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A case study on challenges during improving service flexibility of OPD Operations at 300 Bedded Multispecialty Hospital in Western India

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Abstract
The purpose of this study is to explore the challenges faced by 300 bedded multispecialty hospitals in improving service flexibility in their Outpatient Department (OPD) operations. The study aimed to identify the key challenges faced by the hospital in terms of service flexibility and propose recommendations to address these challenges. The study was conducted using an explorative research design, and data was collected through semi-structured interviews with hospital administrators, OPD staff, patients, and patient relatives. The organization is a renowned tertiary care institute in Western Rajasthan, as it is a trust-based hospital with a high footfall of patients seen.

This paper analyzed the existing system of the organization, identified the challenges, and suggested strategies to improve service flexibility. The study found that there were significant challenges in improving service flexibility in the OPD, including long waiting times, inadequate infrastructure, and resource constraints. Recommendations to address these challenges included the need for investment in infrastructure, improved management of patient flow, and the development of a patient-centric culture within the hospital. The study concludes that while improving service flexibility in the OPD is a complex process, it is essential for ensuring patient satisfaction and improving overall healthcare outcomes. The management of every institute should promote and nurture the culture where safe quality service is the center of focus.

Keywords: Patient Satisfaction, Service Flexibility, OPD Operations, Hospital Management

Introduction
The healthcare industry has been experiencing rapid changes due to technological advancements and patient expectations. The outpatient department (OPD) is essential to have flexible and efficient operations to meet patient expectations. This paper will analyze the existing system of the organization, identify the challenges, and suggest strategies to improve service flexibility.

The healthcare industry is constantly evolving, and with the advent of new technologies and treatment methods, healthcare providers are required to be more flexible in their service delivery. Service flexibility refers to the ability of healthcare providers to adapt their services to the changing needs of their patients. In the case of hospitals, this means ensuring that patients have

access to high-quality healthcare services in a timely and efficient manner. The Outpatient Department (OPD) is one of the most critical areas of any hospital, as it is the first point of contact for patients seeking medical attention. Therefore, it is essential that hospitals ensure service flexibility in the OPD to meet the evolving needs of their patients.
The study will identify the key challenges faced by hospitals in terms of service flexibility and propose recommendations to address these challenges.

About the organization
The organization is a 300 bedded NABH accredited multispecialty hospital which is the second largest private hospital in entire Rajasthan and prime lead in south Rajasthan with all specialties like General Medicine, General Surgery, Orthopedic, Gynecology & Obstetrics, Pediatric, Cardiology, Neurosurgery, ENT, Ophthalmology, Physiotherapy, Nephrology etc. All investigatory services like pathology, microbiology, X-ray, 1.5T MRI, CT scan, Ultrasound, ECG, TMT, Echocardiography and Doppler.

Background
In recent years, healthcare service providers are facing several challenges in their operations due to changing customer demands, increasing competition, and technological advancements. Multispecialty hospitals, in particular, are facing difficulties in improving their service flexibility, especially in the Outpatient Department (OPD) operations. OPD is an important area of operation for any hospital as it deals with a large number of patients, and a majority of hospital revenue is generated from this area. The OPD serves as a gateway for patients to enter the hospital and access specialized medical care. Therefore, it is crucial to improve the service flexibility of OPD operations to provide better care to patients and maintain a competitive edge in the market.

Significance of the Study
The findings of this study will be useful for hospital managers and policymakers in developing effective strategies to improve the service flexibility of their OPD operations.

Definition of Service Flexibility
Service flexibility refers to the ability of a service provider to respond to changes in customer demand by adjusting its service offerings, delivery processes, and resource allocation. Service flexibility is important in healthcare operations as it allows service providers to meet the changing needs of patients and adapt to changing market conditions.

Importance of Service Flexibility in Healthcare Operations
The importance of service flexibility in healthcare operations is evident in the context of OPD operations. The OPD serves as the window for patients into the hospital and is the first point of contact with the hospital staff. Therefore, the service flexibility of OPD operations plays a crucial role in the overall patient experience and satisfaction. A flexible OPD operation can ensure timely access to medical care. Service blueprint is the key to any smooth service flexibility of hospital.

