Summer Placement

At

Max Super Speciality Hospital, Shalimarbagh, New Delhi

(April 8 –June 6, 2013)

Waiting time for consultation in the Outpatient Department-Status

Dr. Smita Saxena

2012-14

Post-graduate Programme in Hospital & Health Management,

Institute of health management research, Jaipur

ACKNOWLEDGMENT

INSTITUTE OF HEALTH MANAGEMENT RESEARCH
1, Prabhu Dayal Marg
Sanganer Airport, JAIPUR - 302 011, INDIA
Tel. : 3924700, 2791431-32
Fax : 91-141-3924738
E-mail : iihmr@iihmr.org
URL : http://www.iihmr.org
Gram : HEALTHINST

CERTIFICATE

This is to certify that, Dr.Smita Saxena, student of Post Graduate Diploma in Hospital and Health management (PGDHM) from Institute of Health Management and Research, Jaipur has undergone summer training at Max Super Specialty Hospital, Shalimar Bagh, New Delhi from April 8th – June 6th, 2013.

The candidate has successfully carried out the studies assigned to her during summer training and her approach to the studies has been sincere, scientific and analytical.

I wish her success in all her future endeavors.

Brig.S.K Puri (Retd)
Advisor and Mentor
IIHMR, Jaipur

Dr.Ashok Kaushik
Dean,Academic and Student Affairs
IIHMR, Jaipur

MAX HEALTHCARE
Super Speciality Hospital

Max Super Speciality Hospital
FC-50, C & D Block Shalimar Bagh,
New Delhi-110088.
Phone: +91 11 49782222, 66422222
Fax: +91 11 49782233, 66422233

June 6,2013

TO WHOM IT MAY CONCERN

This is to certify that **Dr. Smita Saxena** D/o **Mr. J.N. Saxena** a student of PGDHM from IHMR,Jaipur has successfully completed summer training from **April 8, 2013 to June 6, 2013** at Max Super Speciality Hospital, Shalimar Bagh, New Delhi.

Following projects were undertaken by her:

1. Waiting time for consultation in outpatient department – status.
2. Assessment of Safety, Health and Environmental issues across various departments of MSSH.
3. Implementation of 5'S in report dispatch area.
4. Assessment of patient medication in Inpatient department (BCMA- Bar Coded Medication Administration)

During the period of her training with us, she was found punctual, hardworking and inquisitive.

We wish her every success in life.

Your Sincerely,

Sweety Singh
Head – Human Resources

I take this opportunity to express my gratitude to the people who have been instrumental in the successful completion of this project

I show my greatest regard to my mentor Brig.S.K.Puri (Advisor, IIHMR, Jaipur) for helping me out and guiding me during my summer training.

I would like to express my deepest gratitude to Sr. Manager Quality**, Mr. Bharat Laroyia** at Max Healthcare, Shalimarbagh, New Delhi for his excellent guidance, patience and providing great opportunity to work. I would like to extend my sincere thanks to **Dr. Ajju Agnothri** (HOD, Blood Bank) who always guided me in difficult times of my work.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF GRAPHS

ABBREVIATIONS

IP – Inpatient

OPD – Outpatient department

CPRS – Computerized patient record system

GDA – General duty assistant

HIS – Hospital information system

TPA – Third party administrator

PCC – Patient care coordinator

PCE – Patient care executive

TCEQ – Total Customer Experience Questionnaire

EWS – Economically weaker section

HOSPITAL PROFILE

Max Super Speciality Hospital, Shalimar Bagh (MSSH) is a multi-speciality hospital, owned and operated by Max Healthcare Institute Limited (MHIL).

Designed by internationally renowned architect Mr. Richard Wood and constructed in conformity with globally accepted standards for hospitals, MSSH covers approximately 2 lakh 98 sq. ft. spread over 12 floors. Max Healthcare now extends its personalised service to the people of Shalimar Bagh. This Super Speciality Hospital caters to the healthcare requirements of North, North-West Delhi & Eastern parts of Haryana and is backed by state-of-the-art medical equipments along with emergency & intensive care infrastructure.

Max Super Speciality Hospital, Shalimar Bagh is a centrally air-conditioned hospital with a total bed capacity of 300 beds. The hospital is designed to provide highest level of professional expertise and world class care in Comprehensive Cardiac Sciences, Minimal Access, Metabolic & Bariatric Surgery, Neurosciences, Orthopaedics & Joint Replacement, Trauma & Critical Care, Urological Services and all Support Specialties.

- **Scope and Facilities**
  - OPD
  - Emergency
  - Trauma & Critical Care
  - Inpatient Services
  - Preventive Health, Pre-employment health & Pre-insurance health check-ups
  - Laboratory and Diagnostics
  - Pharmacy
  - Support Services

Max Hospital, Shalimar Bagh is built on the strong foundation providing services in aforesaid departments.

All of these departments have separate scope of services & policies related to patient care. These form the basic working guidelines for the hospital which is under the aegis of vision & mission of Max Healthcare.

Out Patient Services

MSSH, Shalimar Bagh is equipped to render complete services for treatment of emergency, acute, routine and follow up care for patients of all age groups. The outpatient services are provided in the following specialities:

1. Aesthetic & Reconstructive Plastic Surgery
2. Minimally Access Metabolic & Bariatric Surgery
3. Cardiology
4. CTVS
5. Dermatology
6. Dentistry
7. Dietetics
8. Endocrinology
9. ENT
10. Gastroenterology
11. General surgery
12. Gastro-Intestinal Surgery
13. Gynae MAS
14. Paediatric Surgery
15. Internal Medicine
16. Mental Health & Behavioural Sciences
17. Neurosciences
18. Nephrology
19. Obstetrics & Gynaecology
20. Ophthalmology
21. Orthopaedics
22. Paediatrics & Neonatology
23. Paediatric Surgery
24. Podiatry
25. Respiratory Medicine
26. Physiotherapy & Rehabilitation

27. Urology

28. Vascular Surgery

29. Preventive Health Programme

- **Emergency**

The Emergency Department specializes in focusing on triaging, diagnosing, providing primary care and treatment of acute illnesses and injuries that require immediate medical attention.

