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The Impact of Planetree Certification on a Nationally and Internationally Accredited Healthcare Facility and its Services

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ABSTRACT

This research analyses the impact of Planetree-Person Centered Care Certification Standards on a nationally and internationally accredited healthcare facility and its services. ***Objectives:*** To study the impact of Planetree-Person Centered Care Certification on a nationally and internationally accredited healthcare facility and its services mainly to study the bedside shift endorsement compliance rate, care partner program compliance rate, patient's travel experience rate, patients experience rate in clinical laboratory and staff experience rate. ***Methods:*** It is a quantitative, descriptive, exploratory and exploratory or inferential research based case study. ***Sampling:*** A random sampling design was used to collect the data based on the adopted quality tools from the Planetree Organization for the bedside shift endorsement, care partner program and the developed & tested questionnaires for patient's travel experience, patient's experience in clinical laboratory, and staff experience surveys. Primary data were collected from survey questionnaires and secondary data were collected from relevant published journals, articles, research papers, and web portals. ***Significance of Research:*** It was observed initially that the bedside shift endorsement was not done, patient and families were not involved in the care partner activities, staff was not that satisfied, patient's laboratory experience and patient travel experience was not conducted. ***Conclusion:*** This research revealed that from July 2017 onwards, bedside shift report quality has been continuously improved, and by December 2017, it reached to a well-established level of execution. The study hospital has managed to maintain well aligned policy and practice around family involvement and reached the expected quality level in October 2017. People in age groups 36 – 50 and 51 – 65 had equal level of patient travel experience while 18 – 35 and 66+ age groups had an equal level of patient travel experience. However, 36 – 65 aged people had better experience compared to 35 or younger and 66+ ones. Respondents who came with their family had a better travel experience compared to who came alone or with a friend. Patient travel experience has gradually improved during July 2017 and March 2018 and shows a trend of improving further. Lab services viz. reception, lab staff, lab safety, did not showed an increasing or decreasing trend during July 2017 and December 2017. Mainly laboratory services showed a lower level of quality during above period. However, after implementing the Planetree certification standards in January 2018, lab services drastically improved. When it comes to employee experience, implementation of Planetree certification standards has resulted in a better employee experience.

1. Introduction

Person-centered care is not about giving people whatever they want or providing information. It is about considering people's beliefs, values, family situations, social circumstances and lifestyles; seeing the person as an individual, and working together to develop appropriate solutions (Sepucha K, Uzogarra B, O'Connor M, 2008)[1]. Being compassionate, thinking about things from the person's point of view and being respectful of their values is important to achieve person centered care. This might be shown by sharing decisions with patients and helping people manage their health, but person-centered care is not limited to the care process. It is as much about the staff, patients and their relationships, as it is about the services available.

It has been proven that involvement of patients is key to achieving high quality healthcare (Ashby ME, Dowding C, 2001)[2]. Person-centered care can have a big impact on the quality of care (McMillan SS et al., 2013)[3], also it can help to improve people's health and reduce the burden on health services (NHS, 2010)[4]. While the evidence is mounting that person-centered care can make a difference, there isn't much evidence about outcomes, and some researchers has reproduced mixed findings (Dwamena F, et al., 2012)[5].

In the past, people were expected to fit in with the routines and practice that health and social services felt were most appropriate. But in order to be person-centered, services need to change and be able to adapt to patient's needs. This involves working with people and their families to find the best way to provide care to them. This partnership can be on a one-

to-one basis, where individual people take part in decisions about their health and care, or on a group basis whereby the public or patient groups are involved in decisions about the design and delivery of services. The underlying philosophy is the same: it is about doing things with people, rather than 'to' them. There are many different aspects of person-centered care including but not limited to (Picker Institute, 2017)[6]: respecting people's values and putting people at the center of care, taking into account people's preferences and expressed needs, coordinating and integrating care, working together to make sure there is good communication, information and education, making sure people are physically comfortable and safe, emotional support, involving family and friends making sure there is continuity between and within services and making sure people have access to appropriate care when they need it.

2. Review of Literature

Bedside shift report is a person-centered adaptation of the traditional shift endorsement, however, in accompaniment of patient (and family as appropriate) as active participants and contributors in the exchange of essential patient information between care teams. Bedside shift report is a quality and safety imperative, which builds competence and confidence in carrying out the processes as designed. An experimental demonstration and role playing methods were used for education on bedside shift endorsement. Patient and family advisors were involved in the developing of the policies and procedures for the same.

As per the research, 80% of serious medical errors traced back to communication breakdowns (Bowman D, 2010)[7]. Less than five minutes estimated time for bedside shift report per patient (AHRQ, 2013)[8]. Improved patient perceptions of care within just six months of implementation (Planetree, 2017)[9]. Nurse satisfaction increases with implementation of bedside shift report (Anderson CD, Mangino RR, 2006)[10]. US $ 8000 the amount one hospital saved in overtime within two months of adopting bedside shift report (Chaboyer W, McMurray A, Wallis, 2010)[11]. Bedside shift endorsement promotes patient and family engagement and helps patient and family members prepare for the transition of care to home (Athwal P, Fields W, Wagnell E, 2009)[12]. Open communication and involvement of family members makes the process safer and efficient (Greene J, Hibbard JH, 2012)[13]. As per the outcomes published by the various hospitals that have implemented the bedside shift report the patient satisfaction with their care increases when they are involved in the report process (Bowman, D, 2010)[14]. Time is saved while conducting change of shift report at the patient's bedside and involving the patient in the exchange takes less time than the traditional shift report (Koehler C, Forsyth L, 2010)[15]. Experts estimate that each individualized report should take no longer than five minutes (Athwal P, et al., 2009)[16]. This time savings translates into nurses being able to spend more time, earlier in their shift, at the bedside with patients. The end result is the reduction of the number of call lights during the change of shift, and better patients' perception of staff responsiveness- one of the parameters of the Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) patient perception of care survey influencing hospitals' Medicare reimbursement levels through CMS's value-based purchasing program. This modification in the shift report also reduces patient falls, as by improving communication (AHRQ, 2013)[17].

One definition of person centered care focuses on the involvement of the patient family and friends in the care of the patient (Franco T, Egan K, 2011)[18]. When family members and friends are involved in the care of the patient, social determinants are also focused upon in the care of the patient, which in turn accelerates the healing process. The involved family member or friend is also capable of taking better care of the patient once the patient goes home (WHO, 2010)[19], this leads to improved satisfaction, communication and shared decision making (Li H, Melnyk BM et al., 2003)[20]. Having a familiar face around also reduces the feelings of isolation, decreased anxiety and better rest of the patient.

