Patient Experience at Discharge: A Quality Improvement Study in an Armed Forces Hospital, Saudi Arabia

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Abstract

Over the past decade, the health sector of Saudi Arabia has been undergoing a major transformation. This pilot research aimed to improve the patient experience (PX) at discharge by at least 2 scores within 2 years at a King Abdul Aziz Armed Forces Hospital (KAAB-AFH), Dhahran, in Saudi Arabia. The project was planned, executed, monitored, and closed through five Plan-Do-Study-Act cycles from Q2 2019 to Q2 2023. Discharge planning Include, Discuss, Educate, Assess, and Listen model, Teach Back technique, and Re-Engineered Discharge model, and Patient Education Materials Assessment Tool were used. The mean PX score at discharge improved from 86.80 (SD $\pm$1.89) to 89.72 (SD $\pm$1.77) ($P = 0.02$), the discharge speed PX score by 4.36 points ($P = 0.05$), and the PX score for the clearness of instructions at discharge increased by 2.75 points ($P = 0.01$). This PX quality improvement research project resulted in a significant improvement in patients' understanding of their health status, increased adherence to discharge procedures, and a sustained improvement in the quality of care.

Keywords

Patient experience, hospital discharge, best practices, model development, quality of care

Introduction

As an integral component of the healthcare system, the patient experience (PX) is recognized as an independent aspect of quality of care addressing person-centered care, which includes a range of interactions with the healthcare system, including timely checkups, easy access to information, the doctor-patient relationship, treatment under health insurance plans, as well as the clinical activities of healthcare providers.[1,2] PX is the sum of all the interactions shaped by the healthcare facility culture and its perception of the patient within the continuum of safe and high quality of care is a true example of patient-centered care. Further evidence suggests that PX is consistently positively associated with patient safety and clinical effectiveness across a wide range of disease areas, study settings, populations, quality of care, staff engagement, and financial outcomes, etc.[2] Therefore, improvements in any of these areas can positively impact short- and long-term outcomes and promote progress. In contrast, a regression in any of these factors can have a

range of negative consequences. One such factor that may have a significant impact is PX at discharge.[1–3]

The patient discharge from a hospital means the official release or termination of hospitalization after a procedure or course of treatment. Discharge occurs whenever a patient leaves the hospital after completion of treatment, discharge from the hospital against the advice of a doctor,

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transfer to another medical facility, or death.[3–5] However, hospital discharge should not be seen as an endpoint, but rather as one of the many transitions in the patient care process.[4,5] The organization and delivery of this transitional care naturally involve numerous actors in health and social care, who must coordinate their specialized activities so that patients receive comprehensive and safe care. The inherent complexity of coordinating numerous partakers often from different organizations suggests that hospital discharge can be a vulnerable, time-dependent, and high-risk episode in the patient's treatment journey.[6–8]

A proper patient discharge process ensures that there is an agreed chain of care that must be established and maintained between the hospital and the patient, a process that determines the future of the patient's health.[6–8] However, nearly 20% of patients experience adverse events that happen within 30 days of discharge, three-quarters of which could have been prevented or alleviated if the discharge process had been better managed.[8] Studies from the Nordic countries suggest that the inclusion of patients in the discharge process is vital, yet, not sufficiently followed.[2,9] For example, a study of Swedish patients found that doctors often did not have enough time to spend with patients because the hospital environment was too stressful.[9] On the other hand, discharge from the hospital requires successful communication between clinicians and the patient or family in order to minimize adverse events and prevent readmissions. Hence, involving patients and their families in discharge planning can improve patient outcomes, reduce unplanned readmissions, and improve PX, leading to quantitative improvements in safety and quality.[5,10,11]