The emergency department also provides the ambulance services for transporting critically ill patients or stable patients who require transportation. We have internationally trained Physicians in the field of Emergency medicine.

In patient services department

The IPD provides

- The detailed pre-procedure needs and their completion and coordination with the diagnostics to arrive at diagnosis and completion of treatment regimens
- The comprehensive care in the preoperative, postoperative and follow up care.
- The rehabilitative and nutritional regimen and their scientific amalgamation as per the progressive patient care need.

- **Pharmacy**

The pharmacy department provides expertise in proper storage, stocking, dispensing and facilitating the administration of medication. The pharmacy ensures round the clock availability of medication for the out patients as well as the inpatients of the hospital.

Preventive Health& Pre- employment medical check- up

Preventive Health Programme is committed to the old adage "prevention is better than cure".

The preventive health programme comprises of a comprehensive set of tests, which have been specially designed keeping the health needs of people in mind.

The Diagnostic services have state of the art technology, equipment, highest level of environmental controls and fully trained and experienced staff who are dedicated to the care of patients.

- **Diagnostics**
  - **Laboratory**
    - Biochemistry
    - Haematology
    - Immunology
    - Microbiology
    - Cytology
    - Frozen Section
    - Clinical Pathology
  - **Radiology & Imaging Services**
    - X-Ray
    - CT Scan
    - Ultrasound
    - Mammography
    - MRI
    - Fluoroscopy
  - **Cardiology**
    - ECG
    - TMT

- Echocardiography
- Stress Echocardiography
- Holter

- **Nuclear Medicine**
  - Bone Scan
  - Thyroid Scan
  - Renal (DTPA/DMSA) Scan
  - Stress Thallium
  - RBC scan
  - Meckal Scan
  - HYDA Scan
- **Neurology**
  - EEG
  - EMG
  - NCV
- **Gastroenterology**
  - ERCP
  - Endoscopy
- **Pulmonology**
  - Bronchoscopy
  - Sleep Study
  - PFT

- **Urology**
- Urodynamics

- **Support Services:**
  - Front office
  - IP Billing

- Food and Beverages
- Housekeeping
- Medical Records Department
- Engineering
- Biomedical Engineering
- Security
- HR & Training
- Administration
- IT
- LSS
- Commercial
- Accounts
- Marketing

Facility Layout

- The Floor wise Distribution of MSSH, Shalimar Bagh:

Floor	Patient Care Services
Lower Basement	Engineering Installations (LT Panel, Chillers), Engineering Office, Local Sub Store
Upper Basement	IP Pharmacy, Housekeeping Store ,CSSD, Call Centre, Bio Medical Engineering Office, Security Control Room, Uniform & Linen Room, Staff Change Rooms, Mortuary, Bio Medical Waste Room, IT Server Room, MRD
Ground Floor	OPD/Preventive Health Program, OP Registration, IP Admission & Discharge, MRI, CT, Fluoroscopy,X-ray,Ultrasound,Mammography, Emergency Resuscitation & Observation, Emergency O.T, Nuclear Medicine, CCU, ECG, TMT,ECHO, Holter, EEG, EMG,Phlebotomy, Plaster & Treatment Room, Visitor Cafeteria, OP Pharmacy
First Floor	O.T Complex (6 O.T's), Pre-post O.T, TSSU, O.T Store, Labour Room, Caesarian O.T, Nursery & Pre-post Labour, Ambulatory Care (Day Care Room , Day Care O.T, Endoscopy Suite, Lithotripsy), Cath Lab, Pre-post Cath, CTVS ICU
Second Floor	MICU, SICU, Neuro ICU, PICU, NICU, HDU, Blood Bank, Dialysis Unit, ICU Patient Attendant Waiting Area
Third Floor	Physiotherapy, Lab, Doctors Lounge, Kitchen, Staff Cafeteria
Fourth Floor	Administrative Offices, HDU, IP Rooms
Fifth – Ninth Floor	IP Rooms

Bed Strength and Distribution Area wise

MSSH, Shalimar Bagh has 150 operational beds as under:

Ground Floor	4
Second Floor	26
Fifth Floor	41
Sixth Floor	41
Seventh Floor	**38**
Total	**150**

Bed Distribution Category wise

Category	Ground	Second	Fifth	Sixth	Seventh
Economy Beds	0	0	8	8	8
Single Room	0	0	13	13	10
Double Room	0	0	20	20	20
ACCU	4	0	0	0	0
CTVS ICU	0	4	0	0	0
MICU	0	10	0	0	0
SICU	0	4	0	0	0
PICU	0	4	0	0	0
NICU	0	4	0	0	0

Total	**4**	**26**	**41**	**41**	**38**

Hospital will be fully operational with 288 beds as under –

Ground Floor	8
First Floor	20
Second Floor	55
Fourth Floor	29
Fifth Floor	41
Sixth Floor	41
Seventh Floor	41
Eighth Floor	41
Ninth Floor	12
Total	**288**

Bed Distribution Category wise

Category	Floor								
	Gnd	1st	2nd	4th	5th	6th	7th	8th	9th
Economy Beds	0	0	0	10	8	8	8	8	0
Double Room	0	0	0	8	20	20	20	20	0
Single Room	0	0	0	2	13	13	13	13	0
Classic Deluxe	0	0	0	0	0	0	0	0	8
VIP Suite	0	0	0	0	0	0	0	0	4
HDU	0	0	8	9	0	0	0	0	0
PICU	0	0	8	0	0	0	0	0	0
NICU	0	0	13	0	0	0	0	0	0
SICU	0	0	8	0	0	0	0	0	0
MICU	0	0	10	0	0	0	0	0	0
Neuro ICU	0	0	8	0	0	0	0	0	0
CTVS	0	8	0	0	0	0	0	0	0
CCU	8	0	0	0	0	0	0	0	0
Daycare	0	12	0	0	0	0	0	0	0
Total	**8**	**20**	**55**	**29**	**41**	**41**	**41**	**41**	**12**

- The defined services are prominently displayed at various places so that they are easily visible to the patients entering the organization.