Care partners bridge the gap between hospital and home. The transition from hospital to home can a precarious time, fraught with the potential for communication breakdowns, mismanagement of care, and lapses in carrying out necessary follow-up activities. When these transitions are poorly organized, the quality of patient care suffers. Discharge of patients is a time of mixed feelings for the patients and family members. Some family members are hesitant to take the patient home as they are not sure as to how to take care of the patient. These situations arise when the family members and care partners are not involved in the car process of the patient. Lack of communication and discharge planning leads to decrease in confidence of the family members (Muething SE, 2007)[21]. Care partners can be a vital link, and a source of continuity, between hospital and home. Efforts initiated during the patient's hospital stay to build care partners' competence and confidence in carrying out care activities at home, recognizing warning signs, and coordinating follow-up care can help to facilitate a more seamless, safe and effective transition–and potentially curtail the need for a return to the hospital. Having a care partner improves patient satisfaction. Hospitals with formalized family involvement initiatives routinely report increases in patient satisfaction upon implementation of the program. The involvement of family members ensures the continuity of care and ensures that the patient is not brought back to the ER after discharge (Kim CS, Flanders SA, 2013)[22]. Enrolling family members in the care partner program is beneficial for them as it empowers them and removes the sense of helplessness during a trying time (Planetree, 2017)[23]. Also, the education given to the care partner helps in mitigating the damaging impact on family member's' health (Schuz R, et al., 1995)[24].

Researchers proved that hospital environment contributes extensively toward a patient's experience. The patient's understanding of the environment as he/ she moves through the hospital when meets their expectation adds to the overall patient experience (Robert, 2007)[25]. It is important to include the perception of hospital environment and travel experience as a part of the patient experience as it might contribute to the stress and anxiety of the patient (Zimring, Joseph et al. 2005)[26], (Urlich, Zimring et al. 2004)[27], Cesario 2009)[28]. Studies have shown that spatial disorientation is a major source of stress for patients and their families in hospitals

(Carpman et al., 1993)[29], (Cesario, 2009)[30], (Zimring, Joseph, & Choudhary, 2005)[31]. Many studies in way finding literature have been conducted in order to understand how visitors, staff and patients find their way in a healthcare facility. The use of universal healthcare symbols, floor numbering, and signage systems have been used in order to achieve efficient way finding (Carpman et al., 1993)[32].

As per extensive research conducted, it is known that the patients with greater patient experience are more compliant to their treatment plan and are more likely to recommend the hospital to others (Carpman et al., 1993)[33]. Hospital accreditations as well as patient experience are important indicators of the quality of healthcare delivered (Saeed AA, et al., 2001)[34]. The results of patient satisfaction surveys can be used to monitor the quality of health care provided (Heuer AJ, 2004)[35], to find out any shortcomings, to provide the necessary interventions, and as a valuable source of strategic planning of health services (Al-Habdan I, 2004)[36]. The main focus and beneficiary of a good health care system is clearly a patient (Saeed AA, Mohamed BA, 2002)[37]. Patient satisfaction is based on factors which include quality of clinical services provided, medication administration, behavior of doctors and other healthcare staff, costing, infrastructure, physical comfort, emotional support and respect for patient values and beliefs. Gap in the patient expectation and the service provided leads to decreased satisfaction (Spreng, R.A., MacKenzie, S.B. and Olshavsky, R.W, 1996)[38]. Assessing patient perspectives gives patients and family members a voice, which can help providers, better understand people's need and expectations (McKinley RK, Roberts C., 2001)[39].

The researcher has proved that the satisfaction score has improved from before accreditation compared to after accreditation which indicated that the accreditation has a positive impact on the satisfaction of Laboratory Department Services of the study hospital (Shaikh, 2017, pp. 4277-4289)[40]. The researcher has used the below parameters for his study: Patient participation before and after accreditation (Shaikh, 2017, pp. 4278)[41], Group and Age distribution (Shaikh, 2017, pp. 4279)[42], Group and Gender Distribution (Shaikh, 2017, pp. 4279)[43], Group and Geographical states Distribution (Shaikh, 2017, pp. 4279)[44], Distribution of patients who speak Telugu, Non-Telgu and Group (Shaikh, 2017, pp. 4280)[45], Type of visits and Group (Shaikh, 2017, pp. 4280)[46], Type of payment and Group (Shaikh, 2017, pp. 4280)[47], Access to the Laboratory and between Groups (Shaikh, 2017, pp. 4281)[48], Professionalism and courtesy of the staff at Lab Reception and between the before and after accreditation groups (Shaikh, 2017, pp. 4281)[49], Receptionist knowledge and assistance with your/ patient's query (Shaikh, 2017, pp. 4282)[50], Education provided to you/ the patient (Shaikh, 2017, pp. 4282)[51], Responses with respect to the satisfaction to the waiting time (Shaikh, 2017, pp. 4283)[52], Responses in the satisfaction with respect to the cleanliness of the department (Shaikh, 2017, pp. 4283)[53], Responses in the satisfaction with the overall privacy given to the patient in the laboratory (Shaikh, 2017, pp. 4284)[54], Responses in the satisfaction with respect to the blood collection procedure (Shaikh, 2017, pp. 4284)[55], Responses in the satisfaction with respect to the timeliness of the provision of results (Shaikh, 2017, pp. 4285)[56], Responses in the satisfaction with respect to the time it took to receive the report (Shaikh, 2017, pp. 4285)[57], Responses in the satisfaction with respect to the laboratory report presentation (Shaikh, 2017, pp. 4286)[58], Responses in the satisfaction with respect to the availability of laboratory physician to explain the result (Shaikh, 2017, pp. 4286)[59], Responses to the overall experience with the laboratory service (Shaikh, 2017, pp. 4287)[60] and Overall satisfaction score by combining the responses (Higher the score the better the satisfaction) (Shaikh, 2017, pp. 4287)[61].

The researchers have proved that there is a positive impact of health care accreditation on the health care services. The accreditation has a positive impact on the satisfaction of Physiotherapy Department Services (Shaikh, 2017)[62], Pharmacy Department Service (Shaikh, 2017)[63], Dietary Department Services (Shaikh, 2017)[64], Laboratory Department Services (Shaikh, 2017)[65], Emergency Department Services (Shaikh, 2017)[66], Out-Patient Department Services (Shaikh, 2017)[67], In-Patient Department Services (Shaikh, 2017)[68], Haemodialysis Department Services (Shaikh, 2017)[69], Radiology Department Services (Shaikh, 2017)[70], Ambulance Services (Shaikh, 2016)[71], positive impact on the Occurrence Variance Reports (Shaikh, 2018)[72] and completeness of personnel files in Human Resource Department (Shaikh, 2017)[73]. A comparative study of laboratory and blood bank performance by using the quality indicators revealed that the mean rating of the second half (after the accreditation) is better than the mean rating of the first half (before accreditation) (Shaikh, 2018)[74].

3. Data Analysis

A. Bedside Shift Endorsement:

A two-way ANOVA was conducted to identify the effect of staff category and the time (month). Staff categories were significantly equal when it comes to executing bedside shift reports, F (2, 1004) = .23, $p > .05$; Physician (M = 20.65, SD = 3.72), Nurse (M = 20.60, SD = 3.88), Admin (M = 20.56, SD = 3.96) (*see Figure 1*). Hence, staff categories were in an equal level when it comes to executing bedside shift reports. Further, the mean score of each category was above 20, indicating well-established, well-supported and consistent execution of bedside shift reports.

