

**PLANNING FOR HOSPITAL – PERSPECTIVE FROM A
SITUATIONAL ANALYSIS OF A 500 BEDDED TERTIARY CARE
HOSPITAL IN BHUBHANESHWAR, ODHISHA**

Dissertation Submitted to



The IIHMR University, Jaipur

for the partial fulfilment for the award of the degree of

Master of Business Administration (MBA)

in

Hospital and Healthcare Management

by

Dr. Shahnawaz Khan

Under the Supervision and Guidance of

Prof. Anoop Khanna

2022

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DECLARATION BY STUDENT

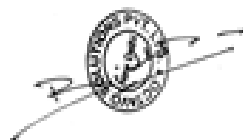
I hereby declare that this dissertation titled Planning for Hospital- Perspective from a situational analysis of a 500 bedded tertiary care hospital in Bhubaneswar, Odisha is the Bonafede record of my original research work. I declare that it has not been submitted to any other university or institution for the award of any degree or diploma. Information derived from the published or unpublished work of others has been duly acknowledged in the text.



Dr. Shahnawaz Khan

CERTIFICATE

This is to certify that Dr. Shahnawaz Khan in partial fulfillment of the requirements for the award of the degree of MBA (Hospital and Health Management from the IIHMR University, Jaipur has successfully completed her/his internship at Octavo Solutions Pvt Ltd. during March 22, 2022, to June 19, 2022.



Place: NEW DELHI	Dr. Bidhan Das Managing Director, Octavo Solutions Pvt Ltd.
Date: 20-June-2022	

CERTIFICATE

This is to certify that dissertation titled Planning for Hospital- Perspective from a situational analysis of a 500 bedded tertiary care hospital in Bhubaneswar, Odisha is a record of the research work undertaken by Dr. Shahnawaz Khan in partial fulfillment of the requirements for the award of the degree of MBA (Hospital and Health Management from the IIHMR University, Jaipur under my guidance and supervision and his/her approach to the research study has been sincere, scientific, and analytical.

Faculty Guide
IIHMR University, Jaipur
Date

School Dean
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Date

Abstract

We have seen the destructive effects of inadequate planning on the design and construction of healthcare facilities in both developed and emerging markets repeatedly in an environment where failure to prepare is planning to fail. Despite the best intentions to serve a rising market, infection control, staff efficiency, hospital workflow, and patient safety and comfort are sometimes disregarded.

This appears to occur more frequently when a knowledgeable healthcare design team is not in charge of the project or when the building is not tailored to a particular healthcare facilities or market's needs. The overarching goal of a professional Hospital Technology Planning team is to assist in the development of global hospital design standards that support patient safety, infection control, and optimised workflows based on the placement of rooms and departments and functional adjacencies.

Moving forward with construction without a thorough review procedure may raise the chance of later modification orders and deviations. Growth in the number of beds, additional departments, and the changing structure of the population and healthcare demands should all be taken into account throughout the facility's design phase. A decent healthcare institution should last for at least 30 years.

Without a solid base of information, data, and evidence on the existing situation of the health system, coherent and needs-oriented health sector planning is impossible. Therefore, the motive behind carrying out a situational analysis study for a healthcare institution are:

- To examine the current state of the health sector, including all of its strengths, weaknesses, opportunities, and threats, as well as their basic causes and impacts.
- To provide an evidence-based foundation for responding to the public's healthcare needs and expectations.
- To provide an evidence-based foundation for establishing future health-care strategic directions.

Thus, the question arises, how planning of a hospital upgradation programme from 100 bedded to a 500 bedded tertiary care hospital requires the need of situational analysis and the steps to carry out, implement, collect data, and analyse as per the pre-requisite?

“Situational analysis aids in the development of a foundation of knowledge about the environment in which a strategy is implemented. It establishes a shared point of reference for the planning process and prioritises tasks.”()

Analysis can assist identify organisational resources that can satisfy the needs of the communication plan before the communication plan is created to put the strategy into practise. It also assists to draw attention to parts of the plan that might need to be updated in order to take the current or evolving environment into consideration. You can identify areas in the implementation plan where something isn't working properly by keeping the analysis current.

The objective of the study includes-

1. To carry out a situational analysis for a hospital scale-up in state of Odisha.
2. To study the perspectives of different stakeholders in the catchment area of the upcoming upscaled project.

3. To determine the feasibility of the hospital as per needs of the community at large for the project.

In this the study design will involve a (1) systematic review (desk research) and (2) Primary data collection from the different stakeholders.

The Literature review will be done by using a systematic approach to locating, assembling, and evaluating a body of literature on a specific topic based on a set of criteria.

Acknowledgement

I would like to express my gratitude to the persons listed below, without whom I would not have been able to conduct this research or complete my master's degree!

Notably Prof. Anoop Khanna IIHMR University, who guided me through this research with his expertise and knowledge of the issue. Without his guidance throughout the period the research would have never been into existence.

And a particular thanks to Dr. Bidhan Das, Managing Director OCTAVO Solutions Pvt. Ltd whose recommendations allowed me to push my studies farther and guided me with all his cumulative experience for reaching towards a systemic and formative approach for the project.

Residents of Odisha, without whom I would have no content for my report since they took the time to return surveys.

My Octavo Solutions Pvt. Ltd. colleagues, who have supported me and had to put up with my pressures and needs for the previous three months of study!

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Table of Content

DECLARATION BY STUDENT	ii
CERTIFICATE	iii
CERTIFICATE	iv
Abstract.....	v
Acknowledgement	vii
Table of Content	viii
List of Figures	xi
List of Tables	xiii
Abbreviations.....	xv
Chapter 1 Introduction	1
1.1 Summary for theoretical recommendations for Situational Analysis	1
1.2 Norwegian Planning Process	2
1.3 Objectives of the study.....	3
Chapter 2 Review of literature	4
Chapter 3 Methodology	12
3.1 Study Design-.....	12
3.2 Setting	12
3.3 Study Population-.....	12
3.4 Sampling technique.....	12
3.5 Duration of Study.....	12
3.6 Data Analysis Plan-.....	13
3.7 Ethical Consideration-	13
3.8 Implication-	15
Chapter 4 Results	16
4.1 Mapping Hospitals of Catchment Area- Bhubaneswar City.....	16
4.2 Sample Size Calculation for Population of Bhubaneswar City.....	16
4.3 Margin of Error for Population of Bhubaneswar City	17
4.4 Results from the Hospitals	17
4.4.1 Year of Registration	17
4.4.2 Bed Strength.....	18
4.4.3 Departments	19
4.4.4 Services in Hospital	20
4.4.5 Number of Operation Theatres	21
4.4.6 Number of Outpatient Department Consultation Rooms.....	22
4.4.7 Number of Medical Staff in the Hospital	23

4.4.8 Number of Non-Medical Staff Personnel	24
4.4.9 Patient footfall values	25
4.4.10 Count of utilization of diagnostic services.....	26
4.4.11 Salary scale for hospital personnel- Medical & Non-Medical.....	27
4.5 Results from Doctors	28
4.5.1 Age Group of Doctors.....	28
4.5.2 Gender proportion.....	29
4.5.3 Qualification of Doctors.....	30
4.5.4 Specializations practiced by the doctors	30
4.5.5 Practise setting of the doctors	32
4.5.6 Years of Experience	32
4.5.7 Daily Count of OPDs attended by the doctors	33
4.5.8 Daily Count of IPD patients attended by the doctors.....	34
4.5.9 Daily count of Emergency room patients attended by the doctor	35
4.5.10 Daily count of major surgeries performed by the doctors.....	36
4.5.11 Daily count of minor surgeries performed by the doctors	37
4.5.12 Pay-scale satisfaction of the doctors in the organization	38
4.5.13 Response of doctors regarding support from Administrative staff	39
4.5.14 Response of doctors regarding support from Nursing staff	39
4.5.15 Response of doctors regarding support from Resident Doctors.....	40
4.5.16 Response of doctors regarding accuracy and promptness of diagnostic reports from the laboratories.....	41
4.5.17 Preference regarding Referral made by doctors of the patients	42
4.5.18 Percentage of specialities referrals made by the doctors.....	42
4.6 Results from Patients	43
4.6.1 Age group of patients.....	43
4.6.2 Gender proportion of surveyed patients.....	44
4.6.3 City of origin of the patients	45
4.6.4 Education attained by the patients	45
4.6.5 Types of services availed by the patients in the hospital	46
4.6.6 Rating of consultation services by the patients	48
4.6.7 Rating of consultation/IPD /diagnostic services fees by the patients.....	48
4.6.8 Rating of privacy provided by the hospital for the patients	49
4.6.9 Rating for food and beverages services by the patients	50
4.6.10 Rating of drinking water facilities by the patients	51
4.6.11 Rating of cleanliness of hospital premises by the patients.....	52
4.6.12 Rating of cleanliness of washroom at hospital premises by the patients	53

4.6.13 Time taken for registration at the hospital as per patient's survey.....	54
4.6.14 Time taken for consultation after the registration at the hospital as per patients	55
4.6.15 Rating of non-medical staff behaviour by the patients	56
4.6.16 Rating of nursing staff behaviour by the patients	56
4.6.17 Rating of treating doctor's behaviour by the patients	57
4.6.18 Rating of administrative staff's behaviour by the patients.....	58
Chapter 5 Discussion	60
Chapter 6 Conclusion.....	62
6.1 Recommendations.....	63
References.....	64
Annexure 1 Questionnaires	65
Sample Questionnaire for Doctors	65
Sample Questionnaire for Hospitals	67
Sample Questionnaire for Patients.....	71

List of Figures

Figure 1: Gantt Chart for the project.....	13
Figure 2: Data Analysis Plan	13
Figure 3: Map of Bhubaneswar city with demarcated hospitals in the Catchment area	16
Figure 4: Population Sample Size Calculation	16
Figure 5: Margin of Error calculation	17
Figure 6: Year of registration for surveyed hospitals.....	18
Figure 7: Classification of surveyed hospitals as per bed count	19
Figure 8: Number of specialities in surveyed hospitals	20
Figure 9: Number of In-house services in the surveyed hospitals	21
Figure 10: Number of outsourced services in the surveyed hospital	21
Figure 11: Number of Major & Minor OTs in surveyed hospitals	22
Figure 12: Number of O.P.D consultation rooms in surveyed hospitals	23
Figure 13: Number of medical staff in the surveyed hospitals	24
Figure 14: Number of non-medical staff in surveyed hospitals	25
Figure 15: Number of daily patient footfall availing services in surveyed hospitals.....	26
Figure 16: Number of services dispensed for diagnostics in surveyed hospitals.....	27
Figure 17: Average salary range of staff in surveyed hospitals	28
Figure 18: Difference in salaries for medical and non-medical staff in the surveyed hospitals .	28
Figure 19: Age grouping of the surveyed doctors.....	29
Figure 20: Gender data for surveyed doctors.....	29
Figure 21: Qualification of the surveyed doctors.....	30
Figure 22: Specializations practiced by the surveyed doctors	31
Figure 23: Practice setting for surveyed doctors.....	32
Figure 24: Years of experience for surveyed doctors	33
Figure 25: Daily number of O.P.D patients attended by the surveyed doctors.....	34
Figure 26: Daily number for I.P.D patients attended by the surveyed doctors.....	35
Figure 27: Daily number of Emergency room patients attended by the surveyed doctors	36
Figure 28: Daily number of major surgeries performed by the surveyed doctors	37
Figure 29: Daily number of minor surgeries performed by the surveyed doctors	38
Figure 30: Pay-scale satisfaction for the surveyed doctors.....	38
Figure 31: Support of administrative staff as realized by the surveyed doctors	39
Figure 32: Support of nursing staff as realized by the surveyed doctors	40
Figure 33: Support of resident doctors as realized by the surveyed doctors.....	41
Figure 34: Support of diagnostic services as realized by the surveyed doctors.....	41
Figure 35: Percentage of surveyed doctors practicing referrals.....	42
Figure 36: Specialities referred for by the surveyed doctors	43
Figure 37: Age group of patients surveyed.....	44
Figure 38: Gender Proportion of patients surveyed.....	44
Figure 39: City of origin of surveyed patients	45
Figure 40: Educational qualification of the surveyed patients.....	46
Figure 41: Services availed in the hospital by the surveyed patients.....	47
Figure 42: Ratings by surveyed patients for consultation services	48
Figure 43: Ratings by surveyed patients for fees charged for services at hospital	49
Figure 44: Ratings by surveyed patients for privacy services at the hospital	50
Figure 45: Ratings by surveyed patients for food and beverages services of the hospital.....	51
Figure 46: Ratings by surveyed patients for drinking water facilities	52
Figure 47: Ratings by surveyed patients for cleanliness of the hospital premises	53
Figure 48: Ratings by surveyed patients for cleanliness of the public facilities	54
Figure 49: Time taken for hospital registration as per the patients surveyed	55

Figure 50: Time taken from registration to consultation as experienced by the patients.....	55
Figure 51: Ratings by surveyed patients for non-medical staff behaviour	56
Figure 52: Ratings by surveyed patients for nursing staff behaviour	57
Figure 53: Ratings by surveyed patients for treating doctor's behaviour.....	58
Figure 54: Ratings by surveyed patients for administrative staff behaviour.....	59

List of Tables

Table 1: Literature Review	11
Table 2: Survey data Year of Registration of hospitals	18
Table 3: Survey data of Bed Strength of the hospitals.....	18
Table 4: Categorisation of organization size of the surveyed hospitals.....	19
Table 5: Number of Specialities department in the surveyed hospitals	20
Table 6: Utility services in the hospitals- Inhouse and Outsourced.....	20
Table 7: Number of Operation Theatres in the surveyed hospitals.....	22
Table 8: Survey data for number of O.P.D consultation rooms in the hospitals.....	22
Table 9: Survey data for Human Resources-Medical in the hospital.....	23
Table 10: Survey data for Human Resources- Non-Medical in the hospital	24
Table 11: Survey data for daily patient footfall in the hospitals	25
Table 12: Survey data for number of monthly diagnostic services utilization in hospital.....	26
Table 13: Survey data for salary range of staff in hospital	27
Table 14: <i>Survey data for age group of doctors under consideration</i>	29
Table 15: Survey data for gender group of doctors under consideration	29
Table 16: Survey Data of doctor's qualification	30
Table 17: Survey data of specializations practiced by the doctors.	31
Table 18: Survey data for practice-setting for the hospital.....	32
Table 19: Survey data for the years of clinical experience of the doctors under survey.....	32
Table 20: Survey data for Daily O.P.D patients attended by the doctor	33
Table 21: Survey data for daily I.P.D patients attended by the doctors	34
Table 22: <i>Survey data for daily emergency room patients attended by the doctors</i>	35
Table 23: Survey data for number of major surgeries performed by the doctors	36
Table 24: Survey data for number of minor surgeries performed by the doctors	37
Table 25: <i>Survey data for satisfaction of doctors regarding the pay-scale received</i>	38
Table 26: Survey data regarding support from administrative staff to the doctors.....	39
Table 27: Survey data regarding support from nursing staff to the doctors.....	40
Table 28: <i>Survey data regarding support from resident doctors to the doctors</i>	40
Table 29: Survey data regarding support from diagnostic lab to the doctors	41
Table 30: Survey data regarding preference for referral by the doctor.....	42
Table 31: Survey data regarding specialities referral used by the doctors.....	43
Table 32: <i>Survey data regarding Age group of patients</i>	43
Table 33: <i>Survey data of gender proportion of the patients</i>	44
Table 34: Survey data of patients arriving at the hospital.....	45
Table 35: <i>Survey data for the educational qualification of the patients arriving at the hospital</i>	46
Table 36: <i>Survey data for services availed by the patients</i>	47
Table 37: <i>Rating by patient for consultation services at the hospital</i>	48
Table 38: <i>Rating by patient for fees charged at the hospital</i>	48
Table 39: <i>Rating by patient for privacy measures for consultation at the hospital</i>	49
Table 40: <i>Rating by patient for food and beverages services at the hospital</i>	50
Table 41: Rating by patient for drinking water services at the hospital.....	51
Table 42: <i>Rating by patient for cleanliness at the hospital</i>	52
Table 43: <i>Rating by patient for cleanliness of public facilities at the hospital</i>	53
Table 44: Survey data for time taken in patient registration.....	54
Table 45: Survey data for time taken in patient consultation after registration.	55
Table 46: <i>Rating by patient for non-medical staff behaviour at the hospital</i>	56
Table 47: <i>Rating by patient for nursing staff behaviour at the hospital</i>	56

Table 48: <i>Rating by patient for doctor's behaviour at the hospital</i>	57
Table 49: Rating by patient for administrative staff behaviour at the hospital	58

Chapter 1 Introduction

The situational analysis of significant public initiatives is usually where it all begins. Many projects are not thoroughly researched before they are implemented, which decreases their chances of success. Many decisions must be made at this phase. These judgments, on the other hand, have a significant impact on the project's strategic success. The situational analysis is more vulnerable than any other phase to the decisions made in this phase, as well as to 'problematic behaviour,' which can lead to a failed project if not addressed. However, finding the correct concept, the proper answer to the stated requirement, is critical to project success. It is also recognised that successful initiatives prioritised the definitions, such as creating a vision and selecting an onwards approach before they were implemented.

Many countries have public hospitals that are owned and funded by the government. Their principal function is to deliver specialised health care services to user and patient groups. As a result, the development of healthcare services becomes a community obligation that might become a large public initiative, one that addresses specific requirements in the sector. When society experiences a specific need for development, as identified by the political or administrative levels or by end users, the state may launch a large public project.

Major projects, in general, necessitate extensive estimates to clarify the project's various elements. They also require the ability to generate flexibility in order to deal with unforeseen challenges. As a result, this phase necessitates examining a project via various cross-cutting issues or perspectives, such as economic/financial, institutional, social, technological, environmental, and political challenges.

Understanding how to look at a project from perspectives other than the traditional execution point of view is critical in planning. Using recognised tools for defining, elaborating, and assessing a concept can speed up planning and increase the likelihood of a successful completion.

Without a solid base of information, data, and evidence on the existing situation of the health system, coherent and needs-oriented health sector planning is impossible. Therefore, the motive behind carrying out a situational analysis study for a healthcare institution are:

- To examine the current state of the health sector, including all of its strengths, weaknesses, opportunities, and threats, as well as their basic causes and impacts.
- To provide an evidence-based foundation for responding to the public's healthcare needs and expectations.
- To provide an evidence-based foundation for establishing future health-care strategic directions.

1.1 Summary for theoretical recommendations for Situational Analysis

“It's critical to establish a project perspective early on in this phase, to become acquainted with the project's setting and socio-political status. the significance of the project proposal and its contents, where the project should be justified and its feasibility

considered, among other factors. The project's triggering causes and needs should be thoroughly analysed, and needs, objectives, and effects should all be aligned. The project objectives should be in line with the organization's overall strategy, and the objectives and objectives hierarchy should be thoroughly defined. Objectives should be specific, unambiguous, verifiable, and measurable, and should identify the ultimate scenario. At this level, a strategy analysis tying the objectives hierarchy to inputs, outputs, and outcomes is beneficial. On a tactical and strategic level, success criteria are also vital for defining the project.” (Anne Strand Alfredsen Larsen, 2020)

Stakeholders' interests and needs should be thoroughly examined in order to clarify their expectations and avoid stakeholder conflicts. Although this may be difficult given the diversity of stakeholders and perspectives in complicated projects, it is critical for managing this phase.

“To build a project concept, one should begin without a preconceived notion of the concept, seeking open and fundamental solutions while remaining flexible. A holistic perspective should be taken, with the concept being viewed in its societal, technological, economic, institutional, environmental, and political contexts. Furthermore, one should study which demands to address in order to meet declared wants, thus restricting the opportunity space between analytical and political drivers, aims, and needs.” (Anne Strand Alfredsen Larsen, 2020)

Creating concepts that are truly alternative solutions to the identified need, rather than variations on the same 'solution theme' or continuation of the current solution, has been vital in avoiding route dependency. The inherent uncertainty of front-end development necessitates thoughtful and thorough information selection while building concepts to avoid 'analysis paralysis' and early lock-in.

1.2 Norwegian Planning Process

The guidelines describe and recommend how the planning process for Health Authority investment projects should be performed.

The regulations have been improved over time. The overall objective, however, to guarantee adequate quality in front-end planning and support the making of knowledgeable decisions in hospital projects, has not changed. If construction investments are a part of the solution to a need or problem, it should be determined through the study. Clarifying the framework requirements and looking for alternative solutions are also necessary. The front-end planning procedure described in the guidelines' 2011 revision is a gateway model with several stages (idea phase, concept phase and pre-project phase). Gateways and decision points link the various phases and decide whether the project can advance to the following one.

“Possible major solutions to the indicated requirement should be identified throughout the phases, including both operational and structural solutions. A professional foundation should be established that establishes a sufficient degree of assurance as to which is the best alternative, with the best alternative being the one that best satisfies the stated aims within the given framework circumstance. The choices will be weighed against the established aims and objectives, as well as criteria drawn partly from these and partially from the guidelines.”

Typically, reports from the idea and concept phases are made up of several sub-elaborations. These sub-details cover the majority of the many areas of hospital

planning. The reports are crucial documents that serve as the foundation for navigating the planning models' gateways.

1.3 Objectives of the study

1. To carry out a situational analysis for a hospital scale-up in state of Odisha.
2. To study the perspectives of different stakeholders in the catchment area of the upcoming upscaled project.
3. To determine the feasibility of the hospital as per needs of the community at large for the project.