- Services not included in the scope of MSSH, Shalimar Bagh are:
  - Radiation Oncology
  - Bone Densitometry.
  - Treatment of major burns patients
  - Major Transplants (Liver, Kidney)
  - Treatment of Infectious Diseases

Vision – Mission Model

Passion – build trust

Vision- deliver international class health care with a total service focus, by creating an institution committed to the highest standards of medical and service excellence ,patient care, scientific knowledge ,research and medical education.

Mission –

- Create exceptional standards of medical and service excellence
- Care provider of first choice
- Principal choice for physicians
- Ethical practices
- Create international centre of excellence for select super specialities.
- Safety- patient, customer, staff.

Out Patient Department

Front office and outpatient department is the mirror of the hospital, which reflects the functioning of the hospital being the first point of contact between the patient and the hospital staff.

Patients visit the OPD for various purposes, like consultation, day care treatment; investigation, referral, admission and post discharge follow up. Not only for treatment but also for preventing and promotive services like, health check up, Immunisation, Physio-therapy and so on.

Front office at MSSH is composed of PHP, CALL CENTRE, IP Admission and Billing, Report collection along with OPD

The importance of front office and OPD lies in the following:

- Front office is the first point of contact with the hospital and the entry point into the healthcare delivery system.
- It is an inseparable link in the hierarchical chain of healthcare facilities
- It contributes to the reduction in Morbidity and Mortality
- It's a stepping stone for health promotion and disease prevention
- It facilitates the admission process to inpatient wards.
- It acts as a filter for inpatient admissions, ensuring that only those patients are admitted who are most likely to benefit from such care.
- It's the "shop window" of the hospital."

Functions of OPD and front office:

- Early disgnosis, curative, preventive and rehabilitative care.
- Effective treatment on ambulatory service.
- Screening for admission to hospital.
- Follow up care and care after discharge.
- Rendering of preventive health care.
- Admission and discharge of in patients.

OPD and front office influences the patient's sensitivity to the hospital and patients also look for hassle free and quick services, therefore it is essential to ensure that front office services provide an excellent experience for customers and this is only possible with optimum utility of the resources.

RATIONALE OF THE STUDY

Outpatient service is the most important service provided by all the hospitals as it is the point of contact between a hospital and the community. Many patients gain there fist impression of the hospital from the outpatient department.

Successful and efficient management of OPD can lighten the burden on patient ward. Increasing competition in health care sector has made it necessary to improve satisfaction of patient and staff, and front office becomes a key area which can make or mars the reputation of the hospital.

In today's fast growing world, customer is looking for hassle free and quick services. Meeting the customer requirement by the medical institutes with its limited resources is the challenge. Therefore, periodical study of process and services of front office is required for continuous improvement to achieve service excellence.

The study was conducted at the front office of Max Super Specialty hospital, Shalimar Bagh.

Therefore it was felt that there is a need to study the processes, functioning of all departments, identify the customer related issues at various contact point and analyze the finding. The finding of the study would serve as guideline for information for future improvement, modification in the knowledge, processes, use of facility and optimum utilization of human and material resources.

OPD services in hospital are having queuing and waiting time problems.

Various factors affecting the services of OPD are:-

- Arrival pattern or input rate of patient at the central waiting area
- Service time of various clinics of OPD

Since the number of consumers is large and the treatment should be given within a day the bottlenecks w.r.t. the same must be identified and dealt with.

OBJECTIVES

The study was undertaken with the following objectives:

1. To determine waiting time for consultation in OPD
2. To determine flow of patient in the OPD
3. To determine delays from arrival till the time patient reaches front office desk
4. To understand the bottlenecks in the patient flow w.r.t. shortage of OPD chambers, non availability of consultant and inadequate training of PCC's(patient care coordinator)
5. To analyze the collected information and suggest recommendations for the same

REVIEW OF LITERATURE

A study on out patient satisfaction at a super speciality hospital in India

Dr. S. K.Jawahar MHA (AIIMS). DNB (Health Administrator)

The study was conducted among 200 patients attending OPD of Sree Chitra Tirunal institute for medical sciences and technology, thiruvananthapuram, Kerala. The study was done to know the satisfaction level of patients and also get a feedback about the services provided in the outpatient department. The patients were randomly selected from various specialities. In order to get the details from patients, a questionnaire was designed to include question eliciting awareness of patients about the outpatient department services, logistic arrangements, waiting time, facilities, behaviour of staff and support services.

It was found that majority of the patients are satisfied with the clinical services provided. It was noted that there is a scope for improvement of the outpatient department services. It was concluded that OPD services form an important component of hospital services and feedback of patients are vital in quality improvement.

Inter-Relationship between Clinical Departments in Treating Outpatients.

Dr. S.r. Shambulingaiah

The study was taken up in the set up of SDM hospital, dharwad of northern Karnataka. The study was undertaken with the objective to study the functioning and problems of OPD service areas in the SDM hospital setup and to seek the feedback from the patients regarding the existing facilities, functioning style and needs.