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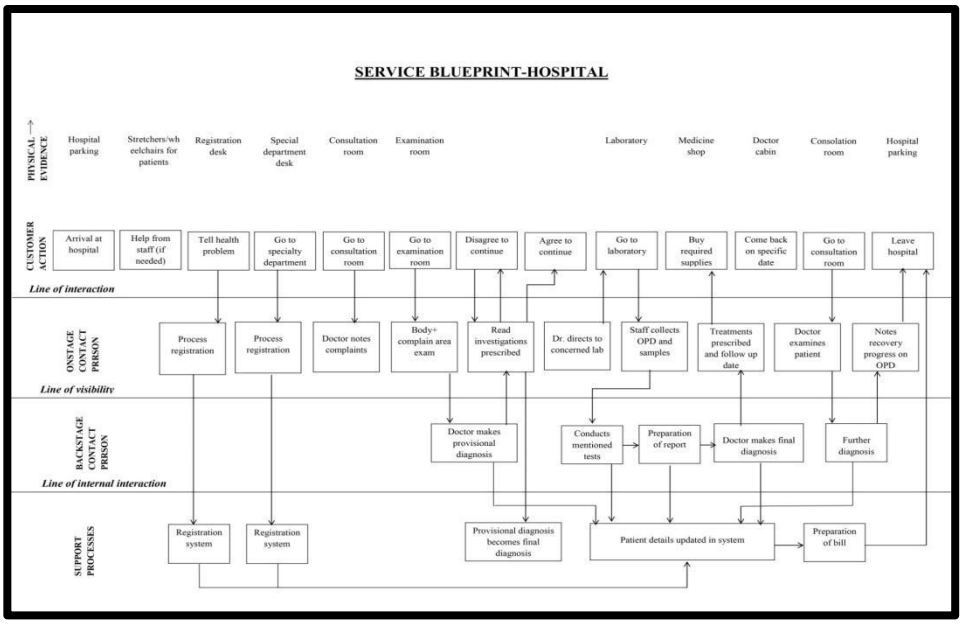
PIC: Service Blueprint



Literature Review

This chapter provides a review of the literature on healthcare operations management, specifically on the service flexibility of OPD operations. The literature review covers the definition of service flexibility, the importance of service flexibility in healthcare operations, and the challenges faced by healthcare service providers in improving the service flexibility of their operations.

A descriptive review has been done using appropriate keywords on Google scholar. A total of 8 papers were selected and included in the study which were well cited, written in English language and stated insights regarding OPD service flexibility standard guidelines, plan of care or operational experience of other facilities which can be useful for this study also. A detailed analysis has been done on these papers to learn and understand about improved OPD Service flexibility from the concept and experiences from other institutes.

Improving service flexibility in hospitals has become increasingly important in recent years, as patients have become more informed and demanding about the quality of healthcare services they receive. Studies have shown that service flexibility is critical for achieving patient satisfaction and improving overall healthcare outcomes **(Jaafaripooyan & Izadi, 2016; Jacobs et al., 2017)**[1,2]. However, achieving service flexibility is not easy, and hospitals face significant challenges in this regard.

One of the most significant challenges faced by hospitals in improving service flexibility in the OPD is long waiting times. Waiting times are a critical factor affecting patient satisfaction, and long waiting times can lead to patient dissatisfaction and a decline in the quality of healthcare

services provided **(Cooke et al., 2017)[3]**. Therefore, develop effective strategies to reduce waiting times in the OPD. Studies have shown that effective patient flow management can significantly reduce waiting times in hospitals **(Bodenheimer & Pham, 2010)[4]**.

