

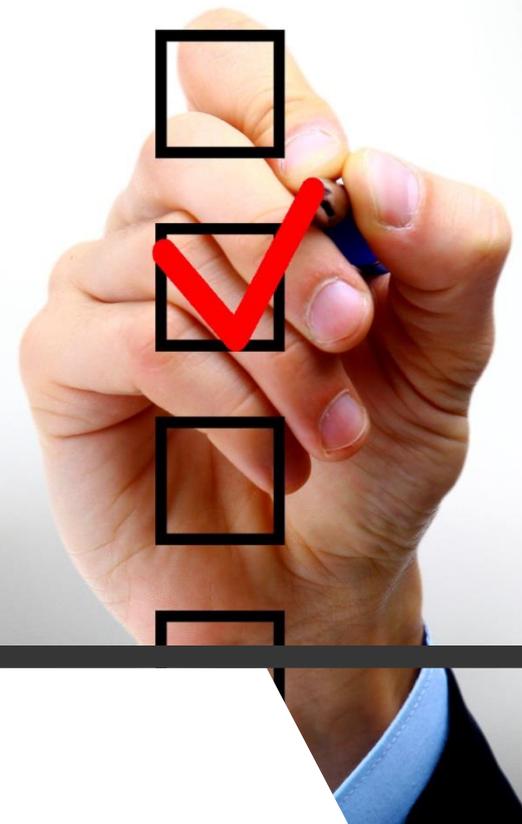


HEALTHCARE



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Fourth Largest Employer

- India is expected to rank amongst the top 3 healthcare markets in terms of incremental growth by 2020
- In FY17, Indian healthcare sector stood as the 4th largest employer as the sector employed a total of 319,780 people
- In May 2017, the Asian Research and Training Institute for Skill Transfer (ARTIST) announced plans to create around 1 million skilled healthcare providers by 2022.

Impressive Growth Prospects

- Indian healthcare sector, one of the fastest growing industries, is expected to advance at a CAGR of 22 per cent during 2016-2022 to reach US\$ 372 billion by 2022. There is immense scope for enhancing healthcare services penetration in India, thus presenting ample opportunity for development of the healthcare industry

