MARKET SURVEY AND FEASIBILITY STUDY OF A 200 BEDDED GOVERNMENT HOSPITAL IN PRAYAGRAJ, UTTAR PRADESH

Dissertation Submitted to

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Master of Business Administration (MBA)

in

Hospital and Health Management

by

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Under the Supervision and Guidance of

Mr. S.P. Chattopadhyay

2025

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Date: 10/06/2025

INTERNSHIP CERTIFICATE

This is to certify that **Dr. Shivani Dixit**, a student of MBA Hospital & Health Management at **IIHMR University, Jaipur**, has successfully completed her Dissertation & Internship at **Octavo Solutions Pvt. Ltd., Delhi** as a **Healthcare Intern** from **10th March 2025 to 10th June 2025**.

Her performance was found satisfactory. We wish her all the best for future endeavors.

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CERTIFICATE

This is to certify that dissertation titled titled **Market survey and Feasibility study of a 200 bedded Government hospital in Prayagraj, Uttar Pradesh** is a record of the research work undertaken by Dr. Shivani Dixit 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.

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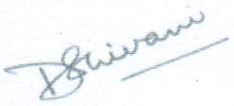
DECLARATION BY STUDENT

I hereby declare that this dissertation titled **"Market survey and feasibility study of a 200 bedded government hospital in Prayagraj, Uttar Pradesh"** is the Bonafide 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 Information derived from the published or unpublished work of others has been duly acknowledged in the text.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. Shivani Dixit

11/06/2025

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ABBREVIATIONS

AMC	Annual Maintenance Contract
AYUSH	Ayurveda, Yoga & Naturopathy, Unani, Siddha and Homoeopathy
CAGR	Compound Annual Growth Rate
CVD	Cardiovascular Disease
DALYs	Disability-Adjusted Life Years
GDP	Gross Domestic Product
GOI	Government of India
ICU	Intensive Care Unit
IMR	Infant Mortality Rate
IPHS	Indian Public Health Standards
KGMU	King George's Medical University
LORI	Lower Respiratory Infections
MMR	Maternal Mortality Rate
ML	Machine Learning
MVT	Medical Value Travel
NCD	Non-Communicable Disease
NFHS	National Family Health Survey
NITI Aayog	National Institution for Transforming India
NMR	Neonatal Mortality Rate
OPD	Outpatient Department
PHC	Primary Health Centre
PMJAY	Pradhan Mantri Jan Arogya Yojana
PPP	Public-Private Partnership
ROI	Return on Investment
SPSS	Statistical Package for the Social Sciences
SWOT	Strengths, Weaknesses, Opportunities, and Threats
UP	Uttar Pradesh
UPHC	Urban Primary Health Centre
WHO	World Health Organization

ABSTRACT

This study assesses the commercial and operational feasibility of establishing a 200-bedded government super-speciality hospital in Naini, a growing industrial township in Prayagraj, Uttar Pradesh. Using both primary and secondary data, the research investigates existing healthcare infrastructure, unmet medical needs, and patient behaviour patterns within the catchment area. The findings reveal a significant bed deficit in the district and an overwhelming patient outflow to cities like Lucknow and Delhi for super-speciality services.

A triangulated approach involving patient, doctor, and administrator interviews was employed alongside secondary data from NFHS-5, Census reports, and health department statistics. SWOT and need-gap analyses highlight the potential and challenges of the proposed facility. Key strengths include strategic location, rising demand, and low competition in the super-specialty segment, while challenges involve workforce shortages and high initial investment.

The study concludes that a structured, affordable, and high-quality super-speciality hospital in Naini is not only viable but urgently needed. The project aligns with government health initiatives and has the potential to significantly improve regional healthcare access, promote medical equity, and reduce the burden on overstrained public hospitals.

Chapter 1- Introduction

Indian Healthcare Scenario- An Overview

Concerning jobs and revenues, the healthcare sector has become among the largest in India. The healthcare sector of India is among the largest employers in the country, employing around 7.5 million employees as of 2024. The sector encompasses a wide range of services and industries, including hospitals, clinical trials, telemedicine, medical tourism, health insurance, and medical devices.

India's healthcare delivery system is built on two main pillars: the public sector and the private sector. The government-run healthcare system is mainly dedicated to delivering basic health services to rural communities through Primary Healthcare Centers (PHCs) and also a couple of secondary and tertiary care institutions in major cities. The majority of secondary, tertiary, and quaternary care facilities are managed by the private sector, predominantly located in metropolitan areas and tier-I and tier-II cities.

India has a large pool of highly qualified medical professionals, giving the country a strong competitive edge. In addition, the cost of medical treatments in India is significantly lower than in many Western and Asian nations. This affordability attracts international patients and has led to a rise in medical tourism.

Market Overview And Trends

Significant increase in healthcare spending over time

1.1- Employment and income-wise, the medical sector has emerged to be one of India's largest. Better coverage, enhanced services, and increasing public and private sector outlays are all driving the growth of the industry. Fronted by an increasing demand for innovative healthcare solutions and integration of technology within healthcare services, the health-tech sector is likely to increase enormously, with recruitment likely to grow by 15% to 20% in 2024.The health profit pools are likely to grow from US$ 654 billion in 2021 to US$ 790 billion in 2026 with a 4% compound annual growth rate. As of 2023, the whole industry will be valued at USD 372 billion.

1.2- This is triggered by greater awareness of personal hygiene and health, better availability of high-quality medical facilities, and rising incomes.

1.3- The growth in health spending, which is projected to accelerate in the coming 10 years, was made possible due to a higher incidence of health insurance.

1.4- Economic prosperity is driving the market's affordability of generic medicine.

1.5- Federal and state governments allocated approximately 1.5% to 2.1% of the gross domestic product to the healthcare sector.

Medical tourism

2.1- India's reputation as a leading medical tourism destination has been supported by the presence of excellent facilities and well-trained medical staff.

2.2- With 500000 foreign patients and US$5–6 billion of medical value travel (MVT) annually, India ranks amongst the world's best destination for individuals seeking cutting-edge care.

2.3- Major surgery cost in India is roughly 20% higher than in developed countries.

2.4- Due to its advanced medical technology and its reasonably good, affordable healthcare services, India is fast emerging as a leading destination for medical tourism, with an estimated 7.3 million visitors due in 2024.

2.5- The Indian medical tourism industry is anticipated to expand from its valuation in 2024 at US$7.69 billion to US$14.31 billion by 2029.

Policy support & government initiatives

3.1- Pradhan Mantri Jan Arogya Yojana (PMJAY)

To enhance the existing "National Health Mission," the government, in Interim Union Budget 2024-2025, announced a spending of Rs. 90,659 crores (US$ 10.93 billion) on the healthcare sector. There were 26 crore Ayushman cards in use up to October 2023. The Indian government is leveraging machine learning (ML) and artificial intelligence (AI) to detect, prevent, and deter healthcare fraud and ensure deserving beneficiaries are provided with appropriate treatment.

3.2- Tax Incentives

There is no service tax on any health education or training services.

More generous tax relief under section 80-IB for private health providers in non-metropolitan regions for hospitals with a minimum of 50 beds.

Telemedicine and remote radiology are facilitated by a 250% relief for sanctioned operational costs.

The artificial heart is exempt from the 5% minimum custom duty.

