DISSERTATION

PROJECT

Reema Saxena

Roll number: 54

In- patient admission process – challenges faced and steps for improvement

Dissertation period: 1st march 2022 to 30th may 2022

FMRI, Gurugram

Fortis MEMORIAL
RESEARCH INSTITUTE
GURUGRAM

FORTIS MEMORIAL RESEARCH INSTITUTE
Sector 44 (Opp. HUDA City Centre Metro Station), Gurugram 122 002, Haryana (India)
Tel +91 124 496 2200
+91 124 716 2200
Fax +91 124 496 2222
Emergency +91 124 421 3333
Ambulance 105010
Email : fmri@fortishealthcare.com
Website : www.fmri.in

Aug 6, 2022

To Whomsoever It May Concern

This is to certify that **Ms. Reema Saxena** has undergone an internship from **March 1, 2022 to Jun 1, 2022** at **Fortis Memorial Research Institute** in the **Medical Admin** department worked on the project **Challenges faced in Admission Process**.

During her training she exhibited a high level of professionalism and a tremendous zest for learning.

We wish **Ms. Reema Saxena** all the best in her future endeavors.

With Best Wishes,

Shivani Dhir
SBU Head
Learning & Development

Head of Department

Fortis Hospitals Ltd. Gurgaon

Certificate of Approval

The following dissertation titled "**A study on In-patient admission process- challenges faced and steps for improvement** " at "**Fortis memorial research institute, Gurugram**" 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 & 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	Signature
Dr Dharmshilal	
Dr. Siddarth Shekhar Mishra	
Dr. B.S Singh	

INTERNATIONAL INSTITUTE OF HEALTH MANAGEMENT RESEARCH (IIHMR)
Plot No. 3, Sector 18A, Phase- II, Dwarka, New Delhi- 110075
Ph. +91-11-30418900, www.iihmrdelhi.edu.in

CERTIFICATE ON PLAGIARISM CHECK

Name of Student (in block letter)	Dr/Mr./Ms.: Reema Saxena		
Enrolment/Roll No.	PG/20/ 054	Batch Year	2020-2022
Course Specialization (Choose one)	Hospital Management	Health Management ✓	Healthcare IT
Name of Guide/Supervisor	Dr/ Prof.: Sumant Swain		
Title of the Dissertation/Summer Assignment	In-patient admission process -challenges faced and steps for improvement		
Plagiarism detects software used	"TURNITIN"		
Similar contents acceptable (%)	Up to 15 Percent as per policy		
Total words and % of similar contents Identified	11%		
Date of validation (DD/MM/YYYY)	23.Aug.2022		

Guide/Supervisor
Name: Dr. Sumant Swain
Signature:
Report checked by

Institute Librarian

Signature:
Date:
Library Seal

Student
Name: Reema Saxena
Signature:

Dean (Academics and Student Affairs)

Signature:
Date:
(Seal)

ACKNOWLEDGEMENT

I am grateful to all the senior managers at Fortis memorial research institute, Gurugram for big-heartedly sharing their treasured insight and valuable time that helped me perform efficiently during my dissertation period. My knowledge and data collection concerning the dissertation report would not have been fruitful without the guidance of Dr Savita Sharma, Miss Nirmal Singh and miss. Priyadeep Saini. I express my thankfulness towards them for providing supervision, motivation & strong support during my study.

Mentors in IIHMR

I am obliged to Dr. Sumant Swain and Mrs. Divya Agarwal, for giving me this opportunity to learn and to add to my experience. Without their cooperation and guidance, it would not have been possible to conduct my study and complete my training with flying colours.

INDEX

ACRONYMS/ABBRIVIATION

- CSR: corporate social responsibility
- SDG: sustainable development goal
- NABH: national accreditation board for hospitals & healthcare providers
- JCI: joint commission international
- MRI: magnetic resonance imaging
- CT: computed tomography
- IVUS: intra vascular ultrasound
- TPA: third party administrator
- CCU: critical care unit
- SICU: surgical intensive care unit
- MICU: medical intensive care unit
- MRD: medical records department
- TAT: turnaround time
- DBN: discharge before noon
- GDA: general duty assistant

FMRI - ORGANIZATION PROFILE

Fortis Healthcare Limited is a foremost healthcare service provider in throughout our country. The healthcare verticals of the company primarily comprise hospitals, diagnostics and day care specialty facilities. Currently the company operates its healthcare delivery services in India, Dubai, Mauritius and Sri Lanka with 45 healthcare facilities (including projects under development), approximately 10,000 potential beds and over 330 diagnostic centres.

In a global study of the most advanced and technologically driven hospitals around the world, FMRI (fortis memorial research institute stood 2nd in rank by "topmastersinhealthcare.com". FMRI is a multi-speciality hospital with international standard facility, most qualified clinicians, renowned doctors, well trained nurses who are supported by edge cutting technology. FMRI has been equipped with the most advanced technology, like: neuroscience, oncology centre, renal science, BMT unit, robotics surgery, orthopaedics, cardiac unit and obstetrics & gynaecology. Fortis memorial research institute is spread across a 11-acre land with almost 1000 beds available at the moment and soon it will get doubled up. This next generation hospital is built on 4 pillars: talent, technology, infrastructure and service.

Technology and infrastructure

FMRI is equipped with the most advanced technology like: Da Vinci Robot I, 3-Tesla, MRI I 15, Operation Theatres, I Comprehensive ECMO and Critical Care Programme like I Elekta Linear Accelerator and I Brain Suite.

Accreditations

fortis hospital is a JCI & NABH Accredited Hospital. FMRI considers that accreditation of hospital's programs & divisions is another big success that strengthens the organization's position in the healthcare field and will add to its distinguished quality of medical services. Fortis Memorial Research Institute is accredited by National Accreditation Board for Hospitals & Healthcare Providers (NABH) and follow the guidelines of the board to accommodate needs of the patients and to set quality standards in healthcare industry.

In addition to this, the blood bank at FMRI is accredited by NABH by its wide-ranging service delivery. laboratory services at FMRI are also accredited by National Accreditation Board for Testing and Calibration Laboratories (NABL). The accreditation services are provided for testing, calibration and medical laboratories in accordance with International Organization for Standardization (ISO) Standards.