Evidence across the world shows that several tools have been used to improve the patient's discharge experience. One of such tools is IDEAL Discharge Planning (Include, Discuss, Educate, Assess, and Listen) strategy that focuses on actively engaging the patient and caregiver in the discharge process.[12–14] The International Agency for Quality and Research in Health has introduced the IDEAL discharge model, which suggests that discharge planning begins at the time of patient admission and includes anticipating the needs of the patient and family, as well as planning for meeting these needs after discharge. Key factors of comprehensive discharge planning include patient and family, discharge planning, patient and family education, assessment of teaching volume, and effective listening. Moreover, the IDEAL has shown that effective and efficient implementation of the discharge process requires integrating several interrelated steps into existing treatment and care management processes and patient flow rather than simply adding new tasks to the healthcare list. Therefore, it is important to identify other aspects of patient care that should be associated with the patient's discharge.[12–14] Given the Saudi culture where family members (as caregivers) are an integral part of patient care, this model, in addition to its scientific value, was considered the most promising for the study setting.

Over the past decade, the Saudi Arabian health sector has undergone a major transformation with the aim of restructuring the health sector to a wide-ranging, competent, and integrated entity based on the health of the individual and society.[15,16] Transformation has been based on the principle of value-based care through transparency, sustainability, the promotion of public health and disease prevention, as well as the application of a new model of care related to disease prevention.[15,16] In the second quarter (Q2) of 2019, as part of this transformation and to promote value-based care, the King Abdul Aziz Armed Forces Hospital (KAAB-AFH) (Dhahran, Saudi Arabia) started a quality improvement research project to explore how to improve average PX. The first step was conducting data collection with the administration of validated "Inpatient Experience," "Outpatient Experience," "Emergency Department Experience," and "Pripary Care Center Experience" surveys. Results from Q2 2019 to Q2 2020 showed that the least progress was in the PX at discharge with an average of 86.80. Therefore, this quality improvement project was initiated to improve the PX at discharge at KAAB-AFH by at least 2 scores over 2 years. The improvement of a 2 scores in the PX at discharge will mean achieving a greater than 80th percentile rank in the PX at discharge domain among the regional Gulf Corporate Countries (GCC) healthcare settings as per the Press Ganey PX report for GCC region.[15] To achieve the aim, the following expected benefits and key drivers were outlined: speed of discharge, the patient's sense of readiness for discharge, and clear instructions, leading to improved discharge and flow rates, fewer patient complaints and comments, and reduced readmission rates.

Method

Study Design and Sample

Quantitative quality improvement research at the KAAB-AFH from Q2 2019 to Q2 2023. For this patient care quality improvement study, a quasi-experimental quantitative research design was used to evaluate the relationship between intervention and outcome using numerical data collection and statistical analysis. The quasi-experimental quantitative design was particularly compelling in this study because it was the pragmatic approach that allowed us to assess the real-world effectiveness of an intervention delivered by hospital staff, rather than the effectiveness of an intervention delivered by research staff in a research setting.

This study applied the purposive sampling technique, that is, identify and select participants who are discharged from the hospital. The sample for surveying in each quarter was 20% of the total number of patients for a given quarter. Exclusion criteria were obstetric and postpartum patients, pediatric patients, patients transferred to another hospital, patients who left the hospital or were discharged against physician advice, patients transferred to another health facility, planned readmissions, patients with false labor, and patients under observation < 24 h.

Table 1. Evidence-Based Practices and Models Used to Address the Research Aim and PX at Discharge.