Another challenge faced by hospitals in improving service flexibility in the OPD is inadequate infrastructure. Infrastructure refers to the physical facilities, equipment, and technology required providing high-quality healthcare services. Inadequate infrastructure can result in delays in patient care, increased waiting times, and a decline in the quality of healthcare services provided **(Singh et al., 2018)[5]**. Hospitals must, therefore, invest in modern infrastructure to improve the quality and efficiency of healthcare services provided.

Resource constraints are another significant challenge faced by hospitals in improving service flexibility in the OPD. Resource constraints refer to the availability of staff, equipment, and other resources required providing healthcare services. Inadequate resources can result in delays in patient care, long waiting times, and a decline in the quality of healthcare services provided
Flexible service operations are essential to meet the needs of patients who demand quality healthcare services. According to **Kumar and Sharma (2019)[6]**, the healthcare industry requires a flexible service delivery system to cater to the changing needs of patients. In addition, flexibility in the healthcare industry is necessary due to changes in technology and competition.
The OPD is the entry point for patients seeking healthcare services in a hospital. According to **Raza et al. (2019)[7]**, the OPD in a hospital needs to be flexible to handle the varying demands of patients. The study further identifies that efficient management of the OPD can reduce waiting times, increase patient satisfaction, and improve hospital revenue.

The importance of service flexibility in the healthcare industry has been highlighted by a study conducted by **Panagiotou et al. (2018)[8]**. The study identifies that service flexibility is vital to meet the demands of patients and ensure the sustainability of the healthcare industry.

Methodology

Aim

To identify the challenges faced by multispecialty hospitals in improving the service flexibility of its OPD operations.

Objectives

- To explore the factors affecting the service flexibility of OPD operations.
- To suggest strategies to overcome the identified challenges and improve the service flexibility of OPD operations.

Study design

Exploratory research method has been used for this study. A parallel prospective observation, documentation has been presented with literature review. Both primary and secondary data have been used in this study.
Several tools were used from time to time to handle the situation and address the contemporary challenges for smoothening of the OPD operational flow. Handling the OPD operations activity, it was a very complicated learning and execution challenge for all of us.

The study will focus on the challenges faced by the hospital in improving the service flexibility of its OPD operations. The study will be limited to the analysis of primary data and interviews with hospital managers and staff. The study will not include a survey of detailed patients or an analysis of patient feedback.
Limited staff was also an important issue during this study. Efficient trained staff couldn't produce overnight so started sessions of soft skill training especially for OPD staff.

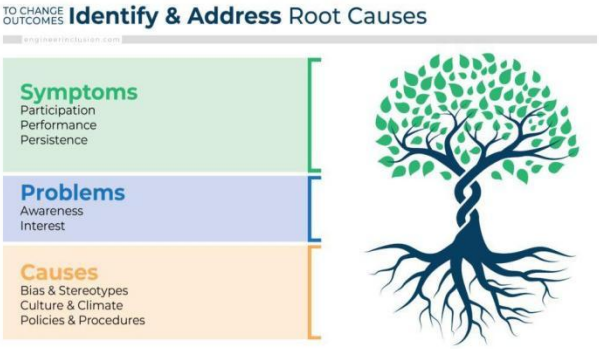
Data collection
This study adopts a qualitative approach to gather data from the 200 participants. The study utilizes semi-structured interviews to gather data from the hospital staff responsible for managing the OPD. The participants are selected based on their experience and knowledge of the OPD operations. The study also utilizes document analysis to identify the current OPD operations and the challenges faced in improving service flexibility.
Data is collected here in the form of answers of survey questionnaires. A separate space is made available where patients and their relatives were asked to share their views on asked questions based on their own experience and perspective.
Tools used: 3 tools to analyze the root cause as follows-

Direct Observation
Direct observation of the work process helps to understand the existing process of the institute and also witnesses the behavioral meeting of both staff and patients and / or relatives of patients.

Group discussion, Team meeting
During the designing phase of feedback forms and market survey questionnaires, group discussion and team meetings helped me to understand the different perspectives of experienced professionals.