There was a significant difference in execution of bedside shift reports between months (July 2017 to March 2018), F (8, 1004) = 36.23, $p < .05$. Post-hoc test results indicated that there is a significant improvement in execution of bedside shift reports (*see Table 2 post hoc test results*). Though there was an improvement, from July 2017 to Nov 2017 mean scores ranged between 10 and 20, indicated that there were opportunities to more firmly embed the practice into the fabric of how care is delivered within the organization. However, the scores reached the expected level (20 or more) by December 2017. From then onward scores were further increased indication well established as well as consistently improving execution of bedside shift reports (*see Figure 2*).

Table 1- *Two-way ANOVA*

Source	Type III Sum of Squares	*df*	Mean Square	F	*Sig.*
Corrected Model	4235.504	26	162.904	14.883	.000
Intercept	316260.103	1	316260.103	28894.226	.000
Month	3172.568	8	396.571	36.232	.000
Staff Category	4.998	2	2.499	.228	.796
Month * Staff Category	144.145	16	9.009	.823	.660
Error	10989.225	1004	10.945		
Total	453047.744	1031			
Corrected Total	15224.729	1030			

Figure 1. Quality of Executing bedside shift reports across staff categories

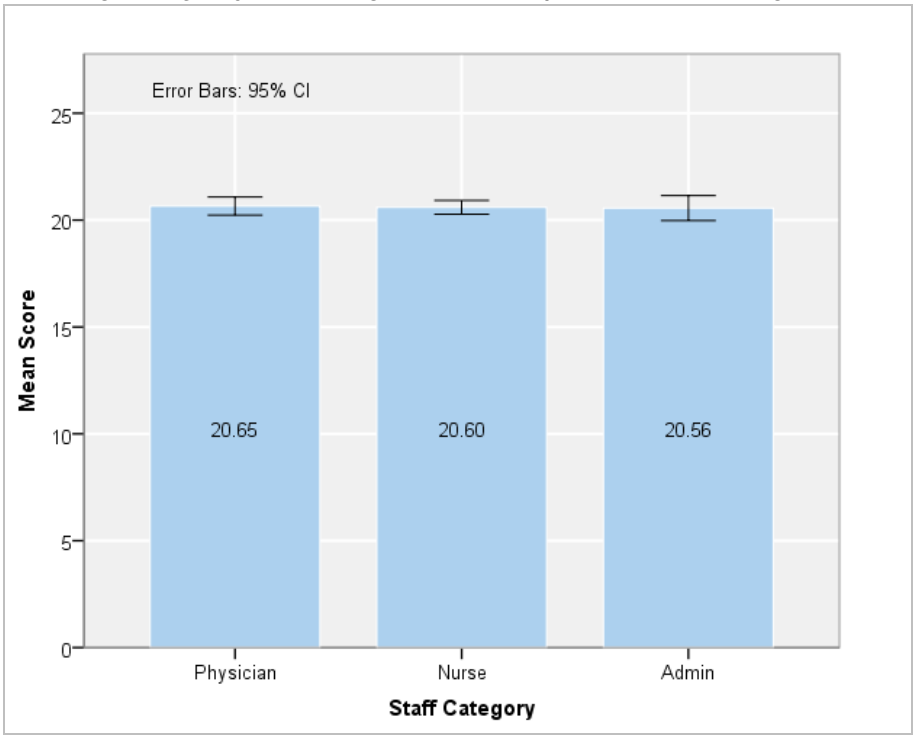


Figure 2. Execution quality of bedside shift reports over the time (July 2017 – March 2018)