Change idea	Patient, family, healthcare professionals' engagement	Actions to assure sustainability
Going Home Checklist adopted from the Be Prepared to Go Home Checklist and Booklet based on IDEAL, AHRQ.	Empowering the patient and family	Continuous monitoring
SMART—the patient tool to document his/her concerns or comments based on IHI.	In co-production, the patient evaluated the forms using the PEMAT and patient documents on the form.	The form is codesigned with the patients and reimplanted
Multidisciplinary team (MDT) discharge planning checklist adopted from NHS, IDEAL, AHRQ.	All elements of the checklist are patient-centered.	Physicians' engagement by getting feedback, education, and small groups coaching.
IDEAL Discharge Planning Meeting Checklist to ensure the implementation of the required steps.	Teach Back technique	Assigning a task to an in-patient champion.
MDT meeting held one to two days prior to discharge and earlier for longer hospital stays as adopted by IDEAL, AHRQ.	Teach Back technique	Physicians' engagement by getting feedback, education and small groups coaching.
Follow-up phone calls after discharge to inform patient's activities, questions, clarify any misunderstandings, including discrepancies in the discharge plan that need to be identified and resolved as adopted by RED, AHRQ.	A leaflet to educate the patients about the service	Limiting it to special population, based on the patients' needs and physician's decision.
Post-discharge WhatsApp Care Service	Use consent form and customize the service to meet the patient preferences	Develop policy, make it simple and based on the patient's preference.
The Inpatient Experience Champion—a dedicated Nurse Supervisor responsible for the discharge of patients as adopted by IDEAL, AHRQ.	Facilitate patients discharge process	Minimizing and simplifying the tasks and coordinating it with job description, policy, and plan.
Discharge instructions adopted by IDEAL, AHRQ for making a correct and consistent list for patient and physicians with medication lists, summary of discharge, inpatient medical record, AHCP, and, if necessary, outpatient medical record.	To meet the patient literacy make it visual-audio	Sharing it as a soft copy, on the patient mobile phone.
Medication List with Prescription Instructions at discharge adopted from RED, AHRQ. Patients are required to bring their medications when admitted to the hospital or when visiting pre-hospital and outpatient clinics, or show a list of medications at every meeting with a healthcare provider.	Teach Back technique	Automatically generated by the system.
Place a white board with the IHI's planned discharge date to document the patient's concerns or comments.	Clearly written date of discharge in the white boards in front of the patients.	Continuous monitoring.

Include, Discuss, Educate, Assess, and Listen (IDEAL) is a strategy that focuses on actively engaging the patient and caregiver in the discharge process.

The Teach Back method is a healthcare communication strategy used to confirm a patient's understanding of healthcare procedures and state in their own words what they need to know or do about their health.

Re-Engineered Discharge (RED) model is a program to provide a personalized hospital discharge plan for patients with the goal of reducing all-cause readmissions within 30 days and improving safety during patient transitions.

Patient Education Materials Assessment Tool (PEMAT) is a model that assesses the areas of comprehensibility (when patients with different backgrounds and levels of health literacy can understand and explain key messages) and applicability (when patients with different backgrounds and levels of health literacy can determine what they can do based on the information presented).

Specific, Measurable, Achievable, Relevant, and Time-bound (SMART) is structured approach to goal setting that can significantly enhance professional performance.

HRQ—Agency for Healthcare Research and Quality

NHS—National Health Service

IHI—Institute for Healthcare Improvement

PX, patient experience.

Improvement Actions and Process

A multidisciplinary team, including medical administrators, nursing unit, quality specialists, and a PX head, was formed to improve the quality of patient care at discharge by addressing various aspects of care using multiple interventions and best practices. A key-driver diagram was developed and used to guide improvement actions presented as Table 1 in this document. As shown in Table 1, to improve PX at discharge, this research used different evidence-based solutions.

This was then followed by the development of change ideas based on the best practices as shown in Table 2,

Table 2. KPI List to Improve the PX at Discharge Established by Continuous Quality Improvement and Patient Safety Department Within Medical Services General Directorate.

