SUMMER INTERNSHIP REPORT

AT

FORTIS MEMORIAL RESEARCH INSTITUTE (FMRI)

GURUGRAM

(APRIL 4th to JUNE 17th, 2022)

A REPORT ON

"TURN AROUND TIME STUDY ON EMERGENCY PATIENTS"

BY

MR. PARAS ARORA

(PGDHM) POST GRADUATE DIPLOMA IN HOSPITAL AND HEALTH MANAGEMENT

2021-2023

International Institute of Health Management Research

New Delhi

Acknowledgement

First of all, I would like to thank God, for helping me start from the beginning till the end of my internship period.

I would like to thank **Ms. Shivani Dhir**, (SBU Head-Learning & Development) of Fortis Memorial Research Institute (FMRI), Gurugram for giving me the opportunity to do an internship within the organization to broaden my perception on how the real world in the field of healthcare looks like as well organizing the whole internship program.

I also would like to thank all the people that worked along with me with their patience & openness and an enjoyable working environment they created at FMRI.

It is indeed with a great sense of pleasure and immense sense of gratitude that I acknowledge the help of these individuals. I am highly indebted to **Dr. Priyanka and Dr. Nisha Sharma**, for the facilities provided to accomplish this internship.

I would like to thank my Head of the Department **Dr. Mohammed Hasnain Reza**, for his constructive criticism throughout my internship.

I would like to thank IIHMR-Delhi for this opportunity and **Dr. Nikita Sabherwal** for her valuable guidance to complete this internship in FMRI.

I am extremely grateful to Nursing team Head **Mr. Benu** and to all my department staff members and friends who helped me in successful completion of this internship.

I again thank my fellow trainees, for their good corporation during the training.

Finally, I would like to express my special thanks to my family and friends helping me in all aspects and appreciate me to spend my all time in the work place during our internship time.

Fortis MEMORIAL
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June 17, 2022

TO WHOMSOEVER IT MAY CONCERN

This is to certify that **Mr. Paras Arora** has undergone an internship in the **"Department of Medical Administration"** from **April 04, 2022 to June 17, 2022** at **Fortis Memorial Research Institute, Gurgaon.**

During this period, he exhibited a high level of professionalism and a tremendous zest for learning.

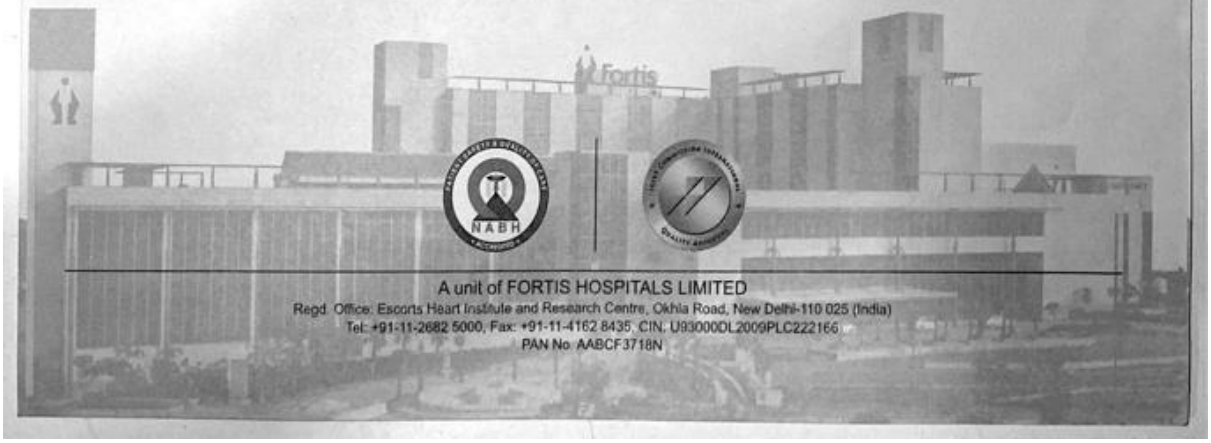
We wish **Mr. Paras Arora** all the best in his future endeavors.

