model of care in Saudi Arabia: Kingdom's Vision 2030	2021

No	Author(s)	Research Title	Year
6	Alharbi, M. W. S., & Almagrabi, E. M. S.	Health care workers' knowledge about the healthcare transformation in Saudi Arabia: An overview since the launch of Vision 2030	2022
7	Raimo, N., De Turi, I., Albergo, F., & Vitolla, F.	The drivers of the digital transformation in the healthcare industry: An empirical analysis in Italian hospitals	2023
8	Kraus, S., Schiavone, F., Pluzhnikova, A., & Invernizzi, A. C.	Digital transformation in healthcare: Analyzing the current state-of-research	2021
9	Peek, N., Sujan, M., & Scott, P.	Digital health and care in pandemic times: impact of COVID-19	2020
10	Ajegbile, M. D., Olaboye, J. A., Maha, C. C., & Tamunobarafiri, G.	Integrating business analytics in healthcare: Enhancing patient outcomes through data-driven decision making	2024
11	Alcaraz, K. I., Wiedt, T. L., Daniels, E. C., et al.	Understanding and addressing social determinants to advance cancer health equity in the United States: a blueprint for practice, research, and policy	2020
12	Shadmi, E., Chen, Y., Dourado, I., et al.	Health equity and COVID-19: global perspectives	2020
13	Griffith, D. M., Bergner, E. M., Fair, A. S., & Wilkins, C. H.	Using mistrust, distrust, and low trust precisely in medical care and medical research advances health equity	2021
14	Shaw, J., Brewer, L. C., & Veinot, T.	Recommendations for health equity and virtual care arising from the COVID-19 pandemic: narrative review	2021
15	Churchwell, K., Elkind, M. S., Benjamin, R. M., et al.	Call to action: structural racism as a fundamental driver of health disparities: a presidential advisory from the American Heart Association	2020
16	Yearby, R.	Structural racism and health disparities: reconfiguring the social determinants of health framework to include the root cause	2020

Study Database

A systematic search of electronic databases identified 2021 records. After removing duplicates, 16 unique records were assessed for eligibility based on titles and abstracts.

Title and Abstract Screening

The reviewer evaluated the titles and abstracts of the identified records in the first screening. 16 studies were chosen for full-text review using this procedure. The reviewers' disagreements were settled by consensus and discussion.

Data Extraction

For assessment, a uniform data extraction form was created. Key findings, participant characteristics, research characteristics (authors, publication year), and any other pertinent information were retrieved by two reviewers separately from the selected papers. Consensus was used to settle disagreements.

Table 5*Research Matrix*

No	Author, Year	Aim of Study	Methodology	Sample	Setting	Conclusion
1	Akdere, M., Top, M., & Tekingündüz, S. (2020)	To examine patient perceptions of service quality in Turkish hospitals using the SERVPERF model.	Quantitative study using SERVPERF model	Patients in Turkish hospitals	Turkish hospitals	Patient perceptions are significantly influenced by service quality dimensions like empathy, responsiveness, and assurance.
2	Zaid, A. A., Arqawi, S. M., Mwais, R. M. A., et al. (2020)	To assess the impact of Total Quality Management (TQM) and perceived service quality on patient satisfaction in Palestinian healthcare.	Survey-based quantitative study	Patients and healthcare workers in Palestine	Palestinian healthcare organizations	Found significant correlation between TQM, service quality, and patient satisfaction, influencing patient behavior and future healthcare intentions.
3	Alderwick, H., Hutchings, A., Briggs, A., & Mays, N. (2021)	To review the impacts of collaboration between healthcare and non-healthcare organizations on health outcomes.	Systematic review of reviews	Studies on collaboration between sectors	Various healthcare and non-healthcare settings	Successful collaboration can improve health outcomes; however, challenges like organizational barriers need addressing for effective implementation.
4	Rahman, R., & Qattan, A. (2021)	To explore the impact of Saudi Arabia's Vision 2030 on the healthcare system and its sustainable development.	Descriptive analysis	Healthcare administrators and policymakers	Saudi Arabia	Vision 2030 has the potential to transform the healthcare system through strategic reforms, emphasizing quality care, sustainability, and efficiency.
5	Chowdhury, S., Mok, D., &	To analyze the transformation of healthcare models	Qualitative review and analysis	Experts and stakeholders	Saudi Arabia	Vision 2030 aims to modernize healthcare by