Random purposive sampling technique was adopted for the selection of sample. Doctors of various clinical departments and patients attending OPD's were considered as respondents of the study. A sample of minimum 51 doctors and 57 patients were chosen. It was concluded from the study that the Outpatients of SDM Hospital were satisfied with the existing facilities, fee structure and outpatient services and Para clinical facilities and According to doctors of OPD's in SDM Hospital facilities provided to outpatient were good, co-operation of supporting staff needs to be improved.

Study on Process time of patients visiting OPD.

Akilan Arunkumar (TATA INSTITUE OF SOCIAL SCIENCES)

The objective of the study was to determine the flow of patients and the time spent in the hospital through arrival and service characteristics and to study the bottleneck in the patient flow.

1413 samples were studied through this study. The response time was calculated from finding the difference between the entry and exit time. Bottleneck analysis was also done.

They recommended that since reception centre being the primary bottleneck of the system, by increasing another service here, the system may be made to work in steady state. it was evidently proved through the simulations that having a single refraction chamber with few technicians , the hospital could reduce waiting time up to 25 percent, as well as better utilization of resources.

Study on Outpatients' Waiting Time in Hospital University Kebangsaan Malaysia (HUKM) Through the Six Sigma Approach1 :-Mohamad Hanaffi Abdullah

The study was carried out in one of the teaching hospitals in Kuala Lumpur, Malaysia – Hospital University Kebangsaan Malaysia (HUKM). The subjects were outpatients who came to the outpatient clinic at HUKM. Data were analysed using the six sigma approach. A questionnaire was used to gauge the outpatients' responses on waiting time in the clinic as well as to measure the level of satisfaction with the outpatient clinic services rendered.

Reducing waiting time in outpatient services of large university teaching hospital-a six sigma approach *Prof.* ***Dinesh T.A1*** *, MHA****,*** *Ph.D Prof. Dr.* ***Sanjeev SINGH1 ,*** *DCH, M.Phil****Prem NAIR1 ,*** *MBBS, MD* ***Remya T R1 ,*** *MH*

Improving the quality of services provided in an outpatient department of an university hospital in India. The project was conducted on the basis of the six sigma methodology and aimed to reduce waiting times in outpatient cardiology office.

METHODOLOGY

The methodology adopted to achieve the study objective was:

Study design: An observational type of study was conducted to understand the process flow of activities and identify the problems.

Study area- Max Super Speciality Hospital in Shalimarbagh, New Delhi.

Data collection technique

Primary data regarding the waiting time involved in the process of OPD was collected with the help of waiting time tracking sheet. The tracking sheet consisted information about the arrival time of the patient and then detailed waiting time for each activity. This was followed by calculation of average waiting time for each step.

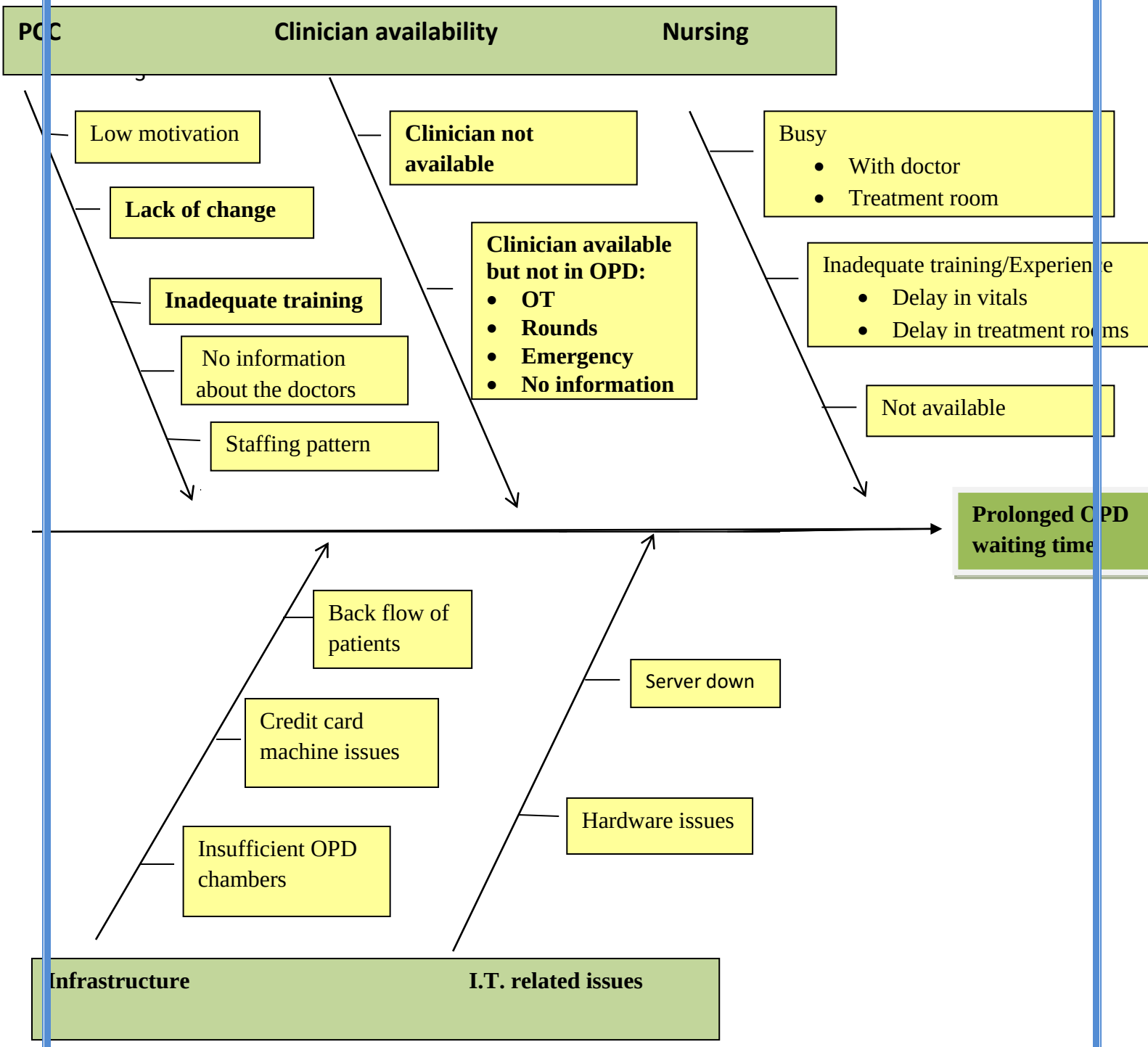
Secondary data was collected from the front office to understand the flow of activities.