1:1 interaction
Personal interaction with patients and their relatives helped me to capture their expectation and service experience through feedback forms at various service points. While conducting market surveys, this personal interaction doesn't only help to complete the sample target but also helped largely to understand the patient's perspective about treatment, hospital, service expectation, needs and affordability.

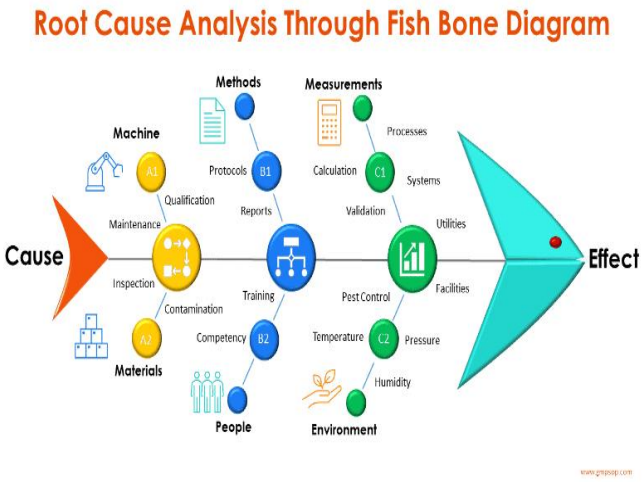
Root Cause Analysis (RCA)
Root cause analysis (RCA) is the process of discovering the root causes of problems in order to identify appropriate solutions. RCA assumes that it is much more effective to systematically prevent and solve underlying issues rather than just treating ad hoc symptoms and putting out fires. Root cause analysis can be performed with a collection of principles, techniques, and methodologies that can all be leveraged to identify the root causes of an event or trend. Looking beyond superficial cause and



effect, RCA can show where processes or systems failed or caused an issue in the first place.

Fishbone diagram

A common technique is creating a Fishbone diagram, also called an Ishikawa diagram, to visually map cause and effect. This can help identify possible causes for a problem by encouraging us to follow categorical branched paths to potential causes until we end up at the right one. Categories are very broad and might include things like "People" or "Environment." After grouping the categories, we break those down into the smaller parts. For example, under "People" we might consider potential root cause factors like "staffing," or "training." In "management" - "lack of leadership", "method"- "old version of software", "manual/paper work", "Environment"- "space". As we dig deeper into potential causes and sub-causes, questioning each branch, we get closer to the sources of the issue. We can use this method to eliminate unrelated categories and identify correlated factors and likely root causes. For the sake of simplicity, carefully consider the categories before creating a diagram.