With Best Wishes,

Shivani Dhir
SBU Head-Learning & Development

Fortis Hospitals Ltd. Gurgaon

Medical Superintendent
Head of Department
Fortis Memorial Research Institute
Sector - 44, Gurgaon - 122002
Haryana (India)



FEEDBACK FORM

(Organization Supervisor)

Name of the Student: Paras Arora

Summer Internship Institution: Fortis Memorial Research Institute, Gurugram

Area of Summer Internship: Medical Administration

Attendance: Regular

Objectives met:- - completed project on TAT for planned Operations.
- completed project on TAT of patients at different stages of ER.

Deliverables: Completed all the objectives

Strengths: Punctual, Polite, Hard working

Suggestions for Improvement: -

Assistant Medical Superintendent
Fortis Memorial Research Institute
Sector-44, Gurugram-122002, Haryana

Signature of the Officer-in-Charge (Internship)

Date: 16-06-22
Place: FMRI, Gurugram

CERTIFICATE OF APPROVAL

The following summer internship project of titled -**TAT on Emergency Department** at **FMRI, Gurugram** is hereby approved as a certified study in management carried out and presented in a manner satisfactory to warrant its acceptance as a prerequisite for the award of **Post Graduate Diploma in Hospital and Health Management** for which it has been submitted by **Lakshita Nagpal & Paras Arora**. It is understood that by this approval the undersigned does not necessarily endorse or approve any statement made, opinion made, opinion expressed, or conclusion drawn therein but approve the report only for the purpose it is submitted.

Dr. Nikita Sabherwal

Associate Dean (Training) & Associate Professor (Hospital administration)

Project Guide

Mentor

(IIHMR Delhi)

FEEDBACK FORM

(IIHMR MENTOR)

Name of the Student: PARAS ARORA

Summer Internship Institution: FORTIS MEMORIAL RESEARCH FINSTITUTE, GURUGRAM

Area of Summer Internship: MEDICAL ADMINISTRATION

Attendance: COMPLETE | REGULAR

Objectives: COMPLETED PROJECT ON TAT FOR PLANNED OPERATIONS.
- COMPLETED PROJECT ON TAT OF PATIENTS AT DIFFERENT STAGES OF ER.

Deliverables: COMPLEDED ALL THE OBJECTIVES

Strengths: PUNCTUAL, POLITE, HARD-WORKING

Suggestions for Improvement: –

Signature of the Office-in-Charge (Internship)

Date: 29-07-2022

Place: IIHMR-DELHI

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Abbreviations / Acronyms

FMRI - Fortis Memorial Research Institute

APSIC - Asia Pacific Society of Infection Control

SSCL - Surgical Safety Check list

UAE - United Arab Emirates

AHA - American Heart Association

ED - Emergency Department

A & E - accident and emergency department

ER - Emergency Room

EW - Emergency Ward

HOD – Head of Department

TAT – Turnaround time

LMICs - low – and middle- income countries

ICU - Intensive Care Unit

PSUs – Public sector undertakings

LAMA – Leave Against Medical Advice

MLCs - Medico Legal Cases

NTL - Nursing Team Leader

GDA - General Duty Assistance

ABSTRACT

Fortis Healthcare Limited is one of the largest integrated healthcare delivery networks in Asia Pacific. The healthcare verticals of the company include diagnostics, primary care, day care specialty & hospital, with an asset base in three countries. Fortis Memorial Research Institute (FMRI) Gurugram, is a multi-super specialty, quaternary care hospital with an enviable international facility, reputed clinicians, including super-sub-specialists and specialty nurses, Neuro sciences, Oncology, Renal Sciences, BMT, Organ Transplants, Orthopedics, Cardiac Sciences, and Obstetrics and Gynecology. Set on a spacious 11- acre campus with a potential to grow to 1000 beds. The Emergency &Trauma Care Department at Fortis comprises of ACLS Certified post graduates who specialize in managing all types of emergencies. The center has Cardiovascular Life Support Ambulances which are well equipped with essential life support and are managed by highly experienced doctors and trained nurses round the clock.They provide all the specialized care, screening and environment that seniors appreciate and provide them a less chaotic and stressful experience while meeting their specific needs. This study was done to determine the turnaround time (TAT) of patients at different stages in emergency department and was carried out during the period of April 7 2022 – May 7 2022 at FMRI,Gurugram. The data collected was both primary and secondary. Total patients (n=1071): Admissions (56.5%), Discharge (43.5%), ICU Admissions (16.5%), Ward Admissions (39.8%), LAMA (4.3%), Internal MLCs (2.7%), Outside MLCs (0.7%), Brought Dead (0.5%), Expired in ED (0.3%), Chest pain (4.1%), STEMI (0.4%), Stroke (3.1%), Trauma (8.3%), Pending (1.6%), Child patients (13.7%). 15.7% cases were from emergency department registrations only and including IPD registrations, it was 25% out of total which included IPD (52%), Day care (32%) and emergency (16%). 100% of the patient's turnaround time from arrival to initial assessment was less than one hour. For admission request forum (ARF) to bed allotment, 31.9% were less than one hour, 29.8% were within two hours and 38.3% were more than two hours. For bed allotment to shift, 53.2% were less than 30 minutes, 31.9% were within an hour and 14.9% were more than one hour. Also, 31.2% of total patients spent more than 4 hours in emergency department. Workforce ratio was found out to be 1:9 (doctor: bed), 2:7 (nurse: bed) and 1:6 (GDA: bed). The major factors found for increased length of patient stay in ED were non availability of beds (82.9%), delay from investigation (6.9%), communication failure (3%), patients other than cash (3%) non-availability of GDAs / nurses (4.2%). Other issues related to housekeeping, lack of coordination, unavailability of assets at ER gate, ED overcrowding, no proper critical alert logs were observed. Approach to "Lean Management" can improve patient flow in ED. Workforce management, their proper training, proper no. of hiring can also be useful. Electronic transfer of medical records could be developed to further decrease the time wasting for transfer of medical records. Controlling overcrowding at emergency department is very imported and very much needy in FMRI.

