AMERICAN UNIVERSITY OF BEIRUT

RE-DESIGNING THE INPATIENT UNITS TO PROVIDE SPECIALTY-FOCUSED SERVICES IN A PRIVATE HOSPITAL IN KUWAIT

by
FIRYAL AHMAD SAYYID SALIH

A project
submitted in partial fulfillment of the requirements
for the degree of Master of Science in Nursing
Nursing Administration and Management
to the Department of Graduate Division
of the Rafic Hariri School of Nursing
at the American University of Beirut

Beirut, Lebanon
December 2025

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Approved by:

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Dr. Lina Younan, Clinical Associate Professor — First Reader
Rafic Hariri School of Nursing

_____

Dr. Myrna Abi Abdallah Doumit, Professor — Second Reader
Rafic Hariri School of Nursing

Date of project presentation: December 4, 2025

ACKNOWLEDGEMENTS

I would like to express my gratitude to my advisors, Dr. Lina Younan and Dr. Myrna Doumit, as 1st and 2nd readers of the project, for their guidance, insightful feedback, and continuous support throughout this project. Their expertise and mentorship have been influential in shaping the direction and depth of this work, that helped me shaped my leadership approach.

I want to thank my family, husband and children for believing in education that has no age limit. Their support and patience through my journey made a difference.

I am also very grateful to the hospital's executive team led by the CEO, for their visionary commitment to improving patient care and their support of the inpatient unit redesign initiative. Special thanks to all department heads, including the Medical Administration, Customer Service, Engineering, and Material Management for their active engagement, effective contributions, and collaboration through the project.

This project would not have been possible without the dedication of the hospital nursing leaders, educators, and frontline staff, whose passion for excellence and patient-centered care continues to inspire transformative change. Their feedback, participation, and resilience have been the cornerstone of this successful redesign.

ABSTRACT

OF THE PROJECT OF

Firyal Ahmad Sayyid Salih for Master of Science in Nursing
Major: Nursing Administration

Title: Re-Designing the Inpatient Units to Provide Specialty-Focused Services in A Private Hospital in Kuwait

A private hospital, located in Kuwait, is consistently pursuing innovative approaches to advance patient care and optimize operational efficiency. This project focused on redesigning the inpatient units by transitioning from a mixed-patient model to a specialty-based inpatient unit structure. Purpose: The primary aim was to improve care quality, strengthen staff specialization, and optimize operational processes through a structured management approach. Methodology: Lewin's three-phase change model, Unfreezing, Changing, and Refreezing, guided the initiative. During the unfreezing phase, a comprehensive assessment of patient volumes, inpatient days, staff and patient satisfaction, and incident reports were conducted across two hospital buildings. Stakeholder engagement was emphasized through open forums, shared governance councils, executive meetings, and patient-family advisory councils to build consensus and mitigate resistance. The changing phase began with a pilot in the Obstetrics and Gynecology (OBGYN) units and paved the way for full implementation across all specialties. Key performance indicators (KPIs) were established and monitored to evaluate progress. In the refreezing phase, the specialty-based model was institutionalized through revised admission policies, orientation protocols, competency-based training, cross-training programs, and continuous quality monitoring. Results: The transition led to a reduction in patient safety incidents, enhanced patient satisfaction, decreased negative comments regarding nursing skills, and improved satisfaction among nurses and physicians.

Conclusion: The project demonstrated that specialty-based inpatient unit redesign, when implemented through a structured change management framework, can significantly strengthen clinical alignment, staff engagement, and patient-centered care.

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ABBREVIATIONS

OBGYN — Obstetrics and Gynecology

AMA — American Medical Association

NDNQI — National Database of Nursing Quality Indicators

RN — Registered Nurse

PC — Patient-Centered Model

MeSH — Medical Subject Headings

EBD — Evidence-Based Design

CINAHL — Cumulative Index to Nursing and Allied Health Literature

ED — Emergency Department

HIM — Health Information Management

PFAC — Patient and Family Advisory Council

CEO — Chief Executive Officer

CNO — Chief Nursing Officer

NDM — Nursing Divisional Manager

IV — Intravenous

Eng. — Engineering

MMD — Material Management Department

KPIs — Key Performance Indicators

WHO — World Health Organization

CHAPTER 1

INTRODUCTION AND BACKGROUND

Healthcare is rapidly evolving, driven by technological advancements and an increasing number of patients with long-term diseases and complex co-morbidities (Sullivan et al., 2021). This complex type of patients has created a growing need for specialized care and a more integrated approach to care delivery (Van de Poel et al., 2020). The need for specialization in healthcare is not a new development, but rather a result of historical changes in medical practice (Weisz, G., 2006). Historically, surgical procedures during and after World War I were primarily performed by general practitioners, not specialists. The American Medical Association attempted to maintain general practice, but the growing number of surgeons formed specialty societies, such as the American College of Surgeons (Weisz, G., 2006).

Over the years, as hospitals strive to navigate the complexities of modern healthcare demands, medicine has become more complex, and the need for specialized care environments has become increasingly evident (Van de Poel et al., 2020). The design and allocation of inpatient clinical wards by specialties—such as medical, surgical, obstetrics and gynecology (OBGYN), and pediatrics—became critical components in enhancing the overall quality of healthcare delivery (Zimring et al., 2005).

CHAPTER 2

CONTEXT OF THE PROBLEM

The project is designed in one private hospital in Kuwait with 208 beds that organizes its inpatient wards according to room classifications based on luxury and price. These include standards, junior, mini royal, royal, imperial, and Al Dana rooms. Upon admission, patients of various specialties are provided with the photo gallery to select their rooms based on their personal preference and affordability, resulting in a situation where a single nurse is responsible for attending to patients with different medical conditions—ranging from obstetrics and surgery to internal medicine and pediatrics.

Although the existing model aims to enhance patient experience by offering varied room classifications based on personal preferences, it unintentionally creates inefficiencies, particularly for nursing staff who are tasked with managing diverse patient populations simultaneously. This arrangement limits the ability of nurses to provide specialized care, as they are required to manage a wide group of patient needs with general competence. The patient safety incidents related to nurses' skills revealed an opportunity for improvement as presented in figure 1.

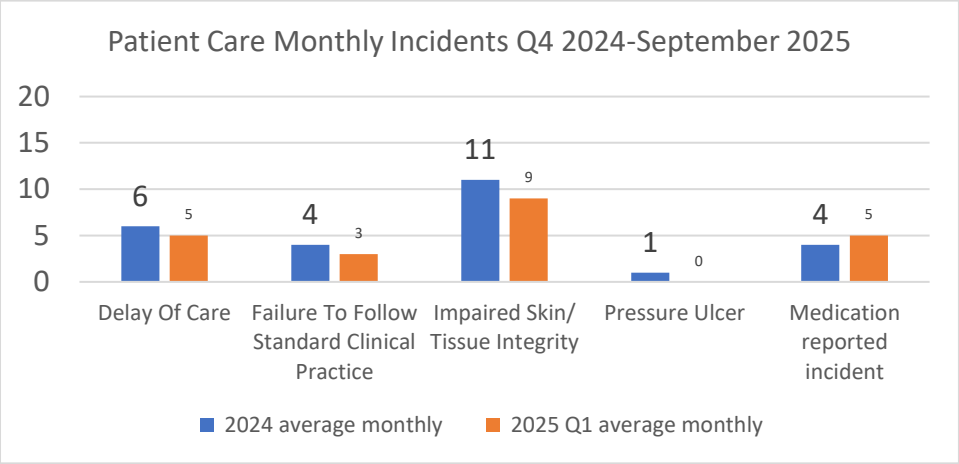

Figure 1. Patient Safety Incidents

At the same time, patients raised their concerns about inadequate nurse's skills as indicated in patient satisfaction with nurse's skills and their negative comments. Both patient and nurse feedback confirm concerns about the satisfaction of care, reflected in figures 2. & table 1. raised a flag for action.

