

## Effectiveness Of Patient-Centric Care Models In Improving Health Outcomes And Operational Efficiency In Hospitals

Mr. Rohith N R<sup>1</sup>, Mrs. Shashwathi B S<sup>2</sup>, Mr. Abhishek K U<sup>3</sup>, Ms. Chaithanya H K<sup>4</sup>,  
Mr. Darshan S M<sup>5</sup>, Mr. Kiran H S<sup>6</sup>, Mr. Kiran Kumar B S<sup>7</sup>

Assistant Professor, Department of Management Studies, Faculty of Engineering, Management and  
Technology (BGSIT), Adichunchanagiri University, BG Nagara, Nagamangala Taluk, rohithnr@bgsit.ac.in

Assistant Professor, Department of Management Studies, Faculty of Engineering, Management and  
Technology (BGSIT), Adichunchanagiri University, BG Nagara, Nagamangala Taluk,  
shashwathibs@bgsit.ac.in

Student, Department of Management studies, Faculty of Engineering, Management and Technology (BGSIT),  
Adichunchanagiri University, BG Nagara, Nagamangala Taluk, abhishekmbabgsit@gmail.com

Student, Department of Management studies, Faculty of Engineering, Management and Technology (BGSIT),  
Adichunchanagiri University, BG Nagara, Nagamangala Taluk, chaithanya.bgsitmba@gmail.com

Student, Department of Management studies, Faculty of Engineering, Management and Technology (BGSIT),  
Adichunchanagiri University, BG Nagara, Nagamangala Taluk, darshansm.bgsitmba@gmail.com

Student, Department of Management studies, Faculty of Engineering, Management and Technology (BGSIT),  
Adichunchanagiri University, BG Nagara, Nagamangala Taluk, kiranmbabgsit@gmail.com

Student, Department of Management studies, Faculty of Engineering, Management and Technology (BGSIT),  
Adichunchanagiri University, BG Nagara, Nagamangala  
Taluk, kirankumarbs390@gmail.com

---

Cite this paper as: Rohith N R, Shashwathi B S, Abhishek K U, Chaithanya H K, Darshan S M, Kiran H S, Kiran Kumar B S (2024) Effectiveness Of Patient-Centric Care Models In Improving Health Outcomes And Operational Efficiency In Hospitals *Frontiers in Health Informatics*, 13 (3), \*\*\_\*\*

---

### Abstract

*Patient-centered care is an emerging form of care that aims at putting the patient as the center of planning and delivery of care services. The purpose of this work is to discuss the applicability of these models in the advance of the health outcomes and efficiency of operation in hospitals. In this section and using a literature review and case studies, we discuss the major concepts of patient-centered care, with emphasis on the following principles: better communication and more effective two-way information exchange between patient and carer; procedure of making decisions in collaboration with the patient; and treatment planning as an individual process adapted to the needs of the patient. It was found out that the unveiling of patient-focused policies does yield positive outcomes that cover not only the aspects of patient satisfaction and participation but the overall reduction of the readmission rates and the enhancement of patients' clinical status. In addition, effectiveness of performing operations is improved due to factors that are related to the organization and improvement in the consumption of resources to perform a particular operation that eventually reduces cost implications of performing operations in health care organizations. Therefore, the need for hospitals to adopt patient-centered model that would support a patient-centered approach that is favorable for both the patient as well as the hospital.*

**Keywords:** *patient-centric care, health outcomes, operational efficiency, healthcare transformation, hospital management*

## **Introduction**

Over the last few years the healthcare system and its delivery have been in transition and there has been a growing focus on patient-centric practice. Ancillary methods of coping with the situation produced historically and based on the traditions of work largely touched the cardinal importance of such organizational factors as clinical efficiency and failure indicators, which could result in the denial of individual character of patients. On the other hand, patient-centered care care delivery systems emphasize the use of patient-centered care planning since this involves using patients in the overall care delivery system since this will enhance health and well being of clients and increase customer satisfaction.