INTRODUCTION

Emergency care systems address a wide range of common medical, surgical and obstetric conditions, including injury, complications of pregnancy, exacerbations of noncommunicable diseases (E.g., Asthma, heart attacks, strokes) and acute infections (E.g., Sepsis, malaria). With sound planning and organization dedicated staff, emergency care system has the potential to address nearly half of deaths and more than a third of disability in low – and middle- income countries (LMICs). Despite the potential benefit of an organized emergency care system, it remains underdeveloped in many countries. As a result, emergency care delivery is often compromised due to lack of supportive legislation, governance and regulation, gaps in funding and insufficient human and physical resources. The Emergency &Trauma Care Department at Fortis comprises of ACLS Certified post graduates who specialize in managing all types of emergencies. The center has Cardiovascular Life Support Ambulances which are well equipped with essential life support and are managed by highly experienced doctors and trained nurses round the clock. The team focus on providing the care to the patients starting from even before they reach the hospital, and hence improving the chances of patient survival. The world class trauma team is also skilled in treating high risk injuries such as serious road accidents, gunshot injuries, major burns and others. FMRI 's Trauma and Emergency Medicine Department is an American Heart Association (AHA) certified provider. The facility is operational 24/7 and follows international standards, and well-defined protocols laid down by the Fortis Hospital Emergency Unit. At FMRI, the core focus in on making the optimum use of available healthcare technology to treat patients quickly and effectively. As the preliminary objective of the department is to provide quickest and effective care to patients in emergency, the department is backed by advanced imaging and other specialized equipment at or near the patient's bedside, with immediate access to Operating Rooms. They provide all the specialized care, screening and environment that seniors appreciate and provide them a less chaotic and stressful experience while meeting their specific needs.

OBJECTIVES

PRIMARY OBJECTIVE –

- To determine the turnaround time (TAT) of patients at different stages in emergency department.

SECONDARY OBJECTIVES –

- To identify the factors influencing length of stay in emergency department (ED) at Fortis Memorial Research Institute, Gurugram,
- To study the current workforce in emergency department,
- To study the patient flow in emergency department and
- To perform the gap analysis of the processes in emergency department.

