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عنوان البحث

Research Title

A Retrospective Study on Changes and Milestones in the Model of Care in Makkah Health Cluster Region (2022-2025) and Strategies for Future Improvement

دراسة استرجاعية للتطورات والمحطات الرئيسية في نموذج الرعاية الصحية بمجمع مكة المكرمة الصحي (2022-2025م) واستراتيجيات التحسين المستقبلية

إعداد الطالب/

Ali Mohamed Saied Khashab

إشراف/

د. الفیصل عبد الحمید

د. فايز جراد

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Introduction

Saudi Arabia is transforming itself to the core, and it is its ambitious Vision 2030 that has inspired this change. This forward-looking action plan is designed to unlock the economy and overhaul the public services, ultimately leading to better lives for its people. Crucial to this is the complete reform of healthcare to ensure a strong, efficient, and patient-centric health infrastructure. The healthcare reformation program (the key element of Vision 2030) aims to transform the healthcare system from curative to preventive and integrated [with a greater emphasis on community health and well-being] [1]

The Makkah Health Cluster (MHC) plays a crucial role in this national healthcare reform. Being one of the developing healthy clusters, MHC is responsible for delivering a comprehensive range of health services to a considerable number of the population, which includes residents, as well as the millions of pilgrims who come to Makkah every year seeking Hajj or Umrah. The exceptional demographic and seasonal pressures on the Makkah health system indicate that a flexible and responsive system of care is required. The MHC objectives, which include promoting health awareness and healthy practices, align with Vision 2030's plans to empower individuals to make informed decisions and [take action for their health and that of their families] [2]

This retrospective analysis aims to examine significant developments and turning points in the Makkah Health Cluster (al-Makkah al-Musharrafah) care model from 2022 to 2025, inclusive. The health system in the Holy City of Makkah has evolved in step with its counterpart in the country, considering the existing national policies, the technological

developments, and the lessons learned from international health experiences (such as the experience in the COVID-19 response). It is essential to monitor the progress of these developments to assess their impact on health service delivery, recognize and acknowledge achievements, and identify areas that require improvement. Through a comprehensive review of previous efforts and their results, this study provides a structure and guidance for future strategic development and operational improvements, ultimately .serving as a potential model for other health clusters in the Kingdom for the MHC

This study focuses on the Makkah Health Cluster, have all healthcare facilities and services under its jurisdiction. The selection of the 2022-2025 period is to capture the most recent .and applicable developments, including the acceleration prior to and under Vision 2030

Since then, the delivery of healthcare has evolved significantly, with the emergence of digital health technologies, innovations in care pathways, and a growing focus on patient experience. By reviewing these advances in hindsight, we will add to a growing body of knowledge about the tribulations encountered, the initiatives devised, the progress .achieved, and the Model of care developed in this crucial part of the world

مشكلة الدراسة:

Research problem

Under Vision 2030, the healthcare sector in Saudi Arabia is undergoing rapid changes in numerous ways, with opportunities and challenges equally abundant. Despite clear goals of improving the quality, accessibility, and efficiency of healthcare through changes like

those within the MHC, the methods by which these changes occur and their impact on individual localities are not well understood. Despite several programmed and significant investment in redefining the health system, there appears to be a lack of comprehensive, retrospective analysis that systematically documents the transformation of the Model of .[care about health clusters over the past few years [3

For Makkah Health Cluster, where the case mix is unique in a global pilgrimage area, the actual transformation and milestones in its care model between 2022 and 2025 are .critical

While general information on national healthcare reforms and specific MHC achievements can be found, no systematic and comprehensive analysis has been conducted on how these overarching changes have been translated into specific changes :in the local Model of Care. Not much is known about

Nature of changes: What changes in the Model of care in the MHC have been made during this period? These can range from service delivery pathways and technological integration .to staff roles and patient engagement

The chronology of milestones: When were specific activities initiated, goals met, and how ?does this chronology relate to the overall development of the care model

The direct and indirect influences: What effects have these changes had on all health-related aspects: improved patient care, efficiency of operation, utilization of resources, value of care, and other patient experiences? Although several favorable results, such as pilgrim satisfaction on Hajj, have been described, it is also necessary to address the overall .[impact on all services [4

Obstacles faced and solutions: What did the MHC experience in the rollout of these changes, and how did they address them? These hurdles provide valuable lessons for .prospects

Gaps: Taking a lateral view, what areas of the current care model need improvement, given this is a retrospective view, to better Vision 2030 objectives, and in what ways can the ?community be better served