Strong Fundamentals and Cost Advantage

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

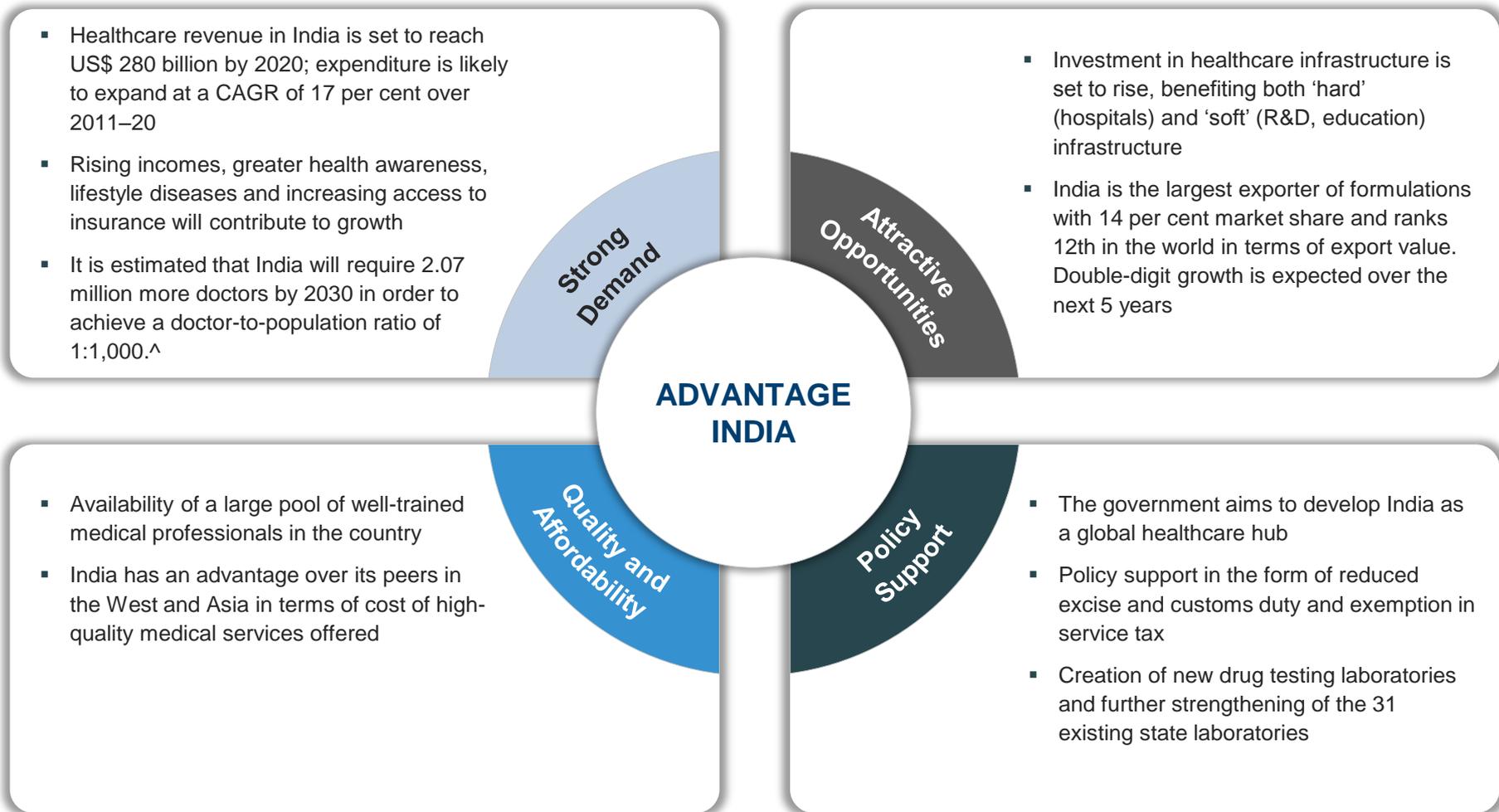
Favourable Investment Environment

- 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

Source: Business Standard, Ministry of External Affairs, Ministry of External Affairs (Investment and Technology Promotion Division)



ADVANTAGE INDIA



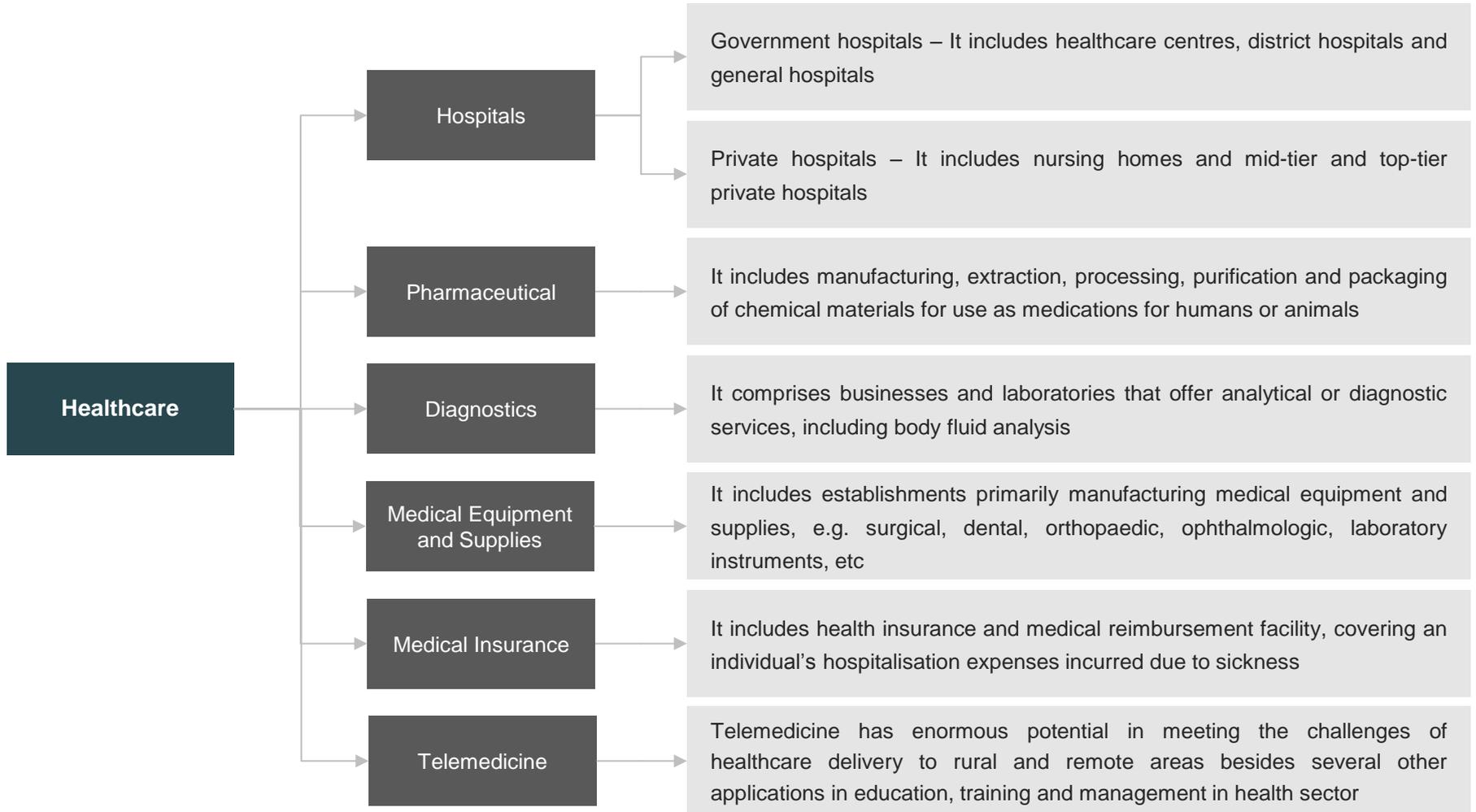
Note: RandD – Research and Development, CAGR - Compound Annual Growth Rate, ^ - as per a study by the Indian Journal of Public Health.