Achievements

- FMRI has been ranked No. 2 in Delhi NCR's Best Private Hospitals by The Week Magazine Survey, 2019
- It is known for being India's 1st robot assisted Joint Replacement Surgery
- FMRI has got India's 1st Laparoscopic Left Lateral Donor Hepatectomy

Awards

- Awarded with Pharmacie De Qualite for Good Pharmacy Practices in 2019
- CSSD awarded as the Centre of Excellence by Asia Pacific Society of Infection Control (APSIC)
- Received Certificate of Merit at DL SHAH Awards for Quality Improvement Projects done on Improving Compliance to Surgical Safety Checklist in 2015
- FMRI was Winner of Frost and Sullivan Awards for two projects

Mission

To provide quaternary care to the community in a compassionate, dignified, and a distinctive manner.

Vision

To be the ultimate healthcare destination - "Mecca of Medicine"

Cooperate social responsibility

Over the years, Fortis Healthcare Ltd. and its subsidiaries through its hospitals and Foundation across India, is committed towards providing healthcare for the socially marginalized and deprived sections of the society. We not only make sure that our programs are efficient, but also ensure that they are sustainable and relevant to those meant to benefit from them.

The CSR initiatives are driven by our vision, philosophy and the need of the community, with health remaining our main focus. The CSR initiatives of Fortis Healthcare are executed through Fortis CSR Foundation.

Fortis CSR Foundation a philanthropic arm of Fortis Healthcare focuses on four programs namely AANCHAL, CHHAYA, SAVERA and SEWA

1. **AANCHAL** is an initiative by FMRI to help children who are suffering from congenital heart defects. There children will be treated free off cost under this scheme. Aanchal aims at making life better for children through constant care and treatment by countries best doctor working at FMRI.

2. **CHHAYA** is a program which provides primary health care facilities to people. It is done via charitable outreach clinics and public health centres. At present FMRI is running 3 such clinics which provide free primary healthcare services to locals in the designated areas.

3. **SAVERA** with its focus on "Health Education and Preventive Healthcare" creates awareness on health issues by leveraging on different channels of communication. The purpose of the program is to design models on health information dissemination to reach to vulnerable sections of the community.

4. **SEWA** is a program that aims to provide emergency medical relief services in an organized and time sensitive manner to people affected by disasters. SEWA's core commitment is to support the government's efforts in providing medical relief during a calamity.

5. **RURAL (ADOPTED VILLAGE):** In its endeavour to develop a healthy society, Fortis Memorial Research Institute has adopted Bhangrola village in Gurgaon in Sept 2014, with a commitment to meet the basic medical needs of the community as a part of its CSR program. The village is situated adjacent to IMT Manesar, in a low-lying area of Gurgaon, with a population of approximately 25,000. Plagued by problems such as accumulation of untreated industrial effluents and sewage from the rest of the city, resulting in stark contamination of its ground water and massive sewage pools which are breeding grounds for mosquitoes, Fortis Memorial Research Institute has pledged to provide basic medical amenities to the village inhabitants.

ACTIVITIES:

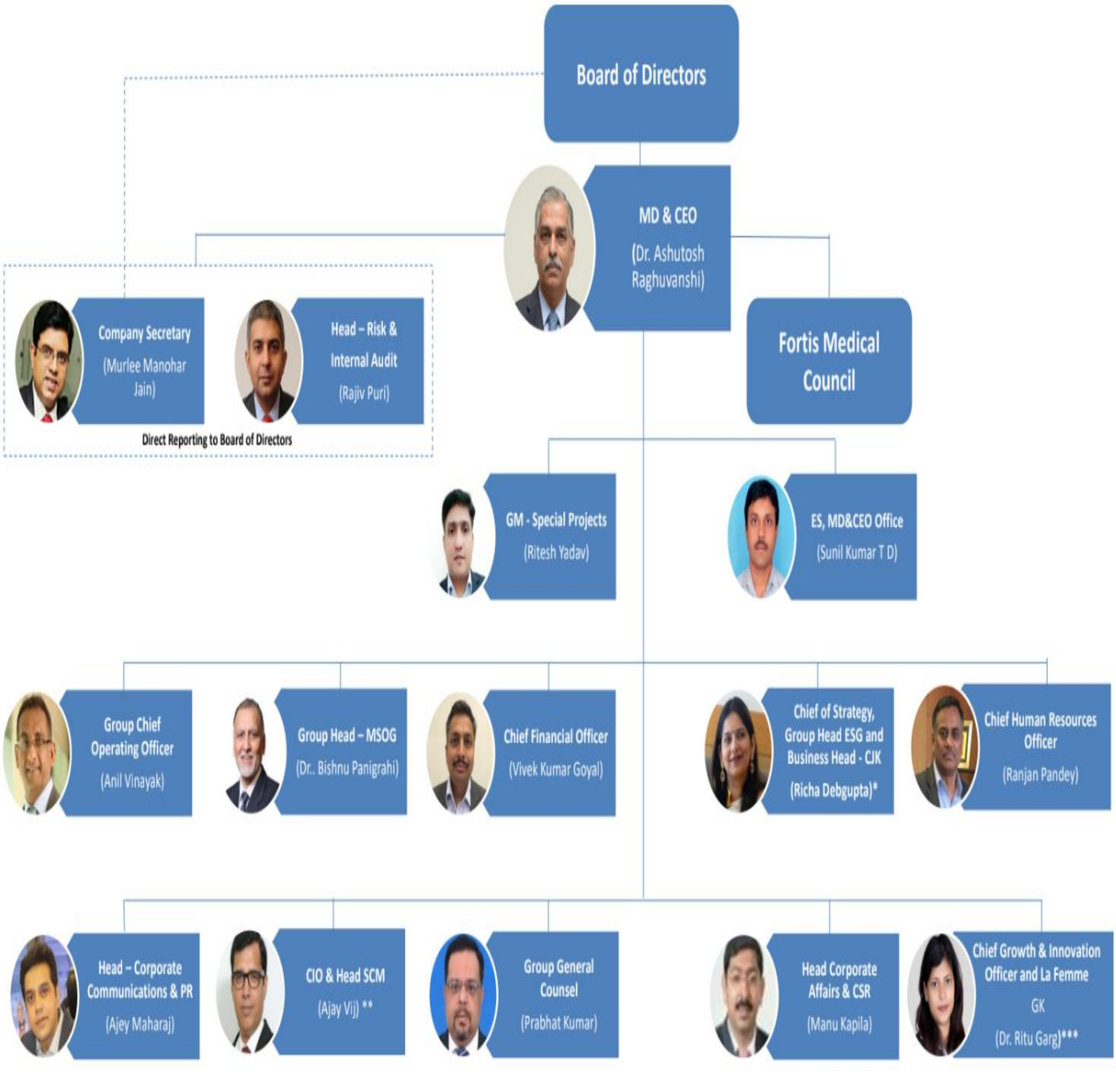
OPD on every Saturday

Distribution of basic medicines

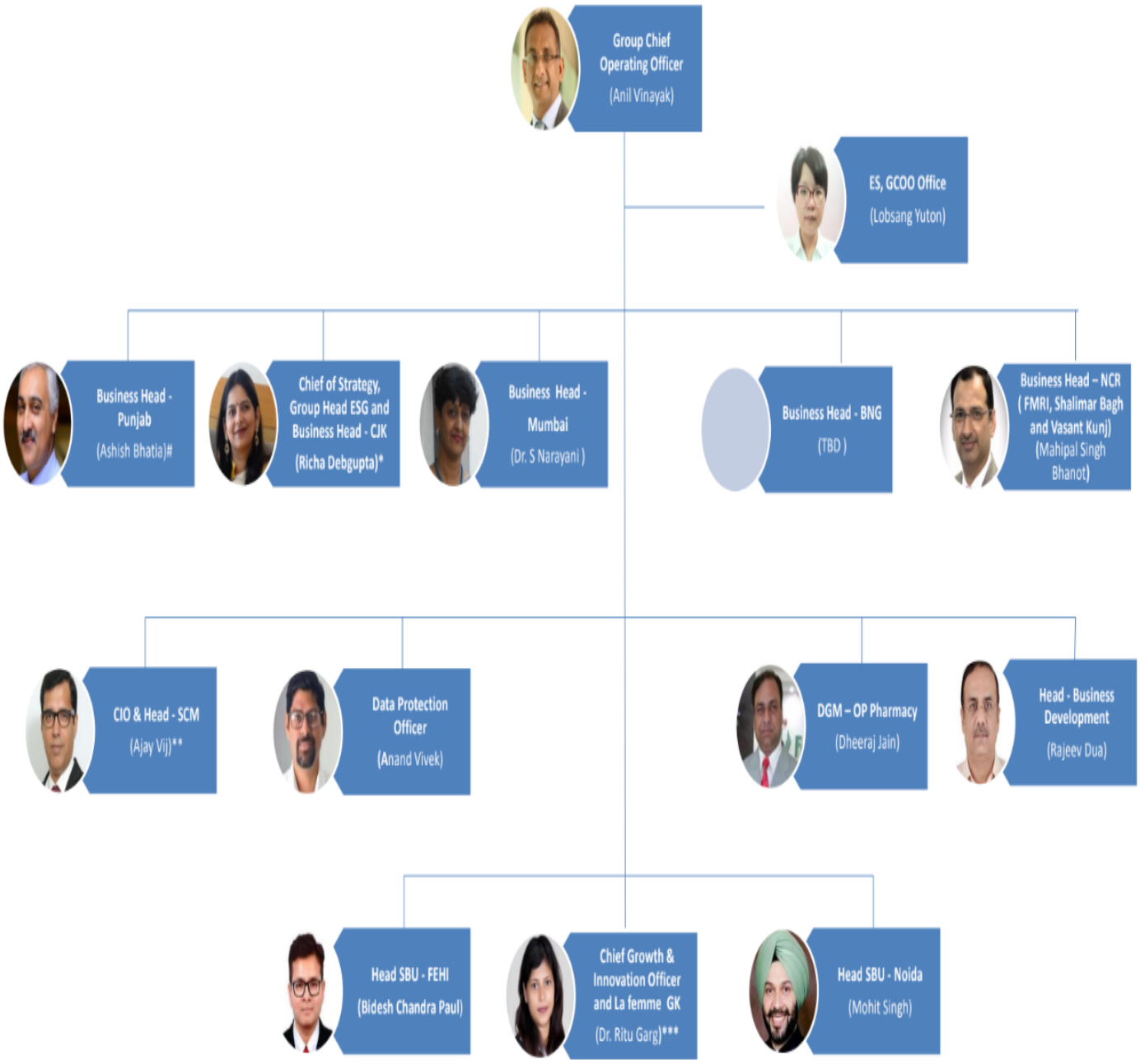
6. **Discounts to villagers on OPD and IPD services at FMRI**

As part of its CSR program, FMRI has also adopted two government schools at Bhangrola. The institute provides basic medical services to the students through regular health check-ups along with hygiene and sanitation drive, plantation activities, maintenance of gardens. Besides this, FMRI also offers major medical assistance to students who are suffering from congenital heart diseases through our collaboration with Being Human.

ORGANIZATIONAL STRUCTURE



Operations


Group Chief Operating Officer
(Anil Vinayak)
ES, GCOO Office
(Lobsang Yuton)
Business Head - Punjab
(Ashish Bhatia)#
Chief of Strategy, Group Head ESG and Business Head - CJK
(Richa Debgupta)*
Business Head - Mumbai
(Dr. S Narayani)
Business Head - BNG
(TBD)
Business Head – NCR (FMRI, Shalimar Bagh and Vasant Kunj)
(Mahipal Singh Bhanot)
CIO & Head - SCM
(Ajay Vij)**
Data Protection Officer
(Anand Vivek)
DGM – OP Pharmacy
(Dheeraj Jain)
Head - Business Development
(Rajeev Dua)
Head SBU - FEHI
(Bidesh Chandra Paul)
Chief Growth & Innovation Officer and La femme GK
(Dr. Ritu Garg)***
Head SBU - Noida
(Mohit Singh)

PROJECT REPORT

Introduction

It's an intricate process to admit a patient in the hospital. If not managed properly then it can lead to delay in bed allotment which would ultimately affect patient experience.

Waiting for admission process to begin and for the staff to start with admission paper work can be very time consuming especially when there are other patients also waiting to get admitted. Such admission process can be emotionally and physically challenging for patients who are sick and are waiting for their treatment to get started. Admission process whether planned or unplanned, requires careful coordination among nurses, doctors and admission staff within the organization. Un-coordinated admission processes can lead to long wait time for bed, increase Patient dissatisfaction, cause staff frustration and delay in treatment or OT procedure of the patients.