Patient-centered care involves numerous solution elements such as improvement of communication between treating physicians and a patient, involvement of patient in decision-making, as well as individualized approach and care provision. For that reason, this model aims at retaking decision-making power to the patients by incorporating their values, preferences and perceived needs with the treatment they are to be offered. It becomes crucial to consider the effectiveness of these models with reference to the result of patients and the organization as a whole as systems advance.

Recent research has clearly shown that patient centred care is linked with positive quality of care indicators which include low hospital re admission rates, high compliance to treatment regimes and general patient satisfaction. Moreover, the effectiveness of patient centred care programisation strategies gradually emerged as those within the given healthcare institutions oriented at patient benefit create organisational efficiencies in regards to resources distribution, clinic's costs and staff coordination of work.

The study will therefore have the following objectives: This research paper will seek to establish the following objective: This paper aims to review the literature and empirical research to examine the critical aspects of patient-centred care, the challenges to trying to implement them, and how they can be incorporated into routine organisational functions. Finally, this work aims at highlighting the need to enhance health care by focusing on the patient as one of the key guiding tenets to health care improvements.

## **Literature review**

Patient involvement and experience feature prominently in the healthcare literature under the artillery of patient-centers care embracing a distinctive change in models. As far as the patient-centered approach is concerned, McCormack et al. (2022) pointed a meta-analytical review that patient-centered care is linked with the enhanced clinical efficacy regarding the chronic diseases. With regards to its relevance, the study revealed that when patients is engaged in his/her care plan, health performance is enhanced as there will be following of treatment regimen and fewer hospital readmissions.

Dyer et al., (2021) conducted a systematic review of patient engagement strategies to identify how they affect hospital operation. The authors cited studies that showed that hospitals with patient empowering approaches, including shared decision-making and personalised care mapping, depicted shorter periods of stay and lower costs. Implementing teamwork into the patient care process, means that care providers can best understand the

patient, and organize care processes in ways that promote efficiency hence improving operational performance.

In addition, Johnson and Hsu (2023) meta-analysis provided more evidence supporting the role of communication in patient-care relations as a foundation to patient centered care. The research indicated there might be a causal relationship between health care communication and the perceived satisfaction with overall health care and prognosis. In the course of the study the authors found that essential to creating an environment that is patient – centered — and to increase and engage trust: training healthcare professional in communication.

Chen et al. (2022) investigated how technology can support patient primary models of care. Most of the authors also observed an enhancement of access to care and participation by patients through the use of telemedicine and digital health. These technologies provide an opportunity of direct patient and provider contact that may help in delivery of more precise and timely interventional care. The study pointed out that the various hospitals that were applying patient-centered systems through use of technology could receive enhanced health outcomes and satisfaction.

However, there are always some issues when it comes to the broad adoption of patient door centered care delivery models. In a cross-sectional qualitative study by Thompson et al. (2023), the following barriers were noticed including; the nonacceptance of change among the healthcare professional and knowledge deficits in relation to patient involvement techniques. The authors stressed on the learning organization culture management and effective implementation of patient care oriented education programs.

Consequently, the literature culminates on the evidence supporting the practice of patient-centric models of care delivery in reducing acute health crises and improving the functioning of hospitals. This accumulating research supports the use of various approaches to engage the patient, improve communication, and incorporate technology as components of a new healthcare model. Nevertheless, there is still a lot to be done as far as the existing barriers to implementation are concerned, should the full potential of these models has to be unleashed.

### **Objectives of the study**

- To Assess the impact of patient-centric care models on health outcomes, including patient satisfaction, clinical outcomes, and readmission rates, in various hospital settings.
- To Examine how the implementation of patient-centric care practices affects operational efficiency metrics, such as length of hospital stay, resource utilization, and overall healthcare costs.
- To Identify the key components and best practices of patient-centric care models that contribute to improved health outcomes and operational efficiency in hospitals.

### **Hypothesis of the study**

H1: Patient-centric care models significantly improve health outcomes, including patient satisfaction, clinical outcomes, and reduced readmission rates, compared to traditional care models in various hospital settings.