During the study period front office was studied in depth to understand the processes and patient flow. Secondary data was collected from the front office duty manager and substantiated by personal observation.

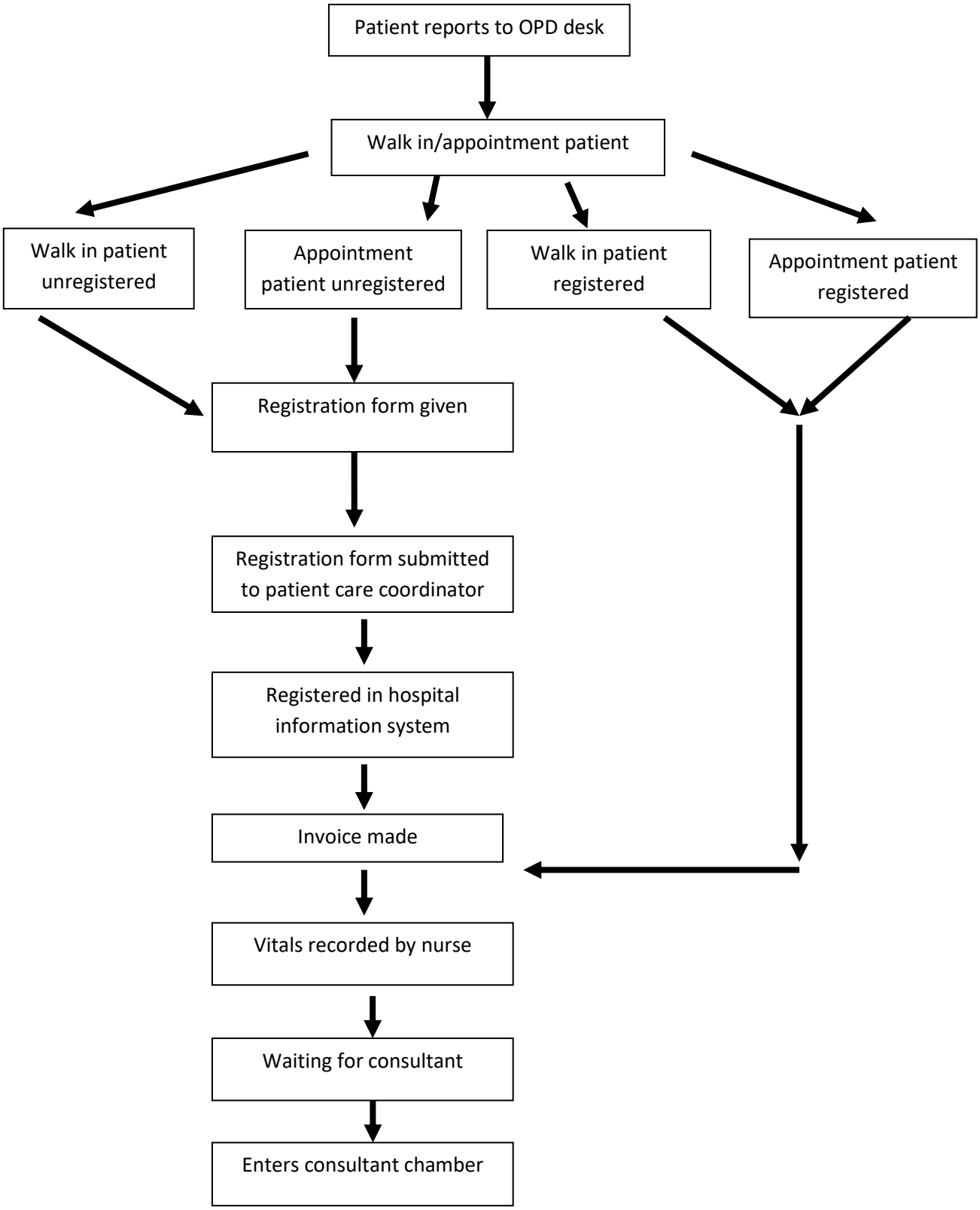
To address few important issues primary data was collected during the OPD and Front office timings.

Regular interaction was done with patient, PCC and Front Office manager to understand the patient's perspective and identify the core issues.

Contributing factors



STUDY FINDINGS



PROCESS FLOW

To understand the p e front office and OPD was laid down.

OUT PATIENT DEPARTMENT

Outpatient department was divided into 2 wings- wing A and B.