Decision-makers within the Makkah Health Cluster may face challenges in making optimal use of resources, developing appropriate strategic plans, and conducting targeted interventions aiming at enhancement if they lack a clear, detailed understanding of these components. The absence of looking back may result in a reactive rather than proactive development of healthcare, which threatens to prevent the full exploitation of the changes they aim to achieve. This study thus fills an important information gap by providing a detailed historical perspective on the development of the Model of Care in the Makkah Health Cluster region over the past three years. It discusses its analytical framework, which .will serve as a reference point for evidence-informed future achievements

The importance and objectives of the research

This retrospective analysis is of great significance in several aspects, as it provides valuable data to inform healthcare planning, local operational optimization, and academic understanding of the transformation of healthcare within the Vision 2030 framework

Strategic Relevance: Participating in the Realization of 'Vision 2030' Healthcare Reform Targets

Vision 2030 of Saudi Arabia is the national agenda for the country's development, and its healthcare sector reform is a vital part of it. The realization of such an ambitious vision depends on the successful deployment and ongoing optimization of healthcare models at regional and local scales. This study has direct relevance to Vision 2030, as it helps to explore the progress of the Model of Care in one of the health clusters in depth. By recognizing positive change and persistent challenges, the results will provide a practical resource for the MOH and other national stakeholders, regardless of their power and interests, to: distil lessons, focus resources to greater effect, and extend initiatives that are proven to work to other clusters of health in the Kingdom

The practical implementation of this policy changes and their consequences on the ground are crucial to achieving the broader objectives of a vibrant society and a thriving economy envisioned by Vision 2030 [5]

Local Relevance: The Makkah Health Cluster serves a population of approximately two .million in an area of 119,000 km², with a high influx of regular visitors

The Makkah Health Cluster operates within an exceptional and diverse environment, catering to the needs of the resident population as well as millions of pilgrims annually. The Realty News Economy Strength The city is also among the nation's most racially efficient in the design and delivery of healthcare services. Demographically diverse, so any healthcare model must be both practical and efficient, with additional benefits. By clearly describing the interventions that took place over the previous three years, evidence-based knowledge will be provided to the MHC leadership regarding the new practices implemented, any observable impacts, and any difficulties encountered during these :changes. Such insights are critical for

Influencing Strategic Planning: The possibility of allowing the MHC to plan for healthcare .service delivery based on more focused and effective strategies

Resource Optimization: Shaping decisions on where resources (financial, human, technology) should be targeted to achieve maximum impact and address the gaps .identified

Operational Improvement: Identifying exact spots in the care model for operational .changes, process improvements, or for innovation to be explored more fully

Accountability and Performance Measurement: Establishing a benchmark against which to measure previous efforts and future progress [6].

Policy Implications: Assisting the Legislation and Strategic Planning

The study's results will have immediate practical relevance for policymakers and healthcare managers. By providing a look-back perspective on the Makkah Health Cluster's evolution, the study will highlight which interventions are effective and which could be reconsidered or improved. This scientifically-based way of handling things can result in

Best Practices Development – Develop and implement strategies and models that work to formalize (written and verbal format) and share across and outside the MHC

Further Development of Implementation Strategies: Drawing on experiences of the past to further develop and refine comprehensive and flexible implementation plans for new projects

Focused Interventions: Developing tailored approaches based on the Model of care to remediate identified problems or take advantage of strengths

Better Stakeholder Platform: Building a shared vision of the healthcare services map and helping the different healthcare stakeholders (practitioners, administrative staff, and [community members] engage and work together more effectively [7

Contributed Knowledge: Enhancement of Knowledge Base

In addition to its substantive application within each market, the proposed work will provide a strong theoretical foundation that advances the literature on healthcare transformation, particularly in emerging economies and contexts facing demographic pressures. Given the historical context, presenting a narrative on the development of a healthcare system in a unique, pressure-cooker environment, such as Makkah, will provide useful case study material for

Comparative Studies: To enable researchers to compare the Makkah experience with healthcare transitions in other areas or countries

Theoretical Contribution: Offering empirical evidence that may contribute to the development and refinement of theories on healthcare system change, innovation adoption, and organizational resilience

Research Implications: New lines of research are needed, including careful impact assessments of individual interventions, the sustainability of changes over time, and the role of cultural elements as key factors in healthcare model evolution

