

HEALTHCARE



JANUARY 2017

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HEALTHCARE



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EXECUTIVE SUMMARY

Fifth largest employer¹

- India is expected to rank amongst the top three healthcare markets in terms of incremental growth by 2020
- In 2015, Indian healthcare sector became the fifth largest employer, both in terms of direct as well as indirect employment, with total direct employment of 4,713,061 people.

Impressive growth prospects

- Indian healthcare sector, one of the fastest growing industries, is expected to advance at a CAGR of 22.87 per cent during 2015–20 to reach USD280 billion by 2020. There is immense scope for enhancing healthcare services penetration in India, thus presenting ample opportunity for development of the healthcare industry

Strong fundamentals

- Rising income levels, ageing population, growing health awareness and changing attitude towards preventive healthcare is expected to boost healthcare services demand in future

Cost advantage

- The low cost of medical services has resulted in a rise in the country's medical tourism, attracting patients from across the world. Moreover, India has emerged as a hub for R&D activities for international players due to its relatively low cost of clinical research

Favourable investment environment

- Conducive policies for encouraging FDI, tax benefits, favourable government policies coupled with promising growth prospects have helped the industry attract private equity, venture capitals and foreign players
- The sector registered 88 funding deals amounting to USD397.41 million as of September 2016

EXECUTIVE SUMMARY

The doctor-to-patient ratio for India, as per the Medical Council of India, stands at 1:1,674, well below the WHO's recommended 1:1,000



2016

USD110 Billion

Healthcare Market Size



Hospitals Bed for every 1050 patients
in 2015



515 organizations
registered for Eye
Banks till 2015



2015

156926-
Number of Sub-
centers

196312 – Number of Hospitals
in India

3601 AYUSH Hospitals



2760 Blood Bank till
February,2015

404 Medical Colleges for
MBBS till 2015

215 Private medical
colleges till 2015



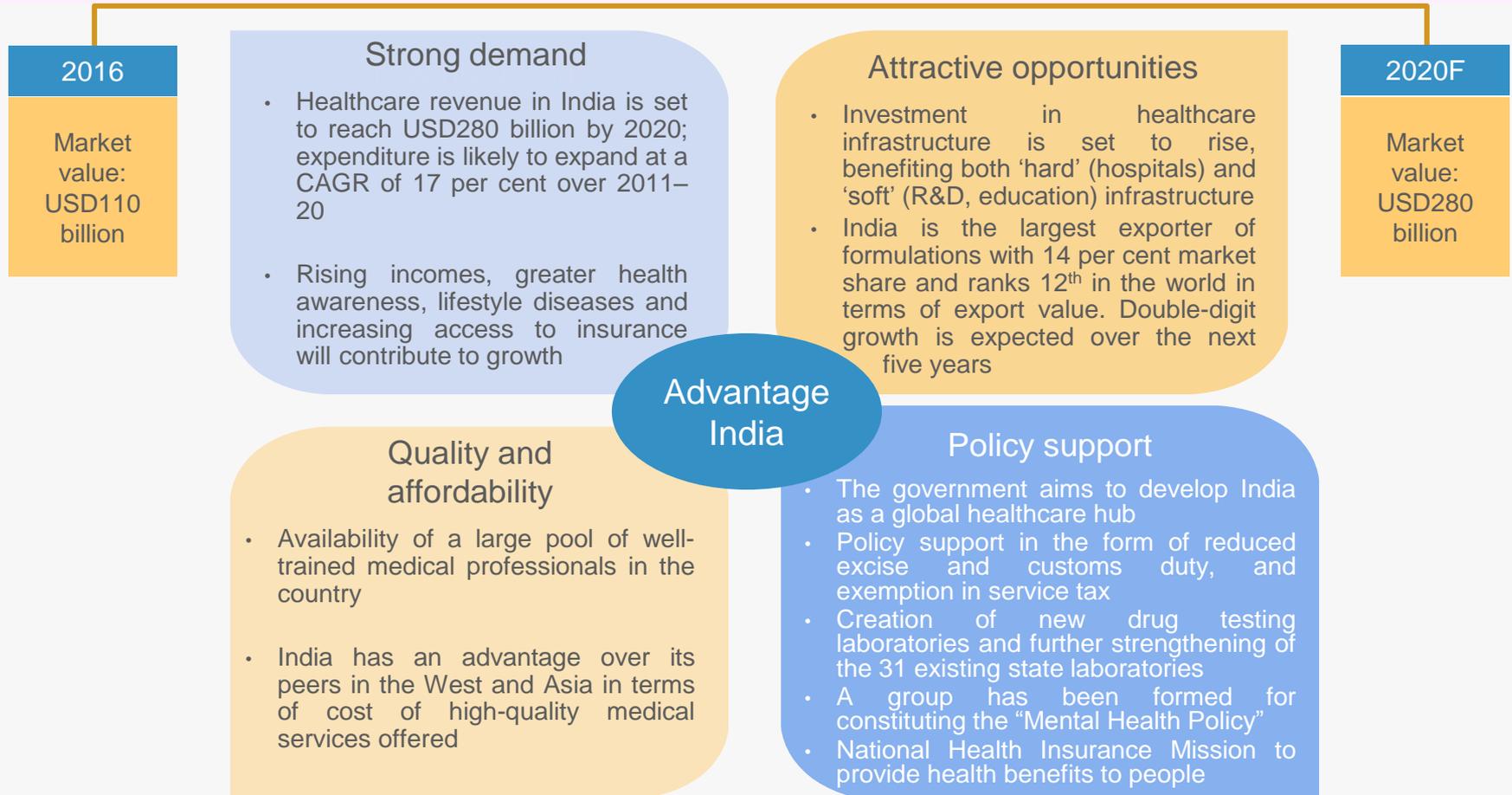
189 Government medical
colleges till 2015

25346 Postgraduate students
per year till 2015

Source: WHO, IMH, Deloitte, EBAI, TechSci Research



ADVANTAGE INDIA



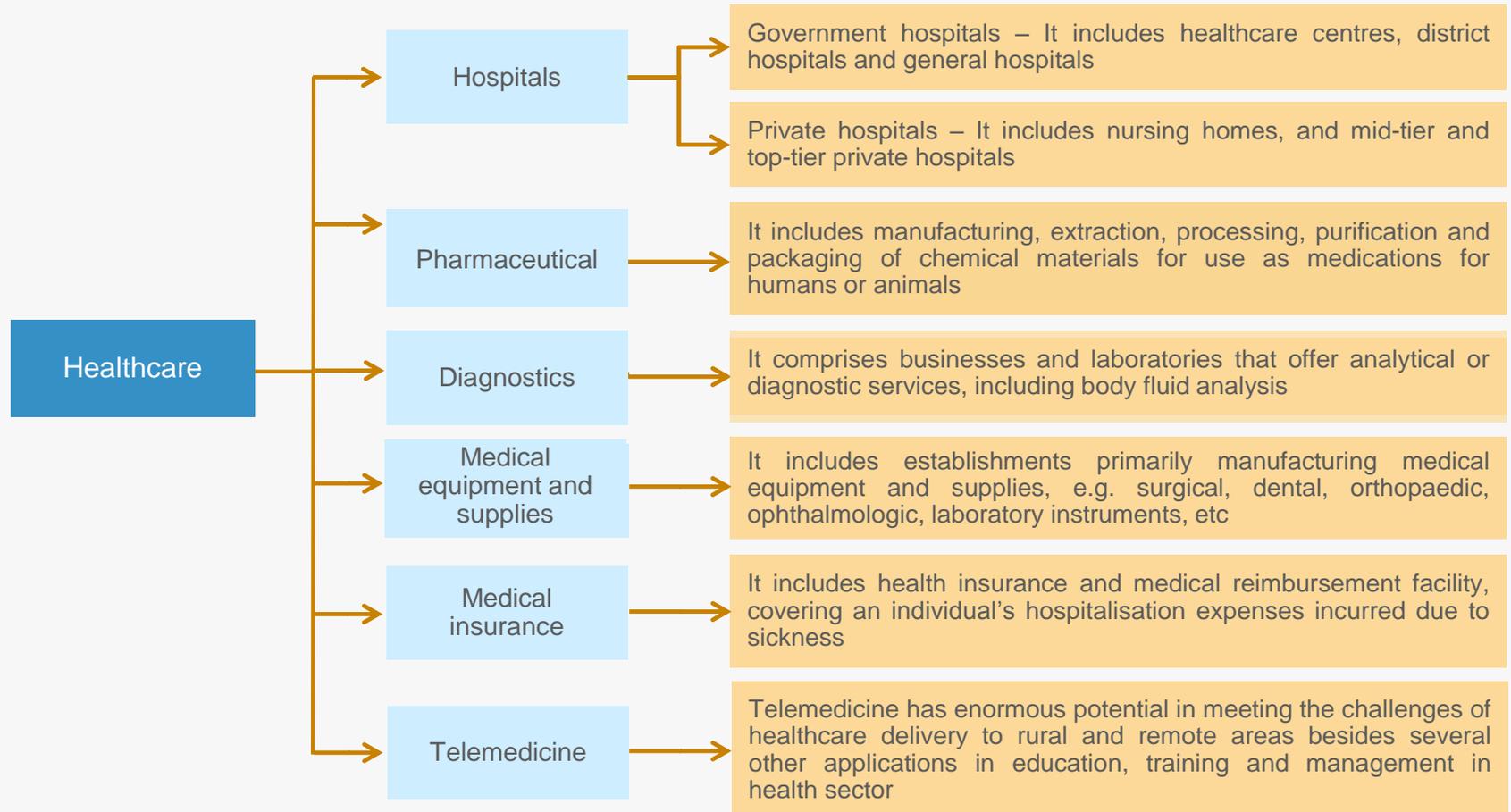
Source: KPMG, Deloitte, Hospital Market – India by Research on India, Frost & Sullivan, LSI Financial Services, 'Report on Healthcare, Telemedicine & Medical Tourism in India' - ASA & Associates LLP, TechSci Research

Notes: R&D – Research and Development, CAGR - Compound Annual Growth Rate, USD – US Dollar, F – Forecast, E - Estimate