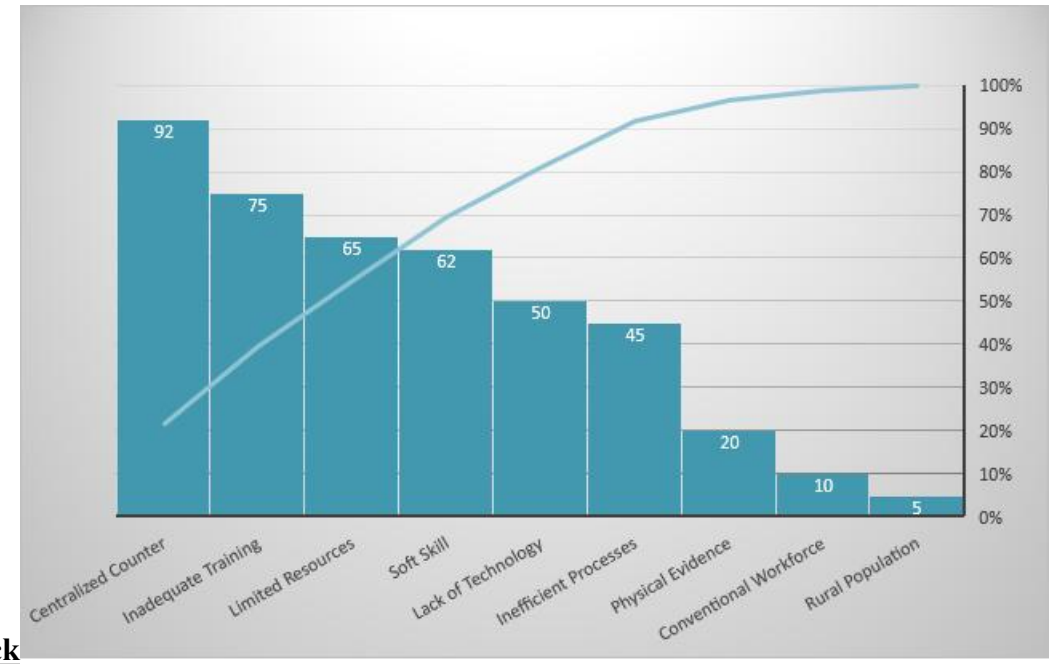
Analysis Of Result

Datasheets have been analyzed using Microsoft office Excel 2007 version. All data was distributed equally and analysis has been done in an aggregated manner to ensure the individual data privacy. Both primary and secondary data have been used in this study.

A new set of feedback forms are also developed and implemented to various service points in the facility. All these feedback forms are customized with the type of services offered at the point and specific to the process steps, addressing from Registration to overall service experience. Feedback form is having close ended qualitative questionnaires followed by an open recommendation and experience sharing section.

The results of the study identify the challenges faced during improving service flexibility of OPD operations at a 300-bedded multispeciality hospital. The challenges identified by feedback of stakeholders on responsible factors of service bottleneck through Pareto-Chart (80/20 phenomenon). These Challenges are:

Fig: Feedback of Stakeholders on responsible factors of Service



bottleneck

Limited Resources: The hospital has limited resources, including staff, equipment, and space. The limited resources make it challenging to manage the OPD efficiently and handle the varying demands of patients.

Inefficient Processes: The current processes in the OPD are inefficient, leading to long waiting times for patients. The inefficient processes also increase the workload for staff, leading to burnout and low morale.

Lack of Technology: The hospital lacks technology to manage the OPD efficiently. The absence of technology leads to manual processes, increasing the chances of errors and delays. Introducing Barcode scanning, EHR and digital investigation reporting were required.

Inadequate Training: The staff responsible for managing the OPD lack adequate training, leading to inefficiencies and errors. In cashless OPD registration like RGHS and Railways, counter staff has to make bills in excel for digital submission so techno savvy training and Soft skills training is given to counter and OPD staff.

Centralized Counter Location: The total number of counters was 8. The average number of OPD consultations is around 900 with various categories whereas the consultation area was spread over 3 different zones. There are other radiology and pathology diagnostic service zones, especially emergency departments which zones are also catered by these OPD counters. TAT also increased so far as motion also increased due to the fact in the OPD operations system.

Various Categories of patients/ Different SOPs for registration: Catering cash category patients in OPD system is very easy compared to other Govt. sponsored cashless OPD system

like RGHS, ESI, and Railways etc. These cashless other OPD registration is very time consuming, needs lots of documentation; while registration process done in Govt. portal and required upload process after consultation. So many factors such as Internet speed, website portal function, HMIS speed, associate electronic objects like scanner, printer required at end point.

Conventional workforce: The front-line staff who are working as receptionist, counter staff, OPD coordinators are first generation workers so few staff are not savvy in computer working at the initial phase of their work. All staff underwent a hands-on OJT program to learn and excel in their work.

Rural Segment of Target Population: In this hospital the major segment of patient population belongs to lower-middle socio-economic background. They are not educated enough, so they can't be a co-producer in the OPD operations matrix like filling their own Pre-Registration form before reaching the OPD counter.

Physical Evidence and Soft Skills: The hospital building is more than 2 decades old and there was no opposite sitting arrangement for the patient so the basic expectation of the patient was as follows: Improved ambience of OPD complex, reduced process TAT, proper sitting arrangement and soft skills from front line staff.