In other words, this research is not only an academic endeavor but a life-saving necessity that can play a crucial role in the development of the healthcare system in Makkah, contribute to transforming the Saudi Vision 2030, and expand the body of knowledge on transforming healthcare systems worldwide

Objectives of the research

The aim of the present study is to assess, in a systematic evidence-based manner, the transformation of the model of practice in the Makkah health sector during the last three years (2022-2025) and to provide lessons learned for actionable steps so that it can be improved as an ongoing project. They're multifaceted goals that outline the metamorphosis, the implications for change, and the next steps. Specifically, the study seeks to

Rewind and analyze the most important transformations and landmarks of the Care Model practiced - in the Makkah Health Cluster from 2022 to 2025. This includes understanding and placing into context policy changes, strategic plans, technology adoption, and operational changes that have shaped the delivery of healthcare during this time. These changes and milestones will be classified and provide structure to the transformation

Assess the effect of this new Model of healthcare provision and the impact on patient outcomes. This objective involves evaluating the concrete results of the work that has been done to make a difference. It will consider the impact of the changes in the Model of Care on a range of dimensions, including access to care, quality of care, efficiency of healthcare service provision, utilization of healthcare resources, and, critically, patient health outcomes and experience. The evaluation should explore what has improved, as well as what hasn't, and whether the desired impact has not been fully achieved

Develop and implement strategies to enhance the Model of Care, taking into account the findings. Ultimately, based on the retrospective analysis and impact evaluation, this objective is to draw lessons and recommendations. Strategies that will be proposed will be evidence-informed and informed

directly by successes and challenges encountered in the Makkah Health Cluster. These guidelines aim to contribute to closing existing gaps, improving care participation, and orienting future initiatives towards more effective, efficient, and patient-centered healthcare delivery in the region. In doing so, this research aims to establish a robust foundation for decision support, aiding the Makkah Health Cluster in the further development of its Model of Care in pursuit of Saudi Vision 2030 goals and .promoting the ongoing improvement of health and well-being for its diverse population

تساؤلات الدراسة

:To achieve the objectives, the following questions will be answered in this retrospective study

What are the pertinent developments and milestones in the Model of care in the Makkah Health Cluster region from 2022 to 2025? This question aims to identify, acknowledge, and document the innovations and accomplishments that occurred during the three years of providing healthcare. This will require classifying such events as new technologies, changes to service routes, and the .implementation of policies, among others

What impact has this had on the ability to deliver healthcare services, patient experience, and - efficiency? It is this assessment of the impact of the changes which is the subject of this question. It will also examine whether these changes have resulted in improved access to care, higher quality of services, increased patient satisfaction, and enhanced performance and efficiency of healthcare operations in the Makkah Health Cluster. This will require us to search for indicators of both successful .and unsuccessful outcomes

What difficulties or obstacles did you face when you carried out these changes, and how did you - overcome them? Uncovering barriers to the transformation process is essential. This issue will examine what the Makkah Health Cluster faced and found challenging in adopting innovations in health service delivery, including limited resources, opposition to change, and challenges related to introducing something novel into daily operations. It will also cover the tactics and treatments that enabled them to .work through these issues

What are the take-home messages from retrospectively analyzing the evolution of models of care? - This is the synthesis question, where we take what we read and extract useful bits of information. We will seek to establish the elements of the Model that worked well, those that did not, and potential reasons for success or failure, thereby gaining a rich understanding of the facilitators and barriers to the .successful scaling of the Model of care within the Makkah Health Cluster

Which interventions could be recommended for the betterment of the Model of care in the Makkah - Health Cluster? The findings from the previous questions will inform the actionable, evidence-based recommendations presented in this final question. It seeks to capitalize on strengths and overcome deficiencies, and inform future strategic plans for a more effective and efficient healthcare in the .Makkah Health Cluster

فروض الدراسة/الدراسات السابقة:

Literature review

To systematically answer the study questions and achieve the research objective, the :following activities and corresponding objectives will be conducted

Literature Review: Health Reform in Saudi Arabia and in Makkah Health Cluster. These studies are anticipated to carry out an extensive literature review of the academic and government reports, policy documents, and literature on known existing relevant areas of the broader health reform context of the Vision 2030, including identifying gaps in the .knowledge relevant to the Makkah Health Cluster

More specifically, we will review the transformation of healthcare models, the development of healthcare clusters, and the strategic goals underlying these .transformations