Chapter 2 Review of literature

S. No.	Title (Year)	Authors	Description
1.	“Hospital Project Front-end planning: Current practice and discovered challenges (2020)” (Anne Strand Alfredsen Larsen, 2020)	Anne Strand Alfredsen Larsen, Anniken Th Karlsen, Bjørn Andersen	“Development of healthcare services is a societal responsibility often appearing as major public projects. These types of projects often have a long lifetime expectancy and represent large investments and changes to established welfare systems with a considerable societal impact. This makes strategic project success depending on front-end planning performance crucial. Motivated by literature claiming that the hospital projects’ front-end phase has a potential for improvements, this paper presents findings from a study investigating front-end planning practice in five Norwegian hospital projects. Discovered challenges mainly relate to the planning process or exploration of the opportunity space and concept elaboration. A main conclusion is that implementing theoretical recommendations both in guidelines and in practice should be a desired and possible development to further improve hospital projects’ front-end planning, thereby strengthening the odds for project success both on a tactical and strategical level” (Anne Strand Alfredsen Larsen, 2020)
2.	Hospital Feasibility Study	Acme Hospital Projects	“A Hospital Feasibility Study is the best way to find out the sources of patient to the Hospital. The Feasibility Study comprises both a Market and Financial Analysis of the Project and is an essential aspect to be considered either while establishing a new hospital or a new facility in an existing hospital or expanding the existing hospital. Carrying out a Market Feasibility Study helps

			New investors looking at opportunities in healthcare delivery space Completing a thorough competitive analysis given the healthcare services. Carrying out a demand analysis for the space or medical services providing. Projecting the trends that are shaping what these markets will look like. Funding agencies in examining infrastructure investment in regions with. Overseas players wanting to replicate a successful chain model in India Medical Suppliers looking to penetrate the Corporate Hospital market Preparing Detailed Project Report (DPR) based on Market Analysis.” (ACME Hospital Projects, 2021)
3.	“Understanding the hospital Planning, Design, and Construction Process” (Millsap, 2017)	John E. Millsap	“Most hospital construction projects are the result of either changes in numbers of patients served, new treatments, or technologies, or strategic initiatives that further the hospital’s mission. All hospitals should have a strategic plan that has been developed with the participation of hospital’s administration, professional staff, patients, physicians, and the board of directors. The plan should address the patient care and community service goals for a period of at least five years. The proposed building projects encompassed within the strategic plan should both allow the hospital to grow and improve the treatment of the patients through the introduction of new equipment or services, development of key departments, and compliances, which may require major additions or even hospital replacement. Any new project should be reviewed internally to determine whether it is consistent with the strategic plan.” (Millsap, 2017)

4.	“Planning Hospitals with limited evidence: a research and policy problem” (Edwards & Harrison, 1999)	Nigel Edwards, Anthony Harrison	“Analysis of trust business cases for rebuilding and other developments and strategies proposed by health authorities shows wide variations in the assumptions made about almost every aspect of future hospital provision. Despite the apparently increasing difficulty of meeting growing demand for hospital care many hospital plans envisage substantial reductions in the number of beds, and hospitals with large private finance initiative schemes expect reductions of 20-30%. But whether these can be justified in terms of either future demand or levels of performance is unclear. There are many uncertainties about the future of hospitals. Some of the more important areas where research is needed are: • Understanding likely future demand • Improved forecasting of length of stay and other aspects of hospital performance • The benefits of subspecialities and methods to reduce the impact of this on access to services • How hospitals can be staffed in new and imaginative ways • The development of flexible approaches to planning hospitals • How to manage change effectively.” (Edwards & Harrison, 1999)
5.	Hospital Whole Building Design Guide (2017)	Robert F. Carr	“Building Attributes of a hospital, (Regardless of their location, size, or budget, all hospitals should have certain common attributes)-“ 1. Efficiency and Cost Effectiveness 2. Flexibility and Expandability 3. Therapeutic environment 4. Cleanliness and Sanitation 5. Accessibility 6. Controlled circulation

			7. Aesthetics 8. Security and Safety 9. Sustainability” “Emerging issues- The decreasing numbers of general practitioners along with the increased use of emergency facilities for primary care. The increasing introduction of highly sophisticated diagnostic and treatment technology. Requirements to remain operational during and after disasters, both in designing new buildings and retrofitting existing structures. Preventative care versus sickness care; designing hospitals as all-inclusive "wellness centers". Use of hand-held computers and portable diagnostic equipment to allow more mobile, decentralized patient care, and a general shift to computerized patient information of all kinds.” (Carr, 2017)
6.	“Hospital Location Selection: A Systematic Literature Review on Methodologies and Applications (2021)” (Gul & Guneri, 2021)	Muhammet Gul, Ali Faut Guneri	“Researchers mostly prefer cost, demand, environment, population, government, competition on the market, and distance to essential locations as main selection criteria. Given the Covid-19 pandemic results, where the health sector is currently in a great struggle; it is clear that the new hospital’s location decisions, field hospital, or pandemic hospital investments should be made quickly and reliably. This reinforces the conclusion that a possible rapid demand situation scenario (such as a pandemic, natural, and handmade aphids) that emerge from this study and has not been mentioned by most of the researchers in the review will play

			a significant role in the location selection decision. We expect and observe that, in the future, the number of applications and Researchers could consider different topics regarding healthcare domain such as hospital service quality evaluation, hospital demand forecasting, and hospital facility layout design. These rarely considered topics with/without Multi Criteria Decision Making (MCDM) concepts can be further studied. A new topic of future research is the development of MCDM approaches for disaster time location selection problem. This type of problem may vary from the normal time problem in terms of selection criteria. Various risk criteria may exist related to the disaster type.” (Gul & Guneri, 2021)
7.	“Methodology for Situational Analysis Report within the project Inter Ventures (2020)” (Jaansoo, 2020)	Dr. Annika Jaansoo	“Situation Analysis Report. The Situation Analysis Report consists of four main sections: - Portrait of the region - Internationalization environment - SMEs capacities for the internationalization - Identified gaps between policy instruments and SMEs needs To conduct the Situation Analysis Report, exploiting four different methods is needed: - Desk research - Online survey with SMEs - Interviews with Stakeholders - SWOT Analysis The collected data should be organized and summarized in a way that makes the system easy to use. In organizing the collected data, it should be kept in mind that one of the outcomes of the project Inter

			Ventures is the suggestions for the Action Plans. So, while reviewing the data, the studies that contain information on potential interventions; information on what people think, feel and do about then problem; what influences the behavior of the SMEs; and the communication channels they use should be organized separately. This data will be needed in action planning phase.” (Jaansoo, 2020)
8.	“Building for Change: Comparative Case Study of Hospital Architecture (2021)” (Pilosofo, 2021)	Nirit Putievsky Pilosofo	“Hospital design for a specific medical function is often based on the current known needs of the hospital specified in the projects’ brief. The functional goal, usually a result of a participatory design process of the design team with the local medical team and management, often drives hospitals’ design processes and serves as the main criteria to evaluate the design success. Hospital flexibility to support future change of function is also important design goal, considered to be more critical in hospitals than in most other types of buildings since the frequency and degree of change are both greater. Accordingly, flexibility is often a requirement to be built into the hospital plan to anticipate the growth and changes of the facility. The difference in the architectural design strategies to design for unknown future medical functions versus design for specific functions—had a major impact on the planning of the buildings, their design process, phases of construction, funding models, and change over time.” (Pilosofo, 2021)
9.	“Models and methods for determining the optimal number of beds in hospitals and region: a systematic scoping review	Hamid Ravaghi, Saeide Alidoost, Russell Mannion and	“Hospital capacity planning is an important issue in many developed and developing countries due to the increasing costs of inpatient care, constrained resources, and the

	(2020)” (Ravaghu, Alidoost, Mannion, & Belorgeot, 2020)	Victoria D. Belorgeot	growing demand for hospital care. In many countries, bed capacity and associated indices such as bed occupancy and the ratio of beds to population are the key metrics used to determine the availability of inpatient care. The number of beds in a hospital can be conceived The number of beds required to provide quality healthcare depends on a range of factors including models of care, patient need, national policies, and local circumstances. National policies focus on how to meet this demand. Local circumstances include internal hospital processes, the availability of other services, and influence demand management at the local level. Given that the interaction of these factors varies over time and within countries, the number of beds required to deliver health services also varies.” (Ravaghu, Alidoost, Mannion, & Belorgeot, 2020)
10.	Draft- “Regional Action Framework on Improving Hospital Planning and Management in the Western Pacific (2020)” (World Health Organization, 2020)	World Health Organization Western Pacific Region	“Hospital ownership and financing arrangements – that is, whether they are public or private or a combination of both – are key institutional factors that shape the dynamics and influence the available policy choices for health system development. In the Region, there is diversity in hospital ownership and financing arrangements. For instance, in some countries such as Japan, health care is publicly financed, but services are provided by predominantly privately-owned hospitals. In contrast, health services and hospitals are publicly funded and publicly owned in most small island developing states. In addition, publicly funded health systems of transitional economies are witnessing an expansion of private sector involvement. In

			many countries, the tendency has been to converge towards a mixed public–private system. In a private hospital-dominated system, accountability is oriented towards owners, shareholders, and employees, as well as to the state as regulator. However, accountability can be extended to the population as a whole if appropriate regulatory, financial and performance feedback drivers are used. In transitional economies, data for relevant decision-making and monitoring may be lacking or may cover a smaller set of metrics, with limited relevance for funding. Indicators of hospital safety and outcomes, such as nosocomial (in-hospital) infection, avoidable morbidity and mortality and surgical complications, are even less frequently tracked.” (World Health Organization, 2020)
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Table 1: Literature Review

The completion of a situational analysis or feasibility study assists new investors in examining opportunities in the healthcare delivery space, thorough analysis given the healthcare service lines being investigated, demand analysis for the space or medical services provided by the proposed facility, projection of market trends influencing future market conditions, and funding agencies in examining infrastructure investment in regions with less healthcare facilities, overseas players wanting to replicate a successful chain model in the land, medical suppliers looking to penetrate the corporate hospital market, and preparing detailed project report based on Market Analysis.

According to Lin et al. and Wu et al., there are six primary factors to consider when choosing a hospital location: (1) factor conditions; (2) demand conditions; (3) business strategy structure; (4) connected and supporting sectors; (5) government; and (6) chance.

Chapter 3 Methodology

3.1 Study Design-

The Study design involves a (1) literature review (desk research) and (2) Primary data collection from the different stakeholders.

The Systematic review has been done by using a systematic approach to locating, assembling, and evaluating a body of literature on a specific topic based on a set of criteria.

For primary data collection, following methodology will be followed:

3.2 Setting

The research was carried out from the premises of Octavo Solutions Private Limited corporate office in Delhi which is the contracted firm for the project of upscaling of hospital in Bhubaneswar, Odisha. Data collection was done remotely from the target population in the catchment area by the liaisons on field.

3.3 Study Population-

- Inclusion Criterion- Stakeholders include- general population seeking medical facilities in the region of Eastern Bhubaneswar urban region as well as the general practitioners and healthcare providers in the same region.
- Study tools- Questionnaires have been used to collect data readily available for assessment using an online form over the Microsoft Forms platform.
 - For the patients, a derivative of Likert scale for verifying the current perspective of the already available services in the hospital prior upscaling project.
 - The doctor's form encompassed behavioural aspects of the hospital, staff, etc. in terms of their perception and the facilities provided thereof.
 - The questionnaire made for hospital included data pertaining to current operations and current facilities including statistics of such.

3.4 Sampling technique

Stratified Sampling; Non-equal size of sample sizes from

- Group of Population seeking healthcare facilities as per age group and gender, and
- Practitioners, and healthcare providers categorised on the basis of specialities currently they are practising.

Sample Size:

- i. For general population- 385 out of 1226000
 - a. Confidence level- 95%
 - b. Margin of error- 5%
 - c. Population proportion- 50%
 - d. Actual Samples collected- 449
- ii. For doctors
 - a. Actual samples collected- 70

3.5 Duration of Study

3 months

S. No	TASKS	WEEKS->	MONTH 1				MONTH 2				MONTH 3			
			1	2	3	4	5	6	7	8	9	10	11	12
			(Starting 21st March											(Ending 18th June
1	Finalizing Introduction													
2	Finalizing Objectives													
3	Finalizing Methodolgy													
4	Litreture Review													
5	Creating survey form													
6	Circulating survey form													
7	Accepting responses on survey form													
8	Creating meta data from the survey													
9	Analyzing secondary data from public domain													
10	Analyzing reports from survey data													
11	Data analytics result formation													
12	Adding discussion and recommendation													
13	Finalizing draft of dissertation													

Figure 1: Gantt Chart for the project

3.6 Data Analysis Plan-

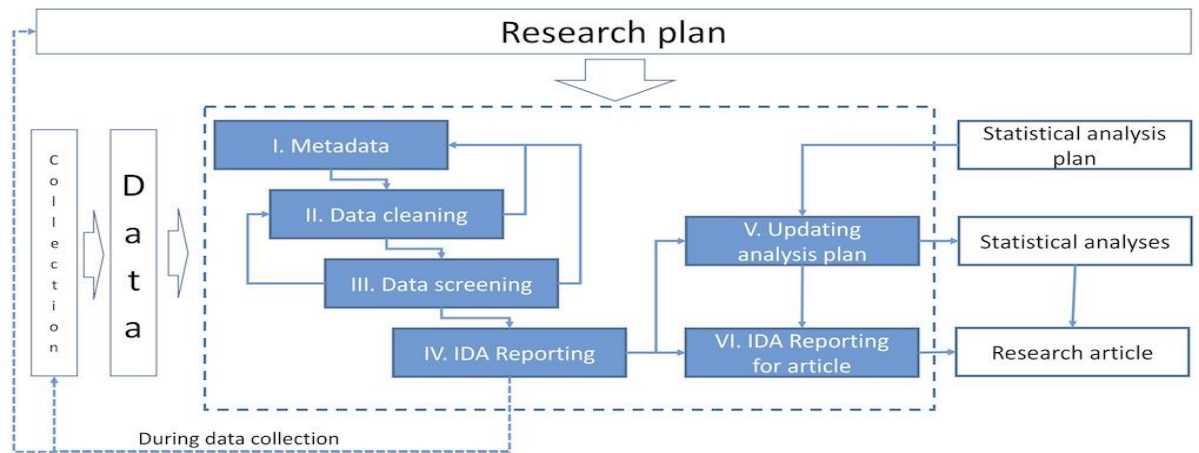


Figure 2: Data Analysis Plan

3.7 Ethical Consideration-

A sample survey consent applicable to this Microsoft forms-based study is given below,

“Your participation in this research study is voluntary. You may choose not to participate. If you decide to participate in this research survey, you may withdraw at any time. If you decide not to participate in this study or if you withdrawal from participating at any time, you will not be penalized.

The procedure involves filling an online survey that will take approximately 30 minutes. Your responses will be confidential, and we do not collect identifying information such as your name, email address or IP address. The survey questions will be about the current hospital services, facilities, and experiences.

We will do our best to keep your information confidential. All data is stored in a password protected electronic format. To help protect your confidentiality, the surveys will not contain information that will personally identify you. The results of this study will be used for scholarly purposes only and may be shared with IIHMR university for the academic/ scholar purpose.

Continuing with this form is subjective that the consent is given and hence can proceed further”

Hindi Sample of Survey Consent Form

“इस शोध अध्ययन में आपकी भागीदारी स्वैच्छिक है। आप भाग नहीं लेना चुन सकते हैं। यदि आप इस शोध सर्वेक्षण में भाग लेने का निर्णय लेते हैं, तो आप किसी भी समय वापस ले सकते हैं। यदि आप इस अध्ययन में भाग नहीं लेने का निर्णय लेते हैं या यदि आप किसी भी समय भाग लेने से पीछे हटते हैं, तो आपको दंडित नहीं किया जाएगा। प्रक्रिया में एक ऑनलाइन सर्वेक्षण भरना शामिल है जिसमें लगभग 30 मिनट लगेंगे। आपकी प्रतिक्रियाएं गोपनीय होंगी, और हम आपका नाम, ईमेल पता या आईपी पता जैसी पहचान संबंधी जानकारी एकत्र नहीं करते हैं। सर्वेक्षण के प्रश्न वर्तमान अस्पताल सेवाओं, सुविधाओं और अनुभवों के बारे में होंगे। हम आपकी जानकारी को गोपनीय रखने की पूरी कोशिश करेंगे। सभी डेटा को पासवर्ड से सुरक्षित इलेक्ट्रॉनिक प्रारूप में संग्रहीत किया जाता है। आपकी गोपनीयता को सुरक्षित रखने में सहायता के लिए, सर्वेक्षणों में ऐसी कोई जानकारी नहीं होगी जो आपकी व्यक्तिगत रूप से पहचान करे। इस अध्ययन के परिणामों का उपयोग केवल विद्वानों के उद्देश्यों के लिए किया जाएगा और इसे आईआईएचएमआर विश्वविद्यालय के साथ शैक्षणिक/विद्वान उद्देश्य के लिए साझा किया जा सकता है। इस फार्म को जारी रखना व्यक्तिपरक है कि सहमति दी गई है और इसलिए आगे बढ़ सकते हैं”

Odia Sample of Survey Consent Form

ଏହି ଗବେଷଣା ଅଧ୍ୟୟନରେ ଆପଣଙ୍କର ଅଂଶଗ୍ରହଣ ସ୍ୱେଚ୍ଛାକୃତ ଅଟେ । ଆପଣ ଅଂଶଗ୍ରହଣ ନକରିବାକୁ ବାଛିପାରନ୍ତି । ଯଦି ଆପଣ ଏହି ଅନୁସନ୍ଧାନ ସର୍ବେକ୍ଷଣରେ ଭାଗ ନେବାକୁ ଛିର କରନ୍ତି, ଆପଣ ଯେକ time ଶସି ସମୟରେ ପ୍ରତ୍ୟାହାର କରିପାରିବେ । ଯଦି ଆପଣ ଏହି ଅଧ୍ୟୟନରେ ଅଂଶଗ୍ରହଣ ନକରିବାକୁ ନିଷ୍ପତ୍ତି ନିଅନ୍ତି କିମ୍ବା ଯଦି ଆପଣ କ any ଶସି ସମୟରେ ଅଂଶଗ୍ରହଣରୁ ଦୂରେଇ ଯାଆନ୍ତି, ତେବେ ଆପଣଙ୍କୁ ଦଣ୍ଡିତ କରାଯିବ ନାହିଁ ।

ପ୍ରଣାଳୀରେ ଏକ ଅନଲାଇନ୍ ସର୍ବେ ପୂରଣ କରାଯାଏ ଯାହା ପ୍ରାୟ 30 ମିନିଟ୍ ନେଇଥାଏ । ଆପଣଙ୍କର ପ୍ରତିକ୍ରିୟା ଗୋପନୀୟ ହେବ, ଏବଂ ଆମେ ଆପଣଙ୍କର ନାମ, ଇମେଲ୍ ଠିକଣା କିମ୍ବା IP ଠିକଣା ପରି ଚିହ୍ନଟକାରୀ ତଥ୍ୟ ସଂଗ୍ରହ କରୁନାହିଁ । ସର୍ବେକ୍ଷଣ ପ୍ରଶ୍ନଗୁଡ଼ିକ ବର୍ତ୍ତମାନର ଡାକ୍ତରଖାନା ସେବା, ସୁବିଧା ଏବଂ ଅଭିଜ୍ଞତା ବିଷୟରେ ହେବ ।

ଆପଣଙ୍କ ସୂଚନାକୁ ଗୁପ୍ତ ରଖିବା ପାଇଁ ଆମେ ଯଥାସମ୍ଭବ ଚେଷ୍ଟା କରିବୁ । ସମସ୍ତ ତଥ୍ୟ ଏକ ପାସୱାର୍ଡ ସଂରକ୍ଷିତ ଇଲେକ୍ଟ୍ରୋନିକ୍ ଫର୍ମାଟରେ ଗଚ୍ଛିତ । ଆପଣଙ୍କର ଗୋପନୀୟତା ରକ୍ଷା କରିବାରେ ସାହାଯ୍ୟ କରିବାକୁ, ସର୍ବେକ୍ଷଣରେ ସୂଚନା ରହିବ ନାହିଁ ଯାହା ଆପଣଙ୍କୁ ବ୍ୟକ୍ତିଗତ ଭାବରେ ଚିହ୍ନଟ କରିବ । ଏହି ଅଧ୍ୟୟନର ପ୍ରାକାଶଗୁଡ଼ିକ କେବଳ ବିଦ୍ୱାନ ଉଦ୍ଦେଶ୍ୟରେ ବ୍ୟବହୃତ ହେବ ଏବଂ ଏକାଡେମିକ୍ / ପବ୍ଲିକ ଉଦ୍ଦେଶ୍ୟ ପାଇଁ IIHMR ବିଶ୍ୱବିଦ୍ୟାଳୟ ସହିତ ଅଂଶୀଦାର ହୋଇପାରେ ।

ଏହି ଫର୍ମ ସହିତ ଜାରି ରଖିବା ବିଷୟବସ୍ତୁ ଅଟେ ଯେ ସମ୍ମତି ଦିଆଯାଏ ।

This consent will be displayed before starting of the survey questionnaire and will be trilingual (English, Hindi, and Odia) for the ease of understanding of the participants as well as the liaison on field.

3.8 Implication-

"Situational analysis" aids in the development of a foundation of knowledge about the environment in which a strategy is implemented. It establishes a shared point of reference for the planning process and prioritises tasks.

“Before the communication plan is prepared to implement the strategy, the analysis can help discover capabilities inside an organisation in terms of meeting the needs of the communication plan. It also serves to highlight elements of the plan that may need to be improved in order to account for the existing or evolving environment. By keeping the analysis up to date, you can see where something isn't operating as it should in the implementation plan.”()

Chapter 4 Results

4.1 Mapping Hospitals of Catchment Area- Bhubaneswar City

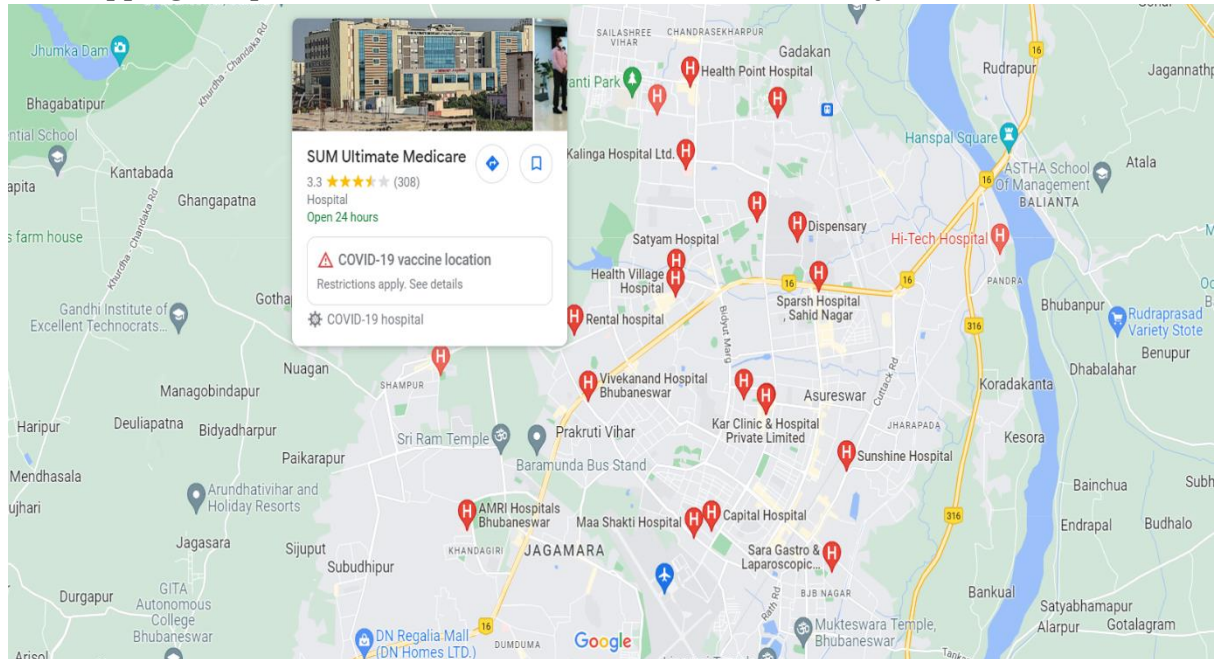


Figure 3: Map of Bhubaneswar city with demarcated hospitals in the Catchment area

The Catchment area of the proposed establishment to be expanded is the Bhubaneswar City.

The Area houses 20 different healthcare institutions. Out of 20, 4 such setup are Public Sector units including UPHC, MCH Centre, Dispensaries and a tertiary care centre AIIMS Bhubaneswar.

Therefore, the private sector units posing as market competitors for the institution in consideration tapers down to 16. Certain High performer chain of hospitals such as AMRI, Apollo Bhubaneswar, and Care Hospital are also present.

Thus, the sample size for Survey from Hospitals will contain 9 number of hospitals in this research.

4.2 Sample Size Calculation for Population of Bhubaneswar City

Sample size: **385**

This means 385 or more measurements/surveys are needed to have a confidence level of 95% that the real value is within $\pm 5\%$ of the measured/surveyed value.

Confidence Level: ?	95% ▾	
Margin of Error: ?	5%	
Population Proportion: ?	50%	Use 50% if not sure
Population Size: ?	1226000	Leave blank if unlimited population size.

Figure 4: Population Sample Size Calculation

4.3 Margin of Error for Population of Bhubaneswar City

Margin of error: **4.89%**

This means, in this case, there is a 95% chance that the real value is within $\pm 4.89\%$ of the measured/surveyed value.

Confidence Level: ?	95% ▾
Sample Size: ?	385
Population Proportion: ?	60%
Population Size: ?	1226000

Leave blank if unlimited population size.

Figure 5: Margin of Error calculation

4.4 Results from the Hospitals

The results portrayed below are from the 9 hospitals surveyed in the catchment area of our proposed hospital to be rehabilitated.

4.4.1 Year of Registration

ID	Name	Year of Registration
2	A	2016
3	B	1996
4	C	2017
5	D	2016
6	E	2007
7	F	1990
8	G	2010
9	H	2006
10	I	1954

Table 2: Survey data Year of Registration of hospitals



Figure 6: Year of registration for surveyed hospitals

Interpretation: The hospitals under study are mostly registered within the last two decades.