This hypothesis statement assumes that the concepts of patient centered care increase the obtainable levels of the main health indicators compared to the conventional care paradigms. The rationale behind this hypothesis is grounded in several factors: Increased interaction with clients: Patient-centered care delivery systems engage clients in their care through such perspectives as high interactiveness. Committed patients are inclined to cop wit recommendations and adhere to the treatment regimens, express themselves freely to clinicians –related

clinical benefits. **Personalized Care:** These models emphasize patient-centered care and autonomy, processes of decision making that can be targeted at certain health problems more successfully. Bearing the cultural difference into consideration, one of the benefits of personalized care is that patients are convinced their case is being understood and valued. **Improved Communication:** Patient centered care promotes the relationship between the healthcare provider and the patient and his or her caregiver. Enhancement of communication can enhance patients' knowledge on what is required on them and their response regarding the treatment process, pre-and post-treatment and even satisfaction levels with the whole care process. This is important for decision-making and for meeting patients' complaints and dissatisfaction as necessary.

**Reduction in Readmission Rates:** With education, follow-up and support and comprehensive care for the patients, patient-centric models can help minimize complications, and re-admissions. Discharge planning and post-discharge follow-up are therefore two critical components that go into achieving this result. **Empirical Evidence:** Several earlier studies have revealed that patient-centered approaches to care provision positively impacts patient outcome. This hypothesis extends theoretical developments that recognize the value of patient-oriented model of care delivery for its possible positive effects in a range of healthcare contexts. This hypothesis will be fruitful in empirical study to see patient-scored care models' impact to enhance patient-centred care in hospital that may shape ideal care delivery models that focus on patients' health improvement.

### Research methodology

This investigation adopts a mixed-method research design, whereby both quantitative and qualitative research methodologies are used since they provide a rich assessment of the impact of patient-centered care at hospitals. The quantitative part comprises a cross-sectional survey completed by both HCPs and patients from a number of partner hospitals with varying patient-centred care models. Health status, health care satisfaction, and health service quality of settings will be assessed by collecting self-administered questionnaires; reliability and validity tests will be used when applying these questionnaires. For the qualitative aspect, use of surveys with open-ended questions and interviews with key stakeholders which include the formal caregivers, managers of the hospitals, and patients in order to understand their experience, views and difficulties concerning the application of patient-centred care Lomborg & Bech (2018). These quantitative data will then be analyzed using statistical measures while the qualitative data will be analyzed thematically in order to capture impact of patient centred care on both health outcomes and operations. This approach seeks to use both qualitative and quantitative data to create a sound framework for analyzing the efficacy of patient-centered care delivery models, and guide future research and policy advice to health care organizations.

### Data analysis and discussion

**Table 1 – Descriptive statistics**

Variable	Category	Frequency (N)	Percentage (%)
Age	18-25 years	35	14.0
	26-35 years	60	24.0
	36-45 years	55	22.0

Variable	Category	Frequency (N)	Percentage (%)
	46-55 years	50	20.0
	56 years and above	50	20.0
<b>Gender</b>	Male	120	48.0
	Female	130	52.0
<b>Education Level</b>	High School	30	12.0
	Bachelor's Degree	120	48.0
	Master's Degree	70	28.0
	Doctorate	30	12.0
<b>Employment Status</b>	Employed	150	60.0
	Unemployed	50	20.0
	Student	30	12.0
	Retired	20	8.0
<b>Income Level</b>	Below Rs. 30,000	40	16.0
	Rs. 30,000 - Rs. 60,000	100	40.0
	Rs. 60,001 - Rs. 100,000	70	28.0
	Above Rs. 100,000	40	16.0
<b>Health Status</b>	Excellent	50	20.0
	Good	100	40.0
	Fair	70	28.0
	Poor	30	12.0

Descriptive data from the 250 participants show a varied demographic profile that is relevant to the research on patient-centered care approaches. The age distribution of the sample shows that the biggest group consists of people aged 26–35 (24% of the total), with 14% being in the 18–25 age bracket. It is worth mentioning that there is a balanced representation throughout adult age categories, with 20% being 56 years and beyond. Specifically, 22% are adults aged 36-45 and 20% are 46-55 years old.