Rationale

This study is conducted with an intend to find out bottlenecks in the admission process and ways to improve it.

During my dissertation, I worked in patient experience team which is part of quality department. The prime job of patient experience team is to make sure that all service-related issues be it medical or non-medical are resolved and a patients stay is comfortable at the hospital. One of the routine works of patient experience is to call up patients after their discharge to understand how their stay was and if they faced challenges during their stay at the hospital. Then the team finds out if the patient had shared those concerns to someone from the team during their stay and if they did then why those issues were not resolved. Also, patient experience team reminds patients who get discharged to fill up SMS feedback about their stay at the hospital. Data collected from these feedbacks are automatically analysed and the PDMS software of the hospital, which can be later on used by the management to improve on areas of concern.

Problem statement

On collected SMS feedback from patients who got discharged in the month of march, it was analysed by PDMS that majority of patients were dissatisfied due to admission process and bed allotment. Few patients had complained that the admission process was very long because of all the formalities and paper work, while others had raised concern that the waiting time for bed allotment was very high and some had raised the issue of only one staff being available at the admission counter mostly.

Objective

General objective

To find out reasons which have led to a delay in admission process and find out ways to resolve it.

Specific objectives

- To find reasons in admission delay of a patient – using a fish bone diagram.
- Discover ways to reduce time taken in admissions

Methodology

In the month of April-May, admission process was observed of patients at random who were coming for admission process during morning, afternoon and evening. The aim was to observe and look into each detail of the process to find out reasons in delay during admission.

Mode of data collection: Secondary data collection – by PDMS software of the hospital

Data Analysis: data will be automatically analysed in the PDMS software of the hospital as per the SMS feedback which is sent to the patients post their discharge.

Sampling technique: Convenience Sampling

Study period: The study was conducted from 1st march to 30th may 2022

Study area: Fortis Memorial Research Institute, Sector - 44, Opposite HUDA City Centre, Gurugram, Haryana 122002

	Admission process	**SMS feedback form (IPD discharges)**
Sample size	40 patients	All the patients who got discharged from IPD and filled up the SMS feedback form
Data collection tool	Checklist	PDMS software
Analysis	Fishbone diagram	PDMS software

Literature review

- Yuzeng Shen and Lin Hui Lee et al., 2019, conducted a study at Singapore General Hospital (SGH) and later published a paper on Improving the wait time to admission by reducing bed rejections. According to the authors One of the main reasons to long wait time for admission was because the IPD nursing staff would refuse to take new admission on bed that was allotted by bed manager. It was found that major time that is taken during admission process is due to bed allotment, as bed manager would put a request to move out discharge patient from the bed, but it would take very long for nursing to physically move out the patient, thus leading to long wait time for bed allotment for the next patient.
  Author suggested the use of PDSA (Plan, Do, Study, Act) cycles to implement a series of interventions, such as updating legacy categorisation of wards, instituting a 'no rejects' policy and performing ward level audits. Improvements in the absolute duration and variance of wait times were sustained. Although the team's initial incentive was to improve wait time for bed allotment, this hospital-wide effort improved wait times across all admission sources. There has been a resultant increase in ownership of the admissions process by both nursing and admission staff.

- Mohammad A Tashkand et al., 2019, conducted a retrospective study at Al-Noor Specialist Hospital, Makkah, Saudi Arabia, and the author after a detailed ground work has highlighted realistic problems

faced by already admitted patients, which have a cascading effect on delays faced in fresh admissions. According to the author, out of admitted patients 67% were delayed mainly due to late advised admission with major reason of delay being multiple consultations. Also, last minute changes in discharge plan of existing patient in ward was another retarding factor which can be adequately addressed through regular supply of primary wards allocated to special wards.

STUDY	OBJECTIVE	METHODOLOGY	RESULT
Yuzeng Shen and Lin Hui Lee et al	-Improving the wait time to admission by reducing bed rejections -Recognized this as the major issue and through this quality improvement effort, seek to reduce the frequency of bed rejections for all admitted patients by 50% from 9% to 4.5% within 6 months.	Study design: cross sectional Study area: Singapore General Hospital (SGH) Duration: From April 2017 to May 2018 Study size: data from 65 000 admissions Study analysis: PDSA cycle	the monthly average for rejected BMU allocation requests reduced significantly from 9% to 5% ($p<0.01$). Correspondingly, the monthly percentage of patients with at least one rejection dropped from an average of 7% to 4% ($p<0.01$)
Mohammad A Tashkent et al	This study highlighted the reasons which contributed to longer stay of patients in Emergency Department (ED) who were advised admission.	Study design: retrospective study Study area: Al-Noor Specialist Hospital, Makkah, Saudi Arabia Study period: This study was conducted from August 4 to 11, 2004 Study size:4786 IPD patients Study analysis: SPSS	Out of total 4876 visits during study period, 355 (7.3%) patients were admitted, and 238 (67%) were delayed. Age group 13-30 years was common in delayed 78 (32.8%) and not delayed 56 (47.9%) subjects.