This indicates that during this period the healthcare organization has been in expansion phase for the city of Bhubaneswar; generally pertaining to the past six decades, tourism has continuously expanded and diversified with ever-increasing number of destinations, to become one of the largest and fastest-growing economic sectors in the world. Similarly, government policies such as GO-SWIFT (Govt of Odisha- Single Window for Investor Facilitation and Tracking). Thus, creating an immigration load from the surrounding districts and states.

4.4.2 Bed Strength

ID	Name	Bed Strength of Hospital	Type
2	A	100-200	Small Healthcare Organization
3	B	0-100	Small Healthcare Organization
4	C	200-350	Medium Healthcare Organization
5	D	0-100	Small Healthcare Organization
6	E	0-100	Small Healthcare Organization
7	F	200-350	Medium Healthcare Organization
8	G	0-100	Small Healthcare Organization
9	H	0-100	Small Healthcare Organization
10	I	>500	Large Healthcare Organization

Table 3: Survey data of Bed Strength of the hospitals

Type	Count of Name
Small Healthcare Organization	6

Medium Healthcare Organization	2
Large Healthcare Organization	1

Table 4: Categorisation of organization size of the surveyed hospitals

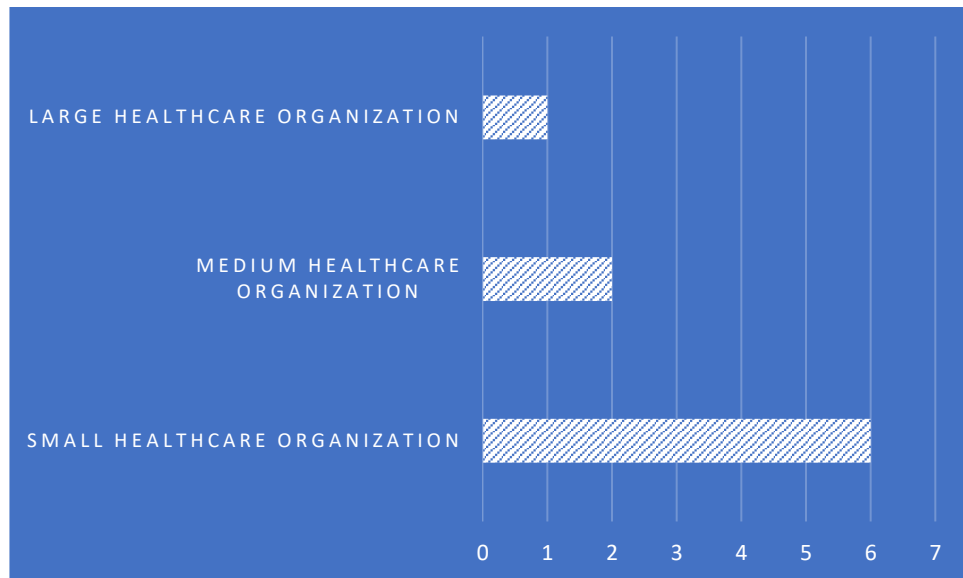


Figure 7: Classification of surveyed hospitals as per bed count

Interpretation: Out of the 9 hospitals surveyed most of these were found to be Small healthcare organizations which have less than 200 beds.

It can be concluded that healthcare business is mostly for the investment in the smaller scale and only the government sector can currently sustain a setup dealing with 1000's bed strength.

4.4.3 Departments

ID	Name	Number of services
2	A	6
3	B	6
4	C	17
5	D	13
6	E	10
7	F	18
8	G	1
9	H	12
10	I	18

Table 5: Number of Specialities department in the surveyed hospitals

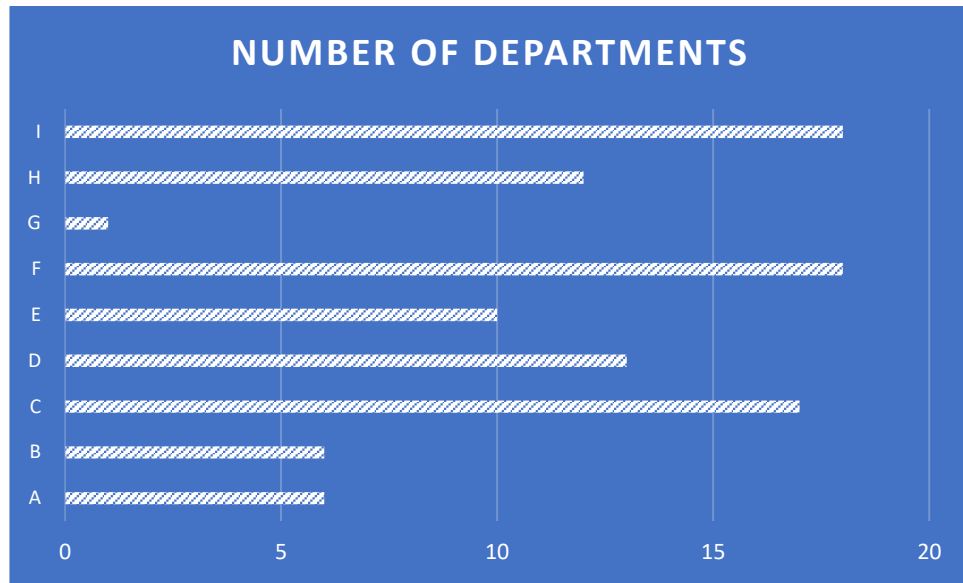


Figure 8: Number of specialities in surveyed hospitals

Interpretation- Hospitals such as the government (Capital hospital) or larger medical institutions (Kalinga) were the only ones able to maintain departments and specialities more than 15, otherwise most of the healthcare institutions practiced either single speciality or else general services excluding the specialities such as oncology or neurology.

4.4.4 Services in Hospital

ID	NAME	IN-HOUSE	OUTSOURCED	TOTAL SERVICES
2	A	6	3	9
3	B	3	4	7
4	C	9	2	11
5	D	4	4	8
6	E	6	4	10
7	F	9	2	11
8	G	4	5	9
9	H	3	3	6
10	I	10	1	11

Table 6: Utility services in the hospitals- Inhouse and Outsourced

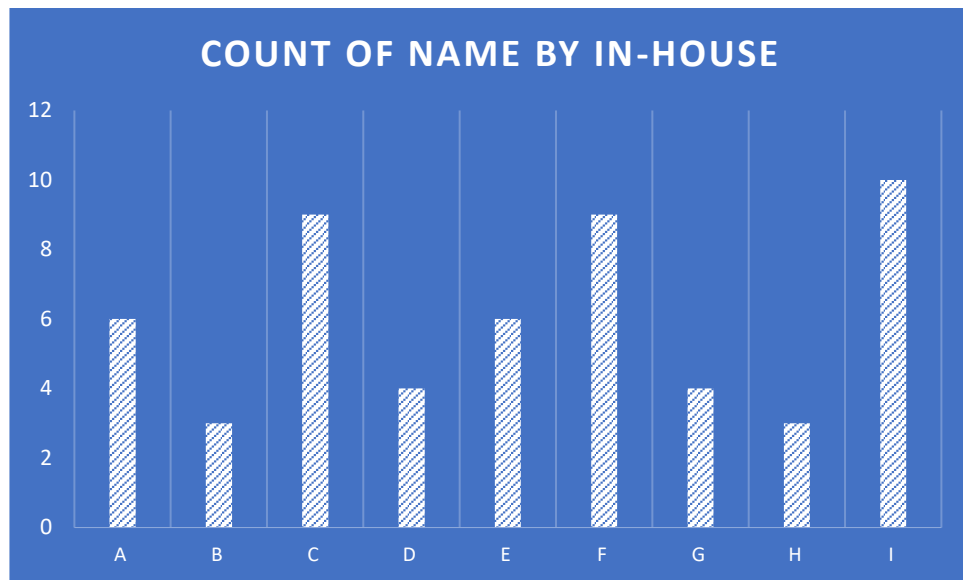


Figure 9: Number of In-house services in the surveyed hospitals

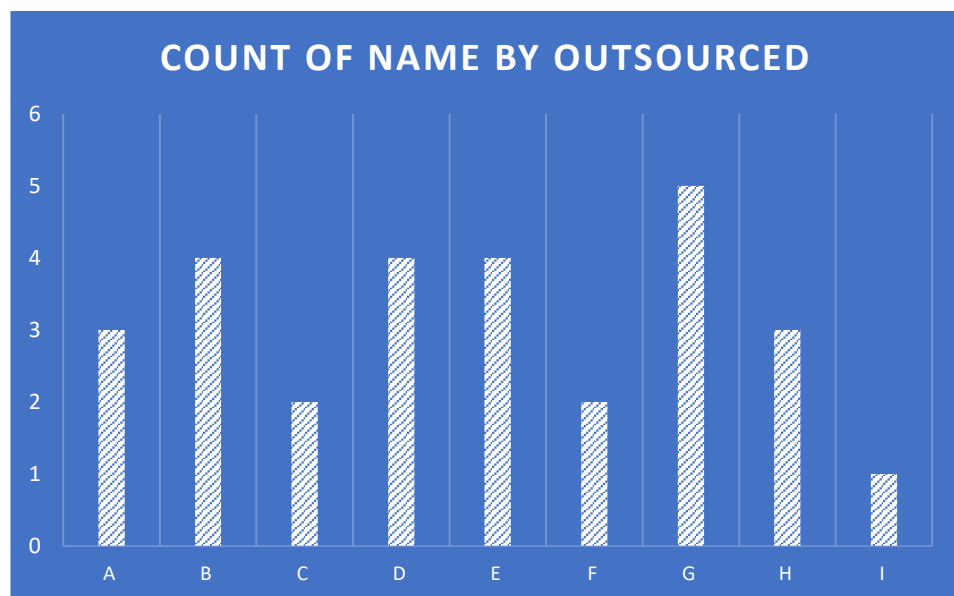


Figure 10: Number of outsourced services in the surveyed hospital

Interpretation- Majority of the hospitals with respect to the patient load have acquired and operationalised C.S.S.D, laundry, kitchen department etc. in house whereas department such as security, housekeeping, bioengineering, and such were outsourced irrespective to the type of institution.

This is because of the fact outsourcing such services make operation and human resource management easier thus making the organization able to focus more on the scope of services of the hospital increasing the efficiency of the whole process of operationalising a hospital.

4.4.5 Number of Operation Theatres

ID	NAME	Number of Major O.	Number of Minor O.
		Ts	Ts
2	A	3	2
3	B	1	2

4	C	3	5
5	D	2	4
6	E	3	3
7	F	5	7
8	G	3	5
9	H	2	2
10	I	16	10

Table 7: Number of Operation Theatres in the surveyed hospitals

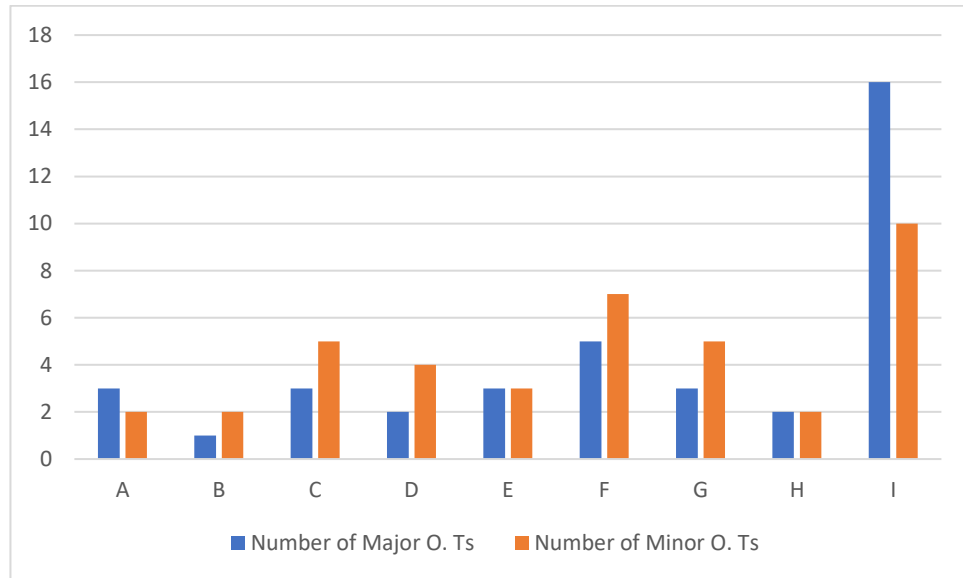


Figure 11: Number of Major & Minor OTs in surveyed hospitals

Interpretation- The above stated number4 of O.Ts major and minor are directly proportional to the patient footfall, the number of services offered, and the number of specialisations practiced. Such is the example of the public hospital where all the mentioned factors are towards the higher side of the graph, thus the number of major and minor O.Ts as well.

4.4.6 Number of Outpatient Department Consultation Rooms

ID	Name	Number of O.P.D Consultation Room
2	A	10
3	B	8
4	C	22
5	D	15
6	E	10
7	F	30
8	G	4
9	H	10
10	I	36

Table 8: Survey data for number of O.P.D consultation rooms in the hospitals

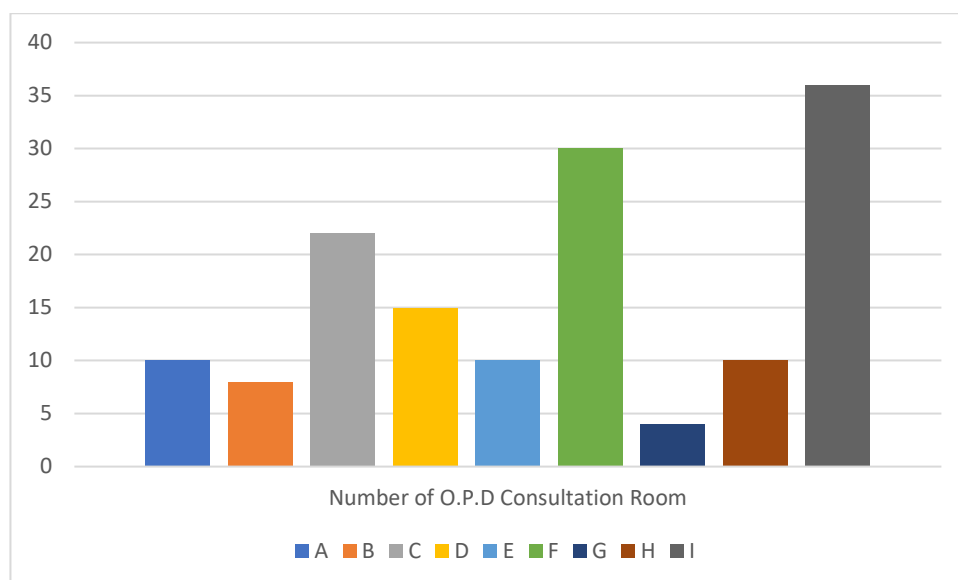


Figure 12: Number of O.P.D consultation rooms in surveyed hospitals

Interpretation- The number of O.P.D consultation rooms in the medium and large-scale healthcare organizations makes their number of O.P.D consultation rooms high in count due to the already established number of beds and also directly proportional to the higher footfall of the patients.

4.4.7 Number of Medical Staff in the Hospital

ID	Name	Number of Doctors in Hospital	Number of Medical Officers in Hospital	Number of Technicians in Hospital	Number of Nurses in Hospital	Number of Paramedical Staff in Hospital
2	A	18		16	60	30
3	B	14	2	10	35	10
4	C	52	5	40	100	60
5	D	28	2	8	30	10
6	E	24	4	15	40	12
7	F	52	7	60	115	50
8	G	5	2	20	15	30
9	H	26	1	20	50	18
10	I	87	12	140	380	211

Table 9: Survey data for Human Resources-Medical in the hospital

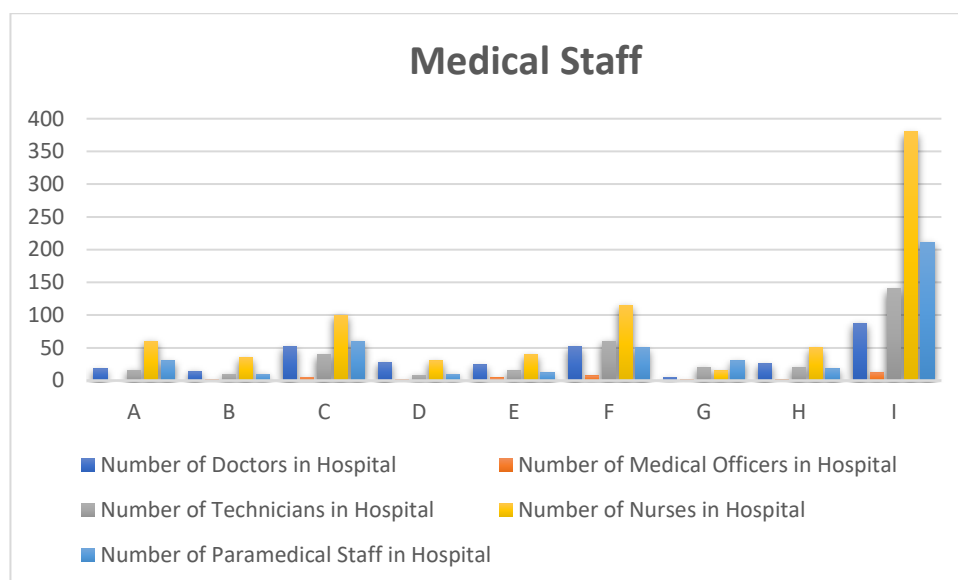


Figure 13: Number of medical staff in the surveyed hospitals

4.4.8 Number of Non-Medical Staff Personnel

ID	Name	Number of Support Staff in Hospital	Number of Administrative Staff in Hospital
2	A	42	18
3	B	45	5
4	C	120	30
5	D	25	6
6	E	30	7
7	F	140	20
8	G	30	7
9	H	80	6
10	I	103	28

Table 10: Survey data for Human Resources- Non-Medical in the hospital

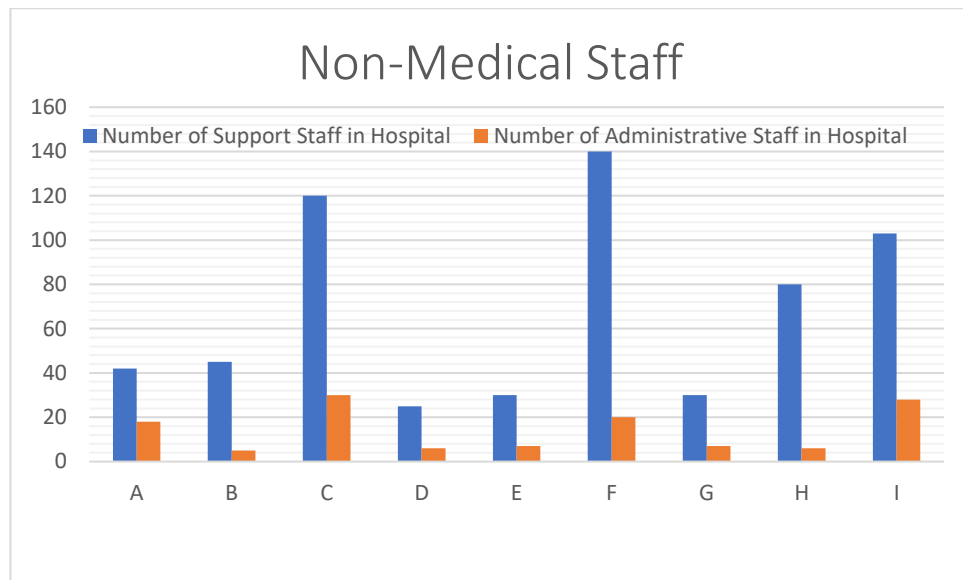


Figure 14: Number of non-medical staff in surveyed hospitals

Interpretation- Medium and large-scale healthcare organizations such as the C, F, and I require more human resources both medical and non-medical due to the fact of higher number of beds to be operational, a greater number of specialities to be at disposal and much higher and wider patient requirements to be fulfilled.

Therefore, while considering the option of rehabilitating a hospital in term of size and services, such direct costs of human resources are to be considered carefully.

4.4.9 Patient footfall values

ID	Name	O.P.D Patient s per month	Emergenc y Patients per month	Admission s per month	Major Surgerie s per month	Minor Surgerie s per month	Day care patient s per month
2	A	2400	30	80	60	40	120
3	B	1200	0	60	25	30	0
4	C	7966	480	210	0	0	0
5	D	800	50	180	12	20	20
6	E	5000	250	400	8	25	70
7	F	9000	800	1200	100	160	200
8	G	1800	0	0	40	90	120
9	H	2500	100	80	10	20	240
10	I	13000	800	1590	150	230	600

Table 11: Survey data for daily patient footfall in the hospitals

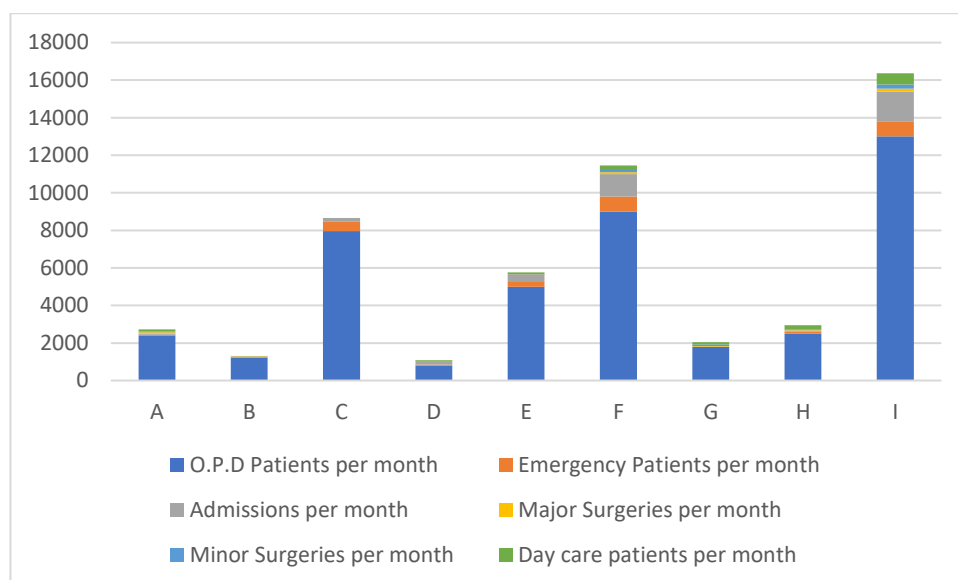


Figure 15: Number of daily patient footfall availing services in surveyed hospitals

Interpretation- The results show that the number of patient footfall is higher in bigger organisations or where the higher number of specialities are provided under single roof. The opposite is also true which can be stated as, there are a greater number of services practiced the higher the footfall of patient is.