Income tax exemption is given to domestically manufactured medical technology products for 15 years.

New hospitals commissioned in rural regions with 100 beds or more become eligible for the advantage of section 80-IB. These hospitals will be eligible for a 100% deduction of profit for five years.

3.3- National Health Mission

In the Interim Union Budget 2024–2025, the Indian government authorized the continuation of the "National Health Mission" with a budget of Rs. 38,183 crore (US$ 4.60 billion).

Profile of Uttar Pradesh

Health Indicators

1. **Life Expectancy**

Life expectancy at birth	2006-10	2014-18
Male	61.8	64.8
Female	63.7	65.8

TABLE 1.1- LIFE EXPECTANCY

2. **Infant and Child Mortality Rate (per 1,000 live births)**

Infant and Child Mortality Rates	Urban	Rural	Total
Neonatal Mortality Rates(NMR)	27.7	37.8	35.7
Infant Mortality Rates(IMR)	42.0	52.6	50.4
Under-five Mortality Rates (UFMR)	49.7	62.5	59.8

TABLE 1.2- INFANT AND CHILD MORTALITY RATE

3. Mortality

Mortality Indicators	Values
Adult Mortality Rate (Probability of dying between 15 and 60 years per 1000 population) (2021)	Male: 290 Female: 180
Maternal Mortality Ratio (per 100,000 live births)	197
Infant Mortality Rate (per 1000 live births) (2021)	38
Neonatal Mortality Rate (per 1000 live births)	35

TABLE 1.3- MORTALITY

4. TOP 10 CAUSES OF DEATH IN UTTAR PRADESH (2016):

1. Cardiovascular diseases (Ischemic heart disease & Stroke)*(Dominant in older age groups, highest contributor to deaths)*
2. Chronic respiratory diseases (COPD, asthma)*(Significant burden in 40+ age group)*
3. Cancers*(Contributing notably, especially in older age groups)*
4. Diabetes & related disorders (diabetes, blood, endocrine diseases)
5. Neonatal disorders*(High contributor to child mortality)*
6. Diarrhea, lower respiratory infections (LRI), & other infections*(Major cause in younger populations)*
7. Tuberculosis*(Still a leading communicable disease cause of death)*
8. Cirrhosis of the liver*(Significant in middle-aged and older populations)*
9. Transport injuries (Road injuries, unintentional injuries)*(Prominent in younger age groups)*

10. Neurological disorders (including stroke and related conditions)*(Notable in 70+ age group)*

5. TOP 15 CAUSES OF DISABILITY-ADJUSTED LIFE YEARS (DALYS) IN 2019

1. COPD
2. Diarrhoeal diseases
3. Ischemic heart disease
4. Lower respiratory infections
5. Tuberculosis
6. Preterm birth complications
7. Iron-deficiency anemia
8. Road Injuries
9. Other neonatal diseases
10. Sense organ diseases
11. Congenital birth defects
12. Self-harm
13. Stroke
14. Falls
15. Intestinal infectious diseases

6. TOP 10 CAUSES OF DEATH IN PRAYAGRAJ (2016):[21]

1. Cardiovascular diseases (Ischemic heart disease & Stroke)*(Dominant in older age groups, highest contributor to deaths)*

2. Chronic respiratory diseases (COPD, asthma)*(Significant burden in 40+ age group)*

3. Cancers*(Contributing notably, especially in older age groups)*

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5. Neonatal disorders*(High contributor to child mortality)*

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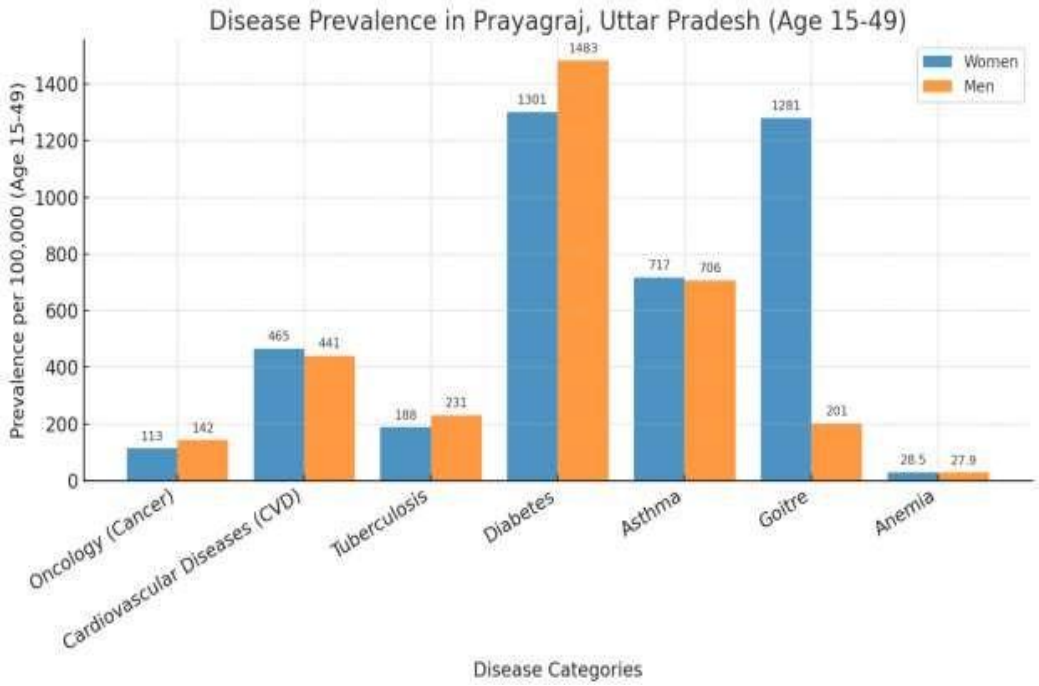
8. Cirrhosis of the liver*(Significant in middle-aged and older populations)*
9. Transport injuries (Road injuries, unintentional injuries)*(Prominent in younger age groups)*
10. Neurological disorders (including stroke and related conditions)*(Notable in 70+ age group*

7. DISEASE PREVALENCE IN PRAYAGRAJ, UTTAR PRADESH (AGE 15-49)

CATEGORY	PREVALENCE PER 100,000 (AGE 15-49)	
	WOMEN	MEN
Oncology (Cancer)	113	142
Cardiovascular Diseases (CVD)	465	441
Tuberculosis	188	231
Diabetes	1,301	1,483
Asthma	717	706
Goitre	1,281	201
Anemia	28.5	27.9