No.	KPI	Type of Measure	Target
1	MDT Checklist Compliance & Completeness	Process	98%
2	Percentage of Discharge Patients Before 12 pm	Process	33%
3	Median Time from Discharge Decision to Actual Discharge	Process	100 min or less
4	IDEAL Discharge Planning Checklist Compliance & Completeness	Process	98%
5	Readmission Rate	Balancing	≤ 4.49%
6	Patient Experience for Discharge Domain	Outcome	Improve 2 scores
7	Patient Experience for Discharge Sub-Domains	Outcome	Improve 2 scores

PX, patient experience; KPI, key performance indicator.

which includes details of the initiatives taken to modify the change to make it applicable to the current system, as well as actions taken to involve patients and their families along with healthcare professionals. The project was planned, executed, monitored, and closed through five Plan-Do-Study-Act (PDSA) cycles (Table 1S), a standard quality improvement process and an efficient approach commonly used in healthcare facility improvement process:

– **PLAN** included questions and projections, ie, who, what, where, when and data collection planning.
– **DO** included running the test on a small scale, ie, what happened, what data was collected, what were the observations.
– **STUDY** included analyzing the results and compare them to predictions, then summarize and reflect on what was learned.
– **ACT** based on what was learned from the test, make a plan for the next step, determine what modifications should be made—Adapt, Adopt, or Abandon.

The intervention was developed in collaboration with leaders and frontline workers and implemented at the same time. The decision was made by board members and the project team based on feasibility and the best available evidence. In this, the PDSA cycles provide an iterative method to continuously improve while learning from the implementation efforts throughout the project. The "Act" part of the PDSA cycle looks into this and provides what actions to take for next PDSA based on the implementation of the change ideas through a PDSA cycle as mentioned in the Table 1S.

Press Ganey healthcare company was invited to measure the outcomes; considered the industry's largest database of patient reviews, it provides information to help health facilities to understand exactly what patients want and need throughout their treatment journey.[17] In addition, the Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) survey, a standardized, publicly reported survey instrument and data collection methodology for measuring patients' perceptions of their hospital experience after discharge was administered among the study sample.[18] The aim of the survey was to improve:

– **Outcome measures**—PX at discharge domain and sub-domains: speed of discharge, readiness for discharge, and instructions given during discharge. These measures were monitored quarterly throughout the study period.
– **Process measures**—Multidisciplinary team (MDT) discharge planning checklist compliance and completeness, percentage of discharge patients before 12 PM, median time from discharge decision to actual discharge, and IDEAL discharge planning checklist compliance and completeness were used as the process measures.

Based on the results of the survey, key performance indicators (KPIs) (Table 2) were established to measure both the process and the outcome of patients' discharge. Continuous Quality Improvement and Patient Safety Department within Medical Services General Directorate established the targets and tracked the research process to meet the KPIs. The "Be Prepared to Go Home" checklist and booklet were translated into Arabic and made available in both languages for patients to review and complete prior to discharge. Additionally, as per the IDEAL discharge plan, patients were provided with a form developed based on the SMART discharge protocol. The form was translated into Arabic and made available in both languages based on patient preference. Patients were provided with explanations on how to use the form and completed it prior to discharge. Further data were collected from electronic records of patients.

Ethical Considerations

The study administration was approved by Ministry of Defense Healthcare Services Institutional Review Board. As this is considered as a quality improvement project, no permission was required from the ethics committee of the hospital. Informed consent was obtained from the participating patients.

Data Analysis

Data were analyzed using Excel with the Q.I. Macros software package. Quantitative measures (numerical assessment of processes and outcomes) were collected over time and reported as control charts with phase analysis for the pre-and post-intervention phases. A family of multiple measures (process, balance and outcome) was used to

demonstrate the project implementation. Table 2 presents the operational definitions of the measures/KPIs that are then tracked throughout the project implementation. While some of them are parametric statistics based on means as they are operationally sound, others such as "Median Time form Discharge Decision to Actual Discharge" are operationally best demonstrated as a median since it tends demonstrate concerns for time delays and highlight a typical patient's experience. The before and after analysis took into account the means of various measurement periods and the uses a two-sample *t*-tests with unequal variance (to account for variability in the samples "n" numbers) to evaluate the significance of improvement in PX at discharge domain and subdomain scores. The corresponding mean, upper control limit (UCL), control limit (CL), and lower control limit (LCL) were calculated to identify improvements in these measures. A two-sample t-test with unequal variance was used to assess PX before and after the implementation of the improvement measures on the following parameters: (i) discharge PX, (ii) speed of discharge PX, (iii) felt ready for discharge PX, and (iv) PX of instructions given clearly. A *P*-value of ≤0.05 was considered statistically significant at 95% confidence interval.