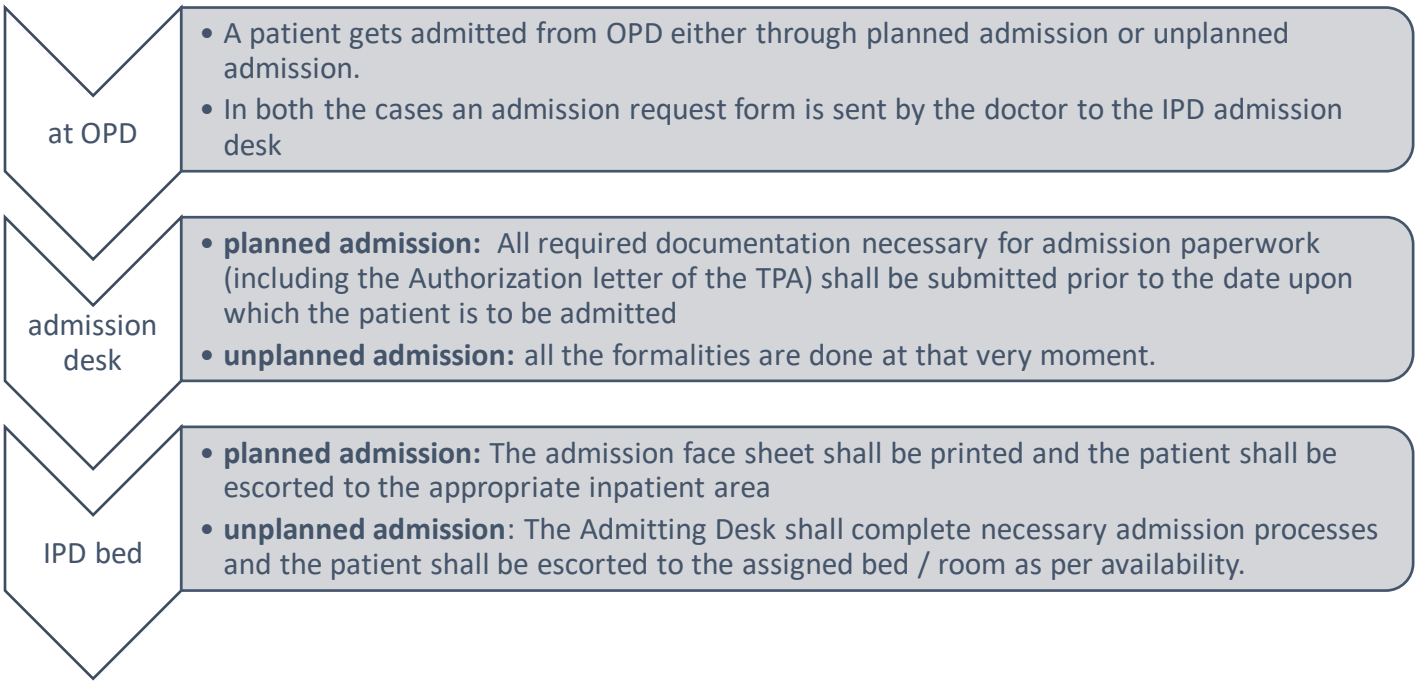
ADMISSION PROCESS LAYOUT

Important steps which are to be followed for all type of admissions:

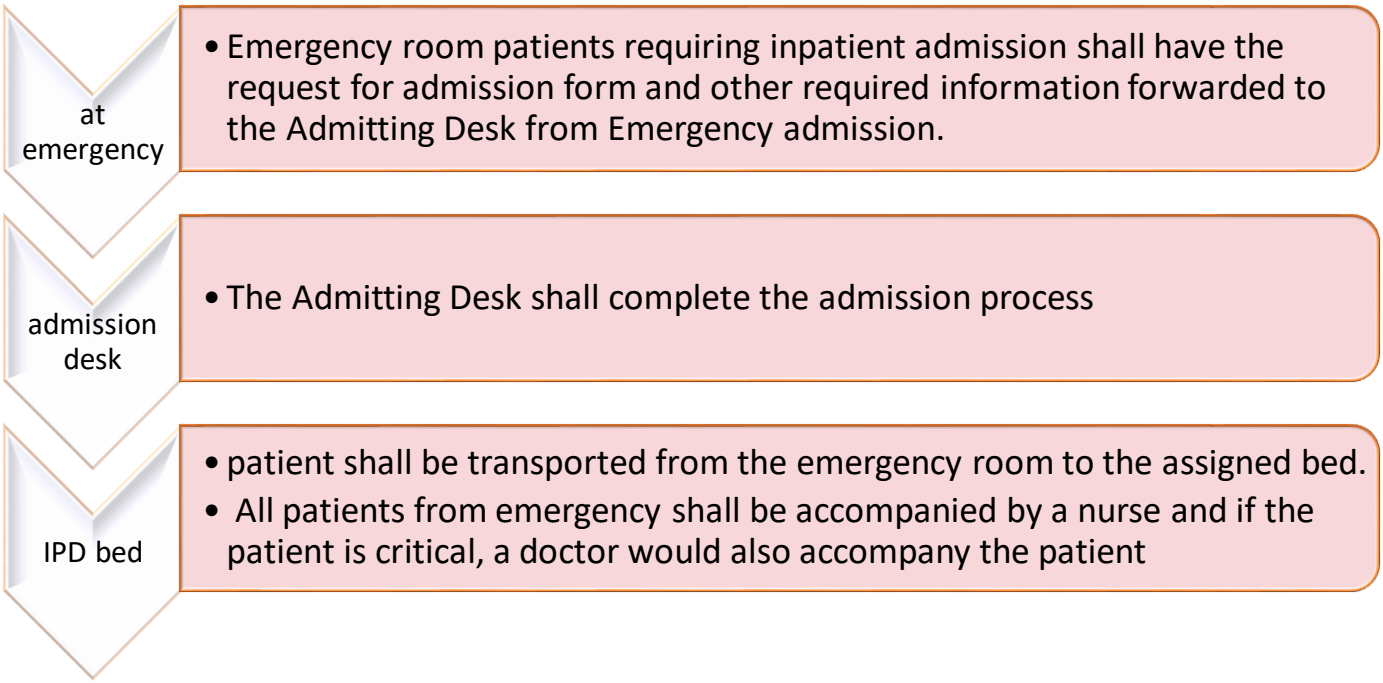
- The Doctor shall fill up the *Admission Request Form*.
- Acceptance of non-emergent admissions shall be made after verifying availability of beds through Admitting Desk/Emergency.
- All credit patients (Corporate, TPA) shall require *a preauthorization letter* in case of planned admission.
- In case patient has come through Corporate / TPA then security deposit (refundable) is taken as per patient admission type.
- Acknowledgement of dues is also taken from the attendant.

Admission can happen by 2 ways:

1. **Through OPD/ doctors chamber**: in this case a doctor gives admission request form from the OPD which is then submitted to admission desk.



2. **Through emergency:** happens if patient needs emergency admission to Cath Lab, OR, ICUs



Below mentioned are the formalities that a patient needs to undergo at the time of admission:

- Registration: details like- Name, Age, Gender, Address is taken and system generated UHID is provided to the patient.
- Admission Request Form: it is the Information documented in Admission Slip which facilitates the organization to understand the type of service to be provided to the patient (e.g., Medical, Surgical)
- Counselling: it is done in order to facilitate the patient to decide on 2 factors:
  - Category of room for stay during hospitalization
  - Package/ Non package for surgery
- Billing: a financial consent is taken from the patient.
- Patient handbook: finally, when all the documentation and paper formalities are done, an In-patient guideline is handed over to the patient with Patient's right and responsibilities.