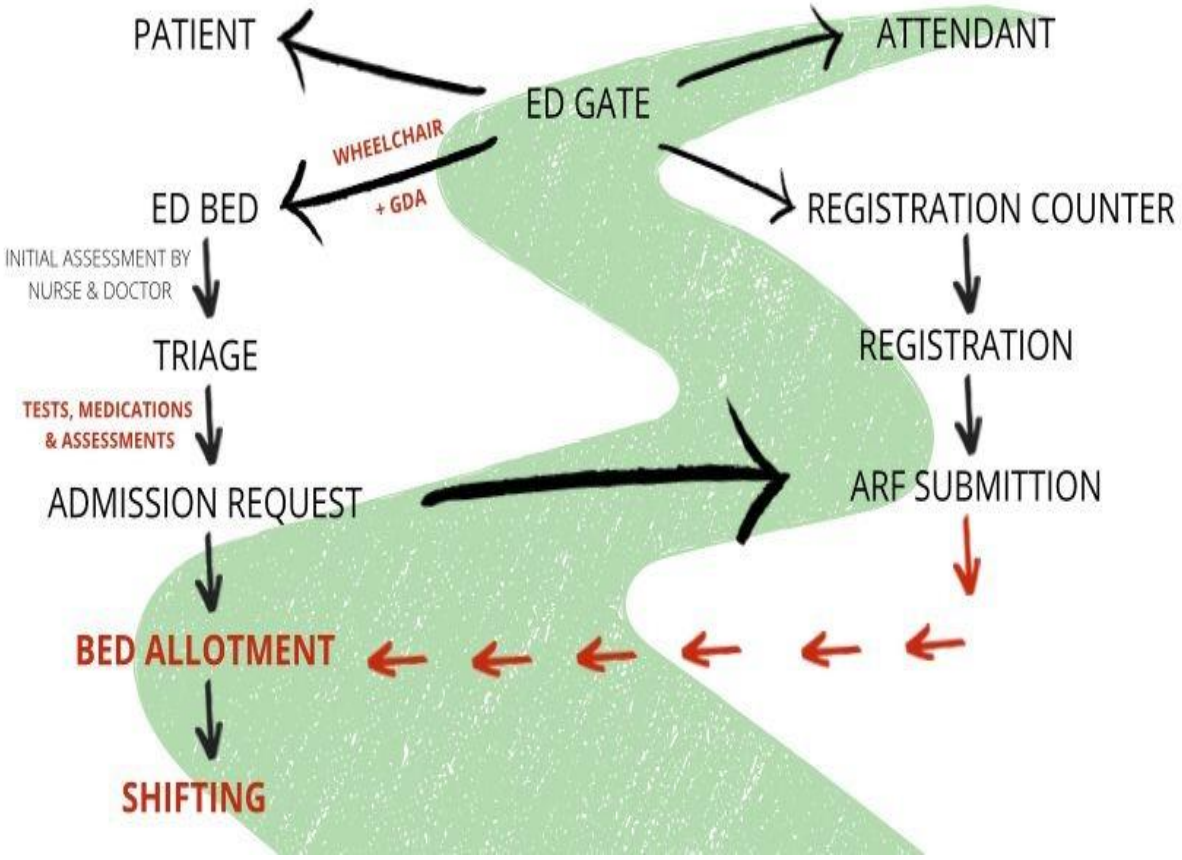
METHODOLOGY

A prospective qualitative & quantitative study was carried out during the period of April 7 2022 – May 7 2022 at Fortis Memorial Research Institute (FMRI), Gurugram. The data collected was both primary and secondary. Primary data was collected from the patients and their attendants arriving at the emergency department by direct observation and interaction whereas the secondary data was collected from the HIS and the emergency department register. The sample considered was 1071 for determining the TAT of patients who spend more than

4 hours in ED whereas the sample considered for determining TAT of patients at different stages were 50 based on convenience sampling. The study was carried out by recording the findings in self-structured ED list and patient flow form. Data analysis was done through advanced Microsoft excel function

OBSERVATIONS, RESULTS & DISCUSSION

Patient Flow Plan



Following figures and graphs are based on the findings from both qualitative and quantitative components of the assessment research.

