Internship Training
At

Aakash Healthcare, Dwarka, New Delhi
(01 Feb - 30 April 2018)

Average Length of stay for the key specialities in a tertiary care hospital in New Delhi

By
Aishwarya Dutta
PG/16/003

Under the guidance of
Dr Preetha GS

Post-Graduate Diploma in Health and Hospital Management
Batch 2016-18

International Institute of Health Management Research,
New Delhi
2018

(Completion of Dissertation from respective organization)

The certificate is awarded to

Aishwarya Dutta

in recognition of having successfully completed his

Internship in the department of

Medical Operations

and has successfully completed his Project

To calculate ALOS for the key specialities in Aakash Healthcare

from 01 Feb – 30 Apr 2018

Aakash Healthcare, Dwarka, New Delhi

She comes across as a committed, sincere & diligent person who has a strong drive and zeal for learning.

We wish him all the best for future endeavours.

Dr Ranvir Singh Saluja
Assistant Medical Superitendent
Aakash Healthcare,
Dwarka
New Delhi.

Aakash Healthcare
Super Speciality Hospital
We care, He cures

AAKASH HEALTHCARE PRIVATE LIMITED
CIN No. U85100DL1994PTC063836
Registered Office:
Hospital Plot, Road No. 201, Sector-3, Dwarka, New Delhi-110 075.
www.aakashhealthcare.com | reachus@aakashhealthcare.com

Completion Of Dissertation From Aakash Healthcare

This Certificate is awarded to

Aishwarya Dutta
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Internship in the department of
Operations

and successfully completed her project on

ALOS of key specialities in a super-speciality hospital in New Delhi

Aakash Healthcare
She comes across as a committed sincere & diligent person who has a strong drive & zeal for learning.

We wish her all the best for future.

Vikas Chawla
General Manager-Human Resources

FEEDBACK FORM

Name of the Student: AISHWARYA DUTTA

Dissertation Organisation: Aakash Healthcare, Dwarka.

Area of Dissertation: Average length of stay.

Attendance: 100%.

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Deliverables: All met.

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Suggestions for Institute (course curriculum, industry interaction, placement, alumni): None.

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

Date: 09/05/2018
Place: Aakash Healthcare.

Certificate of Approval

The following dissertation titled **"ALOS for the key specialities in Aakash Hospital, Dwarka"** 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 **Post Graduate Diploma in Health and Hospital 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
Mr. Vishikad Bere	
Dr Sanjiv Kumar	Sanjiv Kumar
Dr. Anandhi Ramachandran	
Dr P. L Joshi	

CERTIFICATE BY SCHOLAR

This is to certify that the dissertation titled '**Alos for key specialities in a tertiary care hospital in New Delhi'** and submitted by Aishwarya Dutta, Enrolment No. PG/16/003 under the supervision of **Dr Preetha GS**, for the award of Postgraduate Diploma in Hospital and Health Management of the Institute carried out during the period from **01 February to 30 April 2018** 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.

Aishwarya Dutta
PG/16/003

Certificate from Dissertation Advisory Committee

This is to certify that **Aishwarya Dutta,** a graduate student of the **Post- Graduate Diploma in Health and Hospital Management** has worked under our guidance and supervision. He is submitting this dissertation titled **"ALOS of key specialties in a tertiary care"** at **"Aakash Healthcare, Dwarka, and New Delhi"** in partial fulfillment of the requirements for the award of the **Post- Graduate Diploma in Health and Hospital 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 Preetha GS	Dr Ranvir Singh Saluja
Internal Mentor	External Mentor
Assistant Professor	Assistant Medical Superintendent
IIHMR, New Delhi	Aakash Health Care

TO WHOMSOEVER IT MAY CONCERN

This is to certify that **Aishwarya Dutta**, student of Post Graduate Diploma in Hospital and Health Management (PGDHM) from International Institute of Health Management Research, New Delhi has successfully completed internship training at Medical Record Department at Aakash Health Care, Dwarka, New Delhi from 01 Feb 18 to 30 Apr 18.

During her tenure with the organization he has successfully completed the project on the topic **"To calculate ALOS for they key specialities in Aakash Healthcare, Dwarka".**

During the tenure of her association with the organization, I found her sincere, hardworking and focused in the tasks and assignments allotted to her. Throughout the training she was found to be a keen learner and her performance during training was found to be excellent.

I wish her all success in all her future endeavours.

Dr Ranvir Singh Saluja
Assistant Medical Superintendent
Aakash Healthcare, Dwarka
New Delhi.

CONTENTS

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I express my gratitude and sincere thanks to Dr Preetha GS, at International Institute of Health Management and Research, New Delhi, for his valuable guidance and co-operation in my endeavour.

I am thankful to the management of Aakash Healthcare, Dwarka, New Delhi, for giving me the opportunity to carry-out Internship-cum-Dissertation in their esteemed hospital. I express my heartfelt gratitude to the functionaries and the staff of all medical and non-medical administrative departments of the hospital who were helpful in familiarizing to me their tasks and duties performed by them. Their kind cooperation assisted me to have a holistic view of various departments and their linkages, thereby, providing me with an on-the-job insight into the functioning of a modern and technologically advanced Hospital.

I wish to express my sincere gratitude and heartfelt thanks to Dr Ranvir Singh Saluja, Assistant Medical Superintendent Aakash Healthcare, for his foresight and full support, without which I wouldn't have been able to set my objectives for my Dissertation. His mentoring and guidance during the Internship provided me with an opportunity wherein I improved my understanding of Operations Department of a hospital. The training schedule ensured that there was adequate in-build flexibility provided to me to understand finer aspects of patient safety and physician defensibility. Thus the Internship-cum-Dissertation training has equipped me with an expertise which will ensure my appropriate employability as hospital administrator.

My special thanks to Mr Kanishak Gautam, Operations Manager for being there to answer all my queries, even the very basic ones at times, pertaining to the hospital.

Aishwarya Dutta

PG/16/003

ACRONYMS / ABBREVIATIONS

1. IPD- In Patient Department
2. NABH- National Accreditation Board for Hospitals & Healthcare Providers
3. MAS-Marker Assisted Selection
4. ENT- Ear Nose Throat
5. ICU-Intensive Care Unit
6. CCU- Critical Care Unit
7. CTVS- Cardio Thoracic Vascular Surgery
8. IT-Information Technology
9. HDU – High Dependency Unit
10. OPD-Out Patient Department
11. NHS- National Health Scheme
12. IOM- Institute of Medicine
13. HAI- Hospital Acquired Infection
14. FHL- Functional Health Literacy
15. Doc's IA- Doctor's Initial Assessment
16. Nursing IA- Nursing Initial Assessment
17. NA-Not Applicable
18. Doc's CP- Doctor's Care Plan
19. Nursing CP- Nursing Care Plan
20. MRD- Medical Record Department
21. BOO- Board of Officers
22. HIS – Hospital Information System
23. LAMA – Leave against medical advice
24. PC – Partially Complete
25. ALOS-Average Length of Stay

26-MAS-Minimal Access Surgery

SECTION 1: INTERNSHIP REPORT

AAKASH HEALTHCARE, DWARKA, NEW DELHI

STATE OF ART TECHNOLOGY


Aakash Healthcare
Super Speciality Hospital
We care, He cures
VISION
MISSION
VALUES
I C A R E


Aakash Healthcare
Super Speciality Hospital
I C A R E

SECTION 1: INTERNSHIP REPORT

(01 Feb - 30 Apr 2018)

1.1 Introduction

1. Mr. J.C. Chaudhry, the Chairman of Aakash Institute started teaching with one institute in 1988 with 12 students. Today after 30 years of perseverance and excellence, Aakash is a household brand, with more than 150 centres across the country, training more than 1,25,000 students every year, turning them into accomplished medical and engineering professionals.