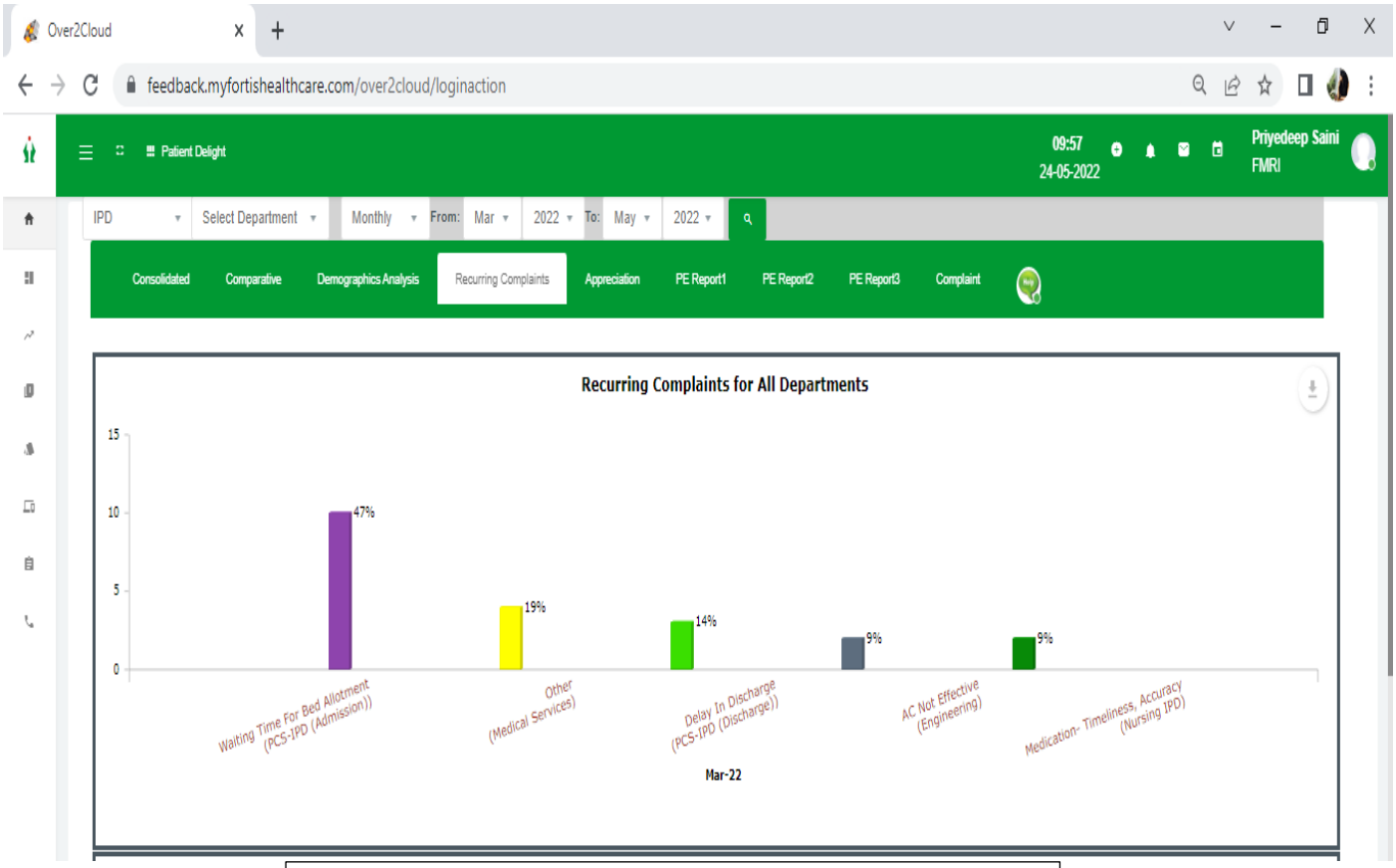
Analysis

March 2022

SMS feedback forms are autogenerated by the hospital IT system. These forms are automatically sent after 24 hours to the registered mobile number of the patients who get discharged. All the SMS feedbacks filled up by patients were analysed by PDMS software. As a result, to the analysis, it was found that majority of the patients were dissatisfied from hospital services due to delay in their admission process.

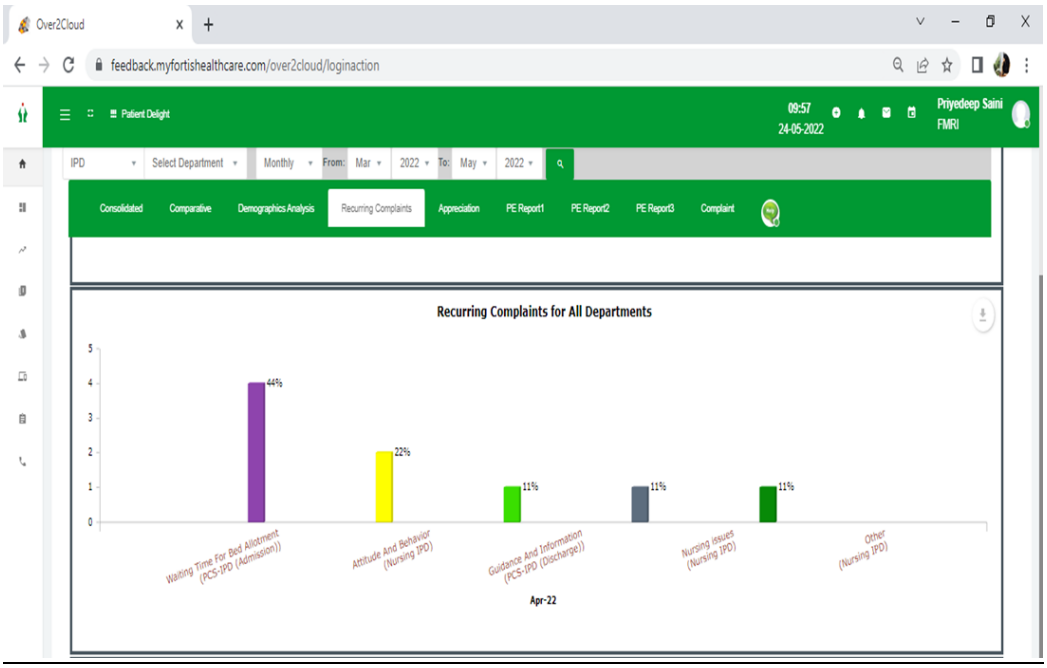
Many Patients had to wait for 6 to 8 hours many a times as beds were not available and IPD patients who had already been discharged would not clear the room on time due to:

- long-time taken in TPA approval for final bill settlement
- inability of GDAs in getting wheelchairs on time
- delay in producing discharge summary by the hospital
- delay in giving out blood/ MRI/ CT scan/ endoscopy reports to the patient.



