

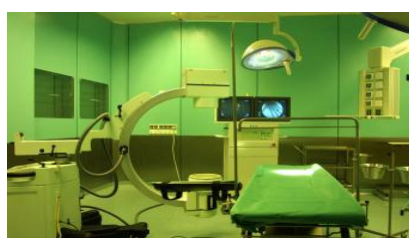
# Hospitals

## Summary

The attractive returns earned by hospital projects coupled with shortage of hospital beds in the country makes this sector an attractive long term investment opportunity. In our base case scenario, an investment in a tertiary care, multi-speciality hospital would have a project IRR of 16.4 per cent. In the short term, however returns would be negative as green field hospital projects would typically make a net profit only in their fourth year of operations.

The market size of the healthcare delivery (hospitals) sector is expected to grow at a CAGR of 12 per cent and reach Rs 2,970 billion in 2013, up from Rs 1,693 billion in 2008.

## Annual Review August 2009



## Contents

### Part A: Hospitals - An attractive long term investment opportunity

Executive summary	A-1
Financial attractiveness of a hospital project	A-3
Hospital project – location identification	A-11
Market size, beds needed and investments required	A-13
Ailment-wise market size and key demand drivers	A-21
City-wise upcoming hospitals	A-27

### Part B: State of the industry

Industry structure	B-1
Evolution of the health system in India	B-15
Healthcare delivery: Revenues, costs and margins	B-19
How to analyse a healthcare delivery company?	B-25
Key success factors of a hospital	B-29
Player profiles	B-33

### Part C: Industry statistics

Hospitals financials	C-1
Diagnostics centers	C-11
Countrywise comparison	C-17
Health indicators	C-23
Human resources for health in India	C-29

# Opinion

## Sections

Executive summary	A-1
1.0 Financial attractiveness of a hospital project	A-3
- Project details and assumptions	A-3
2.0 Hospital project – location identification	A-11
3.0 Market size, beds needed and investments required	A-13
- Market size	A-13
- Requirement of beds and the corresponding investment needed	A-14
- Growth drivers	A-16
4.0 Ailment-wise market size and key demand drivers	A-21
- Cardiovascular diseases	A-22
- Oncology	A-24
- Diabetes	A-25
5.0 City-wise upcoming hospitals	A-27
- Upcoming and current scenario of hospital beds	A-27
- City-wise scenario of existing and upcoming hospital beds	A-29

## Boxes

<u>3.0 Market size, beds needed and investments required</u>	
01 Methodology - No. of beds needed state-wise	A-18
02 Methodology - Ailment-wise no. of treatments	A-19

## Charts

<u>2.0 Hospital project – location identification</u>	
01 Process of identifying a location for a hospital project	A-11
<u>3.0 Market size, beds needed and investments required</u>	
01 Growth drivers	A-16

Continued...

## Figures

<u>1.0 Financial attractiveness of a hospital project</u>		
01	Base case occupancy assumptions	A-6
02	Bull case occupancy assumptions	A-6
03	Bear case occupancy assumptions	A-6
04	Base case - margin movement	A-8
05	Bull case - margin movement	A-8
06	Bear case - margin movement	A-8
07	Base case – movement of gearing and interest coverage	A-9
08	Base case – movement of gearing and interest coverage	A-9
09	Base case – movement of gearing and interest coverage	A-9
<u>3.0 Market size, beds needed and investments required</u>		
01	Healthcare delivery - Market size	A-13
02	Percentage of market size	A-14
03	No. of treatments - In-patients	A-14
04	No. of treatments - Out-patients	A-14
05	No. of beds and investments needed	A-15
06	Population in India	A-16
07	Age demographic shift	A-16
<u>4.0 Ailment-wise market size and key demand drivers</u>		
01	Hospitalised cases in 2008	A-21
02	Cardiac prevalence	A-23
03	Prevalence of oncology	A-24
04	Prevalence of diabetes	A-25
<u>5.0 City-wise upcoming hospitals</u>		
01	City-wise population	A-27
02	Supply of beds in 2008	A-27
03	City-wise beds per thousand population in 2007	A-28
04	Planned supply of beds - 2009 to 2012	A-28

continued...