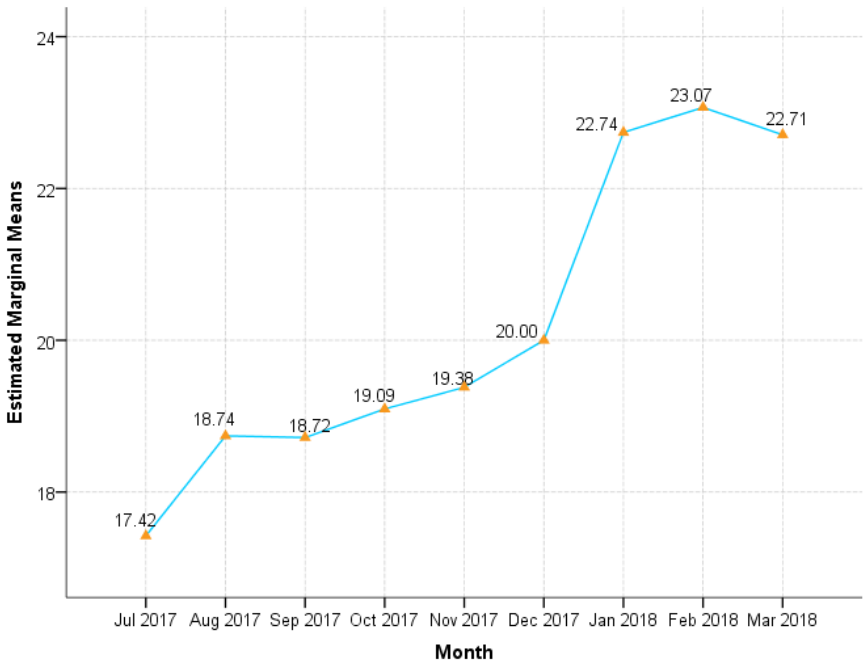


Table 2- *Post-hoc test results*

(I) Month	(J) Month	Mean Difference (I-J)	Std. Error	Sig	95% Confidence Interval for Difference	
					Lower Bound	Upper Bound
Jul 2017	Aug 2017	-1.317*	.593	.027	-2.480	-.154
	Sep 2017	-1.294*	.589	.028	-2.451	-.138
	Oct 2017	-1.671*	.556	.003	-2.761	-.581
	Nov 2017	-1.958*	.548	.000	-3.033	-.882
	Dec 2017	-2.577*	.539	.000	-3.634	-1.520
	Jan 2018	-5.316*	.545	.000	-6.385	-4.247
	Feb 2018	-5.644*	.525	.000	-6.675	-4.614
	Mar 2018	-5.284*	.527	.000	-6.318	-4.249
Aug 2017	Jul 2017	1.317*	.593	.027	.154	2.480
	Sep 2017	.022	.571	.969	-1.098	1.143
	Oct 2017	-.354	.536	.509	-1.406	.698
	Nov 2017	-.641	.528	.226	-1.678	.396
	Dec 2017	-1.260*	.519	.015	-2.278	-.242
	Jan 2018	-3.999*	.525	.000	-5.029	-2.968
	Feb 2018	-4.327*	.505	.000	-5.318	-3.337
	Mar 2018	-3.967*	.507	.000	-4.961	-2.972
Sep 2017	Jul 2017	1.294*	.589	.028	.138	2.451
	Aug 2017	-.022	.571	.969	-1.143	1.098
	Oct 2017	-.377	.532	.480	-1.421	.668
	Nov 2017	-.663	.524	.206	-1.692	.366
	Dec 2017	-1.282*	.515	.013	-2.292	-.272
	Jan 2018	-4.021*	.521	.000	-5.044	-2.999
	Feb 2018	-4.350*	.501	.000	-5.332	-3.368
	Mar 2018	-3.989*	.503	.000	-4.975	-3.003
Oct 2017	Jul 2017	1.671*	.556	.003	.581	2.761
	Aug 2017	.354	.536	.509	-.698	1.406
	Sep 2017	.377	.532	.480	-.668	1.421
	Nov 2017	-.287	.486	.556	-1.241	.668
	Dec 2017	-.906	.476	.057	-1.839	.028
	Jan 2018	-3.645*	.483	.000	-4.592	-2.697
	Feb 2018	-3.973*	.461	.000	-4.877	-3.070
	Mar 2018	-3.613*	.463	.000	-4.521	-2.705
Nov 2017	Jul 2017	1.958*	.548	.000	.882	3.033
	Aug 2017	.641	.528	.226	-.396	1.678
	Sep 2017	.663	.524	.206	-.366	1.692
	Oct 2017	.287	.486	.556	-.668	1.241
	Dec 2017	-.619	.467	.185	-1.535	.297
	Jan 2018	-3.358*	.474	.000	-4.288	-2.428
	Feb 2018	-3.687*	.451	.000	-4.573	-2.801
	Mar 2018	-3.326*	.454	.000	-4.216	-2.436
Dec 2017	Jul 2017	2.577*	.539	.000	1.520	3.634
	Aug 2017	1.260*	.519	.015	.242	2.278
	Sep 2017	1.282*	.515	.013	.272	2.292
	Oct 2017	.906	.476	.057	-.028	1.839
	Nov 2017	.619	.467	.185	-.297	1.535
	Jan 2018	-2.739*	.463	.000	-3.648	-1.830
	Feb 2018	-3.068*	.440	.000	-3.931	-2.204
	Mar 2018	-2.707*	.442	.000	-3.575	-1.839
Jan 2018	Jul 2017	5.316*	.545	.000	4.247	6.385
	Aug 2017	3.999*	.525	.000	2.968	5.029
	Sep 2017	4.021*	.521	.000	2.999	5.044
	Oct 2017	3.645*	.483	.000	2.697	4.592
	Nov 2017	3.358*	.474	.000	2.428	4.288
	Dec 2017	2.739*	.463	.000	1.830	3.648
	Feb 2018	-.329	.447	.463	-1.207	.549
	Mar 2018	.032	.450	.943	-.850	.915
Feb 2018	Jul 2017	5.644*	.525	.000	4.614	6.675
	Aug 2017	4.327*	.505	.000	3.337	5.318
	Sep 2017	4.350*	.501	.000	3.368	5.332
	Oct 2017	3.973*	.461	.000	3.070	4.877
	Nov 2017	3.687*	.451	.000	2.801	4.573
	Dec 2017	3.068*	.440	.000	2.204	3.931
	Jan 2018	.329	.447	.463	-.549	1.207
	Mar 2018	.361	.426	.397	-.475	1.196

Mar 2018	Jul 2017	5.284*	.527	.000	4.249	6.318
	Aug 2017	3.967*	.507	.000	2.972	4.961
	Sep 2017	3.989*	.503	.000	3.003	4.975
	Oct 2017	3.613*	.463	.000	2.705	4.521
	Nov 2017	3.326*	.454	.000	2.436	4.216
	Dec 2017	2.707*	.442	.000	1.839	3.575
	Jan 2018	-.032	.450	.943	-.915	.850
	Feb 2018	-.361	.426	.397	-1.196	.475

B. Care Partner Program:

As indicated by the two-way ANOVA, care partner program quality was significantly equal across the three staff categories F(2, 900) = 7.73, $p > .05$; Physician (M = 22.19, SD = 3.75), Nurse (M = 21.86, SD = 3.79), Admin (M = 21.85, SD = 3.59) (*see Figure 1*). Above 20 mean scores indicated all the staff categories in your organization has embraced the essential ways that partnering with family members can enhance the quality of patient care (*see Figure 1*).

Table 1- *Two-way ANOVA results*

Source	Type III Sum of Squares	*df*	Mean Square	F	*Sig.*
Corrected Model	3061.146[a]	26	117.736	10.667	.000
Intercept	322936.995	1	322936.995	29257.809	.000
Month	2388.857	8	298.607	27.054	.000
Staff Category	15.460	2	7.730	.700	.497
Month * Staff Category	72.395	16	4.525	.410	.980
Error	9933.871	900	11.038		
Total	460093.160	927			
Corrected Total	12995.017	926			

There was also a significant difference between the quality of the care partner program between months, F (8, 900) = 27.05, $p < .05$. In other words, with the time quality of the care partner program has improved to a level which there is so little room to further improve. As in the Figure 2 care partner program has managed to better its level of quality in each and every month. Considering the trends, July and August 2017 mean scores were below the expected quality level (20 or more). However, from September 2017 onwards the quality of the program was above the expected level of quality. It means that from September 2017 onwards our hospital has managed to maintain well aligned policy and practice around family involvement and also managed to continuously improve or fine tune the existing quality.