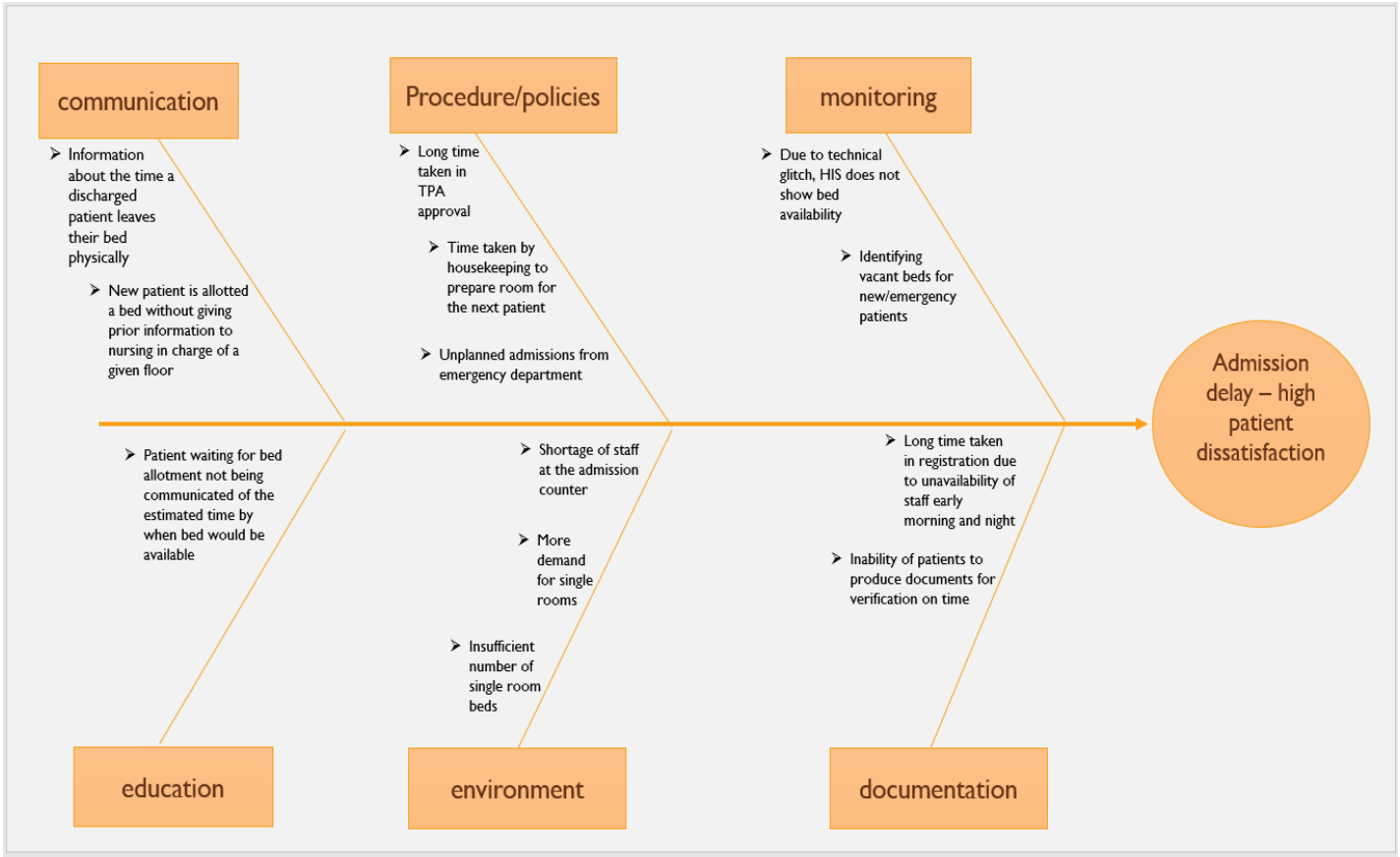
Autogenerated report for month of March in PDMS software

April 2022



Autogenerated report for month of April in PDMS software

Looking at the statistics given out by PDMS for month of may and april , admission process was closely studied in the month of april to find out bottlenecks which led to long delay in admission process. Admission process was observed using a cheaklist (anexure 1). Depending of the observations made, analysis of the admission process was done using a fishbone diagram.

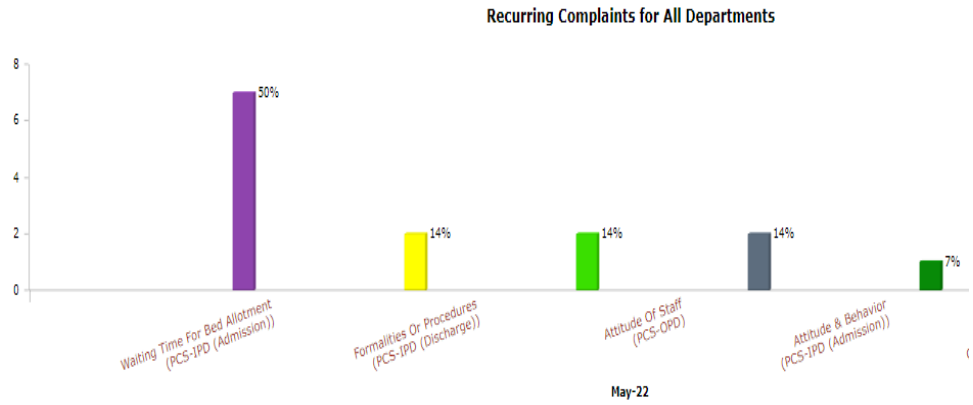


Fish bone diagram- showing reasons which led to a delay in admission process

Underneath are the major reasons listed for a delay in admission process:

- communication: bed manager is not communicated about the time when a patient physically leaves their room, thus a lot of time it happens that bed manager allots a bed to a patient while the other patient is still on that bed.
- Education: new patients who come in for admissions are not informed about the estimated time that it would take to allot a bed, thus this leads to long waiting time for that patient to seek treatment in the hospital.
- Procedure/policies : There is a lot of delay in getting a patient discharged from the hospital, majorly to due a delay in tpa approval for settling bill. This leads to a delay in time which housekeeping takes to prepare a room for the next patient. Thus it further leads to long wait time in getting the patient admitted to IPD.
- Environment: there is usually only one staff at the admission desk during early morning and late in evening. It takes around 20 mins per admission and when 10 patients come for admission at the same time, it gets difficult for 1 staff to assist all of them at the same time. Thus this also leads to delay in admission process.
- Monitoring: due to technical glitch it is difficult for bed manager to find out number of available beds in the hospital. Also at times when the patient is in OT, the system shows their bed vacant when in reality the patient would again come back to the same bed after their procedure.
- Documentation : many times admission staff asks planned admission to come next day around 6 to 7 am, to which the patientsarrive on time but then there is no staff avaialble at that time to get the admission process started. This leads to patients getting piled up for admission and by the time a staff arives there are already 5-6 patients waiting. Thus this leads to a delay in the admission process.

May 2022



Autogenerated report for month of May in PDMS software

looking at the trend of the data for the month of march, April and May, it was evident that there was a high demand for single rooms. Majority of the patients requested for a single room at the time of admissions and they would want to directly get admitted to a single room instead of taking what was available at the time of admissions. This was a major reason to a delay in bed allotment as there was high demand for single rooms and low availability for it.

Recommendations

1. **Single rooms:** Looking at high demand for single rooms, management decided to construct 30 more single rooms on the 5th floor. A contract has been given to a 3rd party stakeholder for construction of these rooms. Aim is to get the rooms ready by 30th July 2022. Once these rooms are available for patients, it has been estimated that the percentage of dissatisfied patients with bed allotment should significantly go down.
2. **With artificial intelligence:** AI can help predict discharges 5 days prior to actual discharge using data from HIS and doctor speciality. For some doctors (ENT patient usually gets discharged in 2-3 days, while for other specialities (neuro surgery) patients usually gets discharged in 7-10 days. This trend can be predicted using AI, which will help in giving out maximum number of planned discharged for the following day or for next week.
3. **Planned discharges:** floor managers can give out planned discharges 2 days in advance to the bed manager. This will help better in allotting beds to planned admissions and patient would not have to wait for a bed to get available on the day of admission.
4. **More staff:** management should hire more staff for admission process as there are usually 1 or 2 staff doing admission paper work of 9-10 patients at a time. This leads to a lot of delay in admission process. Thus, appointing more staff, would reduce work load and improve efficiency.
5. **Timely reports by laboratory:** most of the planned discharges end up leaving their bed after 12 pm as many at times there is a delay from laboratory in providing reports to the patient for the tests done. To solve this, lab must strictly follow TAT for giving out reports and must keep discharged from inpatient department on priority.
6. **Counselling:** Proper counselling of the patients should be done, about the exact time by when a bed would be available for their admissions
7. **TPA approval:** For planned admissions, financial clearance and TPA approval should be taken one day in advance.

Conclusion

The study on "In- patient admission process – challenges faced and steps for improvement" helped to find out reasons which led to a delay in admission process at FMRI Gurugram. A fishbone diagram was used to observe and find out reasons which led to a delay in admission process. Many Patients had to wait for 6 to 8 hours as beds were not available and IPD patients who had already been discharged would not clear the room on time due to: long-time taken in TPA approval for final bill settlement, inability of GDAs in getting wheelchairs on time, delay in producing discharge summary by the hospital and a delay in giving out blood/ MRI/ CT scan/ endoscopy reports to the patient.

We also found out that there was a high demand for single rooms for which management later recommended to construct 30 more single rooms. This will help in bringing down number of patients dissatisfied with bed allotment. But this solution will not help the management in the long run, as there will always be a high demand for single rooms looking at the demographic location of the hospital, which means that majority of the patients who come to FMRI can afford cost of a single room thus always prefer for the same. To make the admission process convenient, management should take steps that are sustainable and would help in bed allotment as well as the admission process in the long run.

References

1. balaji Dr ramachandran, m. b. (2018). bed managment optimization. In m. lee, *bed management .* infosy navigate your next .
2. Forneas, N. (2018). Improving hospital bed management with AI. *https://www.ibm.com/blogs/client-voices/*.
3. Y. a, Lee. (2019). Improving the wait time to admission by reducing bed rejections.
4. Y. a, Lee. (2019). Improving the wait time to admission by reducing bed rejections. *PMC pub med central*.
5. R. s, ling. (2017). *LEVERAGING SIX SIGMA TO IMPROVE HOSPITAL BED AVAILABILITY.* Lafayette, Louisiana: isixsigma.
6. Mohammad A Tashkandy, Z. J. (2004). Reasons for delay in inpatient admission at an emergency department. *pbmed.gov*.
7. https://www.fortishealthcare.com/india/fortis-memorial-research-institute-hospital-in-gurgaon
8. https://www.fortishealthcare.com/csr
9. https://www.fortishealthcare.com/about-us

Checklist for observing admission process (Annexure 1)

S. NO	Patient Name	time at which patient/attandant came to the admission counter	planned/ unplanned admission	Registration done (yes/no)	Admission request form	counselling done for room rent and type of room (yes/no)	**for planned admission** - a preauthorization letter from TPA (yes/no)	**for unplanned admission**, refundable cash deposite done (yes/no)	financial consent form being filled by patient/attandant (yes/no)	Bed allotment done (yes/no)	Time when patient/attandant leaves admission counter	if bed was not alloted then time at which bed was alloted	**NOTE** (incase there was a delay at any step)
1													
2													
3													
4													
5													
6													
7													
8													
9													
10													
11													