4.4.10 Count of utilization of diagnostic services

ID	Name	Laborator y Tests per month	X-ray Scans per month	Ultrasonograph y scans per month	MRI & CT Scans per month	Other Scans per month (DXA, Mammography , E.C.G, E.C.H.O, Holter, etc.)
2	A	400	150	300	0	200
3	B	0	80	100	0	0
4	C	80	1600	1580	450	800
5	D	450	300	300	90	150
6	E	600	400	250	0	500
7	F	2000	2500	1600	600	3000
8	G	0	0	0	0	2200
9	H	3000	2000	2000	150	1800
10	I	6000	3500	2800	800	4000

Table 12: Survey data for number of monthly diagnostic services utilization in hospital

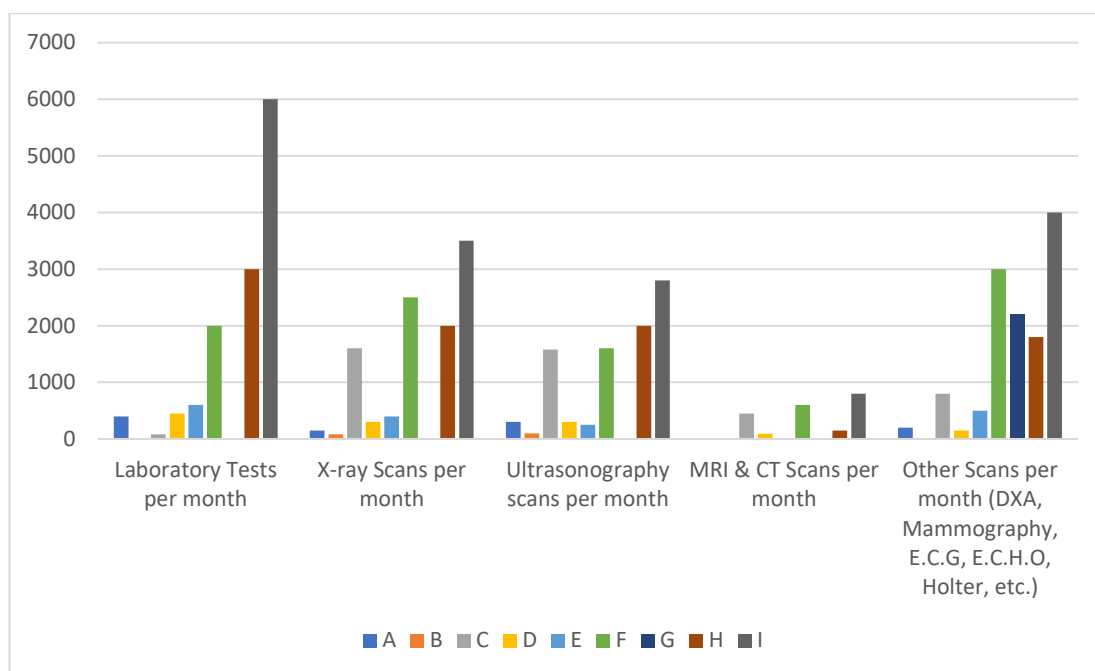


Figure 16: Number of services dispensed for diagnostics in surveyed hospitals

Interpretation- The higher the footfall of patients, higher is the utilization of the diagnostics (Imaging and laboratory). Therefore, as a result the revenue generation centres in the healthcare organization diversifies except in the cases of public health bodies where the principle of revenue generation centres is not applicable.

4.4.11 Salary scale for hospital personnel- Medical & Non-Medical

ID	Name	Average Salary Senior Doctor	Average Salary Junior Doctor	Average Salary for Nursing Staff	Average Salary for Technicians	Average Salary for Administrative Staff (Non-Medical)
2	A	100000	55000	25000	22500	57500
3	B	110000	42500	23000	16000	35000
4	C	125000	60000	26500	25000	65000
5	D	115000	60000	23000	18500	45000
6	E	105000	55000	19000	20000	62500
7	F	140000	57500	31000	27500	72500
8	G	140000	100000	35000	30000	52500
9	H	100000	55000	24000	17000	37500
10	I	145000	80000	40500	33500	59000

Table 13: Survey data for salary range of staff in hospital

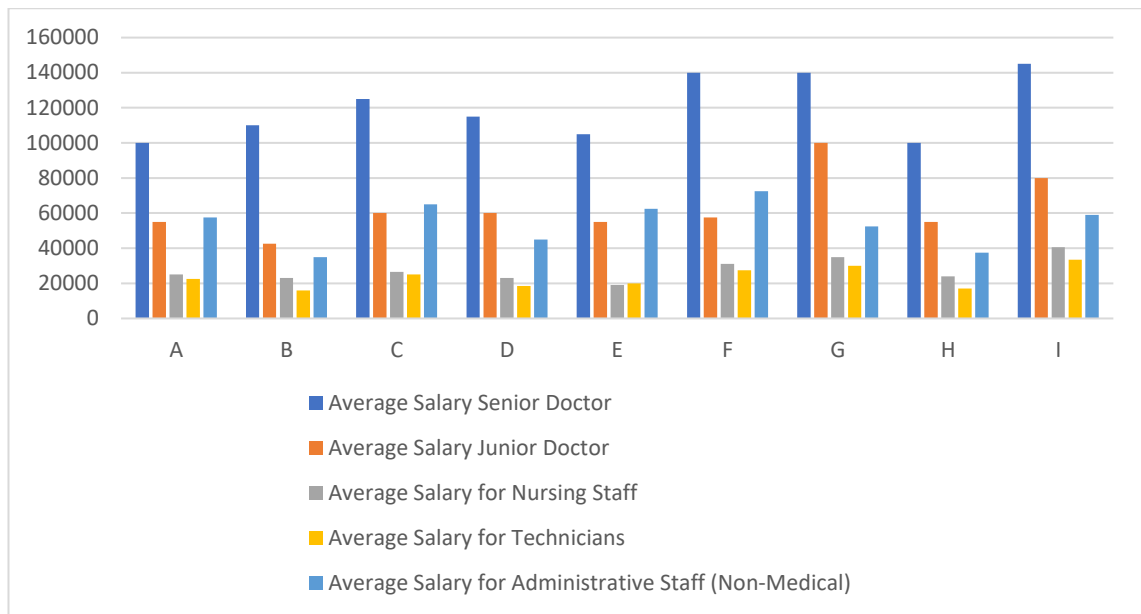


Figure 17: Average salary range of staff in surveyed hospitals

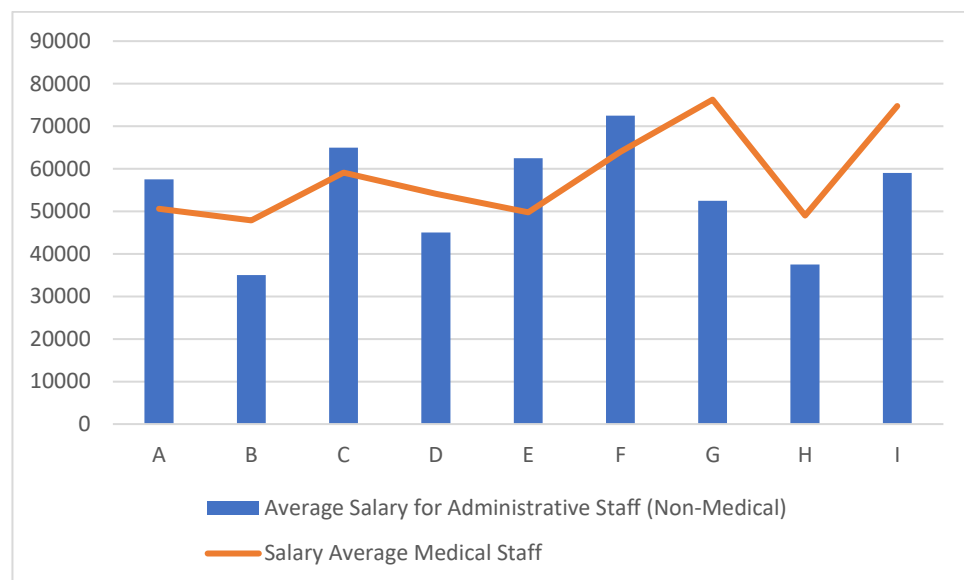


Figure 18: Difference in salaries for medical and non-medical staff in the surveyed hospitals

Interpretation- Irrespective of the size of organization, the number of specialties practiced, the number of the patient footfall, the trend of salary scale for the staff (both medical and non-medical) follows a similar trend across the 9 hospitals surveyed,

4.5 Results from Doctors

The following survey data is collected from 70 doctors practising in the above 9 hospitals.

4.5.1 Age Group of Doctors

Age Group	Count of Age Group
>65 Years	2
25 Years - 35 Years	14
35 Years - 45 Years	20

45 Years - 55 Years	24
55 Years - 65 Years	10
Grand Total	70

Table 14: Survey data for age group of doctors under consideration

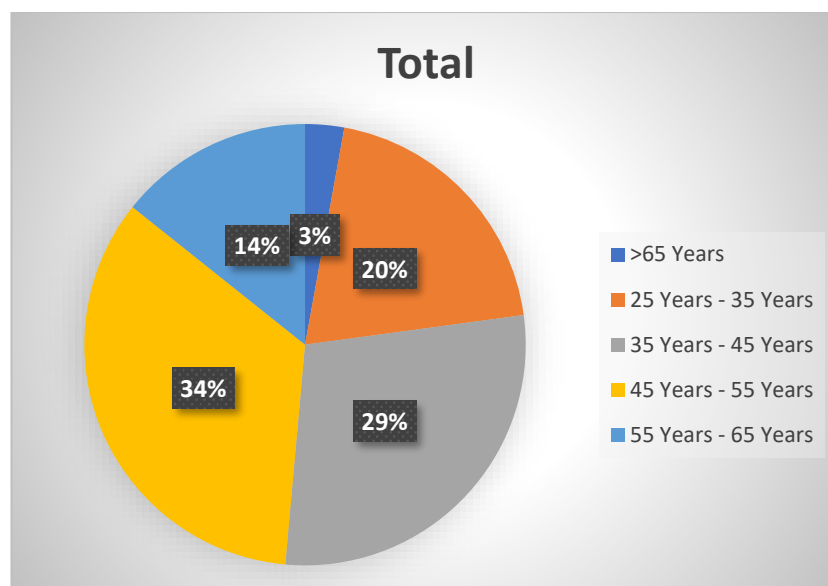


Figure 19: Age grouping of the surveyed doctors

Interpretation- The doctors consented for the survey were mostly from the age group of 35 years to 55 years of age. This includes 2 group classes of 10 years age- 35 years – 45 years (20 numbers) and 45 years to 55 years (24 numbers).

4.5.2 Gender proportion

Gender	Count of Gender
Man	53
Woman	17
Grand Total	70

Table 15: Survey data for gender group of doctors under consideration

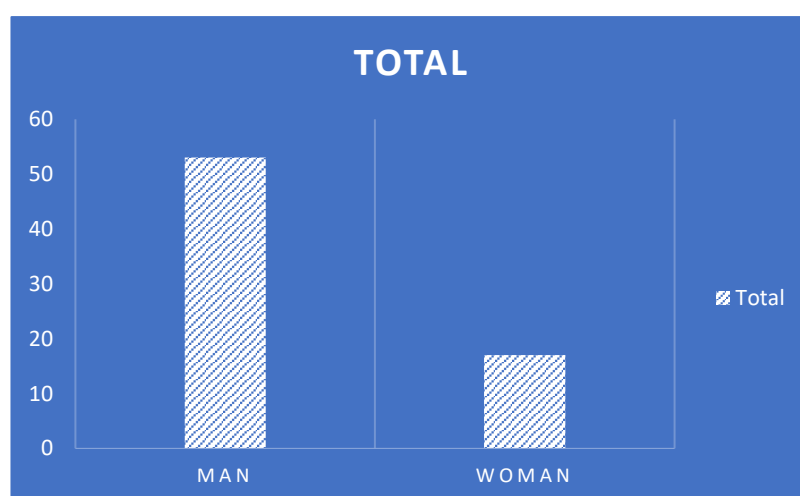


Figure 20: Gender data for surveyed doctors

Interpretation- More than 80% doctors surveyed were male when compared to approximately 19% female doctors on duty.

4.5.3 Qualification of Doctors

	Count of Qualification
Postgraduate (M.D)	22
Postgraduate (M.S)	37
Postgraduate (Others)	4
Undergraduate (M.B.B.S)	7
Grand Total	70

Table 16: Survey Data of doctor's qualification

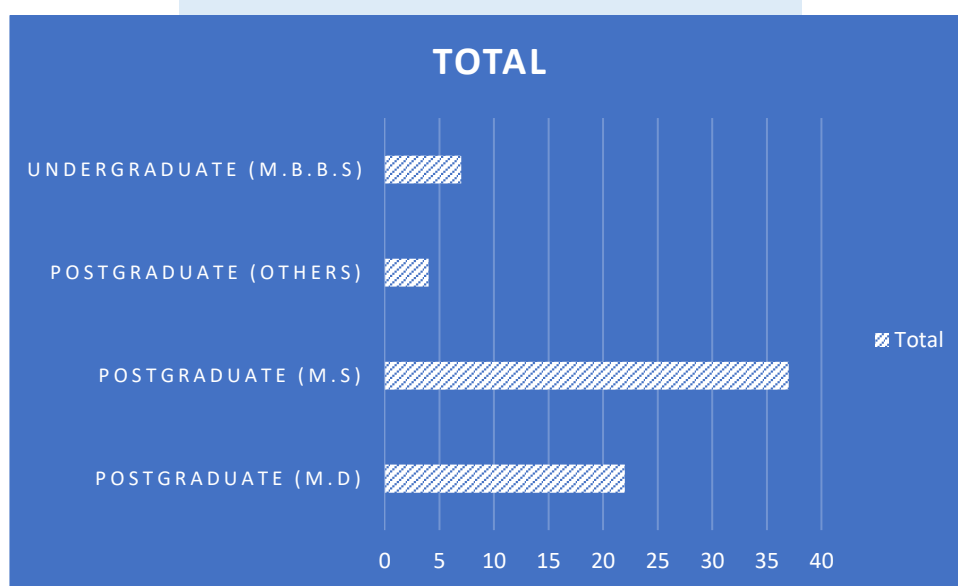


Figure 21: Qualification of the surveyed doctors

Interpretation- The majority of doctors surveyed were postgraduate and specifically in surgery. Preference of undergraduates and graduates from other fields is less. This might be due to the requirements as per scope of services in the hospitals or else, preference of the general public for the same.

4.5.4 Specializations practiced by the doctors

Specialization	Count of Specialization
Cardiology	3
Critical Care	1
Dermatology	4
Endocrinology	1
ENT	5
Family Medicine	1
Gastroenterology	5
Gynae & Obs	7
Internal Medicine	2
Maxillofacial Surgeon	1

Neurology	3
Obstetrics	1
Oncology	2
Ophthalmology	3
Orthopaedics	3
Orthopaedics	1
Paediatrician	1
Paediatrics	2
Paediatrics	1
Plastic Surgery	1
Prosthodontics	1
Psychiatry	3
Pulmonology	1
Pulmonology	1
Radiology	1
Urology	1
Urology	1
Grand Total	57

Table 17: Survey data of specializations practiced by the doctors.

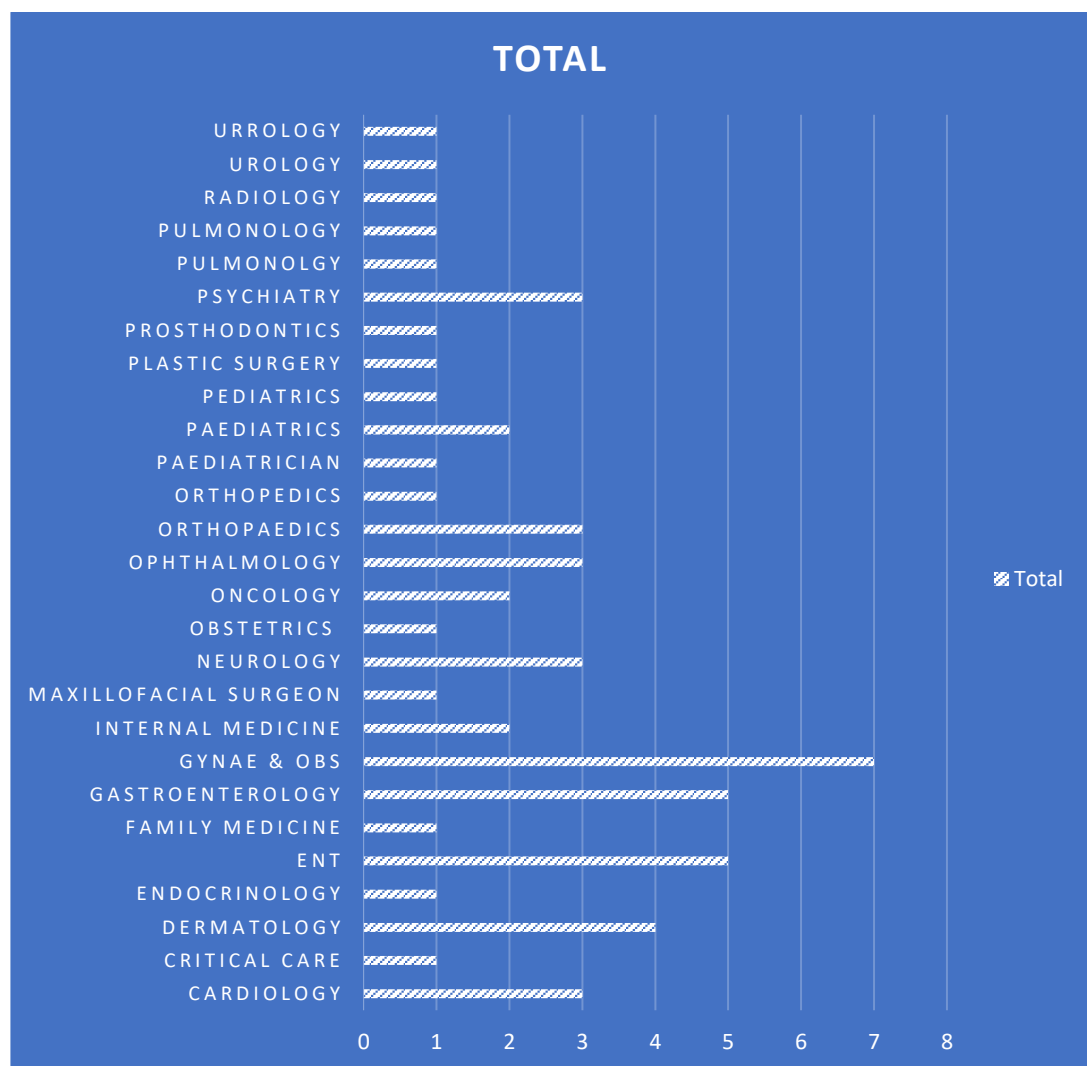


Figure 22: Specializations practiced by the surveyed doctors

Interpretation- The majority of specialisations followed by the doctors is Gynecology & Obstetrics, which is then followed by Gastroenterology, Otorhinolaryngology (E.N.T), Cardiology, Orthopaedics and Ophthalmology.

4.5.5 Practise setting of the doctors

Workplace	Count of How would you describe your practice setting?	Percentage of Grand total
Group Practice	6	8.57%
Hospital- Private	40	57.14%
Hospital- Public	22	31.43%
Individual Practice	2	2.86%
Grand Total	70	100.00%

Table 18: Survey data for practice-setting for the hospital

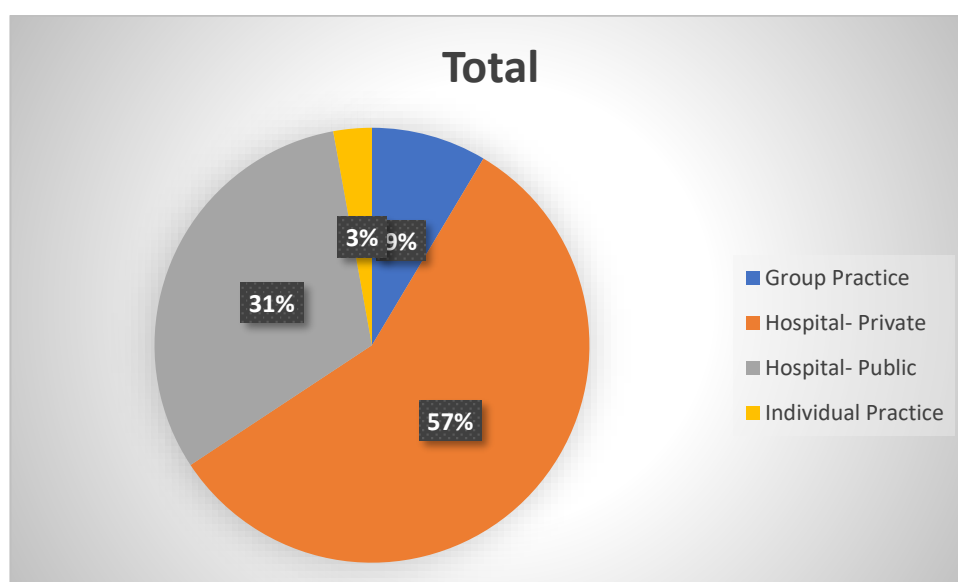


Figure 23: Practice setting for surveyed doctors

Interpretation- More than half of the surveyed doctors practice in private hospital settings followed by the public hospital (Such as Capital hospital).

4.5.6 Years of Experience

Experience	Count of Experience	Percentage of Grand Total
<10 Years	29	41.43%
>20 Years	12	17.14%
10-20 Years	29	41.43%
Grand Total	70	100.00%

Table 19: Survey data for the years of clinical experience of the doctors under survey

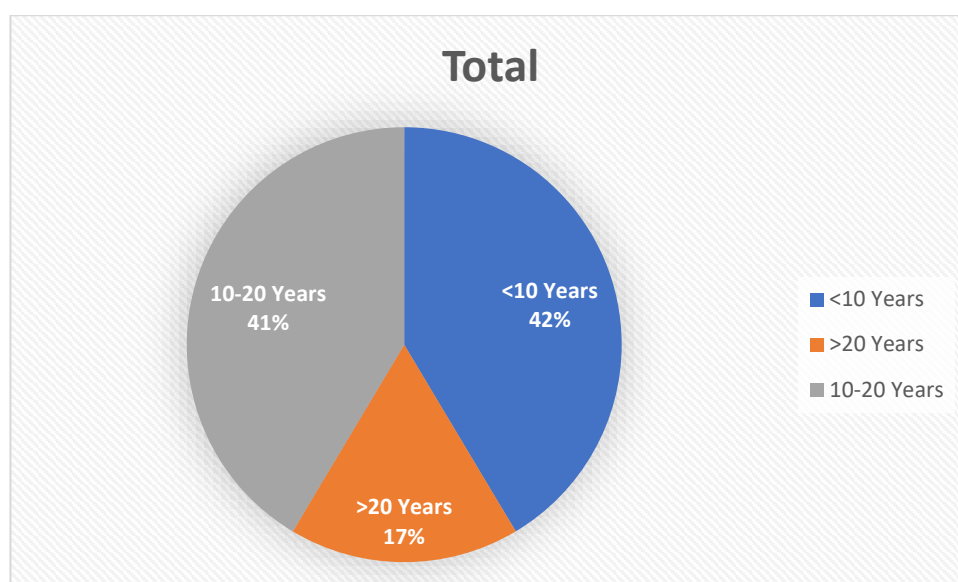


Figure 24: Years of experience for surveyed doctors

Interpretation-From the above data one can infer that in practice approximately 60 percent of the doctors are having an experience of a decade and beyond. Still private sectors in healthcare are encouraging fresher doctors to come out and work which encompasses doctors with less than 10 years of experience making a 42 per cent proportion.