MARKET OVERVIEW AND TRENDS

THE HEALTHCARE MARKET FUNCTIONS THROUGH FIVE SEGMENTS

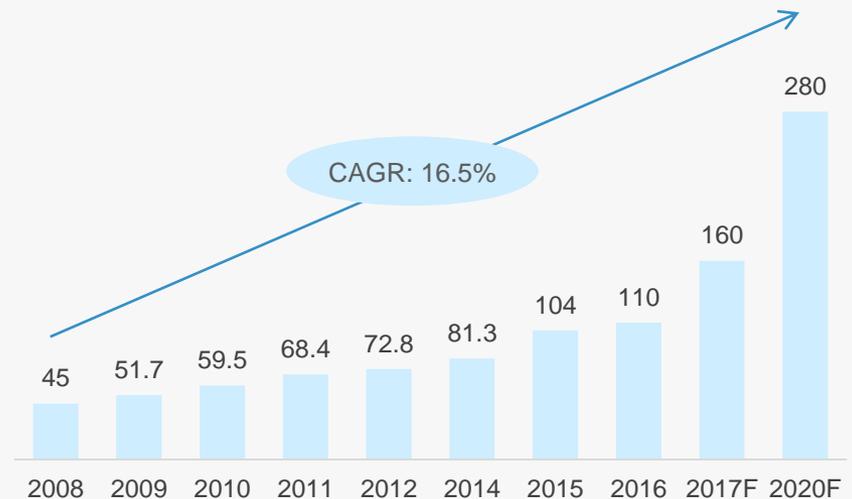


Source: Hospital Market – India by Research on India, TechSci Research

STRONG GROWTH IN HEALTHCARE EXPENDITURE OVER THE YEARS

- * Healthcare has become one of India's largest sectors both in terms of revenue and employment. The industry is growing at a tremendous pace owing to its strengthening coverage, services and increasing expenditure by public as well private players
- * During 2008-20, the market is expected to record a CAGR of 16.5 per cent
- * The total industry size is expected to touch USD160 billion by 2017 and USD280 billion by 2020
- * As per the Ministry of Health, development of 50 technologies has been targeted in the FY16, for the treatment of diseases like Cancer and TB
- * Government is emphasising on the eHealth initiatives such as Mother and Child Tracking System (MCTS) and Facilitation Centre (MCTFC)
- * Indian companies are entering into merger and acquisitions with domestic and foreign companies to drive growth and gain new markets. On December 16, 2016, Sun Pharma completed the acquisition of US based company, Ocular Technologies Sarl.
- * According to NASSCOM, the Indian healthcare market is valued at USD 1 billion in 2016, and is expected to increase by 1.5 times by 2020.

Healthcare sector growth trend (USD billion)

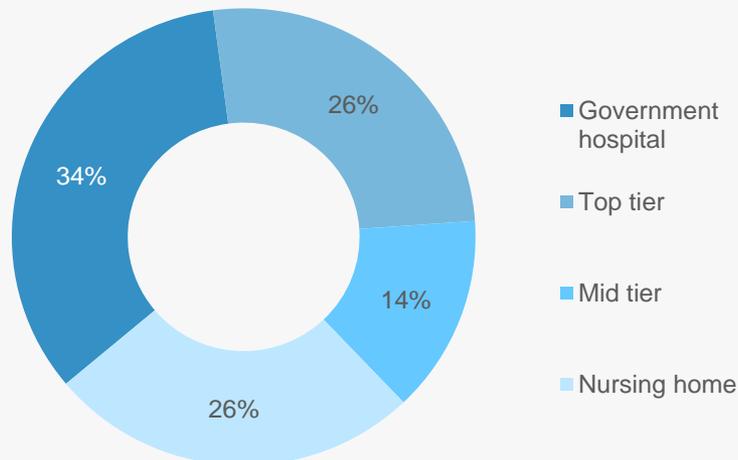


Source: Frost & Sullivan, LSI Financial Services, Deloitte, TechSci Research
Notes: F - Forecast

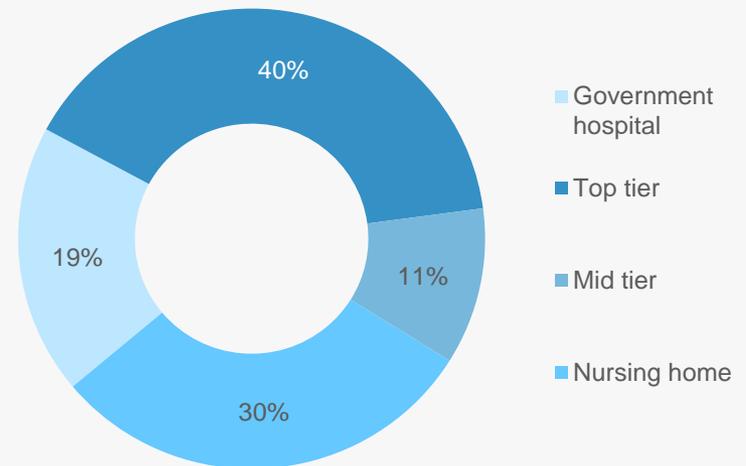
PRIVATE SECTOR HAS A STRONG PRESENCE IN INDIA'S HEALTHCARE SECTOR

- * The private sector has emerged as a vibrant force in India's healthcare industry, lending it both national and international repute
 - * Large investments by private sector players are likely to contribute significantly to the development of India's hospital industry, which comprises around 80 per cent of the total market
 - * In India, private healthcare accounts for almost 74 per cent of the country's total healthcare expenditure
 - * Private sector's share in hospitals and hospital beds is estimated at 74 per cent and 40 per cent, respectively
 - * The main factor contributing to rising medical tourism in India is presence of a well-educated, English-speaking medical staff in state-of-the art private hospitals and diagnostic facilities
 - * In January 2016, Government of Odisha laid the foundation of 100-bed super specialty cardiac care hospital worth USD 11.45 million, to be built in Jharsuguda, under the public-private partnership mode. For this, the state government chose CARE hospital, to manage and operate the hospital.

Shares in healthcare spending in India, 2005



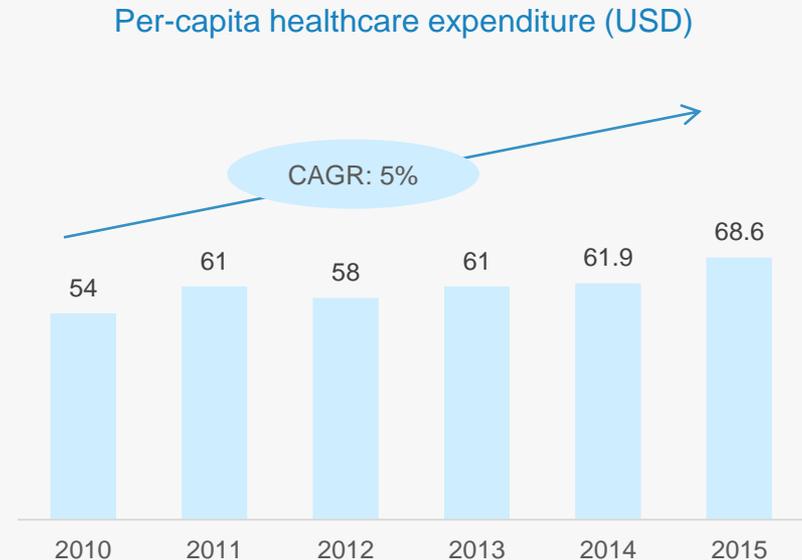
Shares in healthcare spending in India, 2015



Source: A report on 'Indian Hospital Services Market Outlook' by consultancy RNCOS, Grant Thornton, LSI Financial Services, OECD, TechSci research

PER CAPITA HEALTHCARE EXPENDITURE HAS RISEN AT A FAST PACE

- * Per capita healthcare expenditure is estimated at a CAGR of 5 per cent during 2008–15 to USD68.6 by 2015
- * This is due to rising incomes, easier access to high-quality healthcare facilities and greater awareness of personal health and hygiene
- * Greater penetration of health insurance aided the rise in healthcare spending, a trend likely to intensify in the coming decade
- * Economic prosperity is driving the improvement in affordability for generic drugs in the market



Source: World Bank, BMI Report, TechSci Research

KEY PLAYERS IN THE MARKET

	Company	No of beds ⁽¹⁾	Presence
	Apollo Hospitals Enterprise Ltd	9,215	Chennai, Madurai, Hyderabad, Karur, Karim Nagar, Mysore, Visakhapatnam, Bilaspur, Aragonda, Kakinada, Bengaluru, Delhi, Noida, Kolkata, Ahmedabad, Mauritius, Pune, Raichur, Ranipet, Ranchi, Ludhiana, Indore, Bhubaneswar, Dhaka, Bachel, Bellary, Goa, Lavasa, Nashik, Nellore, Trivunnamalai, Trichi
	Aravind Eye Hospitals	3,649	Theni, Tirunelveli, Coimbatore, Puducherry, Madurai, Amethi, Kolkata, Dindigul, Tirupur, Salem, Tuticorin, Udumalpet
	CARE Hospitals	2,100	Hyderabad, Vijayawada, Nagpur, Raipur, Bhubaneswar, Surat, Pune, Visakhapatnam, Jabalpur, Raigarh
	Fortis Healthcare Ltd	10,000	Mumbai, Bengaluru, Kolkata, Mohali, Noida, Delhi, Amritsar, Raipur, Jaipur, Chennai, Kota, Faridabad, also the company present in Singapore, Dubai, Mauritius and Sri Lanka
	Max Hospitals	2016	Delhi, NCR, Punjab, Uttarakhand
	Manipal Group of Hospitals	4,900	Udupi, Bengaluru, Manipal, Attavar, Mangalore, Goa, Tumkur, Vijaywada, Kasaragod, Visakhapatnam
	Narayana Health	7452	Ahmedabad, Bengaluru, Berhampore, Davangere, Dharwad, Durgapur, Guwahati, Hyderabad, Jaipur, Jamshedpur, Kolar, Kolkata, Kuppam, Mahuva, Mysore, Raipur, Shimoga, Bellary, Palanpur

Source: Company websites, Fortis Red Herring Prospectus, TechSci Research
Note: ⁽¹⁾ No of beds include owned subsidiaries, Joint Ventures and affiliations, Data mentioned is as per latest data available

NOTABLE TRENDS IN THE INDIAN HEALTHCARE SECTOR ... (1/2)

Shift from
communicable to
lifestyle diseases

- With increasing urbanisation and problems related to modern-day living in urban settings, currently, about 50 per cent of spending on in-patient beds is for lifestyle diseases; this has increased the demand for specialised care. In India, lifestyle diseases have replaced traditional health problems. Most lifestyle disease are caused by high cholesterol, high blood pressure, obesity, poor diet and alcohol

