Internship Training

At

Sitaram Bhartia Institute of Science and Research

A report on

“A study on surgical patient’s journey mapping”

By

Pooja Bhardwaj

PG/22/070

Under the guidance of

Dr. Pankaj Talreja

PGDM (Hospital and Health Management)

2022-24

International Institute of Health Management Research
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This certificate is awarded to

Pooja Bhardwaj

In recognition of having successfully completed
her internship in the department of

Patient Care Services

And has successfully completed her project on

Surgical patient's journey mapping

From
12-02-2024 to 30-04-2024
At

Sitaram Bhartia Institute of Science and Research

She comes across as a committed, sincere and diligent person who has
A strong drive and zeal for learning
We wish her all the best for future endeavors

Training and Development

Zonal Head-Human Resources
Head - HR

TO WHOMSOEVER IT MAY CONCERN

This is to certify that Pooja Bhardwaj student of PGDM (Hospital & Health Management) from International Institute of Health Management Research, New Delhi has undergone internship training at Sitaram Bhartia Institute of Science and Research from 12-02-2024 to 30-04-2024.

The Candidate has successfully carried out the study designated to him during internship training and her approach to the study has been sincere, scientific and analytical.

The Internship is in fulfillment of the course requirements.

I wish her all success in all her future endeavours

Dr. Sumesh Kumar

Associate Dean, Academic and Student Affairs

IIHMR, Delhi

Mentor

IIHMR, Delhi

CERTIFICATE OF APPROVAL

The following dissertation titled **"A Study on Surgical patient's journey mapping "** at **"Sitaram Bhartia Institute of Science and Research"** is hereby approved as a certified study in management carried out and presented in a manner satisfactorily to warrant its acceptance as a prerequisite for the award of **PGDM (Hospital and Health Management)** for which it has been submitted. It is understood that by this approval the undersigned do not necessarily endorse or approve any statement made, opinion expressed or conclusion drawn therein but approve the dissertation only for the purpose it is submitted.

Dissertation Examination Committee for evaluation of dissertation.

Name

Rahul Khandelwal

Pankaj Jalreja.

Preetha RS

Certificate from Dissertation Advisory Committee

This is to certify that **Ms. Pooja Bhardwaj**, a graduate student of the **PGDM (Hospital & Health Management)** has worked under our guidance and supervision. She is submitting this dissertation titled " **STUDY ON SURGICAL PATIENT'S JOURNEY MAPPING**" at **"SITARAM BHARTIA INSTITUTE OF SCIENCE AND RESEARCH"** in partial fulfillment of the requirements for the award of the **PGDM (Hospital & Health Management)**.

This dissertation has the requisite standard and to the best of our knowledge no part of it has been reproduced from any other dissertation, monograph, report or book.

Dr. Pankaj Talreja,

Associate professor

IIHMR Delhi

Ms. Irina Sharma

Head of Patient Care Services

Sitaram Bhartia Institute of

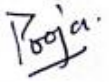
Science and Research

INTERNATIONAL INSTITUTE OF HEALTH MANAGEMENT RESEARCH,

NEW DELHI

CERTIFICATE BY SCHOLAR

This is to certify that the dissertation titled **"Study on surgical patient's journey mapping"** and submitted by **Pooja Bhardwaj** Enrolment No. **PG/22/070** under the supervision of **Dr. Pankaj Talreja** for award of PGDM (Hospital & Health Management) of the Institute carried out during the period from **12-02-2024 to 30-04-2024** embodies my original work and has not formed the basis for the award of any degree, diploma associate ship, fellowship, titles in this or any other Institute or other similar institution of higher learning.



Signature

FEEDBACK FORM

Name of the Student: POOJA BHARDWAJ

Name of the Organisation in Which Dissertation Has Been Completed:
SITARAM BHARTIA INSTITUTE OF SCIENCE & RESEARCH

Area of Dissertation:
DEPARTMENT : PATIENT SERVICES (OPD - OPERATIONS)

Attendance: 95 %

Objectives achieved: YES

Deliverables:

Strengths: Patient-centric approach ; communication skills ; good participation in improvement related discussions & hardworking.

Suggestions for Improvement:
She can be more flexible for any changes.

Suggestions for Institute (course curriculum, industry interaction, placement, alumni):

Signature of the Officer-in-Charge/ Organisation Mentor (Dissertation)

Date: NEW DELHI - MAY 23, 2024

Place NEW DELHI

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CERTIFICATE ON PLAGIARISM CHECK

Name of Student (in block letter)	Ms.: Pooja Bhardwaj		
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Course Specialization (Choose one)	Hospital Management	Health Management	Healthcare IT
Name of Guide/Supervisor	Dr. Pankaj Talreja		
Title of the Dissertation/Summer Assignment	A study on Surgical patient's journey mapping		
Plagiarism detects software used	"TURNITIN"		
Similar contents acceptable (%)	Up to 15 Percent as per policy		
Total words and % of similar contents Identified	6%		
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Signature: Pooja

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ABSTRACT

Patient journey mapping is an invaluable tool in healthcare that enables a comprehensive understanding of patients' experiences across various stages of their care. This project aims to create detailed surgical patients journey map to identify pain points, gaps, and opportunities for improvement in the healthcare delivery process. Patient journey will be mapped using patient shadowing technique where the shadower will also keep a log of the patient interactions with the staff as well as the Turn Around Time of each process within the entire journey. The project seeks to capture the full spectrum of patient interactions from initial OPD visit to IPD admission. The purpose of this study is to examine the existing patient journey map critically and suggest ways to improve the patient journey map for a better patient experience.

The outcome of this project will be to design a journey map that will limit the unnecessary movements of the patient, have a unidirectional flow of patient movement and decrease the average patient stay duration at the hospital for preoperative tests. The new surgical map will be run on a PDSA cycle to compare the decrease in average stay duration at the hospital with the previous map.

ACKNOWLEDGEMENT

I consider myself very lucky and honoured for having wonderful people helping me through the completion of this project.

I would like to express my immense gratitude to Dr. Shubra Verma (General Manager - Operations) at Sitaram Bhartia Institute of Science and Research, Delhi for her guidance and constant encouragement and giving me the opportunity to complete my dissertation from Sitaram Bhartia Institute of Science and Research, Delhi.