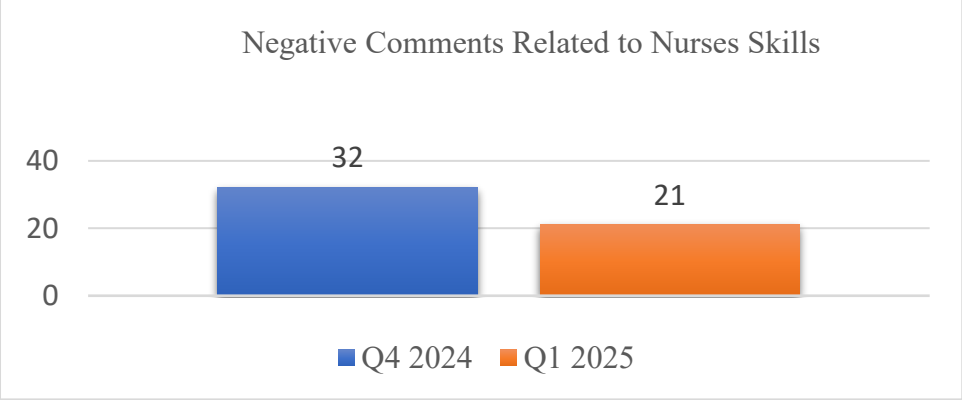

Figure 2. Negative Comments Related to Nurses Skills

Table 1. Patient and Nurses Satisfaction

Patient Satisfaction	Target	Nurses Job Enjoyment	Mean
93.71%	95%	3.87	4

The current model began upon initial operation of the current hospital in 2003, where it was a general hospital. Later, when the hospital started to provide specialty and subspecialty service, it continued to meet patients' preference of selecting their rooms based on space and luxury. This practice continued when the hospital sought to create a more personalized patient experience and attained international people centered care certification in 2022. Initially, this approach was seen to enhance patient satisfaction by catering to individual preferences and providing a more comfortable environment. However, the increasing concerns regarding inefficiency and quality of care prompted the need for adaptation.

Considering the challenges verified by the provided data, the hospital began looking into ways to reorganize its inpatient care model to better align with patient needs and optimize nursing resources. This adaptation process is ongoing and is influenced by research and best practices in hospital design, such as Harvey et al.'s (2006) study. His study focused on flexible inpatient unit designs emphasizes the importance of adaptability, workflow efficiency, and the integration of medical technology to improve staff productivity and patient outcomes. These principles have prompted the hospital to consider restructuring its inpatient units to better accommodate specialized care and improve both nurse performance and patient satisfaction. By shifting toward a more

flexible and responsive care model, the hospital aims to enhance clinical outcomes, operational effectiveness, and the overall patient experience.

CHAPTER 3

RATIONALE AND PURPOAE STATEMENT

Research has shown that well-designed healthcare environments facilitate better communication and collaboration among healthcare teams, ultimately elevating the quality of care delivered (Kahn et al., 2017). Multiple literature reviews have identified a link between hospital-built environment attributes and the well-being of patients (Babbu & Haque, 2021; Gaminiesfahani et al., 2020; Marquardt et al., 2014). In addition to clinical outcomes, the professional practice environment significantly influences nurse well-being and effectiveness. Studies indicate that favorable nursing environments correlate with lower patient mortality rates and enhanced job satisfaction among nurses, which, in turn, promotes higher quality care (Wiskow, C, 2020; Aiken, L, 2011).

Recognizing the critical role that nurses play in patient safety and care quality, the hospital administration must prioritize the design of inpatient wards that support the professional practice environment, ultimately leading to better outcomes for patients and staff. Moreover, Staff members operating within specialized units are better equipped to manage complex cases, thereby leading to enhanced responsiveness and personalized care (Ulrich et al., 2008). If the hospital fails to address these needs through specialized inpatient settings, it risks compromising both patient quality care and nurses' retention.

This project aims to redesign inpatient clinical units from a multi-purpose model to specialty-focused services, allocating spaces based on the needs of medical, surgical, obstetric, and pediatric care, while also considering patients' room selection preferences.

The goal is to create dedicated inpatient units tailored to specific medical specialties with the same room categories, thereby providing an optimized environment

for patient recovery, staff workflow, and resource allocation. This approach aims to foster an environment that enhances clinical effectiveness and improves the healthcare experience for all stakeholders and positioning the hospital for success in an increasingly competitive and evolving global healthcare market.

CHAPTER 4

LITERATURE REVIEW

This literature review aims to synthesize recent research on specialized care, focusing on its impact on patients, nurses, best practices, and challenges. The findings will provide a comprehensive understanding of the issue and will inform the redesign and implementation of specialization in nursing care within the organization.

4.1. Search Methods

For this project, a systematic search was conducted in four electronic databases: Cochrane, Scopus, CINAHL Plus with Full Text (EBSCO), and Medline. The search focused on the keywords as specialization, specialty care, inpatient, physical environment, patient satisfaction, nursing, and nurses' satisfaction. The search strategy aimed to identify relevant studies published between 2014 and January 2025. In addition to the MeSH terms related to medical specialties (e.g., medical, surgical, pediatric, and obstetrics/gynecology), the search included free text targeting titles and abstracts. The search was initially conducted on February 3, 2025, and completed on February 13, 2025.

4.2. Study Selection

The bibliographies of the retrieved articles were manually reviewed; studies were screened to include only those published for healthcare settings and in English between years 2014 and 2025. Studies published before 2014 or in non-English languages, as well as grey literature such as conference papers, magazines, and newsletters, were excluded.

Of 70 articles retrieved, 14 studies were included based on relevance and strength: 3 narrative/integrative reviews, 4 quantitative studies, 2 qualitative studies, 2 mixed-methods studies, 1 evidence-based design, 1 quasi-experimental study, and 1 cross-sectional study.

4.3 Summary of Reviewed Articles in Table Two

4.3.1 Impact on Patient Outcome and Satisfaction

Shamsi, V., Mahmoudi, H., Sirati Nir, M., & Babatabar Darzi, H. (2016) conducted a quasi-experimental study to analyze the impact of job specialization on emergency department nurses in Iran. They concluded that specialization led to shorter hospital stays and increased nursing job satisfaction. Specialized nurses exhibited higher clinical performance, reduced stress levels, and a more efficient working environment, emphasizing the positive effects of specialization on patient outcomes and nurse well-being.

Boyle. D. (2017) conducted a literature review in USA to explore the connection between nursing specialty certification and patient outcomes in acute care settings. The findings revealed that specialty-certified nurses are associated with decreased patient fall rates, pressure ulcers, hospital-acquired infections, and mortality, particularly in critical care settings. The study supports the notion that specialty certifications positively impact clinical decision-making, competence, and patient satisfaction.

Samiedaluie & Verter (2019) used quantitative queuing analysis to assess how specialization affects the operational efficiency of a multi-hospital system. The results indicate that specialization of healthcare services can maximize accessibility of care. Furthermore, if the patient volume is evenly divided among all the hospitals in the system,

it appears more probable that all hospitals benefit from specialization. They added that strategic planning of building a multi-hospital system involves considering patient mix among admissions, relative patient length of stay, and distribution of patient load among hospitals.

Glarcher & Vaismoradi (2022) conducted a systematic integrative review employing a comprehensive search across both quantitative and qualitative research. This study concluded that specialized nurses significantly contribute to safety culture by implementing best practices, monitoring patient conditions, and collaborating across disciplines to reduce errors and improve care outcomes. Moreover, identifying and rewarding specialized nurses for their commitment to safety promote the overall safety culture.