2. Aakash Healthcare is a subsidiary of the Aakash Group, and is a state of the art healthcare facility and the first smart hospital in this part of the city. Their patient-centric policy, erudite doctors and compassionate staff offer the best in class healthcare for everyone. Healthcare was a palpable choice for the parent organization, since this sector shall benefit the institute's enormous alumni network spread across continents.

3. In the month of November 2011, Dr. Aashish Chaudhry envisioned a smart orthopaedic clinic for the people of Dwarka, New Delhi, which is Asia's biggest residential colony. The clinic thrived as a result of his ethical and transparent healthcare practices, and in present-day Dr. Chaudhry is a celebrated orthopaedic surgeon, having performed innumerable successful orthopaedic surgeries, giving agility and the ease of movement to the incapacitated.

4. Aakash Healthcare is a super specialty hospital, with state of the art infrastructure, path breaking technology, offering unrivalled healthcare services. Dr. Aashish Chaudhry, the founder and Director of Aakash Healthcare, aims to make Aakash Healthcare the most preferred healthcare brand by providing compassionate, inexpensive, and world class healthcare services, with a talented team of doctors, and ultra-modern technology, ensuring speedy recovery.

Infrastructure Highlights

(a) 230 Beds in Phase 1.

(b) 70 Bedded Medical and Surgical Critical Care Unit.

(c) 24x7 Cardiac Emergency & Trauma Services.

(d) 15 Bedded Dialysis Unit.

(e) Advanced Neonatal ICU.

(f) Ward Bed Options - Suite, Deluxe, Twin Sharing and Economy.

(g) 8 Modular OTs.

(h) Flat Panel Cath Lab

(i) State-of-the-art diagnostic equipment's that include - 3.0 Tesla MRI, 128 slice CT scan, Flat panel C-Arm, and 4-D Ultrasound to name a few.

(j) Automated Waste & Laundry Management System for efficient waste management.

(k) Pneumatic Chute System.

6. Aakash Healthcare is under the process of obtaining the accreditation by the National Accreditation Board for Hospitals & Healthcare Providers (NABH), accreditation programme for healthcare organizations. It also aims to obtain accreditation from National Accreditation Board for Testing and Calibration Laboratories (NABL) as well as international bodies.

1.2 (a) Vision

7. To become the most desired heath care brand by providing compassionate, caring and world class service with the help of talented team of doctors, professionals and latest technology.

1.2 (b) Mission

8. To achieve highest patient satisfaction index by delivering patient centric best healthcare service amongst the local and extended community.

1.2 (c) Values

9. Aakash Healthcare values define their organization and their ethos and what they stand for ICARE. These values are:

***I* :** Integrity

***C* :** Compassion

***A* :** Accountability

***R* :** Respect

***E* :** Excellence

1.3 Organization Profile

10. Aakash Healthcare, Dwarka provides Centre of Excellence in following Departments:

(a) Cardiology and Cardiac Surgery.

(b) Orthopaedics and Joint Replacement.

(c) Neurology.

(d) Pulmonology.

(e) Oncology.

(f) Urology Sciences.

(g) Clinical Nutrition.

(h) Plastic and Cosmetic/Reconstructive Surgery.

(j) Dentistry.

(k) Endocrinology.

(l) ENT and Hearing and Speech.

(m) Internal Medicine.

(n) Ophthalmology and Refractive Surgery.

(o) Trauma and Emergency (24 x 7).

(p) Obstetrics & Gynaecology.

(q) Physiotherapy.

(r) Blood Bank and Transfusion Medicine.

(s) Dermatology.

(t) Mental Health and Behavioural Sciences.

(u) Radiology.

(v) Critical Care.

1.4 Patient Information

11. **Hospital Facilities**

(a) **Rooms**: At Aakash Healthcare there are various room categories as under :

(i) **Suite:** Suite at Aakash Healthcare has an adjacent living room with a separate washroom, Wi-Fi Connectivity, small refrigerator, a TV, a microwave, two lockers for safekeeping and personal belongings, full time nursing staff, a housekeeper, and integrated dining facility.

(ii) **Deluxe:** Deluxe room at Aakash Healthcare has an attendant bed, Wi-Fi Connectivity, small refrigerator, a TV, two lockers for safekeeping

personal belongings, integrated dining facility for the attendant and full time nursing staff available.

(iii) **Single Room:** Single room at Aakash Healthcare has an attendant bed, Wi-Fi connectivity, small refrigerator, a TV, a locker for personal belongings, and integrated dining facility.

(iv) **Twin Sharing:** Twin sharing rooms at Aakash Healthcare has a bed for attendant, a TV and a locker for personal belongings.

(v) **Multi Bed Room:** Multi bed room at Aakash healthcare has chairs and a locker for personal belongings and essentials.

(b) **Cafeteria**: Cafeteria of Aakash Healthcare opens all day and night, with an assorted range of food and beverage options to choose from. It is located at the ground floor, and is open to employees and visitors. Another healthy food corner setup by Pappa Curry is open from 8:00am to 9:00 pm.

(c) **Laundry Services**: Provision of Laundry services have been catered for in the hospital.

(d) ATM.

(e) **Lounge for visitors**: Easy chairs have been provided on the 2nd floor.

(f) **Internet Access**: The entire facility is Wi-Fi enabled.

(g) **Travel Desk**: Aakash Healthcare has provision of travel desk.

(h) **Pharmacy**: Aakash Healthcare has a 24x7 pharmacy located on the ground floor, and one can get medicines anytime one wants.

(i) Prayer and meditation room.

(j) 1.5 Other Key Learning

(k) 16. In addition to carrying out the project assigned, the following training was also carried out by me:

(l) (a) Understanding the process flow of CSSD, radiology department, food and beverages department, MRD, bioengineering department.

(m)(b) Understanding the process of implementation and training in the hospital in accordance of NABH accreditation.

(n) (c) Understanding the Admission and Discharge process.

(o) (d) Learned the purchase process for procuring drug in the pharmacy.

(p) (e) Familiarized with the HR department and policies of the Hospital.

(q) (f) Understood the Bio Medical Waste Management of the Hospital.

(r) (g) Developed specific learning about the project study undertaken.

(s) (h) The job of a hospital administrator is dynamic, flexible and is full of challenges.

(t) (i) Quality control & patient satisfaction is a dynamic process.

(u) (j) Shortage of trained technical manpower/multi-tasking of the available manpower leads to lesser patient satisfaction.

SECTION 2: DISSERTATION

SECTION 2- DISSERTATION

2.1 Introduction

A fundamental measure used in health services research is the mean length of stay (LOS) for a defined set of patients in a specific institution. In many cases, this average LOS (ALOS) is used to compare different health facilities or changes within a single facility and plays a central role in the evaluation of resource utilization. Annexure 4 of NABH guidelines captures 64 quality indicators; ALOS is one among them. The continuous quality improvement (CQI) 4c lists bed occupancy rate and ALOS. LOS is a term used to measure the duration of a single episode of hospitalization. ALOS is computed by dividing the total number of inpatient hospital days, counted from the date of admission to the date of discharge by the total number of discharges (including deaths) in the hospital during a given year.

Hospitals face an increasing demand for hospitalization, due to the introduction of innovative technology in diagnostic and therapeutic Procedures, for higher standards in clinical safety and, finally, an increasing patient demand for better quality services. Optimum bed management is a strategic aim in any hospital as the provision of an inpatient bed, together with the staff and supplies involved, accounts for much of its most complex and expensive activity. Therefore, it is essential to have efficient and correct bed management in order to improve services.

2.2 Rationale of the study

Average length of stay is used in assessment of quality of care, costs and efficiency. The indicator is often used for health planning purposes. This phenomenon gives a clear idea to those physicians who render the services towards patients. Further, as there is limited availability of beds in India, identification of factors leading to longer stay in hospital will help in increased bed supply within the existing resources.

Aakash Healthcare is one of the private hospitals in Delhi which caters to the needs of a large number of patients staying in Dwarka and the adjoining areas. Therefore timely availability of beds is essential to maintain a smooth flow of patients and reduce their inconvenience. Reducing the LOS will help in augmenting the availability of beds. This study will help us in reducing the stay of patients by calculating the discharge dates prior to its occurrence and thus enabling the hospital administration a better health planning. Moreover it will also help us speed up the process of reimbursement by the insurance companies. ALOS is used to calculate future bed needs or helps in forecasting future bed requirements and helps in

to set contract figures, helps in patient categorisation and also helps in analysis of changing current elective admission policy. These are very useful or necessary to fulfil the needs of bed allocation and forecasting requirements while planning and managing bed capacity.

Department wise analysis would give valuable information about the requirements of drugs, equipment's and manpower so that advanced planning could be done.

2.3 Review of literature

CQI refers to have a systematic approach to collecting and reviewing data or information to identify opportunities to improve the operations of an organization with the end result of delivering better services to customers or client.

Average length of stay in orthopaedic patients (THR and TKR surgeries):

In a study "**A multimodal clinical pathway can reduce length of stay after total knee arthroplasty. PubMed – NCBI**" says clinical pathways reduce length of stay which is critical for hospitals to remain financially sound. Rapid recovery protocols have safely reduced the average length of hospitalization. 30-day complication and readmission were studied for total knee arthroplasty (TKA), total hip arthroplasty (THA), and unicompartmental knee arthroplasty (UKA) based on day of discharge.

Average length of stay in General and Minimal Access Surgeries (Laparoscopic surgeries):

Laparoscopic cholecystectomy has become the preferred procedure for cholelithiasis-related disease. Population-based studies have found that the rate of cholecystectomy has increased since the introduction of the laparoscopic approach. Given this ubiquity, hospital utilization for laparoscopic cholecystectomy is an important area for study to better manage the care for patients requiring intervention for symptomatic gallbladder disease.

Results have been disparate when differences in hospital length of stay between laparoscopic and traditional small incision cholecystectomy have been analysed, as well as when costs and charges between the 2 have been compared several studies have demonstrated a shorter hospital stay but longer operative time for laparoscopic cholecystectomy compared with traditional small incision cholecystectomy. However, **Keus and colleagues** found in their analysis that there was no statistical difference in hospital stay between these groups. When examining early versus delayed laparoscopic cholecystectomy, several studies have

demonstrated a decreased hospital stay with early laparoscopic cholecystectomy. The differing results for hospital length of stay and cost/charge analysis suggest that there is a need for better understanding of the relationship between hospital length of stay and cholecystectomy. The focus of this article is to better characterize the components that are contributing factors and their relative influence on postoperative length of stay.

Average length of stay in Obstetrics and Gynaecology patients (Lap hystectomy, LCSC):

Length of stay in Obstetrics and Gynaecology patients is mostly concerned around two kind of groups- Normal deliveries and deliveries with low weight birth infants **Yanover and colleagues** reported a Randomised Controlled Trail involving early discharge of patients following normal deliveries in 1976 from San Francisco. The study population was then discharged after 12 or 24 hours but only if the mother and the infant met certain conditions which would determine whether or not they were fit for an early discharge.

Another Randomised Controlled Trail has been done in a U.S. population by, **Dillard and Korones** reported a study in Memphis were low birth weight infants were studied and randomly assigned to the study and the control group. A similar study of England was conducted which showed similar results, there were no readmissions, 20 infants from the low birth weight were taken and 20 study groups.

The optimal length of hospital stay in obstetrics and gynaecology has recently been much debated, as short hospitalisation times being commonly introduced as alternatives to conventional hospitalisations. The hospital stay for major gynaecological and obstetric surgery as well as normal delivery was studied in the hospitals working in area of the Turku University Central Hospital (population approximately 750,000). In the six studied hospitals the mean hospital stay for abdominal and vaginal hysterectomy decreased during the 1980s by one fifth. In 1992, the mean hospitalisation for hysterectomy varied from 7.4 to 8.3 and from 9.0 to 9.1 days, for abdominal and vaginal hysterectomy, respectively, and that of caesarean section from 8.1 to 8.6 days. The number of days in hospital required for normal delivery was 4.4-6.2 days.

Average length of stay in Neurology patients (Neurosurgery):

A retrospective cross sectional study was carried out in a 1250 bedded tertiary care hospital in Singapore was done for a year starting from the month of January 2014. Prolonged Length of Stay was described as the prolonged variation in length of stay due to the complex surgical process that follows. Pre-operative, post-operative and intra-operative factors were taken as the

predictor variables for the study. The factors which were responsible for increased length of stay were age and admission after 5 pm.

2.4 Objective

To calculate ALOS for the key specialities in Aakash Healthcare, Dwarka.

Specific Objective:

a. To identify the average length of stay and its determinants among IPD patients admitted to a tertiary care hospital

b. To identify the specialities with the highest length of stay.

c. To recommend steps to cut down ALOS.

2.5 Methodology

Study Period: The study duration was from 01 Feb to 30 Apr 2018.

Study Population: The process flow was studied both for admissions and discharge of inpatients.

Sample Size: Data of two quarters has been taken for only key specialities-Orthopaedics and Spine surgery, Obstetrics and Gynaecology, Paediatrics, Renal Sciences (Nephrology and Urology), Ophthalmology, General and Minimal Access Surgeries (MAS), Cardiology, Neurology and Neurosurgery. First quarter data is taken from November 2017 to January 2018 and second quarter data is taken from February 2018 to April 2018. And a comparison of average length of stay between the two quarters has been done.

Study Variables: All in-patients of the key specialties.

Study Tool/ Data collection Tool: Data has been collected from the HIS functionality of Aakash Healthcare. A list of total discharges were taken from the HIS and then the data was segregated on the basis of the selected specialties.

Sampling Technique Multistage sampling technique was used.

Data Source: Primary and Secondary data was obtained by collecting required information from the HIS functionality of the in patients discharged in the month of November to April 2018 from the hospital.

Data Analysis: A descriptive study was carried out in a tertiary care hospital. The data was analysed with the help of Microsoft Excel 2010. There are two methods of calculating average length of stay. The formula for each method is as follows:

METHOD 1: (TOTAL DISCHARGE DAYS/ TOTAL DISCHARGES) = AVERAGE LENGTH OF STAY IN DAYS

METHOD2: (TOTAL INPATIENT DAYS OF CARE/ TOTAL ADMISSIONS) = AVERAGE LENGTH OF STAY IN DAYS

Note: The first method is used in this study while calculating the average length of stay.

The study is divided in following stages:

(a) Finding out the average length of stay for the key specialties
(b) Compiling data and data analysis.

2.6 Study Findings and Results:

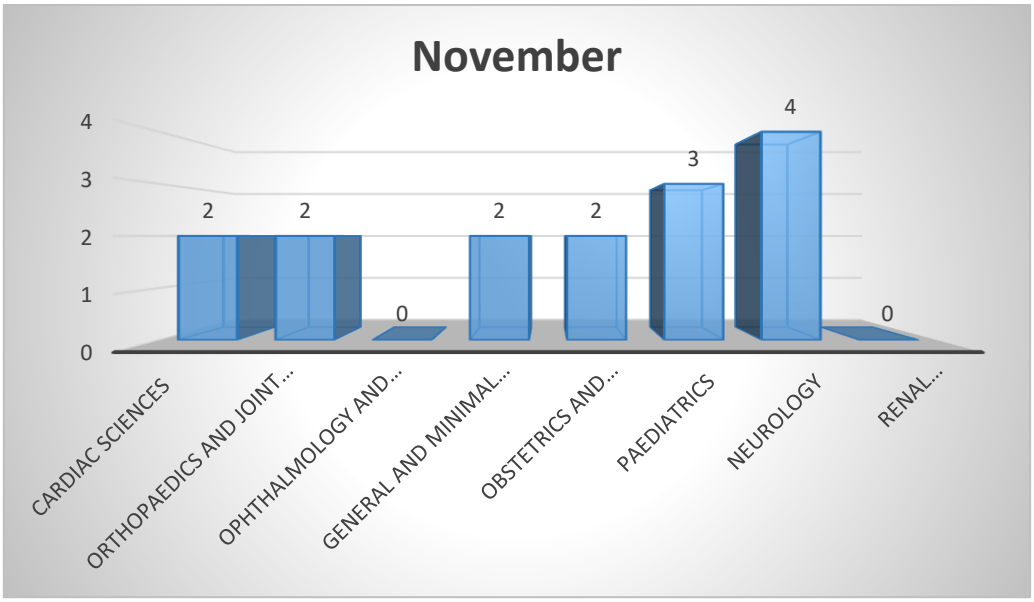
According to the data analysed, total study population was 1,155 in the first quarter and 1,391 in the second quarter (Total discharge patients).

A.Analysis for the first quarter:

Departments	Month of November 2017
Cardiac Sciences	2
Orthopaedics and Joint Replacement	2
Ophthalmology and Refractive study	0

General and Minimal Access Surgeries	2
Obstetrics and Gynaecology	2
Paediatrics	3
Neurology	4
Renal Sciences(Nephrology & Urology)	0

Table 1: ALOS for the month of November



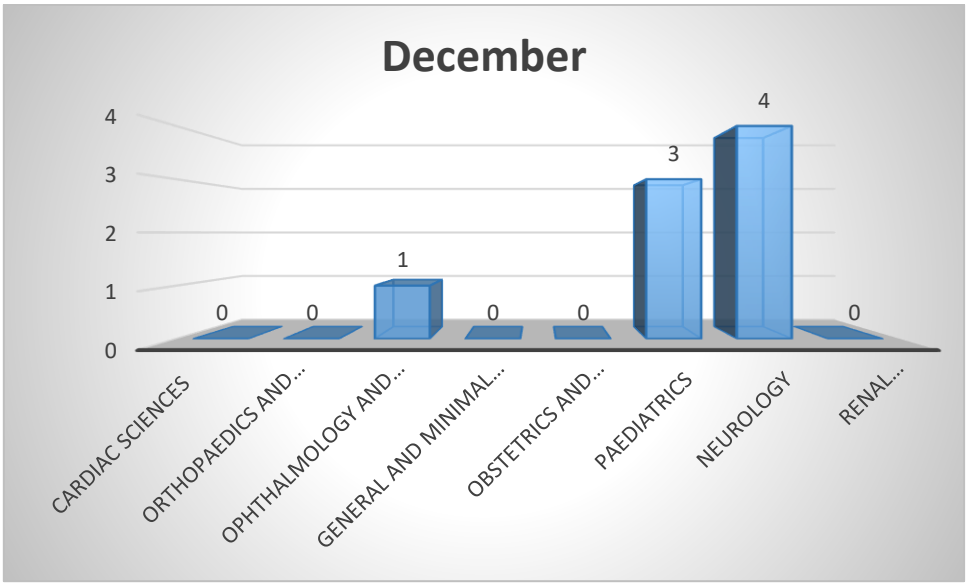
Graph1: Comparison of ALOS for key specialities for the month of November.

From the above data it is relevant that in the month of November, the average length of stay is highest in Neurology patients which is 4 days, whereas the lowest length of stay is in Ophthalmology and Renal sciences patients which is 0 days. Similarly the average length of stay for Cardiac, MAS, Orthopaedics and Gynaecology patients is 2 days. The length of stay of Paediatric patients is 3 days.

Specialities	**Month of December 2017**
Cardiac Sciences	0
Orthopaedics and Joint Replacement	0
Ophthalmology and Refractive study	1

General and Minimal Access Surgeries	0
Obstetrics and Gynaecology	0
Paediatrics	3
Neurology	4
Renal Sciences(Nephrology & Urology)	0

TABLE 2: ALOS for the month of December



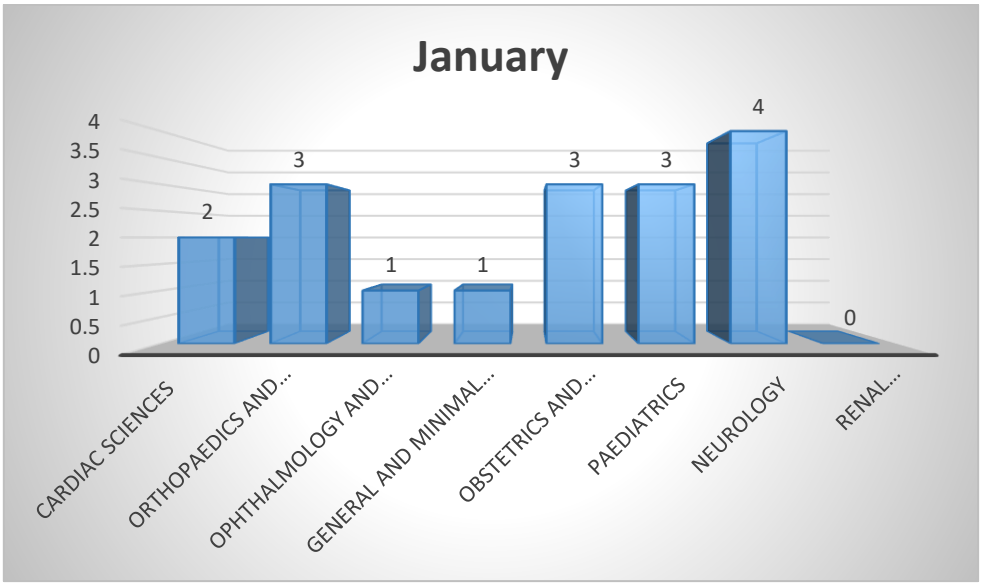
Graph 2 Comparison of ALOS for key specialities for the month of December

From the above data it is relevant that for the month of December, the average length of stay is highest in Neurology patients which is 4 days, whereas the lowest length of stay is in Ophthalmology patients which is 0 days. Similarly the average length of stay is o for Cardiac, Orthopaedics, Renal sciences, MAS, Gynaecology is 0 days. For paediatric patients, length of stay is 3 days.

Specialities	**Month of January 2018**
Cardiac Sciences	2
Orthopaedics and Joint Replacement	3

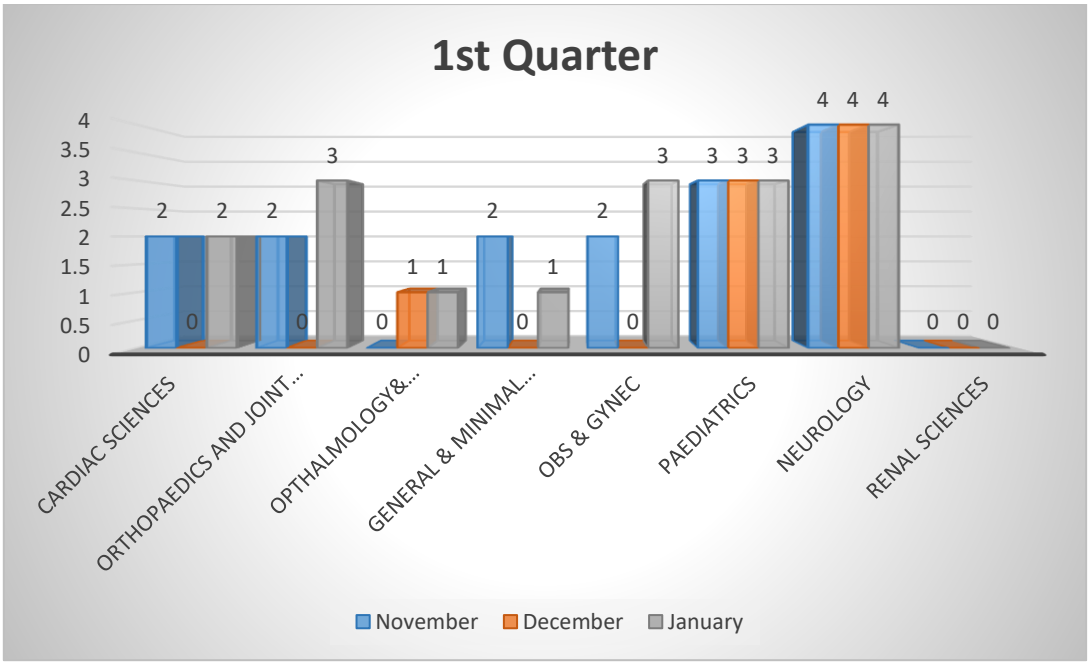
Ophthalmology and Refractive study	1
General and Minimal Access Surgeries	1
Obstetrics and Gynaecology	3
Paediatrics	3
Neurology	4
Renal Sciences(Nephrology & Urology)	0

Table3: ALOS for the month of January



Graph3: Comparison of ALOS for key specialities for the month of January

From the above data it is relevant that for the month of January, the average length of stay is highest in Neurology patients which is 4 days, whereas the lowest length of stay is in Ophthalmology patients which is 0 days. Similarly the average length of stay for Orthopaedics, Gynaecology and Paediatrics is 3 days. For Renal and MAS patients, average length of stay is 1 days.



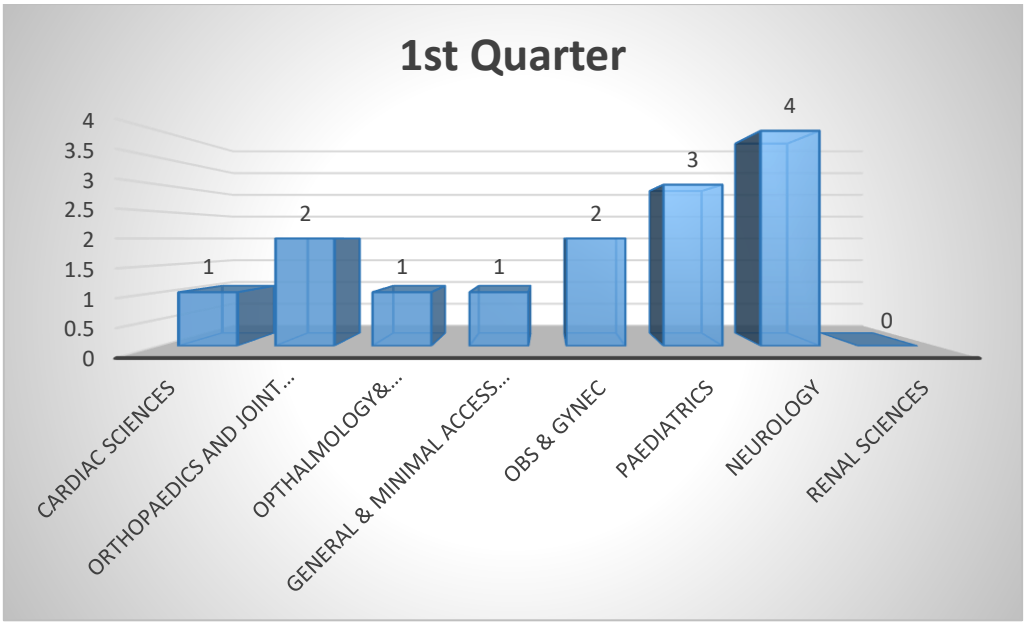
Graph4: Month-wise comparison of ALOS for key specialities in the first quarter

From the above data it is relevant that in the first quarter the average length of stay, has been constantly high for Neurology patients (4 days) and the lowest is for Renal Patients (o days).

Quarterly ALOS (Average Length of Stay) for the first quarter is as follows:

Specialities	**Quarterly ALOS**
Cardiac Sciences	1
Orthopaedics and Joint Replacement	2
Ophthalmology and Refractive study	1
General and Minimal Access Surgeries	1
Obstetrics and Gynaecology	2
Paediatrics	3
Neurology	4
Renal Sciences(Nephrology & Urology)	0

Table4: ALOS for the first quarter

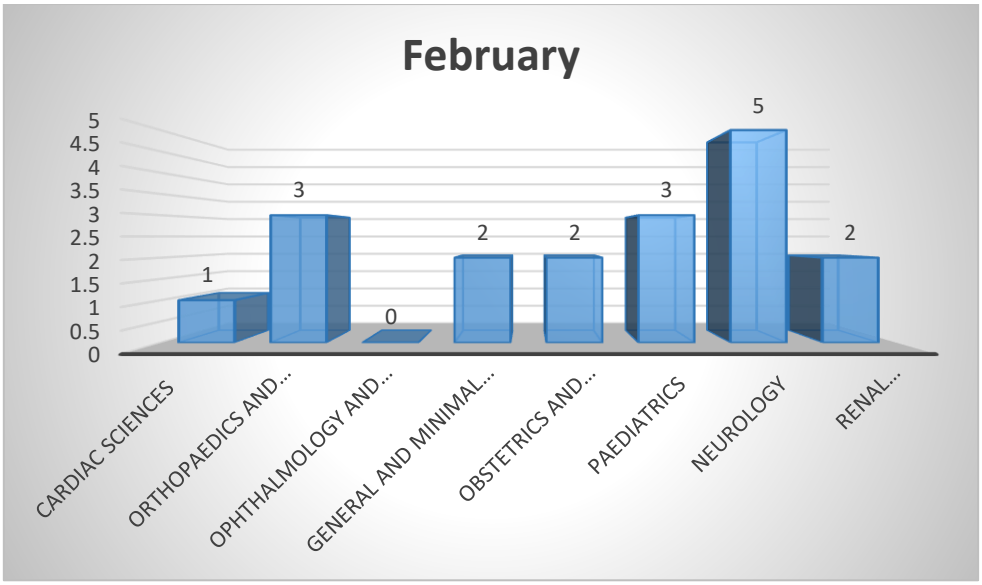


Graph 5: Comparison of ALOS of key specialities.

B. Analysis for the second quarter:

Specialities	Month of February 2018
Cardiac Sciences	1
Orthopaedics and Joint Replacement	3
Ophthalmology and Refractive study	0
General and Minimal Access Surgeries	2
Obstetrics and Gynaecology	2
Paediatrics	3
Neurology	5
Renal Sciences(Nephrology & Urology)	2

Table5: ALOS for the month of February

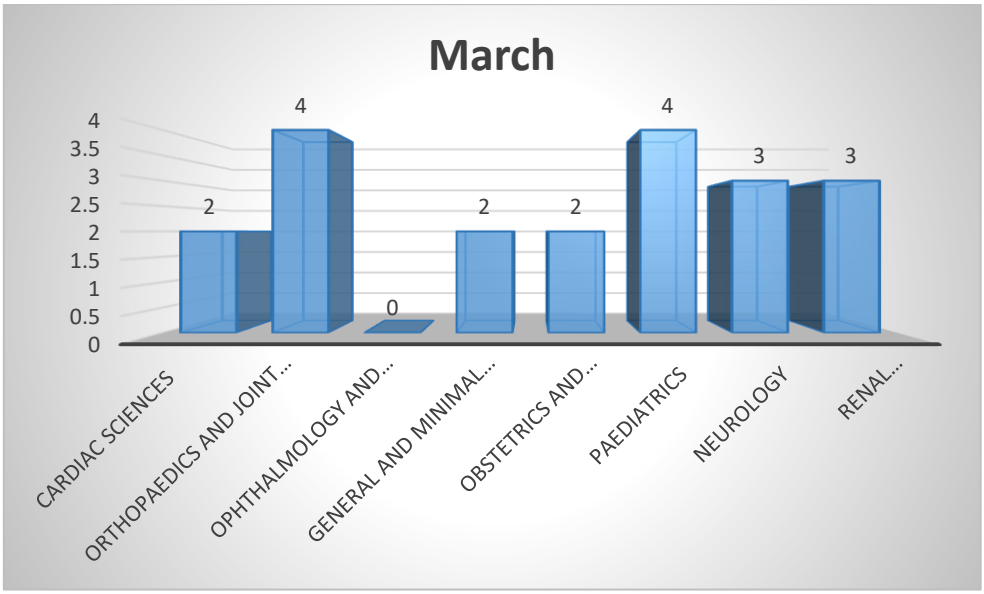


Graph6: Comparison of ALOS for key specialities for the month of February

From the above data it is relevant that for the month of February, the average length of stay is highest in Neurology patients which is 5 days, whereas the lowest length of stay is in Ophthalmology patients which is 0 days. Similarly the average length of stay for Gynaecology, Renal and MAS is 2 days. For Orthopaedics and Paediatrics patients, average length of stay is 3 days.

Specialities	**Month of March 2018**
Cardiac Sciences	2
Orthopaedics and Joint Replacement	4
Ophthalmology and Refractive study	0
General and Minimal Access Surgeries	2
Obstetrics and Gynaecology	2
Paediatrics	4
Neurology	3
Renal Sciences(Nephrology & Urology)	3

Table6: ALOS for the month of March

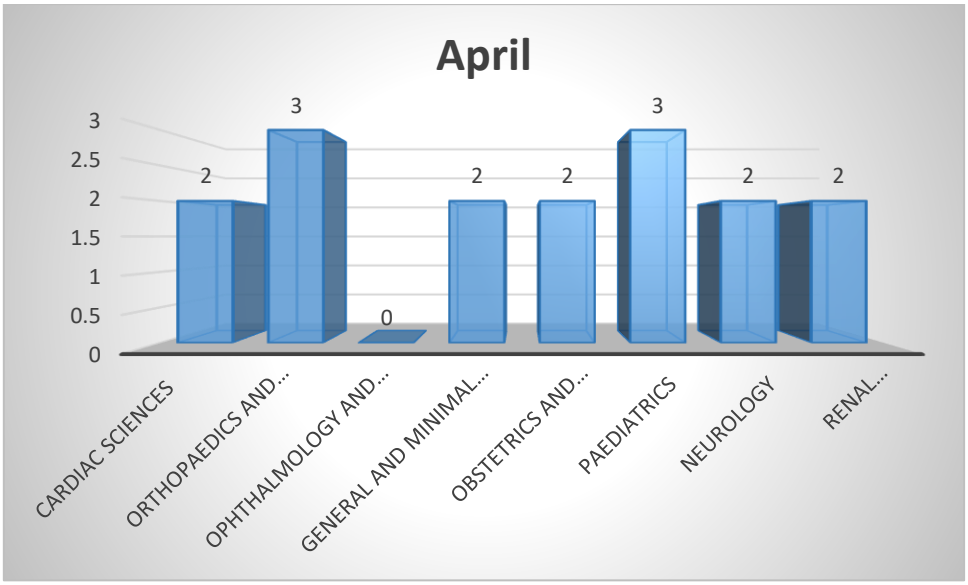


Graph7: Comparison of ALOS for key specialities for the month of March

From the above data it is relevant that for the month of March, the average length of stay is highest in Paediatrics and Orthopaedics patients which is 4 days, whereas the lowest length of stay is in Ophthalmology patients which is 0 days. Similarly the average length of stay for Gynaecology, Cardiac and MAS is 2 days. For Neurology and Renal sciences, average length of stay is 3 days.

Specialities	**Month of April 2018**
Cardiac Sciences	2
Orthopaedics and Joint Replacement	3
Ophthalmology and Refractive study	0
General and Minimal Access Surgeries	2
Obstetrics and Gynaecology	2
Paediatrics	3
Neurology	2
Renal Sciences(Nephrology & Urology)	2

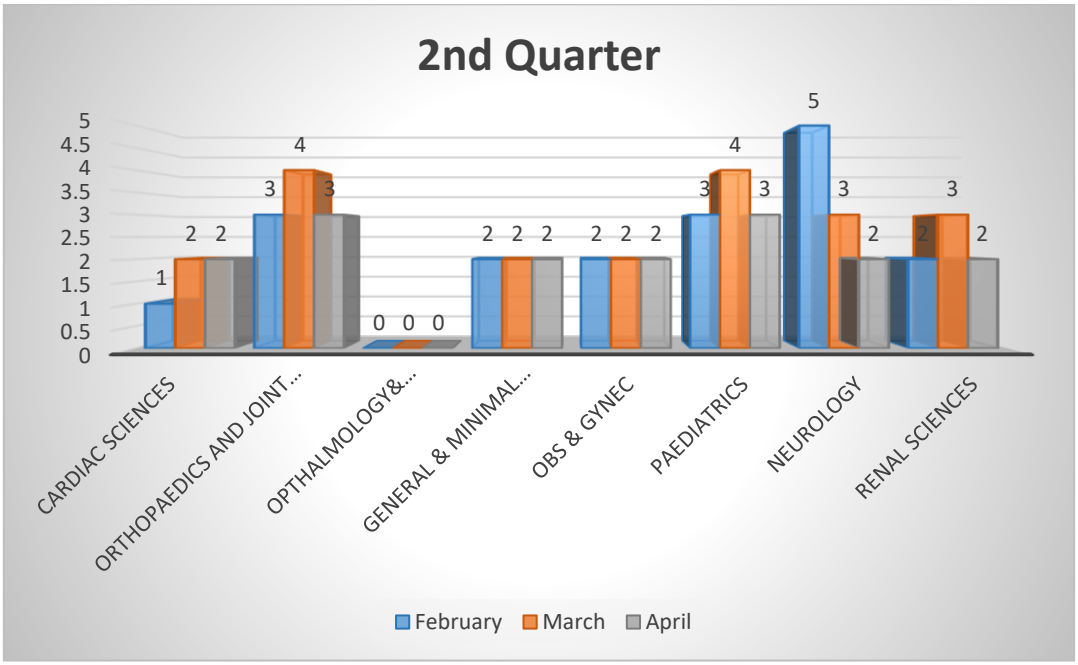
Table7: ALOS for the month of April



Graph8: Comparison of ALOS for key specialities for the month of April

From the above data it is relevant that for the month of April, the average length of stay is highest in Paediatrics and Orthopaedics patients which is 4 days, whereas the lowest length of stay is in Ophthalmology patients which is 0 days. Similarly the average length of stay for Gynaecology, Cardiac and MAS is 2 days. For Neurology and Renal sciences, average length of stay is 3 days.

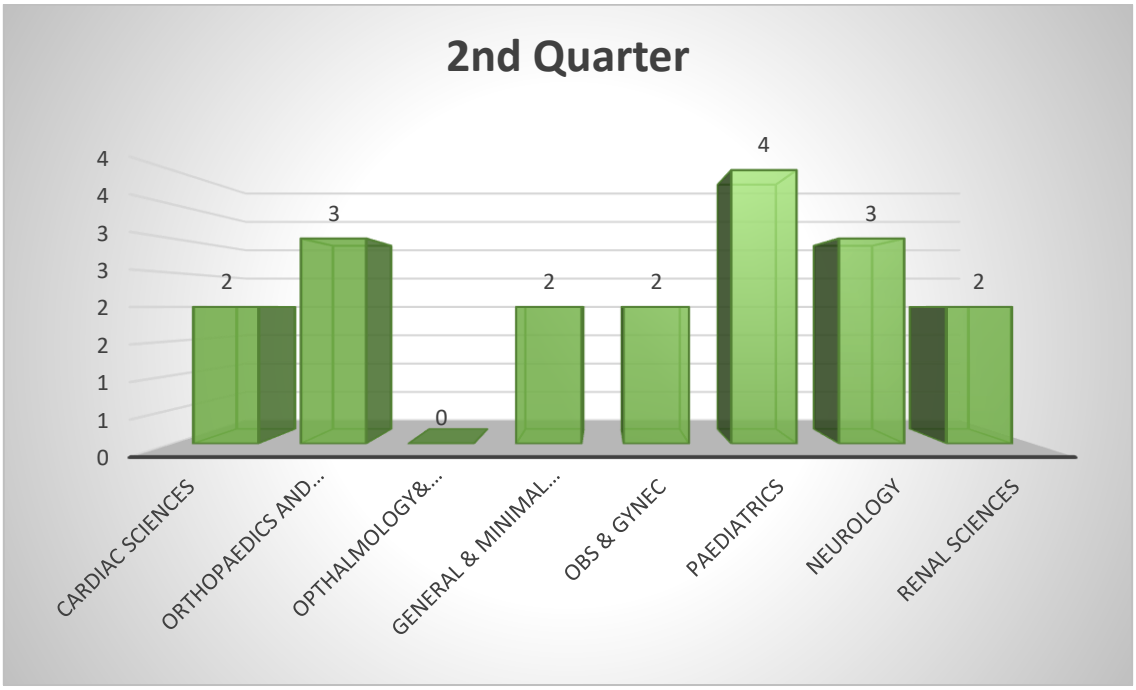
Quarterly ALOS (Average Length of Stay) for the second quarter is as follows:



Graph9: Month-wise comparison of ALOS for key specialities in the second quarter

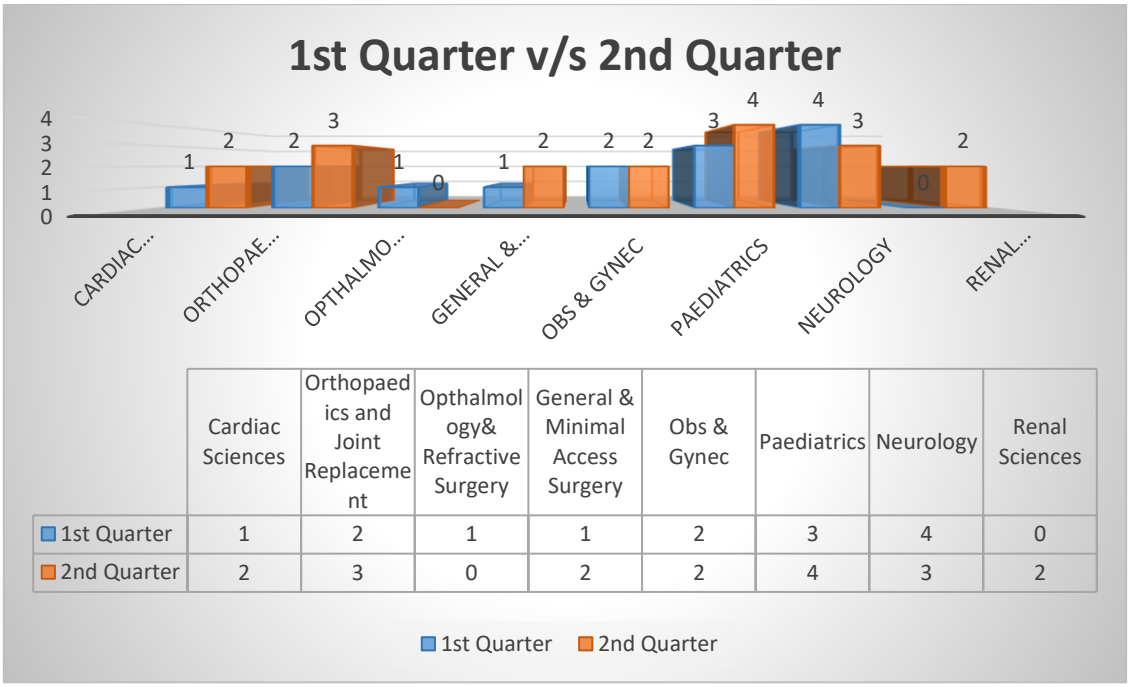
Specialities	Quarterly ALOS
Cardiac Sciences	2
Orthopaedics and Joint Replacement	3
Ophthalmology and Refractive study	0
General and Minimal Access Surgeries	2
Obstetrics and Gynaecology	2
Paediatrics	4
Neurology	3
Renal Sciences(Nephrology & Urology)	2

Table8: ALOS for the Second quarter



Graph10: Comparison of ALOS of key specialities.

From the above data it is relevant that overall in the second quarter the average length of stay, has been constantly high for Paediatric patients (4 days) and the lowest is for Ophthalmology patients (o days).



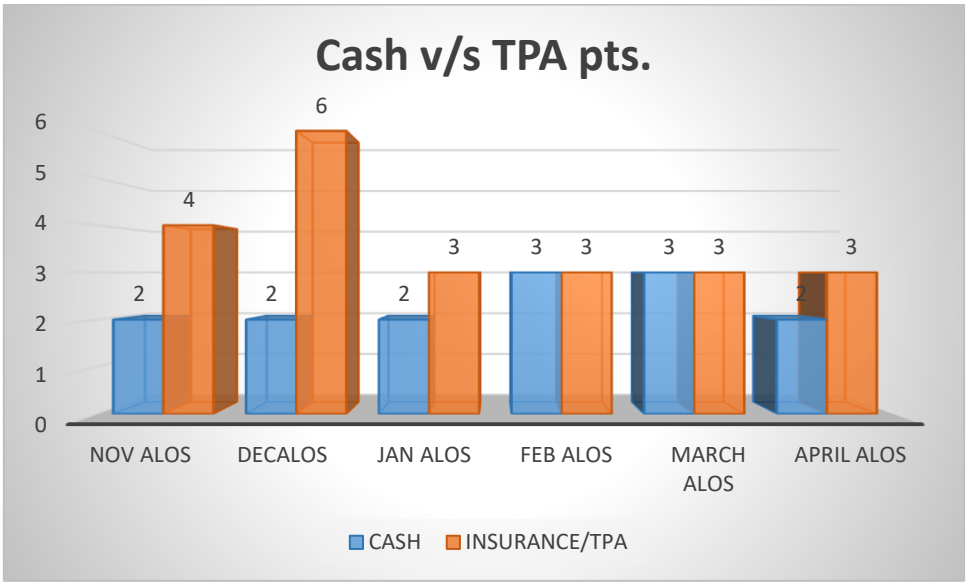
	Cardiac Sciences	Orthopaedics and Joint Replacement	Opthalmology& Refractive Surgery	General & Minimal Access Surgery	Obs & Gynec	Paediatrics	Neurology	Renal Sciences
1st Quarter	1	2	1	1	2	3	4	0
2nd Quarter	2	3	0	2	2	4	3	2

Graph11: Comparison of ALOS for the two respective quarters

When we compare the data between the first quarter and the second quarter it is observed that overall Neurology patients have a longer average duration than any other specialities. Ophthalmology is one other specialities which has constantly been the lowest in terms of length of stay.

Specialities	1st Quarter	2nd Quarter
Cardiac Sciences	1	2
Orthopaedics and Joint Replacement	2	3
Ophthalmology and Refractive study	1	0
General and Minimal Access Surgeries	1	2
Obstetrics and Gynaecology	2	2
Paediatrics	3	4
Neurology	4	3
Renal Sciences(Nephrology & Urology)	0	2

Table9: Speciality-wise comparison of ALOS for two quarters



Graph12: Comparison of ALOS on the basis of payment

From the above data we can conclude that the mode of payment affects the average length of stay. The average length of stay is slightly higher also varies with the mode of payment by the patients.

3. Conclusion

It is observed that the length of stay varies according to the disease, the type of surgery and the unit under which patients are admitted. Appropriate utilisation of Health Services may be defined as adequacy in the provision of needed services. In India ALOS of 4 to 5 days is considered to be good.

The average length of stay for Neurology and Neurosurgery is computed to be highest reasons being, considering the complexity of surgery, providing quality treatment and proper care. Ophthalmology patients are usually day-care patients and minimal access surgeries provide an early discharge, hence the lower length of stay.

The length of stay also depends on the payment basis, whether it's a cashless treatment or a reimbursement policy. The patients who pay in cash need to deposit an advance depending on the room category and the type of procedure the patient would undergo. For TPA patients, room category is decided based on the insurance policy availed by the patient. Though TPA patients also need to deposit certain amount but that is refundable once approval is received from their TPA.

4. Recommendations

Managing LOS is one of the most vexing challenges for any hospital. Though patients do need minimum stays for recovery and monitoring, LOS is sometimes too long because patients are forced to wait for varying reasons. As a result, patients suffer and hospitals incur a revenue loss of "denied days."

Based on the study findings the following recommendations are made to optimise the utilisation of hospital beds and help in reducing the length of stay:

1. Consultants need to confirm the planned discharge of patients at prior notice.

2. Through proper coordination of billing staff with doctors and investigation department such as lab and radiology to give reports of insurance patients as early as possible so that it can be sent earliest for insurance approval.

3. Miscommunication should be reduced and intimation for discharge by the doctor's should be written on the files as well so that the duty doctor does not miss them.

4. A discharge coordinator should be appointed to facilitate the discharge process by acting as a mediator to increase interdepartmental communication.

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