I am extremely grateful to Ms. Irina Sharma (Department head of patient care services) for her regular support and encouragement. This study was impossible without her support.

My sincere gratitude to my Mentor Dr. Pankaj Talreja for his continuous support and guidance and for his very helpful attitude and valuable suggestions.

I also want to thank my parents for their moral support which always motivates me to perform best. And the final credit goes to all my friends and colleagues who helped me in this study.

Sincerely,

Pooja Bhardwaj

PG/22/070

ORGANIZATIONAL PROFILE

Sitaram Bhartia Institute of Science and Research was founded with a spirit of serving society through research. It is a 70 bedded, multi-specialty hospital that combines medical research with patient care excellence. Their research focuses on collecting health related information, translating evidence based guidelines in clinical practice, developing cost effective interventions for improving care, investigating factors influencing disease development and analyzing medical literature for developing clinical guidelines. Their medical care services strive to deliver care as per internationally accepted evidence based guidelines. They follow a structured approach in which teams of healthcare professionals work together to comprehensively address the needs of patients and their families. Outcomes are also measured to ensure continuous improvement in quality care.

Location

Qutub institutional area

Core purpose

“To serve society as a well spring of excellence in healthcare delivery, research and education”.

Core ideology

- Putting the interest of patient first
- Treating others as you would want to be treated yourself
- Continuous learning and improvement
- Institution building

Envisioned future

"We will be a prolific medical center that will be known for its commitment to practicing evidence based medicine and providing world class care. We will have well established research programs that will focus on gaining a better understanding of the health care needs in our communities and developing practical solutions for addressing those needs. We will be seen as pioneers who will have successfully taken up those healthcare challenges that may otherwise have remained poorly addressed. We will have collaborative arrangements with leading institutions from around the world and be in the forefront of providing training to health professionals. Donor agencies and individual philanthropists will recognize our work by generously supporting our initiatives. We will be widely acknowledged as an institution that serves as a symbol of excellence in our society".

Services provided by the hospital

- In-patient services
- Out-patient services
- Day care services
- Endoscopy
- Diagnostic services
- Laboratory services

- Emergency services
- Radiology

Departments in the hospital

- Anesthesiology
- Child care
- Dental
- Dermatology
- Diabetes and endocrinology
- ENT
- Fertility services
- General surgery
- Gastroenterology
- Internal medicine
- Laboratory
- Nephrology
- Obstetrics and gynecology
- Ophthalmology
- Orthopedics
- Pediatrics
- Psychiatry and psychology
- Radiology
- Urology

OBSERVATIONAL LEARNINGS

ANESTHESIOLOGY

They have 24-hour onsite coverage by anesthesiologists. Besides their role in facilitating safe surgeries, they provide post operative pain relief, supervise care in the intensive care unit and recovery room and provide epidural analgesia in the labour room.

DENTAL

They provide high quality and safe oral care through a wide range of dental services. The common areas of treatment include dental implants, bone grafting surgeries, gum surgeries, smile make over procedures, cosmetic filling, diastema closure, teeth bleaching, sialolithotomy, painless RCTs, dental fillings, dental tattoos and studs, teeth extraction by surgical or non-surgical method, etc

DIABETES AND ENDOCRINOLOGY

It is one of the earliest centers in the city to offer comprehensive care and emphasizes self management by patients. They help each person to identify their treatment goals, pick a treatment regime and obtain knowledge and skills necessary for their day to day management. They provide clinical care by a diabetes specialist and a diabetes educator, computerized 72-hour blood sugar monitoring, diabetes education, nutrition counselling, foot care and ancillary services.

ENT

The ENT department offers a wide range of outpatient and inpatient services related to disorders of the ear, nose and throat. They have nasal endoscopy services, audiometry and tympanometry services, foreign body removal from ear, nose and throat and endoscopic laryngoscopy services. The wide range of surgical procedures offered

encompasses adenoidectomy, tonsillectomy, tympanoplasty, mastoid surgery, surgery for sinus and polyps, septoplasty and cochlear implant surgery.

NEPHROLOGY

The hospital has a dedicated nephrology OPD and they do a comprehensive evaluation of patients with kidney related problems such as diabetic kidney disease, infections, acute and chronic renal failure and renal hypertension. Their treatment includes dietary and lifestyle advice, medication if necessary and sometimes, dialysis. The hospital alo provides 24 hour emergency as well as planned dialysis facilities, including hemodialysis and peritoneal dialysis.

OBSTETRICS AND GYNAECOLOGY

The obs and gynae department is the largest specialty at Sitaram Bhartia. They provide care for women between the ages of adolescence to post-menopause. A major focus of the department is to de-medicalize childbirth and reduce the C-section rate to medically justifiable methods. Gynecological services include treatment for fibroids, endometriosis, ovarian cysts, infertility and uterine/ovarian cancer. The department is equipped to carry out laproscopic surgeries, hysterectomies and hysteroscopic and colposcopic procedures.

PSYCHIATRY AND PSYCHOLOGY

The department of psychiatry provides outpatient consultation services for adults and the elderly. On the other side, the department of psychology provides psychological assessments for children, adults and corporate employees, psychological support services, special education and therapeutic programs for children and therapy sessions for children with special needs.

RADIOLOGY

The department of imaging services is equipped with state-of-the-art imaging facilities to provide comprehensive care. There is 24x7 emergency radiology services and a regular 8AM-5PM service daily. It is planned and approved by the regulatory authority AERB for radiation safety and radiation surveillance. The staff is covered by a radiation monitoring facility to ensure radiation safety. An annual health checkup is provided to the staff for occupational safety. The department is registered with the PC and PNDT authorities and is compliant with laid down procedures. It is equipped with conventional X-ray units, a computerized radiographic system, a dedicated mammography unit, a dexa sacn unit and 2 ultrasound scanners with color doppler facility for vascular, cardiac, transvaginal, transrectal, and small parts studies.