TABLE 1.4- DISEASE PREVALENCE



Profile of Prayagraj district

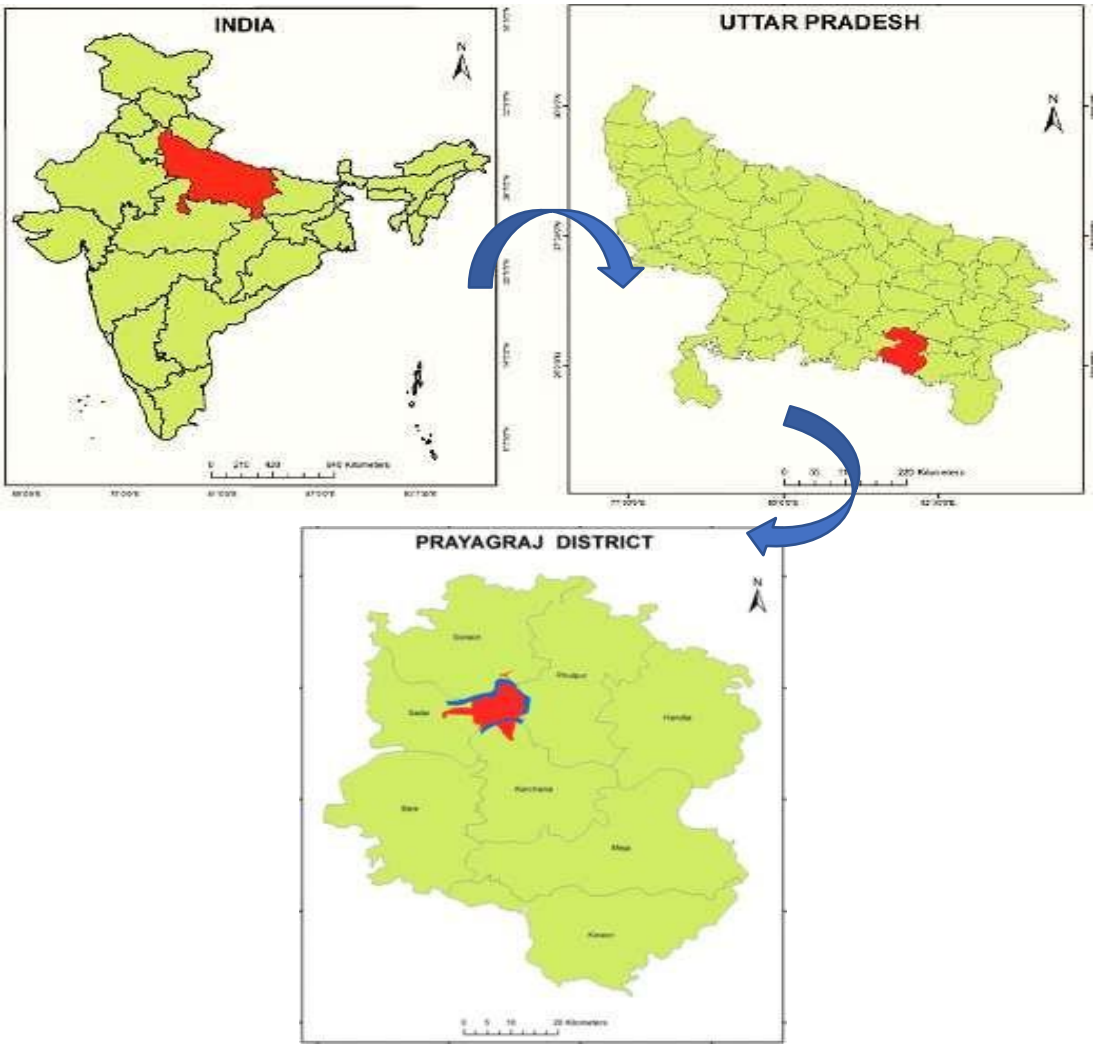
The most populated district in the Indian state of Uttar Pradesh is Prayagraj district, which was earlier known as Allahabad district. The district's headquarters are at Prayagraj city. Within tehsils, the District is separated into blocks. There are 20 blocks spread among eight tehsils as of 2011. Pratapgarh, Fatehpur, Kaushambi, and Prayagraj are the districts that make up the Prayagraj division; certain western areas that were formerly a part of Allahabad District have been incorporated into the new Kaushambi District.Phulpur, Koraon, Meja, Sadar, Soraon, Handia, Bara, Shringverpur, and Karchana are the administrative divisions.

There are 5,954,391 people living in the district, according to the 2011 Indian Census. As a result, it is ranked at thirteenth in India (out of 640). Out of 71 districts in Uttar Pradesh, it has the largest population as of 2011. There are 1,087 people living in the district per square kilometer (2,820/sq mi). Between 2001 and 2011, its population grew at a pace of 20.74%. The district has the highest literacy rate in the area (74.41%), which is near the 74% national average, with a sex ratio of 902 females for every 1000 males. The majority of people—24.75%—live in cities. Twenty-two per cent of the population belonged to the Scheduled Castes.

Profile of Naini

Prayagraj's industrial township, Naini (sometimes called Naini Industrial Area), is located in the Prayagraj district of Uttar Pradesh, India. Naini became the city's main industrial district by the 1950s.

Naini is situated across from Prayagraj City on the banks of the Yamuna River. Jhunsi, which is a part of Prayagraj itself, is located to the north, across the Ganges. Between Jhusi to Naini, there are no roads or direct pathways. Naini became a significant industrial hub. Alstom, ITI Limited, Bharat Pumps & Compressors (headquarters), Areva, Steel Authority of India Limited (SAIL), and Food Corporation of India (FCI) are a few of the prominent industries in Naini.



Chapter 2- Review Of Literature

Table 2.1- Overview of the reviewed paper

S. no.	Author name & Year	Title	Objective	Methodology	Result
1.	Uttara Singh, Rahul Nandan, Priyanka Gupta, Ashutosh Kumar Year- 2024	Empirical analysis of healthcare infrastructure in prayagraj city: a comprehensive study of urban primary health centres	The study aimed to conduct a comprehensive assessment of the healthcare infrastructure of Urban Primary Health Centres (UPHCs) in Prayagraj city. It sought to evaluate the adequacy, accessibility, and service delivery efficiency of these health facilities in accordance with the Indian Public Health	Research Design: Descriptive and empirical in nature. Study Area: Prayagraj city, Uttar Pradesh. Sampling: Ten UPHCs were selected for detailed evaluation. Data Collection: Primary Data: Collected through field surveys and structured interviews with healthcare staff and beneficiaries. Secondary Data: Obtained from government health	Most UPHCs were found lacking in terms of: Basic infrastructure (such as electricity backup, waiting areas, water supply). Human resources, with several positions either vacant or inadequately staffed. Medical equipment and essential drugs were often

			Standards (IPHS).	department reports and published documents. Evaluation Parameters: Infrastructure, human resources, availability of medicines, medical equipment, and service delivery indicators were examined using IPHS norms as benchmarks.	unavailable or insufficient. Some centers performed relatively well in providing maternal and child healthcare services. Overall, there was a notable gap between prescribed norms and actual conditions in many centers.
2.	Richa Chintan Year- 2021	UP's Tottering Health Infrastructure – Data Belies Claims of UP as 'Uttam Pradesh'	The article aims to critically assess the actual state of Uttar Pradesh's (UP) healthcare infrastructure, contrasting the government's portrayal of UP as 'Uttam	The article employs a combination of: Judicial Observations: Citing the Allahabad High Court's remarks during the pandemic, which described UP's	The findings indicate significant shortcomings in UP's healthcare system: Infrastructure Deficits: A substantial