4.5.7 Daily Count of OPDs attended by the doctors

Daily OPD Patients Attended	Number of Doctors attending the given count
10	1
20	8
30	8
35	1
40	10
50	9
60	9
70	3
80	6
90	2
100	10
120	1
140	1
150	1
Grand Total	70

Table 20: Survey data for Daily O.P.D patients attended by the doctor

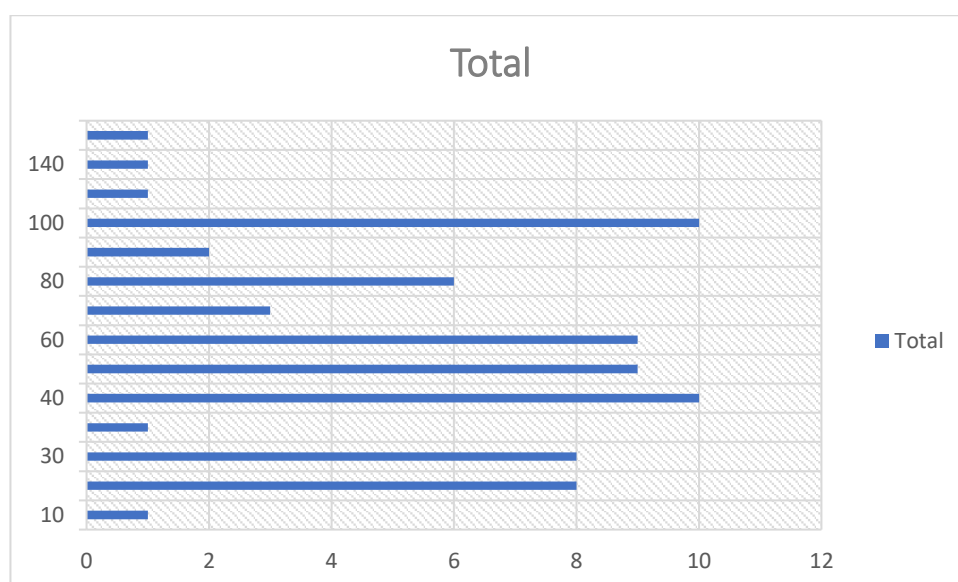


Figure 25: Daily number of O.P.D patients attended by the surveyed doctors

Interpretation- Out of the surveyed doctors only 3 doctors were attending to more than 100 patients whereas 10 doctors attended approximately 100 patients per day in O.P.D. The rest of the doctors were visiting 20-80 patients per day in O.P.Ds. The doctors attending 100 and above number of patients were the ones from the surgery and medicine department from the Government of Odisha hospital in the city.

4.5.8 Daily Count of IPD patients attended by the doctors

Number of IPD pts	Count of I.P.D Visits
0	15
1	1
3	2
4	2
5	11
7	1
10	14
12	1
15	7
20	6
25	1
30	4
40	3
45	1
50	1
Grand Total	70

Table 21: Survey data for daily I.P.D patients attended by the doctors

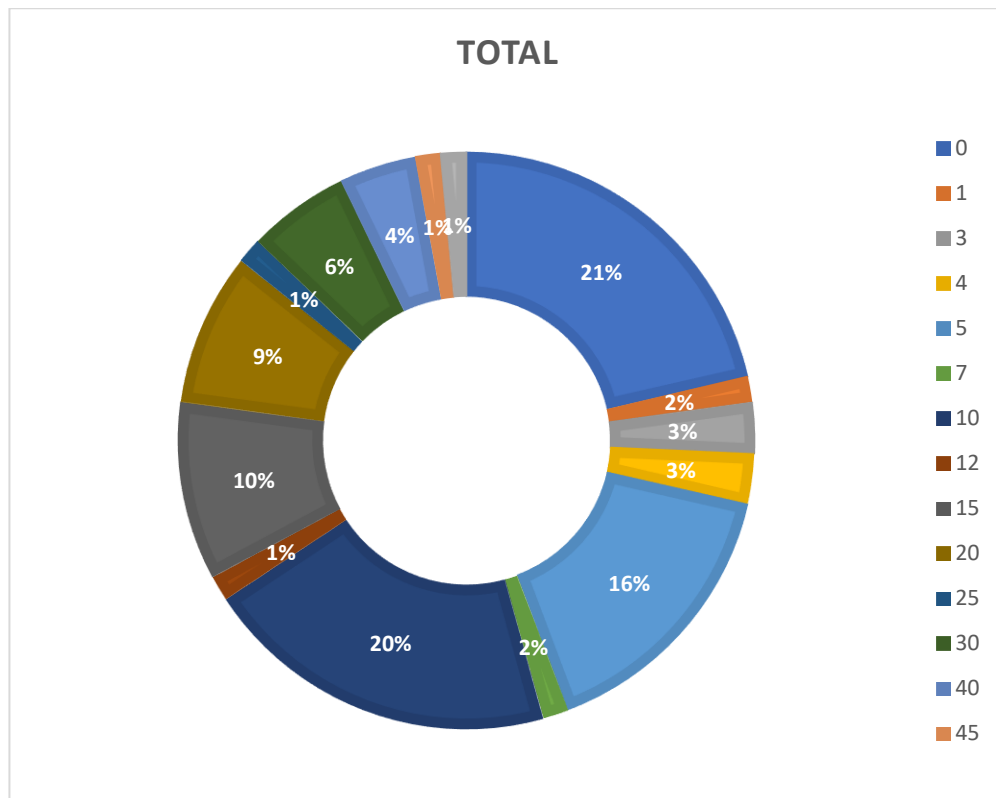


Figure 26: Daily number for I.P.D patients attended by the surveyed doctors

Interpretation- In this part there were 15 doctors who were not attending to I.P.D admitted patients. The majority of doctors from the small healthcare organizations were attending less than 10 patients in the I.P.D, this is due to the fact of having less permitted beds in the hospitals. Similarly doctors from the large healthcare organisations were the only ones visiting more than 15 I.P.D patients in a day. Doctors from the two medium-sized healthcare organization were attending somewhere between 5-10 patients in a day.

4.5.9 Daily count of Emergency room patients attended by the doctor

ER Pts attended	Count of doctors attending the ER patients
0	45
1	3
2	5
3	2
4	2
5	4
6	1
10	3
15	2
20	1
30	1
80	1
Grand Total	70

Table 22: Survey data for daily emergency room patients attended by the doctors

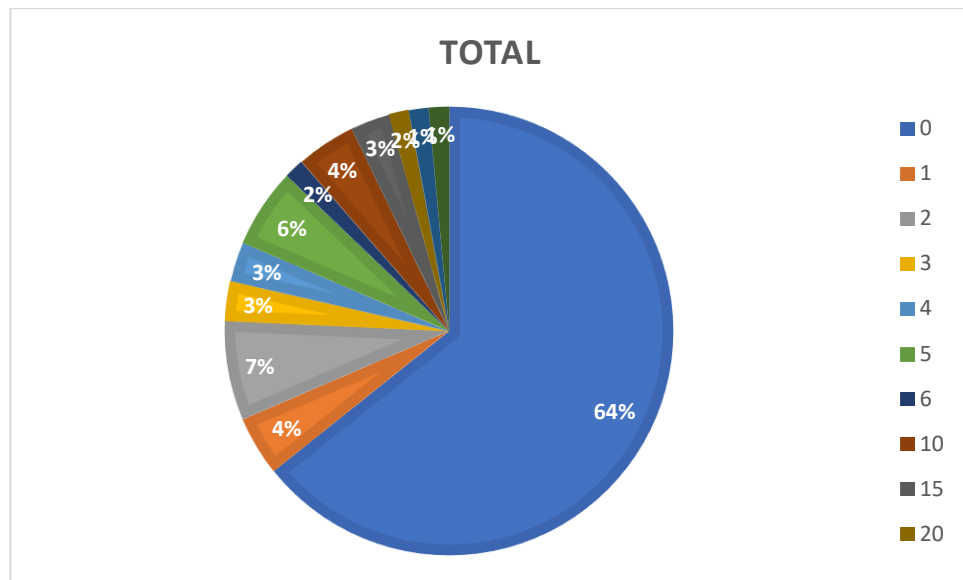


Figure 27: Daily number of Emergency room patients attended by the surveyed doctors

Interpretation- Due to the fact that the catchment area was having doctors majorly small healthcare organizations, 45 doctors out of 75 were not attending any patients in the Emergency Room of the hospital.

4.5.10 Daily count of major surgeries performed by the doctors

No. of Daily Major Surgeries	Count of Major Surgeries Performed	Percentage of Grand Total
0	36	0.00%
1	12	17.14%
2	13	37.14%
3	5	21.43%
4	3	17.14%
5	1	7.14%
Grand Total	70	100.00%

Table 23: Survey data for number of major surgeries performed by the doctors

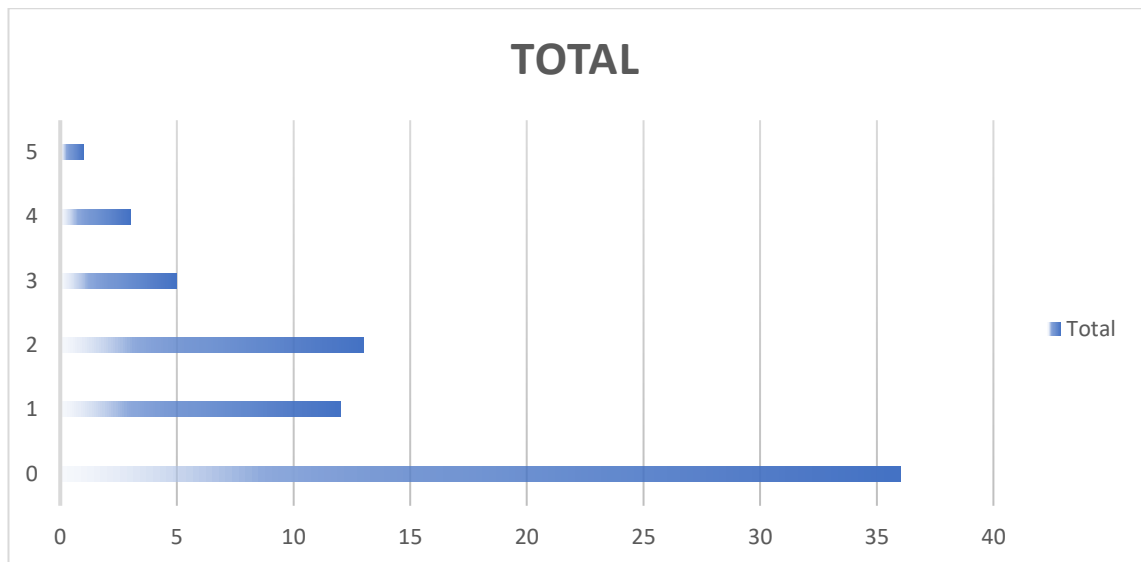


Figure 28: Daily number of major surgeries performed by the surveyed doctors

Interpretation- In the survey 50 per cent of then doctors were not performing any major surgeries due to lack of qualification for the same. Thus, the major surgeries performed by the rest 50 per cent doctors was in direct proportion to the size of organisation they were working in.

4.5.11 Daily count of minor surgeries performed by the doctors

No. of minor surgeries performed	Count of Minor Surgeries Performed Daily	Percentage of Grand Total
0	33	0.00%
1	2	1.39%
2	13	18.06%
3	2	4.17%
4	7	19.44%
5	5	17.36%
6	4	16.67%
7	1	4.86%
8	2	11.11%
10	1	6.94%
Grand Total	70	100.00%

Table 24: Survey data for number of minor surgeries performed by the doctors

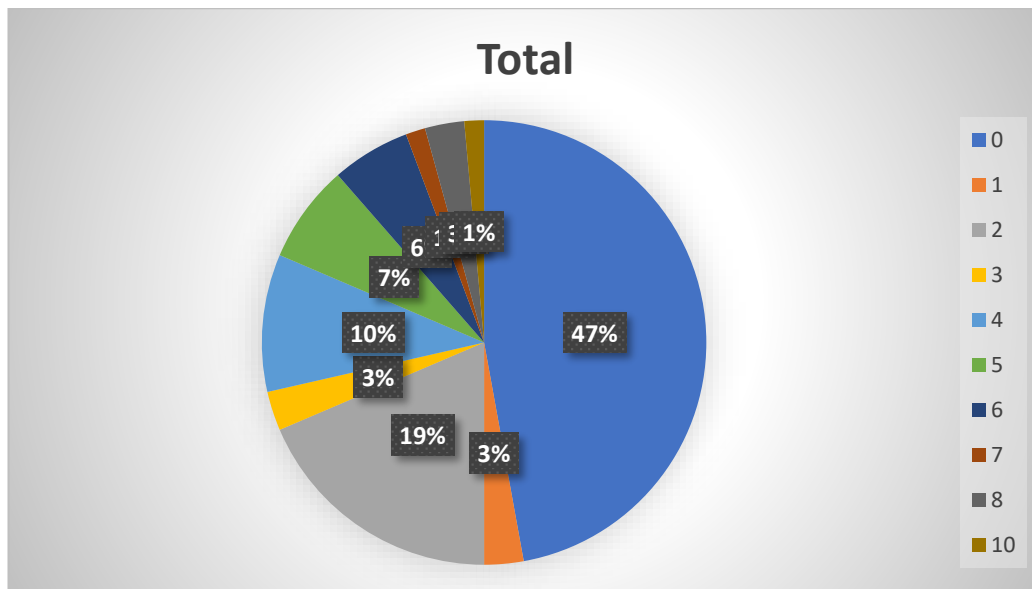


Figure 29: Daily number of minor surgeries performed by the surveyed doctors

Interpretation- In the survey 50 per cent of then doctors were not performing any minor surgeries due to lack of qualification for the same. Thus, the major surgeries performed by the rest 50 per cent doctors was in direct proportion to the size of organisation they were working in.

4.5.12 Pay-scale satisfaction of the doctors in the organization

Response	Count of PayScale Satisfaction
Maybe	22
No	6
Yes	42
Grand Total	70

Table 25: Survey data for satisfaction of doctors regarding the pay-scale received

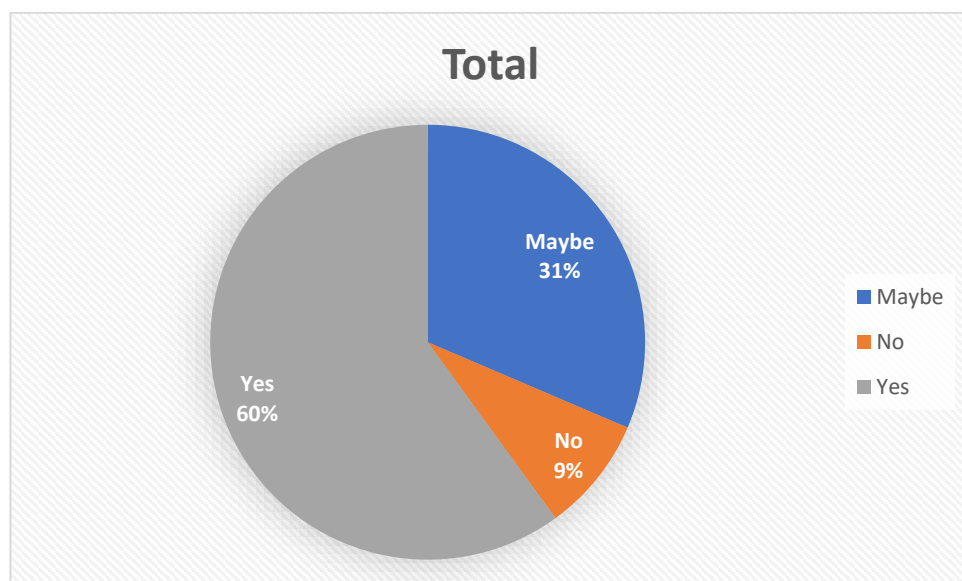


Figure 30: Pay-scale satisfaction for the surveyed doctors

Interpretation- More than 60 percent of the surveyed doctors found their pay scale being satisfactory towards the market trends, irrespective of the size and scope of services of the organizations working with.

4.5.13 Response of doctors regarding support from Administrative staff

Response	Count of Admin Support
Maybe	28
No	8
Yes	34
Grand Total	70

Table 26: Survey data regarding support from administrative staff to the doctors

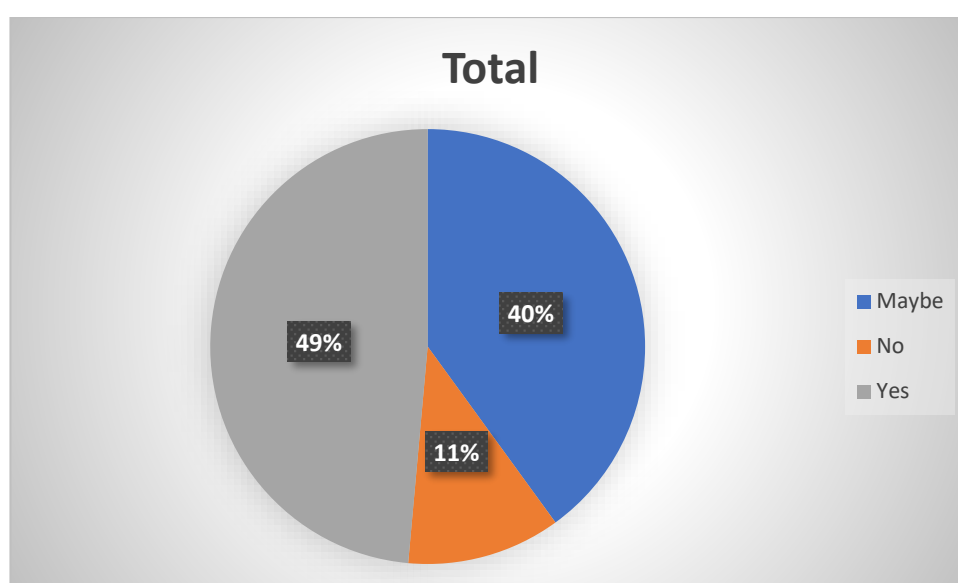


Figure 31: Support of administrative staff as realized by the surveyed doctors

Interpretation- Support from the administrative staff is one crucial factor to maintain synergy in the organization thus the ability to churn out maximum efficiency in terms of patient satisfaction ending to better revenue generation. In the survey it was found about half of the surveyed doctors found that the support from the admin staff in the organisation was satisfactory, whereas only 11 percent found the support not ample enough. Rest felt that the administrative support was irrelevant to the services for the patients in their scope of work in the organisation.

4.5.14 Response of doctors regarding support from Nursing staff

Response	Count of Nursing staff support
Maybe	20
No	10
Yes	40
Grand Total	70

Table 27: Survey data regarding support from nursing staff to the doctors

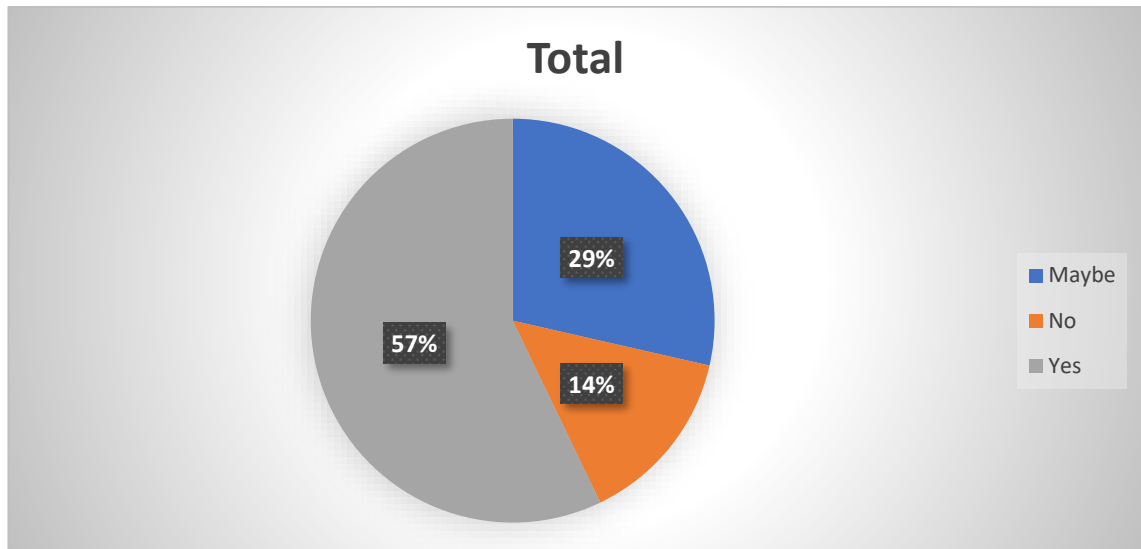


Figure 32: Support of nursing staff as realized by the surveyed doctors

Interpretation- Similar to what the role of administrative staff is, the nursing staff plays crucial and direct role in the patient care with the doctors in any organization. Therefore, it is very necessary for the doctors to get priority basis and as is support from the nursing staff.

In the survey it was found that 60 percent of the doctors are receiving sufficient support from the nursing staff, but still 14 percent of the doctors were suggesting inadequacy in the support from the nursing staff in the care of patients.

4.5.15 Response of doctors regarding support from Resident Doctors

Response	Count of Resident Doctor Support
Maybe	11
No	5
Yes	54
Grand Total	70

Table 28: Survey data regarding support from resident doctors to the doctors

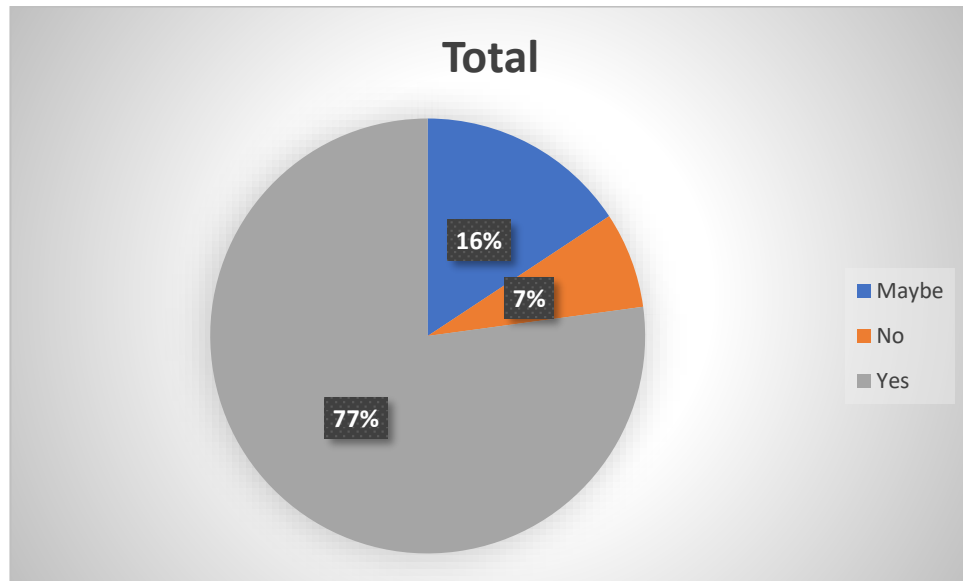


Figure 33: Support of resident doctors as realized by the surveyed doctors

Interpretation- The doctors in the survey had a clear indication towards a majoritarian positive support from the resident doctors. Thus, helping them in better management of patients in the I.P.Ds.

4.5.16 Response of doctors regarding accuracy and promptness of diagnostic reports from the laboratories

Response	Count of Accuracy and Promptness of Diagnostics
Maybe	26
No	2
Yes	42
Grand Total	70

Table 29: Survey data regarding support from diagnostic lab to the doctors

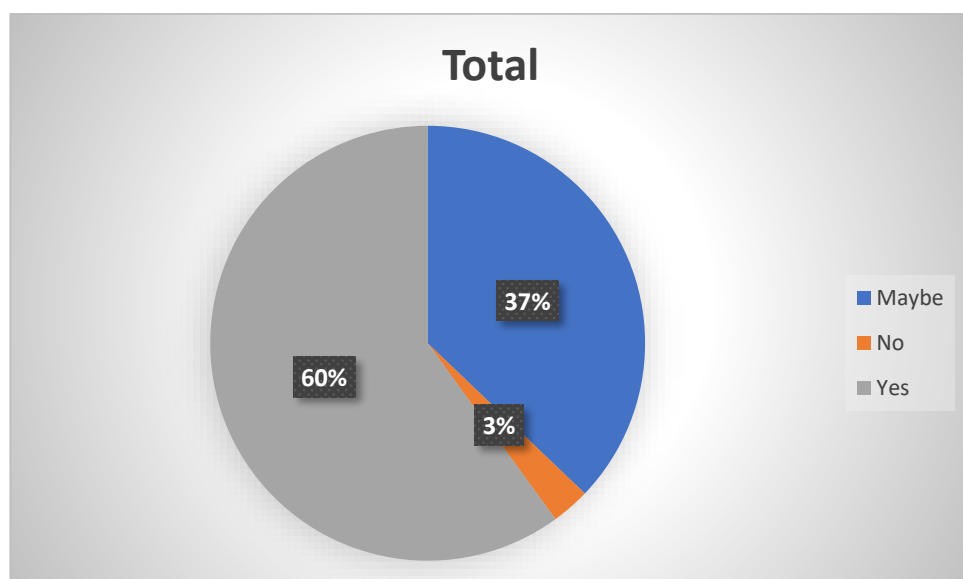


Figure 34: Support of diagnostic services as realized by the surveyed doctors

Interpretation- The promptness and accuracy of the diagnostics results as per the doctors in survey has been portrayed here. About 40 percent of the doctors had their doubts over the diagnostic services which in term of patient care can be an item of concern. Though 60 percent of the doctors showed confidence in the results from the diagnostic services in their organizations.