With 52% female and 48% male, the gender distribution reveals that the sample is inclusive, with a small female

majority. Nearly half of the respondents (48%) have a Bachelor's degree, and 28% have finished a Master's degree. This suggests that the public as a whole is quite educated, which might lead to more informed viewpoints on healthcare. Twelve percent have earned a doctorate degree, while twelve percent have merely a high school diploma.

In terms of occupation, 60% of those who took the survey are working, while 20% are looking for work, 12% are in school, and 8% have retired. It seems that most of the people in this sample are actively participating in the workforce, which might have an effect on how involved they are with their healthcare.

A considerable portion of the respondents fall into the middle-income bracket, with 40% reporting incomes between Rs. 30,000 and Rs. 60,000. Specifically, 28% earn between 60,001 and 100,000 rupees, 16% earn less than 30,000 rupees, and another 16% make more than 100,000 rupees. Both the availability of healthcare services and the public's view of patient-centered care may be affected by this wealth difference.

Finally, when asked about their health state, the majority of respondents (40%) said they were in excellent health, while 28% said they were in fair health. Respondents' experiences with patient-centric care models may be impacted by a variety of health issues, since just 20% report great health and 12% report poor health.

**Table 2: T-Test Analysis of Health Outcomes Between Patient-Centric and Traditional Care Models**

Outcome Measure	Care Model	N	Mean	Standard Deviation	t-value	p-value	Significance
<b>Patient Satisfaction</b>	Patient-Centric Care	125	85.4	5.6	3.21	0.001	Significant
	Traditional Care	125	80.2	6.1			
<b>Clinical Outcomes</b>	Patient-Centric Care	125	78.5	4.8	2.89	0.004	Significant
	Traditional Care	125	74.3	5.0			
<b>Readmission Rates (%)</b>	Patient-Centric Care	125	5.2	2.3	-4.56	<0.001	Significant
	Traditional Care	125	9.8	3.1			

Table 2 shows the results of the T-test that compared the health outcomes of patient-centric care models with those of standard care models in terms of three important metrics: readmission rates, clinical outcomes, and patient satisfaction.

Overall, patients were more satisfied with their treatment in the patient-centric group (85.4 vs. 80.2 in the standard care group) according to the data. There was a statistically significant difference in patient satisfaction between the two models, as shown by the T-test results (t-value = 3.21, p-value = 0.001). Patients in patient-centric frameworks report higher levels of satisfaction with their treatment overall compared to those in more conventional settings.

**Clinical Outcomes:** The conventional care model had a mean score of 74.3 when it came to clinical outcomes, while the patient-centric care model managed to attain a mean score of 78.5. Patients in the patient-centric care paradigm had superior clinical outcomes, as shown by the significant difference and the t-value of 2.89 and p-value of 0.004. Both patients and healthcare professionals may benefit from improved health metrics when patient-centered techniques are used, as this result shows.

Finally, readmission rates were analysed. It was shown that the patient-centric care model had a far lower mean readmission rate of 5.2% compared to standard care's 9.8%. A substantial negative connection is shown by the t-value of -4.56 and the p-value of <0.001, which further supports the idea that patient-centric care is essential in lowering the chance of readmissions and improving patient experiences. In order to increase operational efficiency and health outcomes, healthcare systems must achieve this result.

With better clinical outcomes, reduced readmission rates, and greater patient satisfaction compared to conventional care models, the findings of this T-test analysis substantially support the hypothesis that patient-centric care models considerably enhance health outcomes. Better healthcare delivery and results may be achieved by using patient-centric techniques in hospital settings, as shown by these data.

## **Discussion**

When compared to more conventional methods of treatment, patient-centric care models considerably improve health outcomes, according to the results of the T-test study. Patient satisfaction, clinical outcomes, and readmission rates are the three metrics used to evaluate the effectiveness of patient-centered care initiatives. The findings show that these tactics may improve health outcomes and overall patient experiences.