			Pradesh' (Excellent State) with on-ground realities, especially highlighted during the COVID-19 pandemic.	medical infrastructure as "delicate, fragile, and debilitated." Official Data Analysis: Utilizing data from sources like the Rural Health Statistics (2019-20) and NITI Aayog reports to evaluate the availability and condition of healthcare facilities. Comparative Metrics: Examining UP's performance relative to other states in terms of healthcare indicators such as Infant Mortality Rate (IMR), Maternal Mortality Rate (MMR), and hospital bed availability.	shortfall in health facilities, with a 45% deficit in Primary Health Centres (PHCs) in urban areas as of July 2020. Poor Hospital Performance: NITI Aayog's assessment revealed that only 16% of UP's district hospitals met the Indian Public Health Standards (IPHS) norms for doctor availability, and a mere 7% met the norms for staff nurses. Limited Specialties: Only one district hospital

					in UP had all 14 recommended specialties functional, placing the state among the lowest performers nationally. High Mortality Rates: UP recorded the second-highest IMR and MMR in the country, reflecting inadequate maternal and child healthcare services. Pandemic Response Issues: The state's healthcare system struggled during the

					COVID-19 crisis, with reports of underreported deaths, insufficient vaccination coverage, and recurring outbreaks of diseases like dengue and Zika virus.
3.	The Sunday Guardian Year- 2018	Heal the divide: Two sides of India's healthcare industry	The article aims to examine the widening divide between public and private healthcare sectors in India, highlighting disparities in infrastructure, personnel, quality of care, accessibility, and cost. It seeks to	The analysis draws upon: Industry Reports: Utilizing data from the FICCI-KPMG report titled "Healthcare: The Neglected GDP Driver" and insights from the India Brand Equity Foundation (IBEF) Statistical Data: Examining metrics such as the doctor-	**Healthcare Workforce**: India's doctor-patient ratio stands at 0.62:1000, below the WHO's recommended 1:1000. Private hospitals attract more qualified professionals due to better remuneration, whereas public

			understand how these differences impact the overall effectiveness and equity of the Indian healthcare system.	patient ratio, healthcare workforce growth, and out-of-pocket expenditure. Case Studies: Referencing specific instances like the 2017 Gorakhpur Hospital case to illustrate systemic issues. Policy Analysis: Assessing government initiatives like Ayushman Bharat and their implementation challenges	hospitals struggle with staffing and retention. **Quality of Care**: Private hospitals are perceived to offer superior clinical conditions and technology. In contrast, public hospitals face challenges like staff absenteeism and inadequate facilities, especially in rural areas. **Accessibility**: Private healthcare facilities are predominantly located in tier-1 cities, limiting access for rural

					populations. Public healthcare aims to serve broader demographics but often lacks the necessary infrastructure and resources. **Cost Implications**: Private healthcare accounts for 60%-70% of inpatient and outpatient treatments, leading to high out-of-pocket expenses for patients. Government schemes like Ayushman Bharat offer financial protection, but their

					effectiveness is hindered by implementation issues and limited hospital empanelment.
4.	Niti Aayog Year- 2021	Investment Opportunities in India's Healthcare Sector	To provide a comprehensive overview of India's healthcare sector, emphasizing its potential for economic growth, employment generation, and investment opportunities. The report aims to highlight key growth drivers, existing policy frameworks, and sector-wise investment prospects, particularly in	**Data Sources:** Aggregated from government policies, sector reports, FDI data, NSDC employment forecasts, and stakeholder input. **Approach:** The report analyzes healthcare sector trends, assesses demand-supply gaps, and identifies enabling policies. It segments opportunities into seven categories: hospitals and infrastructure, health insurance, pharmaceuticals and	In the hospital sector, the growth of private healthcare providers into Tier 2 and Tier 3 cities beyond the major metros presents a promising investment prospect. As per Invest India's Investment Grid, the hospital and medical infrastructure sub-sector in the country offers nearly

			the context of evolving demographics, epidemiological trends, and post-COVID reforms.	biotechnology, medical devices, medical tourism, home healthcare, and telemedicine. **Analytical Tools:** Use of historical growth rates (CAGR), FDI statistics, and job creation data to project future trends and guide investment recommendations.	600 investment opportunities valued at around USD 32 billion (INR 2.3 lakh crore).

Chapter 3- Methodology

Research Question

Is establishing a 200-bed super speciality hospital in Prayagraj, Uttar Pradesh, commercially viable and operationally feasible based on the current healthcare demand, existing infrastructure, and available resources in the region?

Research objectives

1. To identify the possibility and viability of establishing a 200-bed super speciality hospital in Naini, Prayagraj,
2. To conduct a market and financial feasibility study for a 200-bedded hospital in Prayagraj.
3. To assess healthcare demand and service preferences among the local population.
4. To study the existing hospital infrastructure and identify service gaps.
5. To analyze risks, legal compliances, and stakeholder expectations.
6. To evaluate potential pricing and breakeven period.

Study design

The study is descriptive and exploratory, aiming to understand market dynamics and assess the feasibility of establishing a healthcare facility.

Study population

The study population would include various stakeholders who can provide insights into demand, competition, healthcare needs, and financial viability.

Service providers:

- Prayagraj City & surrounding areas
- 2 Government & 6 Private Hospitals, namely-

Government hospitals:-

1. Swaroop Rani Nehru Hospital
2. Motilal Nehru Divisional Hospital

Private hospitals:-

3. Private Vatsalya Hospital
4. Saraswati Heartcare & Multispecialty Hospital
5. Jeevan Jyoti Hospital
6. Shanti Vilas Hospital
7. Yash Hospital
8. Hospital Akshayvat & Trauma Centre

Survey:

1. Patient or Attendant Interview – 37
2. Doctor's Interview - 6
3. Administrator Interview– 3

Data collection method

Primary Data in Catchment Area:

1. Benchmark against leading Hospitals in Catchment area.
2. Patient or Attendant's Survey / Doctor's Survey / Administrator Survey in Catchment area.

Secondary Data:

1. Census Reports
2. Directorate of Health – Uttar Pradesh
3. National Family Health Survey-5 (NFHS-5)

Sample size

2 Government & 6 Private Hospitals

Patient or Attendant – 37

Doctor's - 6

Administrator – 3

Sampling technique

Convenience sampling method was used.

Inclusion criteria

1. Patients, doctors, and healthcare administrators from the Prayagraj catchment area.
2. Individuals willing to provide informed consent to participate in the study.
3. Participants aged 18 years and above (for patients or attendants).

Exclusion criteria

1. Patients, doctors, and healthcare administrators from the Prayagraj catchment area.
2. Individuals willing to provide informed consent to participate in the study.
3. Participants aged 18 years and above (for patients or attendants).

Data Collection Tool

Questionnaire

Description of the tool

1. Patient Questionnaire

This patient feedback questionnaire is designed to assess healthcare needs, preferences, and satisfaction levels among patients. It captures demographic data, healthcare-seeking behavior, service expectations, and affordability concerns. The tool comprises 22 questions, both multiple-choice and open-ended, covering key areas such as:

- Demographics (Name, Age, Gender, UHID)
- Healthcare utilization (frequency of visits, type of care needed)
- Accessibility and preferences (distance willing to travel, room preference)
- Perception of existing facilities (satisfaction, common issues faced)
- Specialty services used (e.g., cardiology, gynecology)
- Expectations for new hospital services (emergency services, wellness programs, pharmacy, cost sensitivity)
- Payment and affordability (income bracket, mode of payment, willingness to pay more for better services)
- Consultation experience (time spent, clarity of instructions)
- Suggestions for improvement

2. Doctor Interview Questionnaire

This interview questionnaire is a qualitative assessment tool designed to collect in-depth insights from medical professionals**,** specifically doctors, regarding the functioning, challenges, and opportunities within healthcare services. The tool aims to gather expert opinions to guide health system improvements**,** hospital planning, and clinical service optimization.