Babbu & Haque (2023), using a mixed method, conducted a survey questionnaire in India to identify the built-environment characteristics that contribute to the establishment of confidence and comfort among pediatric patients and their relatives. The study revealed four such characteristics: child-centered design, indoor environmental quality, positive distractions, and autonomy/control. The research highlights the value of designing adaptable, child-oriented spaces that enhance patient health and participation. It emphasizes the need for child-friendly, safe, and efficient healthcare designs that cater to the unique needs of pediatric patients while supporting the well-being of healthcare providers.

Kuntz et al. (2019), using quantitative method, analyzed over 250,000 discharge records from 60 German hospitals across 39 high-mortality disease areas, using in-hospital mortality as the primary outcome. Their findings suggest that organizational strategies involving specialized units, particularly those further divided into emergency

and routine disease-based care, improved resource utilization, reduced length of stay, and enhanced patient outcomes.

4.3.2 Impact on Nurses' Satisfaction and Quality of Care

Tiliander, et.al (2022) used a descriptive cross-sectional study focused on nursing students in Sweden to explore factors influencing their decisions to specialize. The study identified key motivators for nurses to pursue specialized education, such as professional development opportunities and personal interests, while also highlighting barriers like workload and institutional support. Furthermore, to make specialist education appealing to nurses, employers must cater for nurses' expectations from their organization. This research discovers that nurses seek personal and professional growth, intellectual and utilitarian stimulation, challenge in functioning with new roles, and more responsibility.

Shamsi, V., Mahmoudi, H., Sirati Nir, M., & Babatabar Darzi, H. (2016) conducted Quasi-experimental research in ED, Iran to study the impact of job specialization. Result revealed that Specialized nurses exhibited higher clinical performance, positive effects of specialization on patient outcomes and nurse well-being.

Gharaveis et,al, 2018 conducted a systematic review to investigate the current knowledge about the impact of healthcare facility design on teamwork and communication. The review revealed well-designed healthcare environments facilitate better communication and collaboration among healthcare teams, ultimately elevating the quality of care delivered.

Lee et al. (2014) conducted a cross-sectional survey in South Korea to examine the impact of the hospital nursing practice environment on job satisfaction. Result

revealed that having a standardized nursing process, adequate nurse staffing, and good doctor-nurse relationship, positively influence nurses' job satisfaction.

4.3.3 Best Practices

Higgs, Fernandez & Manning (2020) conducted a quantitative descriptive study in a 650-bed Sydney hospital to investigate nursing South Korea to care rationing in medical, surgical, and critical care units. Their findings showed that patient acuity, staffing levels, teamwork, and multidisciplinary care influenced care rationing, with prioritization varying based on specialty, patient dependency, and resource availability.

Alfonsi et al. (2014) implemented Evidence-Based Design (EBD) in Italy to investigate the influence of medical buildings on medical staff and patients. EBD is a data-driven approach to hospital design that considers the influence of the built environment on physical and mental well-being. The study focused on design interventions such as single-bed rooms to reduce infections, and decentralized nurse stations to reduce walking and enhance patient care. Also, they focused on sinks and dispenser placement in strategic areas to enhance hand-hygiene compliance and reduce infections. Additionally, having nature views or pictures on patient room walls was found to reduce stress and pain medication use, enabling quicker recovery. Although this article is not directly linked to redesigning the inpatient units by specialty, it highlights the importance of designing the environment to provide a healing and better care outcome to consider when redesigning the inpatient units by specialty.

Shetty et al. (2024), conducted a systematic review of studies in Canada, the UK, and Iran on the impact of the physical environment on healthcare staff, noting research gaps and the necessity of accounting for social, cultural, and demographic factors. It

classifies relevant environmental factors such as architectural design, interior design, and ambient factors, commenting on the need for an integrated model to measure their influence on staff satisfaction. The review also offers important lessons for enhancing healthcare design and staff well-being.

4.3.4 Challenges of Implementation

Mascia et al. (2014). employed an empirical research approach in Italy, utilizing quantitative methods to assess the relationships between hospital restructuring and physician job satisfaction. The study found that hospital restructuring (including organizational changes like mergers, leadership transitions, and adjustments to work processes) generally had a negative impact on physician job satisfaction. Physicians reported feeling less satisfied with their work conditions, particularly in relation to their autonomy, decision-making power, and work-life balance. When hospital administrators communicated openly with physicians about the changes and the rationale behind them, it helped mitigate some of the negative effects on job satisfaction. The study emphasized the importance of providing support to physicians during restructuring.

Table 2. Summary of Literature Review

Title	**Author(s) &Date Date**	**Place**	**Study Design**	**Key Findings**
Impact on Patient Outcome and Satisfaction				
To explore connection between nursing specialty certification	Boyle. D (2017)	USA	Literature Review	Specialty-certified nurses are associated with **decreased patient fall rates**, **pressure ulcers, hospital-acquired**

and patient outcomes.				**infections, and mortality rate**
To assess the specialized nurses' role to establish a culture of patient safety	Glarcher & Vaismoradi (2022)		Systematic integrative review	Specialized nurses significantly **contribute to safety culture.**
To investigate the current knowledge about the impact of healthcare facility design on teamwork, communication & quality care	Gharaveis et,al, 2018		Systematic review	Well-designed healthcare environments facilitate **better communication** and **collaboratio**n among healthcare teams, ultimately **elevating** the **quality** of care delivered
To provide evidence suggesting reorganizing general hospitals into disease based.	Kuntz et al. (2019)	Germany	Quantitative method	Organizational strategies involving specialized units, **improved resource utilization**, **reduced length of stay**, and **enhanced patient outcomes**.
Impact on Nurses' Satisfaction and Quality of Care				
To investigate the effect of nurses' job specialization on their job satisfaction and the length of stay for patient.	Shamsi, V., Mahmoudi, H., Sirati Nir, M., & Babatabar Darzi, H. (2016)	ED-Iran	Quasi-experimental	Specialized nurses exhibited **higher job satisfaction** and **less patient length of stay**

To provides insights into the role of ongoing training and education on nurse's satisfaction and care.	Price .S & Reichert. C, 2018	Canada	Thematic analysis	**Healthy work environments** were identified by nurses as those that invested in continuing **professional development opportunities**
To examine whether the nursing practice environment at the hospital-level affects the job satisfaction	Lee S Y et.al, 2014	South Korea	Cross sectional survey	Having a **standardized nursing process**, adequate staffing level, and good doctor-nurse relationship, **positively influence nurses' job satisfaction**
To identify factors affecting nurses' decision to undergo specialist education	Tiliander, et.al. (2022)	Sweden	Descriptive, cross sectional	Nurses need to receive a **value of the specialization,** they wish to achieve **a personal and professional development,** to be **challenged intellectually and practically**
To determine opinions and suggestions of nurses on nursing specialization.	Adibelli & Çinar (2017)	Turkey	Qualitative study	**Specialized nurses** need to be put in their areas **of expertise**
Best Practices				
To demonstrate various applications of EBD principles in healthcare buildings through case studies: Reduce	Alfonsi et al. (2014)	Italy	Evidence-Based Design (EBD)	There is **influence of built environment** and proposed different design solutions based on different EBDs

infection, stress on medical staff & patient healing.				
To investigate the influence of the physical environment on healthcare staff	Shetty.et al. (2024)	Canada, UK &Iran	Systematic review	**Interior design,** and ambient elements in hospitals **satisfies employees** and experience **greater patient satisfaction**
To identify the built environment that contribute to the establishment of confidence and comfort among pediatric patients and their relatives.	Babbu & Haque (2023)	India	Mixed method	There is a **need for a child-friendly, safe, and efficient healthcare designs** that cater to the unique needs of pediatric patients
To study the impact of specialization on the operational efficiency of a multi-hospital system.	Samiedaluie & Verter (2019)	Canada	Quantitative queuing analysis	Specialization of healthcare services can **maximize accessibility of care.**
Challenges of Implementation				
To assess the relationships between hospital restructuring and physician job satisfaction	Mascia,et.al . (2014)	Italy	Empirical	When hospital administrators **communicated openly with physicians** about the changes and the rationale behind them, it helped mitigate some of the negative effects **on job satisfaction**