Figure 1. Staff categories and the quality of care partner program

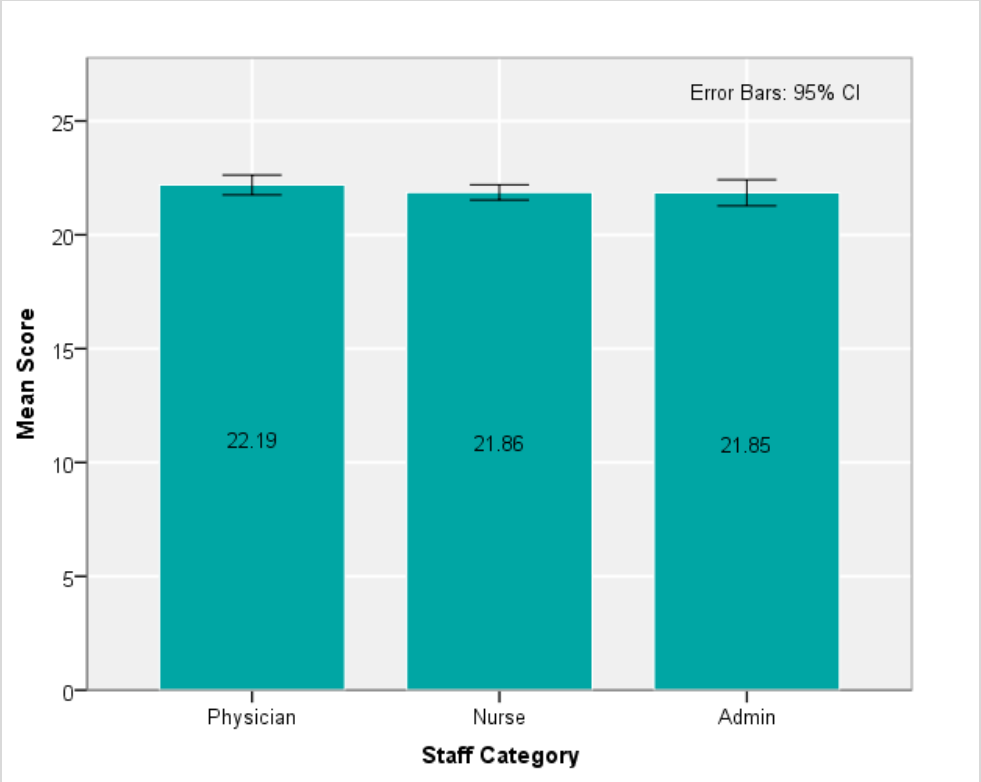
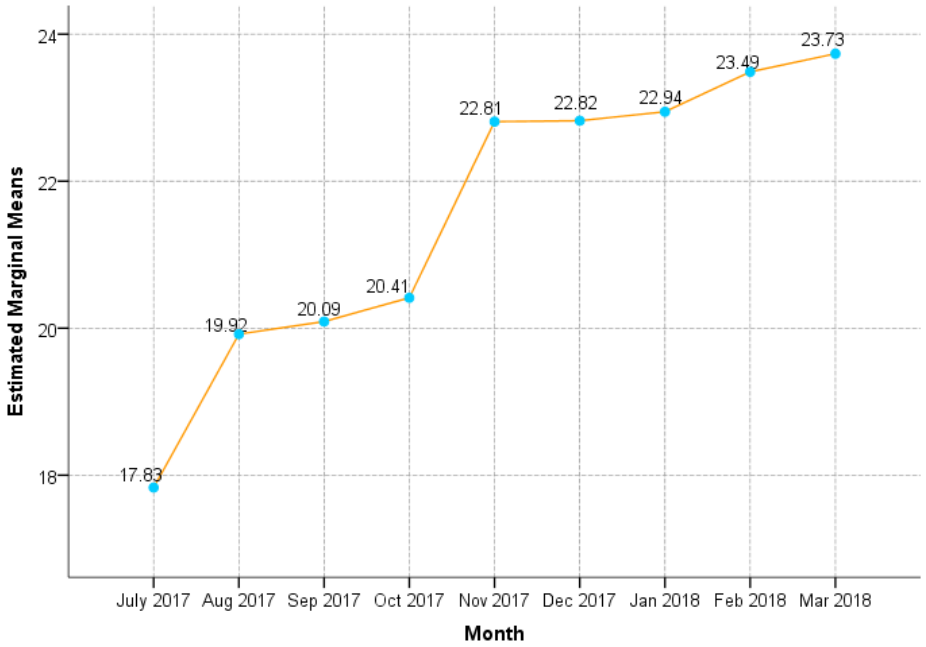


Figure 2. Quality of care partner program over the time (July 2017 – March 2018)



C. Patient Travel Experience:

A multi-way ANOVA was carried out to find the effect of month, gender, volunteer for direction, age group, accompany, visit, frequency of visits, last time visited on the patient travel experience. According to the ANOVA, volunteered for direction, $F(1, 1315) = .09$, $p > .05$, gender, $F(1, 1315) = .29$, $p > .05$, visits, $F(3, 1315) = 1.37$, $p > .05$, how frequently you visit the building, $F(3, 1315) = 1.64$, $p > .05$ and time of the last visit, $F(2, 1315) = .63$, $p > .05$ had no significant impact on the patient travel experience. However, month, $F(8, 1315) = 52.70$, $p > .05$, age group, $F(3, 1315) = 3.51$, $p > .05$ and am accompany with, $F(2, 1315) = 24.39$, $p < .05$ had a significant impact on the patient travel experience. Considering the effect of the age group on the patient travel experience, 36 – 50 ($M = 143.16$, $SD = 24.90$) and 51 – 65 ($M = 143.60$, $SD = 24.28$) age groups had a higher patient travel experience compared to 18 – 35 ($M = 138.68$, $SD = 29.79$) and 66+ ($M = 137.84$, $SD = 27.38$) age groups (*See Figure 1*). The type of the person who came to the building with the respondent of this survey or who they accompanied with was also significantly affected the patient travel experience, $F(2, 1315) = 24.39$, $p > .05$. Respondents who came with their family ($M = 145.91$, $SD = 23.29$) had a better travel experience compared to who came alone ($M = 137.4$, $SD = 28.91$) or with a friend ($M = 136.89$, $SD = 27.74$) (*See Figure 2*).

Table 1- *Multi-way ANOVA*

Source	Type III Sum of Squares	*df*	Mean Square	F	*Sig.*
Corrected Model	261282.101[a]	22	11876.459	23.773	.000
Intercept	2563823.291	1	2563823.291	5131.915	.000
Month	210620.073	8	26327.509	52.699	.000
Gender	147.124	1	147.124	.294	.587
Volunteer for direction	45.761	1	45.761	.092	.762
Age group	5254.282	3	1751.427	3.506	.015
I am accompany with	24370.582	2	12185.291	24.391	.000
This is my (Visits)	2059.673	3	686.558	1.374	.249
How often you visit the building	1642.574	2	821.287	1.644	.194
When was the last time you visit	628.788	2	314.394	.629	.533
Error	656953.119	1315	499.584		
Total	27783620.000	1338			
Corrected Total	918235.220	1337			

With the time patient travel experience has significantly changed, $F (8, 1315) = 52.69$, $p < .05$. As in figure 3, from July 2017, patient travel experience level was improved in each and every month. In July 2017, mean patient travel experience score was 120.18 at the end of March 2018 it reached to 154.43. As a conclusion, it can be stated that patient travel experience has steadily improved during July 2017 and March 2018 and shows a trend of improving further.

