

Feasibility Study For 200 Bed Hospital in Thane

By

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Internship training
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Project on
FEASIBILITY STUDY FOR 200 BED HOSPITAL IN THANE

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TO WHOMSOEVER MAY CONCERN

This is to certify that Dr. Priyanka Indrodia student of MBA Hospital and Health Management (PGDHM) from The IIHMR University, Jaipur has undergone internship training at PricewaterhouseCoopersPrivateLimited from 15February 2016 to 27 May 2016.

The Candidate has successfully carried out the study designated to him during internship training and his approach to the study has been sincere, scientific and analytical.

The Internship is in fulfillment of the course requirements.

I wish him all success in all his future endeavors.



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This is to certify that **Ms. Priyanka Indrodia (Emp Id: 725444)** has undergone her training with the **Advisory** division, **Mumbai** from **February 15, 2016** to **May 27, 2016**. She was associated with the **Consulting SBU**.

She has exhibited a keen interest in learning and has positive attitude. She is sincere and hard working. The efforts put in by her for the project and the analysis of the subject carried out during the training was outstanding.

We wish **Priyanka Indrodia**, the best in her future endeavors.

A handwritten signature in blue ink, appearing to read 'Bhavneet Dutta', is positioned above the printed name and title.

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Signature

A handwritten signature in blue ink, appearing to read 'Dr. Priyanka Indrodia', is written over a horizontal line.

Table of contents:

	PAGE NO.
1. ACKNOWLEDGEMENT	3
2. GLOSSARY	4
3. DISSERTATION	
Executive Summary	7
Background	9
Issue and challenges	9
Problem Statement	10
Research Question	10
Aims	10
Objectives	10
Methodology	11
Results and Discussion	12
Thane	12
Mumbai	17
Recommendation	23
Conclusion	24
References	24
4. ANNEXURE A	
5. ANNEXURE B	
6. ANNEXURE C	
7. ANNEXURE D	
8. ANNEXURE E	
9. ANNEXURE F	
10. REFERENCES	

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A journey is easier when you travel together. Interdependence is certainly more valuable than independence. This project report is the result of three months of training whereby I have been accompanied and supported by many people. It is a pleasant aspect that I now have the opportunity to express my gratitude for all of them.

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GLOSSARY

%	Percentage
ALOS	Average Length of stay
ARPOB	Average Revenue per occupied bed
Bn	Billion
c.	estimate
CABG	Coronary Artery Bypass Grafting
CAGR	Compound Annual Growth Rate
Capex	Capital expenditure
CT	Computed Tomography
CVTS	Cardiovascular Thoracic Surgery
EBIDTA	Earnings before Interest, Depreciation Taxes and Amortization
FY	Financial Year
GDDP	Gross Domestic District Product
GDP	Gross Domestic Product
HCG	Healthcare Global
HN	HarkisandasNarottamdas hospital
IGRT	Image-guided radiation therapy
INR	Indian National Rupee
IPD	In-patient department
KDAH	KokilabenDhirubhaiAmbani Hospital
MMR	Mumbai Metropolitan Region
Mn	million

MRI	Magnetic Resonance Imaging
NABH	National Accreditation Board for Hospitals and Healthcare Providers
NCD	Non Communicable disease
No.	Number
OPD	Out-patient department
Opex	Operational Expenditure
Ortho	Orthopaedic
OT	Operational Theatre
p.a.	Per annum
PE	Private equity
PET CT	Positron Emission Tomography - Computed Tomography
PTCA	Percutaneous transluminal coronary angioplasty
RGJAY	Rajiv Gandhi Jeevandayee Arogya Yojana
ROI	Return on Investment
Sq.ft.	Square Feet
THR	Total Hip Replacement
TKR	Total Knee Replacement
TMH	Tata Memorial Hospital
USD	United States Dollar
YoY	Year on Year
YTD	Year to date

Executive Summary

Mumbai's private healthcare market is estimated to be around INR 135.3 Bn. The city has some of the iconic trust institutes like Bombay Hospital, Hinduja Hospital, Tata Memorial Hospital and corporates like Fortis, Asian Heart, etc. The city used to get a significant number of patients from tier II and tier III cities in Maharashtra as well as neighbouring states like Madhya Pradesh, Gujarat and Goa; however the same has declined to 25% of the overall patients due to facilities coming up in those areas.

The city has a skewed distribution of healthcare facilities. South Mumbai has high bed to population ratio 8.3, as compared to 2.2 beds for Mumbai suburbs and 1.2 for Thane clearly indicating that these areas are still underserved in terms of healthcare facilities. With population growth rate of ~3.8% p.a.; Thane is growing at a faster clip with as compared to South Mumbai (-0.8% p.a.) and Mumbai suburbs (0.8 p.a.).

Majority of the hospitals in the city have a visiting consultant model. KDAH is the only hospital presently successfully running a full time consultant engagement model in Mumbai. Hinduja hospital which earlier followed a full time model has now allowed its doctors to operate at other facilities too. Doctors in South Mumbai are associated with 4-5 hospitals and distribute their workload amongst these hospitals. Breach Candy and Hinduja Khar allow their consultants to fix their charges for all types of accommodation.

Mumbai has the highest doctor fee component amongst all the major metro cities in India. Majority of the healthcare facilities in Mumbai are charitable trust registered hospitals. This is primarily because most of the established hospitals were set up few decades ago, when land at a concessional rate along with other benefits like reduced duty on import of medical equipment were made available. The 21st century has seen corporate hospitals set up shop in Mumbai with Wockhardt, Fortis, Asian Heart and Jupiter being the major ones.

Land cost is a deterrent for new infrastructure development. High land cost and delay in regulatory approvals have led to Mumbai having a high gestation period of ~5-6 years for new upcoming hospitals. A catchment area of ~4 Mn depends on Thane city's infrastructure for healthcare requirements. Inflow in Thane hospitals is around 10% from peripheral areas. The population of the city has been growing at a CAGR of 3.8% p.a. and it is estimated that this high growth rate will continue. It is estimated that private healthcare market size for Thane is around INR 25.4 Bn and the city has an estimated deficit of ~840 quality beds in the private sector.

Traditionally patients from all over Mumbai and Thane were dependent on South Mumbai hospitals for tertiary care treatments. With hospitals coming up in Western & Central Suburbs and Thane, there has been a declining trend in outflow of patients to South Mumbai. It is estimated that there is still an outflow of ~25% of patients from Thane to Mumbai.

Jupiter hospital, established in 2007, is the only tertiary care hospital in Thane city. Other hospitals viz. Bethany, Vedant, Currae, etc. do not provide comprehensive multi-specialty care. Fortis hospital in the neighbouring suburb of Mulund is the other alternative to offer tertiary care treatment. Jupiter has done exceedingly well due to lack of competition and operates at an occupancy level of 80% with an annual ARPOB of 1.01 cr. Jupiter has price points which are at a discount of ~10 to 15% when compared to hospitals like Hinduja, KDAH, Fortis Mulund, etc. With Jupiter being the only major multispecialty hospital in Thane city there is a space for another player given the high growth rate in population that the city is witnessing

The proposed hospital should focus on oncology, transplants and cardiac sciences in addition to the other specialties that a multispecialty hospital caters to. The hospital should adopt an aggressive marketing strategy to establish its brand and adopt a combination of full time and visiting consultant engagement model to begin with.

Background

In Thane, there is a 200 bedded hospital under construction, a global healthcare group wants to acquire it to enter the Indian healthcare market.

Client wants PwC to do the feasibility study in Thane market and to understand the market potential for acquiring the hospital.

Feasibility study

A feasibility study aims to objectively and rationally uncover the strengths and weaknesses of an existing business or proposed venture, opportunities and threats present in the environment, the resources required to carry through, and ultimately the prospects for success.

Benefits

Conducting a feasibility study is always beneficial to the project and it gives a clear picture of your idea. Below are the top benefits of this study:

- Gives focus to the project and alternative outline.
- Narrows the business alternative.
- Identifies the reason to do the project.
- Enhances the success rate by considering multiple factor.
- Helps in decision making of the project.
- Provides a detailed documented status to the business.

Issues and challenges

- Gathering of the primary inputs.
- Setting of interviews with various Healthcare professionals in hospital.
- Getting to the number of nursing homes and hospital in Thane.

Problem Statement

In Thane there is only one corporate hospital catering to the upper middle class population. Residents in Thane have to travel to Mumbai to avail tertiary healthcare facility. There is a 200 bedded hospital under construction in Thane which a client wants to acquire it to enter the Thane healthcare market.

Research Question

Is there a feasibility for one more hospital to be setup in Thane, to provide tertiary healthcare facility that caters upper middle class population of Thane?

Review of literature

PwC proprietary methodologies and reports available in the public domain.

Aim

To understand Feasibility for opening up a Hospital in Thane.

Objectives

General

To understand the feasibility for a hospital in thane market

Specific

- To assess the need of the area
- To obtain demographics of the particular area.
- To assess the Consultant Engagement Model.
- To identify and analyze competitors market.

Methodology

- Study type - A mix of primary and secondary research. Data analysis of the gathered data to arrive at the feasibility
- Area of study- Thane and nearby districts
- Data Collection method:

Data was collected through face to face interviews with multiple sources that included doctors, administrators, equipment suppliers etc. through pre-designed structured questionnaire

Key Questions

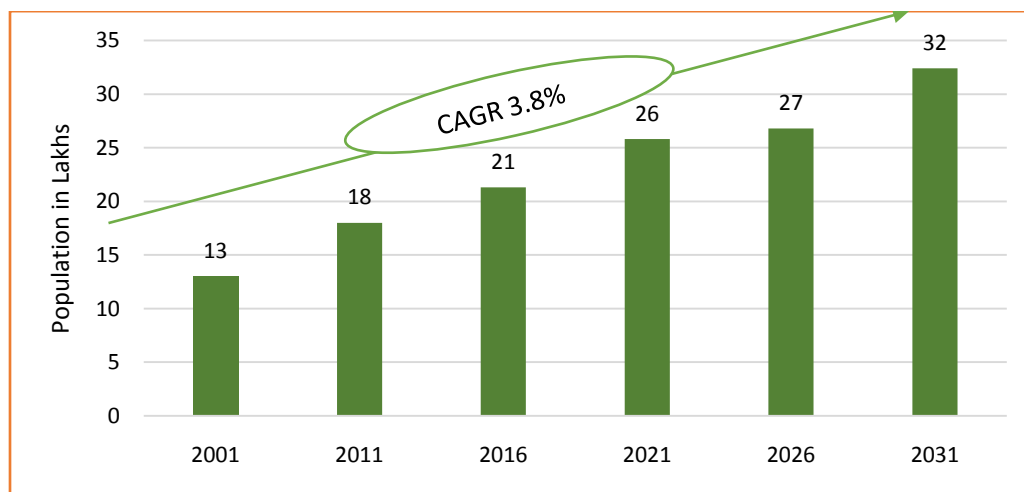
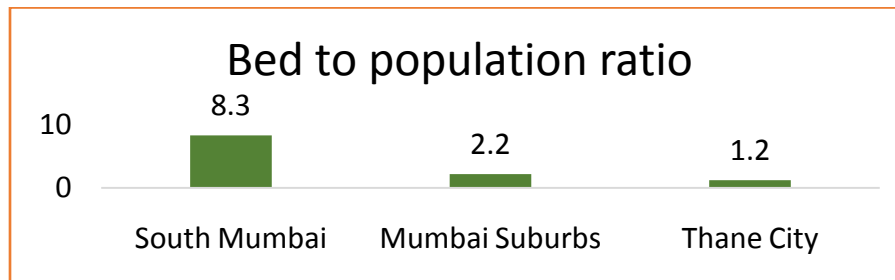
1. Volumes for key procedures in major hospitals – Joint replacements, angiographies, PTCA, CABG, deliveries , Oncology,
 2. Key doctors across specialities in the city
 3. Bed mix
 4. Underserved specialties in the city
 5. Patient mix – Cash, Insurance, Corporates, PSU's
 6. Drainage area for patients (City, Suburbs of Mumbai and Thane)
 7. Flow of patients from Thane to Mumbai hospitals
 8. Patient referral system
 9. Price points for Key procedures viz. Joint replacements, angiographies, PTCA, CABG, deliveries , bed categories
 10. Physician engagement model for key doctors (retainer, fee sharing, retainer+ fee sharing) and doctor payout % in surgeries.
 11. Expansion/Upcoming plans for major hospitals in the vicinity
 12. Salaries for key personnel Viz Nurses, Technicians, pharmacists, RMO's
- Sources of Data- Primary data from Doctors(20), administrators(10), suppliers(10) were collected

- Sample Size – 2-3 doctors from each specialty were considered.
- Sampling Technique- Stratified Sampling. Few physicians were selected for 5 key specialties for the study.

Result and Discussion

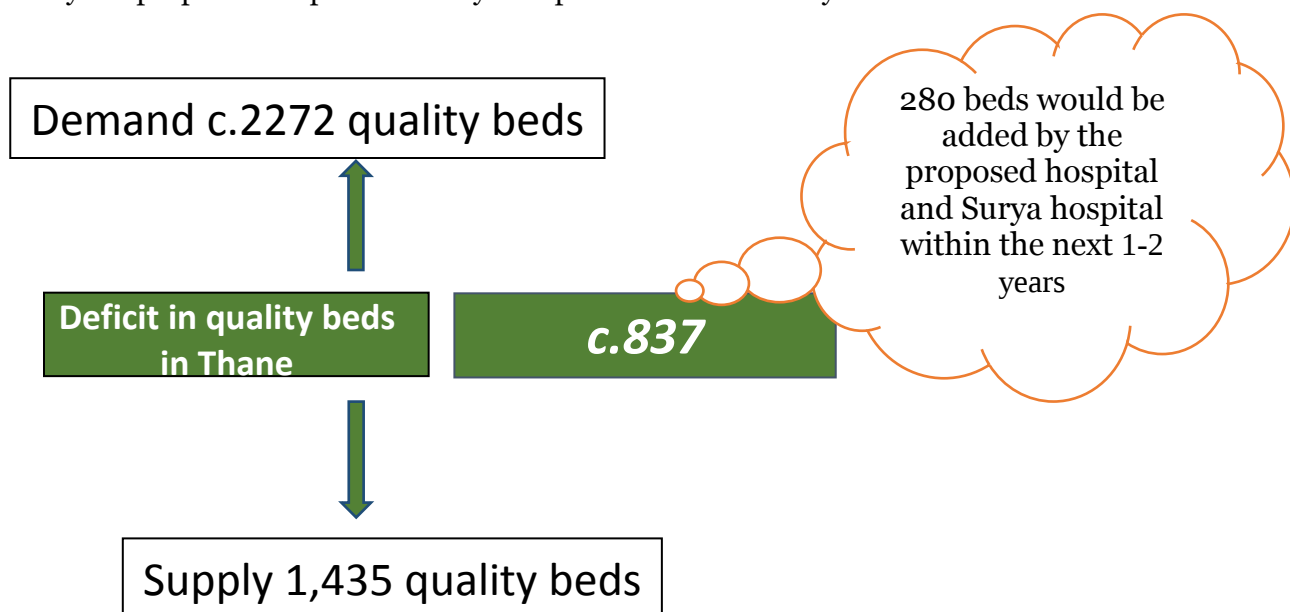
Thane

1. Thane city has a high population growth rate as compared to Mumbai .From 2011 to 2015 thane has growth rate of ~3.8%p.a..Thane has bed to population ratio of 1.2 as compared to Mumbai (south Mumbai 8.3 and 2.2 Mumbai suburbs) , demonstrating a clear unmet demand for healthcare.



2. Thane private healthcare delivery market is sized at c. INR 25.4 billion
3. Number of quality beds in thane are 1435(Jupiter ,Fortis Mulund, Bethany, Kaushalya, Vedant, Fortis Kalyan, Horizon, Platinum, Vertex Hopsital, Currae, Dr godboleHeart Centre, Titan Hospital, Ved Hospital, BhivandiKalyan)

4. Currently, Thane has a deficiency of c. 837 quality beds, which is poised to increase further considering the growing population of the target areas, 280 beds would be added by the proposed hospital and Surya hospital within next 1-2 years



5. Jupiter Hospitals is the only high end tertiary care hospital in the city of Thane with a corporate structure. In a short span of time, it has established itself as a clear market leader in terms of size and revenue by leveraging first mover advantage.

Name of Hospital	Location	Operational Beds	Specialty Focus	Comment	Rev (INR Mn)
Jupiter Hospital	Eastern Express Highway	272	Multispecialty	- The only corporate hospital in Thane. - Got first mover advantage to create patient base	~2200 Mn
Bethany Hospital	Pokran Road	107	General Medicine, OBGY and Oncology	Earlier known as Lok Hospital. Bethany hospital has good brand name in the middle income group in Thane	~550-600 Mn
Currae Mother & Child	Ghodbunder Road	30	Gyneac, IVF & Birthing	- Up market birthing hospital - Higher price points as compared to typical nursing home in Thane	~96 Mn
Currae Surgical Centre	Majiwada	15	Day care Surgical	Short stay format. Does more of ortho surgeries. Both the centres were commissioned in 2015	~120 Mn
Kaushalya Hospital	Ganeshwadi	100	General Medicine & OBGY	The hospital is a charitable foundation. Focussed more towards women health	~240 Mn
Vedant Hospital	Kasarvadavli	100	Cardiology & Surgical Oncology	In 8 months of new management change, the hospital has performed more than 300 oncology surgeries	~150 Mn

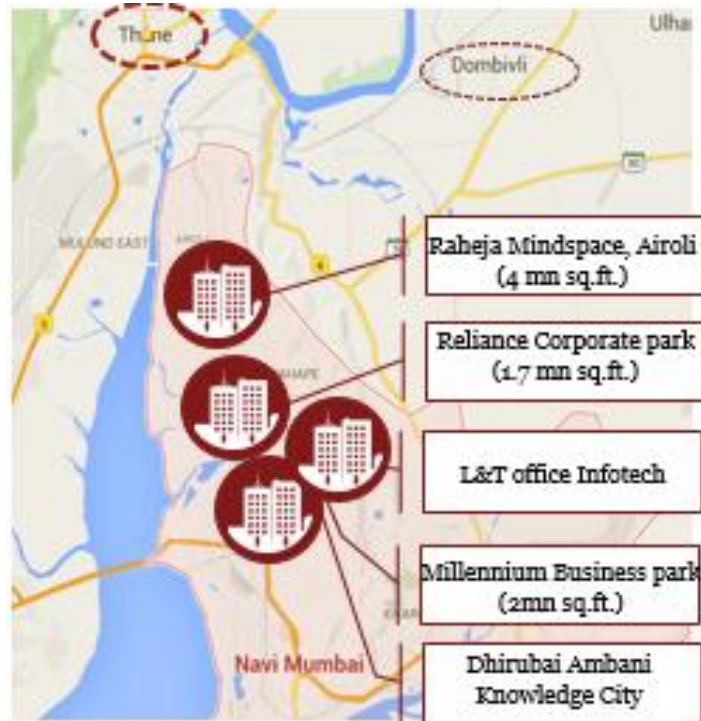
6. However, there is an established demand for quality beds in the target areas as the organised market is still in a very nascent stage. This unmet demand can be exploited by providers looking to offer high end tertiary care services (Oncology, Transplants etc.) as a differentiator.

<u>Sapphire Hospital, Kalwa</u>	<u>Surya Hospital</u>	<u>Raptakos Brett & Company</u>	<u>Dr. Rajiv Chabra's</u>
❑ 140 bed hospital in Kalwa. Hospital to commission in 6 months ❑ Marketing of hospital being done on good scale	❑ A dedicated mother and child 60 bedded hospital in Ghodbunder Road, Thane. ❑ Already has presence in Western Suburbs and Pune	❑ Raptakos known for its nutraceuticals and pharmaceutical products, is planning a 100 bed pediatric hospital at Majiwada Junction. ❑ The hospital is in planning phase	❑ Dr. Rajiv Chabra, OBGY surgeon, already has Janam Hospital. ❑ New hospital is under consideration in Thane

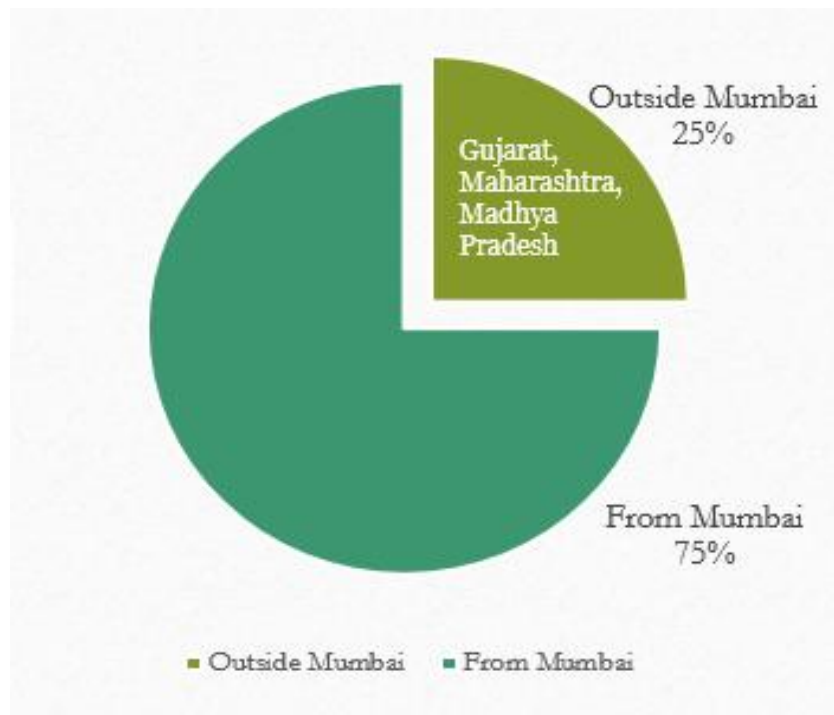
7. Few hospitals like Sapphire hospital kalwa (multispecialty), Surya Hospital, Raptakos Brett Company (Paediatric Hospital), Dr Rajiv Chabra's hospitals will commission in next couple of years.
8. There exists an unmet demand for radiotherapy services in Thane city because of lack of supply as well as projected increase in the incidence of Cancer cases due to low rate of detection and increased life expectancy.
9. Ghodbunder Road has been a key factor in changing Thane's landscape, and has become a hub for premium residential complexes which attract upper middle class nuclear families.



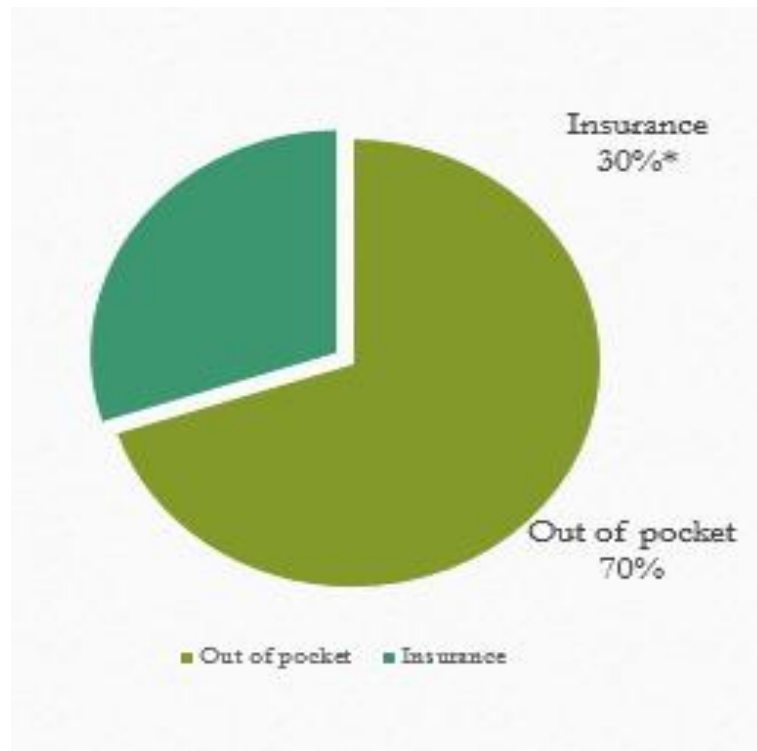
10. Thane has good connectivity through road and railway.
11. Proximity to IT parks in Navi Mumbai also contributes to residential demand in Thane.



12. ~75% of the patient drainage of the major hospitals in Mumbai is from within the city.



13. Overall ~70% of the patients pay from out of pocket to meet their healthcare



requirements

Mumbai

1. Mumbai has ~46,000 hospital beds across public and private sector with overall 56% of bed distribution in South Mumbai 44% in Mumbai suburbs



Bed Distribution	
South Mumbai	56%
Mumbai Suburbs	44%

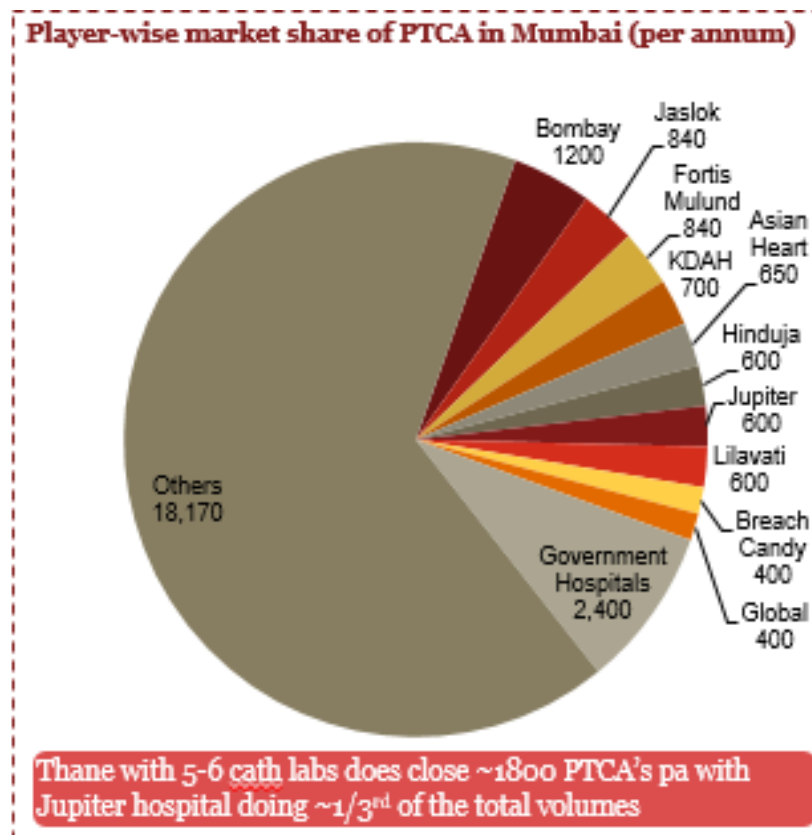
2. The Mumbai private healthcare delivery market is sized at c. INR 135.3 billion
3. Mumbai's tertiary care healthcare market is dominated by trust based hospitals viz. Hinduja, KDAH, Bombay Hospital, Lilavati etc.

4.	Name of Hospital	Bed Capacity	Operational Beds	Occupancy	Occupied beds
	KDAH	750	604	80%	483
	Hinduja Hospital (Mahim)	370	370	80%	296
	Bombay Hospital	750	700	70%	490
	Lilavati Hospital	300	300	85%	255
	Jaslok Hospital	400	350	80%	280
	Fortis Mulund	300	260	80%	208
	Saifee Hospital	250	250	70%	175
	Hiranandani Hospital	240	200	75%	150
	Breach Candy Hospital	175	175	80%	140
	Jupiter Hospital	300	272	80%	218
	Global Hospital	400	150	70%	105

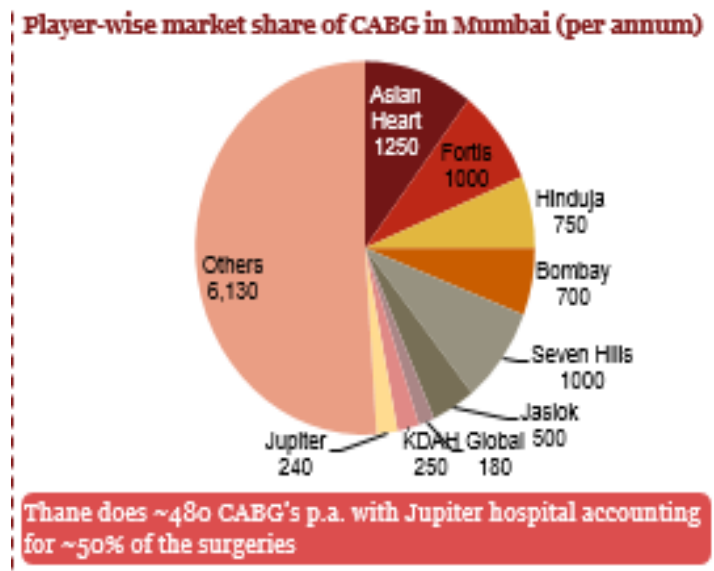
years Mumbai will have commissioning of following hospitals: Khubchandani Hospital, Juhu(400 beds), Suasth Hospital(400 beds), Kalamboli ,KDAH, Kharghar(150-200beds) HCG Cancer Centre,Borivali,Nanavati Hospital, Vile Parle,Narayana Health, Mahalaxmi(500 beds).

Procedures

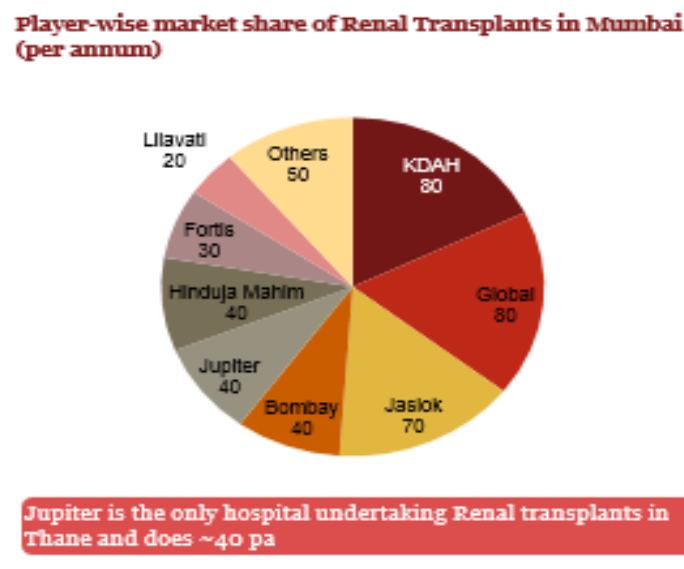
1. ~25,000 PTCA procedures are carried out in Mumbai every year; Bombay hospital & Jaslok are leaders amongst major hospitals. Annually Jupiter performs 600 PTCA procedures and Fortis Mulund performs 960 procedures.



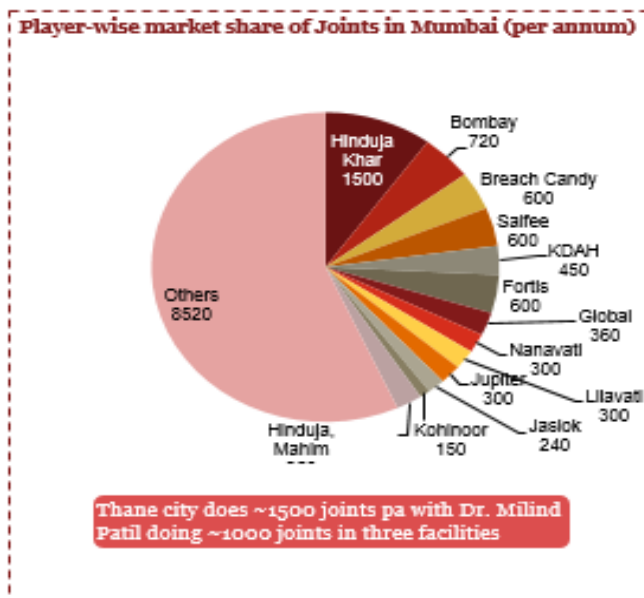
2. The volume of CABG's in Mumbai is ~12,000 per annum; Asian Heart Institute is the market leader amongst private players with 10% market share followed by Fortis Mulund. Jupiter performs 240 procedures annually which is low compared to that of market leaders



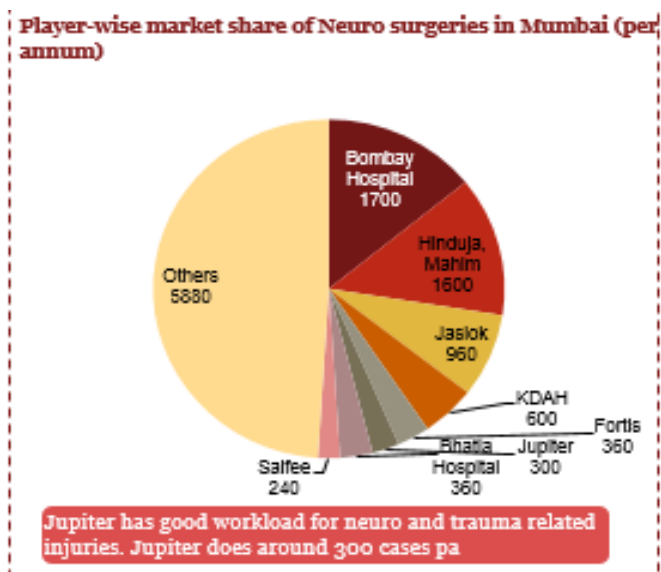
3. ~450 renal transplants are completed in the Mumbai annually with 19 registered centres among which KDAH, Global and Jaslok hospital lead the way



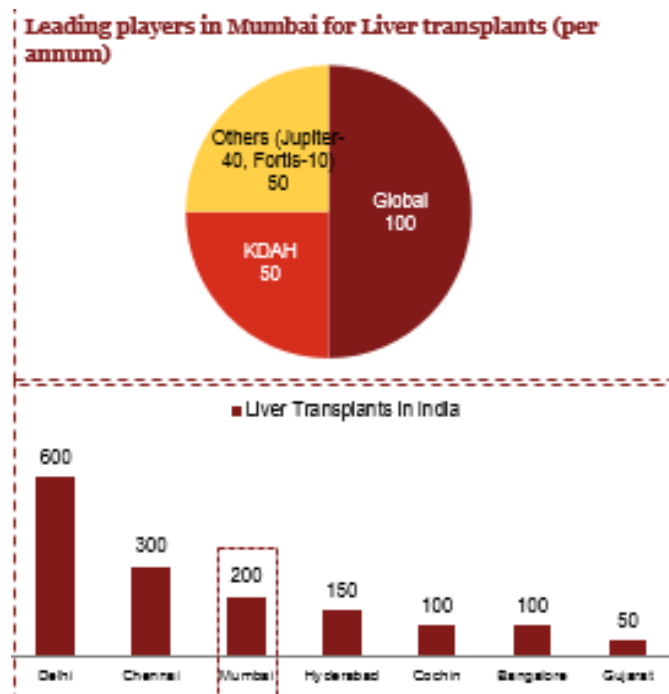
4. ~15,000 Joint Replacement surgeries are carried out in Mumbai every year; private sector does around 85-90% of overall volumes. With 1500 joint surgeries pa, Hinduja Khar is the market leader. Jupiter performs 300 joints annually.



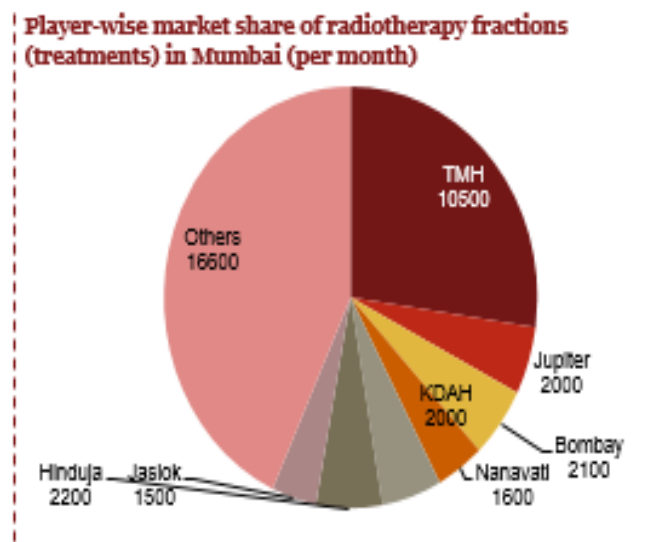
5. ~12,000 to 14,000 neuro surgeries are performed in Mumbai every year. Bombay Hospital and Hinduja hospital are leaders with around 1700-1600 surgeries p.a. each while Jupiter does 300 procedures p.a.



6. ~200 to 240 liver transplants are performed in Mumbai every year, of which Global Hospital does ~50% of the cases



7. Mumbai with 22 LINACs does ~38,500 fractions per month on an average, TMH does the maximum volumes with 6 LINACs. Jupiter has a strong focus on onco with 2 LINAC's doing 120-140 fractions per day.



8. Most of the hospitals in Mumbai operate on visiting consultant model
9. Newer entrants like KDAH and HN (Reliance Foundation), have opted to follow the full time salaried model
10. Hospitals with visiting consultant model allow doctors to take 90-100% of the OPD charge and the entire IPD doctor fee component to attract key consultants
11. Breach candy hospital, due to its reputation and brand image, has highest doctor fee component as compared to its peers.

Full time consultants	 
Visiting Consultant	     
Mix Model	   

Recommendations

- **Go to Market Strategy**

- ✓ The hospital should have aggressive marketing, branding and communication strategies to establish itself.
- ✓ The hospital could follow a competitive pricing strategy as per market benchmarks in the initial stages.

- **Consultant Engagement Model**

- ✓ The hospital should follow a mixed consultant engagement model, wherein there can be full time primary consultants across key specialities while other prominent doctors can be empanelled as visiting consultants.
- ✓ The hospital will also have to consider empanelment with independent physicians and consultants with personal clinics for referrals.

- **M&A as a business model**

- ✓ Mumbai typically has a longer incubation period of 4-6 years due to the complicated regulatory compliances prevalent in local governing bodies which inadvertently delays the timelines of a greenfield project.
- ✓ In such a scenario, acquisition of a newly commissioned facility will drastically reduce the time required for market entry.

- **Specialties to capture market share**

- ✓ In Oncology there is a sizeable market opportunity for cancer care in Thane with gap of 2 linear accelerators
- ✓ In transplants there is an untapped opportunity for private sector, Thane has only Jupiter hospital, which does around 40 renal and liver transplants p.a.
- ✓ Thane has around 5-6 Cath labs, around 130-150 PTCA procedures are performed in Thane
- ✓ Jupiter hospital has the maximum volumes followed by Horizon hospital, Godbole Hospital & Vedant hospital
- ✓ However hospitals in Thane do not perform higher number of cardiac surgical procedures as compared to Mumbai hospitals. There is an untapped market which can be captured by developing cardiac sciences department.

Conclusion

- Thane has a gap of around 840 quality beds to cater to the healthcare requirements of populace.
- Thane and in particular Ghodbunder Road have witnessed high growth rate in commercial and residential space. The trend is likely to continue, with high migratory population to the city requiring better access towards health needs.
- Market study clearly shows feasibility in terms of demand for more beds.
- The affluent class of Thane has grown at a CAGR of ~13% vis-à-vis that of Mumbai at ~8% over the last 5 years. Per capita income has also increased as compared to Mumbai
- Looking at the current scenario in Thane, there exists a definite opportunity to exploit demand for medical services of upper middle class families.

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Thank you!!