No	Author, Year	Aim of Study	Methodology	Sample	Setting	Conclusion
	Leenen, (2021)	L. in Saudi Arabia under Vision 2030.		in Saudi healthcare		adopting integrated models and improving patient outcomes through reform and innovation.
6	Alharbi, M. W. S., & Almagrabi, E. M. S. (2022)	To assess healthcare workers' knowledge about the healthcare transformation in Saudi Arabia since Vision 2030.	Survey-based study	Healthcare workers in Saudi Arabia	Saudi in healthcare facilities	Found significant gaps in knowledge regarding Vision 2030 among healthcare workers, suggesting the need for better education and awareness programs.
7	Raimo, N., Turi, I., Albergo, F., & Vitolla, F. (2023)	De To explore the drivers of digital transformation in healthcare in Italy.	Empirical research based on surveys	Healthcare professionals in Italian hospitals	Italian hospitals and healthcare institutions	Digital transformation is driven by technological adoption, staff training, and leadership, with positive effects on operational efficiency and care quality.
8	Kraus, Schiavone, Pluzhnikova, & Invernizzi, C. (2021)	S., F., A., A. To analyze the current state of research on digital transformation in healthcare.	Literature review and conceptual analysis	Existing research studies on healthcare tech	Global on healthcare settings	Identified that digital transformation can improve healthcare outcomes but also presents challenges like data security and integration with existing systems.
9	Peek, N., M., & Scott, P. (2020)	Sujan, P. To assess the role of digital health technologies during the COVID-19 pandemic.	Literature review and secondary data analysis	Studies on digital health during pandemic	Global, with health focus on the pandemic settings	Digital health technologies played a crucial role in managing healthcare delivery during the COVID-19 pandemic,

No	Author, Year	Aim of Study	Methodology	Sample	Setting	Conclusion
						improving access to care and reducing strain.
10	Ajebile, M. D., Olaboye, J. A., Maha, C. C., & Tamunobarafiri, G. (2024)	To explore the integration of business analytics in healthcare for improving patient outcomes.	Empirical analysis using analytics	Healthcare providers and data analysts	Healthcare settings using data-driven approaches	Business analytics is essential in enhancing decision-making processes, leading to better patient outcomes and more efficient healthcare operations.
11	Alcaraz, K. I., Wiedt, T. L., Daniels, E. C., et al. (2020)	To examine the role of social determinants in advancing cancer health equity in the United States.	Policy and practice review	Policymakers, healthcare workers, researchers	U.S. cancer healthcare settings	Addressing social determinants of health is key to advancing cancer health equity and reducing disparities in cancer care outcomes across communities.
12	Shadmi, E., Chen, Y., Dourado, I., et al. (2020)	To examine the global perspectives on health equity in the context of COVID-19.	Systematic review of global studies on COVID-19 impacts	Global studies on COVID-19 impacts	Global, particularly underserved communities	COVID-19 disproportionately affected marginalized populations, exacerbating existing health inequities and highlighting the need for systemic reforms.
13	Griffith, D. M., Bergner, E. M., Fair, A. S., & Wilkins, C. H. (2021)	To explore the role of mistrust and low trust in healthcare and its impact on health equity.	Conceptual and theoretical analysis	Patients and healthcare professionals	Healthcare systems with diverse populations	Mistrust in medical care significantly affects health equity, especially in marginalized communities, and must be addressed through targeted interventions.

No	Author, Year	Aim of Study	Methodology	Sample	Setting	Conclusion
14	Shaw, J., Brewer, L. C., & Veinot, T. (2021)	To provide recommendations for promoting health equity and virtual care following the COVID-19 pandemic.	Narrative review of virtual care and health equity	Literature on health equity and virtual care	Post-COVID-19 healthcare settings	Virtual care can improve health equity if access barriers, such as technology literacy and digital access, are addressed.
15	Churchwell, K., Elkind, M. S., Benjamin, R. M., et al. (2020)	To highlight structural racism as a fundamental driver of health disparities in the U.S.	Conceptual analysis and advisory report	U.S. healthcare providers, policymakers	U.S. healthcare settings	Structural racism is identified as a root cause of health disparities, requiring systemic policy changes to promote equity in healthcare outcomes.
16	Yearby, R. (2020)	To examine the reconfiguration of social determinants of health by incorporating structural racism.	Theoretical framework and literature review	Existing literature on social determinants	Global healthcare systems	Reconfiguring the social determinants of health framework to include structural racism can help address health disparities more effectively.