Expansion to tier-II and
tier-III cities

- Vaatsalya Healthcare is one of the first hospital chains to start focus on Tier 2 and Tier 3 for expansion
- There is substantial demand for high-quality and specialist healthcare services in tier-II and tier-III cities
- To encourage the private sector to establish hospitals in these cities, the government has relaxed the taxes on these hospitals for the first five years

Management contracts

- Many healthcare players such as Fortis and Manipal Group are entering management contracts to provide an additional revenue stream to hospitals

Emergence of
telemedicine

- Telemedicine is a fast-emerging sector in India; many major hospitals (Apollo, AIIMS, Narayana Hrudayalaya) have adopted telemedicine services and entered into a number of PPPs
- As of FY16, telemedicine market in India was valued at USD15 million, and is expected to rise at a CAGR of 20 per cent during FY16-20, reaching to USD32 million by 2020
- Telemedicine can bridge the rural-urban divide in terms of medical facilities, extending low-cost consultation and diagnosis facilities to the remotest of areas via high-speed internet and telecommunication.
- In 2015, Maharashtra government launched the tele medicine projects in rural areas. The projects will be initiated in across five sites on pilot basis

Source: IRDA, CII, Grant Thornton, Gartner, Technopak, TechSci Research
Note: PPP is Public – Private Partnerships, Management contracts - An arrangement under which operational control of an enterprise is given to a separate entity for a fee

NOTABLE TRENDS IN THE INDIAN HEALTHCARE SECTOR ... (2/2)

Increasing penetration of health insurance

- In FY16 (till November 2015), gross direct premium income from health insurance stood at 25.4 per cent of overall gross direct premium income for non life insurance segment
- Health insurance is gaining momentum in India; witnessing growth at a CAGR of 15.36 per cent, during FY08-16, gross healthcare insurance premium in 2016 stood at USD2.8 billion
- This trend is likely to continue, benefitting the country's healthcare industry

Mobile-based health delivery

- Strong mobile technology infrastructure and launch of 4G is expected to drive mobile health initiatives in the country
- Cycle tel Humsafar is a SMS based mobile service designed for women, it enables women to plan their family in a better way
- Currently, there are over 20 mobile health service initiatives in the country for spreading awareness about family planning and other ailments
- Mobile health industry in India is expected to reach USD0.6 billion by 2017

Technological initiatives

- To standardise the quality of service delivery, control cost and enhance patient engagement, healthcare providers are focusing on the technological aspect of healthcare delivery
- Digital Health Knowledge Resources, Electronic Medical Record, Mobile Healthcare, Electronic Health Record, Hospital Information System, PRACTO, Technology-enabled care, telemedicine and Hospital Management Information Systems are some of the technologies gaining wide acceptance in the sector
- All India Institute of Medical Sciences (AIIMS) to convert all its payment transaction cashless, for which it has associated with mobile wallet company, MobiKwik, in January 2017.

Luxury offering

- A new trend is emerging as luxury offerings in healthcare sector. More than essential requirements, healthcare providers are making offerings of luxurious services. For example: pick and drop services for patient by private helicopters and luxurious arrangements for visitors to patient in hospital



PORTERS FIVE FORCES ANALYSIS

PORTER'S FIVE FORCES ANALYSIS

Competitive Rivalry

- Increase in number of private players in the market has led to increased competition
- However number of hospitals is still low compared to the requirement so there is not much competition in the market

Threat of New Entrants

- Big threat of new entrants in the industry
- Number of players has increased considerably in recent times

Substitute Products

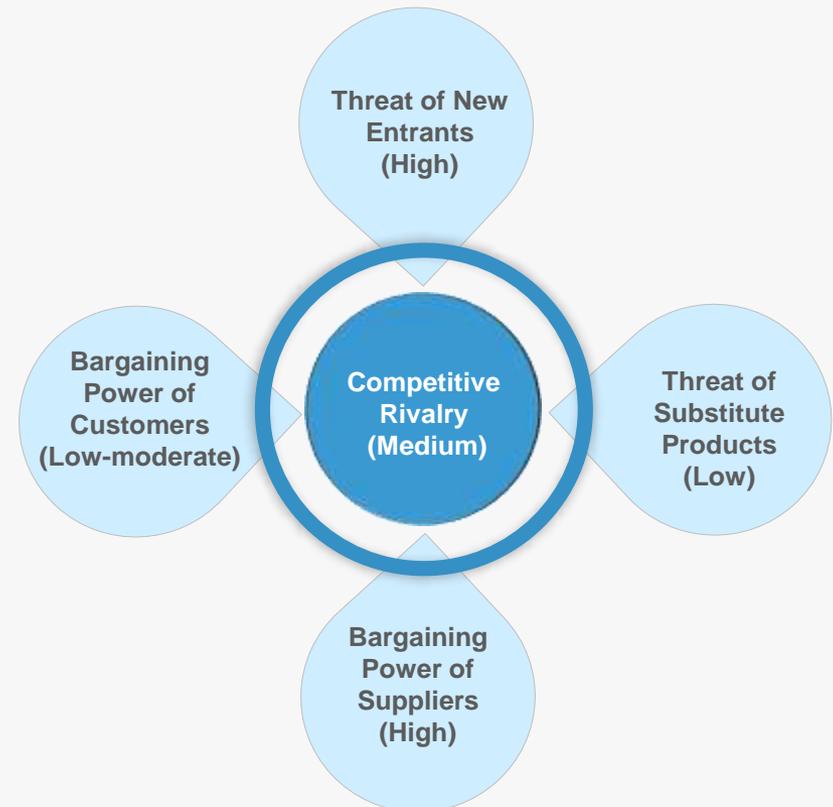
- Customers may go for public hospitals which are inexpensive
- Customers might go for E-Health

Bargaining Power of Suppliers

- Bargaining power of suppliers in this industry is high because quality of products and timely delivery matter and there are less number of quality suppliers

Bargaining Power of Customers

- Bargaining power of customers is low because of trust and loyalty however increase in number of options has given customers some bargaining power



Source: TechSci Research



STRATEGIES ADOPTED

STRATEGIES ADOPTED

Cost leadership

- Private players in the industry are making their supply chain efficient and leveraging economies of scope to reduce cost. One such example is Narayan Hrudayalaya (NH) where health care is provided at affordable cost. NH reduces cost by
 - High procurement of medical supplies
 - High-volume by high capacity utilisation and staff productivity
 - Good human capital management (i.e. training)
- Leveraging the benefit of Information Technology to reduce cost and improve healthcare delivery

Differentiation

- Players in the industry are trying to differentiate themselves by providing multiple health care services under one roof. In 2015, Many Hospitals have collaborated with government to provide healthcare facilities in rural areas
- Players are also trying to provide better services to differentiate themselves

Focus

- Certain players in industry focus only on providing one kind of health care service to its customers. This also helps them to be the leader in that service. Many examples can be quoted for hospitals focusing on treatment of cancer and providing leading cancer treatment and eye related problems and treatments in India.

Diversified business approach

- Offering a range of healthcare and wellness services under a single brand has become a trend. Patients and healthcare services seekers find it convenient. Demand of such arrangements boosts the healthcare sector.

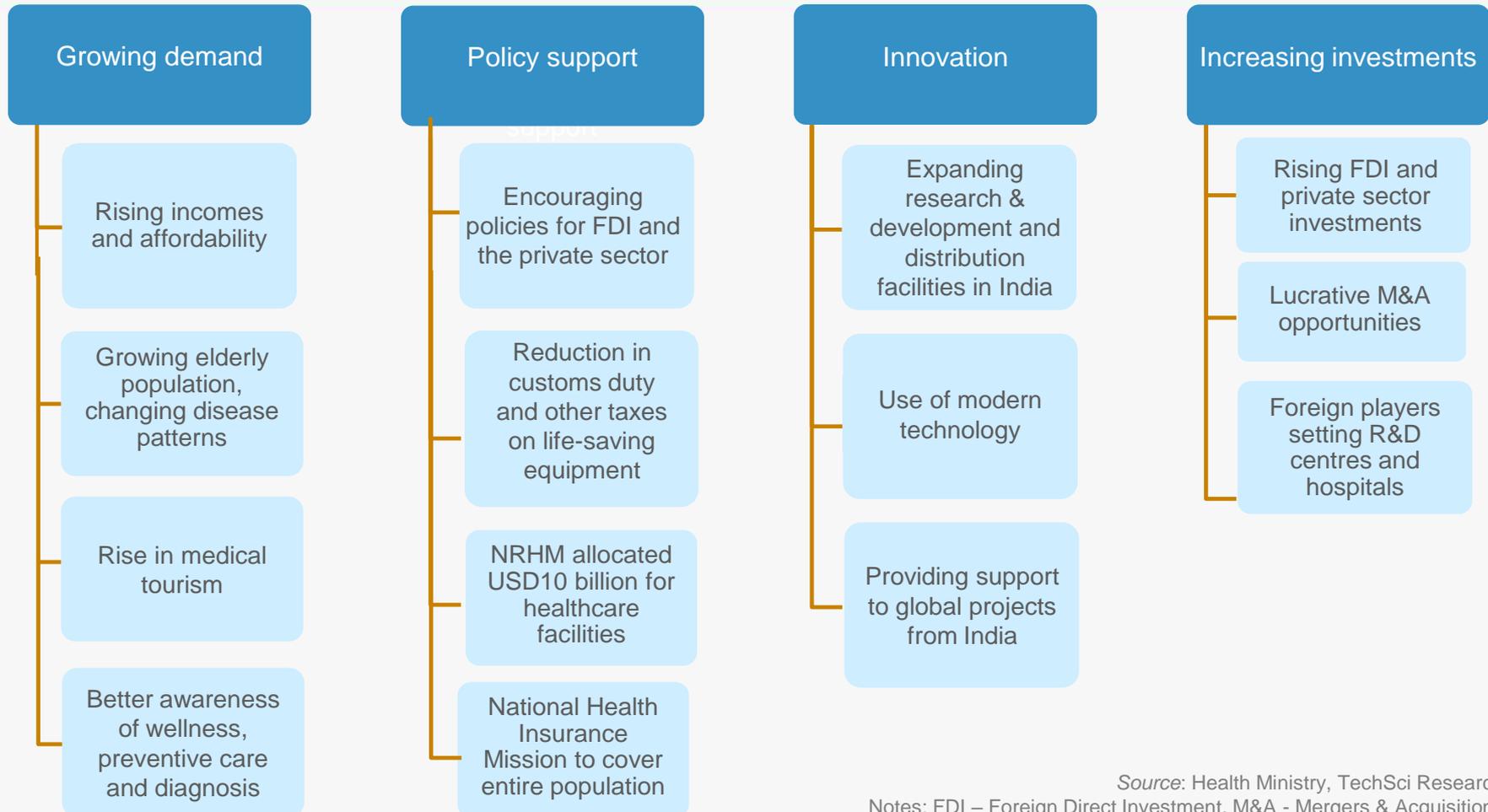
Merger & Acquisitions

- Strides Shasun entered into an agreement with Perrigo API India to acquire its business for USD 14.94 million. Global pharma companies are aiming to drive growth and diversify products through mergers and acquisitions.