Figure 1. Age and the patient travel experience

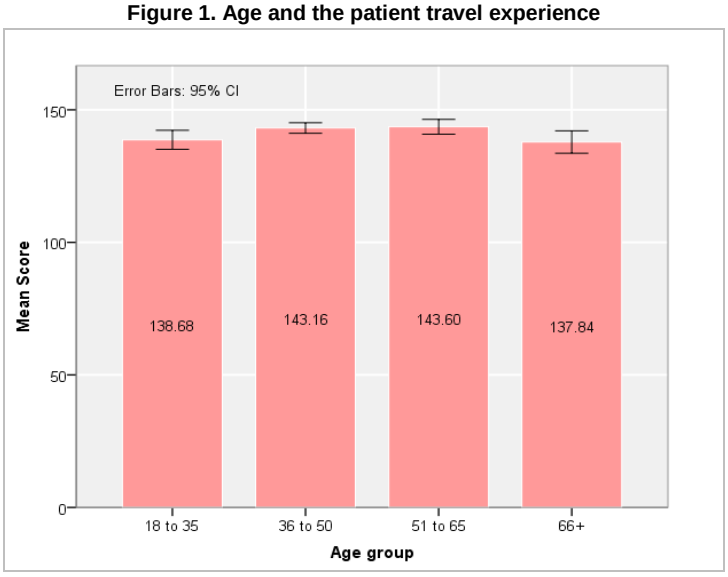


Figure 2. Accompany and the patient travel experience

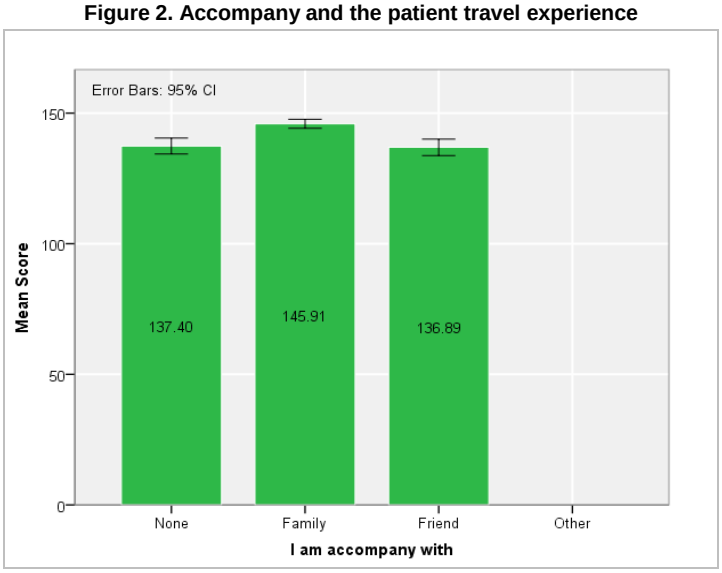
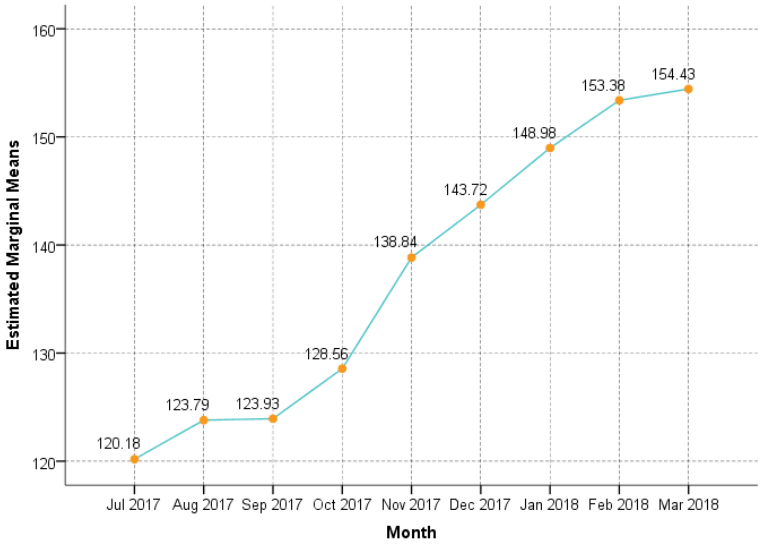


Figure 3. Patient travel experience over the time



D. Patients Experience-Laboratory Services:

A MANOVA was conducted to find the effect of certain independent variables on the lab services (reception, lab staff and lab safety). Through MNOVA, it was identified that age, gender, nationality, language, visits and payment type have no impact on the respondents' idea of the reception, lab staff and

lab safety (*see Table 1 for more details*). However, between months (time) there was a significant difference, in terms of respondents view of lab services: reception, F(1, 1675) = 100.88, $p < .05$, lab safety, F(1, 1675) = 48.68, $p < .05$ and lab staff, , F(1, 1675) = 36.36, $p < .05$.

Considering the satisfaction about reception, from July 2017 to December 2017, mean experience level was hovering around 11.7 and 12.3. However, after implementing the Planetree certification standards in January 2018, mean score was increased to 15 plus (Jan 2018 = 15.73, Feb 2018 = 15.78, March 2018 = 15.72). The same trend was observed in lab staff and lab safety where respondents experience levels were increased from January 2018 onwards, after the implementation of Planetree certification standards (*see Figure 2 and 3*).

Considering the overall satisfaction with the lab services, during the period of July 2017 and December 2017, 30% – 40% of the respondents were satisfied and 20% – 32% of the respondents were extremely satisfied with the overall service of the laboratory department. Further, less than 15% of the respondents had either unsatisfied or extremely unsatisfied with the services. There was also 15% - 25% of respondents who were neutral. Unsatisfied and neutral respondents can be considered as respondents who expect more satisfactory service from the laboratory department. However, after implementing the planttree certificate standards in January 2018, the overall satisfaction showed a significant increase. During January 2018 and March 2018, respondents who were satisfied and extremely satisfied made up with 9 peoples out of 10 people came to the hospital. Hence, Planetree certification standards have contributed to provide more satisfactory service to the people who came to the hospital before implementing the Planetree certification standards (*see Figure 4*).

Table 1- *MANOVA*

Source	Dependent Variable	Type III Sum of Squares	*df*	Mean Square	F	*Sig.*
Corrected Model	Reception	4184.726[a]	27	154.990	54.724	.000
	Lab Safety	368.391[b]	27	13.644	26.568	.000
	Lab Staff	2060.217[c]	27	76.304	19.896	.000
Intercept	Reception	2399.663	1	2399.663	847.273	.000
	Lab Safety	1015.322	1	1015.322	1977.054	.000
	Lab Staff	7449.297	1	7449.297	1942.339	.000
Month	Reception	4000.076	14	285.720	100.882	.000
	Lab Safety	350.025	14	25.002	48.684	.000
	Lab Staff	1952.412	14	139.458	36.362	.000
Gender	Reception	.743	1	.743	.262	.609
	Lab Safety	.319	1	.319	.620	.431
	Lab Staff	.922	1	.922	.240	.624
Nationality	Reception	9.453	1	9.453	3.338	.068
	Lab Safety	.005	1	.005	.010	.921
	Lab Staff	1.798	1	1.798	.469	.494
Age group	Reception	11.219	3	3.740	1.320	.266
	Lab Safety	.905	3	.302	.587	.623
	Lab Staff	18.583	3	6.194	1.615	.184
Language	Reception	1.679	2	.840	.296	.744
	Lab Safety	1.041	2	.520	1.013	.363
	Lab Staff	7.441	2	3.721	.970	.379
This is my (Visits)	Reception	1.680	3	.560	.198	.898
	Lab Safety	.793	3	.264	.515	.672
	Lab Staff	6.231	3	2.077	.542	.654
Payment Type	Reception	8.232	3	2.744	.969	.407
	Lab Safety	.873	3	.291	.567	.637
	Lab Staff	5.343	3	1.781	.464	.707
Error	Reception	4743.969	1675	2.832		
	Lab Safety	860.201	1675	.514		
	Lab Staff	6423.992	1675	3.835		
Total	Reception	310361.688	1703			
	Lab Safety	112948.276	1703			
	Lab Staff	876299.867	1703			
Corrected Total	Reception	8928.695	1702			
	Lab Safety	1228.593	1702			
	Lab Staff	8484.209	1702			