Data Synthesis

The data synthesis reveals that digital health technologies, such as telemedicine and electronic health records, can improve patient outcomes and healthcare efficiency. However, challenges like technology adoption, digital literacy, and infrastructure remain. Saudi Arabia's Vision 2030 is seen as a key framework for modernizing healthcare, but the gap between policy goals and implementation is significant. Total Quality Management (TQM) is crucial for improving service quality and patient satisfaction, with successful application linked to leadership commitment and staff training. Systemic reforms are needed to address health inequities, particularly in marginalized communities, exacerbated by the COVID-19 pandemic. Achieving sustainable and equitable healthcare requires overcoming technological, educational, and structural barriers.

Discussion

The results of the 16 chosen researches, which address different facets of healthcare transformation, digital health integration, patient happiness, health equity, and the changing healthcare environment under Saudi Arabia's Vision 2030, are summarized in this debate. Throughout these varied studies, a number of important themes surface that highlight the potential and difficulties in modern healthcare systems, with a focus on Saudi Arabia but also taking inspiration from other countries.

Vision 2030 and the Transformation of Healthcare

Many studies, especially those by Rahman & Qattan (2021), Chowdhury et al. (2021), and Alharbi & Almagrabi (2022), observe the larger context of Saudi Arabia's Vision 2030, which aims to regenerate the nation's healthcare system by implementing general reforms targeted at enhancing patient care, quality, and accessibility. Vision 2030 is a long-term strategy plan that aims to modernize healthcare infrastructure, integrate digital health technologies, and move toward additional patient-centered care, as these studies best bit. Although Vision 2030 has sparked a number of developments, including the digitalization of healthcare and the introduction of new care models, Rahman & Qattan (2021) note that the full impact of these changes has not yet been achieved, particularly in rural regions. According to Chowdhury et al. (2021), the healthcare transformation strategy has caused in increased disbursements in health technologies and the redeployment of healthcare facilities; yet, there are still ongoing gaps in policy alignment, technology uptake, and training.

Digital Transformation's Function

Numerous studies that examine how technology is changing healthcare delivery, like those by Raimo et al. (2023), Kraus et al. (2021), and Peek et al. (2020), make digital health technologies a major subject. All of these studies make the case that digital tools—such as telemedicine, electronic health records (EHRs), and digital health platforms—have greatly improved healthcare systems' efficiency, made patient management easier, and made care more accessible. Raimo et al. (2023), for instance, point out that digital alteration has improved patient outcomes and operational effectiveness in Italian hospitals. According to Kraus et al. (2021), there are unmovable concerns with scientific infrastructure, digital literacy, and data security. To guarantee effective digital integration, they stress the necessity of sturdy cybersecurity measures and steady staff training.

Crucially, the findings also highlight the fact that, as Peek et al. (2020) point out, digital health has been essential during the COVID-19 pandemic, but it also exposed notable inequalities in access to digital healthcare services. These discrepancies frequently result from socioeconomic obstacles, underscoring the need of tackling access concerns in upcoming digital health projects.

Care Quality and Patient Contentment

Numerous research, such as those by Akdere et al. (2020), Zaid et al. (2020), and Griffith et al. (2021), have repeatedly focused on the connection between patient happiness, service quality, and healthcare quality management. These studies demonstrate that by encouraging a culture of accountability, cooperation, and continuous improvement, frameworks like Total Quality Management (TQM) play a key role in raising patient happiness and optimizing healthcare delivery. Akdere et al. (2020) shows that quality attributes including certainty, responsiveness, and empathy have a good correlation with patient satisfaction. TQM's concepts of quality control, staff participation, and customer satisfaction are generally relevant, according to Zaid et al. (2020), who also emphasize the relevance of TQM in improving patient care outcomes in Palestinian healthcare settings.

Notwithstanding these encouraging results, there are still obstacles to overcome before these quality management frameworks can be effectively implemented, especially in environments with limited resources, where staff training and leadership dedication are still essential for success. Alharbi & Almagrabi (2022) emphasize that although Saudi Arabian healthcare professionals are generally in favor of the shift, they frequently struggle to get the skills they need to meet the new quality requirements and technology advancements mandated by Vision 2030.