4.4 Discussion

Reflecting on the project to redesign the inpatient units with a specialty-focused approach, the literature review highlights several critical understandings that can support and enhance this initiative. The evidence consistently indicates that specialization within healthcare settings leads to improved patient outcomes, such as reduced hospital stay, lower rates of adverse events (falls, pressure ulcers, infections), and increased patient satisfaction. Specialized nurses and units contribute to a safer, more efficient environment by implementing best practices, fostering a safety culture, and tailoring care to specific patient needs, including vulnerable populations like older adults, obstetric and pediatric patients. Additionally, the review highlights the importance of considering the physical environment—designing spaces that promote comfort, safety, and autonomy—to further support patient recovery and staff well-being. However, implementing specialized units poses challenges, including ensuring staff buy-in, managing workload, and addressing organizational restructuring concerns. To successfully redesign inpatient units around specialization, it is essential to incorporate evidence-based design principles, actively involve healthcare professionals in planning, and consider organizational strategies that support staff development and job satisfaction. This approach can lead to more responsive, patient-centered care, ultimately advancing both clinical outcomes and staff morale. The literature review provides strong empirical and theoretical support for the project's specialization-focused redesign, supporting that such changes can lead to better patient outcomes, enhanced patient and nurse satisfaction, and operational efficiencies.

CHAPTER 5

METHODOLOGY

To re-design the inpatient units by specialties (OBGYN, Pediatrics, Medical, and Surgical) Kurt Lewin's Change Model was used. Kurt Lewin's Change Theory, created in the 1940s, is a three-step organizational change process: Unfreeze, Change, and Refreeze (Malik,2022). It represents one of the earliest systematic approaches to organizational change and provides a formal process to guide an organization from where they are to where they want to be.

The unfreeze phase prepares the organization for change by recognizing the need and developing a sense of readiness. The change phase involves installing the new behavior, processes, or systems. The refreeze phase integrates the change into the company's culture to ensure its sustainability (Burnes & Bargal, 2017).

Kurt Lewin's change management model gave rise to theories of change management practiced today by considering the most critical aspect of people's behavior during change. His philosophy is founded on knowledge of the psychological dynamics between groups and individuals within change in an organization, specifically motivation, resistance, and the requirement for effective leadership (Burnes & Bargal,2017). Lewin's model has been greatly applied over time to adapt to the changing requirements of an organization, making him one of the early researchers of organizational change.

Employee participation is essential for the successful execution of change because motivated employees will be more supportive and positive towards the process of change, (Memon, 2021). A study by Hussain et al. (2018) highlighted that transactional and transformational leadership, plays an important role in leading an organization through

these stages by inspiring change, creating vision, building political support, orchestrating transitions, and maintaining momentum. Leaders need to collaborate with stakeholders and apply techniques like relationship building, social network leverage, and playing it straight to minimize resistance and achieve acceptance of change (Hussain et al. 2018).

5.1 Unfreezing: Getting Ready to Change

The unfreezing phase is where the employees and the organization are prepared for change by embracing the necessity for change, minimizing resistance, and motivating the stakeholders involved. In redesigning inpatient units by specialty, this phase plays a critical role in making the transformation acceptable by all stakeholders.

This phase involves preparing the organization and the employees for the change by addressing the need for transformation, reducing resistance, and motivating the stakeholders involved. Figure 3. summarizes the project activities and timeline presented in Gant Chart.

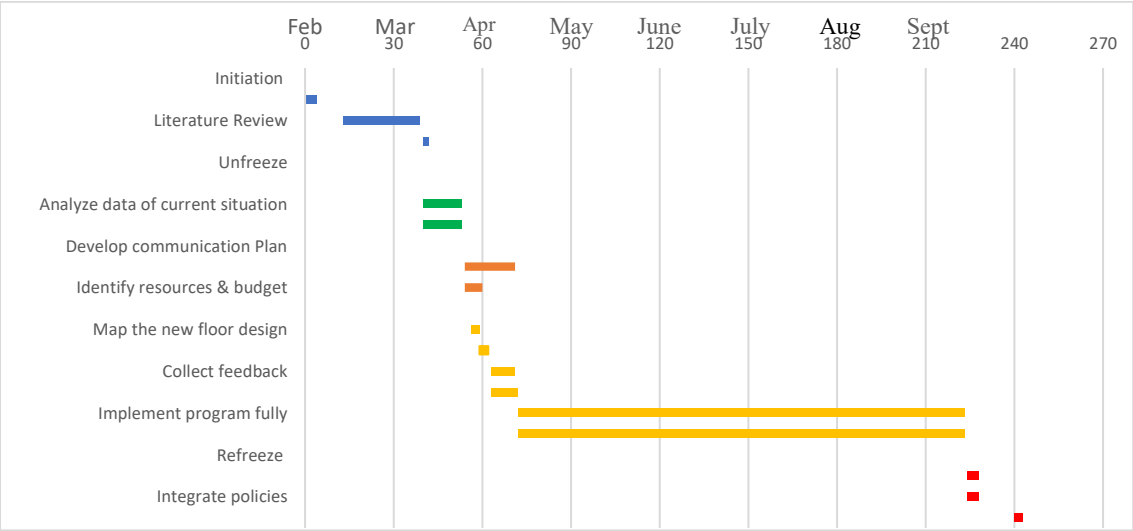

Figure 3. Gant Chart

5.1.1 Assessment and Diagnosis

During the 1st two weeks of March 2025, a thorough assessment of the current inpatient unit layouts was done. Those units were in 2 different buildings within the hospital premises. Building A has 4 floors and Building D has 6, each with 15 rooms of varying sizes, and admit OB-GYN, pediatric, medical, and surgical patients. Data about patient volume and inpatient days in 2024 was requested from the health information management (HIM) and analyzed to identify the volume of patients per specialty. The Patient volume per specialty is displayed in table 3.

Table 3. Patient Volume by Specialty

Specialty	**Patient volume / year 2024**	**Inpatient Days / year 2024**	**Average Number of patients/Day**
Medical	4330	11003	11003/365=30
Surgical	7873	11524	11524/365=32
OBGYN	5668	11983	11983/365=33
Pediatrics	1190	2700	2700/365=7-8

Several meetings were held to raise staff awareness about the need for unit redesign by specialty. These included meetings with nurses through the 6 shared governance councils and 2 open forums, a medical council meeting, executive council meeting, and patient &family advisory council (PFAC) meetings. The aim of those meetings was to ensure all stakeholders are included in the awareness and the need to initiate the project, and to gain their buy-in engagement and support. During the meetings, we presented problems, aims and strategy.

124 nurses attended the 2 open forums and 60 attended the 6 shared governance councils. All of them were happy and showed enthusiasm about the project aim and the opportunity to be specialized nurses that will be added to their work experience. They raised a challenge about the staff patient ratio in the medical units that needs to be more than other specialties as the patient acuity is higher. We promised to calculate the acuity of different specialties and design the staff patient ratio in different specialties accordingly. Also, staff raised concern about pediatric patients whose care requires more nursing time since pediatric patients are always with one of their parents who requires more attention from nurses to care for child and parents. Also, we promised to consider this concern in the implementation phase.