3. Healthcare Administrator Interview Questionnaire

This administrator interview questionnaire is a qualitative research tool designed to gather detailed insights from village-level or primary healthcare administrators about the operational, financial, and managerial aspects of healthcare service delivery at grassroots or facility levels.

Key Objectives:

- Understand the daily administrative challenges faced in healthcare facilities
- Evaluate the adequacy of infrastructure, manpower, and equipment
- Gain insight into budget allocation**,** salary structure, and financial constraints
- Identify issues in supply chain, staff motivation, record keeping, and patient flow management
- Collect administrator suggestions for improving service delivery**,** facility performance, and staffing

Application Areas:

- Health system gap analysis and resource planning
- Policy inputs for human resource management and budget reforms
- Strategic planning for strengthening primary healthcare infrastructure
- Performance monitoring and administrative process improvements

Scoring and interpretation

Patient Questionnaire

- ✓ Responses were coded numerically for quantitative analysis (e.g., a = 1, b = 2, etc.).
- ✓ Questions were grouped under thematic domains:
    - Healthcare-seeking behavior
    - Service accessibility
    - Satisfaction with facilities
    - Financial capacity and preferences
- ✓ Composite scores were calculated per domain to reflect overall trends (e.g., satisfaction level or cost sensitivity).
- ✓ Open-ended suggestions were analyzed qualitatively by categorizing them into common themes.

Doctor Interview Questionnaire

- ✓ This tool followed a semi-structured qualitative format and was not scored numerically.
- ✓ Responses were interpreted across thematic categories:
    - Clinical service delivery (gaps and strengths)
    - Infrastructure needs and facility adequacy
    - Patient management challenges
    - Suggestions for improvement in diagnostics, staffing, or emergency care
- ✓ Themes were analyzed using manual coding**,** followed by content analysis to identify common insights, concerns, and recommendations from medical practitioners.

Administrator Interview Questionnaire

- ✓ Like the doctor interview, administrator responses were also qualitative and not numerically scored.
- ✓ Themes included:
    - Human resource deployment and adequacy
    - Salary structures and financial management

- Infrastructure availability and gaps
- Logistical and operational challenges
- Recommendations for improvement

✓ Responses were categorized by theme, and the frequency of key issues or suggestions was noted to identify priority areas.

Data analysis

1. Quantitative data (from the patient questionnaire) were entered into Microsoft Excel or SPSS for:
   ✓ Descriptive statistics: frequencies, percentages, mean scores
2. Qualitative data (from administrator interviews) were analyzed using thematic analysis, involving:
   ✓ Transcription of responses
   ✓ Coding and categorization into themes and sub-themes
   ✓ Identification of recurring patterns and key narratives
3. Triangulation of findings from patients, doctors, and administrators was done to ensure validity and completeness of the results.

Ethical Considerations

1. Informed consent was obtained from all participants before data collection. The purpose of the study and their right to withdraw at any time was explained.
2. Confidentiality of participant information was strictly maintained. No personal identifiers were recorded or shared.
3. Data were stored securely and only used for academic and research purposes.
4. The study adhered to the ethical guidelines set by the institution or relevant ethical board.
5. Participation was voluntary, and no monetary or coercive incentives were provided.

Chapter 4- Results

Competitor Analysis

Table 4.1- Primary Data Analysis at Prayagraj City (Catchment Area)

SL. NO.	NAME OF HOSPITAL	TOTAL BEDS	GOVERNMENT OR PRIVATE	DISTANCE FROM NAINI
1	Swaroop Rani Nehru Hospital	1200	Government	8.5 Km
2	Vatsalya Hospital	100	Private	10.8 Km
3	Saraswati Heartcare & Multispeciality Hospital	100	Private	8.5 Km
4	United Medicity Hospital & Medical College	1000	Private	8.4 Km
5	Jeevan Jyoti Hospital	210	Private	5.8 Km
6	Vineeta Hospital Pvt Ltd	300	Private	16 Km
7	Nazareth Hospital	192	Private	11.1 Km
8	Narayan Swaroop Hospital	100	Private	17.5 Km
9	Shanti Vilas Hospital	100	Private	7.4 Km
10	Motilal Nehru Divisional Hospital	206	Government	9.6 Km
11	Prachi Hospital	103	Private	17.9 Km
12	Yash Hospital	60	Private	10.5 Km

TABLE 4.1- PRIMARY DATA ANALYSIS AT PRAYAGRAJ CITY (CATCHMENT AREA)

Need Gap Analysis

Population in Catchment Area (Prayagraj District) as per 2011 Census	**60 Lakh**
Population growth Expected in 2026 (17.64 % is decadal Growth)	**75 Lakh**
Total Beds required for 75 Lakh population (As per Global Average 3/1000)	**22500**
Total Beds available in CATCHMENT AREA (Prayagraj District)	**15000**
Total Estimated Bed Deficit in CATCHMENT AREA (Prayagraj District)	**7500**

TABLE 4.2- NEED GAP ANALYSIS

SWOT Analysis

Strength

- Naini is an industrial township of Prayagraj in Prayagraj district and experiencing rapid Residential & Commercial expansion.
- Proposed location is ideally located & has excellent connectivity to Prayagraj City, Nearby Areas.
- Proposed Super Specialty Hospital mission is to provide Quality services in Prayagraj District and Nearby areas at affordable price by introducing path breaking technologies & maintaining the highest quality of patient care.
- There are no good medical facilities around Naini & this provides a large untapped Catchment area. Also, Catchment Area increase due to neighboring areas.
- Proposed Super specialty Hospital can be commissioned soon with 200 Bedded State-of- the-art facility & would cater the Prayagraj District and Nearby Towns / Villages with Highest Quality Care.
- Locational Advantages being near to many areas where there is no such well-equipped hospital available.
- The Site selected by the promoters has the requirement of Super-specialty hospital as there are few Multi-Specialty Hospitals having such standards in Catchment Area

Weakness

- Long gestation period for Return on Investment (ROI) in Hospital industry.
- A strong backup of Top management is required to achieve the VISION & MISSION of Organization.
- Lack of availability of Trained human resource in Prayagraj District (Catchment Area).
- A strong team of Doctors / Consultants is required.
- Issues associated with retention of Nursing talent.

- The growing demand for quality healthcare and absence of matching delivery mechanism pose a great challenge. Many hospitals are struggling with outdated information & medical Technology in India

Opportunity

- A Corporate set up along with affordable cost for Super specialty & Specialty services - Image booster
- Unorganized Healthcare infrastructure around Prayagraj City & Neighboring areas.
- Increase in life style related diseases & Preventive Healthcare market is expanding.
- Medical insurance is growing rapidly.
- Industries, Colleges, Schools, Banks & institutions tie-up would be big boost for Proposed Super Specialty Hospital.
- Setting up of the REFERRAL CENTRES (Referral OPD / 10-20 Bed Nursing Homes acquisition) will help to absorb the catchment area.