4.5.17 Preference regarding Referral made by doctors of the patients

Response	Count of Services for which the referral is made
Maybe	4
No	16
Yes	50
Grand Total	70

Table 30: Survey data regarding preference for referral by the doctor.

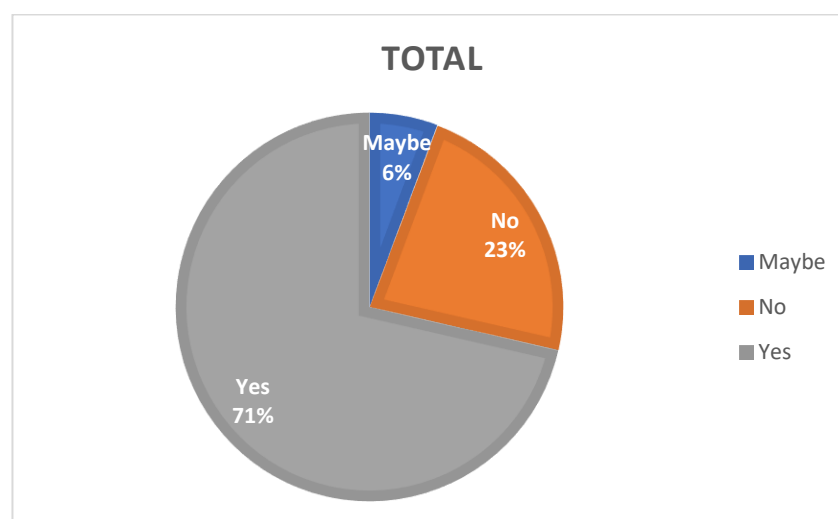


Figure 35: Percentage of surveyed doctors practicing referrals

Interpretation- The above data depicts the preference of doctors if they practice referral or not. About 71 percent of the surveyed doctors referred patients wherever necessary. 23 percent of the doctors didn't practiced referral due to the fact most of their patients were referred to them due to their specializations.

4.5.18 Percentage of specialities referrals made by the doctors

Referral made for	Percentage of Services for which the referral is made
Cardiology	7.14%
Dermatology	2.86%
Medicine	7.14%
Neurology	20.00%
No Referral Made	35.71%
Oncology	27.14%
Grand Total	100.00%

Table 31: Survey data regarding specialties referral used by the doctors.

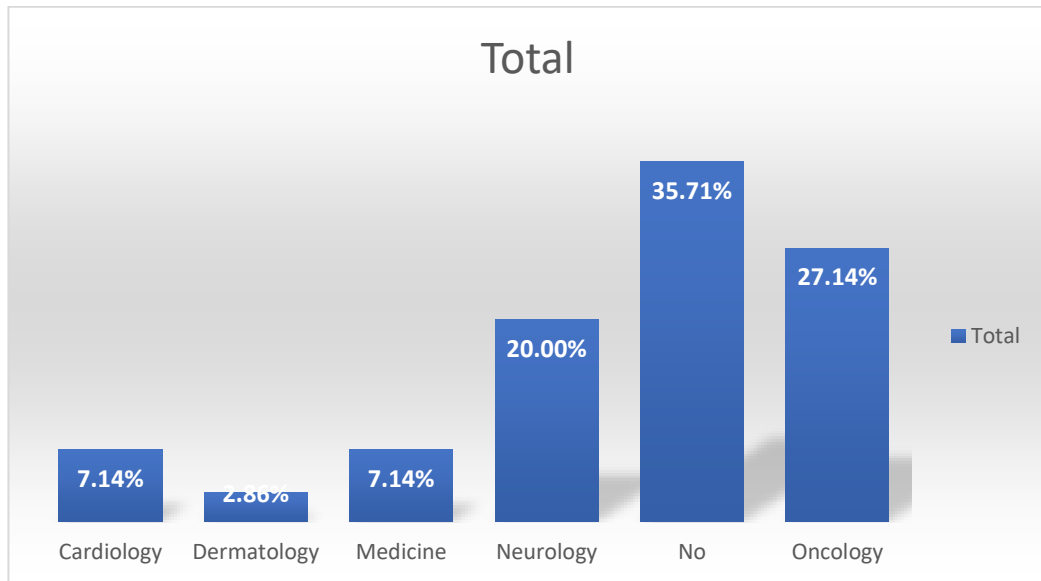


Figure 36: Specialities referred for by the surveyed doctors

Interpretation- The above charts depict the maximum referrals made by the surveyed doctors were for the specializations of oncology, followed by neurology and cardiology. Medicine and dermatology had lesser number of referrals made by the surveyed doctors.

4.6 Results from Patients

The following results data is from the patient's surveyed in the various departments coming to our target hospital, which is due for the rehabilitation plan, SUM Ultimate Medicare.

4.6.1 Age group of patients

Age Group	Count of Patients
>60 Years	3
0 Years - 2 Years	7
13 Years - 19 Years	41
2 Years - 12 Years	12
20 Years - 30 Years	149
31 Years - 45 years	182
46 Years - 60 Years	55

Table 32: Survey data regarding Age group of patients.

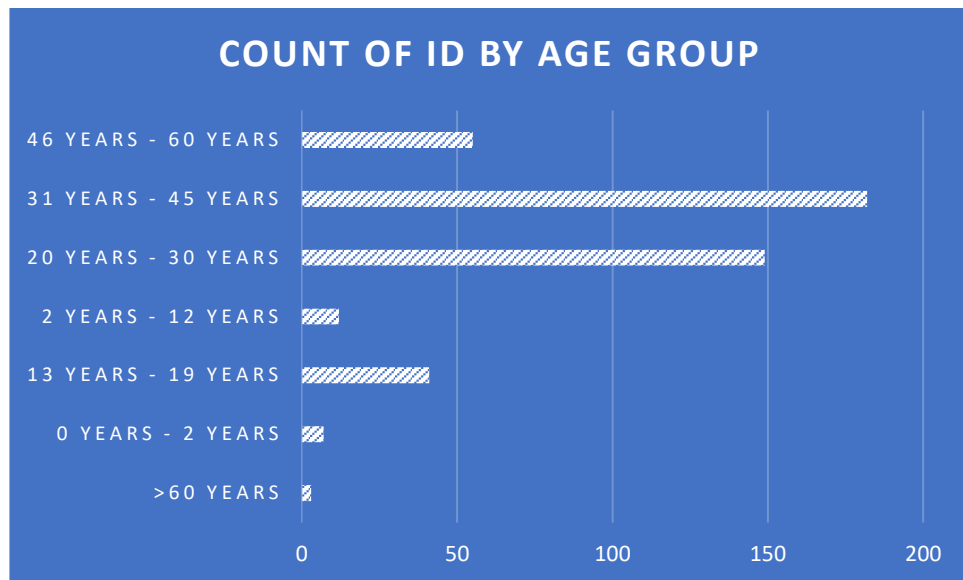


Figure 37: Age group of patients surveyed

Interpretation- The majority of the patients surveyed arriving at the hospital were from the age group of 31 years – 45 years of age followed by 20 years – 30 years of age.

4.6.2 Gender proportion of surveyed patients

Gender	Count of Patients	Percentage of Grand Total
Man	244	54.34%
Non-binary	4	0.89%
Prefer not to say	6	1.34%
Woman	195	43.43%

Table 33: Survey data of gender proportion of the patients

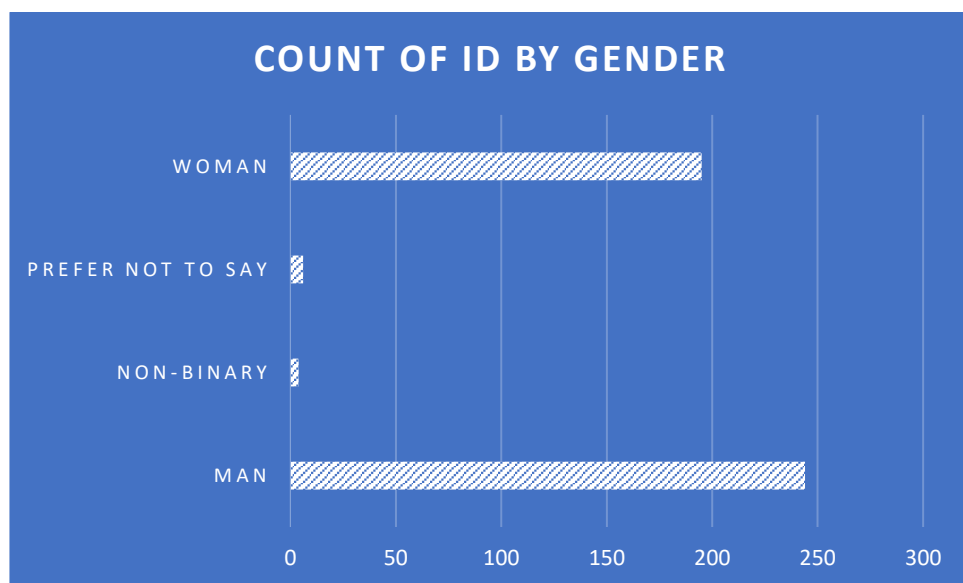


Figure 38: Gender Proportion of patients surveyed

4.6.3 City of origin of the patients

Cities of the Catchment area	Count of City of Origin	Percentage of City of Origin
Angul	9	2.00%
Bhubaneswar City	347	77.28%
Boudh	11	2.45%
Cuttack	7	1.56%
Debagarh	2	0.45%
Dhenkanal	4	0.89%
Kandhamal	2	0.45%
Koraput	22	4.90%
Nabarangpur	8	1.78%
Nayagarh	2	0.45%
Nuapada	8	1.78%
Rayagada	10	2.23%
Sambalpur	2	0.45%
Sundarbhanj	2	0.45%
Sundargarh	13	2.90%
Grand Total	449	100.00%

Table 34: Survey data of patients arriving at the hospital

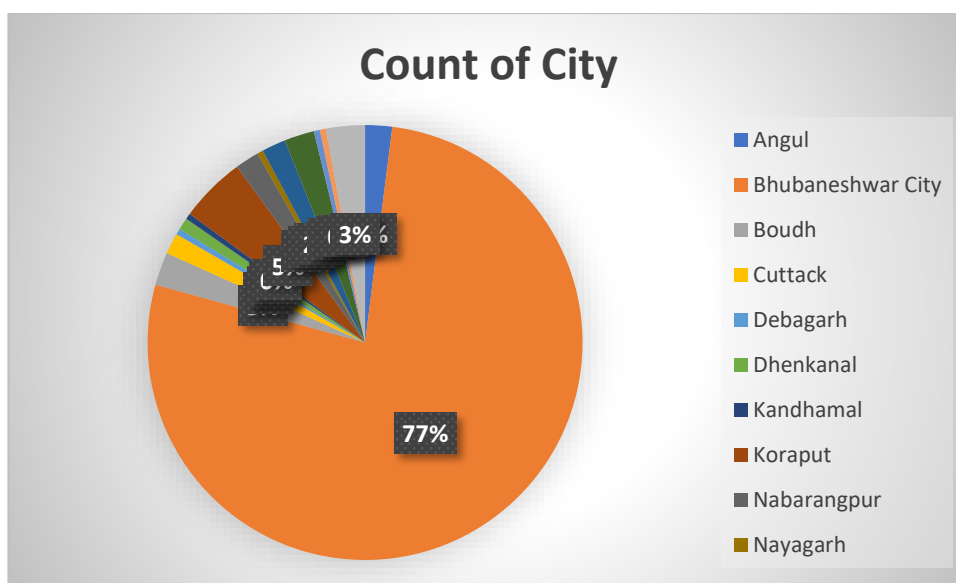


Figure 39: City of origin of surveyed patients

Interpretation- The patient's surveyed arriving at the hospital were mainly originating from the Bhubaneswar city, then followed by 5 percent from Koraput, 3 percent from Sundargarh and 2.5 percent from Boudh.

4.6.4 Education attained by the patients

Qualification	Count of Education	Percentage of Education Qualification
Diploma	40	8.91%

Doctorate	21	4.68%
Elementary Schooling	18	4.01%
Postgraduate	92	20.49%
Primary Schooling	13	2.90%
Secondary Schooling	38	8.46%
Senior Secondary Schooling	44	9.80%
Undergraduate	170	37.86%
Uneducated	13	2.90%
Grand Total	449	100.00%

Table 35: Survey data for the educational qualification of the patients arriving at the hospital

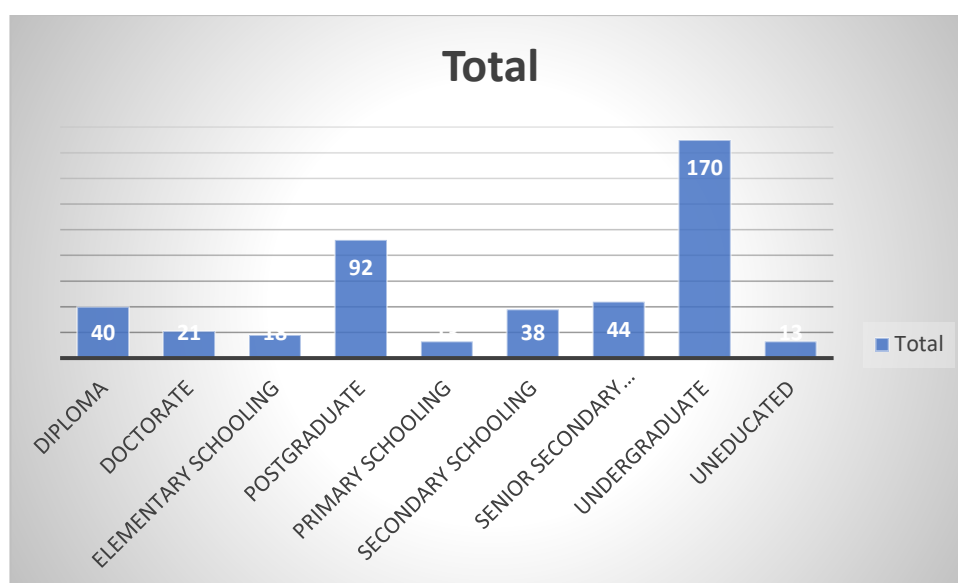


Figure 40: Educational qualification of the surveyed patients

4.6.5 Types of services availed by the patients in the hospital

Services availed	Count of Services Availed by you in the Hospital
Day-care;	43
Daycare;In-patient Medicine;	4
Daycare;O.P.D;	2
Daycare;Obstetrics & Gynaecology;	9
Daycare;Others;	12
Emergency/ Trauma;	11
Emergency/ Trauma;In-patient Medicine;Daycare;	2
Emergency/ Trauma;In-patient Surgery;	2
Emergency/ Trauma;In-patient Surgery;In-patient Medicine;O.P.D;	2
Emergency/ Trauma;Obstetrics & Gynaecology;	2
Emergency/ Trauma;Obstetrics & Gynaecology;In-patient Surgery;In-patient Medicine;	2

In-patient Medicine;	114
In-patient Medicine;In-patient Surgery;	4
In-patient Surgery;	121
In-patient Surgery;In-patient Medicine;	6
O.P.D;	46
O.P.D;Daycare;	4
O.P.D;Others;	2
Obstetrics & Gynaecology;	47
Obstetrics & Gynaecology;Daycare;	3
Obstetrics & Gynaecology;Emergency/ Trauma;	2
Obstetrics & Gynaecology;Others;	2
Others;	7
Grand Total	449

Table 36: Survey data for services availed by the patients

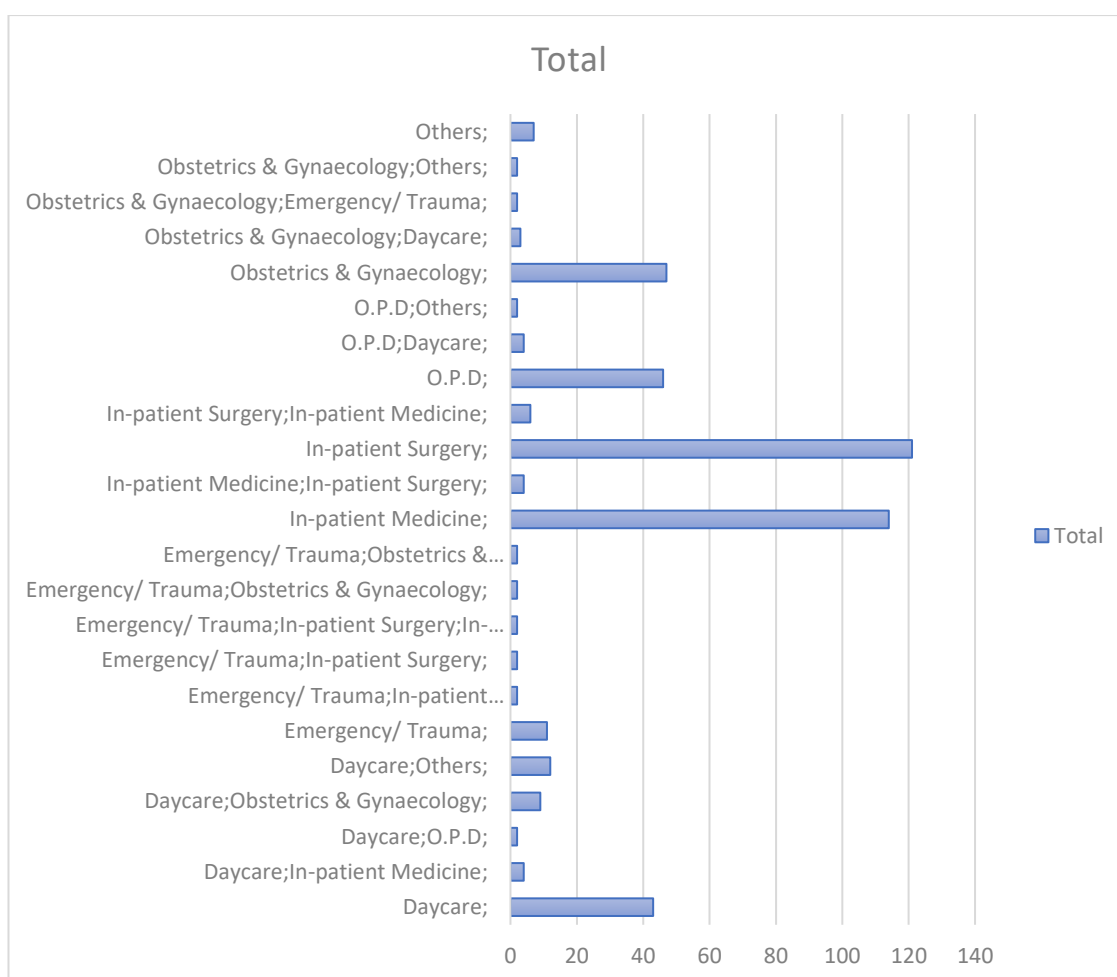


Figure 41: Services availed in the hospital by the surveyed patients

Interpretation- Majority of the patients visited hospital for In-patient surgery and In-Patient medicine services, which is then followed by Gynaecology and Obstetrics department.

4.6.6 Rating of consultation services by the patients

Stars	Count of Consultation services	Percentage of Grand Total
3	82	13.18%
4	215	46.09%
5	152	40.73%
Grand Total	449	100.00%

Table 37: Rating by patient for consultation services at the hospital.

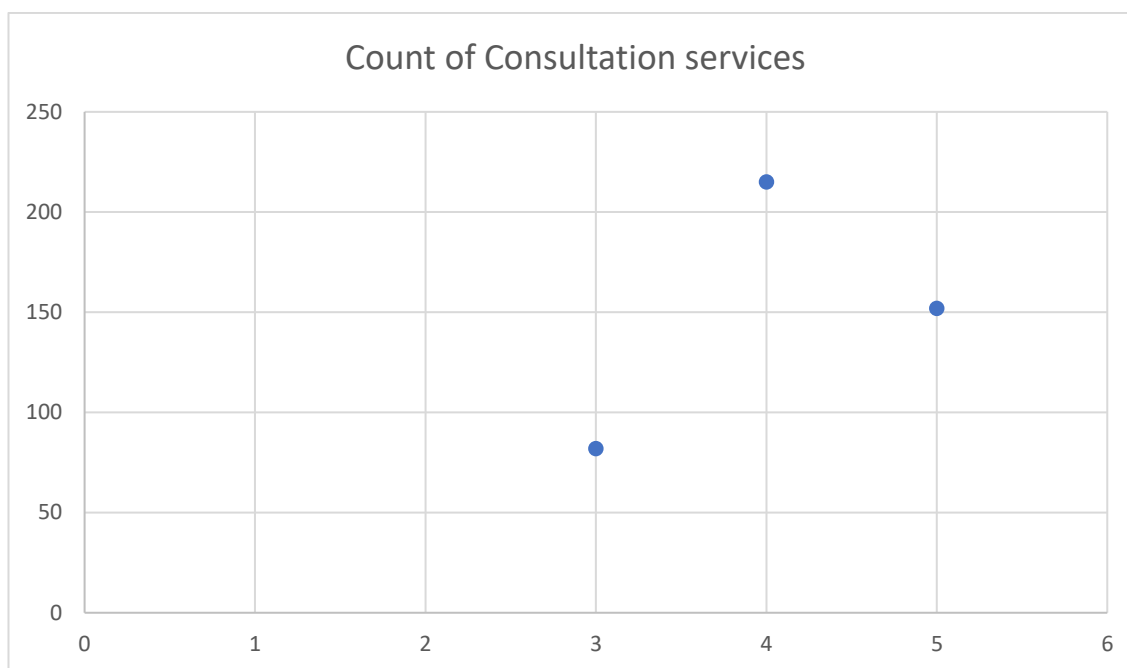


Figure 42: Ratings by surveyed patients for consultation services

Interpretation- The average rating as per Likert scale for quality of consultation service was observed 4 stars (Very Good) as per the surveyed patients visiting the hospital.

4.6.7 Rating of consultation/IPD /diagnostic services fees by the patients

Stars	Count of Consultancy Fees/IPD charges/Surgery charges/Diagnostics charges:	Percentage of Grand Total
2	55	7.05%
3	161	30.96%
4	198	50.77%
5	35	11.22%
Grand Total	449	100.00%

Table 38: Rating by patient for fees charged at the hospital.