The outpatient services were provided in the following specialities:

1. Aesthetic & Reconstructive Plastic Surgery
2. Minimally Access Metabolic & Bariatric Surgery
3. Cardiology
4. CTVS
5. Dermatology
6. Dentistry
7. Dietetics
8. Endocrinology
9. ENT
10. Gastroenterology
11. General surgery
12. Gastro-Intestinal Surgery
13. Gynae MAS
14. Paediatric Surgery
15. internal Medicine
16. Mental Health & Behavioural Sciences
17. Neurosciences
18. Nephrology
19. Obstetrics & Gynaecology
20. Ophthalmology
21. Orthopaedics
22. Paediatrics & Neonatology
23. Podiatry

24. Respiratory Medicine
25. Physiotherapy & Rehabilitation
26. Urology
27. Vascular Surgery
28. Preventive Health Programme

Process

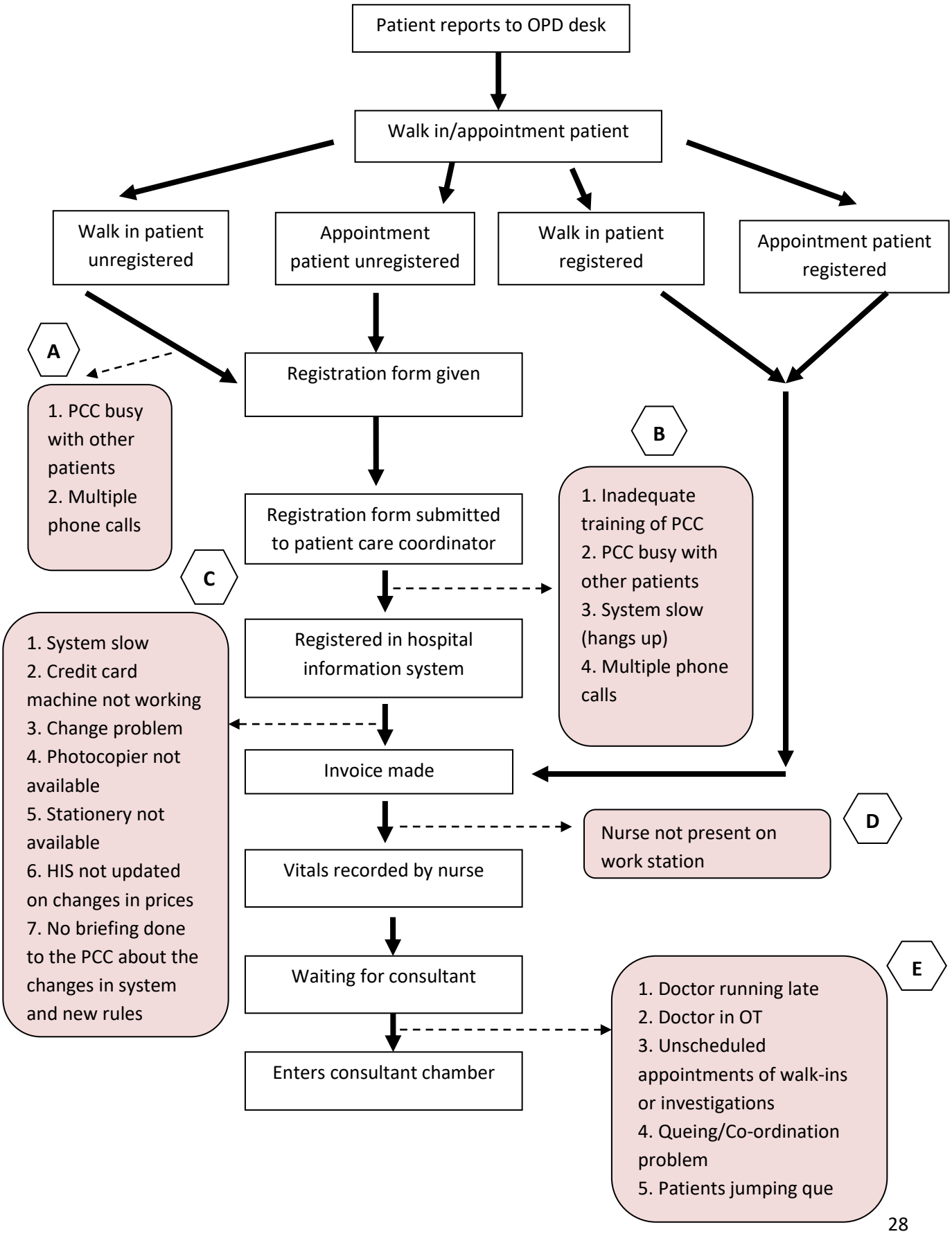
- Patient fixes up an appointment for OPD Consultation or Diagnostics over phone / walks in.
- Patient visits the facility and is guided to the OPD counter for Registration process

Registration/invoice generation

- Patient meets the PCE/PCC & fills the registration form or gives details if already registered.
- Patient Details entered in HIS and Registration number is generated for new patient.
- Services are billed as per approved Pricing and billing policy or as per the IOM with a particular company.
- Discount (wherever applicable) is given as per policy or as instructed by Management.
- Patient pays in Cash / by Card or Credit bill raised in case of corporate patient.
- Patient invoice generated with the Registration & service details.
- If for any reason service billed has not been availed or any wrong entry has been made then refund voucher to be generated
- Manual invoice generated as per approved Pricing and billing policy in case HIS not working.
- Manual invoices are updated in HIS when HIS starts working again.
- If any service/tariff not incorporated in HIS then Billing is done through miscellaneous billing in HIS.
- IT is intimated for incorporation of the same in HIS

- If tariff is not defined (New Services) then approval to charge a definite amount is taken from concerned authorities and subsequent inclusion in Tariff list and HIS is done.
- At the End of shift, PCC/ PCE takes out cash scroll from HIS and submits the same to Finance & Accounts department.