UROLOGY

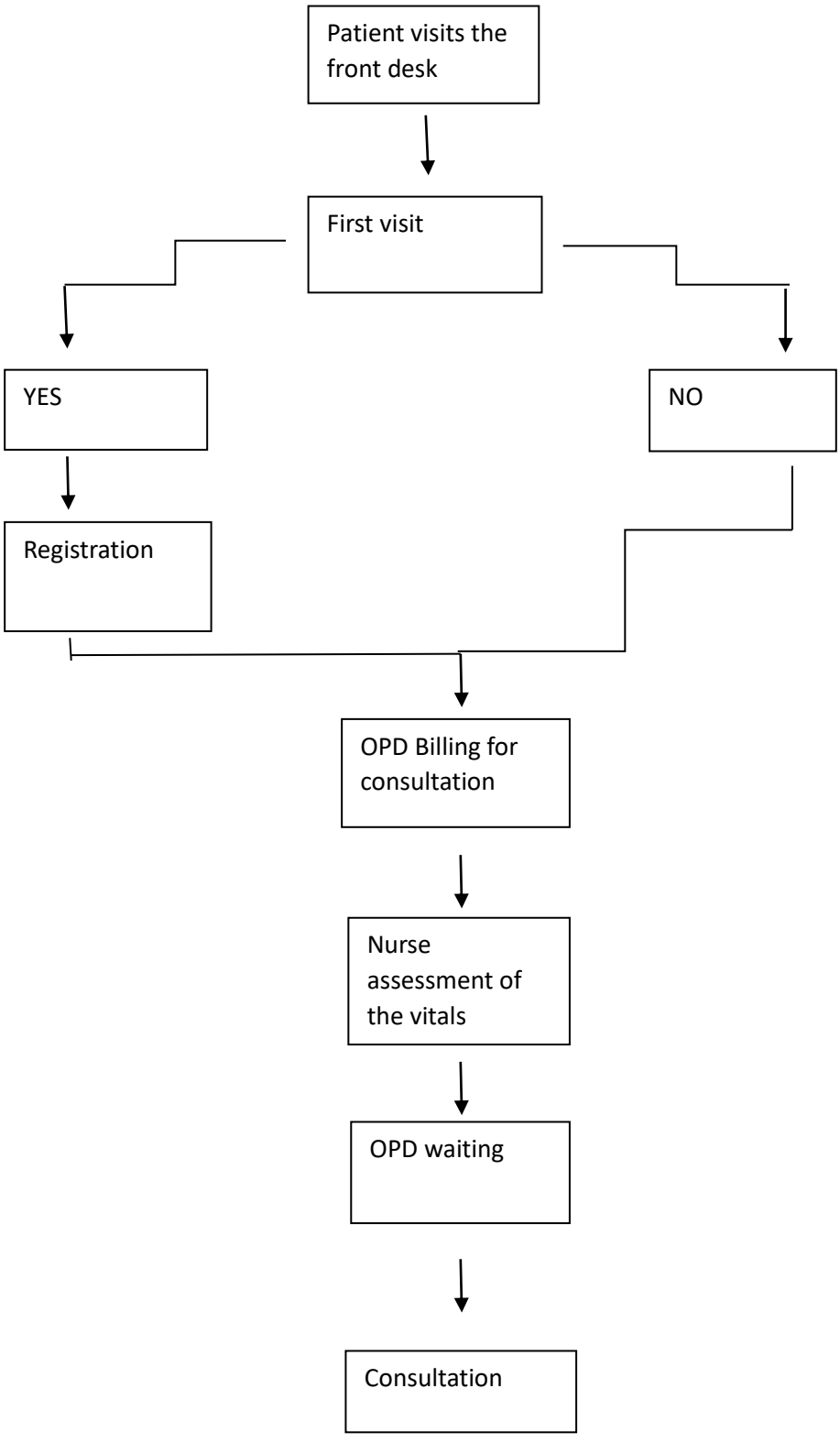
The department of urology offers treatment options for prostrate enlargement, stone diseases, male infertility, andrology, reconstructive urology and all forms of urologic cancer. It also provides Gender Re-assignment Surgery (GRS), also called sex-change operation.

OUT-PATIENT SERVICES

The OPD starts at 9AM and ends at 6PM. The OPD follows two systems- appointment system and billing system. The appointments are booked by the patients through telephone exchange. But the patient queue follows a first-come-first-basis system. Whoever arrives first and gets the billing done, will be the first in the queue. The billing receipts have the time of billing mentioned in them. The patients receive two billing receipts- one for them and the other one is handed over to the front office executives. The front office executives, then, handover the receipts to the doctors in their cabin. The