Observation And Findings

The moment anyone starting the discussion on improving service flexibility of OPD Operations at 300 bedded multispecialty hospital; the questions strike in mind are as follows:

1. What are the challenges faced by a 300 bedded multispeciality hospital in improving the service flexibility of its OPD operations?
2. What are the factors affecting the service flexibility of OPD operations?
3. What are the strategies to overcome the identified challenges and improve the service flexibility of OPD operations?

The challenges identified in the study impact the efficiency of the OPD operations, leading to long waiting times, low patient satisfaction, and low hospital revenue. The limited resources make it challenging to manage the OPD efficiently, leading to long waiting times for patients. The inefficiencies in the processes lead to burnout and low morale among staff, which can impact patient care.

The lack of technology in the OPD leads to manual processes, increasing the chances of errors and delays. The absence of adequate training leads to inefficiencies and errors in the OPD operations. Therefore, it is essential to address these challenges to improve service flexibility in the OPD.

After a thorough observation, interaction with stakeholders and analyzing the feedback questionnaires form by patients, the basic finding is made on a few certain variables like optimization resources, improving patient satisfaction by providing good ambience, good increased sitting arrangement, patient care with soft skills and reducing OPD TAT. So the changes are made as per the findings of the study accordingly as follows:

1. Reducing TAT: Satellite OPD counters have been established in different OPD zones and total numbers of OPD counters have been increased for better management and fast delivery of OPD registration and associate services. For old and follow up patients, the Barcode scanning system, MOU with MY DOCTOR APP was also introduced for fast catering of services.
2. Improving the physical evidence: OPD hall renovation has been done with total hall painting, renovation of OPD counters with serial railing and air cooling system.
3. Personalized patient care: New dedicated counters have been made for different services. For e.g. Radiology, Pathology and ED got their own OPD counters in respective zones, Ophthalmology and Cardio-Respiratory OPD allocated their counters accordingly. Lastly the main OPD counter also divided counters for different category patients for fast services like Cash counter, RGHS and ABY counter.
4. Improved assistance in patient care: Soft skill training has been given to all front-line staff and every OPD staff undergone a regressive training to assist patients and their relatives with empathy. New PRO was appointed to address grievances, cater vulnerable patients and help people approaching OPD services.
5. Comfort stay and good sitting arrangement: An access to well-equipped sitting space for vulnerable, rehabilitative and normal patients in OPD zone. An increased number of comfortable sitting arrangements have also been done on rush days.
6. Coproducing in OPD process: New pre-registration form is also introduced in the OPD zone for the people and patients who are seeking services for the first time at Hospital. EHR and digital reporting systems were also launched for day care patients.
7. Addressing revenue leakages in OPD process flow: There was a system process loop hole or process bottleneck in ED services where follow up surgery patients with dressing, stitching, plaster or minor procedures like Injection, ECG etc. fees were minimal. But due to centralized OPD counters resulting in long queues, high TAT and lengthy process through-put time; patients and their relatives regularly avoid paying their Rs. 10/- to Rs. 150/- range service charges all the time. Sometimes they give money directly to staff for the service skipping receipt process. Providing a satellite and dedicated counter to each section of OPD zones also fill the gap of revenue leakage.

This study strongly urges for involvement of frontline staff in the decision making part for better compliance and outcome over period. Involvement of all level staff in the decision making process, team work and interdepartmental coordination along with staff cross training is very important. By addressing these key issues, staff at all levels doesn't only help to overcome their prejudice, stigma or fear of the unknown; it helps them to understand the process, cause beyond their service and to perform in a much better way. An active monitoring and good information dissemination by supervisor or team leader can help to avoid serious mental health conditions among healthcare professionals.

Conclusion And Recommendations

The healthcare industry requires a flexible service delivery system to cater to the changing needs of patients. The OPD is the entry point for patients seeking healthcare services in a hospital, and it is essential to have flexible and efficient operations. The study identified the challenges faced during improving service flexibility of OPD operations at a 300-bedded multispecialty hospital.