GROWTH DRIVERS

INDIAN HEALTHCARE SECTOR IS POISED TO GROW

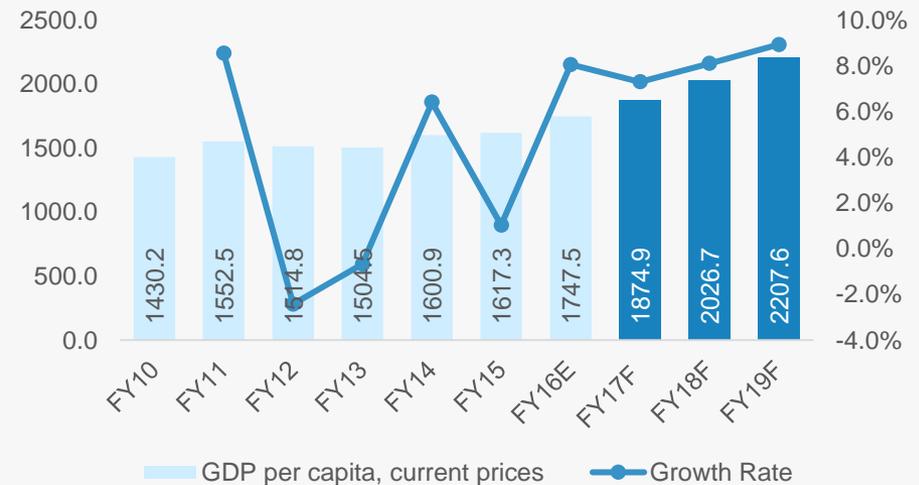


Source: Health Ministry, TechSci Research
Notes: FDI – Foreign Direct Investment, M&A - Mergers & Acquisitions
NRHM - National Rural Health Mission

RISING INCOME, AGEING POPULATION TO BE KEY HEALTHCARE DEMAND DRIVER

- * Rising incomes mean a steady growth in the ability to access healthcare and related services
 - * During 2015-19, per capita income is expected to increase at a CAGR of 8.09 per cent
 - * Per capita expenditure on healthcare in India is USD68.6 billion
- * Moreover, changing demographics will also contribute to greater healthcare spending; this is likely to continue with the size of the elderly population set to rise from the current 98.9 million to about 168 million by 2026

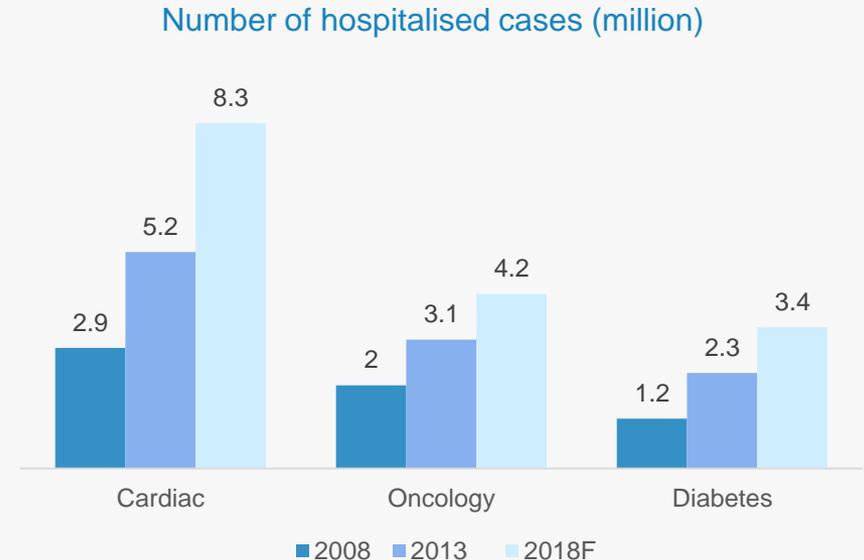
Trends in per capita income in India (USD)



Source: IMF, World Bank Data, Population Reference Bureau, TechSci Research
Note: E- Estimated F – Forecasts

LIFESTYLE DISEASES AND GROWING AWARENESS TO INCREASE HOSPITALISATION

- * The purported rise of lifestyle diseases in India is expected to boost industry sales figures
- * Increased incidences such as heart disease, obesity and diabetes have contributed to rising healthcare spending by individuals
- * Growing health awareness and precautionary treatments coupled with improved diagnostics are resulting in an increase in hospitalisation
- * Indian system of healthcare, Ayurveda has unique therapies which are beneficial for treatment of many chronic lifestyle disorders and thus attracting more number of patients to avail these services in India
- * CAGR of hospitalised cases from 2008 – 18:
 - * Cardiac – 18 per cent
 - * Oncology – 16 per cent
 - * Diabetes – 19 per cent



Source: Apollo Investor Presentation March 2016,
TechSci Research
Note: F - Forecast

MEDICAL TOURISM: A NEW GROWTH FACTOR FOR INDIA'S HEALTHCARE SECTOR

- * Presence of world-class hospitals and skilled medical professionals has strengthened India's position as a preferred destination for medical tourism
- * Superior quality healthcare, coupled with low treatment costs in comparison to other countries, is benefiting Indian medical tourism which has, in turn, enhanced the prospects of the Indian healthcare market
 - * Treatment for major surgeries in India costs approximately 20 per cent of that in developed countries
- * India also attracts medical tourists from developing nations due to lack of advanced medical facilities in many of these countries
- * As of 2016, medical tourism market in India is estimated to be around USD3.9 billion and is expected to reach USD8 billion by 2020. During 2013-16, the country's medical tourism market witnessed growth at a CAGR of 27 per cent
- * Inflow of medical tourists is expected to cross 3.2 million by 2015 compared to 0.85 million in 2012
- * Yoga, meditation, ayurveda, allopathy and other traditional methods of treatment are major service offerings that attract medical tourists from European nations and the Middle East to India

Source: Ministry of Health, RNCOS, KPMG, Deloitte, Medical Tourism Association, LSI Financial Services, Apollo Investor Presentation, TechSci Research

RE-EMERGENCE OF TRADITIONAL MEDICAL CARE

Market size

- The traditional (ayurvedic) medical care market in India was valued at about USD2.7 billion in 2014, and this is expected to rise at a CAGR of 20 per cent over 2011–15. In 2015, Government of India has approved All India Institute of Ayurveda in New Delhi, it would be a 200 bedded hospital

Services offered

- Ayurvedic medicines offer traditional Indian health remedies based on natural and herbal ingredients
- The sector has broadened its offerings and now includes services on diet and nutrition, yoga, herbal medicine, humour therapy and spa

Leading brands and players

- Himalaya, Shri Baidyanath, Zandu, Hamdard are among the leading ayurvedic brands in India
- Many big players such as Apollo, VLCC and Manipal Group are also setting up wellness centres across India, with traditional healthcare remedies as the focus of their offerings

Notable trends

- The traditional medical sector is developing Traditional Knowledge Digital Library to prevent companies from claiming patents on such remedies
- There is growing interest from numerous private equity firms in the traditional healthcare sector in India
- 6,200 indigenous herbal plants

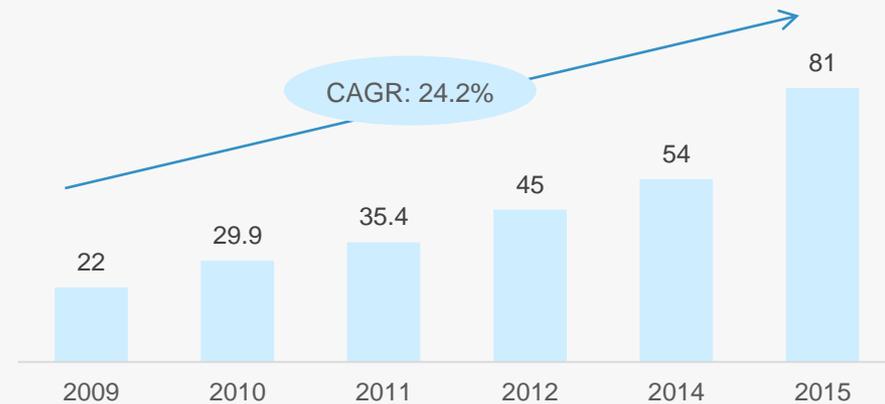
Developing infrastructure

- In Union Budget 2015-16, USD2.5 billion for development of medicinal plants
- In April 2014, country has developed vast AYUSH infrastructure comprising over 8 lacs registered practitioners, 25492 dispensaries and 3601 hospitals
- In Union Budget 2016-17, the plan outlay for AYUSH is estimated at USD160.4 million
- In 2015, number of hospitals increased to 196312 and number of sub centres reached to 156926

PRIVATE PLAYERS ARE KEY CONTRIBUTORS TO GROWTH IN NUMBER OF HOSPITALS

- * A major portion of secondary, tertiary and quaternary healthcare institutions comes from private sector with a concentration in metros, tier II and tier I cities.
- * Large investments by private sector players are likely to contribute significantly to the development of India's hospital industry and the sector is poised to grow to USD100 billion by 2015 and further to USD280 billion by 2020
- * The private hospital market in India is estimated at USD81.0 billion at the end-of 2015
- * During 2009–15, the market size of private hospitals is estimated to have a CAGR of 24.2 per cent
- * Increase in number of hospitals in Tier-II and Tier-III cities has fuelled the growth of private sector