Issues in process flow



Gaps at individual steps

Gap at Step A

1) PCC busy with other patients

2) Multiple calls

Gap at Step B

1) Inadequate training of PCC,

2) PCC busy with other patients

3) System slow (hangs up)

4) Multiple calls

Gap at Step C

1) System slow

2) Credit card machine not working,

3) Change problem

4) Photocopier not available,

5) Stationary not available

6) HIS not updated on changes in prices

7) No briefing done to the PCC about the changes in system and new rules

Gap at Step D

1) Nurse not present on work station

Gap at Step E

1) Doctor running late

2) Doctor in OT

3) Unscheduled appointments of walk-in or investigations

4) Queuing problem/co-ordination problem

5) Patients jumping queue

Waiting area

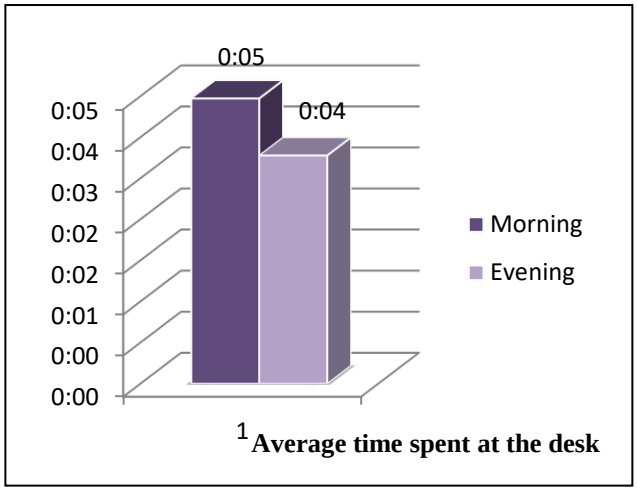
After preparation, patients are asked to wait for doctors in the respective waiting areas.

Patients concern:

- Appointments were usually not seen on time.
- Long waiting time for both appointment and walking patient.

Therefore average waiting time was calculated for all the patients. Waiting time was calculated with the help of waiting time tracking sheet in which time taken for each activity was noted and the average time was calculated.

Row Labels	Count of Time spent at the OPD desk
0:01	10
0:02	25
0:03	20
0:04	15
0:05	11
0:06	7
0:07	6
0:08	6
0:09	6
0:11	1
0:12	1
0:13	2
0:14	3
0:15	3
0:16	1
0:18	1
0:23	1
0:33	1
Grand Total	**120**

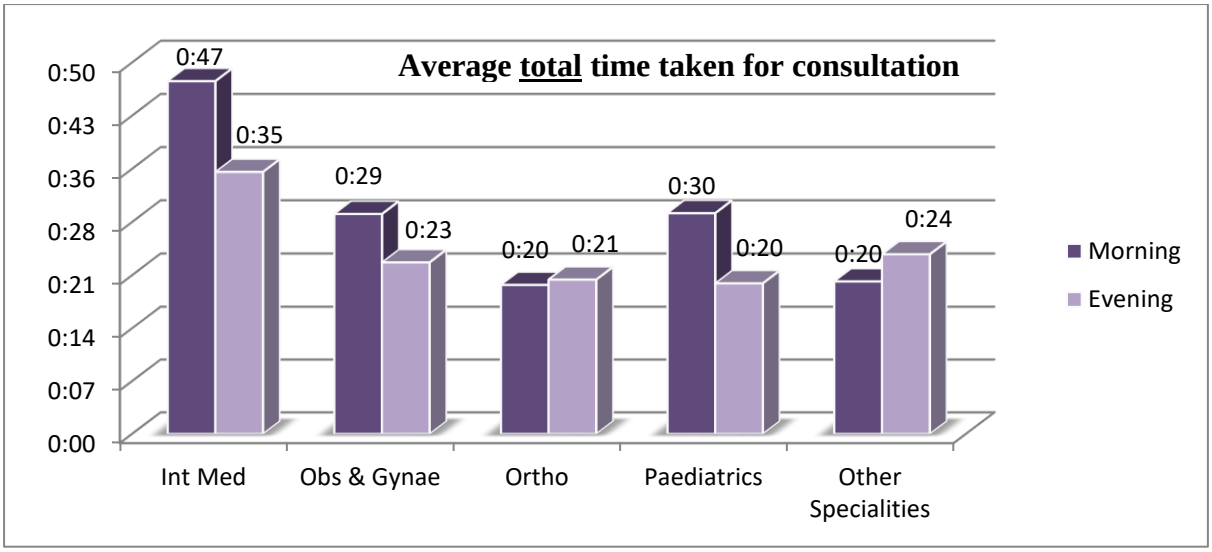


Graph 1

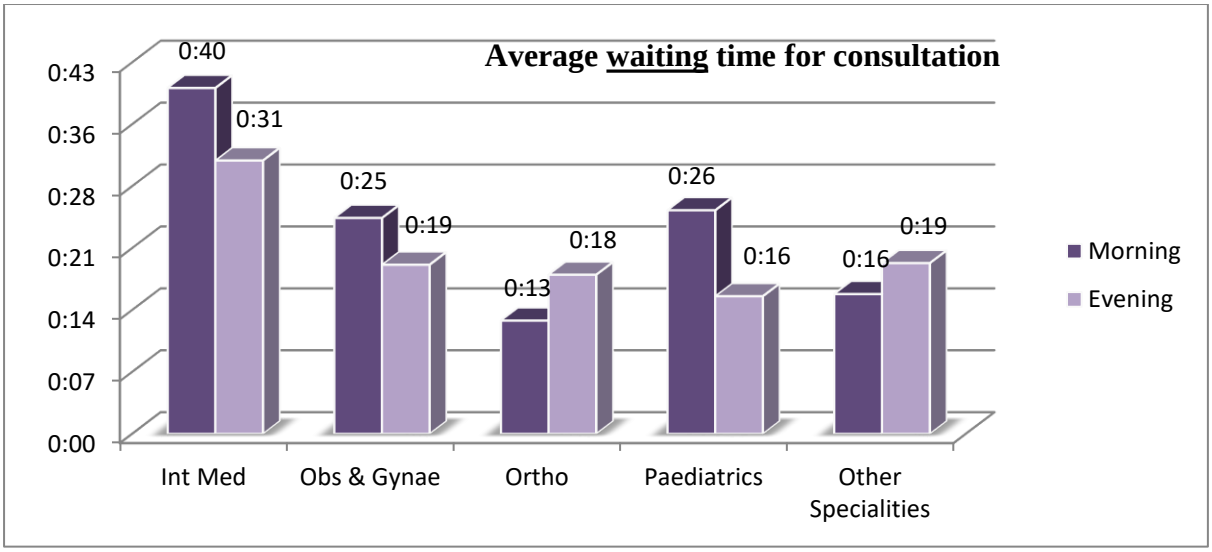
Consultation with the doctor

Patients were satisfied with the clinical services provided by the doctors.