Physician's feedback was collected through the medical council that consists of heads of clinical departments, including physicians, pharmacy, radiology, laboratory, quality, and nursing. During the meeting, all heads of clinical specialties were positive about this step, as currently their patients are scattered all over the hospital and this takes a lot of time locating them and visiting them. In addition, having specialized nurses taking care of their patients makes them happy as this will ensure competent nurses for different specialty. Their only concern was raised regarding the surgical and OBGYN specialty to be in building D where labor room, operating theatre and ICU are located for patient safety and continuity of care. We took note of that to consider when allocating floors by specialty.

Positive executive feedback was collected during the executive meeting, except from customer service who are responsible for admitting patients to rooms selected by patients based on their preferences. Their major concern was not to lose patients when informed about the available units allocated for their specialty. Notes were taken to

consider this concern during the pilot phase and calculate the number of patients who refused the assigned room based on their specialty and actions will be taken accordingly. The Engineering head requested a separate meeting to discuss specialty-based designs, this was done, and major changes were shared related to pediatric unit, and its rooms design where playroom and colorful patients' rooms were requested. Moreover, the material management head requested a list of equipment, devices and consumables with amounts needed by each specialty unit to ensure adequate supplies are provided.

During the Patient and Family Advisory Council meeting, patients and their families shared their happiness about the project, especially to design the units as per specialty and having specialized nurses taking care of patients with unique needs. They raised concern about ensuring the availability of the preferred room category in the assigned specialties.

5.1.2 Leadership Engagement

The meeting with our executives was conducted to gain buy-in from all our leadership team and key stakeholders (e.g., Chief Executive Officer (CEO), Chief Medical Officer (CMO), medical director, customer service manager, quality director, Engineering manager, material management manager and HR manager), who will help champion the required change. During the executive meeting, the purpose of the project was presented, along with the collected data and expected outcomes. Following a review of supporting data, all executives supported the initiative. however, the customer service manager was concerned about losing patients if not given their preferred room category. We assured her that patient preferences would be prioritized and that the project would be piloted prior to full implementation.

5.1.3 Prepare for Resistance

To ensure smooth implementation during the change phase, stakeholder's comments/concerns were collected, and actions were developed to be included during the change phase to overcome resistance or stress. Table 4. includes all the major concerns/challenges collected from stakeholders and the action steps to overcome them.

Table 4. Challenges and Action Plan

Concern /Challenge	**Action Steps**	**Responsibility**	**Timeline**
Patient preference for room selection	1. Every specialty, except pediatrics, were assigned 3 floors and each floor has different room category to meet patient preference 2. If patient room preference is occupied in any of the 3 allocated floors floor, then assign patient to preference room in different specialty (medical-surgical can be occupied by medical/surgical patients) 3. Cross train nurses in medical-surgical units. 4. Monitor number of patients assigned in different specialty	Admission office to assign rooms Nursing education and inpatient divisional manager for cross training	Upon piloting the service
Initially, floors are occupied with different specialty, how to start without disturbing the admitted patients.	1. Those admitted will stay until discharge, then their room will be only occupied afterwards with the specialty assigned to each floor. 2. Head nurses/shift team leaders to monitor admission to their units as per allocated specialty, escalate to	Head nurses and nursing supervisors.	Upon piloting and continue

	Nursing supervisor on case-by-case basis.		
Clinical educator Training of 124 nurses within 2 weeks' time is a challenge.	1. One education team will start with the pilot specialty, the OBGYN, who will need 3 days course, during the pilot phase, the other teams will start concurrent training for the rest of specialty to be ready by April 2nd.	Clinical educators, head nurses and nursing divisional manager	3rd week March till 1st April
Conflict can occur among nurses' preferences of specialty	1. Review the nurses' records for their previous experience to assign their specialty accordingly. 2. If nurses are seniors and have been working for more than 5 years at Dar Al Shifa, evaluate their performance with the head nurse and the clinical educators to identify their specialty skills. 3. Monitor nurses' performance in the specialty unit and improve their competencies through their work.	Head nurses and clinical educators.	Before and during the implement ation
Staff patient ratio	1. Calculate the acuity score by specialty and staff ratio will be considered accordingly	CNO, nursing quality and nurse managers	Before implement ation of pilot
Engineering design per specialty	1. Major modification will be the pediatric unit to include the look and feel of pediatric design, to provide special modifications in the medical floors as special devices for the bathrooms for older patients.	Eng and nurse divisional manager	Before implement ation of pilot phase

Supplies, devices required by specialty	1. Prepare the list of required devices and supplies in different specialties including wheelchairs, folly's catheters, suction tubes, IV pumps, ect. 2. Submit the list with quantity to material management to ensure concise devices and supplies are available per specialty.	Nurse divisional manager and material management manager	Before implementing the pilot phase.

5.2 Changing: Implementing the Redesign

The changing phase focused on the actual redesign and implementation of the new inpatient unit layouts. This phase involved the active transition from the old model design to the new design.

Based on feedback and assessments from the unfreezing phase, the units were located as follows based on all stakeholder's feedback. Surgery and OBGYN in Building D, where Medicine and Pediatrics are allocated in Building A. Based on patient volume and inpatient days, rooms and building allocations became as follows: Building A housed Medical (32 rooms, 3 floors) and Pediatrics (7 rooms, 1 floor), while Building D housed Surgical (33 rooms, 3 floors) and OBGYN (34 rooms, 4 floors).

To effectively manage units, staffing ratios were determined based on patient acuity and specialty. Medical and pediatric units at 1:3 (staff: patient), and surgical and OBGYN units at 1:4. A primary care model, with nurses serving as care partners and liaisons between patients, doctors, and care teams, was utilized (HealthStream, 2021).

Staff pre-employment experience records revealed that 30 inpatient nurses have OBGYN experience, 9 have pediatric experience, 15 have surgical experience, and 20 have medical experience. Based on occupancy rates, staff-to-patient ratio, and anticipated

leave, the staffing requirements were 42 nurses for the medical floors (3 floors), 10 nurses for the pediatric floor, 36 nurses for the surgical floors (3 floors), and 36 nurses for the OBGYN floors (3 floors). Consequently, specialty training was provided to 42 nurses in medicine, 36 in surgical, 36 in OBGYN, and 10 in pediatric, totaling 124 nurses.

The lists of required devices and supplies per specialty were prepared by the inpatient divisional manager, along with the inpatient nurse managers. To ensure staff readiness, the nursing education unit was requested to prepare the specialty-based courses to start with OBGYN team, as the pilot team, on the 3rd week of March,2025

The Changing phase focused on implementing the transformation. New processes, systems or behaviors were introduced, and teams began adapting to the shift. This stage was dynamic as individuals and groups worked to internalize new ways of operating (Prosci,2024). Key actions in this stage included developing and approving the budget plan, providing training and resources to build the necessary skills, offering continuous support through coaching or mentoring and monitoring progress and adjusting as need.

Project budget

According to the World Health Organization (WHO), effective health budgeting requires a clear link between program goals, resource allocation, and measurable results. It emphasizes the importance of designing, managing, and monitoring program budgets to support health system reforms and service delivery improvements (WHO,2022). In redesigning inpatient units by specialty, budgeting played a critical role across all three phases of Lewin's change model. The unfreezing phase budget supported stakeholder engagement, data analysis, and readiness activities. The changing phase budget enabled training, engineering modifications, and resource deployment for pilot and full implementation. The refreezing phase budget ensured sustainability through monitoring,

evaluation, and reinforcement of new practices. A detailed budget was developed and approved by the CEO as displayed in table 5. It includes the items, calculations in Kuwait Dinar (KD) and expectations.