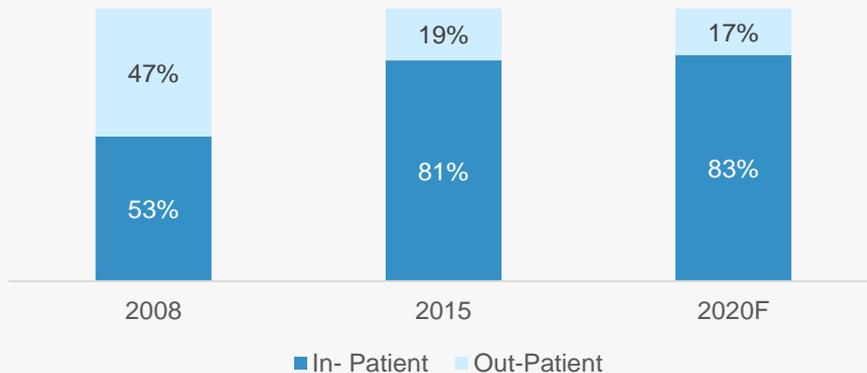
Market size of private hospitals (USD billion)



Source: WHO Statistical Information System, Indian Chamber of Commerce, Yes Bank, TechSci Research

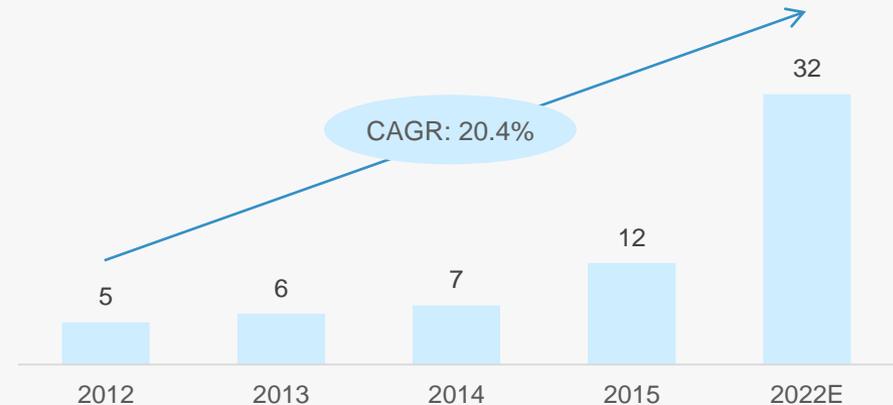
GROWING IN-PATIENT / OUT-PATIENT AND DIAGNOSTIC MARKET

Market size of In-patient/Out-patient



- ✳ Over 2015-20, the In-Patient market is expected to grow at a CAGR of 13 per cent
- ✳ Over 2015-20, the Out-Patient market is expected to grow at CAGR of 10 per cent
- ✳ As of 2016, the inventory of all bio-medical equipment stood around 7,56,750 worth USD 697.21 million in 29,115 health facilities of India

Market size of diagnostic market (USD billion)



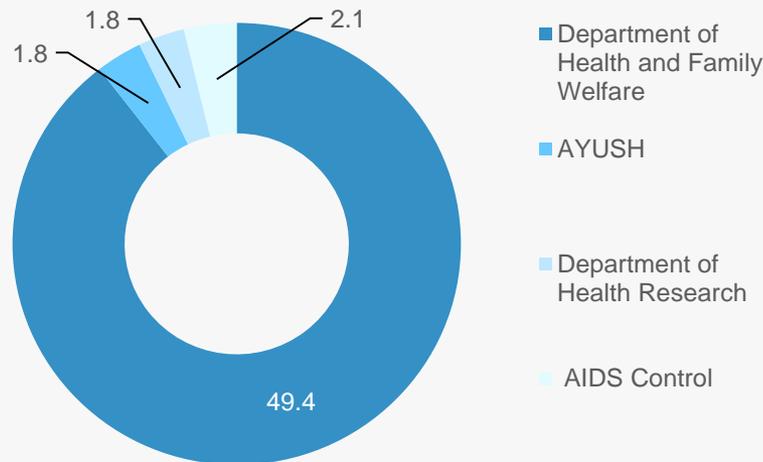
- ✳ Over 2012-22, diagnostic market is expected to grow at a CAGR of 20.4 per cent to USD32 billion from USD5 billion in 2012
- ✳ Sub-sector of diagnostic, IVD Equipment market is expected to grow at a CAGR of around 15 per cent from 2012 to 2015
- ✳ Diagnostic market is split between imaging and pathology with 30 per cent and 70 per cent share respectively

Source: Apollo Investor Presentation, Apollo Hospitals Annual Report 2015, Fortis Investor Presentation, TechSci Research
Notes: E - Estimates, F – Forecast, IVD - In Vitro Diagnostic

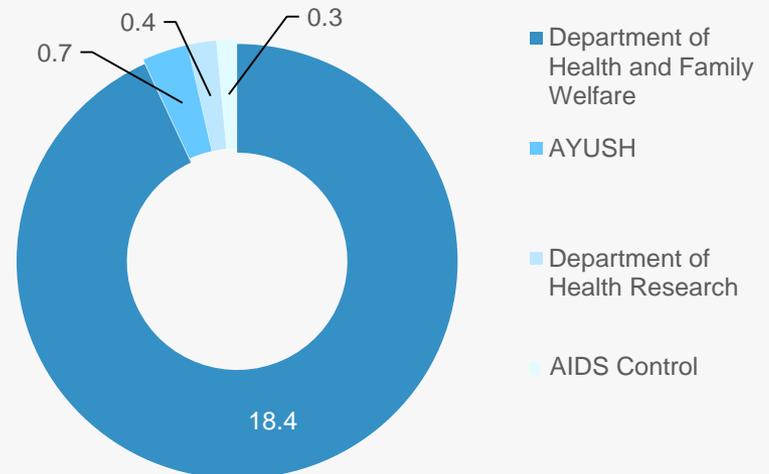
HEALTHCARE IS A KEY FOCUS AREA UNDER THE 12TH FIVE-YEAR PLAN (2012–17)

- * The NITI Aayog has allocated USD55 billion under the 12th Five-Year Plan to the Ministry of Health and Family Welfare, which is about three times the actual expenditure under the 11th Five-Year Plan
 - * The share of healthcare in total plan allocation is set to rise to 2.5 per cent of GDP in the 12th Plan from 0.9 per cent in the 11th Plan
- * The 12th plan focusses on providing universal healthcare, strengthening healthcare infrastructure, promoting R&D and enacting strong regulations for the healthcare sector
- * Establishing a system of Universal Health Coverage (UHC) in the country that means each individual would have assured access to a defined essential range of medicines and treatment at an affordable price, which should be entirely free for a large percentage of the population

Proposed budget allocation for Departments of Ministry of Health and Family Welfare under 12th Plan (USD billion)



Budget allocation for Departments of Ministry of Health and Family Welfare under 11th Plan (USD billion)



STRONG POLICY SUPPORT CRUCIAL IN DEVELOPING THE SECTOR ... (1/3)

Encouraging the private sector

- The benefit of section 10 (23 G) of the IT Act has been extended to financial institutions that provide long-term capital to hospitals with 100 beds or more
- Government is encouraging the PPP model to improve availability of healthcare services and provide healthcare financing.
- Till October 2015, five projects under PPP have been completed and has become operational
- As per Union Budget 2016-17, major healthcare service providers such as Apollo and Fortis are striving for incentive packages, which include ten year tax holiday on hospital projects in order to encourage investment in healthcare sector

Encouraging investments in rural areas

- The benefit of section 80-IB has been extended to new hospitals with 100 beds or more that are set up in rural areas; such hospitals are entitled to 100 per cent deduction on profits for five years

Tax incentives

- All healthcare education and training services are exempted from service tax
- Increase in tax holiday under section 80- IB for private healthcare providers in non metros for minimum of 50 bedded hospitals
- 250 per cent deduction for approved expenditure incurred on operating technology enables healthcare services such as tele medicine , remote radiology
- Excise duty on chassis for ambulance reduced from 24 per cent to 12.5 per cent
- Artificial heart is exempted from basic custom duty of 5 per cent
- Income tax exemption for 15 years for domestically manufactured medical technology products

Biomedical Equipment Management and Maintenance Program (BMMP)

- In December 2016, Health Ministry undertook BMMP to avoid wastage of either unused medical equipment or used. The programme will ensure the proper maintenance of medical equipment that are used in hospitals.

STRONG POLICY SUPPORT CRUCIAL IN DEVELOPING THE SECTOR ... (2/3)

National Health Policy 2015 Draft

- The primary aim is to inform, clarify, strengthen and priorities government's role in shaping the health systems
- The policy envisage to address the need for improving health systems
- An initiative taken by the Government to leverage economic growth so as to achieve better health outcomes which would contribute to improved productivity as well as equity
- The policy framework ensures health assurance and universal access to affordable healthcare services in an assured mode

Incentives in the medical travel industry

- Incentives and tax holidays are being offered to hospitals and dispensaries providing health travel facilities. Senior citizens above 80 years of age will be allowed deduction of USD491 towards medical expenditure if they are not covered under health insurance

Fund allocation by government

- In Union Budget, 2015-16, Government has allocated USD5.4 billion for healthcare sector development. Government has raised health insurance premium amount from USD245 to USD409 and for senior citizens amount has been increased from USD327 to USD491
- Additional amount of USD458.3 would be provided to the senior citizens as per the provisions made under Union Budget 2016-17
- As per Union Budget 2016-17, using funds through public-private partnership (PPP), National Dialysis Service Programme is announced to be launched at all district hospitals
- Under Budget 2016-17, the government announced its plans to launch a new health protection scheme, which would cover an amount of ~USD1470 per family
- 3,000 medical stores are to be set up across the country with an aim to provide quality medicines at cost effective prices

STRONG POLICY SUPPORT CRUCIAL IN DEVELOPING THE SECTOR ... (3/3)

Medical institution

- Allocation of USD82.6 million to set up four more institutions of the stature of AIIMS in Andhra Pradesh, West Bengal, Maharashtra and Uttar Pradesh

Laboratories

- Creation of new drug testing laboratories and further strengthening of the 31 existing state laboratories