...continued

## Tables

<u>1.0 Financial attractiveness of a hospital project</u>		
01	Attractive IRR's	A-3
02	Project details	A-3
03	Assumptions on capital cost and funding mix	A-4
04	Assumptions on revenues	A-5
05	Assumptions on costs	A-7
06	Sensitivity of IRR to ramp up of occupancy and land cost	A-8
07	Sensitivity of gearing to ramp up of occupancy and land cost	A-10
<u>3.0 Market size, beds needed and investments required</u>		
01	State-wise number of beds needed	A-15
<u>4.0 Ailment-wise market size and key demand drivers</u>		
01	Ailment-wise hospitalised cases and market size	A-22
02	Prevalence rate per 1,000 for rheumatic heart disease (RHD) and congenital heart disease	A-23
03	Crude incidence rate of oncology	A-25
04	Prevalence rate of diabetes per 1,000 in India	A-26
<u>5.0 City-wise upcoming hospitals</u>		
01	No. of beds in Bangalore in 2008	A-29
02	2009-2012 — Upcoming supply: Bangalore	A-29
03	Total no. of beds in Chennai in 2008	A-29
04	2009-2012 — Upcoming supply: Chennai	A-30
05	No. of beds in Hyderabad in 2008	A-30
06	2009-2012 — Upcoming hospitals: Hyderabad	A-30
07	No. of beds in Kolkata in 2008	A-31
08	2009-2012 — Upcoming hospitals: Kolkata	A-31
09	No. of beds in Mumbai in 2008	A-31
10	2009-2012 — Upcoming hospitals: Mumbai	A-32
11	No. of beds in NCR in 2008	A-32
12	2009-2012 — Upcoming hospitals: NCR	A-33

# State of the industry

## Sections

1.0	Industry structure	B-1
-	Healthcare delivery in India: An overview	B-1
-	Slicing the healthcare pie	B-2
-	Classification of hospitals	B-3
-	Options for operating a hospital in India	B-9
-	Industry characteristics	B-10
-	Regulatory framework	B-10
-	Accreditation of hospitals	B-12
2.0	Evolution of the health system in India	B-15
-	Phase 1 (1947-83) — A poor start	B-15
-	Phase 2 (1983-2000) – The National Health Policy 1983	B-15
-	Phase 3 (post 2000) – The National Health Policy 2002	B-16
-	Pradhan Mantri Swasthya Suraksha Yojana (PMSSY)	B-17
3.0	Healthcare delivery: Revenues, costs and margins	B-19
-	Revenue mix	B-19
-	Cost structure of a hospital	B-21
4.0	How to analyse a healthcare delivery company?	B-25
-	Business strategy of the company	B-25
-	Company's operating efficiency	B-26
-	Market position of the company	B-27
5.0	Key success factors of a hospital	B-29
-	Key success factors	B-29
-	Other factors leading a hospital's success	B-30
6.0	Player profiles	B-33
-	AIIMS (All India Institute of Medical Sciences)	B-33
-	Apollo Hospitals Enterprise Limited	B-34
-	Aravind Eye Hospital	B-39
-	CARE Hospitals	B-42
-	Fortis Healthcare Ltd	B-44
-	Max Healthcare Institute Limited (Max Health)	B-50
-	Metro Hospitals	B-54
-	Sankara Nethralaya	B-55
-	Wockhardt Hospitals	B-57
-	NIMHANS (National Institute of Medical Health and Neuroscience)	B-62
-	Manipal Group	B-63

Continued...

...continued

## Charts

### 1.0 Industry structure

01	Ailmentwise complexity based definition	B-4
02	Hospitals — Classification	B-5
03	Hospital classification based on medical specialities	B-6
04	Hospitals — Value chain	B-7
05	Working environment of TPAs	B-9
06	List of licences, registrations and approvals	B-11
07	Hospitals — Regulatory compliance	B-12
08	Healthcare accreditation in various countries	B-13

### 3.0 Healthcare delivery: Revenues, costs and margins

01	Healthcare delivery — Breakup of revenues	B-19
02	Ailmentwise ALOS	B-20

### 6.0 Player profiles

01	Integrated health delivery model	B-43
02	Business structure table	B-47

## Figures

### 1.0 Industry structure

01	Public expenditure on health has been very low in the past	B-1
02	Health expenditure as per cent of GDP - 2006	B-2
03	India: Health expenditure as per cent of GDP	B-2

### 6.0 Player profiles

01	Revenue & Contribution Margin Trend	B-51
02	Average Operational beds & Average Revenue per Occupied Bed per Day	B-51
03	Inpatient trends	B-52
04	Outpatient trends	B-52
05	Break-up of inpatients	B-56
06	Break-up of outpatients	B-56

continued...