Threat

- Presence of Existing Hospitals - Swaroop Rani Nehru Hospital (Government) & Nazareth Hospital, United Medicity Hospital & Medical College, Saraswati Heart care & Multispecialty Hospital, Parvati Multispeciality Hospital, Vineeta Hospital(Private).
- Healthcare players expanding their Services & Facility in Tier II City and Towns
- Standalone Nursing Homes in Catchment Area (Prayagraj District).
- **Pricing Threats:** One of threats that could seriously impact financial health in the business could be low- cost competitors, a partner entering into our market space, or an overseas player establishing their presence where we generated the largest income for the business.

- **Equipment Breakdown & AMC:** Regular maintenance and upgradation of the instruments would be an essentialrequirement of the business.
- **Cash Flow:** Liquidity at the early stage should be a major concern for sustainability in the longrun.

Consultants' unavailability for SUPER SPECIALITY services & High attrition rate of employee

Market Survey Findings

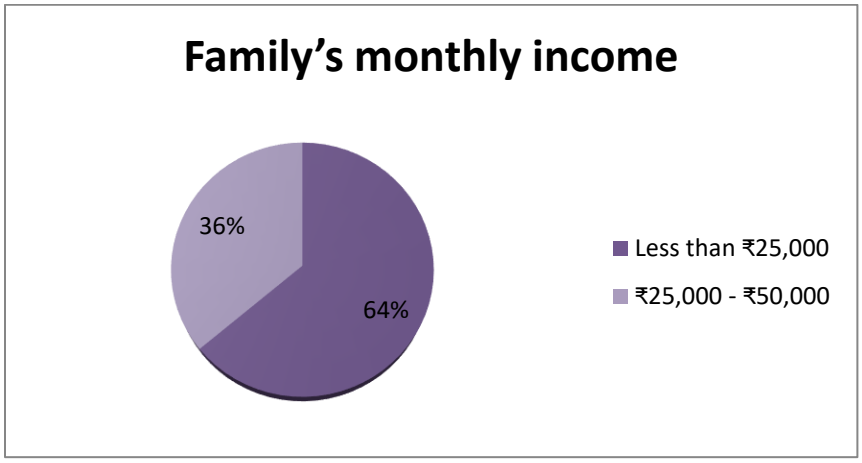


FIGURE 4.1- MONTHLY INCOME

THE PIE CHART SHOWS THAT 64% OF FAMILIES EARN LESS THAN ₹25,000 PER MONTH, WHILE 36% EARN BETWEEN ₹25,000 AND ₹50,000. THIS INDICATES THAT A MAJORITY OF THE FAMILIES FALL INTO THE LOWER INCOME BRACKET.

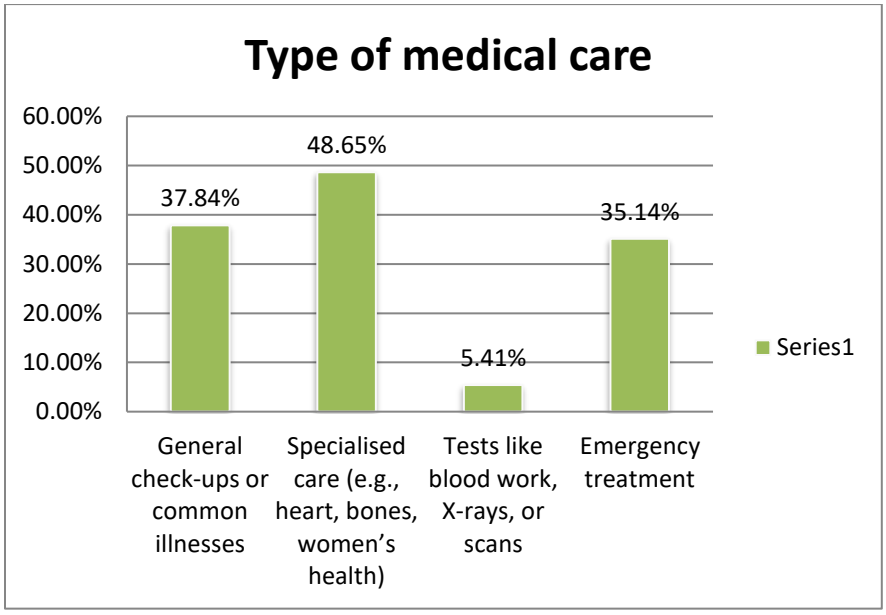


FIGURE 4.2- TYPES OF MEDICAL CARE USED BY RESPONDENTS

THE BAR CHART SHOWS THE TYPES OF MEDICAL CARE USED BY RESPONDENTS. SPECIALISED CARE IS THE MOST COMMON (48.65%), FOLLOWED BY GENERAL CHECK-UPS OR COMMON ILLNESSES (37.84%) AND EMERGENCY TREATMENT (35.14%). ONLY 5.41% SOUGHT DIAGNOSTIC TESTS LIKE BLOOD

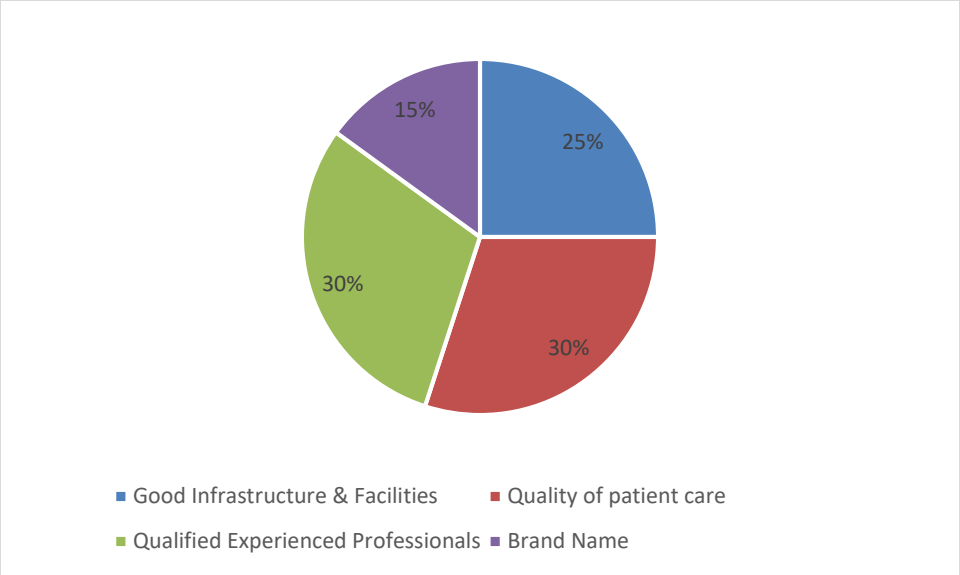


FIGURE 4.3- KEY FACTORS INFLUENCING INDIVIDUALS WHEN CHOOSING A HEALTHCARE FACILITY

THE PIE CHART ILLUSTRATES THE KEY FACTORS INFLUENCING INDIVIDUALS WHEN CHOOSING A HEALTHCARE FACILITY. QUALITY OF PATIENT CARE AND QUALIFIED EXPERIENCED PROFESSIONALS ARE THE TOP PRIORITIES (30% EACH), FOLLOWED BY GOOD INFRASTRUCTURE & FACILITIES (25%), WHILE BRAND NAME IS THE LEAST CONSIDERED FACTOR (15%)