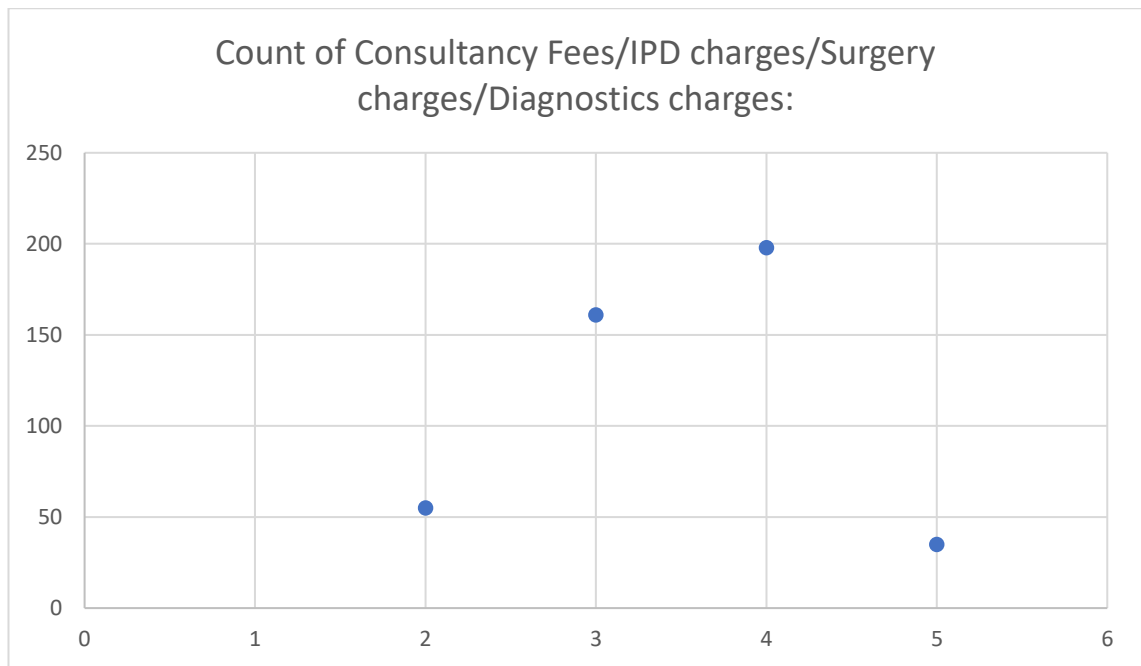


Figure 43: Ratings by surveyed patients for fees charged for services at hospital

Interpretation- The average rating as per Likert scale for fee structure of consultation and other services was observed 4 stars (Very Good) as per the surveyed patients visiting the hospital.

4.6.8 Rating of privacy provided by the hospital for the patients

Stars	Count of Privacy in hospital	Percentage of Grand total
3	58	9.16%
4	229	48.21%
5	162	42.63%
Grand Total	449	100.00%

Table 39: Rating by patient for privacy measures for consultation at the hospital.

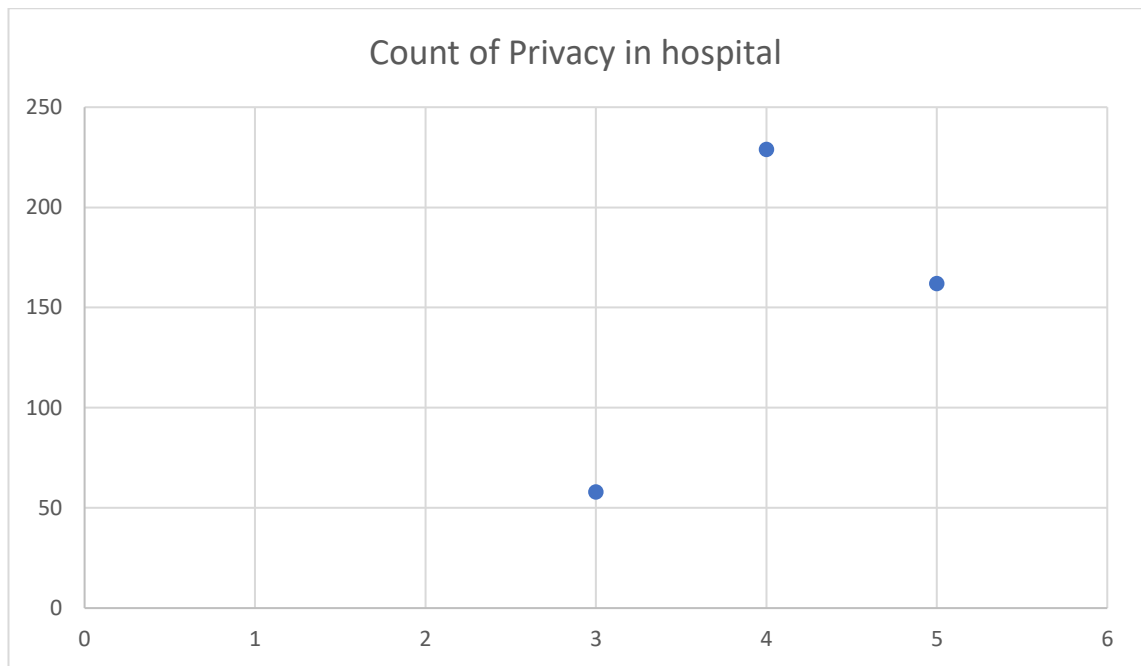


Figure 44: Ratings by surveyed patients for privacy services at the hospital

Interpretation- The average rating as per Likert scale for privacy of patients during and after consultation and other services was observed 4 stars (Very Good) as per the surveyed patients visiting the hospital.

4.6.9 Rating for food and beverages services by the patients

Stars	Count of Food and beverages services	Percentage of Grand Total
3	138	24.20%
4	258	60.32%
5	53	15.49%
Grand Total	449	100.00%

Table 40: Rating by patient for food and beverages services at the hospital.

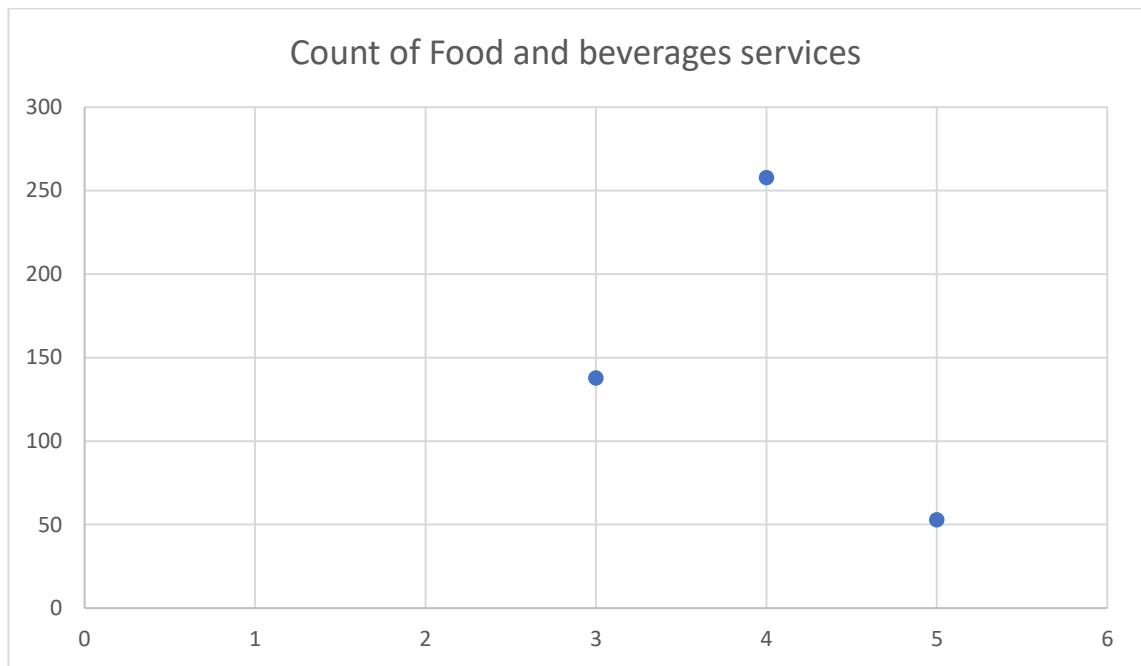


Figure 45: Ratings by surveyed patients for food and beverages services of the hospital

Interpretation- The average rating as per Likert scale for quality of food and beverages services was observed 4 stars (Very Good) as per the surveyed patients visiting the hospital.

4.6.10 Rating of drinking water facilities by the patients

Stars	Count of Drinking water facilities	Percentage of Grand Total
3	84	13.68%
4	235	51.03%
5	130	35.29%
Grand Total	449	100.00%

Table 41: Rating by patient for drinking water services at the hospital.

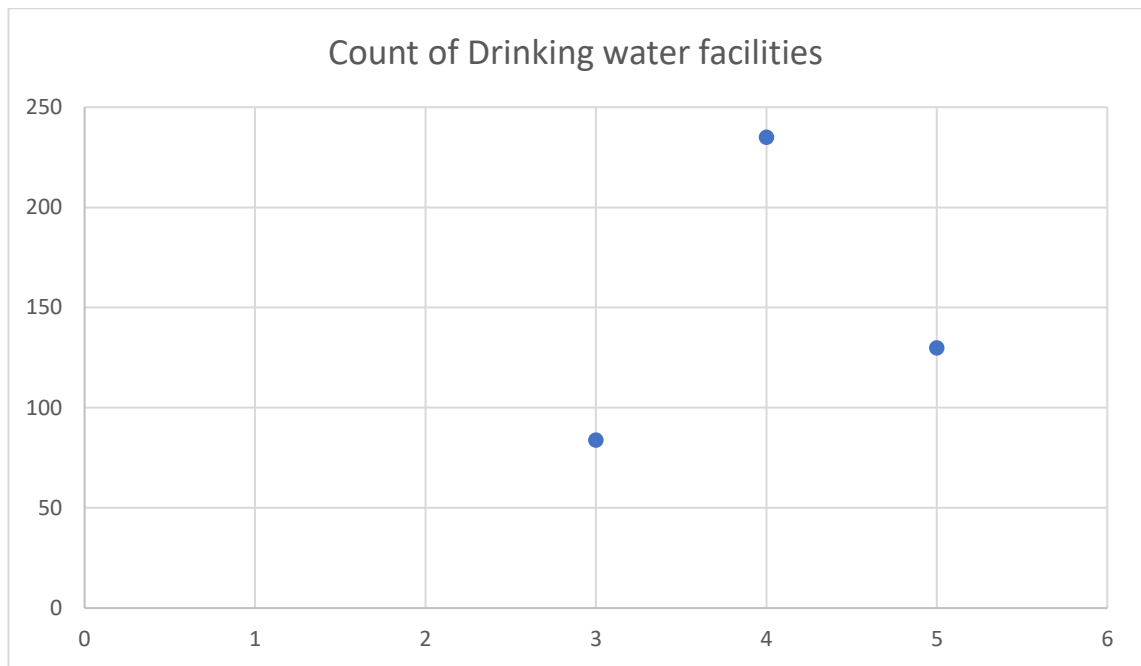


Figure 46: Ratings by surveyed patients for drinking water facilities

Interpretation- The average rating as per Likert scale for quality of drinking water services was observed 4 stars (Very Good) as per the surveyed patients visiting the hospital.

4.6.11 Rating of cleanliness of hospital premises by the patients

Stars	Count of Cleanliness of the Hospital	Percentage of Grand Total
2	7	0.77%
3	80	13.14%
4	237	51.89%
5	125	34.21%
Grand Total	449	100.00%

Table 42: Rating by patient for cleanliness at the hospital.

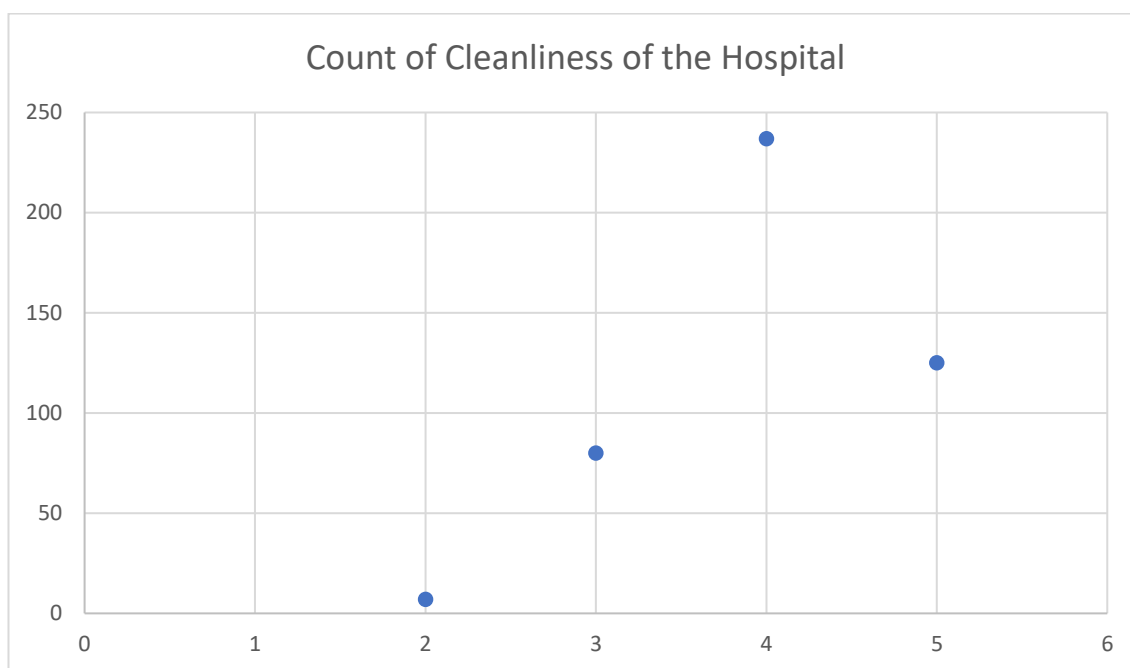


Figure 47: Ratings by surveyed patients for cleanliness of the hospital premises

Interpretation- The average rating as per Likert scale for the observed cleanliness was observed 4 stars (Very Good) as per the surveyed patients visiting the hospital.

4.6.12 Rating of cleanliness of washroom at hospital premises by the patients

Stars	Count of Toilet and Restroom Facilities	Percentage of Grand Total
3	102	17.05%
4	246	54.82%
5	101	28.13%
Grand Total	449	100.00%

Table 43: Rating by patient for cleanliness of public facilities at the hospital.

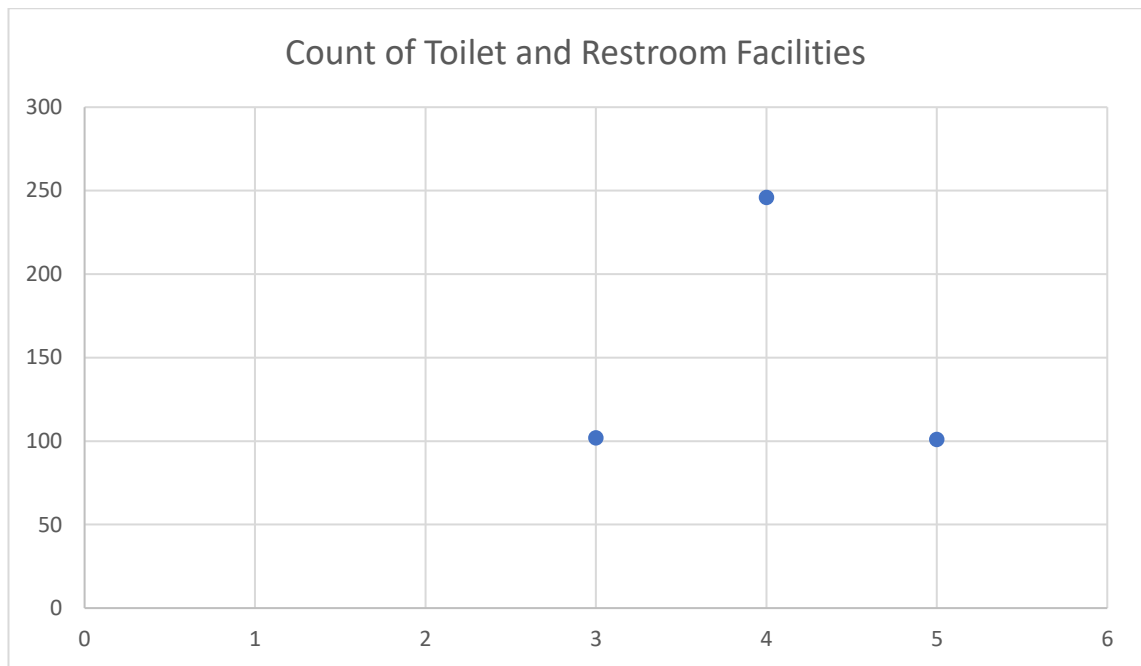


Figure 48: Ratings by surveyed patients for cleanliness of the public facilities

Interpretation- The average rating as per Likert scale for cleanliness and quality of toilets and restroom facilities was observed 4 stars (Very Good) as per the surveyed patients visiting the hospital.

4.6.13 Time taken for registration at the hospital as per patient's survey

Count of Time taken for registration	Percentage of Grand	
	Total	
1 Min - 5 Min	52	11.58%
10 Min - 15 Min	70	15.59%
15 Min - 20 Min	19	4.23%
5 Min - 10 Min	308	68.60%
Grand Total	449	100.00%

Table 44: Survey data for time taken in patient registration

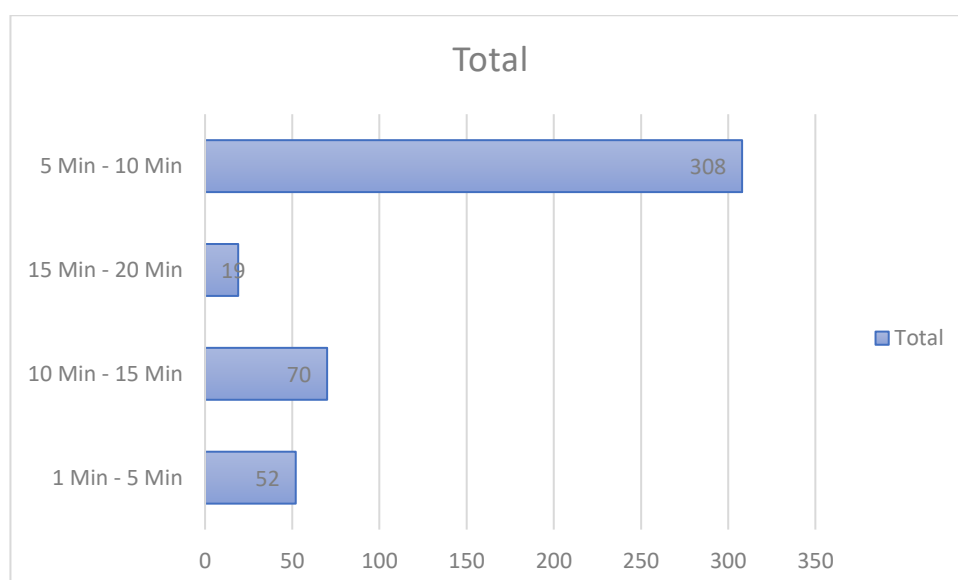


Figure 49: Time taken for hospital registration as per the patients surveyed

4.6.14 Time taken for consultation after the registration at the hospital as per patients

Time taken	Count of Time taken for Consultation	Percentage of Grand Total
1 Min - 5 Min	56	12.47%
10 Min - 15 Min	62	13.81%
15 Min - 20 Min	105	23.39%
5 Min - 10 Min	215	47.88%
More than 20 Min	11	2.45%
Grand Total	449	100.00%

Table 45: Survey data for time taken in patient consultation after registration.

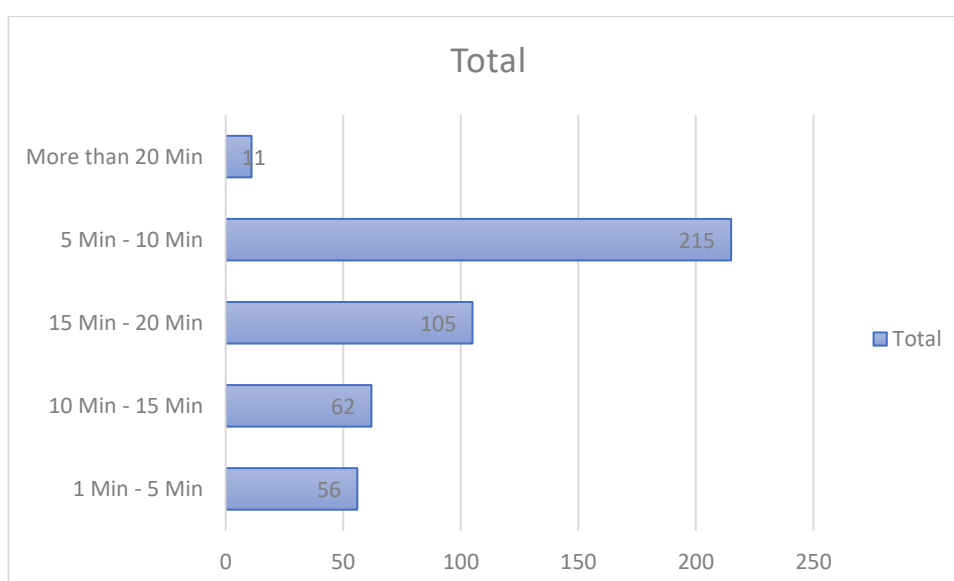


Figure 50: Time taken from registration to consultation as experienced by the patients

4.6.15 Rating of non-medical staff behaviour by the patients

Stars	Count of Hospital Staff	Percentage of Grand Total
3	111	19.09%
4	279	63.99%
5	59	16.92%
Grand Total	449	100.00%

Table 46: Rating by patient for non-medical staff behaviour at the hospital

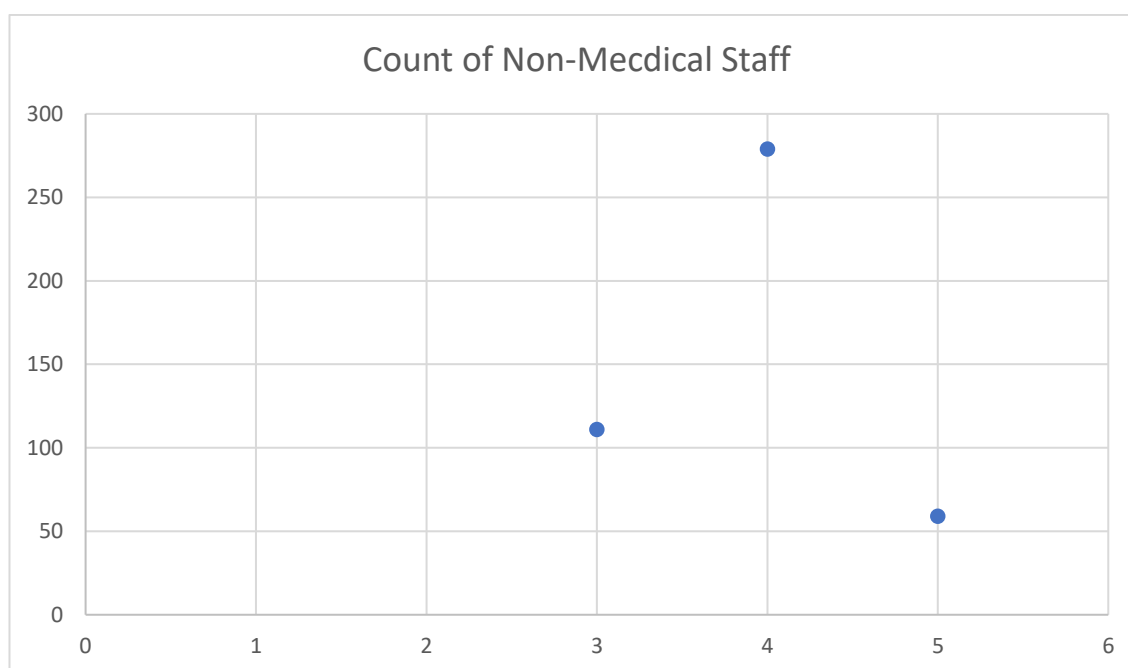


Figure 51: Ratings by surveyed patients for non-medical staff behaviour

Interpretation- The average rating as per Likert scale for quality of behaviour of non-medical staff was observed 4 stars (Very Good) as per the surveyed patients visiting the hospital.