Figure 1. Mean Experience of reception over the time

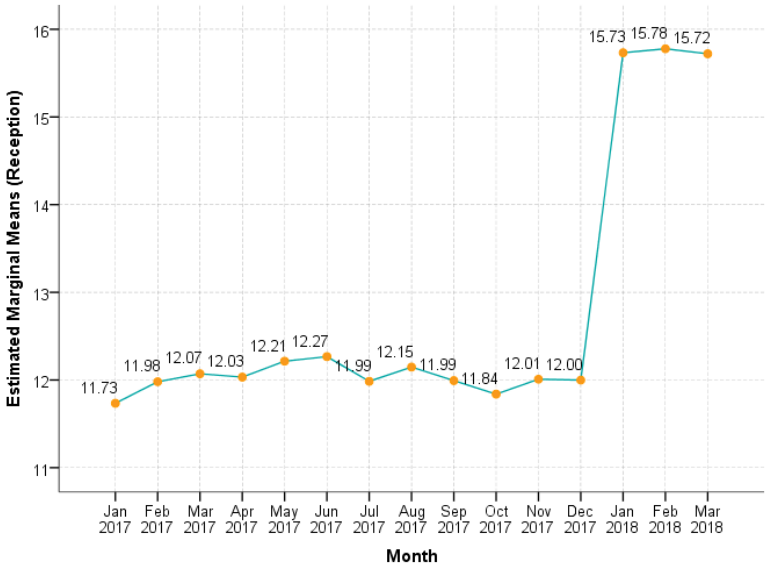


Figure 2. Mean experience of lab safety over the time

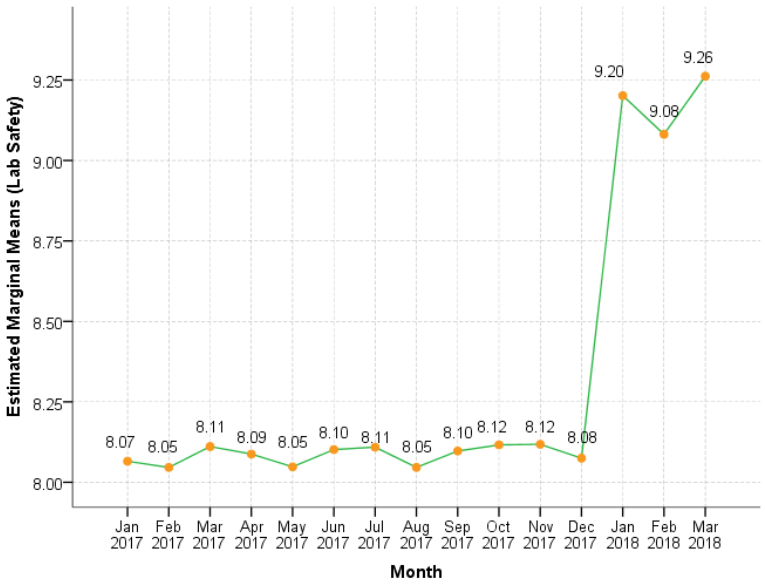


Figure 3. Mean experience of lab staff over the time

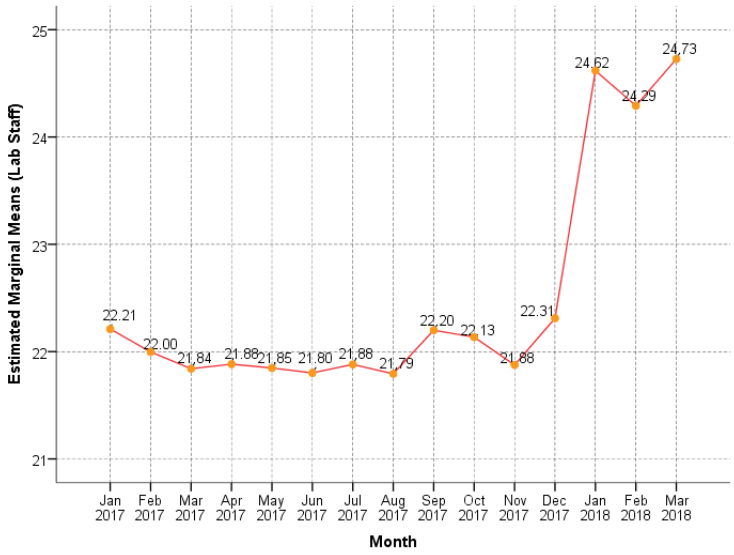
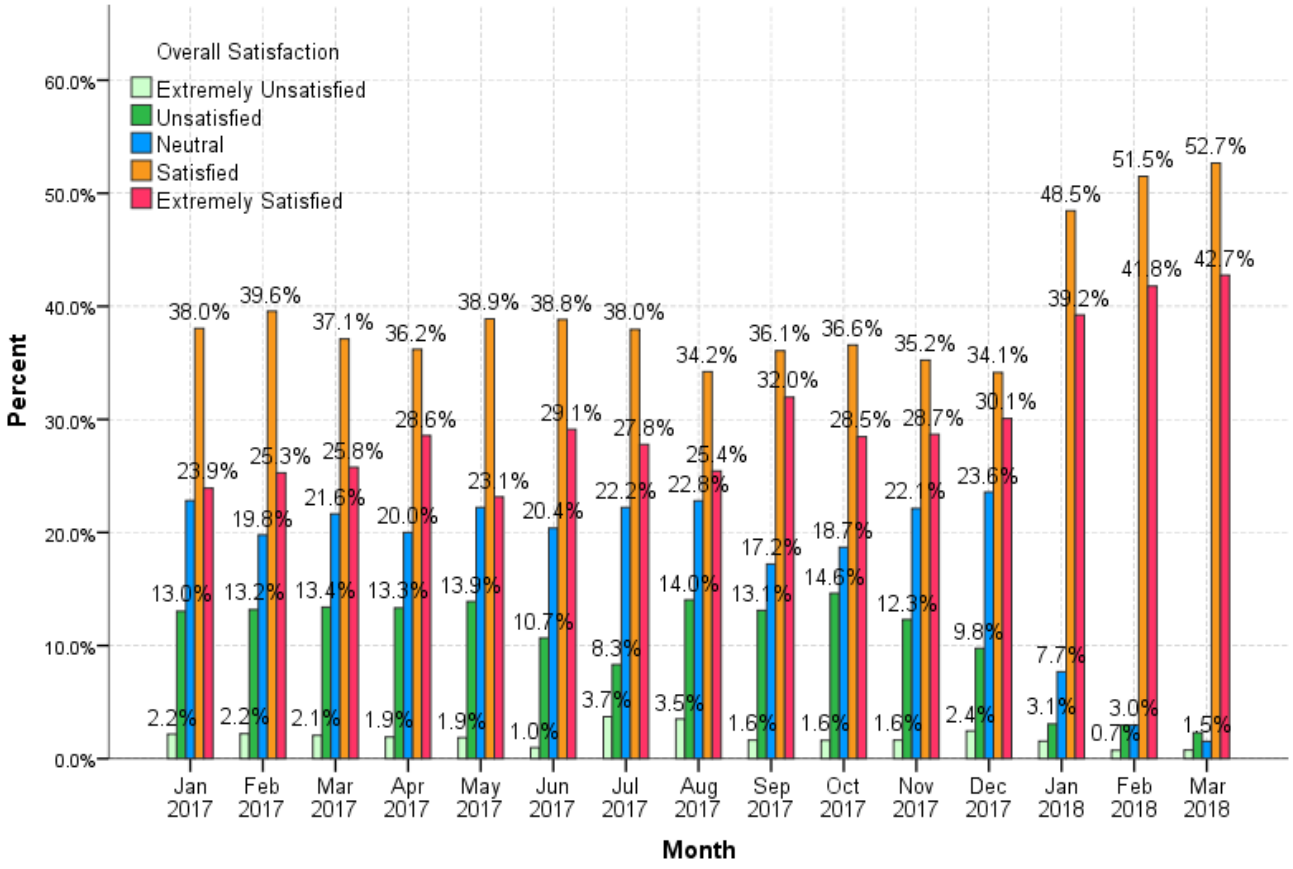


Figure 4. Overall satisfaction with lab services



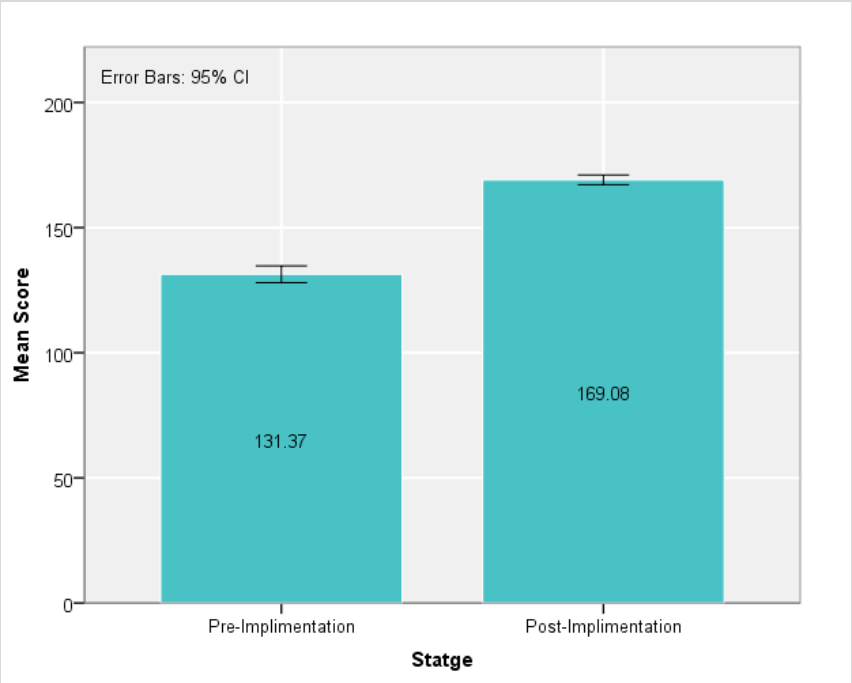
E. Employee Experience:

A multi-way ANOVA was conduct to identify the effect of gender, age, experience, marital status on employee experience and to identify the differences between pre and post implementation stages in employee experience. It was identified that gender, F(1, 186) = .40, $p > .05$, age, F(1, 186) = .82, $p > .05$, experience, F(1, 186) = .63, $p > .05$ and marital status, F(1, 186) = .22, $p > .05$ had no significant impact on the employee experience. However, pre and post implementation stages were significantly differed, F(1, 186) = .359.69, $p < .05$ where the implementation of the Planetree certification standard has resulted in a higher employee experience: pre-implementation (M = 131.37, SD = 16.91), post-implementation (M = 169.08, SD = 9.75).

Table 1-*Multi-way ANOVA*

Source	Type III Sum of Squares	*df*	Mean Square	F	*Sig.*
Corrected Model	72539.193[a]	13	5579.938	28.614	.000
Intercept	382555.346	1	382555.346	1961.731	.000
Stage	70141.997	1	70141.997	359.686	.000
Gender	77.764	1	77.764	.399	.529
Age Group	640.185	4	160.046	.821	.513
How long in Employment	487.237	4	121.809	.625	.645
Marital Status	127.111	3	42.370	.217	.884
Error	36271.682	186	195.009		
Total	4622321.000	200			
Corrected Total	108810.875	199			

Figure 1. Pre and post implementation (mean employee experience)



4. Conclusion

This research revealed that from July 2017 onwards, bedside shift report quality has been continuously improved, and by December 2017, it reached to a well-established level of execution. Staff categories had a statistically equal level when it comes to the execution of bedside shift reports and all the staff categories have managed to reach the expected quality level. Overall, our hospital has managed to maintain well aligned policy and practice around family involvement. Hospital reached the expected quality level in October 2017. People in age groups 36 – 50 and 51 – 65 had equal level of patient travel experience while 18 – 35 and 66+ age groups had an equal level of patient travel experience. However, 36 – 65 aged people had better experience compared to 35 or younger and 66+ ones. Respondents who came with their family had a better travel experience compared to who came alone or with a friend. Patient travel experience has gradually improved during July 2017 and March 2018 and shows a trend of improving further. Lab services viz. reception, lab staff, lab safety, did not showed an increasing or decreasing trend during July 2017 and December 2017. Mainly lab services showed a lower level of quality during above period. However, after implementing the Planetree certification standards in January 2018, lab services drastically improved. When it comes to employee experience, implementation of Planetree certification standards has resulted in a better employee experience.

Overall, the bedside shift endorsement compliance rate improved from 64.2% to 88.6%, Care Partner Program compliance rate improved from 62.6% to 87.4%, patients experience rate in clinical laboratory department improved from 70.40% to 92.60%, Patient's Travel Experience Rate improved from 69.6% to 91.6%, multidisciplinary team approach compliance rate in intensive care unit improved from 60.63% to 98.8% and staff experience rate improved from 67.40% to 85.20%.

Limitations of the Study

This study is limited to the study hospital and for a limited period only.

Implication of the Findings

Such research studies should be conducted in other departments, units and services of the hospital to study the impact of Planetree- Person Centered Care Certification.

Sources of Funding for the Study

This research was self-financed by the author himself.

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