Health Equity and COVID-19's Effects

Moreover, chief theme is health equality, with a quantity of research (e.g., Shadmi et al., 2020; Churchwell et al., 2020) examining how COVID-19 completed pre-existing health inequities worse. These studies noted that how the pandemic had a excessively negative impact on the health of disadvantaged groups, including as lower-income and racial minority groups. According to Shadmi et al. (2020), the pandemic taken to light systematic gaps in healthcare access, especially in places with little resources, and

prompted the need for immediate structural changes to remedy these inequalities. By connecting systemic racism to distinguished health inequalities in the United States, Churchwell et al. (2020) support this argument and call for strategy and practice alterations to address the underlying causes of injustice.

These international studies are in line with the difficulties seen in Saudi Arabia, where Yearby (2020) and Alcaraz et al. (2020) stress the significance of tackling social determinants of health to promote equality, especially in the treatment of cancer. The social reasons of health framework to specifically target physical racism capacity are a potent strategy for enhancing health equity, according to Yearby (2020). There is continuing debate on Vision 2030's effectiveness in dipping health inequalities in Saudi Arabia, with contradictory consequences regarding the obtainability and caliber of treatment in country and city areas.

Conclusion

According to a synthesis of 16 researches, systemic reforms are required for healthcare reform, digital transformation, and health equity. Inadequate training for healthcare personnel, access to technology, and structural and policy changes is important areas that require improvement. One persistent obstacle to the effective execution of reforms and digital transformation is a lack of proper training. Even with the potential advantages of digital health, problems like access to technology and digital literacy present serious obstacles, especially in underprivileged and rural regions. In order to address structural injustices, policy changes are also required. While making sure that all populations can access and benefit from these advancements, health systems must prioritize technology innovation. The results show that healthcare delivery has improved, but issues with workforce preparedness, equality, and technology adoption still exist. In order to guarantee that healthcare reforms not only increase quality and efficiency but also advance fairness, access, and sustainability throughout time, it is imperative that these challenges be addressed. Future studies should assess these changes' long-term effects, especially as they pertain to marginalized groups, and devise methods for getting over obstacles to their effective execution.

Limitation & Implications

The review of studies on the impact of regulatory frameworks on healthcare quality and equity has several limitations. The research is primarily based on specific geographical contexts, such as Saudi Arabia or Palestinian healthcare systems, which may limit its generalizability to other regions with different healthcare infrastructures, cultural practices, or regulatory environments. Additionally, some studies, particularly those analyzing technological transformations, are limited by short time frames, resulting in a lack of empirical data on the long-term effects and sustainability of these transformations. Moreover, there is a lack of empirical data on how these changes translate into measurable improvements in health outcomes across diverse patient populations, especially in marginalized or rural areas. The implications of these limitations suggest that future research should focus on the long-term impacts of regulatory changes, particularly in underserved regions and populations. A multidisciplinary approach, incorporating health policy, technology, and community engagement, is essential to address systemic barriers to care and technological inequalities. Policymakers and healthcare administrators should consider these findings when designing interventions, ensuring inclusive technological and structural reforms to reduce disparities, especially in rural or economically disadvantaged areas.

What this article is adding in existing literature?

This article offers a thorough examination of the effects of new regulatory frameworks on hospital operations and patient care, with a focus on Saudi Arabia's Vision 2030. It examines how supported hospital departments including administration, IT, patient services, and quality assurance are impacted by regulatory changes and connects them with healthcare operations. With an emphasis on Saudi Arabia's continuous healthcare reform under the Vision 2030 project, the essay emphasizes both the global and regional perspectives. The essay emphasizes how digital health technology, such electronic health records (EHRs) and telemedicine, may improve access to healthcare and health equity, particularly for underprivileged or rural communities. The significance of a multidisciplinary approach to healthcare

reform that integrates technology, policy, and community involvement is emphasized in the paper. Collaboration between many sectors, including patient services, technology departments, and hospital administration, is necessary for the successful implementation of regulatory changes. The essay also discusses the long-term effects of healthcare reforms, pointing out the necessity of longitudinal research to look at how sustainable these adjustments are over time. For politicians, healthcare executives, and upcoming academics, this method offers helpful direction for comprehending and negotiating the intricacies of contemporary healthcare system transformation.

Conclusion

The results of 16 research on the effects of new health rules on hospital operations, patient care quality, and health equality are summarized in this systematic review. It emphasizes how important supportive departments and digital health tools are, especially when it comes to tackling healthcare inequities. The analysis highlights the need for more research on the long-term viability of these policies as well as a multidisciplinary approach. All things considered, it offers insightful information on the changing healthcare environment, particularly in light of Saudi Arabia's Vision 2030 program.

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