Union Budget 2016-17

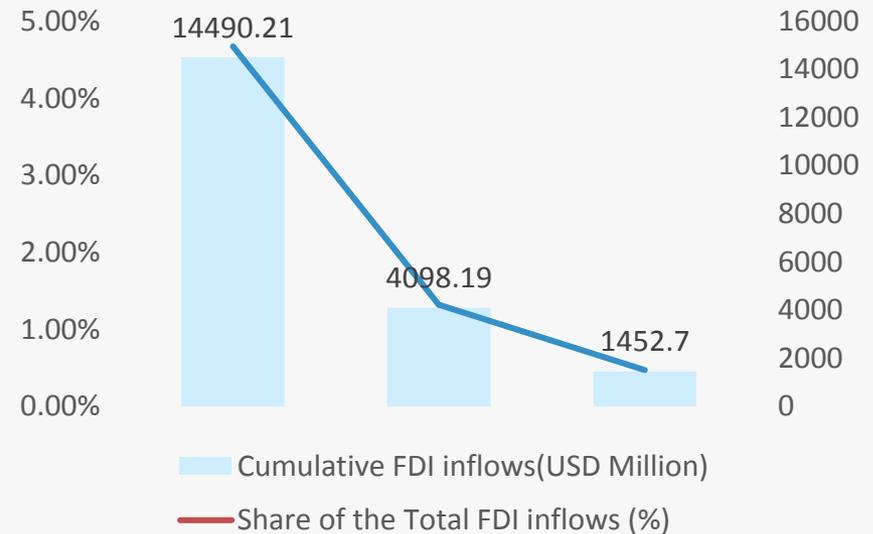
- Ministry of Health and Family Welfare allocated USD5.5 billion for FY16
- Creation of new National Health Mission (NHM) for providing effective healthcare to both urban and rural population, with emphasis on states with weak health infrastructure and indicators
- NHM extended to encompass Ayurveda, Unani, Siddha and Homeopathy to strengthen traditional medical forms
- Scope of Rashtriya Swasthya Bima Yojana (RSBY) enhanced to include rickshaw pullers, taxi drivers, sanitation workers, rag pickers and mine workers
- Fund allocation to provide accessible and affordable services to elderly under National Programme for the Health Care of Elderly
- Allocation of USD875.4 million for improving medical education, training and research
- As per Union Budget 2016-17, the plan outlay for the Department of Health Research is estimated at USD114.57 million, which is inclusive of the amount allocated for benefit of projects in NER and Sikkim

Source: Union Budget FY16, Union Budget FY2016-17, TechSci Research
Note: NER – North Eastern Region

SUPPORTIVE POLICIES DRIVE FDI INFLOWS

- * 100 per cent FDI is allowed under the automatic route for greenfield projects
- * For brownfield project investments, up to 100 per cent FDI is permitted under the government route
- * Demand growth, cost advantages and policy support have been instrumental in attracting FDI
- * During April 2000 – September 2016, FDI inflows for drugs and pharmaceuticals sector stood at USD14,490.21 million
- * Inflows into sectors such as hospitals & diagnostic centers and medical appliances stood at USD4.1 billion and USD1.45 billion, respectively, during the same period

FDI inflows (From April 2000 Up to September 2016) into the healthcare sector (USD million)



Source: Department of Industrial Policy & Promotion, TechSci Research
Note: FDI – Foreign Direct Investment

INDIA'S COMPETITIVE ADVANTAGE IN HEALTHCARE OVER PEERS DRIVING INVESTMENTS

- * India's primary comparative advantage lies in its–
 - * Large pool of well-trained medical professionals in the country
 - * Cost advantage compared to peers in Asia and Western countries
 - * Cost of surgery in India is one-tenth of that in the US or Western Europe
 - * Increased success rate of Indian companies in getting Abbreviated New Drug Application (ANDA) approvals
- * The country offers vast opportunities in R&D as well as medical tourism.
- * During 2016 (up to November), 82 health tech companies raised about USD 80 million

Opportunities for investments in healthcare

Diagnostic & pathology services	High cost differential in India allows for outsourcing of pathology and laboratory tests by foreign hospital chains. Metropolis and SRL are renowned names in India for providing diagnostic services
Clinical trials	India offers both a huge patient pool, favourable regulatory environment and cost advantage for conducting clinical trials
Health insurance	Less than 25 per cent of the Indian population is covered by any kind of health insurance; this provides significant opportunity to a new player in the health insurance market. Under National Health Insurance Mission, private hospitals are enrolled by government to offer guaranteed health benefits to people
Telemedicine	Provides access to better quality healthcare in rural areas. In 2015, government has launched 'Sehat' telemedicine initiative. Telemedicine can provide access for basic, specialty and super specialty to rural population
Equipment	Huge untapped market of medical equipment in the country. Medical equipment market has 9 per cent share in overall healthcare market and it has great potential to grow with improving diagnostic technology

SECTOR IS ATTRACTING LUCRATIVE M&A DEALS

- * Pharma, healthcare and biotech have witnessed significant increases in M&A activities over the years; over the last three years, pharmaceuticals segment has accounted for more than 70 per cent of M&A deals
- * In the first nine months of 2015, mergers and acquisitions deals in pharmaceuticals sector has reached USD1.7 billion in India

Indian partner	Foreign players	Type of business	Stake (%)	Year
Continental Hospitals Limited	IHH Healthcare Berhad	Healthcare	51%	2016
Cipla	InvaGen Pharmaceuticals Inc. and Exelan Pharmaceuticals Inc.	Pharmaceuticals	100%	2016
Famy Care Ltd	Mylan Inc – Mylan Laboratories Limited	Pharma, healthcare & biotech	100%	2015
Nitin Lifesciences	Recipharm	Pharmaceuticals	74%	2015
Lupin Pharmaceuticals Inc.	Temmler	Pharmaceuticals	100%	2015
Panacea Biotec Ltd	Apotex Inc	Pharmaceutical	-	2014
Lupin Pharmaceutical Inc	Grin	Pharma, healthcare and biotech	-	2014
Medreich Ltd.	Meiji Seika Pharma	Pharmaceutical	100%	2014
Wyeth Ltd	Pfizer Ltd	Pharma, healthcare and biotech	-	2013
Torrent Pharmaceuticals	Elder Pharmaceuticals	Pharma, healthcare & biotech	100.0	2013

Source: Grant Thornton Dealtracker, TechSci research; Note: M&A – Mergers and Acquisitions

HEALTHCARE SECTOR, A HOT SPOT FOR PE INVESTORS

Investee	Investor	Type of business	Stake (%)	Year
Continental Hospitals Limited	IHH Healthcare Berhad	Pharmaceuticals	73.4%	2016
Cipla	InvaGen Pharmaceuticals Inc. and Exelan Pharmaceuticals Inc.	Pharmaceuticals	100%	2016
Famy Care Ltd	Mylan Inc – Mylan Laboratories Limited	Pharmaceuticals	100%	2015
Nitin Life Sciences	Recipharm	Pharmaceuticals	75%	2015
Temmler	Lupin	Pharmaceuticals	100%	2015
Chrys Capital	GVK Biosciences	Contract research	10%	2015
Gavis & Novel laboratories	Lupin	Pharmaceuticals	100%	2015
Cadila Healthcare	Claris Lifesciences	Injectables	100%	2015
Nova Specialty Hospitals	Apollo Hospitals	Healthcare service	-	2015
Laurus Labs Pvt. Ltd.	Warburg Pincus	Pharma & Healthcare	32%	2014
Krishna Institute of Medical Sciences Limited	ICICI Venture	Healthcare Service	28%	2014

Source: Grant Thornton Dealtracker, TechSci Research; Note: PE – Private Equity



OPPORTUNITIES

OPPORTUNITIES IN HEALTHCARE

Healthcare infrastructure

- Additional 3 million beds needed for India to achieve the target of 3 beds per 1,000 people by 2025
- Additional 1.54 million doctors and 2.4 million nurses required to meet the growing demand for healthcare
- Investment of USD86 billion required to achieve these targets. The healthcare sector in India is anticipated to reach USD110 billion from USD104.49 billion in 2015
- Over USD200 billion is expected to be spent on medical infrastructure by 2024

Research

- Contract research is a fast growing segment in the Indian healthcare industry
- Cost of developing new drugs is as low as 60 per cent of the testing cost in the US
- About 60 per cent of global clinical trials is outsourced to developing countries
- The Contract Research and Manufacturing Services industry (CRAMS) is estimated at USD8 billion in 2015, up from USD3.8 billion in 2012. The market has more than 1000 players

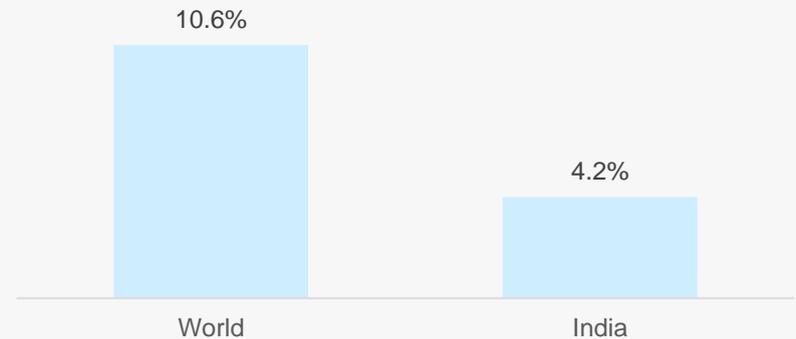
Medical tourism

- The Indian medical tourism industry is expected to reach USD8 billion by 2020 from USD3.9 billion in 2016, growing at a CAGR of 27 per cent over 2013-16
- In 2015, India is likely to see 3.2 million medical tourists annually
- Cost of surgery in India is nearly one-tenth of the cost in developed countries
- There are 21 Joint Commission International (JCI) - accredited hospitals in India and growing

SCOPE FOR GROWTH, AS HEALTHCARE SERVICES REMAIN UNDER-REPRESENTED

- * Huge scope for enhancing healthcare services considering that healthcare spending as a percentage of GDP
- * Rural India, which accounts for over 70 per cent of population and is set to emerge as a potential demand source
 - * Only 3 per cent of specialist physicians cater to rural demand
- * Vast opportunities for investment in healthcare infrastructure in both urban and rural India
 - * About 1.8 million beds required by the end of 2025
 - * Additional 1.54 million doctors and 2.4 million nurses required to meet the growing demand

Healthcare spending as a percentage of GDP (2015)

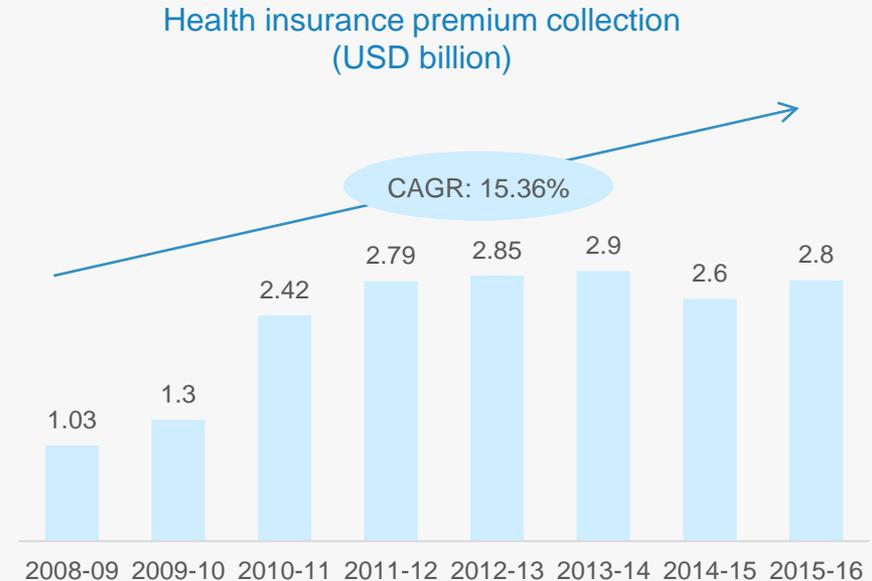


Health infrastructure per 1000 individual (2013- 2015)			
	Physicians	Nurses and midwifery personnel	Hospital beds
India	0.7	1.5	1 ⁽¹⁾
World median	2.5	2.5	2.9

Source: WHO World Health Statistics 2015, E&Y, LSI Financial Services, Fortis Investor Presentation, TechSci Research
(1): 1 bed for every 1050 patients

OPPORTUNITIES IN HEALTH INSURANCE

- * As per latest data, less than 15 per cent of the Indian population is covered through health insurance
- * Increasing healthcare cost and burden of new diseases along with low government funding is raising demand for health insurance coverage
- * Many companies offer health insurance coverage to employees, driving market penetration of insurance players
- * By 2015, spending through health insurance will reach 8.4 per cent of total health spending, up from 6.4 per cent in 2009–10
- * The share of population having medical insurance is likely to rise to 20 per cent by 2015



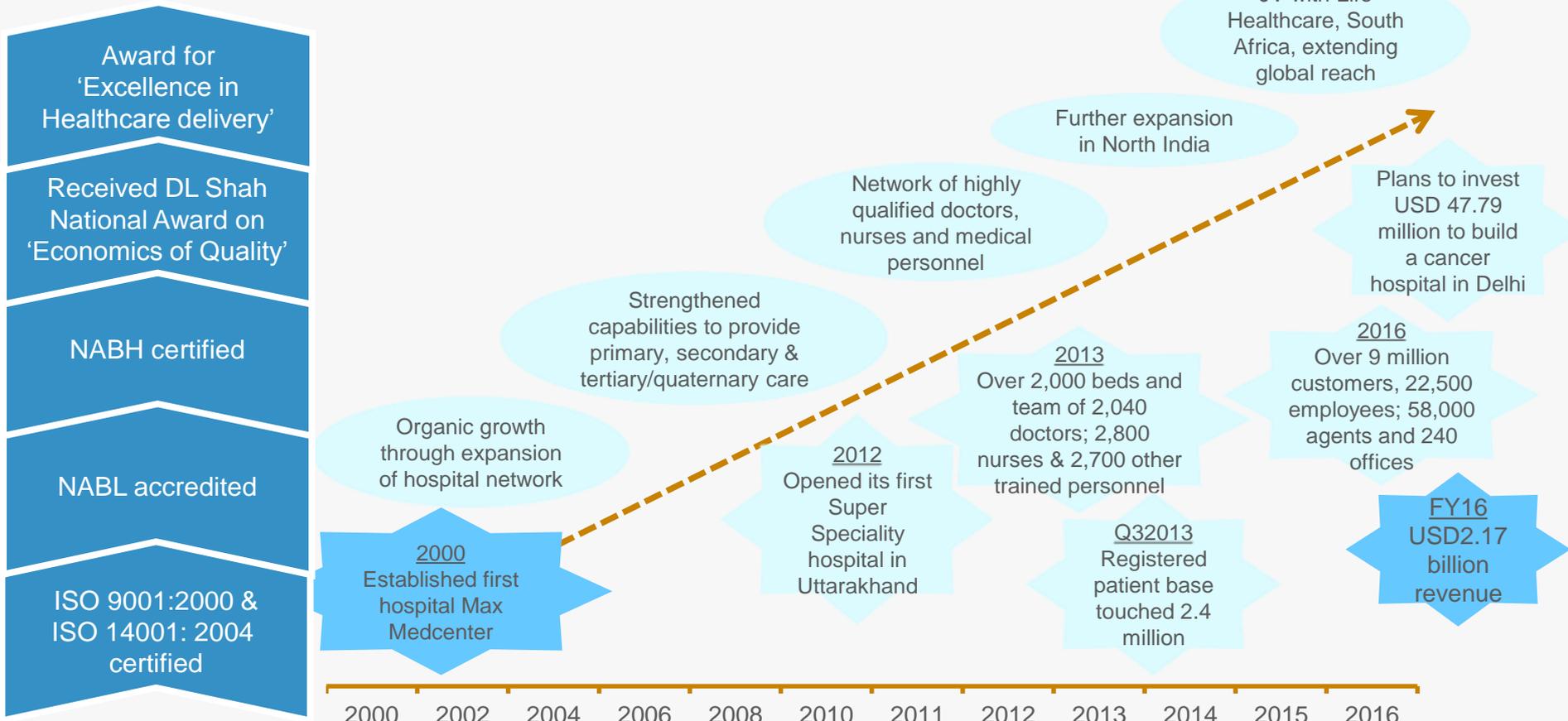
- With increasing demand for affordable and quality healthcare, penetration of health insurance is poised to grow exponentially in the coming years
- As on 2015-2016, the overall health insurance premium collected in India was recorded at USD2.8 billion
- Health insurance premiums are expected to increase at a CAGR of 15.36 per cent during 2008–16

Source: IRDA, Hospital Market India – By Research on India, LSI Financial Services, World Bank, TechSci Research
Note: IRDA – Insurance Regulatory and Development Authority



SUCCESS STORIES

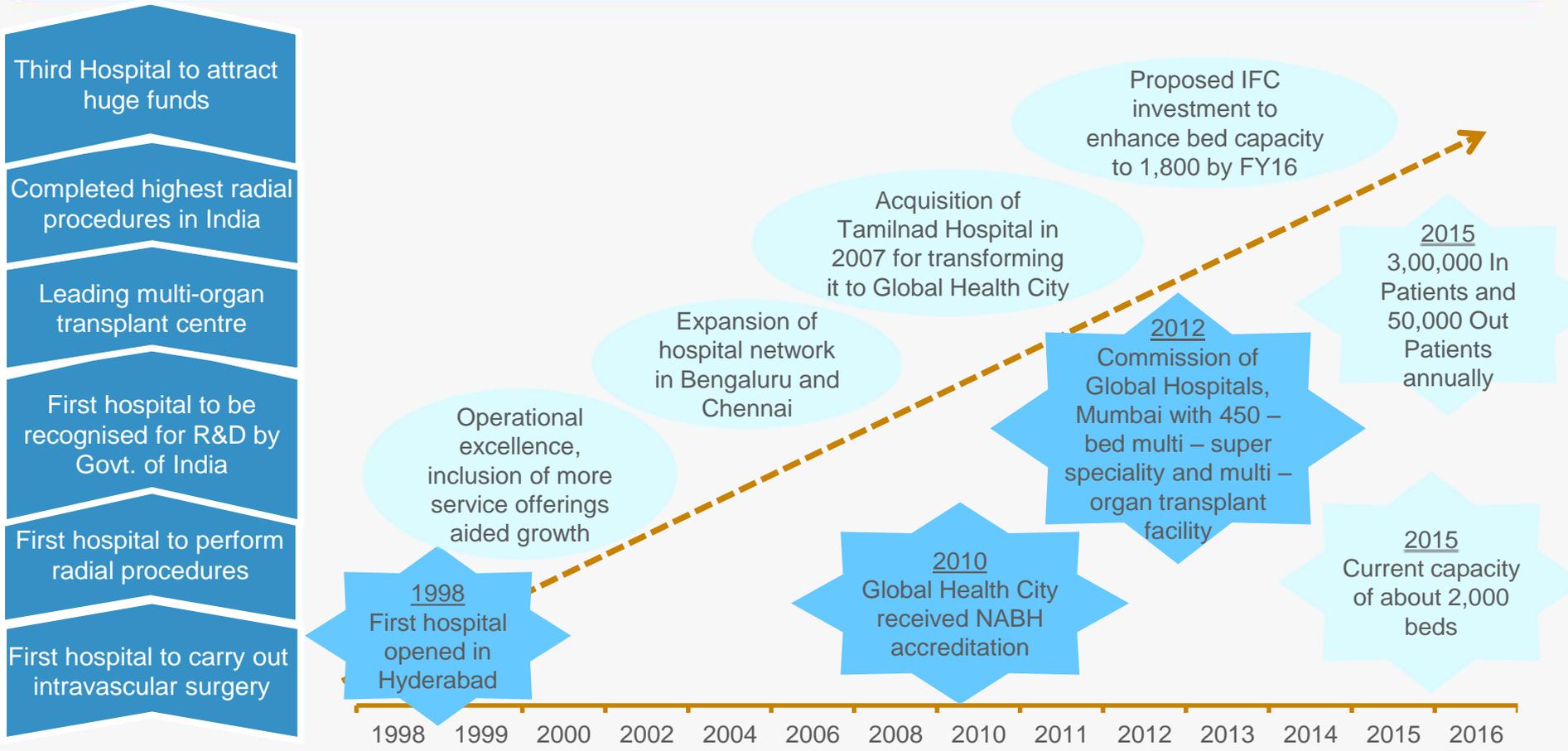
MAX HEALTHCARE: WELL POISED TO TAP GROWTH OPPORTUNITIES



Source: Company website, Company reports, TechSci Research

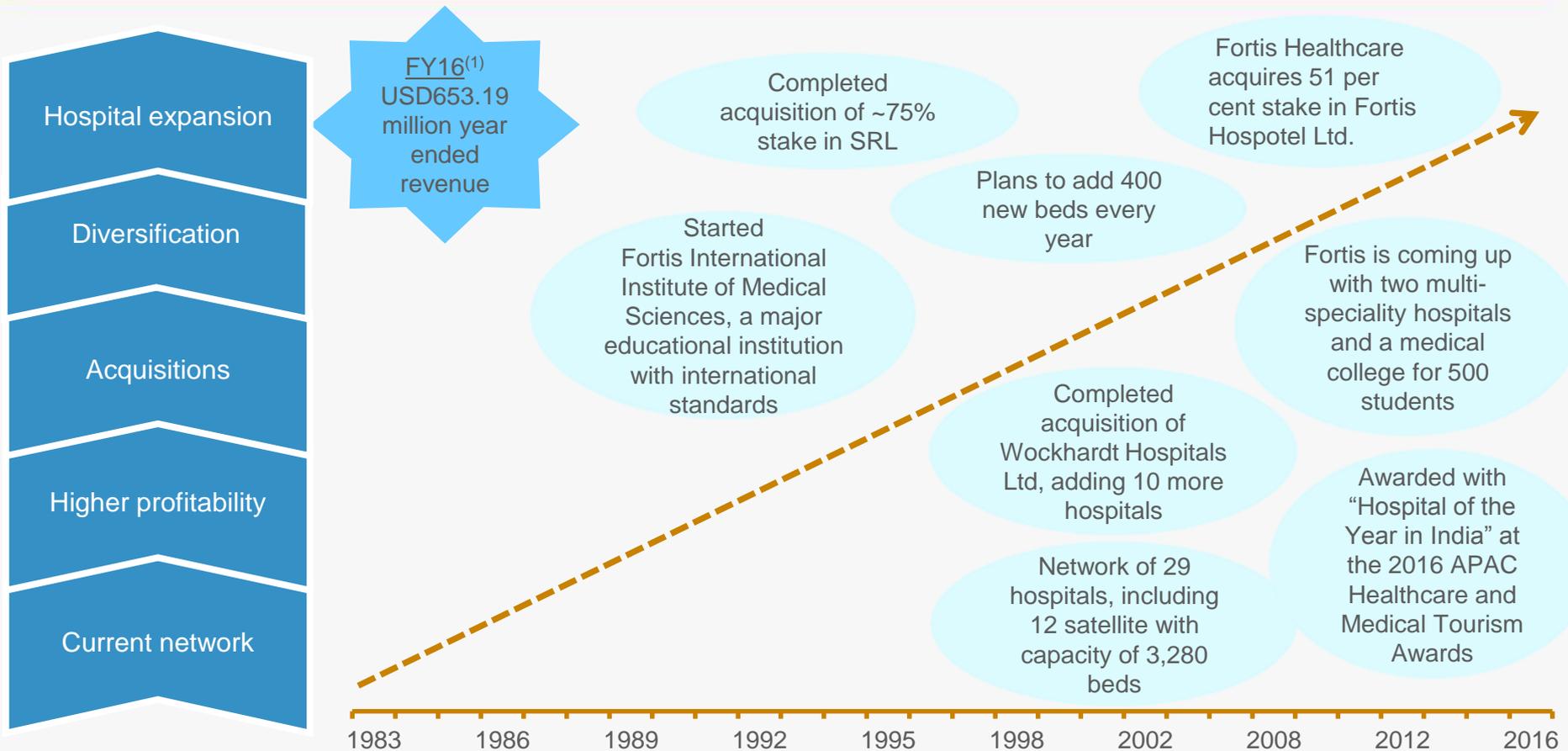
Notes: JV – Joint Venture; NABH - National Accreditation Board for Hospitals & Healthcare, NABL - National Accreditation Board for Testing & Calibration Laboratories, ISO – International Organisation for Standardisation

GLOBAL HOSPITALS: SET TO GROW WITH HOSPITAL NETWORK EXPANSION



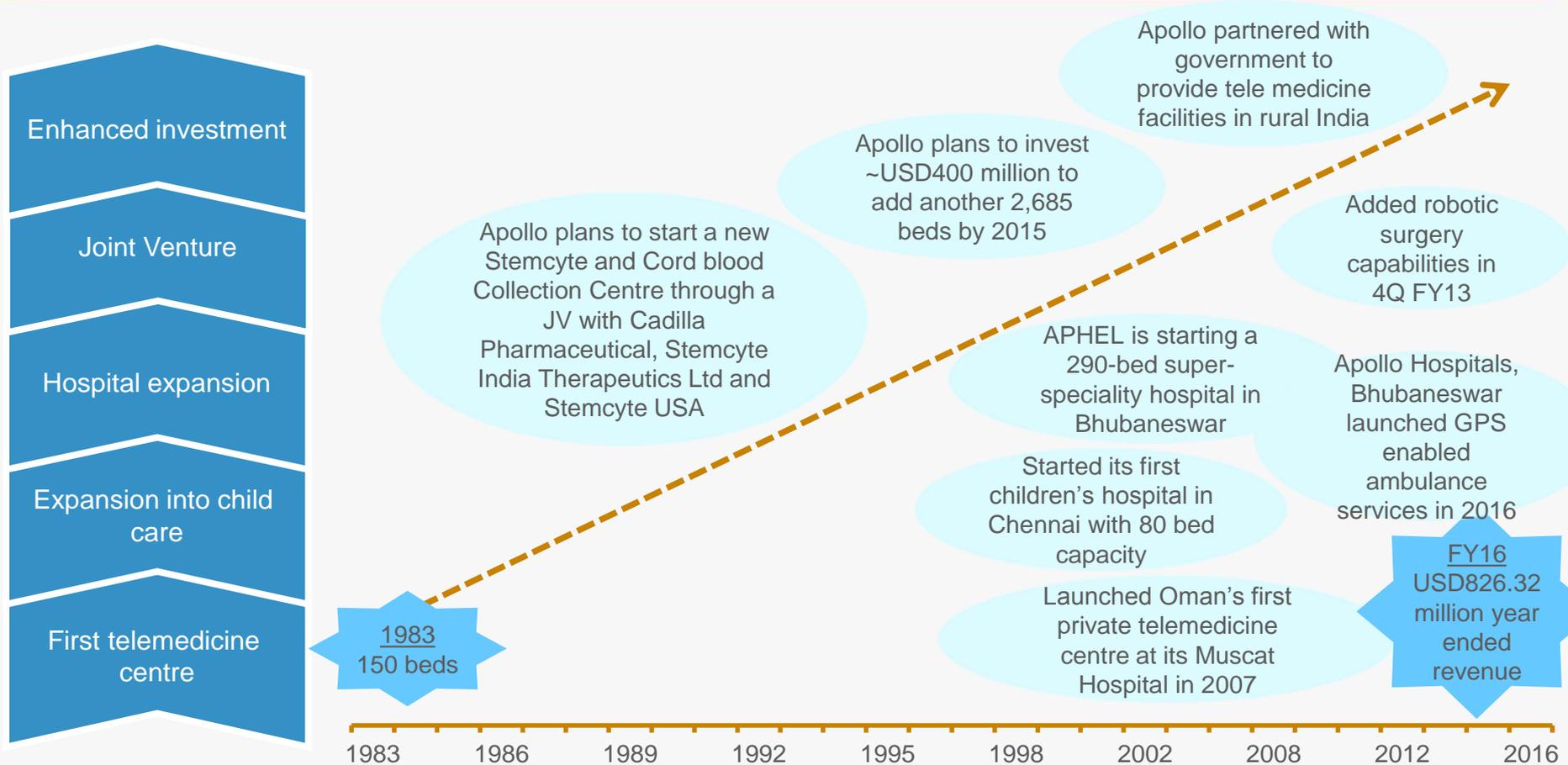
Source: Company website, Company reports, TechSci Research
 Note: IFC - International Finance Corporation, NABH - National Accreditation Board for Hospitals & Healthcare, R&D - Research & Development

FORTIS: LEADING THE WAY THROUGH DIVERSIFICATION



Source: Research on India, TechSci Research
Note: ⁽¹⁾Fortis Financial result Year Ended March 31, 2016

APOLLO HOSPITALS: LEADER IN SUPER-SPECIALITY HEALTHCARE



Source: Research on India, TechSci Research;
Note: JV – Joint Venture



USEFUL INFORMATION

INDUSTRY ASSOCIATIONS

Indian Medical Association

I.M.A. House
Indraprastha Marg,
New Delhi – 110 002, India
Telephone: 91 11 2337 0009, 2337 8819
Fax: 91 11 2337 9470, 2337 9178
Website: www.ima-india.org
E-mail: inmedici@vsnl.com

The Federation of Obstetric and Gynaecological Societies of India

Model Residency, 605,
Bapurao Jagtap Marg,
Jacob Circle, Mahalaxmi East,
Mumbai – 400 011, India
Fax: 23021383
Website: www.fogsi.org
E-mail: inmedici@vsnl.com

- * **CAGR:** Compound Annual Growth Rate
- * **EPA:** Externally Aided Projects
- * **FDI:** Foreign Direct Investment
- * **FY:** Indian Financial Year (April to March)
 - * So FY10 implies April 2009 to March 2010
- * **GOI:** Government of India
- * **ICT:** Information and Communications Technology
- * **IMF:** International Monetary Fund
- * **INR:** Indian Rupee
- * **M&A:** Mergers and Acquisitions
- * **NHRM:** National Rural Health Mission
- * **PPP:** Public Private Partnerships

- * **R&D:** Research and Development
- * **USD:** US dollar
- * **WHO:** World Health Statistics
- * Where applicable, numbers have been rounded off to the nearest whole number

EXCHANGE RATES

Exchange rates (Fiscal Year)

Year	INR equivalent of one USD
2004-05	44.81
2005-06	44.14
2006-07	45.14
2007-08	40.27
2008-09	46.14
2009-10	47.42
2010-11	45.62
2011-12	46.88
2012-13	54.31
2013-14	60.28
2014-15	61.06
2015-16	65.46
2016-2017E	66.95

Exchange rates (Calendar Year)

Year	INR equivalent of one USD
2005	43.98
2006	45.18
2007	41.34
2008	43.62
2009	48.42
2010	45.72
2011	46.85
2012	53.46
2013	58.44
2014	61.03
2015	64.15
2016 (Expected)	67.22

Source: Reserve bank of India,
Average for the year

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