Table 5. Project Budget

Item	Cost Calculation	Expectations
Unfreezing Phase: Focus: Assessment, stakeholder engagement, and readiness- 1,408 KD		
Personnel (data analysis, planning)	3 KWD/ hour × 40 hour = 120 KD	HIM, nursing, quality team
Educator planning	5 KWD/hour × 30 hours = 150 KD	Training design and coordination
Open forums	50 KWD/session × 2 = 100 KD	Venue, refreshments, materials
Shared governance councils	50 KWD/session × 6 = 300 KD	Internal facilitation
PFAC + medical council	100 KWD/session × 2 = 200 KD	Stakeholder engagement
Training prep for 124 nurses	2KD/nurse × 124 = 248 KD	Scheduling, materials
Engineering consult	50 KD/meeting × 2 = 100 KD	Pediatric design walkthroughs
Supplies planning	10 KD/hour × 4 hours = 40 KD	Specialty-based equipment list
Changing Phase: Focus: Pilot implementation, training, engineering, and full rollout- 4,070 KD		
Nurse training	30 KD/session × 5 sessions = 150 KD	Specialty-based courses
Competency Evaluation meeting	5 KD/hour × 124 hours = 620 KD	Competency grid
Leadership rounds	15 KD/hour × 10 hours = 150 KD	CNO, NDM, supervisors, educators
Daily monitoring	5 KD/hour × 30 hours = 150 KD	Nursing supervisor time
Pediatric design	2,000 KD	Playroom, themed rooms
Medical unit modifications	1,000 KD	Bathroom aids, signage
Refreezing Phase: Focus: Consolidation, monitoring, and sustainability-1,650 KD		
Leadership rounds	15 KD/hour × 10 hours = 150 KD	CNO, divisional managers, quality
Nurse manager meetings	50 KD/meeting × 6 = 300 KD	Monthly meetings

Orientation updates	5 KD/hour × 40 hours = 200 KD	Policy revision, Checklist revision, onboarding
Refresher training	5 KD/nurse × 40 = 200 KD	Cross-trained nurses
KPI tracking	5 KD/hour × 50 hours = 250 KD	Structure, process, outcome
Pediatric gifts	0.75 KD/gift × 600 = 450 KD	100 gifts/month × 6 months
Mickey & Mini mouse figures and play time	100 KD	Mickey/Minnie figures

The plan was implemented as designed, with the pilot phase being the most critical step. During this phase, staff were supported through nursing leaders' rounds, where concerns raised by staff were addressed promptly. Each day, 18-22 OBGYN patients were admitted in the hospital, out of which, 2-3 patients were admitted to different units based on their preferred rooms. Before finalizing admissions, the admission officer contacted the nursing shift administrator, who was able to convince 1-2 patients daily, to be admitted to the OBGYN unit, while others insisted on staying in their preferred rooms.

During the pilot phase, physicians raised concerns that their patients were still being distributed across the two buildings, A and B. The head of OBGYN was informed that efforts would continue to encourage patients to stay in their assigned units. Support was requested from the physicians to convince their patients to be transferred to the OBGYN units, where physicians were always available, and care would not be delayed. This strategy helped successfully admit patients to the units designated for OBGYN.

Nurses in the OBGYN units also raised concerns that they are still receiving 1-2 patients due to patients preferring certain rooms. The nursing division manager, nursing shift administrator, and customer service supervisor were influential in helping convince patients to be moved to other units that offered rooms with the same category as their preferences.

The percentage of OBGYN patients admitted to the allocated units increased from 83% at the start of the pilot phase to 95% at the end of first week. Interviewed patients responded positively to being in the same unit as other patients with similar diagnoses. Physicians were also pleased to have their patients located on the three allocated floors, as this optimized their time in patient care, rather than locating patients across two buildings and ten floors. Interviewed nurses expressed positive feedback as well, noting that the process allowed them to stay focused, deepen their knowledge of specific conditions, and build stronger relationships with physicians.

During the 3 days holidays, March 30-April 1st, the Engineering team prepared the pediatric floor, where the rooms were colorfully designed, and a small playroom was designed replacing the unit waiting area. The nurses took input from some pediatric patients and their parents about the design to ensure they meet their preferences. In addition, 2 figures (mini and mickey mouse) were bought after approval of the CEO. Moreover, list of gifts to be purchased on monthly basis based on the expected number of pediatric admissions and age group were approved by the CEO and purchased the 1st set of 100 gifts.

On April 2nd, a meeting was held with stakeholders to evaluate the pilot phase. The meeting was attended by the inpatient nursing division manager, nursing shift administrator, customer service manager, customer service supervisor, nurse managers from the OBGYN units, one nurse from each of the three OBGYN units, the nursing education head, the head of OBGYN services, and the CNO. The group discussed the lessons learned from the pilot phase and agreed to proceed with the implementation of specialty-based units on all other floors as outlined in the plan.

Later that same day, April 2nd, a meeting was organized with the nurse managers of all other inpatient units, the inpatient nursing division manager, nursing shift administrators, customer service manager, nursing education head, engineering manager, and Material Management Department (MMD) manager. The team discussed their readiness to implement specialty-based units, including considerations for design, supplies, and nursing training. Everyone was excited and expressed their readiness to implement the redesign and decided to announce the start date as April 3rd. An email was sent by the CNO to all heads of clinical services, nurse managers, nursing shift administrators, executives, and nurses, informing them of the successful implementation of the pilot phase for redesigning specialty-based units and the readiness to expand the program to all other specialties as per the plan.

During the month of April, full implementation of specialty base admission was done, under the supervision and guidance of all the nursing administration, including the CNO, nursing shift administrators, nursing quality, nursing education and nurse managers. Issues were raised mainly when a patient requested a room category that is occupied in the related specialty. Nursing administration, with the help of the primary physician, was able to convince most of the patients to be in the same unit until the requested room is available. The admission office and customer service supervisors were continuously communicating with the nursing shift administrators whenever they face an issue where patients requesting a special room not on the assigned specialty. Table 6. includes the summary of action steps, responsibilities, timeline and required resources.

Table 6. Implementation of Action Steps

Action steps	**Responsibility**	**Timeline**	**Required Resources**
Develop and approve the budget plan	CNO	March 17, 2025	Project budget
Select the specialty to start piloting the change (OBGYN)	CNO/ Nursing Divisional Manager (NDM)	March 17, 2025	None
Assign the 6th, 7th and 8th floors Building D to the OBGYN patients	Customer Services	March 18,2025	Equipment, supplies needed for OBGYN patients
Start specialty-based staff training: OBGYN then the rest (Med-Surgical-Pediatrics), complete competency grid per specialty	Nursing Education	March 20-23, continue for the rest March-April 3	None
Meet with the OBGYN trained nurses to check their readiness, congratulate them for completing the training, listen to their concerns and inform them about the support they will receive during implementation from nursing leaders	CNO/NDM	23 March, 2025	None
Announce to customer service to admit OBGYN patients in the selected units, if patients insisted to go to different units to involve the nursing supervisor to communicate with patients	CNO	March 24, 2025	None
Do frequent rounds on the OBGYN units to check on staff, patients and Obstetricians, act on their raised concerns	CNO, NDM, nursing supervisors, nursing education	March 24th - March 31st	None
Monitor % of OBGYN patients admitted in different units	Nursing supervisors	Daily	None
Conduct meeting with nurses of OBGYN units, customer service manager, obstetricians, head nurse, nursing supervisor, nursing education, NDM and CNO to evaluate the implementation of the piloted specialty service	CNO	2nd April, 2025	None

Prepare all other units to admit patients by specialty, assign 2nd, 4th and 5th floor, building D for surgical units. 2nd floor building A for pediatrics (include playroom, rooms design), 3rd, 4th and 5th floor, building A for medical specialty. Get approval from the CEO on the required budget.	Eng. MMD, head nurses	During the pilot phase of OBGYN	Equipment, supplies and Eng work budget
Announce to all the hospital staff the new units design by specialty.	CNO	April 2nd, 2025	None

During implementation, the team monitored project effectiveness by comparing the indicators before and after implementing the project. The outcome indicators included the patient safety incidents where data showed significant decline in impaired skin integrity and failure to follow standard practices, while others as the delay of care and patient satisfaction with nurses' skills, showed gradual improvement. The patient satisfaction with nurses' skills and negative comments about nurses' skills showed improvements, and the nurses job enjoyment reached above the mean after it was below the mean in 2024. In addition to these indicators, the compliance rate to specialty-based unit admission was monitored and showed improvement over time. Figures 4, 5, 6,7 & 8 include the structure, process and KPI results.