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

MARKET OVERVIEW AND TRENDS



THE HEALTHCARE MARKET FUNCTIONS THROUGH FIVE SEGMENTS

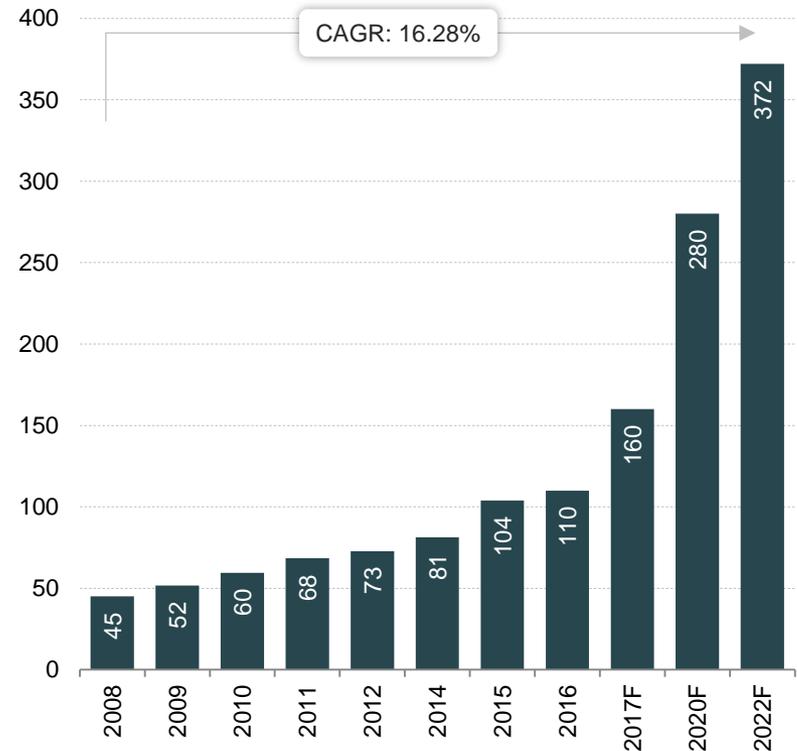


Source: Hospital Market – India by Research on India, Aranca Research

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 2008-22, the market is expected to record a CAGR of 16.28 per cent
- The total industry size is expected to touch US\$ 160 billion by 2017 and US\$ 372 billion by 2022.
- The Ministry of Health is focusing on development of technologies 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.
- The hospital industry in India stood at Rs 4 trillion (US\$ 61.79 billion) in 2017 and is expected to increase at a Compound Annual Growth Rate (CAGR) of 16-17 per cent to reach Rs 8.6 trillion (US\$ 132.84 billion) by 2023.