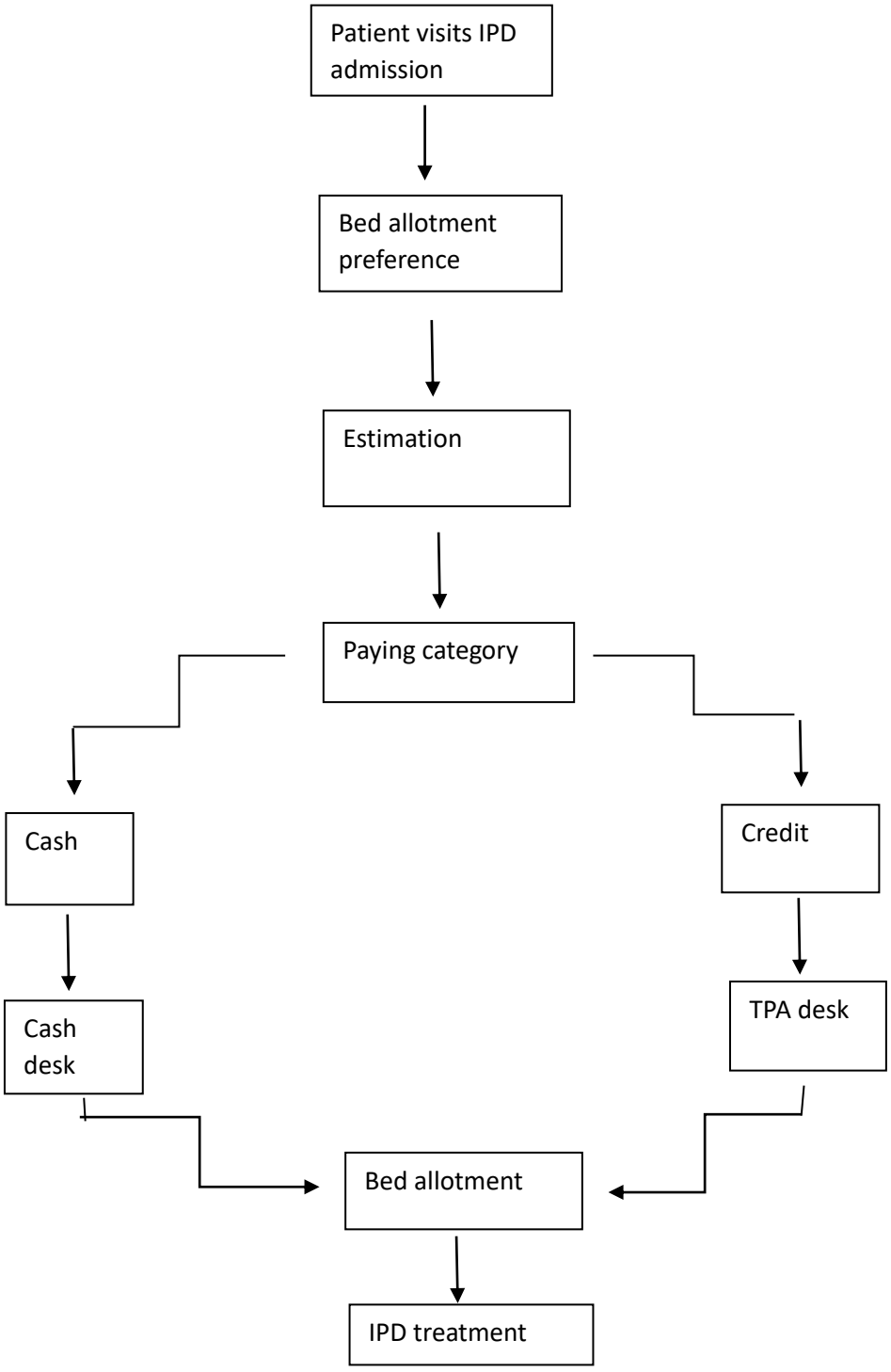
patients go in one by one after the previous patient comes out and all this happens under the supervision of front office executives.

The process flow of a patient who visits OPD is as follows :-



IN-PATIENT SERVICES

The hospital is 70-bedded hospital, with 5 categories of rooms. The first room category is economy room, with 4-6 beds in a single room. The second room category is semi-private or twin-sharing room, where one room has 2 beds. The next 3 categories are single room, deluxe room and super deluxe room, where, with each category the size of the room increases. The process of IPD admission is as follow :-



SECTION-B

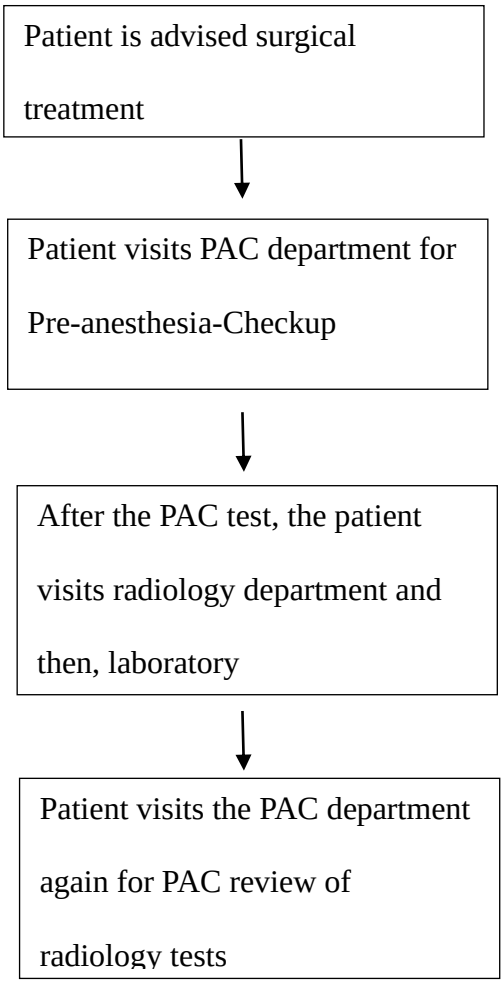
A STUDY ON SURGICAL PATIENT'S JOURNEY MAPPING AT SITARAM BHARTIA INSTITUTE OF SCIENCE AND RESEARCH

BACKGROUND

Surgical patients go through a lot of preoperative tests before they get admitted for the surgery. These tests include electrocardiography, chest radiography, various laboratory existing fitness of the patients before the surgical intervention is performed. These tests helps the doctors to identify the potential risks of the surgery that the patient can face. Most of the preoperative tests are routine tests but depending upon the history of the patient, a few additional tests can be advised. The reports of the preoperative tests are reviewed by the Anesthesiologists, who critically analyze the patients ability to sustain an anesthesia dose before the surgery. If the anesthesiologists find any reports to be abnormal, they instantly change the course of actions by referring the patients to respective specialists. For example, if the ECG reports show any deviation from the normal reports, the patient is referred to a cardiologist and the further course of actions are dependent upon the cardiologists analysis. Each preoperative test has its own significance, like, chest radiograph is recommended to the patients who run a risk of postoperative pulmonary complications, electrolyte and creatinine testing is recommended to assess the possibility of a postoperative electrolyte disbalance and renal failure, Complete Blood Test is recommended to patients with an increased risk of anemia or patients who might have significant blood loss during the surgery, coagulation test are recommended to patients with a history of medical conditions that predispose them to bleeding or to those patients who take anti-coagulants, etc. The standard preoperative tests advised to all surgical patients includes CBC, LFT, KFT, viral markers, thyroid function tests, coagulation profile, hBa1c, chest x-ray and ECG. Additional tests are advised if the patients has a history of any other illness.