When comparing patient-centric care with standard care, there is a significant difference in patient satisfaction levels (85.4 vs. 80.2). This suggests that patients in patient-centric models feel more respected and understood. Improvements in communication, patient participation in decision-making, and a stronger focus on individualised treatment are all components of patient-centered care that contribute to higher levels of satisfaction. In addition to being critical for each patient's health, high patient satisfaction is associated with improved adherence to treatment plans and general health management, both of which may improve clinical results even more.

**Improvements in Clinical Outcomes:** The findings further emphasise the need of enhancing clinical outcomes. Patients undergoing treatment in a setting that is more tailored to their needs seem to fare better in terms of health outcomes, as shown by mean ratings of 78.5 for patient-centric care and 74.3 for conventional care. This might be a result of the positive effects of patient-centric models' emphasis on preventive interventions and thorough care coordination. When used properly, these frameworks may enhance health metrics by allowing for more thorough tracking of patients' progress, faster interventions, and a more unified strategy for dealing with long-term health issues.

Perhaps most importantly, the data demonstrates that patient-centric treatment is linked to substantially reduced readmission rates (5.2% vs. 9.8%). Inadequate patient education, discharge planning, and follow-up treatment are common causes of high readmission rates, which conventional models may not handle well. A decrease in readmissions may indicate that patient-centered methods enhance care continuity and provide patients more agency over their own health management after discharge. This lessens the financial strain on healthcare systems by reducing the number of needless hospitalisations, which in turn improves patient outcomes.



These results have far-reaching consequences for healthcare policymakers and administrators in terms of healthcare practice. Better patient outcomes, more happiness, and lower costs from needless readmissions are all possible benefits of a healthcare system that prioritises patient-centric care. To achieve this goal, healthcare workers may be taught to communicate with patients in a more compassionate manner, patient engagement tools might be developed and funded, and treatment pathways could be organised with the patient's needs in mind.

Despite the encouraging findings, there are certain caveats that need to be considered in light of future research. The results may not be applicable outside of the particular hospital settings that were studied. We need more studies to compare patient-centric care models in many types of healthcare settings, such as inpatient wards, outpatient clinics, and nursing homes, to see how well they work. Qualitative research may also give light on patients' viewpoints and experiences with certain treatment methods.

Finally, this study's findings provide compelling support for hospitals to adopt and expand patient-centric care models. Healthcare systems may enhance health outcomes and provide a more fulfilling and successful experience for everyone involved by putting patients' wants and preferences first.

### **Conclusion**

The impact of patient-centric care models on hospital efficiency and health outcomes has been extensively investigated in this research. Strong statistical evidence supports the findings that patient-centric care outperforms conventional care models in terms of patient satisfaction, clinical outcomes, and readmission rates.

Patients report far higher levels of satisfaction and better health outcomes when they are actively engaged in their treatment, get personalised therapies, and have better contact with their healthcare professionals, according to the research. Additionally, the improvement in patient well-being and decrease in readmission rates show that patient-centric methods lead to improved post-discharge care, which in turn reduces cost burden on healthcare systems.

In light of these convincing findings, it is clear that healthcare organisations should make patient-centric care models a top priority in order to provide high-quality treatment. The increasing need for personalised health experiences among patients is driving this transition, which is also in line with current healthcare trends that prioritise value-based treatment.

Further investigation into the wide range of healthcare settings and people that might benefit from patient-centric models is necessary to confirm these results and inform best practices. Health systems may improve response, efficiency, and patient-friendliness by adopting a patient-centric approach, which in turn improves health outcomes for people and communities.

### **References**

1. Chen, Y., Wang, Q., & Li, J. (2022). The impact of digital health tools on patient engagement and outcomes: A systematic review. *Health Informatics Journal*, 28(1), 1-15.
2. Dyer, J., Smith, K., & Roberts, L. (2021). Patient engagement strategies and their impact on hospital operational efficiency. *Journal of Healthcare Management*, 66(3), 213-226.
3. Johnson, A. K., & Hsu, Y. (2023). The role of communication in patient-centered care: A meta-analysis. *Patient Education and Counseling*, 106(4), 751-759.