4.6.16 Rating of nursing staff behaviour by the patients

Stars	Count of Nursing staff	Percentage of Grand Total
2	20	2.29%
3	134	23.06%
4	174	39.93%
5	121	34.71%
Grand Total	449	100.00%

Table 47: Rating by patient for nursing staff behaviour at the hospital

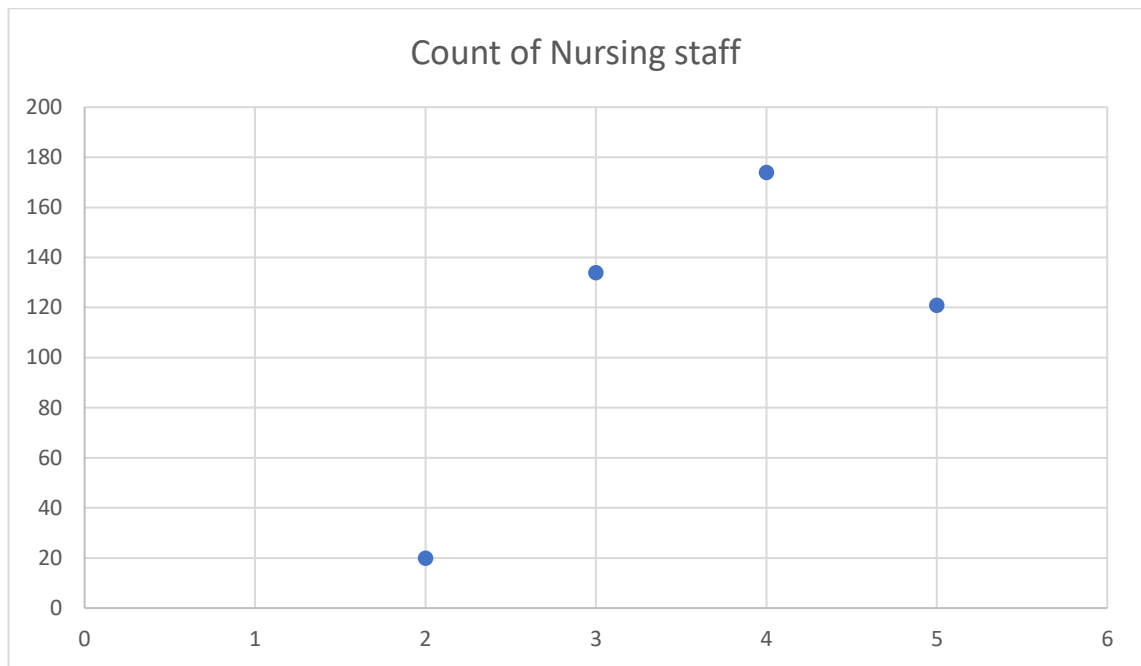


Figure 52: Ratings by surveyed patients for nursing staff behaviour

Interpretation- The average rating as per Likert scale for quality of behaviour nursing staff was observed 4 stars (Very Good) as per the surveyed patients visiting the hospital.

4.6.17 Rating of treating doctor's behaviour by the patients

Stars	Count of Treating doctor	Percentage of Grand Total
3	59	9.22%
4	207	43.13%
5	183	47.66%
Grand Total	449	100.00%

Table 48: Rating by patient for doctor's behaviour at the hospital

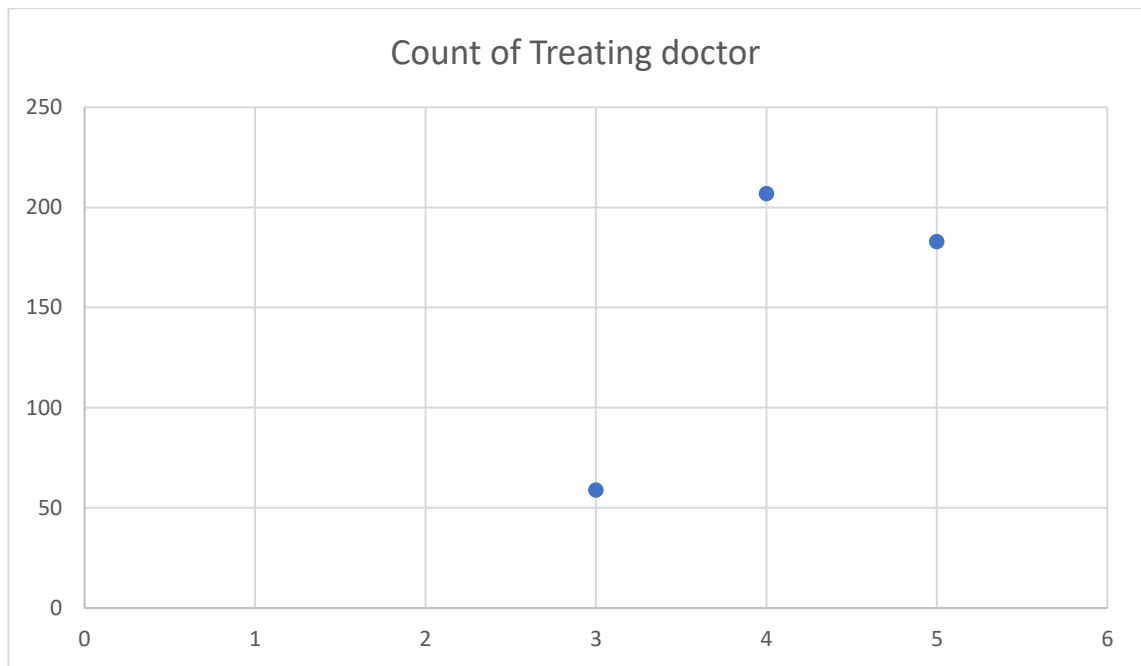


Figure 53: Ratings by surveyed patients for treating doctor's behaviour

Interpretation- The average rating as per Likert scale for quality of behaviour of treating doctor was observed 4 stars (Very Good) as per the surveyed patients visiting the hospital.

4.6.18 Rating of administrative staff's behaviour by the patients

Stars	Count of Administrative staff	Percentage of Grand Total
2	21	2.39%
3	98	16.73%
4	229	52.13%
5	101	28.74%
Grand Total	449	100.00%

Table 49: Rating by patient for administrative staff behaviour at the hospital

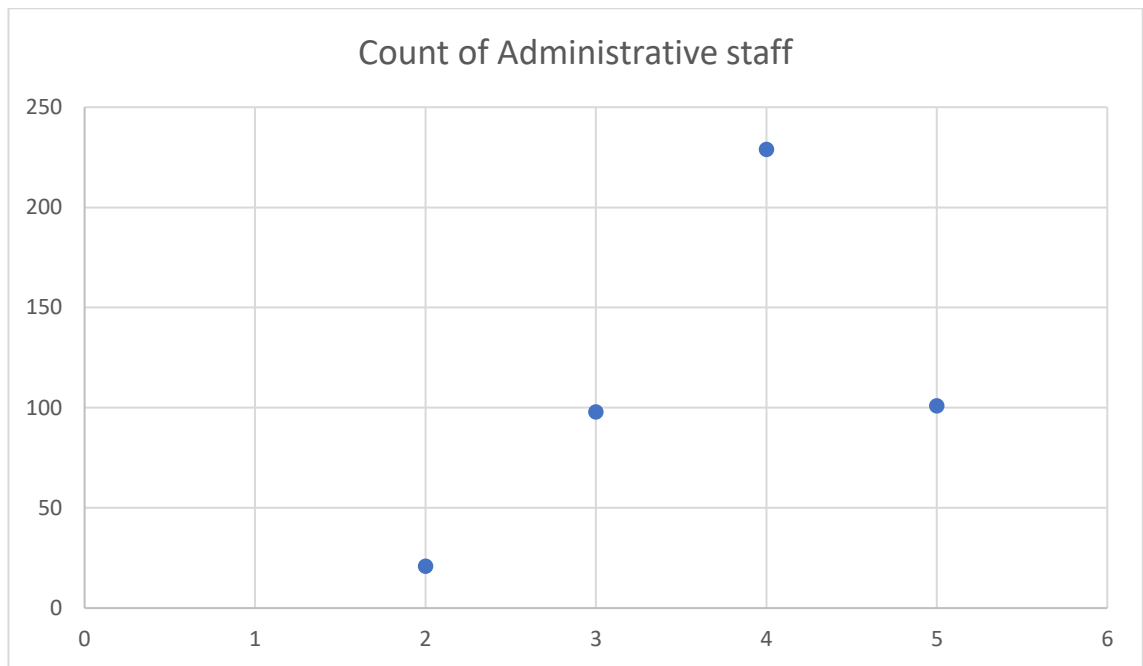


Figure 54: Ratings by surveyed patients for administrative staff behaviour

Interpretation- The average rating as per Likert scale for quality of behaviour of administrative staff was observed 4 stars (Very Good) as per the surveyed patients visiting the hospital.

Chapter 5 Discussion

Carrying out a situational analysis or feasibility study helps in new investors looking at opportunities in healthcare delivery space, completing a thorough analysis given the healthcare services lines being explored, carrying out demand analysis for the space or medical services provided by the proposed facility, projecting the trends that are shaping what markets will look like in future, funding agencies in examining infrastructure investment in regions with less healthcare facilities, overseas players wanting to replicate a successful chain model in the land, medical suppliers looking to penetrate the corporate hospital market, and preparing detailed project report based on Market Analysis (ACME Hospital Projects, 2021).

Six main criteria for hospital location selection as discussed by Lin et al. and Wu et al. are namely- (1) factor conditions, (2) demand conditions, (3) firm strategy structure, (4) related and supporting sectors, (5) government, and (6) chance. (Gul & Guneri, 2021). Therefore, in this study for the scope of the objective regarding the components of situational analysis for a hospital expansion/ rehabilitation in an urban setting following were analysed as per the requirements:

- (1) Determining the factor conditions effects, relevant information such as competition from hospitals in the catchment area was ascertained on the basis of years of operations (Table 2), information regarding the number of departments harboured by these hospitals (Table 5), number of O.P.D consultations rooms in the hospitals (Table 8), number of doctors working in the hospitals (Table 9), and such.
- (2) To determine the demand conditions data which seems relevant to the catchment area included the patient footfall in each of the surveyed hospitals (Table 11), the usage/ utilization of diagnostic services both imaging and laboratory (Table 12), survey data from doctors which helped observing the demand by daily O.P.D patients attended by doctors working in these hospitals (Table 20), similarly daily count of I.P.D patients attended by the surveyed doctors (Table 21), and number of major and minor operations carried out by the surveyed doctors (Table 23 and Table 24 respectively), doctors making referrals for specific specialities during patient care (Figure 36). Similar data can be collected to know the demand conditions from the survey carried out by the patients. Such data to confer to the needs of situational analysis were demographic origin of patients coming to the target hospital (Table 34), the services for which the patient is attending the hospital (Figure 41) and so on.
- (3) The determination of firm strategy structure can be observed from the following data of the surveyed hospital; number of departments in the hospital including specialities (Table 5), number of major and minor O.Ts operational (Table 7), bed strength of the hospitals (Table 3), number of medical staff on board (Table 9), number of non-medical staff on board (Table 10), Salary scale for the staff on board (Table 13). The survey data from doctors working in these hospitals also help in ascertaining the firm strategy such as the qualifications of doctors on board (Figure 21), the most practiced specialisations (Figure 22), preference of doctors in terms of experience (Figure 24). The survey data from the patients which includes the time taken for registration in the target hospital (Table 44)

and the time taken from registration to the consultation (Table 45) also acts as a determining factor to know the firm strategy.

- (4) Related and supporting sectors which helps in the determination of a hospital's position may include the data from hospital survey where the observation regarding the support and utility services being in house or outsourced (Figure 9 and Figure 10 respectively). Similarly, the doctor survey data suggesting the support from the administrative staff (Table 26), nursing staff (Table 27), and resident doctors (Table 28) acts as identifiers for the objective. The end results of positive or negative impact of synergy in the organisation can be easily visualised through data from the survey of patients which incorporates the rating of various services and quality of care in the healthcare organization, such as rating about consultation services (Figure 42), fee structure (Table 38), privacy maintained during and after consultation (Figure 44), quality of food and beverages services (Table 40), quality of drinking water services (Figure 46), the rating about cleanliness of premises (Figure 47) and the restroom facilities (Table 48) and such.

The result from such analysis provides expected results in terms of format recommendation (to begin as a multi-speciality hospital and then transform into a multi super-speciality hospital, recommendations for super speciality departments to be incorporated, speciality recommendation for secondary care, supporting specialities to compliment the offered services and cater to the general needs of the area and even business model recommendations.

A better alignment of hospital projects to the identified needs will result from improving situational analysis procedures in accordance with theoretical recommendations from the study. This is kept up through strengthening stakeholder management and giving projects related to hospitals a stronger foundation for guaranteeing their societal goals. When looking for success from a tactical and strategic standpoint, it is crucial to provide learning insights on what to be mindful of when undertaking front-end planning of hospital initiatives. This is helpful, especially for decision-makers and project managers who are starting these intricate planning procedures that are frequently carried out in difficult settings. Navigating such a landscape could make it difficult to maintain a long-term perspective, potentially jeopardising strategic success (Anne Strand Alfredsen Larsen, 2020).

Chapter 6 Conclusion

Due to the high level of uncertainty and the limited availability of information, the study makes clear that the level of detail in early project appraisals is not that beneficial. At this time, specific knowledge will quickly become outdated. The extended lifespan of hospital projects and the complex and frequently changing environment in which hospitals and healthcare development exist, it seems, create a contradiction for planners. Early in the front-end phase, the hospital area is computed based on quantitative and qualitative forecasts of future services, primarily to determine project cost, which is regarded as a crucial criterion.

The risk of "analysis-paralysis," or adding too much detail early in the project process, is also one scenario. It can be difficult to make decisions when there are many of unknowns, which suggests that a quantifiable basis for decision-making should be established. There seems to be a demand for specific objectives and evidence of success when there is a lot of disputes. As a result, it is important to quantify what can be measured, thus the explanations should give special attention to these components. As a result, conversations on how to build future healthcare services are stifled, which could result in the loss of feasible concepts and jeopardise the long-term success of the project. Creativity and imagination are two traits that are thought to be helpful for developing future concepts.

Corporates rarely take on hospital projects, thus it is unrealistic to anticipate that they will always have the appropriate expertise and experience. As demonstrated by the situations, complexity and unfamiliarity may force one to compromise necessary future orientation in the name of "being practical." To do this, project managers and participants must be able to manage inherent uncertainty and maintain an open mind even when stakeholder differences or political interference are causing high levels of conflict. To enable future sound solutions and create long-term value, avoiding path dependency and assessing the real demands driving the project are crucial. The purpose of this study was not to generalise, but rather to gain a deeper comprehension of how front-end planning for hospital projects is carried out in a Norwegian context in comparison to theoretical recommendations and to highlight any potential difficulties that may be present in these procedures. Finding these issues serves as a springboard for the necessary development of the planning procedures.

The purpose of this study was not to generalise, but rather to gain a deeper comprehension of how situational analysis for hospital projects is carried out in comparison to theoretical recommendations and to highlight any potential difficulties that may be present in these procedures. Finding these issues serves as a springboard for the necessary development of the planning procedures.

Managerial implications could include actively encouraging cross-project learning and skill development on the project front end through established forums and educations, and systematically carrying out ex-post evaluations of hospital projects. These actions are in light of theoretical recommendations.

6.1 Recommendations

The following points can be taken upfront from the quantitative analysis of the study:

- a. The hospital under consideration can be taken up for rehabilitation and expansion in terms of beds.
- b. The current services in the hospital are having good patient feedback thus the organization may not require pushing in major changes in the aspects of services provided both the medical and the utility and facilities one.
- c. The only consideration which pertains to the big picture will come up as the increasing operational cost due to increased bed leading to more consumption and more required manpower (both medical and non-medical).
- d. The specialities for which the other hospitals are referring patients should be the ones to be prime focus of the marketing U.S.P while targeting the population in focus.
- e. A proper financial projection with respect to market trends as well as depreciation using the simple linear method or else is required for gaining interest of investors in the project as well as the stakeholders.

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Annexure 1 Questionnaires

Sample Questionnaire for Doctors

1. Name of the Doctor
2. Age
3. Sex
4. Telephone
5. Email
6. Educational background
7. Area of specialty
8. Fellowship
9. Any overseas experience
10. How would you describe your practice setting-?
 - a. Hospital (private)
 - b. Hospital (public)
 - c. Group practice
 - d. Individual practice
11. Name of the Hospital/ Clinics associated with
12. Nature of work-
 - i. Full time
 - ii. Part time
13. If part time, for how many days do you visit in a week?
14. How many years have you practiced in your area of specialization post residency/ training?
 - a. <10 years
 - b. 10-20 years
 - c. >20 years
15. How many patients do you attend daily-?
 - i. OP-
 - ii. IP-
 - iii. Emergency-
16. Number of surgeries performed daily-
 - i. Major-
 - ii. Minor-
17. Do you think your compensation is competitive with the current market for your specialty and type of practice?
 - i. Yes

- ii. No
18. Do you receive the level of administrative support needed to accomplish your daily workflow and provide a high level of service for your patients?
- i. Yes
 - ii. No
19. Do you receive the co-operation and responsiveness from the nursing staff?
- i. Yes
 - ii. No
20. Do you receive the co-operation and responsiveness from the resident doctors?
- i. Yes
 - ii. No
21. Do you receive promptness and accuracy in the diagnostic test results?
- i. Yes
 - ii. No
22. Do you practice referral of patients?
- i. Yes
 - ii. No
23. If yes, name some countries-
- i. Bangkok
 - ii. Vietnam
 - iii. Myanmar
 - iv. India
 - v. Others, please specify _____
24. Services for which the referral is made,-
- i. Cardiology
 - ii. Oncology
 - iii. Neurology
 - iv. Dermatology
 - v. Obstetrics & Gynecology
 - vi. Urology
 - vii. Paediatrics
 - viii. Orthopaedics
 - ix. Ophthalmology
 - x. Routine Check up
 - xi. Others, please specify _____
25. reason for referral of patients is,-
- i. Unavailability of facilities/ services
 - ii. Unaffordable treatment options

iii. Others

26. Do you provide trainings and educational sessions?

i. Yes

ii. No

27. Do you receive regular trainings to enhance your skills?

i. Yes

ii. No

28. Do you receive any incentive for the additional services provided by you
(Camps/ Field visits/ educational sessions & trainings?)

i. Yes

ii. No

Sample Questionnaire for Hospitals

1. Name & Address of the Hospital:

2. Ownership of the Hospital:

3. Year and month in which Registered:

4. Bed Strength of the Hospital:

5. Services Provide by the Hospital:

a. General Medicine

b. General Surgery

c. Ophthalmology

d. ENT

e. Pediatrics

f. Neonatology

g. Obstetrics & Gynecology

h. Orthopedics

i. Pulmonology

j. Cardiology

k. Rheumatology

l. Plastic Surgery

m. Nephrology

n. Dentistry

- o. Dermatology
- p. Oncology
- q. Endocrinology
- r. Neurology
- s. Psychiatry
- t. Urology
- u. Others

Support Services:

- a.
- b.
- c.
- d.
- e.
- f.

Utility Services:

- a.
- b.
- c.
- d.
- e.
- f.

In-House Services:

- a.
- b.
- c.
- d.
- e.
- f.
- g.
- h.
- i.
- j.

Outsource Services:

- a.
- b.
- c.
- d.
- e.

6. Beds by Proportion:

No. of ICU Beds:

- a.
- b.
- c.
- d.
- e.

No. of Day Care Beds

- a.
- b.
- c.
- d.
- e.

No. of Emergency Beds:

No. of Recovery Beds:

7. No. of OTs:

- a. Major OT-
- b. Minor OT-

8. No. of OPDs Chambers:

9. No. of Hospital Staff:

- a) No. of Doctors:
- b) No. of Medical Officer:
- c) No. of Technicians:
- d) No. of Nurses:

- e) No. of Paramedical Staff:
- f) No. of Support Staff:
- g) No. of Administrative Staff:

10. Hospital Statistics:

No. of OPD Patients per Month:

No. of Emergency Patients per Month:

No. of Admissions per Month:

No. of Discharges per Month:

No. of Surgeries:

- a. Minor Surgeries per Month:
- b. Major Surgeries per Month:

No. of Day care Patients per Month:

No. of Laboratory Tests per Month:

No. of diagnostic Tests per Month:

- a. X-ray
- b. MRI
- c. CT Scan
- d. Dexa Scan
- e. Mammography
- f. Ultrasound
- g. ECG
- h. TMT
- i. ECHO
- j. Holter
- k. Others:

11. Bed Occupancy Rate:

12. Average Length of Stay:

13. Bed Turnover Rate per Months:

14. Nurse patient Ratio of the Hospital:

15. No. of Deaths per Month:

- a. Male:
- b. Female

16. No. of Births per Month:

17. Hospital Revenue Details:

Annual Revenue Generation:

Profit and Loss of the Hospital:

Annual Budget of the Hospital:

Budget for Continuous Quality Improvement:

Budget for Infection Control:

18. Salary Details of Hospital Staff per Month:

Salary of Doctor

a. Senior Doctor:

b. Junior Doctor:

Salary of Nurse:

Salary of Technicians:

Signature:

Date:

Designation:

Place:

Sample Questionnaire for Patients

1. Name of the Patient:

2. Citizenship:

3. Age:

4. Gender:

5. City:

6. Education:

7. Occupation:

8. Civil status: Married ☐ married ☐ ☐ ☐

9. Contact Number:

10. Why did you select this Hospital?

a. Location of the Hospital ☐

b. Good Reputation of the Hospital ☐

c. Recommended By Family/Friend ☐

- d. Reasonable Charge of the Hospi
- e. Referred by doctors
- f. Others

11. Services availed by you in the Hospital:

- b. OPD
- c. Day Care
- d. Inpatient Medicine
- e. Inpatient Surgical
- f. Emergency/Trauma
- g. Obs. & Gynae
- h. Others

12. Behavior of Hospital Staff:

Excellent (5)	Very Good (4)	Good (3)	Average (2)	Poor (1)

13. Time Taken for Registration:

1-5 Minutes	5-10 Minutes	10-15 Minutes	15-20 Minutes	More than 20

14. Time taken for consultation

1-5 Minutes	5-10 Minutes	10-15 Minutes	15-20 Minutes	More than 20

15. How much you are satisfied with the consultation services:

Fully Satisfied (5)	Satisfied (4)	Neutral (3)	Dissatisfied (2)	Fully dissatisfied(1)

16. Quality of Food:

Excellent (5)	Very Good (4)	Good (3)	Average (2)	Poor (1)

17. Drinking Water facility:

Excellent (5)	Very Good (4)	Good (3)	Average (2)	Poor (1)

18. Cleanliness of the Hospital:

Excellent (5)	Very Good (4)	Good (3)	Average (2)	Poor (1)

19. Cleanliness of the Toilet facility

Excellent (5)	Very Good (4)	Good (3)	Average (2)	Poor (1)

20. Behavior of Nursing Staff:

Excellent (5)	Very Good (4)	Good (3)	Average (2)	Poor (1)

21. Behavior of Treating Doctor:

Excellent (5)	Very Good (4)	Good (3)	Average (2)	Poor (1)

22. Behavior of Administrative Staff:

Excellent (5)	Very Good (4)	Good (3)	Average (2)	Poor (1)

23. Privacy in the Hospital during consultation/procedure:

Excellent (5)	Very Good (4)	Good (3)	Average (2)	Poor (1)

24. Prior information regarding consultancy Fees/IPD charges/Surgery charges/Diagnostics charges:

Fully Satisfied (5)	Satisfied (4)	Neutral (3)	Dissatisfied (2)	Fully dissatisfied(1)

25. Deficiencies in Services of the Hospital:

26. Suggestion for improving the Hospital Services:

Signature of the Patient

Date:

Place: