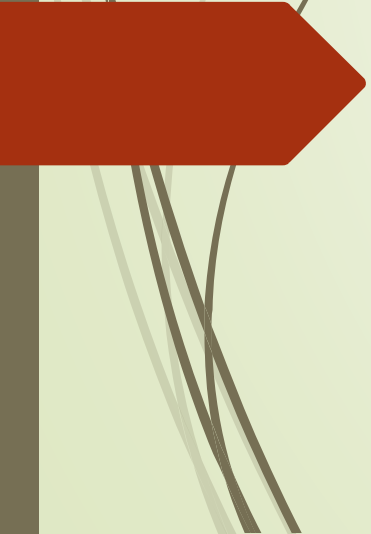


Feasibility Study for 250 Bed Hospital, Nagpur



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Introduction

- In Nagpur, a global healthcare group looking for 250 bed hospital.
- Client wants PwC to do the feasibility study in Nagpur market and to understand the market potential.



Problem Statement

- Nagpur has an acute shortage of good corporate hospitals which can cater to the needs of the growing middle class as there is just one premium set up for the entire city.
- Thus, people in Nagpur have to travel to multiple places in order to avail tertiary healthcare facilities.
- To address this unmet demand, the client is contemplating for a 250 bed hospital in Nagpur.



Research Question?

- Is there a feasibility for a multispecialty hospital to be setup in Nagpur, to provide tertiary healthcare facility that caters to the population of Nagpur?



Objectives

➤ General

- ✓ To understand the feasibility for a hospital in Nagpur market.

➤ Specific

- ✓ To assess the healthcare needs of the area.
- ✓ To obtain healthcare indicators of the target area.
- ✓ To understand the Consultant Engagement Model.
- ✓ To identify and analyze competitors market.
- ✓ To understand the demand and supply of healthcare services



Study Period



20th Feb 2017 – 17th May 2017

Study Type

Research

Area Of Study



Nagpur

Data Collection Method



Administrators



Doctors



Medical
Suppliers



Star
Consultants

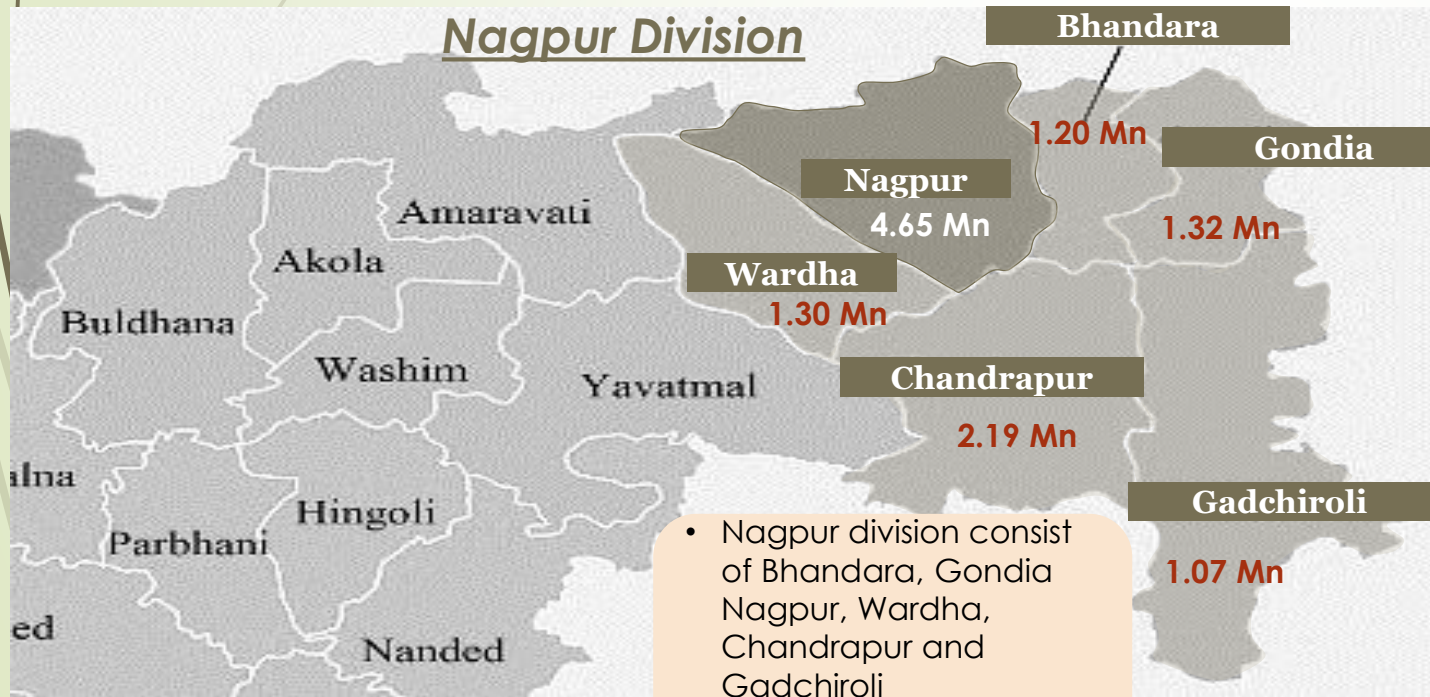
Pre-designed Questionnaire

- ✓ Volumes for key procedures in major hospitals – Joint replacements, PTCA, CABG, neuro surgeries.
- ✓ Star consultants cross super specialities in the city.
- ✓ Bed mix.
- ✓ Underserved specialties in the city.
- ✓ Patient mix – Cash, Insurance, Corporates, PSU's.
- ✓ Drainage area of patients, Patient outflow.
- ✓ Price points for Key procedures viz. Joint replacements, PTCA, CABG, neuro surgeries and bed categories.
- ✓ Physician engagement model (retainer, fee sharing, retainer+ fee sharing) and doctor pay-out % in surgeries.
- ✓ Upcoming plans for major hospitals in the vicinity.



Nagpur Overview

Nagpur is the largest city of central India and it constitutes more than 50% of the district population of Nagpur



- Nagpur division consist of Bhandara, Gondia, Nagpur, Wardha, Chandrapur and Gadchiroli
- **Total population of Nagpur division is ~10 Mn**

Nagpur district profile



Area 3821 Sq. miles

Population 4.65 Mn



**Nagpur City
Population 2.63 Mn**

Talukas 14

**Population density
(persons per sq.
mile)* 1200**



Literacy rate (%)

88%



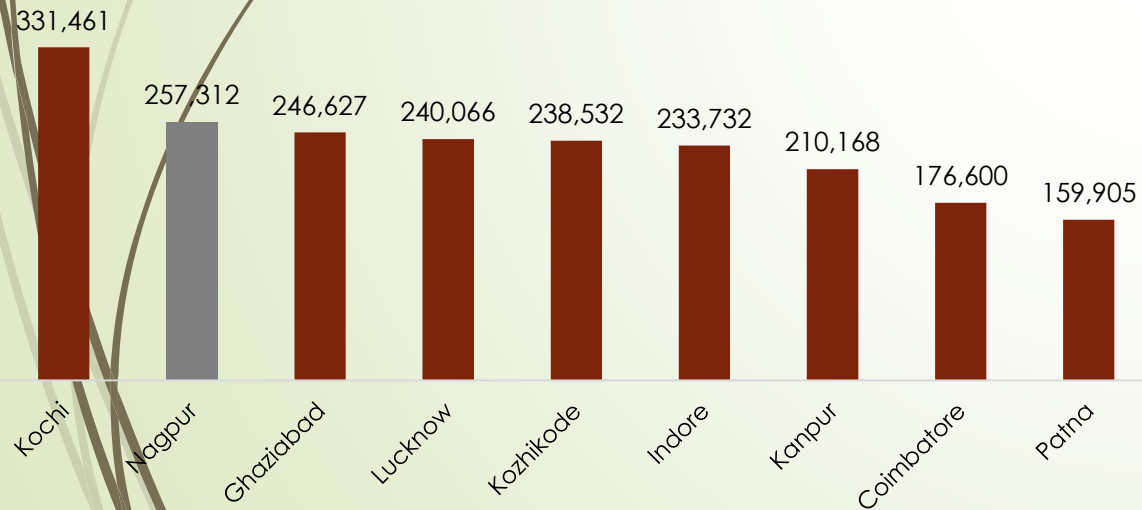
**Sex ratio (females per
1,000 males) 963**



When compared to other Indian cities of similar stature*, Nagpur city has the second highest annual per capita income of INR 257,312 and third most affluent population proportion in 2015-16

City wise Per Capita income in 2015-16

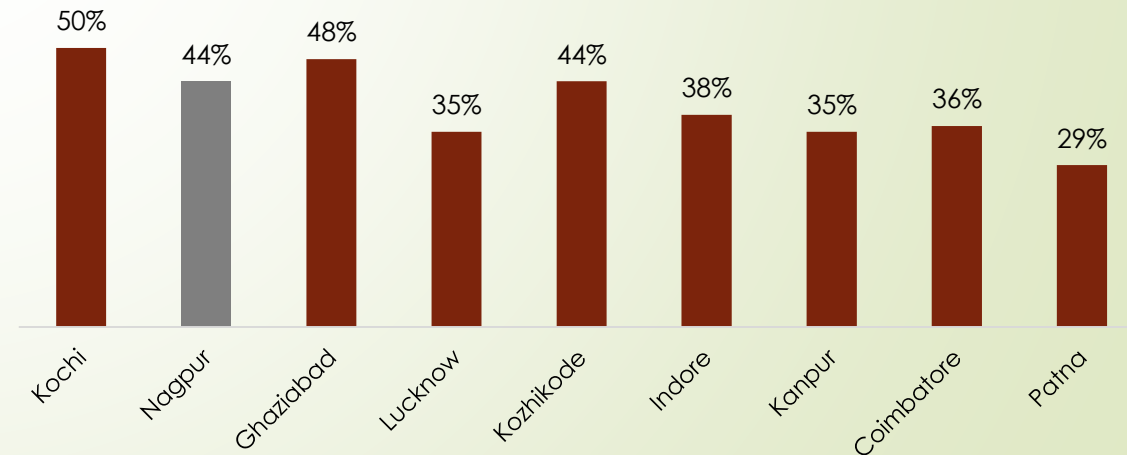
When compared to cities with population between 2 mn to 3 mn*, Nagpur city has the second highest per capita income in 2015-16



City wise percentage of affluent** population in 2015-16



Nagpur city has third most affluent population proportion, behind Kochi and Ghaziabad



Nagpur will have an improved connectivity between its commercial and residential areas with the upcoming metro rail project; its connectivity to rest of Vidarbha and Mumbai will be further enhanced by the Nagpur-Mumbai expressway

Nagpur Metro Rail Project



- Nagpur Metro is the only metro who is implementing the concept of linking "Place of employment" to "the place of residence"
- The metro route will connect all major modes of transport to the residential population.
- 1st track from KHAPRI to AUTOMOTIVE SQUARE.
- 2nd track is scheduled to run from LOKMANYA NAGAR to PRAJAPATI NAGAR (north south corridor of the city).

38.2 Km
Length of the
metro
Corridor

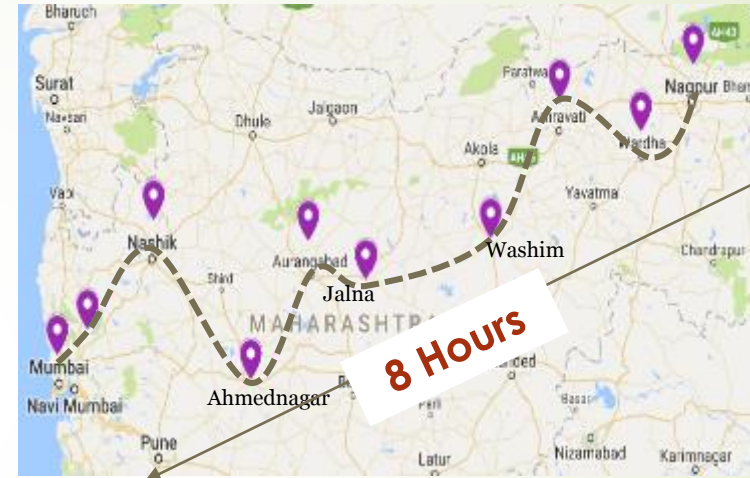
**36 stations
& 2 depots**

86,800 INR Mn
Estimated
cost

0.2 Mn
Job opportunities



Nagpur - Mumbai expressway



- Upcoming 800-km expressway between Mumbai and Nagpur. Total cost of the project is INR 300 bn, completion expected by 2019
- It will cut the travel time between Mumbai and Nagpur to 8 hours from the existing 16 hours.

Chhatrapati Square Flyover



- The total cost of the new flyover will be Rs 4250 Mn and is set to provide more wider road space.
- At present the demolition of 15 years old Chhatrapati square flyover work is going on.
- Construction will start from Ajni square to Pride Hotel on Wardha road.

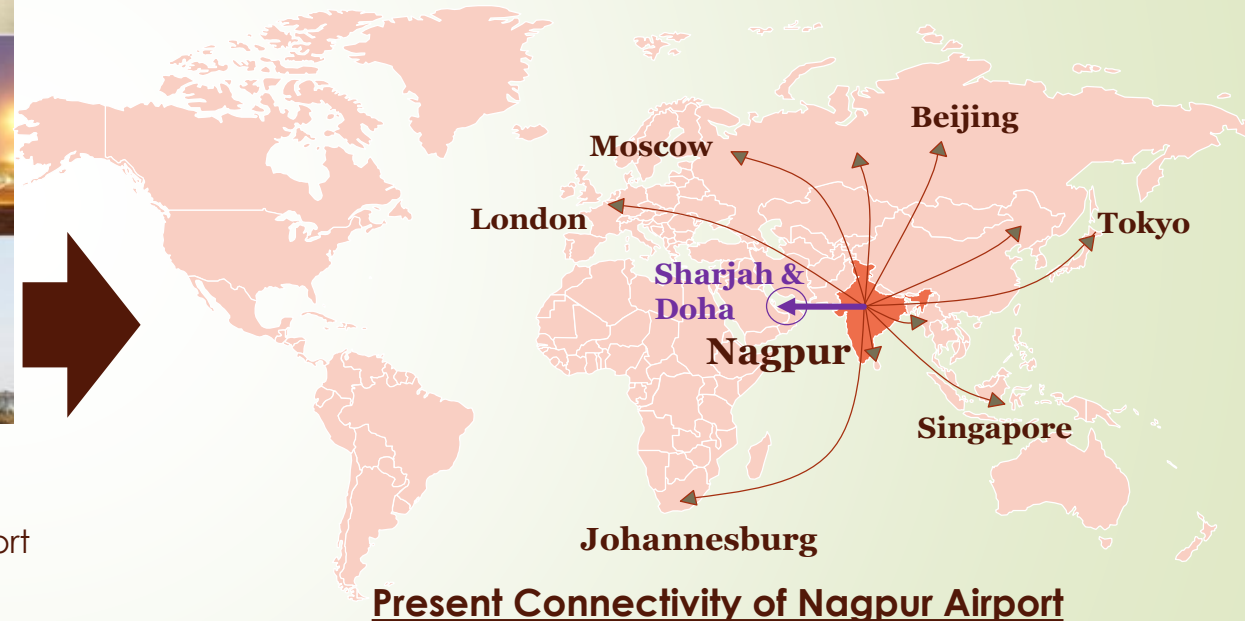
The futuristic project of Multi Modal International Hub Airport at Nagpur (MIHAN) will develop Nagpur as the cargo hub of India and the airport will have flights connecting to a number of prominent international destinations as well



Multi Modal International Hub Airport at Nagpur (MIHAN)

- As a part of MIHAN Project, it is planned to expand/upgrade the existing airport as International Passenger & Cargo Hub. The project is spread over on above 4300 Ha.
- The proposed hub Airport will help Nagpur to emerge as a leading international tourist gateway for India
- The potential for creating an international hub airport at Nagpur can be gauged from the fact that there is hardly any Hub Airport in a 5-hour fly-zone from India (i.e. between Dubai and Singapore).

MIHAN is one of a kind vision that will set the parading for futuristic urban development. A model that will successively sustain industrial commercial and residential growth within an environmental balance with the total estimated cost of **INR 3,000 Million**.



Present Connectivity of Nagpur Airport

- Nagpur is well connected by daily direct flights to Mumbai, Delhi, Kolkata, Bangalore, Pune, Indore, Raipur and Hyderabad
- Air Arabia operates a 4 times a week to and fro flight between Nagpur and Sharjah and Qatar Airways operates a direct flight to Doha

Commercial development has led to growth of residential projects in MIHAN; these two factors combined render MIHAN as one of the fastest growing zones in Nagpur city

Residential projects in MIHAN

- With a good number of companies setting up shop in MIHAN and the growing number of employees, there is a growing demand of residential spaces in the same area as well
- **5000 flats** are proposed to be constructed in MIHAN, of which **1500** flats are ready as of now
 - Realty major **Mahindra Lifespaces** has come up with **Mahindra Bloomdale**, a premium housing facility in MIHAN. The facility is spread across 25 acres of landscape and offering flats from 1 to 4BHK
 - **Moraj group** has started building **Moraj Waterfall Gateway**, a well planned residential township in an area of 8 acres.
 - International real estate firm **Arcon** is also planning a township in MIHAN SEZ

Moraj Waterfall Gateway



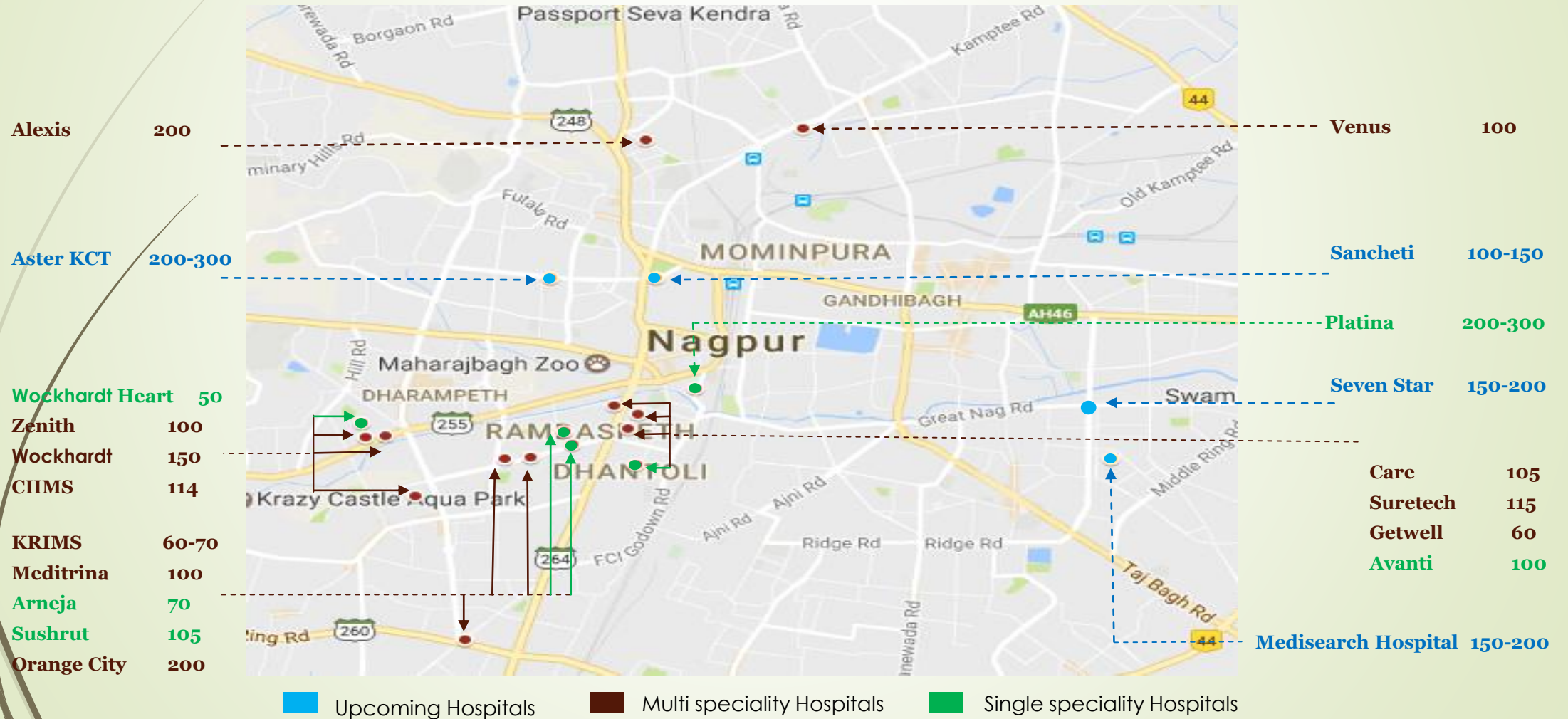
Mahindra Bloomdale





Nagpur Healthcare Landscape

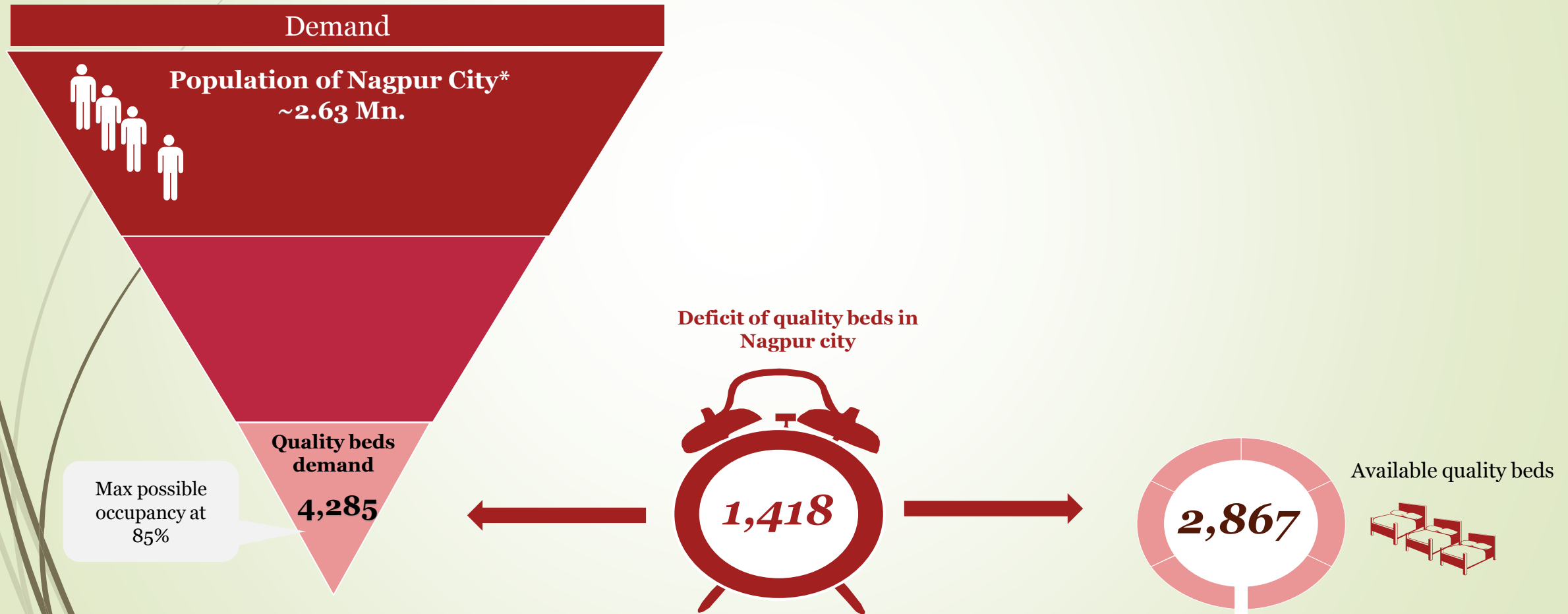
Nagpur Major Multi-speciality, Single-speciality and Upcoming Hospitals





Primary Market

Nagpur city along with the dependent population has a deficiency of around 1418 beds, which is expected to reduce with a number of new hospital projects getting commissioned within the next 3-4 years



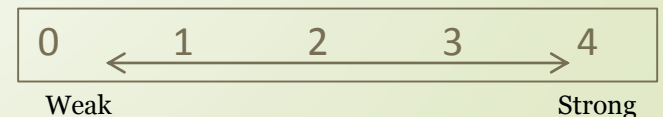
Wockhardt has been the leading multispecialty hospital in the city with availability of most of the services; the recently commissioned Alexis hospital offers more specialties including radiation oncology and a better infrastructure compared to Wockhardt

	Nagpur							
Specialties	Wockhardt	Care	Meditrina	Orange City	Suretech	Avanti	Arneja	Alexis New Entrant
Cardiac Surgery	4 	2	2	1	1	3	4 	0
Cardiology	4 	2	2	1	1	3	4 	2
Neurosurgery	2	3	4 	2	1	0	1	2
Ortho (Joints)	3	2	2	2	2	0	1	3
Nephrology	3	3	2	2	1	0	0	3
Renal Transplants	3	3	Approval awaited	2	2	0	0	Application in process
Radiation Oncology	0	0	0	0	0	0	0	4 

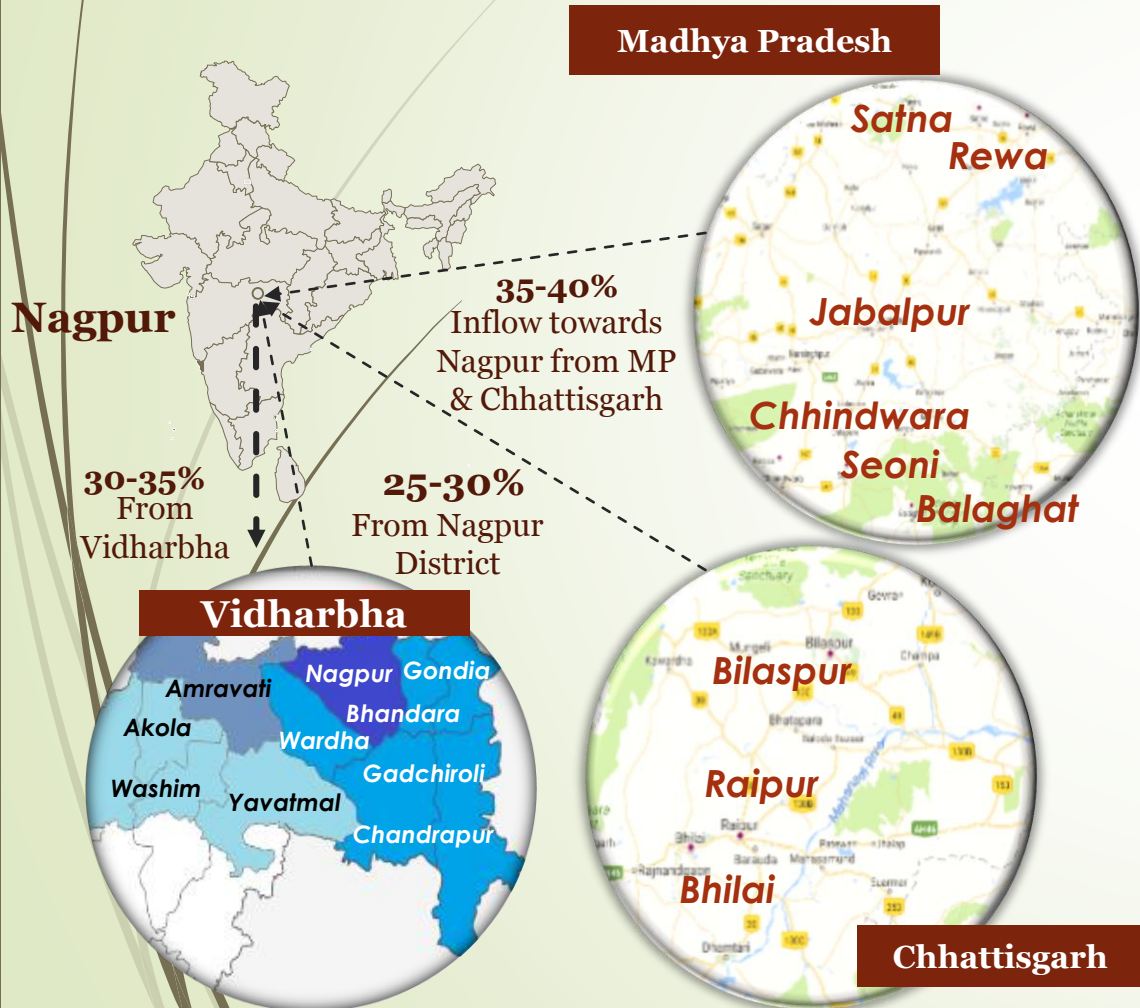


Leader in that specialty

Legend



Majority of the patients in Nagpur hospitals are from Madhya Pradesh, Chhattisgarh and Vidarbha; there is dependency on Nagpur as qualified specialists are not available in nearby cities



High dependency on Nagpur

Around 35-40% of patients in leading hospitals are from Madhya Pradesh and Chhattisgarh; this is because of inadequate hospital infrastructure and unavailability of trained medical practitioners there.

- Despite corporate hospitals like Shalby having presence in Jabalpur, patient inflow hasn't reduced to Nagpur
- Over the past 3-4 years, drainage of patients from Chhattisgarh has declined as Raipur is becoming a medical hub
- Some super specialties like joints, cardiology and oncology have a higher inflow of patients from Madhya Pradesh

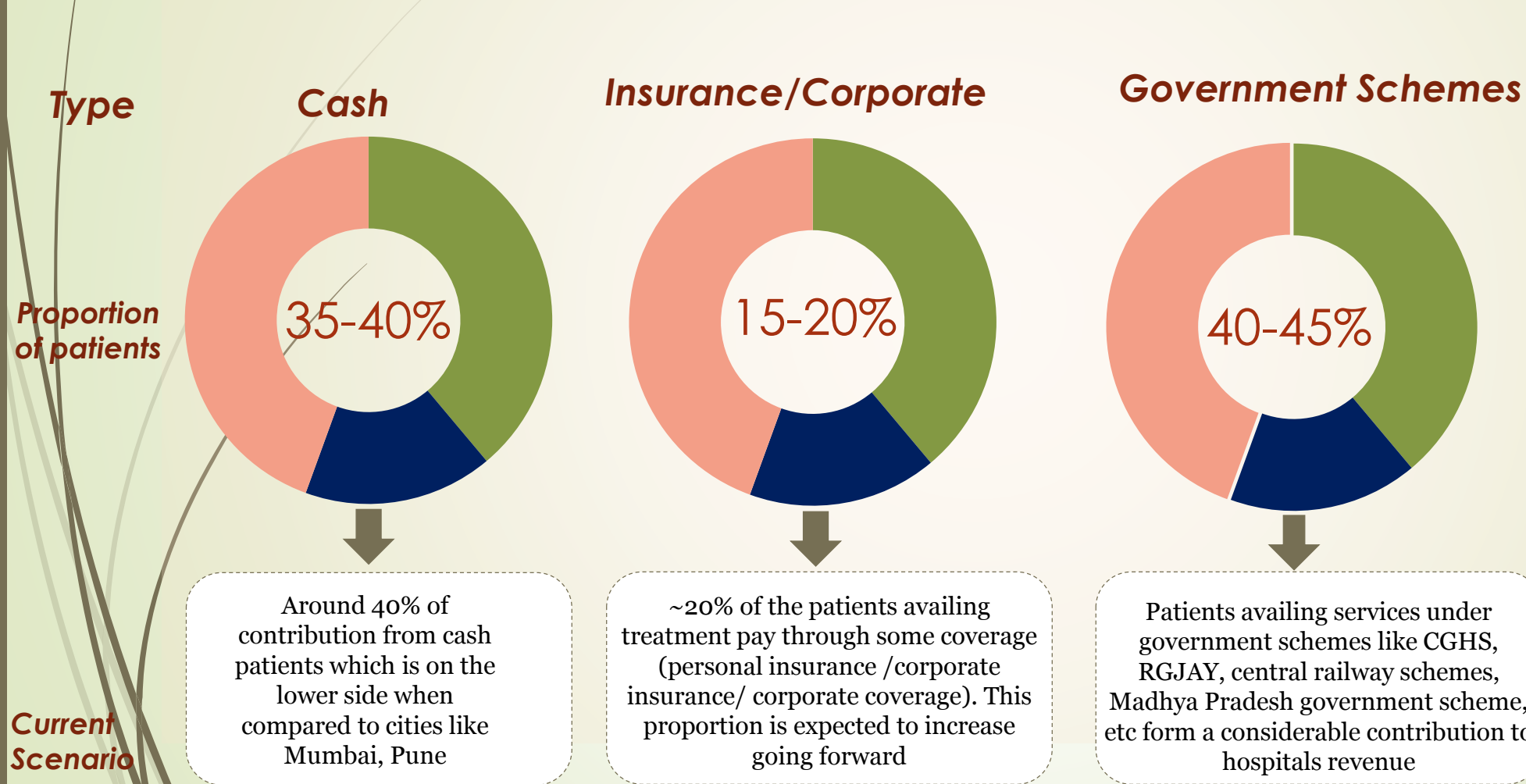
Parts of MP which drain into Nagpur are:

- Chindwara, Seoni, Balaghat, Baitul (up to 250 kms)
- Jabalpur, Katni, Sagar, Satna, Rewa (more than 250 kms – 500 kms)

Besides Nagpur other districts of Maharashtra that drain into Nagpur are:

- Nagpur division - Bhandara, Wardha, Chandrapur, Gondia
- Parts of Vidarbha like Amravati, Yavatmal

For large hospitals, around 60% of the business contribution comes from credit patients, of which government schemes like CGHS, RGJAY, central railway scheme, etc. contribute c. 40%; private insurance and TPA business is in a nascent stage



Observations

- These numbers are only for private hospitals, those of government hospitals are not considered
- Patients availing treatment through government schemes are considerably high as compared to other cities
- Hospitals dues under Madhya Pradesh government schemes are settled faster as compared to Maharashtra government scheme
- Hospital charges under government schemes are at a discount of 30-40% on an average as compared to charges for cash paying patients

Wockhardt commands premium pricing in Nagpur when compared to its peers; Alexis is expected to charge higher in coming years as it has better infrastructure and service offering

Average costing to the patient in INR in twin sharing room

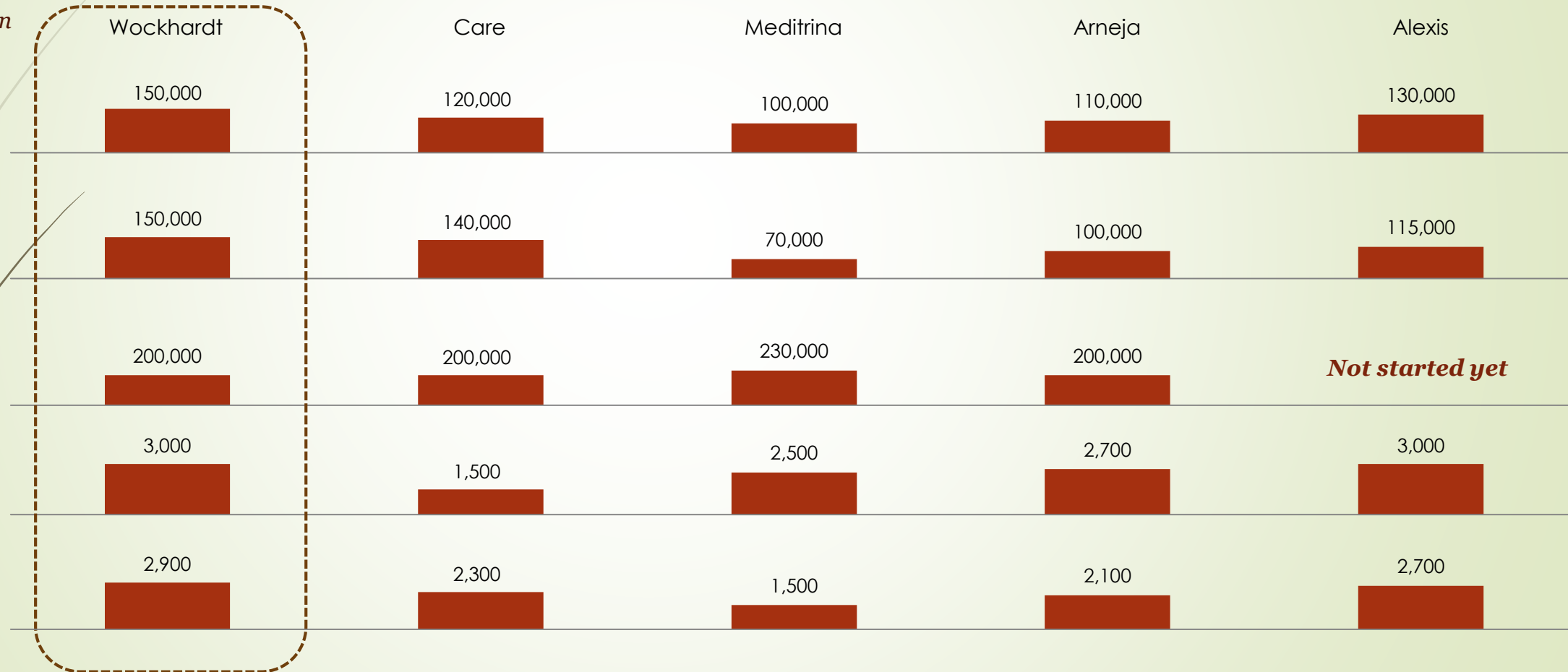
TKR without implant

PTCA excluding stent

CABG

CT/Brain Plain

Twin-sharing bed charges

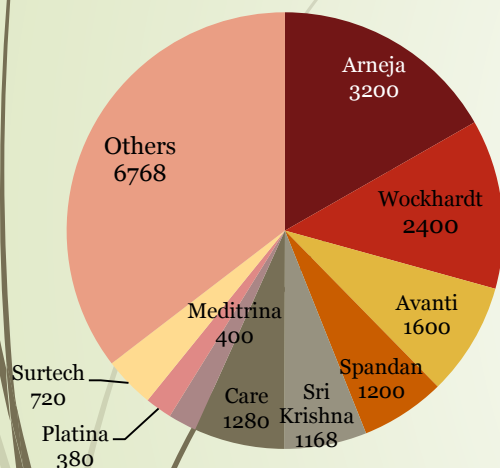




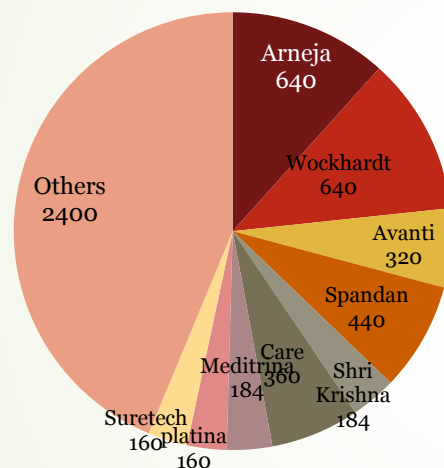
Specialty Market Overview

With an annual growth rate of 10%, ~5,488 PTCA procedures are carried out in Nagpur annually; Arneja Hospital is the leader with 13% market share followed by Wockhardt Hospital having 10% share

CAG volumes – c. 19,116 p.a.



PTCA volumes – c. 5,488 p.a.



Interventional cardiology market in Nagpur

- There are c.20 Cath labs in the city; one in public and rest in private set up.
- 4 to 5 new Cath labs are expected to be installed in Nagpur
- Average bill to patient undergoing CAG and PTCA (in twin sharing)
 - CAG INR 7,000 to 10,000
 - PTCA INR 80,000 to 1,00,000 (without stent)
- Mark up for higher class of accommodation would be around 10-15%
- Post the NPPA notification on capping of cardiac stent prices, Wockhardt increased its package price by INR 40-45,000

5,488
Per annum



PTCA's

Y-O-Y



Growth rate

0.11-0.12

INR Mn
Excluding implant
cost in twin
sharing



Average PTCA Price
Points

Package prices (in INR) for PTCA excluding stent at the leading hospitals in Nagpur

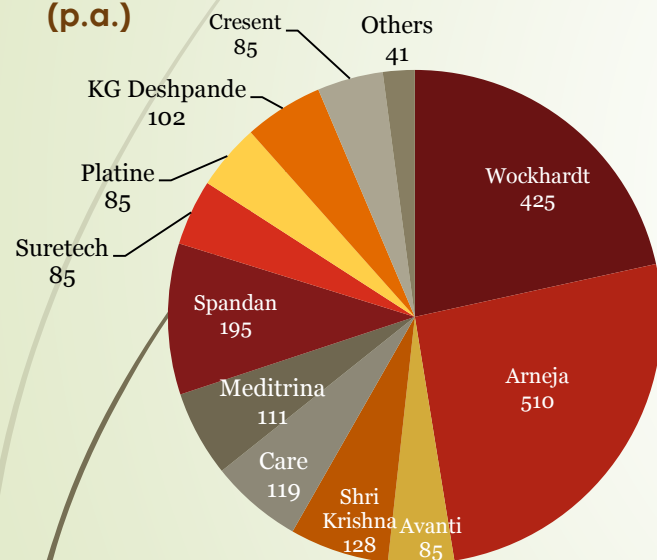
Hospital	Pricing in twin sharing
Arneja	99,000
Avanti	94,500
Wockhardt	1,66,500



~1,971 CABG's are performed in Nagpur annually; Wockhardt Hospital is a market leader with 18% market share

CABG surgery volumes in private hospitals annually is c. 1,971

Player wise volumes of CABG surgeries in Nagpur (p.a.)



Package prices (in INR) for CABG at the leading hospitals in Nagpur

Hospital	Pricing in twin sharing
Arneja	1,70,000
Avanti	1,61,500
Wockhardt	2,21,000

Cardiac Surgery market in Nagpur

- Nagpur does around 3,600 cardiac surgeries annually. Growth for cardiac surgical cases has been stagnant over the past 2-3 years
- Of all the cardiac cases, majority are CABG
 - CABG 75%
 - Others 25% (valves and other cardiac procedures)
- There are around 10 Cardiac surgeons in Nagpur having active practice
- Patients from Vidarbha, southern part of Madhya Pradesh, Chhattisgarh drain into Nagpur. The drain has decreased by 5-10% over the last few years due to centres coming up in other cities and peripheral areas
- Average bill to patient undergoing for CABG in twin sharing is around INR 2,00,000
- Surgeon pay-out for cardiac surgeries is 30% of the package price



1,971
Per annum



CABGs



PTCA : CABG

0.2-0.25
INR Mn in
twin sharing

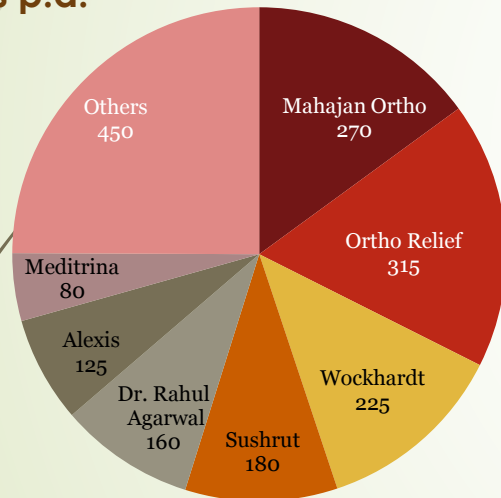


Price Points

Joint surgery market is growing at c. 15% annually with ~1800 cases; around 40% of the joints replacement volumes constitute of THR's

Joint Replacement volumes in Nagpur annually is c. 1,800*

► Player wise volumes of Joint Replacement surgeries p.a.

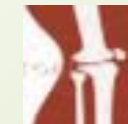


Package prices (in INR) for TKR without implant at the leading hospitals in Nagpur

Hospital	Pricing in twin sharing
Ortho Relief	90,000 to 1,05,000
Care	1,05,000 to 1,17,000
Wockhardt	1,10,000 to 1,40,000

Joint Replacement market in Nagpur

- Around 1,800 Joint Replacements are done in Nagpur annually, with around 35% performed by A Ortho and Ortho Relief Centre
- Yavatmal and Akola in Vidarbha combined together does around 200-240 joints annually
- The joint replacement market is expected to grow at 15% y-o-y
- There are ~35 orthopaedic surgeons who perform joint replacement surgeries in the city; only 3 to 4 are dedicated joint replacement surgeons
- Mahajan Ortho, Ortho Relief, Wockhardt and Sushrut are the leading hospitals for joint replacement procedures.
- Average price point for unilateral TKR without implant in a twin sharing room is INR 1,20,000 to 1,50,000
- Pay-out for consultants is 20-30% of the package excluding the implant cost



1,800

Per annum



Joint Replacements

Y-O-Y



Growth rate

0.12-0.15

INR Mn
Excluding implant cost in twin sharing

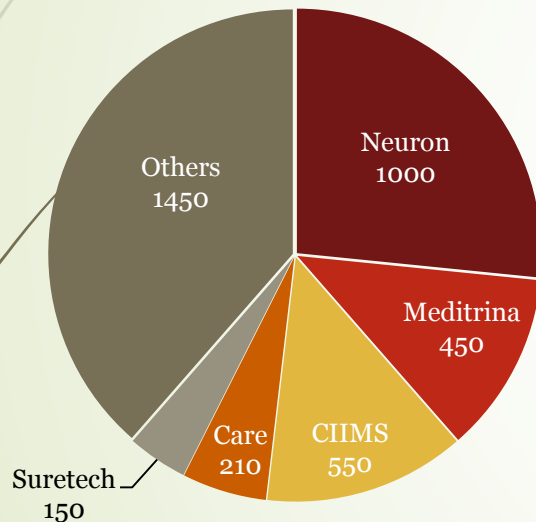


Price Points

Nagpur does ~4,800 neuro surgeries annually, with the market leader Neuron hospital performing 100-120 surgeries every month

Total Neurosurgery volumes in Nagpur annually is c. 3,760

► Player wise volumes of Neurosurgeries in Nagpur p.a.



Price range for Neurosurgery procedures at leading hospitals in Nagpur

Procedure	Pricing in twin sharing
Brain Tumour	1,26,000 to 1,80,000 INR
Laminectomy	45,000 to 80,000 INR

Neurosurgery market in Nagpur

- There are around 22 qualified neurosurgeons in the city, of which 20 have active practice
- Trauma constitutes 70% of the neurosurgery cases in Nagpur, rest 30% being elective
- Of all the neurosurgical procedures, split between brain and spine is estimated to be in a ratio of 6:4 in the city
- Total ~15 neurosurgeries are carried out every day in Nagpur
- Standard package price for a neuro procedure such as Brain Tumour is 1,26,000 to 1,80,000 INR in a twin sharing room.
- Package price increases at 10% when the room category changes
- Typical pay-out for a neurosurgeon is 30-35% of the package price for any procedure.



3,760
Per
annum



Neurosurgeries

Y-O-Y



Growth rate

0.15-0.2

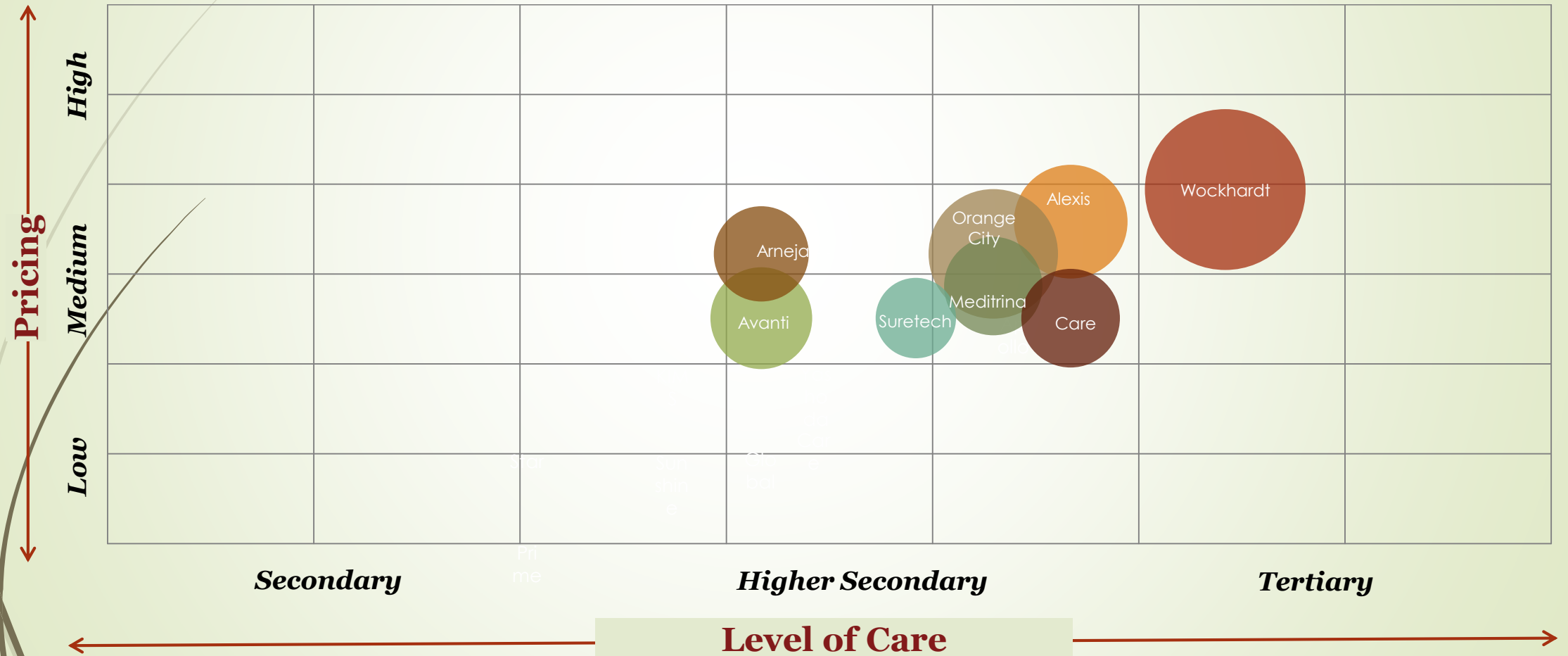
INR Mn for brain
tumour in twin
sharing



Price Points

Wockhardt Hospital is the market leader in Nagpur both in terms of level of care and pricing

Indicative positioning of leading hospitals in Nagpur in terms of Level of Care and Pricing





In Conclusion

High drainage into Nagpur from peripheral areas, dearth of quality healthcare infrastructure and providers are some of the major factors which propels need for developing better healthcare facilities

01 *High drainage and dependency of patients*

- Being the largest city and most developed from a healthcare infrastructure perspective in Central India, patients from Vidarbha, South MP and Chhattisgarh are dependent on Nagpur for healthcare treatments
- Around 50% of the patient base in Nagpur hospitals is from outside Nagpur



03 *Development of city's infrastructure*

- Connectivity perspective, Nagpur is well connected to all the major cities
- MIHAN SEZ is set to give an image makeover to the cities' infrastructure
- Given central location, Nagpur is set to become central India's hub for warehousing, manufacturing units, logistic park, it parks, etc.
- GST is expected to further aid this transition



02 *Dearth of quality care institutions*

- Besides Wockhardt, Alexis and 2-3 new projects, hospitals in Nagpur lacks infrastructure to provide multispecialty care under one roof
- Ambience and look & feel wise also majority of the facilities would not get classified in the corporate hospitals set up style.



04 *Growing affluent class*

- Nagpur has the second highest per capita income of ~0.26 INR Mn when compared to tier 2 non-metro cities with population more than 2 Mn
- The city is estimated to have an affluent population of ~48% in 2016-17



Focusing on the need for quaternary care service provider



Recommendations



Infrastructure

- State of the art technology
- ~200 quality of beds.

Quality Care

- The hospital is providing more specialized and highly unusual care in comparison with the other market players.

Service

- It is a multispecialty hospital with all facilities under one roof.
- The underserved healthcare services will be served .

Additional Benefits

- Teaching institution for nurses and paramedical students.
- Teaching institutions for nurses and paramedical.

Location

- Nagpur is one of the best place because of its geographical location.
- The hospital is coming up in a good growing residential area in Nagpur.



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Thank You