...continued

## Tables

<u>1.0</u>	<u>Industry structure</u>	
01	Ailmentwise margins and realisations	B-21
<u>6.0</u>	<u>Player profiles</u>	
01	AIIMS-Operational Details – 2005-06	B-33
02	Apollo Group - Business structure	B-34
03	Apollo Hospitals Enterprise Limited	B-35
04	Apollo Group - Accreditations	B-36
05	Apollo Group - Capital expenditure plans	B-36
06	Apollo Hospitals Enterprise Limited (AHEL): Operational details	B-37
07	Hospital beds owned by AHEL	B-37
08	Hospital beds owned by subsidiary/associates/JVs of AHEL	B-38
09	AHEL-affiliated hospital beds	B-38
10	Aravind Eye Hospital - Business Structure	B-39
11	Aravind Eye Hospitals - Hospitalwise no. of beds	B-40
12	Aravind Eye Hospitals - Performance 2007-08	B-40
13	CARE Group - Business structure	B-42
14	CARE Group - Operational details	B-42
15	CARE Group - Capital expenditure plans	B-44
16	Fortis Group - Hospitalwise no. of beds	B-45
17	Fortis Group - Capital expenditure plans	B-49
18	Max Healthcare Model	B-50
19	Max Health - Operational Details	B-50
20	Max Health - Capital expenditure plans	B-53
21	Metro Group - Business Structure	B-54
22	Metro Hospitals - Operational details	B-54
23	Metro Hospitals - Capital expenditure plans	B-55
24	Sankara Nethralaya - Business structure	B-55
25	Sankara Nethralaya - Market Position	B-56
26	Sankara Nethralaya - Operational details	B-57
27	Wockhardt Hospitals - Business structure	B-58
28	Wockhardt Hospitals - Hospitalwise no. of beds	B-59
29	Wockhardt Hospitals - Capital expenditure plans	B-61
30	Manipal Group - Business structure	B-63
31	Manipal Group - Owned hospitals	B-64
32	Manipal Group - Associate hospitals	B-64
33	Manipal Group - Capital expenditure plans	B-66

# Industry statistics

## Sections

1.0 Hospitals financials	C-1
2.0 Diagnostics centers	C-11
3.0 Countrywise comparison	C-17
4.0 Health indicators	C-23
5.0 Human resources for health in India	C-29

## Tables

<u>1.0 Hospitals financials</u>	
01 Apollo Hospitals Enterprise Ltd — Ratios	C-1
02 Apollo Hospitals Enterprise Ltd — Balance sheet parameters	C-1
03 Apollo Hospitals Enterprise Ltd- Audited results	C-1
04 Fortis Healthcare Ltd (Standalone) — Ratios	C-2
05 Fortis Healthcare Ltd (Standalone) — Balance sheet parameters	C-2
06 Fortis Healthcare Ltd (Standalone)- Audited results	C-3
07 Chennai Meenakshi Multi-speciality Hospital Ltd — Ratios	C-4
08 Chennai Meenakshi Multi-speciality Hospital Ltd — Balance sheet parameters	C-4
09 Chennai Meenakshi Multi-speciality Hospital Ltd- Audited results	C-4
10 Dr Agarwal's Eye Hospital Ltd — Ratios	C-5
11 Dr Agarwal's Eye Hospital Ltd — Balance sheet parameters	C-5
12 Dr Agarwal's Eye Hospital Ltd- Audited results	C-6
13 Indraprastha Medical Corporation Limited — Ratios	C-7
14 Indraprastha Medical Corporation Limited — Balance sheet parameters	C-7
15 Indraprastha Medical Corporation Limited- Audited results	C-7
16 Kovai Medical Centre and Hospital Ltd — Ratios	C-8
17 Kovai Medical Centre and Hospital Ltd — Balance sheet parameters	C-8
18 Kovai Medical Centre and Hospital Ltd- Audited results	C-9
19 Max Healthcare Institute Ltd: Ratios	C-10
20 Max Healthcare Institute Ltd — Balance sheet parameters	C-10
21 Max Healthcare Institute Ltd- Audited results	C-10

Continued...

## Tables

<u>2.0 Diagnostics centers</u>		
01	ADS Diagnostics Ltd — Ratios	C-11
02	ADS Diagnostics Ltd — Balance sheet parameters	C-11
03	ADS Diagnostics Ltd- Audited results	C-11
04	Dolphin Medical Services Ltd — Ratios	C-12
05	Dolphin Medical Services Ltd — Balance sheet parameter	C-12
06	Dolphin Medical Services Ltd- Audited results	C-13
07	Medinova Diagnostic Services Ltd — Ratios	C-14
08	Medinova Diagnostic Services Ltd — Balance sheet parameters	C-14
09	Medinova Diagnostic Services Ltd- Audited results	C-14
<u>3.0 Countrywise comparison</u>		
01	World health statistics	C-17
02	Human resource for health	C-19
<u>4.0 Health indicators</u>		
01	State-wise birth rate in India	C-23
02	Crude death rates in rural/urban areas in India	C-24
03	State-wise death rate by sex and residence in India in 2007	C-25
04	State-wise life expectancy at birth by sex in India	C-26
05	Life expectancy at birth in India across years	C-27
06	State-wise infant mortality rate by sex and residence in India in 2007	C-28
<u>5.0 Human resources for health in India</u>		
01	State-wise number of medical colleges in India (as on 30th September 2008)	C-29
02	Number of doctors possessing recognised medical qualifications (under I.M.C Act. 1956) and registered with State Medical Councils in India	C-30
03	State-wise total number of practicing doctors registered with Medical Council of India	C-31
04	Number of registered General Nursing Midwifery, Auxiliary Nurse-Midwives and Health Visitors in India	C-32
05	State-wise number of registered nurses in India in 2007	C-33
06	State-wise doctor, nurse and doctor nurse ratio in India	C-34