Collect and evaluate the comparable data of the Makkah Health Cluster (2022-2025). For this task, data should be collected from secondary sources, such as official reports of the Makkah Health Cluster, publications by the Saudi Ministry of Health, strategic plans, annual reports, and performance indicators, provided that the information is available and accessible. For the gathering of data, it will aim to identify the Model of control to ascertain .changes, heed, or any other result during the specified time

Specify significant changes and obstacles with the Model of care. Based on the - information gathered, this task will involve a careful study of specific changes and landmarks within the Makkah Health Cluster Model of Care. These will be classified into types (for example, adoption of technology, innovation in service delivery, policy implementation, and workforce development) and mapped in terms of trends and periods .to create a timeline of evolution

Evaluate the subjective impact of these changes, qualitative or quantitative. The - detection and impacts of these changes and turning points will be studied within the framework of this project through the analysis of collected data. Statistical analysis may be undertaken where quantitative data (e.g., patient satisfaction scores, efficiency measures) is available. For qualitative data (i.e., narratives of challenges and successful efforts), content and thematic analysis will be employed to explore service providers' perceptions .of the effects on service provision, patient experience, and functioning

Combine research to find the good news and the bad news. This task is to help integrate - the findings from the literature, data collection, and impact assessment. The synthesis will also identify the merits of the developing Makkah Health Cluster model of care, including successful interventions and good results. At the same time, it will also highlight areas that

still pose a challenge, what needs improvement, or what has not yet achieved the desired effect.

Develop recommendations to improve the care model based on the evidence. The culminating assignment will be the creation of real-world, implementable, and evidence-informed recommendations. Such policy recommendations will be directly informed by the study's results, aiming to replicate successes, address perceived weaknesses, and inform future strategic planning and operational decisions within the Makkah Health Cluster institution, thereby refining the Model of care it delivers.

المنطلقات النظرية للدراسة:

Research Hypotheses.

The healthcare scenario in Saudi Arabia has garnered considerable attention from both academic and professional perspectives, especially following the launch of Vision 2030. The literature offers several studies on different elements in this process, which provides the background for the current study.

Themes and Findings

Key themes and findings from the previous literature on health system change and the development of the health system, as well as the Makkah Health Cluster, are discussed in this section.

Healthcare Reform and Vision 2030, Saudi Arabia

The context for Saudi healthcare transformation under Vision 2030: Numerous academic papers and commentaries have described and reported on the broad aims and early stages of Saudi Arabia's healthcare transformation under its 2030 Vision of progress. These works typically emphasize the character of a socialist, privatized, centralized mode of care [8]. Important goals that are often mentioned are increasing access to healthcare, improving quality and efficiency, and motivating preventive care. For example, Al-Hanawi et al. (2020) summarizes the reforms of the health system, focusing on the strategic role of health clusters in realizing integration and accountability [9]. Studies also explore the complexities of a transformation of this magnitude, raising, for example, issues such as .[workforce development, financial mechanisms, and robust regulatory frameworks [10

Adoption and Outcomes of the MOC

The MOC is a fundamental part of the healthcare transformation in the UK, designed to improve patient pathways and ensure that service delivery is more rationalized and efficient. An investigation into the awareness and perception of the MOC among healthcare professionals in various healthcare clusters has commenced. One such study from the Riyadh First Health Cluster examined staff's knowledge of MOC, considering varying knowledge levels and the requirements for ongoing education and training [11]. The focus of the MOC on six systems of care (keep well, planned procedure, women & children, urgent problem, chronic illness, and end of life): A theoretical and empirical review and exploration of future research opportunities has been questioned both in a theoretical (reasoning about how the MOC should be carried out) and rational (what effect the MOC is expected to have) way [12]. Studies have also described the achievements of MOC adoption, including better quality of data management, collection,

and visualization, as well as increased patient and community engagement, as seen in the .[Eastern Province [13

The Challenges and Interventions in the Makkah Health Cluster

According to its mission, the Makkah health cluster has been investigated in general, as well as in response to significant public health events. The COVID-19 pandemic, for instance, presented unprecedented challenges. A qualitative investigation of the Makkah healthcare cluster's response to COVID-19 described the challenges faced by decision-makers, including the complexities of the testing process, a lack of resources, and issues with continuity of care. The study also identified major interventions that were made, including the use of new technologies, improved communication, and efforts to develop the workforce. Flexibility, including learning from the cluster's longstanding handling of the Hajj and Umrah seasons [14]. The competence in handling mass movement has trained Makkah healthcare providers in unique skills that can be applied to other public .health emergencies

Digital Health Programmes and The Patient: Patient Engagement

Saudi healthcare reform also includes digital transformation. Integration of e-health within telemedicine services throughout the Kingdom has been studied. Fortunately, the e-health system has already been introduced as an initiative in the Makkah Health Cluster, and the 2030 Saudi Vision plans to expand the e-health system, such as the SEHATY APP, allowing services to be extended to others as a virtual hospital [15]. Research also examines the impact of these digital tools on patient access and the overall patient experience. Additionally, a focus on the quality of care is illustrated in a study that investigated the

preparedness of primary healthcare (PHC) managers in Makkah towards implementing projects for improving patient satisfaction [16]. The above-average satisfaction of pilgrims with health services during the Hajj season is another testament to the success of patient-centric agendas in the Makkah Health Cluster [17]

Workforce Development and Stages of Change

The human factor is the spine for any evolution in healthcare. The drive and the readiness to implement a different care model have been summarized in a study on will and participation among Makkah HCWs, resulting in high [18]. Such readiness to change among head managers of primary healthcare centers in Makkah also reflects the organizational ability to sustain changes [19]. Together, these studies underscore the importance of ongoing professional development and supporting change management processes to effectively implement new practices and technologies in healthcare

In conclusion, the literature has established a solid foundation in terms of high-level concepts of change in healthcare in the Kingdom, as well as the theoretical Model – the New Model of Care. Although there are a few studies that cover some aspects of the Makkah Health Cluster, a more systematic review is needed to include the evolution and milestones of care model changes over the past three years (2022-2025) and their cumulative effect, for further research. This prospective research will serve to reconstitute these isolated facts into a more comprehensive narrative, offering a fuller understanding of the course of the MHC and laying new guidelines for its continuation

Research Methodology

This retrospective study is grounded in several theoretical models, which provide a robust framework to guide the analysis of the complex transformation process of healthcare in the Makkah Health Cluster. These theories will be used to interpret results and develop recommendations, thereby providing a sound and well-grounded analysis

Change Management Theories

A health system transformation represents a significant organizational change; therefore, change management theories are applicable. This study will draw upon

Lewin's Change Management Model: This well-known Model, which consists of three stages (unfreezing, changing, and refreezing), is a helpful framework for exploring the process of transitioning from the current to the new Model of care. "Unfreezing" aligns with the recognition of a need for change, when preparation for it begins, as seen with the introduction of Vision 2030 and health clusters. The 'changing' stage: This stage involves enacting new programmes, such as the MOC and telemedicine. In some organizations, a new method of care becomes embedded until it becomes part of the general way things are done, reaching a stabilization stage (refreezing) (Source: Phipps). This Model can help evaluate the difficulties and accomplishments at each stage of the transformation process .[[20

Kotter 8-Step Change Model: This framework presents a more in-depth blueprint for effectuating change effectively. These steps include creating a sense of urgency, building a guiding coalition, developing a strategic vision, enlisting a volunteer army, enabling action by removing barriers, generating short-term wins, sustaining momentum, and instituting change. These have been used as a framework to analyze the change management strategies utilized by the Makkah Health Cluster. Specifically, the study will aim to identify how the MHC helped create a sense of urgency about the need for change, communicated a shared vision of the upcoming state model of care, and maintained momentum by .[celebrating short-term victories [21

Healthcare Quality Improvement Models

Quality implications of these changes: The established quality improvement models will .be utilized to assess the impact of these changes on healthcare quality

The Donabedian Model (Structure-Process-Outcome): This well-known Model provides a framework for assessing the quality of healthcare. "Structure" refers to characteristics of the environments in which care is provided, including institutions, material resources, and staff characteristics. 'Process' refers to the actions that healthcare providers take for patients, encompassing diagnosis, treatment, and patient education. "Outcome" is defined as the changes in the health status of patients and populations resulting from their care and treatment. This Model will enable the classification of the Makkah Health Cluster's .[changes and milestones for the analysis of their impact on overall healthcare quality [22

The Plan-Do-Study-Act (PDSA) Cycle: This repeating process of 4 stages for testing changes is a core principle of continuous quality improvement. Although this is a retrospective study, the PDSA theory can serve as a model for examining the interventions carried out by the Makkah Health Cluster. The research will be an examination of Dunkirk, a process of searching for evidence of how the MHC formulated its interventions, then

how it performed said interventions ("Do"), how it evaluated their consequences ("Study"), and how it applied the findings to make changes ("Act"). This will assist in .[understanding how the cluster learns and adapts [23

Systems Thinking in Healthcare

Health systems are complex adaptive systems with interacting and interdependent components. Systems thinking is a method to "understand the problems and change them in a way that has a lasting impact." This approach aims to understand how events within the system lead to effects elsewhere. To understand how the Model of care has developed, this study will take a systems thinking approach to the Makkah Health Cluster context. Rather than focusing on changes in isolation, the study will examine the relationships between initiatives (e.g., how the adoption of digital health has influenced patient pathways and workforce roles) and how the system as a whole has responded to these changes. This is necessary for understanding the holistic properties of the reformed health services and formulating recommendations which take account of the dynamism and interconnectedness of its multiple strands [24].

Towards accountable governance:" The selection of the retrospective study design is " based on the need to investigate historical factors and trends, in an attempt to develop hindsight knowledge in order to make sense of current phenomena and to inform future actions. This study, however, will follow the strict doctrine of retrospective studies, :including

.Clear Study Period Defined: The study is explicitly set for the period from 2022 to 2025

Systematic Data Review: This review draws on secondary data systematically to minimize .bias

Data sources triangulation: Wherever feasible, the study would depend on more than one source of data to corroborate the findings and increase the reliability of the analyses.

Study Design

.The design will be retrospective, descriptive, and analytical in nature

Retrospective: This approach is adopted to consider historical data or events that have already occurred within the selected time range (2022-2025). It provides the ability to identify trends, patterns, and transitions in the Model of care, allowing for a better .understanding of the trend of change in the Makkah Health Cluster over time

Descriptive: The study will document the key changes, interventions, and milestones of the Model of Care. This includes describing the changes that will be made, their intended .objectives, and the scale of their implementation within the Makkah Health Cluster

Analytical: Going beyond descriptions, analysis will explore how the implemented changes relate to their effects on healthcare delivery, patient satisfaction, and the functional work of EMS (using direct observation or respondent data). This analytic aspect will include comparing the findings to the theoretical framework underpinning the research, noting what worked well, roadblocks, and what could have been done .differently

Data Collection

The first method will be a secondary data review. This method is suitable for conducting a retrospective analysis, aimed at understanding events and developments as documented by official agencies and academia. Data sources will be as follows, with no limit on :geographical location and date

Official Reports and Policy Documents: This involves annual reports, strategic plans, policy briefs, and white papers as publicly released by the Makkah Health Cluster, as well as the Saudi Ministry of Health (MoH) and other related governmental entities. These records may include details about strategic directives, services delivered, performance measures, .obstacles encountered, and other relevant information

Academic Publications: Including but not limited to (A) Peer-reviewed articles, research papers, and dissertations on healthcare transformation in Saudi Arabia, the New MOC, and (B) dedicated studies for each area of focus in Makkah. The databases, including PubMed, ScienceDirect, ResearchGate, university repositories, and others, will systematically be searched with the use of appropriate keywords ('Makkah Health Cluster,' 'Model of Care Saudi Arabia,' 'healthcare transformation 2022-2025,' 'digital health .('Makkah

News Reports and Professional Articles: Relating to Makkah Health Cluster and wider Saudi health sector news bulletins and articles in leading news outlets, publications targeting the healthcare industry, and publications by professional bodies on activities and achievements within Makkah Health Cluster and across the Saudi health sector. Such .sources offer real-time details and insight into the public's perception and feasibility

Statistics and Performance Indicators: All publicly available statistics and performance indicators related to healthcare services in the Makkah region, including patient satisfaction surveys, service utilization rates, and efficiency metrics, will be gathered and .calculated. This can be extracted from the MoH and/or the Makkah Health Cluster

:Data Collection Process

Search Sources: Relevant information will be sought in databases, official websites, and .available publication platforms

Search Strategy: A search strategy will be developed to identify related studies in the .following databases using specific search keywords

Screening and selection: The titles and abstracts of retrieved articles will be screened for relevance to the study's aims and period. Full texts of the articles and documents will be .downloaded and screened

Extracting Information: Relevant data, including change dates, initiative descriptions, reported outcomes, obstacles encountered, and lessons learned, will be extracted using a .(standardized form (see Section 11: Study Tools

Data Analysis

The secondary data gathered will be analyzed with (where possible) qualitative, as well as quantitative techniques

Content Analysis: This qualitative analysis approach will be utilized to examine textual data generated from reports, policy papers, and academic articles. The process will involve

Coding: Themes, concepts, and keywords (common to the Model of Care, including milestones, complications, interventions, and outcomes) are coded

Categorization: Organizing the codes into groups around common themes and concepts to offer a structured understanding of data

Interpretation: Making interpretations and inferences from the themes and explanations across questions, taking into account the theoretical origins

Trend Analysis: Any quantitative data that can be tracked (e.g., patient satisfaction scores, service utilization) will be analyzed for trends over the 2022-2025 period. This will be useful in identifying trends of improvement, stagnation, or decline in specific aspects

Comparative analysis (if data are available): If appropriate and feasible, a comparative analysis can be performed to compare the situation in the Makkah Health Cluster with national averages or, if relevant data have already been collected, with other health clusters or international best practices. This will support the interpretation of the observed changes and effects

Synthesis: The results derived from the qualitative and quantitative analyses will be integrated to yield a multidimensional, collective picture of the Model of care development. This review will serve as a backdrop for reflection on successes, ongoing challenges, and the generation of evidence-based recommendations. The iterative data collection and analysis process will provide an opportunity to refine search strategies and explore likely themes in more detail. The robust application of these methods will contribute to the trustworthiness of the study findings, enabling a comprehensive and .retrospective account of the Makkah Health Cluster's journey towards a new caring model

أدوات الدراسة:

Several tools of the study will be covered to ensure systematic and reliable data collection and analysis. These tools were designed to support the identification of helpful information and the control of bias across various secondary sources, and to structure this .information for meaningful interpretation and synthesis

Review Checklist

We shall also design and apply an extensive document review checklist that will facilitate systematic scrutiny of official reports, policy documents, strategic plans, and other pertinent publications of the Makkah Health Cluster and the Saudi MoH. This checklist will provide a planned roadmap, ensuring that every relevant point and detail in the document is thoroughly reviewed and addressed. The checklist will consist of the :following

Document Identification: The title of the article, the author/publisher, and the URL to the source should be written out. Evaluation of relevance: Criteria to judge the document's relevance (2022-2025), corresponding to the present study objective and period, were used to judge how directly relevant the document was. Key Information Extraction Prompts: Specific questions or prompts to extract information about Model of care changes (e.g., new wartime programs, changes in service delivery). Successes are measured in practical terms (for example, making deadlines, influencing results or standards, meeting or exceeding performance objectives)—challenges encountered during implementation. Measures or responses are implemented to combat obstacles and reported effects on patient outcomes, service delivery, or operational efficiency. Including .what kind of measurable things we talk about

The checklist above would also help standardise data extraction from various documents .and prevent the loss of potentially important data

Data Extraction Forms

Standardized data collection templates will be developed to systematically catalogue and structure key items derived from the document review. These forms will capture specific aspects of each identified change, milestone, challenge, or intervention. Structured forms will simplify data collection and allow for data mining in the future. Core data fields in the :data extraction forms will be

Category of Change / Milestone (e.g., Digital Health, Service Delivery, Workforce Development, Policy). Description of Change/Milestone: Brief description of the effort or milestone. Date/Time Frame Performed/Accomplished: The exact or approximate day or

date on which the event occurred. Objectives: Declared goals of the change. Reported Outcomes / Impact: Whether the source documents a positive or negative impact. Challenges Encountered: Difficulties or barriers. Mitigation Strategies/Interventions: Measures to address barriers. Source Reference: Detailed details of the document from which the data was extracted

Such forms will facilitate the development of a structured database of information, enabling the discovery of correlations and relationships between different aspects of the .Model of Care's evolution

(Software for Qualitative Data Analysis (where available/when applicable

Although the majority of data will be secondary, if there is a large amount of qualitative textual data (i.e., rich descriptions of challenges or stories of implementation), software :such as NVivo or ATLAS.ti should be used for analysis. These tools can assist in

Thematic Coding: Act 125 of 1956, providing for the efficient coding of thousands of strains, references, and strains for common themes and sub-themes. Mapping relationships: Making the relationships between codes and categories visible. Searching: Conducting intricate searches to find the needle in the haystack across multiple .documents

Such software would place a greater degree of rigour and efficiency on the content .analysis activity, especially if the study reveals qualitative, narrative-rich secondary data

Spreadsheet Software

Quantitative data from the secondary sources will be arranged and analyzed using spreadsheet software (Microsoft Excel or Google Sheets). LAPs may contain yield, numeric report, or numeric trend data related to the delivery of health care. The software will :facilitate

Data management: Arranging numerical data in a manageable and comprehensible way. Simple Statistics analysis: Calculate descriptive statistics (means, percentages, frequencies) to describe key quantitative findings. Trend Visualisation: Producing data visualisations (such as line graphs, bar charts) for visualising changes and trends between 2022 and .2025

Through the use of these processes for study, we aim to achieve a thorough and accurate collection, as well as a rigorous analytic examination of data, thereby increasing the trustworthiness of the data regarding the emerging Makkah Health Cluster's Model of care .through a structured paradigm of applications

Reliance on Secondary Data

The dominance of secondary sources (official announcements, academic documents, and :media reports) generates several limitations

Availability and Completeness of Data: The analysis is limited by the availability and completeness of recorded data. Any new features or milestones can be shared; not all are

publicly announced or documented. Data for specific periods or parts of the Model of care may be missing, which may constrain the depth of the analysis. Risk of Bias: The views of, or the priorities expressed by, the organizations that collect the primary source data may be represented in the primary data. Action will frequently portray its selectors in a favorable light and emphasize successes, mitigate challenges, or less favorable outcomes. Such potential reporting bias may affect the interpretation of the results. No Granular Detail: The necessary granular details needed to study concrete interventions, or their minimal effects properly may not always be found within public documents. For instance, an article might report on the rollout of a new digital health solution but provide no details on its utilization, end-user satisfaction, or direct relationship with patient outcomes. Data Availability: We will attempt to obtain the most current data; however, there may be a delay between an event occurring and its recording, as well as the public release of that recording. This could indicate that some relatively recent events from 2022 to 2025 may .no longer be effectively covered in secondary sources

Challenges in Attributing Causality

Healthcare systems are complex and dynamic environments in which multiple interventions and confounding variables influence the outcomes of interest. Due to the retrospective study design and use of secondary data sources, it is difficult to attribute specific changes in the Model of care to observed impacts. It can be challenging to find and/or interpret the effect of a single intervention while accounting for other interventions or systemic influences (e.g., national policy changes, economic forces, and global health trends). The study will attempt to establish correlations and associations, but .not necessarily definitive causation

Scope and Generalizability

Targeted geography: This study primarily targets the Makkah Health Cluster area. Although the results would inform mine and others about "what works" in transforming care in this novel context, the results will not necessarily be automatically transferable beyond some Saudi-based health clusters (with others across Saudi potentially having different demographic profiles, available resources, or cultural contexts) or healthcare systems in other countries characterized by their demographic profiles, available resources, or cultural contexts. Period: The period under consideration is 2022-2025. While this period is selected based on its immediate implications, it might not be sufficiently long to account for long-term impacts or the entire evolution of the Model of Care. Future longitudinal studies would be necessary to investigate sustained changes and .their long-term effects

Absence of Primary Data Collection

This proposal does not involve primary methods of data collection (e.g., an interview with a health professional, patient report, or observation). Although this will facilitate ease of analysis and is acceptable for a retrospective study, this may have the disadvantage that :the study will miss

Voices from the Frontlines: The experiences and opinions of healthcare workers, leaders, and patients on the changes and their effects. Subtleties and Unreported Information: Non-formal procedures, the extent of challenges which are not officially recorded, or marginal changes in practice that can only be observed through direct interaction with .stakeholders

Notwithstanding these measures, the study is committed to undertaking rigorous research methodologies to ensure its results are valid and reliable, given the nature and scope of the study design. These limitations will be taken into account when interpreting the results and will be openly described in the final research proposal to ensure an appropriate balance of the paper's contributions.

حدود الدراسة:

Research limits.

Limitations: The authors of the study will explicitly acknowledge that a retrospective design has inherent limitations, including the likelihood of missing data or recall bias in responses. By establishing the research on such theoretical grounds, the research will be able to take the analysis beyond a narrative account of events towards a more analytical and enlightening examination of the change in the Model of care in the Makkah Health Cluster, and consequently provide a solid and credible basis for its findings and recommendations.

Methodology and Research Methods

This retrospective study will employ both descriptive and analytical research designs to examine the changes and milestones in the Model of Care in the Makkah Health Cluster region from 2022 to 2025. The approach is primarily informed by a systematic compilation and review of secondary data, which enables a comprehensive understanding of past events and their consequences without requiring direct intervention.

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