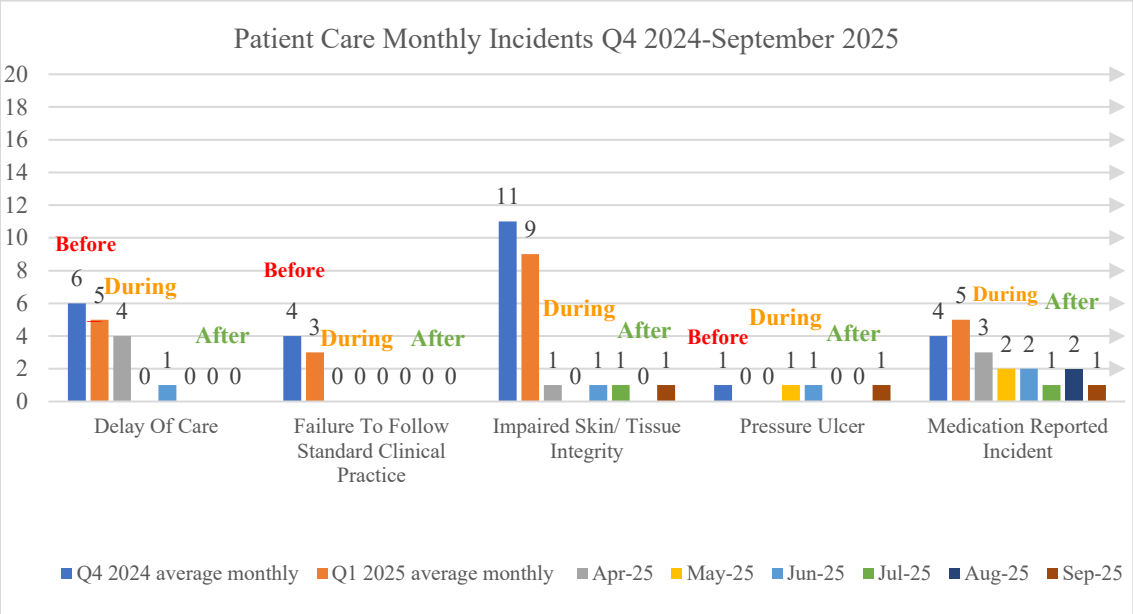

Figure 4. Patient Incidents Before and After Implementation

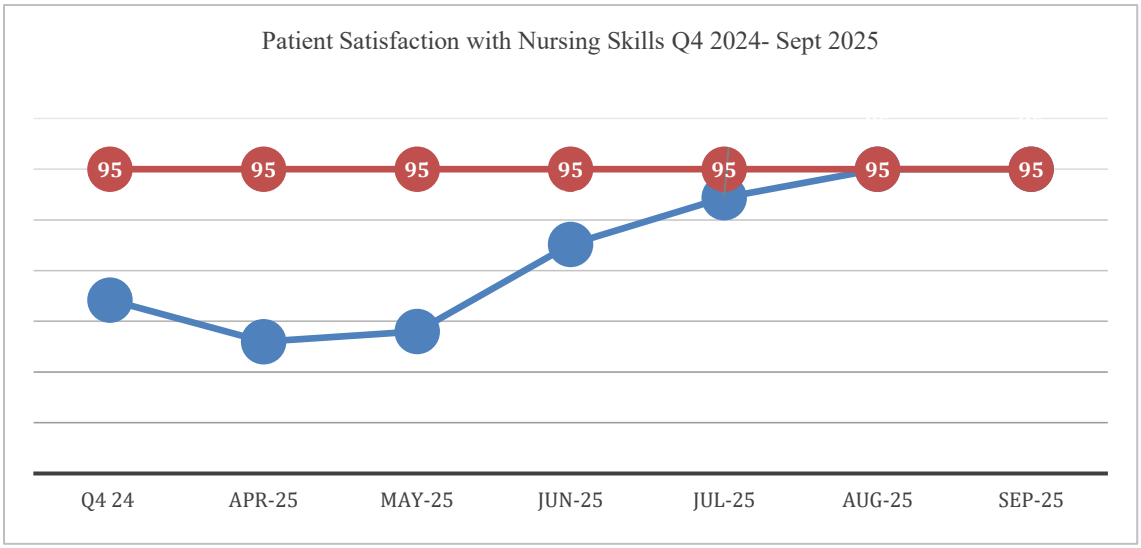

Figure 5. Patient Satisfaction with Nurses Skills, Before and After Implementation

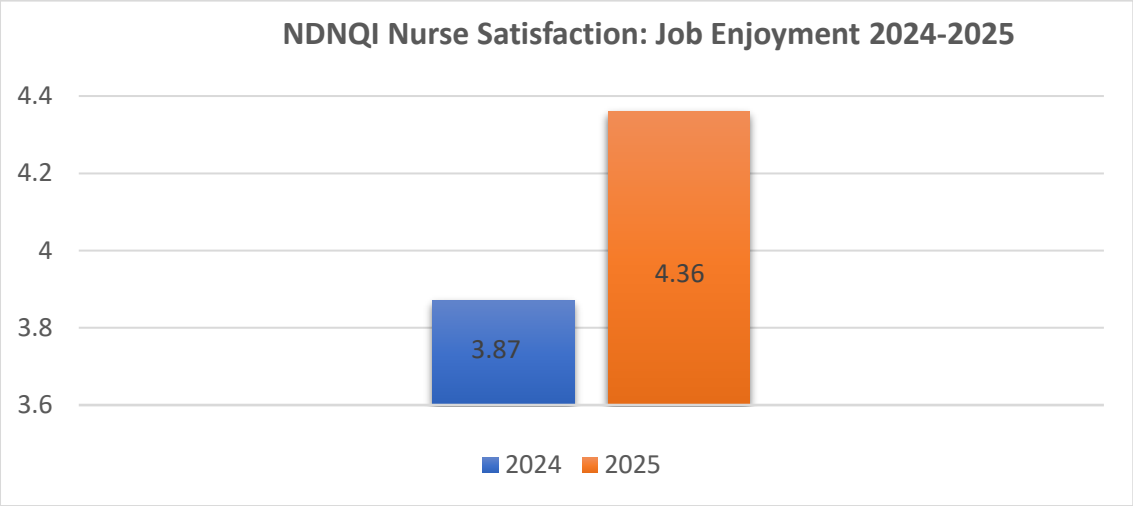

Figure 6. Nurses Satisfaction with Job Enjoyment, Before and After Implementation

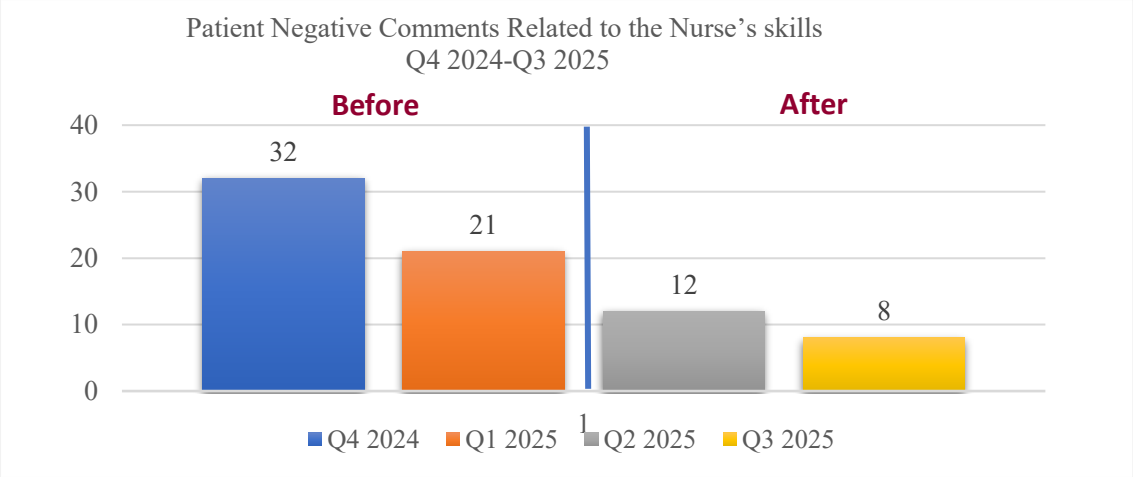

Figure 7. Patient Negative Comments, Before and After Implementation

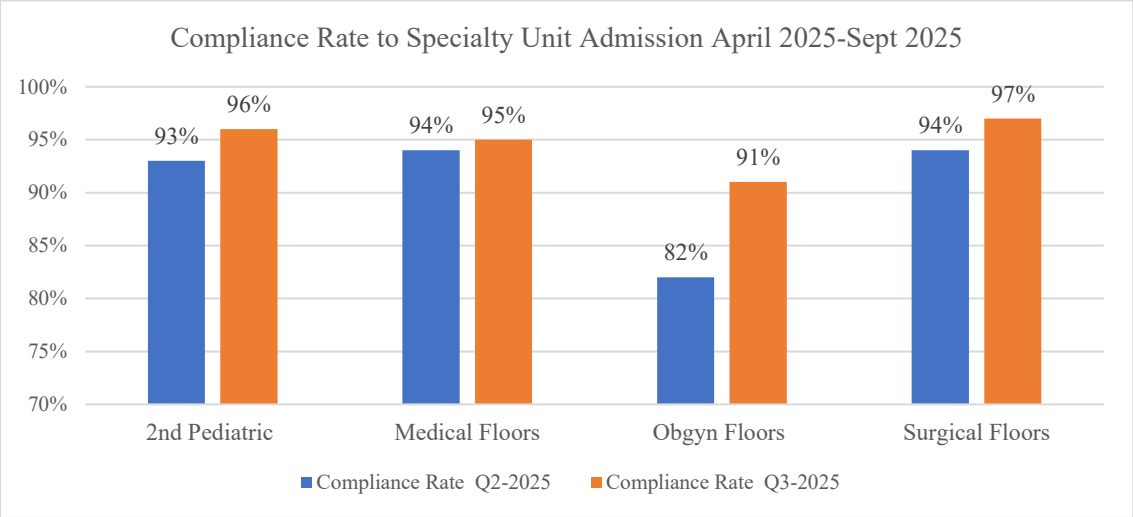

Figure 8. Compliance Rate to Specialty Unit Admission

5.3 Refreezing: Solidifying the Inpatient Redesign

The refreezing stage, as described by Lewin (1951), involves stabilizing and embedding the changes that have been implemented. It focuses on consolidating the transformation—in this case, the shift to specialty-based inpatient units—ensuring that new practices become part of the organizational norm. According to Ellis (2023), refreezing relates specifically to the implemented change, rather than to all other ongoing activities. This stage is essential to prevent regression to previous practices and to secure sustaining practices. As Kaminski (2011) notes, refreezing typically follows the execution phase and aims to maintain the momentum of change. Without a solid refreezing process, there's a significant risk that the workforce will revert to familiar routines, compromising the change's sustainability.

To embed this new model effectively, the nursing department undertook several strategic actions. Daily nursing shift administrators reports to the Chief Nursing Officer (CNO) highlighted challenges encountered within each specialty-based unit and prompted collaborative discussions to address them. Similarly, monthly nurse managers meetings included dedicated agenda items focused on ongoing concerns within the specialty model. The nursing education team played a critical role by revising orientation policies to include specialty-specific checklists, and by continuing to deliver tailored training for newly hired nurses. Competency evaluations were aligned with specialties and conducted both at the time of orientation and on an annual basis.

Nursing leadership, including the CNO, divisional managers, nursing quality, and nursing education representatives, conducted regular rounds to engage staff, gather feedback, and support smooth implementation of the specialty-based admission system. To further enhance flexibility and ensure optimal staffing, the nursing education unit

introduced a cross-training program. This initiative equipped nurses to safely manage patients from different specialties when necessary or when floated to other units. The cross-training roster was maintained by the nursing shift administrator and updated regularly to ensure that only qualified staff were reassigned. Nurses who had not practiced in an alternate specialty within six months received refresher training to maintain competence and confidence.

To track progress and sustain the change, the nursing quality team continued to monitor a set of key performance indicators (KPIs) encompassing structure, process and outcome measures as displayed in table 7.

Table 7. Structure, Process and Outcome Indicators

KPI	**Target**	**Frequency**	**Source**
Number of negative comments about nurses' skills	2/month	Monthly	Patient satisfaction survey
Patient Satisfaction with Nurses Skills	95%	Monthly	Patient satisfaction survey
Nurses Job Enjoyment	> the mean	Annually	NDQNI survey
Number of Patient Safety Incidents involving nurses: ➢ Delay of care ➢ Failure to follow standard of care ➢ Impaired skin/tissue integrity ➢ Pressure Ulcer Injury ➢ Medication Errors	≤1 /month ≤1/month ≤1/month ≤1/month ≤1/month	Monthly	Incidents reports
Number of patients per specialty/day	> 30 except pediatric >7	Quarterly	Admission records
Compliance of admissions by specialty	> 95%	Monthly	Admission records

Structure measure included admission volumes to ensure adequate bed availability across specialties. Process indicators included the percentage of patients admitted to incorrect specialty units, with root causes documented for continuous improvement. Outcome indicators included patient care incidents, complaints, and patient satisfaction. Nursing satisfaction is measured officially on annual basis using the RN survey by NDNQI.

Through these structured strategies, and the use of transformational leadership style by the CNO, the nursing department successfully secured the specialty-based model into everyday practice, ensuring long-term viability and staff engagement with the new system.

CHAPTER 6

CONCLUSION

The redesign of inpatient units by specialty, OBGYN, Pediatrics, Medical, and Surgical, was initiated 2 years ago and failed due to insufficient stakeholder engagement, creating resistance, especially from the customer service team. However, this project ultimately succeeded through transformational leadership, systems thinking, team building, a dynamic quality management system, change management approach, and effective budgeting. Employing a structured "unfreeze, change, refreeze" approach, the organization transitioned from a mixed patient care model to a specialized unit system, enhancing patient outcomes, staff satisfaction, and operational efficiency.

The thorough assessment and inclusive engagement during the unfreezing phase ensured strong stakeholder buy-in and minimized resistance. The pilot implementation of specialty-based units, starting with OBGYN, demonstrated improved patient placement, optimized staffing ratio, and positive feedback from patients, nurses, and physicians alike. The refreezing phase solidified these changes by embedding specialty-specific practices into daily operations, supported by continuous training, leadership involvement, and performance monitoring.

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