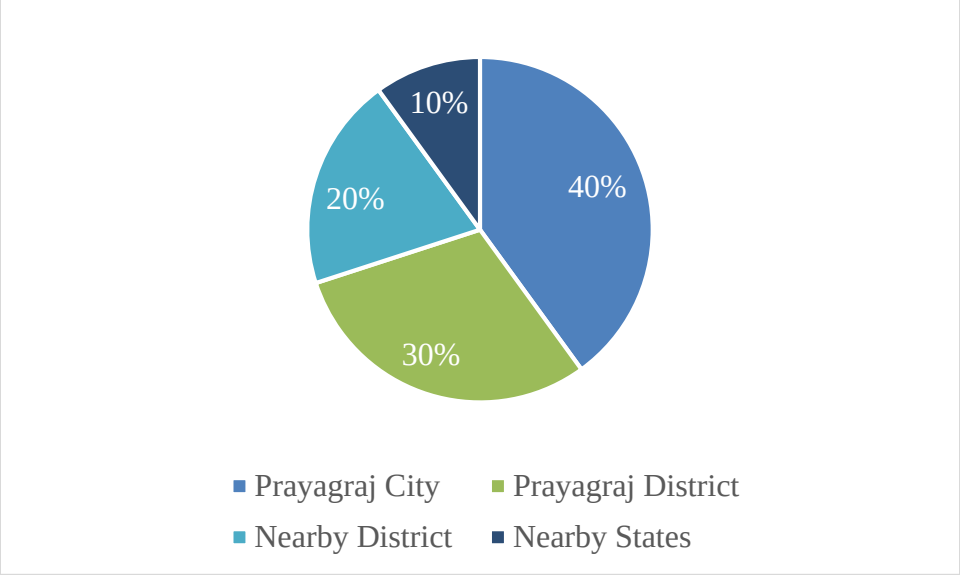


FIGURE 4.4- PATIENTS REFERRED IN

THE PIE CHART SHOWS THE GEOGRAPHIC DISTRIBUTION OF INDIVIDUALS ACCESSING HEALTHCARE SERVICES. 40% ARE FROM PRAYAGRAJ CITY, FOLLOWED BY 30% FROM PRAYAGRAJ DISTRICT, 20% FROM NEARBY DISTRICTS, AND 10% FROM NEARBY STATES, INDICATING A STRONG LOCAL REACH WITH SOME REGIONAL INFLUENCE.

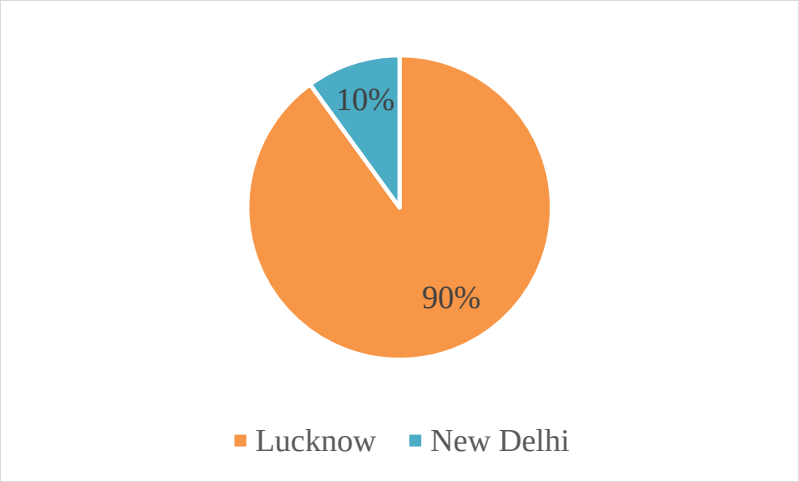


FIGURE 4.5- PATIENTS REFERRED OUT

AS PER THE SURVEY IN CATCHMENT AREA, % OF PATIENTS DRAIN OUT TO AVAIL HOSPITAL SERVICES (MAINLY SUPER SPECIALTY) ARE AS FOLLOWS:

- **90% PATIENTS DRAIN OUT TO LUCKNOW (PGI LUCKNOW, MEDANTA HOSPITAL, SAHARA HOSPITAL, KGMU HOSPITAL)**
- **10% PATIENTS DRAIN OUT TO NEW DELHI (MEDANTA HOSPITAL, FORTIS HOSPITAL, AIIMS, PUSHPANJALI HOSPITAL)**

Factors confirming the proposed super speciality hospital is viable

- The proposed 200-bed super-specialty hospital is viable due to the ideal location and the growing market potential in Prayagraj District and nearby towns/villages.
- Prayagraj District features a large catchment area with a densely populated patient base.
- There is a lack of super-specialty hospitals in the catchment area, particularly in Naini, where no super-specialty or multi-specialty hospitals are currently available.
- Despite an increase in hospital beds in Prayagraj City in recent years, most hospitals maintain decent bed occupancy rates.
- The catchment area includes a robust presence of industries, educational institutions, banks, and other organizations.
- Lifestyle-related diseases are on the rise, contributing to the expansion of the preventive healthcare market.
- The rapid growth of medical insurance in the catchment area supports increasing access to healthcare services.
- The region's healthcare infrastructure remains largely unorganized, creating opportunities for a structured super-specialty hospital to meet the demand.

As per the need gap assessment for the bed requirements, the **PROPOSED SUPER SPECIALITY HOSPITAL IS VIABLE** as there is a deficit of Super Specialty & Quality of Services in Catchment Area.

Chapter 5- Discussion

This feasibility study examined the operational and commercial viability of establishing a 200-bedded super-specialty hospital in Naini, Prayagraj. The findings reveal a strong potential for such a facility in light of unmet healthcare demand, infrastructural deficiencies, and favorable demographic and market trends.

Research Findings and Interpretation

The catchment area of Prayagraj, with an estimated population of 7.5 million by 2026, demonstrates a significant bed deficit of approximately 7,500 beds, based on the global standard of 3 beds per 1,000 people. Notably, the proposed location in Naini, an expanding industrial township, lacks super-specialty services despite its strategic proximity to surrounding districts and towns.

Primary data gathered through surveys of patients, doctors, and administrators underscores a marked demand for specialized medical services. Approximately 90% of patients in the catchment area travel to Lucknow and 10% to Delhi for tertiary care, particularly for super-specialty services—clearly indicating unmet local demand. Respondents prioritized quality of care and experienced professionals as key decision-making factors when selecting healthcare facilities. These preferences align with the project's vision of providing high-quality, affordable super-specialty services.

The SWOT analysis confirmed that the location provides several advantages—large untapped catchment, good connectivity, and growing commercial activity. However, challenges such as difficulty in retaining skilled staff, long ROI periods, and competitive threats from existing hospitals were also identified.

Relation to Existing Literature

The findings are consistent with studies by Singh et al. (2024) and Chintan (2021), which reported significant gaps in infrastructure, workforce, and service delivery in urban health centers across Prayagraj and Uttar Pradesh. These studies highlighted inadequate staffing, lack of essential drugs, and poor equipment availability in existing facilities. Similarly, the 2021

NITI Aayog report noted that only a small percentage of district hospitals in UP met IPHS norms, supporting the present study's identification of service gaps.