Results

During this quality improvement research project, from the 1 April 2019 to the 30 June 2023, n = 3463 patients responded to the survey in KAAB-AFH, with the lowest number n = 26 in the fourth quarter of 2020 and the highest number of n = 323 in the first quarter of 2020 (Table 3). The mean PX score at discharge improved from 86.80 (Standard Deviation: ± 1.89; 95% Confidence Interval: 85.04-88.56; Median: 85.8, IQR: 84.97-88.05) to 89.72 (Standard Deviation: ± 1.77; 95% Confidence Interval: 88.23-91.2;

Median = 90.46, IQR = 87.55-91.35) in the period following the implementation of improvement measures (Table 2S). This increase of 2.92 points in the average discharge PX score was statistically significant (P = 0.02). As for the PX scores for discharge speed, the increase was 4.36 (P = 0.05) points and the PX of clearness of instructions at discharge increased by 2.76 (P = 0.01) points (Table 3). Although the number of patients who felt ready to be discharged increased by 2.07 (P = 0.07), the increase was not statistically significant (Table 3).

Further findings as evaluated through control charts showed that the PX discharge at the UCL increased from 91 to 94 (Figure 1A), while the average increased from 87 to 90, and at the LCL increased from 82 to 85 from Q3-2020 onwards after the implementation of the improvement measures. Similarly, the progress for the same period was observed for the speed of PX discharge (Figure 1B), where UCL increased from 92 to 97, the average increased from 84 to 88, and the LCL increased from 75 to 80. In terms of PX of feeling ready for discharge (Figure 1C), UCL increased from 96 to 98, average from 90 to 92, and LCL from 84 to 86. Lastly, findings on the PX of the instructions being clear at discharge (Figure 1D) showed that UCL increased from 91 to 94, the average from 87 to 90, and the LCL from 83 to 86. The control charts (Figure 1A-D) reveal considerable improvements in PX scores for the discharge domains and sub-domains, evidenced by shifts in the UCL, average, and LCL following the implementation of the improvement measures.

The results for the concepts and process measures considered in implementing the interventions for improvement of PX at discharge showed that the average percentage of discharges before 12 PM remained unchanged before and after improvement because none of the implemented change ideas focused on affecting

Table 3. Patient Discharge Experience from Q2 2019 to Q2 2023 Based on Collected Data and Analysis.

|	Period		Discharge	Speed of discharge	Felt ready for discharge	Instructions given clearly
Before	2019	Q2	84.97	79.39	89.01	86.68
		Q3	85.71	82.85	89.64	84.19
		Q4	85.80	82.44	87.40	87.69
	2020	Q1	88.05	85.44	90.37	88.60
		Q2	89.47	88.82	91.89	87.64
After		Q3	87.55	85.77	89.63	88.21
		Q4	88.7	87.44	89.37	89.6
	2021	Q1	86.61	84.04	88.38	88.02
		Q2	91.00	89.70	93.75	90.02
		Q3	89.46	86.32	92.64	89.69
		Q4	87.40	85.86	89.94	87.04
	2022	Q1	91.28	90.31	92.29	91.22
		Q2	91.35	91.55	92.93	89.51
		Q3	90.36	88.19	91.95	90.90
		Q4	92.04	90.48	92.80	92.82
	2023	Q1	90.37	89.85	91.15	89.92
		Q2	90.46	88.23	93.58	89.59
P(T<=t) two-tail			P = 0.02	P = 0.05	P = 0.07	P = 0.01
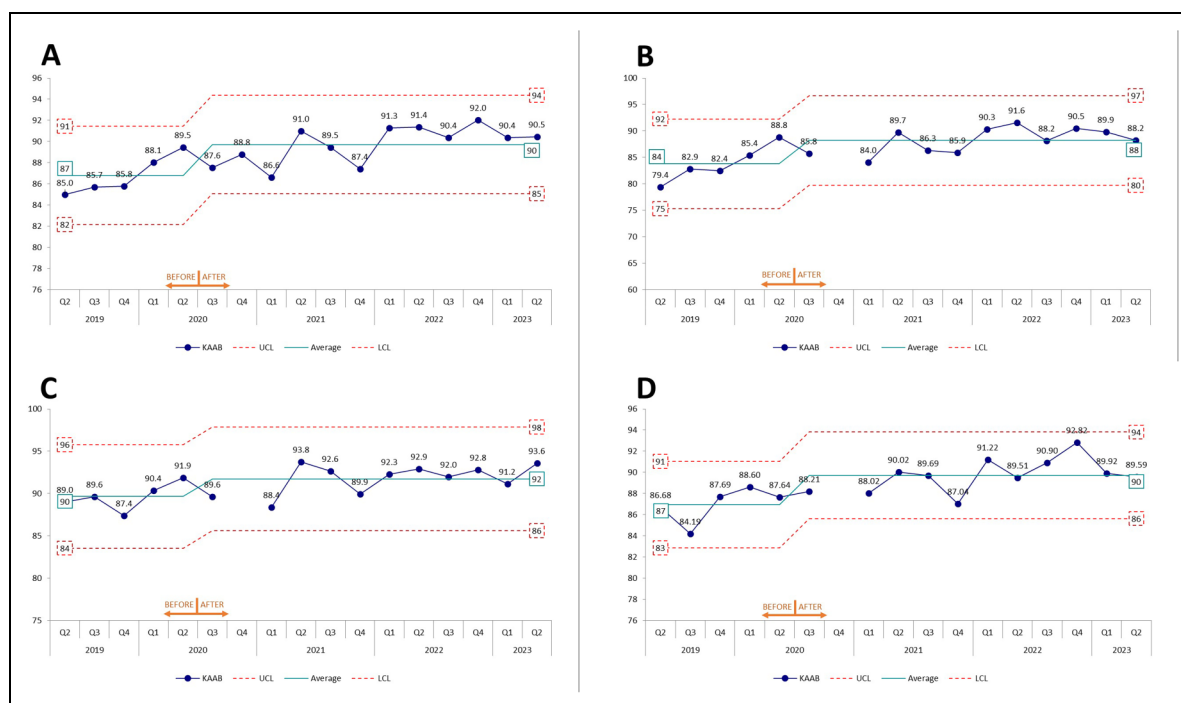
Figure 1. PX data before and after the implementation of the improvement measures on the following parameters: (A) discharge, (B) speed of discharge, (C) feeling ready for discharge, and (D) clarity of instructions given at discharge for upper control limit (UCL), average, and lower control limit (LCL). PX, patient experience.

this indicator, ie, UCL = 39.89%, average = 19.76%, and LCL = −0.36% (Figure 1S). Improvements to this measure will likely require other changes outside the scope of this study.

At weeks 6 and 7, there was an improvement in the median time to discharge, which may be due to increased adherence to the multidisciplinary form of discharge planning. Further monitoring of this measure through another research is needed to assess whether this improvement is sustainable (Figure 2SA and SB). The IDEAL discharge planning checklist compliance rate reached 100%, hitting the target from week 4. However, the completeness of the form did not reach the target, indicating that the checklist was not always complete (Figure 2SC and SD). Thus, at week 7, the form was combined with the MDT discharge planning form, which resulted in the achievement of both targets. At the same time, the percentage of adherence and completion of the MDT discharge planning form has reached the target from the 4th week (Figure 2S). A longer monitoring period through another research might be required to ensure that the results are sustainable.

Median time from discharge decision to actual discharge also did not change after the implementation of the interventions (Figure 3S). The balancing measure of hospital readmission rate within 30 days remained below the target of 4.49% after the implementation of the improvement intervention, indicating that the new discharge process to improve PX have not adversely impacted the hospital readmission rate (Figure 4S).

Discussion

Transformation and improvement of the healthcare system implies a comprehensive, effective, and integrated provision of medical care, based on the health of an individual and society. At the same time, patient satisfaction with discharge shows the hospital's ability to provide reliable and quality services that prepare patients for recovery after returning to daily life.[15,16,19] Thus, this study is one of the first in Saudi Arabia that aimed to improve the PX at discharge at KAAB-AFH by at least 2 scores within 2 years through the application of a number of methods that proved to be valuable for use by future researchers and healthcare facilities. One such method was the use of PDSA model to guide the study. This model demonstrated the validity of its theory.[20,21] PX discharge scores increased by 2.92 points after implementing a discharge improvement intervention using five PDSA cycles. This finding is consistent with previous studies in which the use of the PDSA model to improve the discharge process in a variety of departments, including nursing, operating theater, and intensive care units, resulted in overall improvements in the quality of care.[20–22] Furthermore, Cook et al's (2022) study aimed at improving patients' understanding of discharge and was successful in four out of five areas, including diagnosis, follow-up care, return instructions, and knowing who their consultant was, with the exception of medication changes.[23] In the current study, improvement was achieved in all three areas: speed of discharge, the patient's sense of readiness for discharge,

and the clarity of instructions at discharge. However, this successful outcome should be explained not only by the PDSA model, but also by additional approaches implemented during all five cycles.

In order to correctly execute PDSA cycles, based on the outcomes of the HCAHPS survey, KPIs were established that allowed the observation, optimization, management, and transformation of the PX discharge process to ensure efficiency, quality of care, and increase patient satisfaction.[23,24] The KPIs of the current research included both process and outcome measures and provided a broader perspective in achieving the research aim. As a result, out of the selected seven KPIs, six where successfully completed, and only the average percentage of discharge before 12 PM remained unchanged before and after improvement. One explanation for this is the fact that none of the other changes and KPIs had a direct impact on this indicator, which is the subject of further research and improvements. According to Schmidt et al (p. 760): "In order to successfully create new KPIs, it is crucial to analyze and understand the underlying cause and effect relationships as well as interdependencies between processes, equipment, and energy efficiency."[24] Standardized assessments of healthcare performance are widely used internationally through accreditation standards, benchmarks, and/or KPIs. Notably, performance assessment and KPI measurement have similar underlying principles across disciplines; however, the usefulness of metrics may vary across disciplines. Although the primary role of the KPI system is to monitor the efficiency and sustainability of the healthcare facility, intervention strategies to achieve the goals are equally important.[23–25] Thus, the basic principles of setting goals, collecting data, monitoring performance, and promoting progress remain the same across all areas. They include concepts and approaches to change in which the components of the intervention strategy provide a deeper understanding of gaps and strengths.

As discussed earlier, the positive improvements observed in this study resulted from a combination of several approaches, one of which was IDEAL.[12–14] This model allowed for a multi-professional team approach in which a MDT was responsible for deciding whether the patient was ready for discharge, preparing the discharge, and communicating instructions to the discharge nurse, patient, and caregiver.[26–28] As a result, the application of the IDEAL model confirmed the importance of physician-patient-caregiver interaction throughout the discharge process. Burton et al (2004) in their research suggest that having a well-thought-out discharge plan is important but it is equally important to communicate this plan to the appropriate healthcare providers, as well as the patient.[29] This statement is also true for patients in Saudi Arabia, where open dialogue and discussions with patients and their families positively influenced the patient, leading to the quality of care that every patient deserves.[26–29] In addition, this study confirms earlier evidence that clear communication and trust are key factors in high-quality care programs

for the doctor-patient-caregiver relationship. Consequently, the IDEAL system as a standard system at discharge may ultimately reduce the risk of post-discharge complications, reduce readmission rates, and serve as an educational model for other healthcare settings.[12–14,28]

As part of the IDEAL framework, this study has applied Teach Back technique to test patients' understanding of their health information.[29,30] Although the AHRQ and IHI recommend Teach Back learning as a universal strategy for improving patient health literacy, this study used this method to educate not only patients but also healthcare providers to achieve an even better quality of care. Thus, through posters, educational cards adopted from the AHRQ, lectures, educational videos, and surveys, this study attempted to retrain healthcare professionals and apply the same method to patients, allowing patients to explain medical information in their own words and enrich their own health literacy.[29,30] In this regard, the use of Re-Engineered Discharge, a set of activities and materials to improve the discharge and follow-up process, has been a great advantage.[31] Thus, the best results were achieved not only during but also after discharge, using a special form of informing patients about the service, based on their needs and the doctor's decision, as well as follow-up phone calls after discharge. In addition, Patient Education Materials Assessment Tool as a systematic method helped in this study to determine whether patients understood and acted on the information. However, it should be taken into account that the quality of care throughout the discharge period is continuous and should not be limited to one project.[31–33]

In due course, although the above-mentioned methods have proven to be reliable tools for improving the quality of care for PX at discharge, leading to the achievement of targets originally set, this study confirms that using one method alone would not be sufficient to achieve permanent change.[34] Successful outcome requires a multi-faceted approach guided by an implementation plan and includes identification of patient needs for improvement, KPIs, health service collaboration, healthcare provider flexibility to change, and use of data-driven changes in practice. In this study, the authors took a phased approach to implementation, initially establishing an interdisciplinary working group, followed by several cycles of PDSA and ongoing reflection.[34,35]

Physician-patient-caregiver, with a participation of a MDT, involvement in decision-making is an important step for managing the change. However, there will be no successful change without raising staff awareness through education. Involving patients in the development of improvement can positively influence PX. Advances in technology, understanding of culture, available resources and issues are critical to designing sustainable change. Simplifying the changes is an essential factor to consider when aiming to achieve sustainable improvements. Certain elements of the IDEAL discharge planning checklist would be more accurately checked by observation of the real practice during the discharge planning meeting. Improving the quality of patient care results in simultaneous improvements in the quality and safety of care.

Limitations

While the use of established discharge models has shown positive results, future research could further explore contextual issues unique to the Saudi healthcare system. Future research should consider cultural nuances as well as feedback from staff, which would provide a more comprehensive perspective on model adaptation. It is also recommended that future studies provide examples of qualitative feedback from patients/families/caregivers and staff regarding interventions, which will provide additional insights into perceived benefits or challenges. Future studies should also consider incorporating the potential influence of any external factors (eg, staff turnover, health policy changes, educational issues) by incorporating insights from other methodologies, such as focus group discussions and patient and family advisory councils' meetings.

Conclusion

In this regard, future research should consider that while the involvement of the MDT in decision-making is an important step in managing change, the needs of patients and caregivers are equally important. Thus, involving patients in the development of improvements can positively impact the patient experience. There is no successful change without raising staff awareness through training and continues medical education. While understanding the culture, available resources and challenges is critical to developing sustainable change, facilitating technology can improve the patient experience. Last but not least, facilitating smooth transition and changes are factors to consider when seeking to achieve sustainable improvements.

Authors' Contributions

All authors made a significant contribution to the concept, design, acquisition, analysis, or interpretation of data; drafted the article or revised it critically for important intellectual content; approved the final version of the article for publication; agreed to be accountable for all aspects of the work; and resolved any issues related to its accuracy or integrity

Data Availability Statement

The data that support the findings of this study are available from the corresponding author upon reasonable request.

Declaration of Conflicts of Interests

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Supplemental Material

Supplemental material for this article is available online.

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