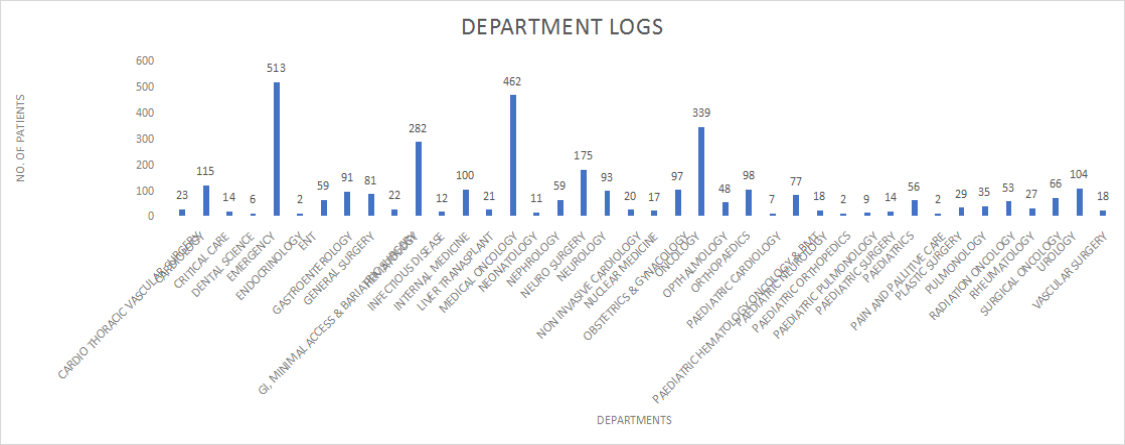


Figure – 1

Above figure –1 clearly represents department wise patients logs and the maximum number of patients, 15.6% (i.e., 513), arrived in the hospital during 7 April 2022 – 7 may 2022 are from Emergency department only. After observation, it was seen that these figures are not truly matched with the ED admission- discharge register. Reason behind that most of the cases from OPD got registered in emergency.

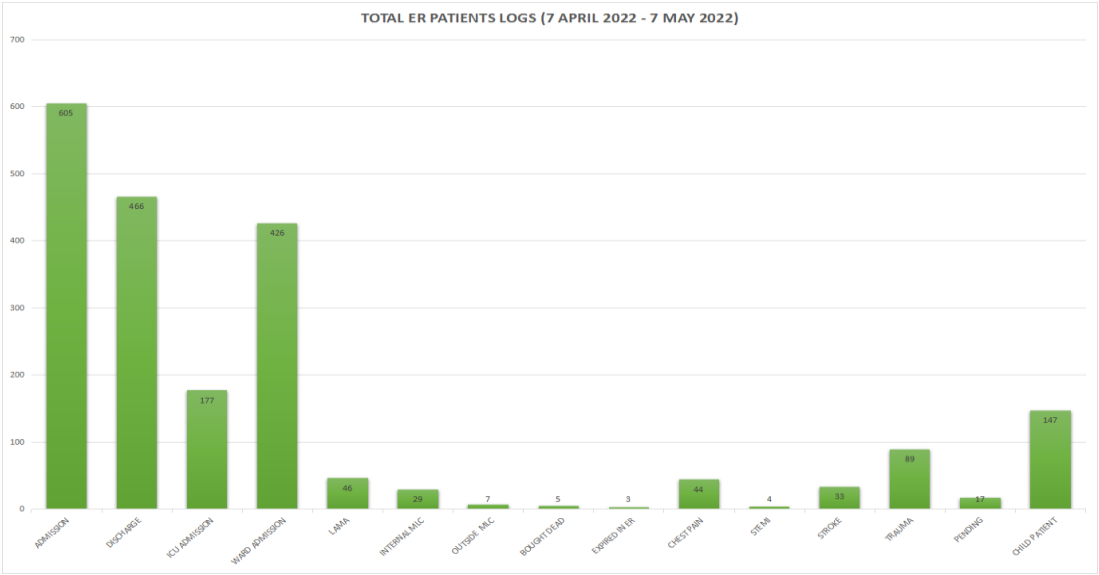


Figure – 2

Out of all 1071 patients came in ED, 56.5% (I.e., 605) were the admission cases, out of which 16.5% - ICU admissions & 39.8% - ward admissions and 43.5% (I.e., 466) were discharge cases. MLC burden was 3.3% (considering inside and outside MLCs). 4.3% cases left against medical advice (LAMA). 0.5% were brought dead cases and 0.3% cases were expired in ED. 4.1% cases were with chest pain, 0.4% - STEMI, 3.1% - stroke and 8.3% - trauma. 13.7% were pediatric patients.

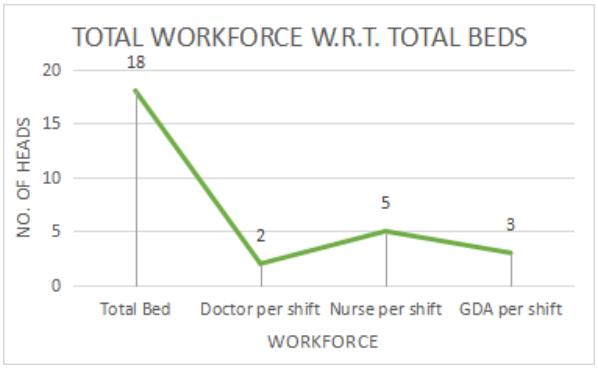


Figure – 3

Emergency department at FMRI is 18 bedded. Total workforce observed as follows: Doctors – 6 with HOD, Nurses – 20 with NTL, GDA – 8 with one general GDA. There are three shifts for staff- Morning, Evening and Night. During the study, average doctors per shift was 2 and doctor: bed ratio observed was 1:9, average nurses per shift was 5 and nurse: bed ratio observed was 2:7 & average GDA per shift was 3 and GDA: bed observed was 1:6.