Furthermore, the 2018 analysis by The Sunday Guardian emphasized the dichotomy between public and private care quality, where urban private care dominates yet remains inaccessible to the low-income population. This is mirrored in the study's finding that 64% of surveyed households earn less than ₹25,000/month, reinforcing the importance of affordability in any new healthcare venture.

Challenges Identified

Several operational and strategic challenges were identified during the feasibility assessment:

1. Workforce Shortage: The lack of trained medical personnel, especially specialists and experienced nurses, is a significant concern in Prayagraj.
2. High Attrition Rates: Existing healthcare facilities report difficulty retaining qualified professionals due to better opportunities in metro cities.
3. Competition from Established Hospitals: The presence of large, established hospitals such as Swaroop Rani Nehru Hospital and United Medicity Hospital may pose competitive pressure.
4. Cost Sensitivity: A substantial portion of the target population falls in the lower income bracket, making affordability a crucial factor in hospital design and service pricing.
5. Technology and Equipment Maintenance: Regular maintenance and upgradation of equipment is essential but often overlooked due to cost and logistical constraints.
6. Cash Flow Constraints: Liquidity management during the initial years of operation is critical to ensure sustainability.
7. Dependency on Referral Systems: Patient inflow may initially depend heavily on external referrals and satellite outreach centers, which need strategic partnerships to be effective.

Limitations

This study has several limitations:

1. Sampling bias: A convenience sampling approach was used, which may not represent the broader population accurately.
2. Limited scope of data: Only 37 patient respondents, 6 doctors, and 3 administrators were interviewed, which may not provide comprehensive insights across the entire district.
3. Qualitative dependence: Administrator and doctor interviews were qualitative and interpretative, potentially introducing subjectivity.
4. Time-bound analysis: The data reflects a snapshot in time and may not fully account for seasonal variations in healthcare demand or recent infrastructure developments.Despite these limitations, the triangulation of data sources and alignment with national and state-level reports strengthens the validity of the conclusions drawn.

Recommendations

1. Establish a Multi-Phase Development Model: Start with a core super-specialty hospital and expand services based on utilization and demand patterns over time, to manage financial risk.
2. Public-Private Partnerships (PPP): Collaborate with state government or central schemes like Ayushman Bharat for financial viability and improved outreach.
3. Recruitment and Retention Strategy: Introduce competitive salary structures, continued medical education (CME), and housing allowances to attract and retain skilled personnel.
4. Community Outreach Programs: Establish referral centers and satellite clinics in nearby towns to absorb catchment demand and build brand trust.
5. Leverage Digital Health Tools: Use telemedicine, AI-assisted diagnostics, and digital patient records to improve efficiency and service quality.

In conclusion, the study strongly supports the viability of establishing a 200-bedded super-specialty hospital in Naini, Prayagraj. Given the unmet healthcare demand, supportive demographics, and policy environment, such a facility could significantly improve regional healthcare access while offering a sustainable business model.

Chapter 6- Conclusion

The present study comprehensively explored the commercial and operational feasibility of establishing a 200-bedded super-specialty hospital in Naini, Prayagraj. Drawing from both primary data and secondary sources, the analysis identified a clear and urgent need for enhanced healthcare infrastructure in the region, especially in terms of specialized medical services.

The study confirmed a significant gap in healthcare service delivery in Prayagraj, primarily driven by an increasing population, inadequate medical infrastructure, and insufficient availability of super-specialty care. As per global standards, Prayagraj's projected population of 7.5 million by 2026 would necessitate approximately 22,500 hospital beds, yet only around 15,000 beds are currently available—indicating a shortfall of 7,500 beds. The absence of any super-specialty facility in Naini, despite its growing residential, commercial, and industrial expansion, adds weight to the argument for establishing a well-equipped healthcare facility in the area.

Survey data revealed that a substantial proportion of patients (90%) currently travel to Lucknow and 10% to Delhi to access advanced medical services. This significant patient outflow reflects the local inadequacy of high-end medical care, which a new super-specialty hospital in Naini could address. Importantly, patients and families prioritize quality of care, experienced professionals, and modern infrastructure when choosing healthcare services—factors that the proposed hospital aims to deliver at an affordable cost.

The SWOT analysis reinforced the project's viability by highlighting the strategic location, growing demand, and poor existing alternatives, while also acknowledging challenges such as workforce shortages, long ROI timelines, and competitive threats. These risks are not insurmountable but require proactive planning—especially in terms of staff recruitment, equipment maintenance, and patient retention strategies.

The study's findings are strongly corroborated by prior literature and government

assessments. Studies by Singh et al. (2024) and Chintan (2021) have demonstrated significant inadequacies in the urban primary healthcare system in Prayagraj and broader Uttar Pradesh. The shortage of doctors, nurses, and modern equipment, along with poor adherence to Indian Public Health Standards (IPHS), validates the study's observation that existing facilities are struggling to meet rising healthcare needs. Furthermore, the socioeconomic data showing that over 60% of households earn less than ₹25,000/month underscores the need for affordable rather than purely high-end care.

Despite the strengths, the study is not without its limitations. The relatively small sample size and reliance on convenience sampling may restrict the generalizability of the findings. Moreover, the evolving nature of healthcare demands and the potential for policy shifts imply that continuous reevaluation of the market conditions would be prudent.

Implications of the study

Policy Implications

The study underscores the necessity for targeted health policy interventions to support healthcare infrastructure expansion in Tier-II cities like Prayagraj. It highlights how state and central governments can align initiatives such as Ayushman Bharat, PMJAY, and the National Health Mission with private investments to close existing healthcare gaps. The findings support advocacy for public-private partnerships (PPP) that can amplify both access and quality of care in underserved regions.

Healthcare Investment Strategy

From an investment standpoint, the study identifies Prayagraj—especially Naini—as a high-potential zone for healthcare development, where early entrants can capture significant market share. The growing prevalence of chronic and lifestyle diseases, coupled with low competition in the super-specialty space, makes the project not only socially impactful but also economically sound. Investors and entrepreneurs can use this feasibility model as a blueprint for replicating hospital ventures in similar Tier-II cities across India.

Community Health Outcomes

The proposed hospital has the potential to transform local health outcomes by reducing patient travel time, improving early diagnosis, and enabling timely treatment. It will also relieve pressure on overburdened public hospitals and create a better patient experience through modern infrastructure and skilled manpower. Additionally, the development of satellite centers and telemedicine initiatives will extend healthcare access to surrounding rural populations.

Employment and Skill Development

Establishing a super-specialty hospital will generate direct employment for healthcare professionals—doctors, nurses, technicians—as well as indirect jobs in administration, maintenance, pharmacy, and allied services. It could also encourage local medical education institutions to collaborate in training and retaining skilled personnel, thereby strengthening the human resource ecosystem in the region.

Digital Health Integration

The study calls attention to the potential of digital health tools—including AI-driven diagnostics, electronic health records, and teleconsultation services—which could mitigate staffing shortages and increase operational efficiency. Integrating these tools would allow the proposed facility to leapfrog traditional barriers and deliver high-quality care at lower cost.

In summary, this study provides robust evidence for the viability and necessity of a 200-bedded super-specialty hospital in Naini, Prayagraj. With thoughtful execution and stakeholder alignment, the proposed facility can not only meet the pressing healthcare demands of the region but also serve as a replicable model for inclusive, affordable, and sustainable healthcare delivery in emerging urban centers across India.

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