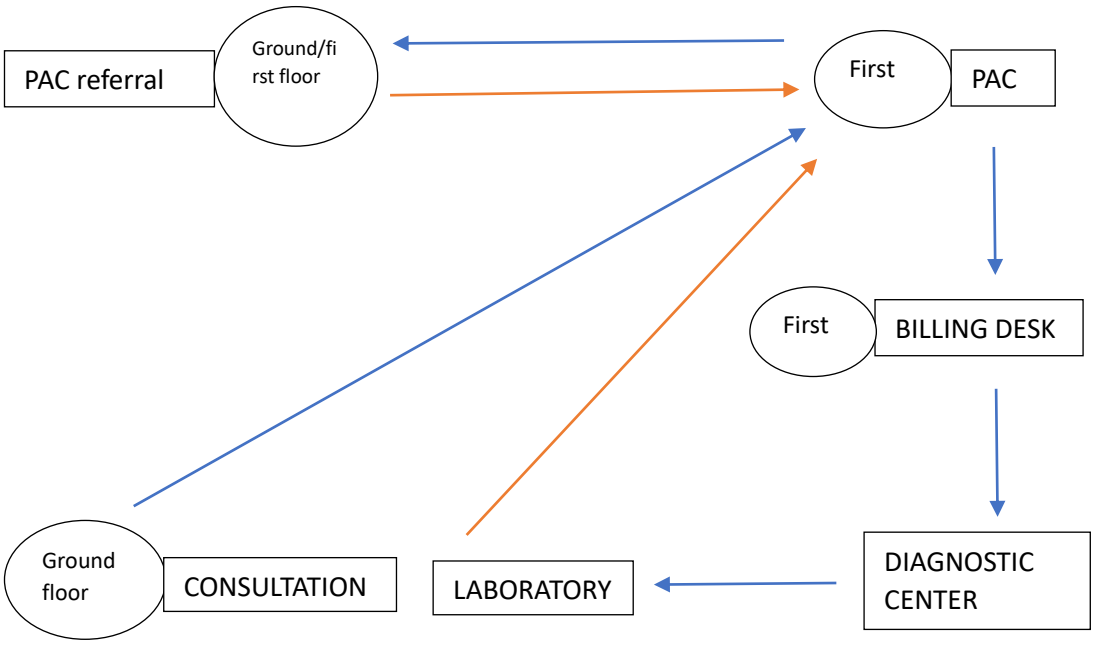
To get these tests done, the patient follows a certain journey path that was shadowed by the shadower. Journey mapping is a process where a patients journey is mapped through every touchpoint through the perspective of a patient. Incorporating lean management into patient journey mapping helps us eliminate non-value adding processes and focus more on value adding processes. Patient shadowing, a qualitative technique, has been emphasized by many authors as a valuable tool to understand real time picture of the patient experience. Patient shadowing involves collection of subjective and objective information which involves where the patient goes, how much time do they spend at each touchpoint and the feelings, reactions and of the patients and their families. It can be a part of quality improvement projects because it supports evidence based designing of the processes.

The existing patient journey map followed by surgical patients at SBISR is as follows:-



Patient leaves the hospital after getting PAC review

The diagram shown below represents the movement of the patient in the hospital between different departments. The blue arrows represents the one-way movement whereas the red arrows represent the overlap in the path, where the patient visited one department more than once.



RATIONALE

The purpose of this study is to examine the existing patient journey map critically and suggest ways to improve the patient journey map for a better patient experience.

PROBLEM STATEMENT

SBISR's surgical patient journey map consists of unnecessary movements of patients between different departments which increases the total patient stay at the hospital before surgery. The shadower has observed that an increased length of stay for investigations results in a decreased patient satisfaction level. The average patient stay duration is 1 hour 45 minutes. This also decreases the hospital's IPD conversion rate and patient loss.

OBJECTIVES

- To limit the repeated movements of patients between different departments.
- To suggest a patient journey map which results in a decreased duration for which a patient has to stay at the hospital for investigations.
- To run a PDSA cycle for the new journey map designed for surgical patients and asses the improvements by comparing the previous journey map with the new one.

EXPECTED OUTCOMES

- Unidirectional flow of patients.
- Decrease in average patient stay duration for investigations.
- Increase in patient satisfaction

REVIEW OF LITERATURE

REVIEW OF LITERATURE

1. **"Exploring the hospital patient journey: What does the patient experience?" by Raffaella Gualandi, Cristina Masella, Daniela Viglione, Daniela Tartaglini**

   Thid study sheds light on how different qualitative methods helps us to know and analyze the patient experience on patient journey map. The researchers used patient shadowing technique and also interviewed patients as well as the health professionals. The hospitals can provide better overall experience by enhancing the patient journey experience of the patients accompanied by delivery of quality services. The study analyzes that the patients interview can be a little different from what the shadower notices during their journey. Some patients experience difficulties during their journey, shows dissatisfaction and yet, after their discharge, the patient seems to only remember half of the things, mostly related to the surgery and not their interaction with the staff. They state one such example, where the patient was told the wrong ward number, patient got lost between two touchpoints, the staff's behavior was not welcoming enough, he had to wait for very long to obtain minor information but on being interviewed after his discharge, the patient seemed to remember about his health condition before the surgery, his surgical experience and his interactions with the doctor. This hinders the actual journey mapping motive because based on the interview, the patient had no trouble during his journey and thus the researcher would never come to know about his bad experience in the journey. Thus, exploring the individual patient journey can help organizations improve patient experience by focusing on patients perspective.

2. **"Patient journey method for integrated service design" by Lianne Simonse, Armagan Albayrak and Susan Starre**

This study uses a case study methodology to analyze the patient journey. The case study is of Video Capsule Endoscopy in a tertiary care hospital. VCE is an advanced diagnostic technique used by gastroenterologists. Patients undergoing this test are expected to stay away from all electronic items and do nothing a day before the diagnostic test. The researchers have collected their data using desk study, observations and semi-structured interviews. These interviews were conducted with an aim to gather deep insights into the patient journey experience. During an interview, the interviewer has an advantage of asking more questions based on the answers of the patients. The researchers have divided the results into 4 categories, where the first study is a desk study of observing the patient journey, the second is the role playing where the researcher has acted like a patient and went through the existing journey map, the third are the interviews conducted in 4 phases and the last study is where the researcher has developed a new plan and presented it to different stakeholders. By conducting the 4 phase study, the researchers were able to create a better journey map and take the patients suggestions into considerations.