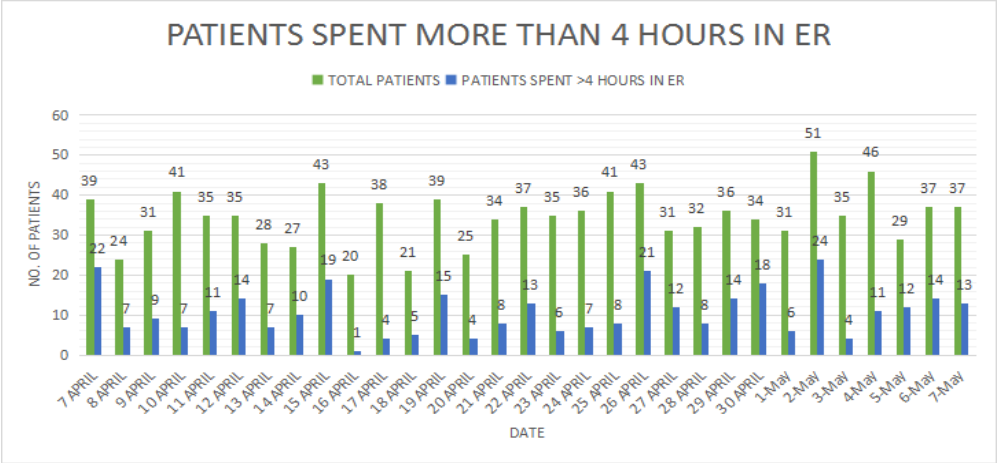


Figure – 4

As mentioned earlier, sample size considered for evaluating TAT of patients who spent more than 4 hours in ED were 1071 as mentioned in figure – 7. 31.2% patients spent more than 4 hours in ED. There are many reasons observed – 6.9% - delay in lab tests, sample collection delay shortage of nurses, 4.2% - shortage of GDAs, delay because of shift handovers, communication failure between staff or staff and patients, 3% - delay in non-cash payment, & 82.9% - non-availability of beds ultimately left no choice with the patient but to remain in the ED for hours until a bed opens for allotment.

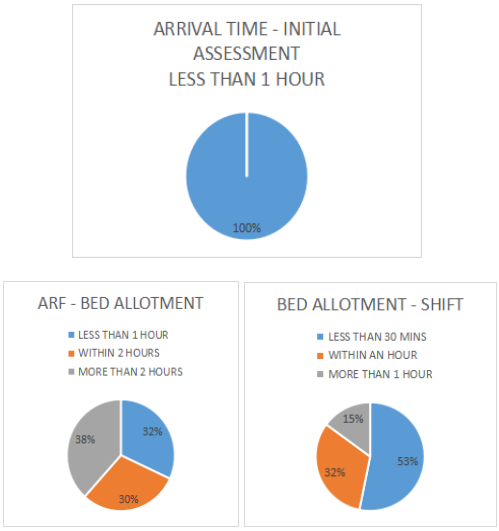


Figure – 5

For evaluating TAT for arrival – initial assessment, ARF – bed allotment and bed allotment – shift, sample size considered was 50. According to figure – 8, it was observed that (100% of the patient's TAT for arrival – initial assessment was less than 1 hour), for TAT of ARF – bed allotment (32% was less than 1 hour, 30% - within 2 hours and 38% - more than 2 hours) and for TAT of bed allotment – shift (majority of the patients' TAT was less than 30 minutes I.e., 53%, 32% - within an hour and 15% - more than one hour).