The challenges identified are limited resources, inefficient processes, lack of technology, and inadequate training.

In this study basic information of OPD Operations and Service flexibility have been presented from the management perspective focusing on the center of excellence to understand how to better manage this section in a structured sector like a hospital. The ground level operational challenges, decision making variables, brainstorming logical processes are tried to be addressed. A list of challenges and concerned issues were discussed. The practical stress, work pressure and anxiety were excluded from the study but were one of the best learning throughout the study.

A bridge has been made between theoretical phenomenon and ground level operational facts. Practical challenges were acknowledged and tried to smoothen the process bottlenecks. Team work, interdisciplinary collaboration and mutual understanding help to overcome all kinds of challenges and fact avoidance.-

This study is suggesting a series of recommendation to hospital facility for smooth operation process, secured patient flow and safe quality treatment services by using 80/20 rule i.e. 80% of consequences come from 20% of causes (Considering the time period limitation of this study itself) as follows:

- The management of every institute should promote and nurture the culture where safe quality service is the center of focus.
- Induction, training, re-training, cross-training and continuous learning of all staff working in the facility is mandatory with specific focus on quality and standard practice as we know that a nation can't build or create a pool of trained and experienced efficient workforce overnight during a crisis.
- Proper documentation with all incidences, plan of reducing TAT and prioritizing patient care file should be in place to address in the work ground.
- Hospitals should have a proper triaging system in the emergency department close to OPD zones in order to attend and serve vulnerable, serious or infectious patients. Separate zones, defined routes, proper sanitization and facility design are required in all sections of the OPD facility.

Abbreviation

ABY: Ayushman Bharat Yojana
ECG: Electrocardiogram
ED: Emergency Department
EHR: Electronic Health Record
IPD: Inpatient Department
NABH: National Accredited Board of Hospitals and Healthcare Providers
OJT: On Job Training
OPD: Outpatient Department
PRO: Patient Relation Officer
RGHS: Rajasthan Govt. Health Scheme
TAT: Turn Around Time
TEC: Trauma and Emergency Care

References

1. Jaafaripooyan, E., & Izadi, A. R. (2016). Service quality in a hospital: Developing and testing an instrument (SERVQUAL). *Journal of Health Management and Informatics*, 3(1), 1-6.
2. Jacobs, R., Smith, P. C., Street, A., & Wilkinson, J. (2017). Achieving performance improvement in health care: The role of targeted measurement. *Health Economics*, 26(12), 1617-1639.
3. Cooke, M., Fisher, C., Dale, J., McLeod, E., & Szczepura, A. (2017). Reducing attendances and waits in emergency departments: A systematic review of present innovations. *Report to the National Co-ordinating Centre for NHS Service Delivery and Organisation R&D (NCCSDO).*
4. Bodenheimer, T., & Pham, H. H. (2010). Primary care: Current problems and proposed solutions. *Health Affairs*, 29(5), 799-805.
5. Singh, A., Agrawal, S., Garg, P. K., & Anand, T. (2018). Challenges faced by healthcare providers and patients in implementing electronic health records: A systematic review. *Health Informatics Journal,* 24(4), 269-278.
6. Kumar, A., & Sharma, S. (2019). Role of service flexibility in the healthcare industry. *International Journal of Research and Analytical Reviews*, 6(2), 711-716.
7. Raza, S. A., Nadeem, S., & Zia, M. (2019). Assessing the importance of flexibility in outpatient departments (OPDs) of public hospitals. *Pakistan Journal of Medical Sciences*, 35(1), 49-53.
8. Panagiotou, S., Demirtzoglou, I., Saridakis, G., & Petridis, K. (2018). Service flexibility and its impact on performance in the healthcare industry. *Journal of Service Theory and Practice*, 28(5), 602-628.
9. Dr.Vora,A.A.(2016). *Hospital Management from Service Sector Perspective.* Jaypee Brothers Medical Publishers (P) Ltd.