3. **"Work system design for patient safety: the SEIPS model" by P Carayon, A Schoofs Hundt, B-T Karsh, A P Gurses, C J Alvarado, M Smith, P Flatley Brennam**

   A Systems Engineering Initiative for Patient Safety (SEIPS) model defines how adverse events, and medical errors depends upon the nature of processes and their interactions. These interactions, when observed, will help identify the points of improvement to smoothen the transition between different processes. According to the Work Model, a person performs a variety of tasks using tools and technologies provided to him within his nearby work environment. Here, a person can be considered as a patient as well an employee and the tasks are

performed for him/by him within a certain physical environment and under some specific organizational conditions. Different outcomes are produced upon the interactions between different components. These outcomes can be related to patient safety and health, quality of working life and the performance efficiency. Changing any aspect of the work system will ultimately have its impact on patient, employees and the organizations as well. Thus, extreme care and focus has to be maintained while analyzing the current process and developing a new one.

4. **"The impact of patient shadowing on service design: insights from a family medicine clinic" by Andrew S. Gallan, Bruce Perlow, Riddhi Shah and Judith Gravdal**

   Patient shadowing, a qualitative technique, has been emphasized by many authors as a valuable tool to understand real time picture of the patient experience. Patient shadowing involves collection of subjective and objective information which involves where the patient goes, how much time do they spend at each touchpoint and the feelings, reactions and of the patients and their families. It can be a part of quality improvement projects because it supports evidence based designing of the processes. Patient shadowing studies has been conducted in wide spectrum of healthcare services like trauma, rheumatology, home healthcare, surgical care and oncology. What is far beyond the scope of this study is to evaluate the behaviors of the patients. Rather, the study aims to be a vigilant witness of each stage of the entire patient journey.

5. **"Preoperative testing before noncardiac surgery: guidelines and recommendations" by Molly A. Feely, C. Scott Collins, Paul R. Daniels, Esayas B. Kebede, Aminah Jatoi and Karen F. Mauck**

   The study focuses on preoperative tests done before the surgery. It talks about the relevance of the prescribed test based on the clinical history of the patients. It talks about various tests like coagulation test, lipid profile, Hba1c, fasting sugar

test, viiral markers, LFT, KFT, chest X-ray and ECG test and why they are needed for certain patients before their surgery.

METHODOLOGY

METHODOLOGY

Study area- Sitaram Bhartia Institute of Science and Research, Delhi

Study design- Prospective Study

Study Period- 3 months

Study population- Patients advised surgery

Sampling method- Convenience and intervention sampling

Research method- Patient shadowing

Data collection mode- Primary

Data analysis- Microsoft excel

Type of data- Quantitative

The shadower has already mapped the existing patient journey map and calculated TAT at various touchpoints. These TAT values will be used to find the average duration of patient stay at hospital for investigations. Now, the shadower will design a new map and run a PDSA cycle to check if the new map has resulted in a decreased average duration of patient stay at hospital.

The shadower will use a fish bone diagram to find the causes of unnecessary movements. A fish bone diagram is also known as Ishikawa or cause-and-effect diagram. The diagram is a quality tool which helps us to find the root causes of a problem. The diagram consists of a straight arrow in the center containing the main problem or effect and branches coming out of the central arrow containing the reasons/causes which is leading to that effect. The causes can also be divided into

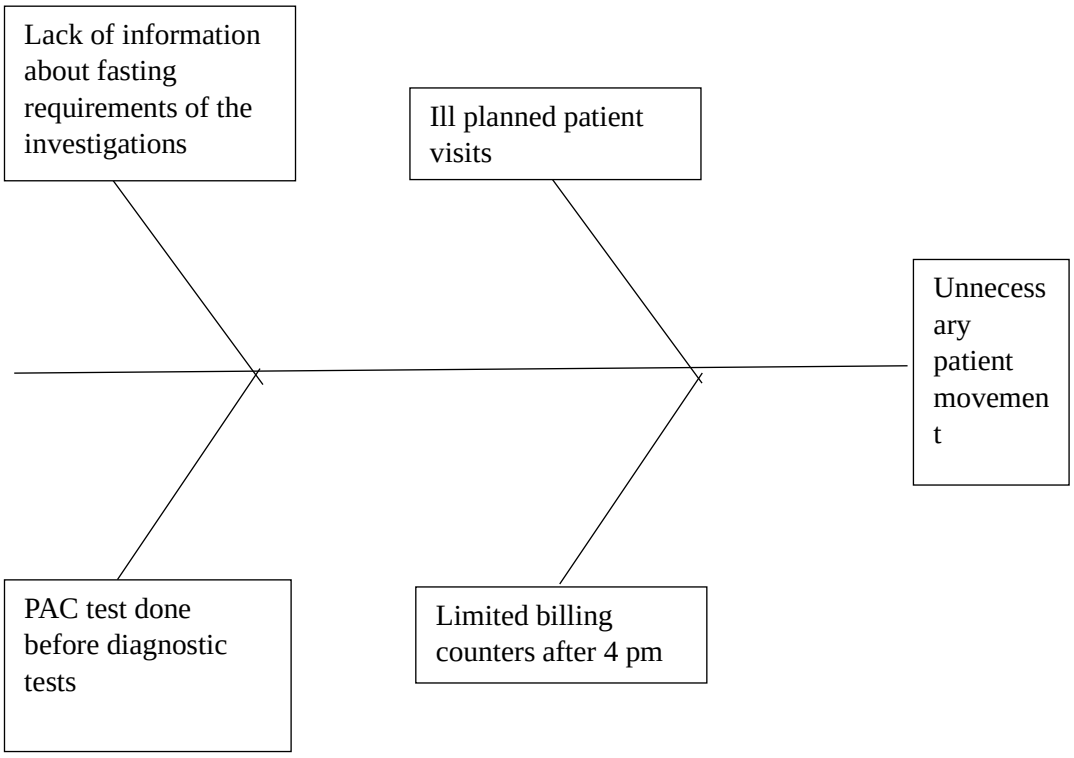
various categories like administrative causes, financial causes, environmental causes, manpower, etc.