RECOMMENDATION AND CONCLUSION

Poor patient flow, and the resulting crowding shows an extensive barrier on the ED's ability to deliver high quality emergency and urgent care. Most of the problems found - Excessive patient waiting, slow investigation turnaround times, delay in shifting, poor communication, emergency overcrowding because of OPD direct registrations through emergency, no proper training of panic situations and keeping no record of critical alerts. Other issues related to housekeeping, lack of coordination, unavailability of assets at ER gate were observed. These all were the key factors intrinsic to the ED which affect patient flow. The use of doctor triage (1 / 2 / 3), rapid initial assessment, rapid tests and procedures, the application of lean management can improve the patient flow in ED. All these have been shown to improve patient flow. Proper workforce requirement must be fulfilled for staff's rights and satisfaction. Many times, international patients face difficulties in communication, hospital must provide all time pure assistance to the patients so as to remove this barrier. Dealing with overcrowding can also affect the functions of ED by various means - in terms of patient satisfaction, staff fatigue, communication and hospital brand.

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2. HY Chan, Lean techniques for the improvement of patients' flow in emergency department, Received 2013 May 16; Accepted 2013 Nov 17.

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5. The Challenge Of Overcrowded Emergency Departments, By Emergency Staffing Solutions|July 31st, 2019|Emergency Department

6. Emergency Department, Calderdale & Huddersfield NHS Foundation Trust, West Yorkshire, UK, Correspondence to: Paul Richard Edwin Jarvis, Emergency Department, Calderdale Royal Hospital, Dryclough Lane, Halifax, West Yorkshire HX3 0PW, UK, Received 2016 Feb 15; Revised 2016 Mar 2; Accepted 2016 Mar 2.

7. www.chthealthcare.com

8. www.fmri.in/about-us

ANNEXURE

- Time schedule

S.no.	Department Name	Dates of visit	Interacted with (name of designation)
1	Emergency	Every day after 11 am	HOD, staff, NTL
2	Health admin	Every day from 9 am – 11 am	AMS, DMS
3	HR	Every alternate Saturdays	HOD, Head of learning and development
4	Pharmacy supply chain	One week from 9 am -12 pm	HOD, staff

- Data collection format

PATIENT FLOW IN EMERGENCY DEPARTMENT

PATIENT NAME / UHID _____
DATE & TIME OF ARRIVAL IN ER _____
MODE - Self / Attendant
If Self _____
If Attendant _____
CASE TYPE _____
Time of registration _____
(TAT) FOR REGISTRATION _____
PROBLEMS/ ISSUES FACED DURING REGISTRATION_____
_____
_____
ER BED TIME _____
INITIAL ASSESSMENT BY NURSE _____**(TAT)**_____
INITIAL ASSESSMENT BY DOCTOR _____**(TAT)**_____
TRIAGE CATEGORY- 1 / 2 / 3 _____
MEDICATIONS GIVEN PRESCRIBED BY DOCTOR - **YES / NO**
TESTS CONDUCTED MENTIONED BY DOCTOR - **YES / NO**
Medication and tests (TAT)_____

Patient condition_____
_____
_____

ADMISSION REQUEST - YES / NO
Factors that influence the time of admission request_____
_____

If ADMISSION REQUEST ACCEPTED -
Time of submission of ARF (Admission request form)_____
Time of acceptance _____
Time of bed allotment _____**(TAT)**_____
Place of shifting and timings _____**(TAT)**_____
ASSISTED BY JUNIOR DOCTOR / DOCTOR - YES / NO

If ADMISSION REQUEST REJECTED -
Reason - _____
_____
LAMA consent - YES / NO

Self-structured patient flow forum

S. NO.	PATIENT NAME	TRIAGE	ARRIVAL TIME	INITIAL ASSESSMENT	ARF	BED ALLOTMENT	SHIFT	TAT			REMARKS
								RRIVAL - INITIAL ASSESSMEN	RF - BED ALLOTMN	ED ALLOTMENT - SHIF	

Self-structured ED list

- Tables

1. PATIENT EPISODE TYPE

S.NO.	EPISODE TYPE	TOTAL
1	DAY CARE	1056
2	EMERGENCY	511
3	IPD	1710
		3277

2. PATIENT NATIONALITY

S. NO.	PATIENT TYPE	TOTAL
1	INDIAN	2736
2	INTERNATIONAL	541
		3277

3. PATIENT PAYMENT TYPE

S.NO.	PAYMENT TYPE	TOTAL
1	CASH	1287
2	INTERNATIONAL CASH	507
3	DOMESTIC INSURANCE	1078
4	GOVT. & PSUs	171
5	PRIVATE CORPS	84
6	TPAs - non GIPSA	116
7	INTERNATIONAL GOVT.	2
8	INTERNATIONAL TPA	32
		3277