4. McCormack, B., Dewing, J., & McCance, T. (2022). A systematic review of patient-centered care: Evidence from the literature. *International Journal of Nursing Studies*, 129, 1038-1045.
5. Thompson, G. R., Weller, A., & Clay, K. (2023). Barriers to implementing patient-centered care in hospitals: A qualitative study. *BMC Health Services Research*, 23(1), 117.
6. Berwick, D. M., & Fox, D. M. (2016). Evaluating the quality of medical care. *The New England Journal of Medicine*, 375(1), 34-36. <https://doi.org/10.1056/NEJMp1606757>
7. Bodenheimer, T., & Grumbach, K. (2016). *Understanding health policy: A clinical approach* (6th ed.). McGraw-Hill Education.
8. Batalden, P. B., & Davidoff, F. (2007). What is “quality improvement” and how can it transform healthcare? *Quality and Safety in Health Care*, 16(1), 2-3. <https://doi.org/10.1136/qshc.2006.022046>
9. Kohn, L. T., Corrigan, J., & Donaldson, M. S. (2000). *To err is human: Building a safer health system*. National Academy Press. <https://doi.org/10.17226/9728>
10. Mendez, C. F., & Mendez, J. A. (2020). Patient-centered care in the hospital setting: An overview. *Healthcare*, 8(2), 128. <https://doi.org/10.3390/healthcare8020128>
11. Dorr, D. A., & O'Connor, M. (2018). The role of technology in patient-centered care: A systematic review. *Health Informatics Journal*, 24(2), 165-178. <https://doi.org/10.1177/1460458216647263>
12. McCormack, B., & McCance, T. (2017). *Person-centered practice in nursing and health care: Theory and practice* (2nd ed.). Wiley-Blackwell. <https://doi.org/10.1002/9781119271070>
13. Gruman, J., & Sykes, S. (2019). The role of self-management in chronic disease: A narrative review. *Journal of Chronic Diseases*, 19(3), 173-181. <https://doi.org/10.1016/j.jchron.2019.03.001>
14. O'Hare, J. A., & Fenton, A. (2020). Patient engagement and patient-centered care: An integrative review. *Journal of Nursing Science*, 35(3), 156-166. <https://doi.org/10.1016/j.jns.2020.08.003>
15. Evers, J. (2021). The impact of patient-centered care on healthcare efficiency: A review of the literature. *Health Services Research*, 56(4), 1013-1023. <https://doi.org/10.1111/1475-6773.13659>
16. Aitken, M., & Lyle, J. (2018). Patient engagement: A key driver of healthcare quality and efficiency. *The American Journal of Managed Care*, 24(10), 472-478. <https://www.ajmc.com/view/patient-engagement-a-key-driver-of-healthcare-quality-and-efficiency>
17. Koo, J., & Hwang, H. (2021). Enhancing patient engagement in hospital settings through technology: A systematic review. *Journal of Medical Internet Research*, 23(8), e24895. <https://doi.org/10.2196/24895>
18. McCoy, L., & Theeke, L. A. (2019). Exploring the impact of patient-centered care on health outcomes: A systematic review. *International Journal of Health Sciences*, 13(3), 45-56. <https://www.ijhs.org/index.php/ijhs/article/view/1331>
19. Zolnierok, K. B., & Dimatteo, M. R. (2017). Physician communication and patient adherence to treatment: A meta-analysis. *Medical Care*, 45(3), 194-201. <https://doi.org/10.1097/MLR.0b013e31819c2a8c>
20. Rojas, C., & Tzeng, O. (2021). A patient-centered care model: Improving healthcare quality through patient engagement. *Journal of Healthcare Management*, 66(5), 290-301. <https://doi.org/10.1097/JHM-D-21-00034>