Another quality tool used by the shadower is PDSA cycle. PDSA stands for Plan-Do-Study-Act. It is a four step problem solving method used for implementing a new method or process. The planning step consists of forming a team which can handle the situation appropriately. The team must consist of members who has the knowledge and skill to plan the entire changed process. Then, the planning team will come up with a new process that will address all the improvements that is needed to be done. They will think of the ways by which new accomplishments can be achieved, how will they be achieved, what resources will be needed to achieve them, etc. The second step, Do step, consists of carrying out the process that has been planned in the first step. The shadower will collect the relevant data to compare his results with the previous process or to check if the plan could achieve the desired goals. The third step, Study step, consists of studying or analyzing the gathered data using different tools like pareto chart, control chart, etc. During this step, the shadower will analyze if the desired improvements were made during the implementation of the process and if there were any side effects of the implemented process. The last step, Act step, will consist of the future action plan related to the implemented process. It will suggest the improvements in the implemented action plan and the ways to achieve them. The shadower will use PDSA cycle to implement the new surgical patient journey map and compare it with the existing map to check if the new map will bring any improvements.

RESULTS AND ANALYSIS

RESULTS AND ANALYSIS

Used a fish bone diagram to analyze the reasons for unnecessary movement of the patient.



EXPLANATION :-

1. LACK OF INFORMATION ABOUT FASTING REQUIREMENTS OF THE INVESTIGATIONS- the patients who followed the existing map were not informed about the investigations beforehand. The patients were prescribed standard preoperative tests and they use to go straight to the billing counter. In many cases, the shadower observed that after billing when the patient visited laboratory for tests, the lab staff would tell the patient that some tests cannot be done right now because it does not match the fasting requirements. For example, there were many cases when the patient was advised a lipid profile test which requires 10 hours fasting but the patient being unaware, got the billing done and

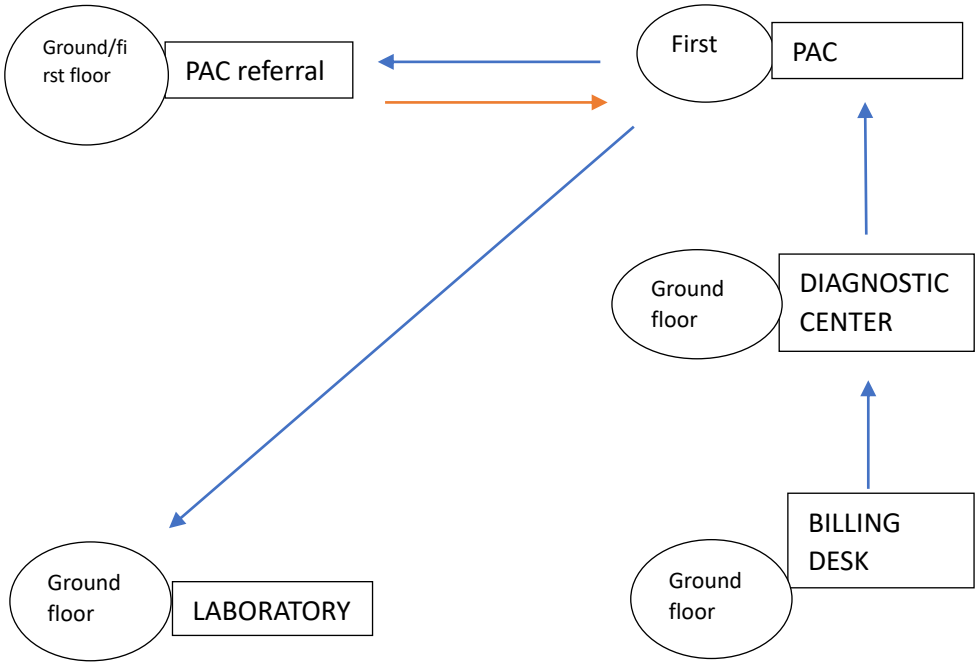
was later informed by the lab that the patient had over-fasting of 12 hours and so, the test cannot be done. Then the patient would go back again to the billing counter to get the bill cancelled. This causes unnecessary confusion for the patient and causes discomfort to them.

2. ILL PLANNED PATIENT VISITS- patients were not advised the time at which they should visit the hospital for their investigations. Because of this, the patients visited mostly at mid-day (around 12-2pm), which is the peak time for investigations and thus, they had a long waiting time. Sometimes, the patient had to wait a very long time for PAC test as the anesthesiologists had their OT. Then, the patient would leave without getting the PAC done and use to ask for a better time to visit hospital the next time. This has a bad impact on patient satisfaction.
3. PAC TEST DONE BEFORE DIAGNOSTIC TESTS- the existing map advised the patients to go for PAC test first and then later, for other investigations. This has been observed to be a longer process with patient visiting the same department again and again. During the PAC test, the anesthesiologists asks the patient about his/her medical history to assess their fitness for a surgery with anesthesia. In any case, the patient has to get the standard preoperative tests done before the surgery because the fitness to endure an anesthesia dose during surgery is based upon the results of these tests. So, the anesthesiologist reviews each and every report of the patient to see if the patient is fit or not. If a patient visits the PAC department first and then later goes for chest x-ray and ECG, then the patient has to visit back again to show the reports of these tests to the anesthesiologist. This causes another visit to the same department which causes discomfort to the patient. In case of laboratory tests, the patient does not have to visit the hospital again after the reports are generated because the reports are available on HIS software of the hospital and the PAC coordinator shows the

reports to the anesthesiologist as soon as the reports come. Thus, the patient is expected to revisit the PAC department for radiology reports review only.

4. LIMITED BILLING COUNTERS AFTER 5PM- There are 3 billing counters among which, two are present on the ground floor (where lab and radiology is) and one is present on the first floor (for PAC department). The first floor billing counter is only for PAC billing and the billing of those tests that are advised after PAC test. Sometimes, the patient goes to the first floor for the billing of radiology tests. Then the patient is directed to the ground floor billing counter which causes unnecessary movement of the patient. Sometimes, the patient stands in the queue of ground floor billing counter for PAC test but later finds out, that PAC billing can be done only on first floor. And after 5 PM, only one billing counter is available. Even after 24 hours service of laboratory and PAC, patient has to stand in long queues because of the limited billing counter.

After analyzing the reasons for increased length of stay, the following map was developed and a Plan-Do-Study-Act cycle was run for a sample size of 10 patients (same as the sample size of previous map).



EXPLANATION

In the newly designed patient journey map, the aim is to limit the patients visit to each department only once. The journey starts with consultation, after which, the patient will be briefed about the entire process. The patient will be given a brief counselling regarding the significance of all the tests that has been prescribed to him. The patient will also be explained the fasting requirements of the tests that has been prescribed to him/her. then, the patient will be given a moment to decide if the patient wants to get the tests done today or some other day. Based on patients decision, the patient is advised suitable timings for all the investigations. Mostly, the patients are advised to visit the hospital early morning so that the waiting time can be reduced.

After consultation, the patients are advised to go to the diagnostic center to get all the prescribed radiology tests get done. Usually, the patient is advised for chest x-ray and an

ECG test. When the patient gets these two tests done, then they receive a chest X-ray film and an ECG report. Chest X-ray reports are generated the next morning but the patient is given a chest X-ray film 5 minutes after finishing the test. The patient, the, visits the PAC department with these two radiology reports and gets the PAC billing done on the first floor counter. During the PAC test, the anesthesiologist reviews the radiology reports and prescribes the blood tests/lab tests that the patient should get done with. The patient then goes to the first floor billing counter only to get the bill of the prescribed lab tests. The patients goes to the ground floor, submits their sample in lab and the patient is now free to go home. The lab reports are accessed by the PAC coordinator the next morning and they are shown to the anesthesiologists. The PAC coordinator conveys the message given by the doctor to the patient via call. This way, the patient had lesser foot movement within the hospital.

PDSA CYCLE

PLAN

1. **What is the objective of the cycle?**

To redesign the surgical patient journey map and reduce the average length of patient stay at hospital

2. **What is the list of tasks required to set up this test?**

- PAC test will be done after diagnostic investigations.
- Briefing the patient about the significance of tests and the fasting schedule for laboratory tests at the beginning of the journey.
- Advising the patients to visit the hospital early morning for all the investigations.

DO

1. **What did you observe when the tests were carried out?**

- The average duration of patient stay reduced from 1 hour 45 minutes to 49 minutes.
- Patients planned their visit in a better way after they were briefed about the fasting schedules.
- Patients who arrived at the hospital early morning had a lesser average patient stay duration than others

STUDY

1. **Analyze your data and describe the results:-**

- The patient movement was significantly reduced as the patient visited each department only once.
- There was a decrease of 56 minutes after following the new map.

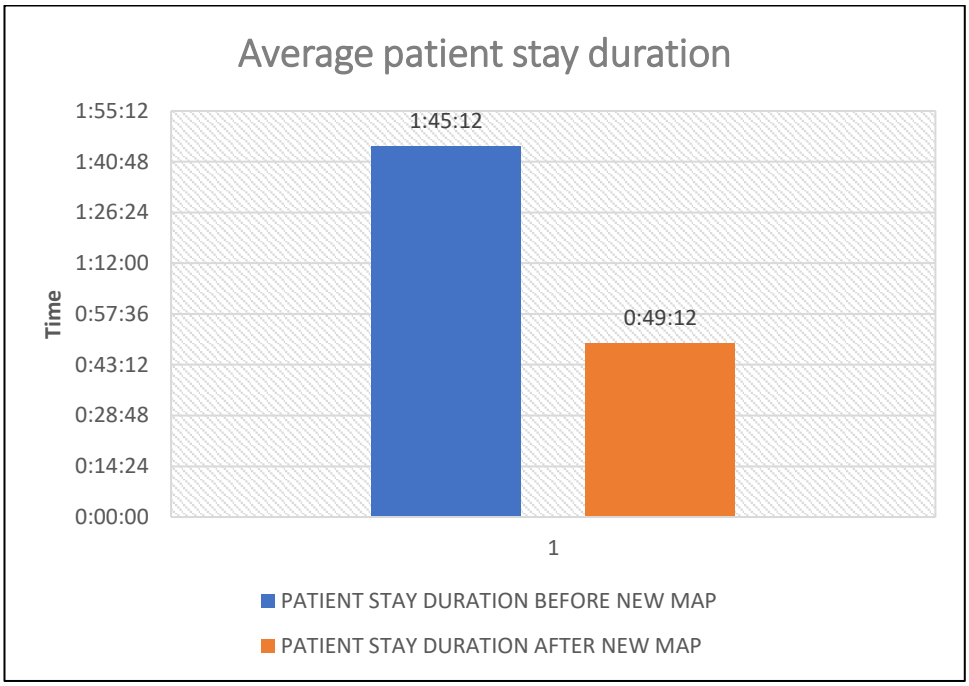
ACT

1. **Plan for the next cycle:-**
    - Preparing patient educated forms which will consist of a list of all the investigations along with their significance, process and fasting requirements.
    - Handing out the patient education forms at the beginning of the patient journey**.**

The PDSA cycle showed a significant decrease in average patient stay duration.

The results are also shown in a graphical way below :-

PATIENT STAY DURATION BEFORE NEW MAP	PATIENT STAY DURATION AFTER NEW MAP
01:45:12	00:49:12



RECOMMENDATIONS AND CONCLUSION

RECOMMENDATIONS

- Patient education handouts consisting of all the investigations and radiology tests should be formed. These forms will contain the fasting requirements of all the investigations and the significance of the tests. This will help the patients to plan their visits in a better way.
- OT schedule of the anesthesiologists should be updated a day before their actual OT and this should be shared with all the coordinators/service leaders. This will help the coordinators to plan PACs in a better way.
- If the patient has not done any investigations, then the patient should be first sent to radiology department and then the PAC department.
- If the patient has got the tests done from outside and has chest X-ray and ECG reports with himself, then the patient should be sent to PAC department first. The coordinator should make sure that the tests done from outside are done recently (say 1 month ago) and not a while ago.
- While waiting for any diagnostic test, the patient can collect and fill his/her insurance forms so that the waiting time is utilized.

CONCLUSION

It can be concluded from the study that the patient experience can be elevated with minor changes in the patient journey map like restricting unnecessary movements of the patients, decreasing their length of stay, improving communications between different departments, etc.

LIMITATIONS

- The organization denied to collect patient's consent for the study. But patients privacy was maintained during the study.
- The organization denied to take any satisfaction surveys.

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