4. HOSPITAL DEPARTMENT LOGS

DEPARTMENT WISE PATIENT LOGS (7 APRIL 2022 - 7 MAY 2022)		
CARDIO THORACIC VASCULAR SURGERY		23
CARDIOLOGY		115
CRITICAL CARE		14
DENTAL SCIENCE		6
EMERGENCY		513
ENDOCRINOLOGY		2
ENT		59
GASTROENTEROLOGY		91
GENERAL SURGERY		81
GI, MINIMAL ACCESS & BARIATRIC SURGERY		22
HEMATOLOGY		282
INFECTIOUS DISEASE		12
INTERNAL MEDICINE		100
LIVER TRANASPLANT		21
MEDICAL ONCOLOGY		462
NEONATOLOGY		11
NEPHROLOGY		59
NEURO SURGERY		175
NEUROLOGY		93
NON INVASIVE CARDIOLOGY		20
NUCLEAR MEDICINE		17
OBSTETRICS & GYNACOLOGY		97
ONCOLOGY		339
OPTHALMOLOGY		48
ORTHOPAEDICS		98
PAEDIATRIC CARDIOLOGY		7
PAEDIATRIC HEMATOLOGY ONCOLOGY & BMT		77
PAEDIATRIC NEUROLOGY		18
PAEDIATRIC ORTHOPEDICS		2
PAEDIATRIC PULMONOLOGY		9
PAEDIATRIC SURGERY		14
PAEDIATRICS		56
PAIN AND PALLITIVE CARE		2
PLASTIC SURGERY		29
PULMONOLOGY		35
RADIATION ONCOLOGY		53
RHEUMATOLOGY		27
SURGICAL ONCOLOGY		66
UROLOGY		104
VASCULAR SURGERY		18
	TOTAL	3277

5. ED LOGS

	TOTAL PATIENTS	**TOTAL UNDER HEAD**	IN %
ADMISSION	**1071**	605	56.5
DISCHARGE	**1071**	466	43.5
ICU ADMISSION	**1071**	177	16.5
WARD ADMISSION	**1071**	426	39.8
LAMA	**1071**	46	4.3
INTERNAL MLC	**1071**	29	2.7
OUTSIDE MLC	**1071**	7	0.7
BOUGHT DEAD	**1071**	5	0.5
EXPIRED IN ER	**1071**	3	0.3
CHEST PAIN	**1071**	44	4.1
STEMI	**1071**	4	0.4
STROKE	**1071**	33	3.1
TRAUMA	**1071**	89	8.3
PENDING	**1071**	17	1.6
CHILD PATIENT	**1071**	147	13.7

6. PATIENTS SPENT MORE THAN 4 HOURS IN ED

S.NO	DATE	TOTAL PATIENTS	PATIENTS SPENT >4 HOURS IN ER	PATIENTS SPENT >4 HOURS IN ER (IN %)
1	7 APRIL	39	22	56.4
2	8 APRIL	24	7	29.2
3	9 APRIL	31	9	29.0
4	10 APRIL	41	7	17.1
5	11 APRIL	35	11	31.4
6	12 APRIL	35	14	40.0
7	13 APRIL	28	7	25.0
8	14 APRIL	27	10	37.0
9	15 APRIL	43	19	44.2
10	16 APRIL	20	1	5.0
11	17 APRIL	38	4	10.5
12	18 APRIL	21	5	23.8
13	19 APRIL	39	15	38.5
14	20 APRIL	25	4	16.0
15	21 APRIL	34	8	23.5
16	22 APRIL	37	13	35.1
17	23 APRIL	35	6	17.1
18	24 APRIL	36	7	19.4
19	25 APRIL	41	8	19.5
20	26 APRIL	43	21	48.8
21	27 APRIL	31	12	38.7
22	28 APRIL	32	8	25.0
23	29 APRIL	36	14	38.9
24	30 APRIL	34	18	52.9
25	1-May	31	6	19.4
26	2-May	51	24	47.1
27	3-May	35	4	11.4
28	4-May	46	11	23.9
29	5-May	29	12	41.4
30	6-May	37	14	37.8
31	7-May	37	13	35.1
	TOTAL	**1071**	**334**	**31.2**