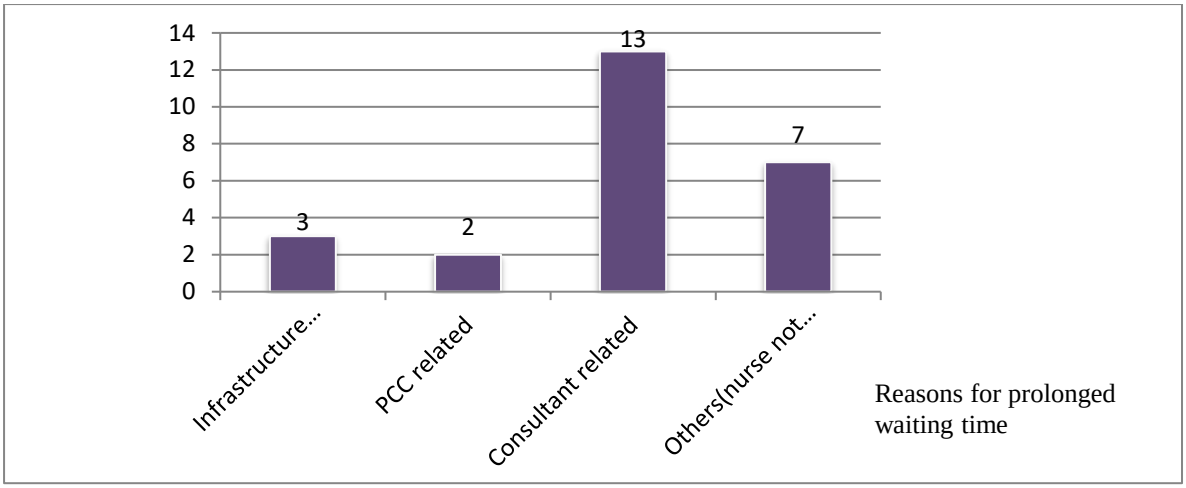
But during observation it was found that usually the doctors were late for OPD which further prolonged the waiting time for consultation.



Graph 2



Graph 3



Graph 4

FEEDBACK

At the end of OPD visit, patients are required to give their valuable feedback for all the services. Patients were asked to fill the TCEQ forms which were handed over to them at the time of invoice generation.

Actionable

On the basis of the study following actionable were suggested:

1. For OPD

CONTROLLABLE FACTORS

- Inadequate training of the P.C.C
- P.C.C busy with other patients
- Multiple calls
- System not responding
- Credit card machine not working properly
- Photocopier not available in OPD B
- Stationary not available
- HIS not updated on change in prices of consultants, investigations
- No briefing done to PCC about corporate tie-ups or any new rule regarding change in policy
- Queuing problem: patients jumping que, co-ordination problem
- Short slot for appointment

UNCONTROLLABLE FACTOR

- Doctor's running late
- Doctors busy in operation theatres
- Unscheduled appointments of walk patients or investigation patients

Suggestions

1. Providing process centric training and some knowledge about various common procedures to the PCC's: Formal Training should be given to the new recruits- will lead to fewer billing errors.

2. Scheduling morning/evening maintenance checks to assess the proper functioning of machines(credit card, computer, telephone, photocopier, weighing machine)
3. Briefing the PCC's on the new updates in the system.

4. Advance preparation :- option to fill registration forms online

5. Introduction of patient calling system
   There was no patient calling system in the OPD which used to cause a lot of discomfort among patients. There was a common waiting area for all departments in the OPD therefore a patient calling system were urgently required. Every time

the doctor had to come out to call a patient due to the absence of patient calling system.

6. It was observed that there was no money change present at the counter to give back to the patients. Therefore, the GDA or occasionally the PCC had to go to other counters or cafe to get change which further increased the billing and registration time.
7. For routine visits take co-pays in advance or have bill ready in advance for patients
8. Increasing the time slots for the doctors based on their consultation time
9. Introduction of doctors checklist to ensure that doctors come on time
   It was observed during the study that most of times patients were told that doctors are on round during the OPD timings and they used to come late to OPDs.
   Therefore a checklist should be introduced which would contain information about doctors time in and out in the OPD.
10. Keeping 30%-40% slots empty for walk-in patients or follow- up patients
11. Updating the patient in the morning about the doctor's schedule.
12. Electronic display system for the patients to update them on doctor's schedule, room number, timings, and the present status to prevent further enquiry
13. Provision of books/novels/magazines, Wi-Fi, educational material, health talk, tea/coffee vending machine or a spiritual corner
14. Introduction of queue managers to streamline the flow of patients at the OPD counter
15. PCC at the registration and billing counter should be informed about the changes in consultants timing or absence of any consultant for day before starting with the billing procedure to avoid the number of refunds.

REFERENCES:

- **Study on Process time of patients visiting OPD. (**Akilan Arunkumar (TATA INSTITUE OF SOCIAL SCIENCES)
- **Outpatient department -** Dr. Hari Singh
- **Streamlining OPD-** Express Health care
- www.**maxhealthcare**.in/