Healthcare Sector Growth Trend (US\$ Billion)

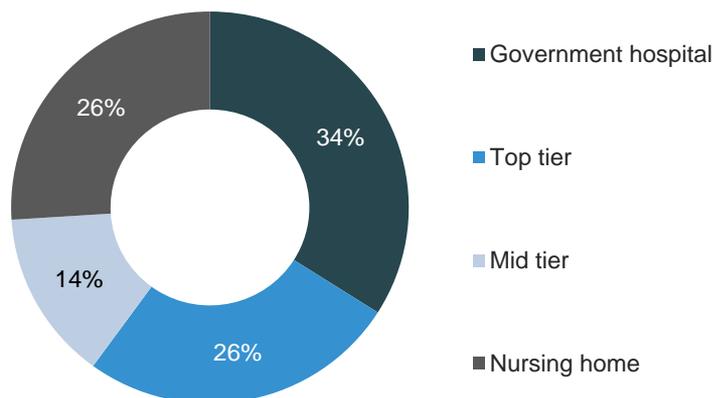


Note: F - Forecast

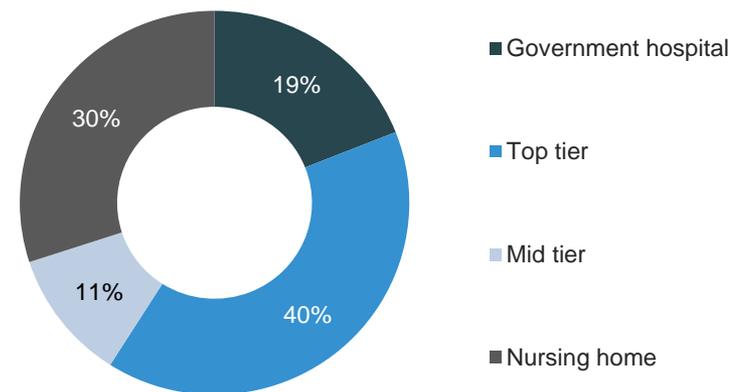
Source: Frost and Sullivan, LSI Financial Services, Deloitte, Aranca Research

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

Shares in Healthcare Spending in India, 2005



Shares in Healthcare Spending in India, 2015



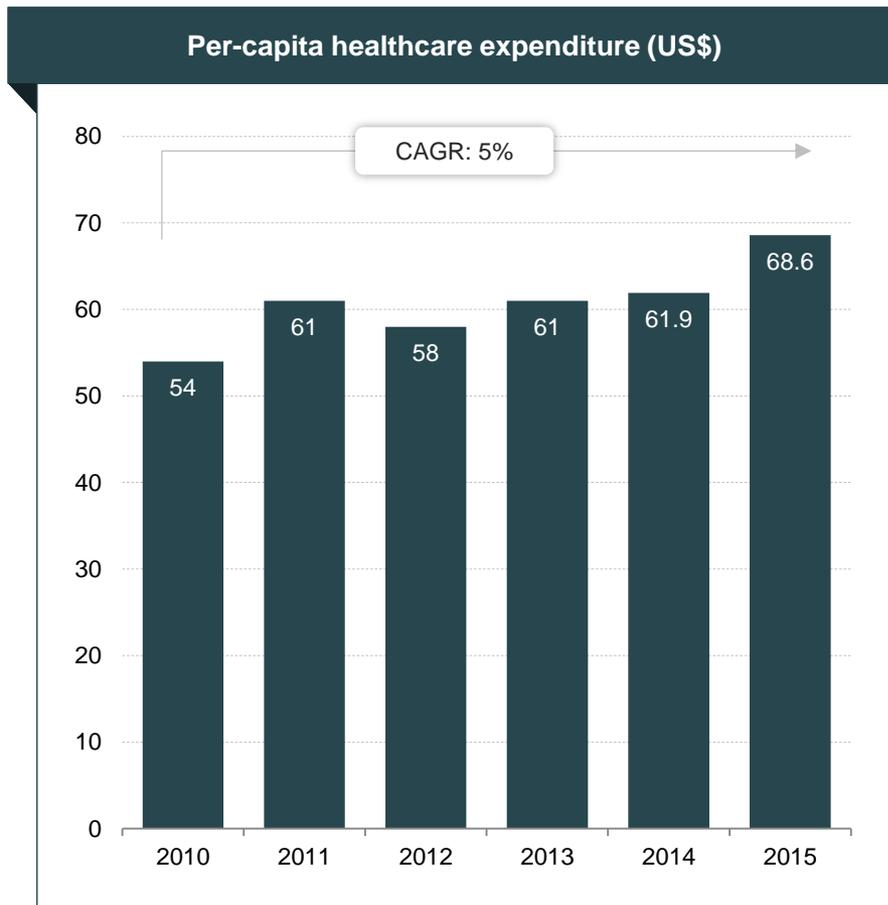
- The private sector has emerged as a vibrant force in India's healthcare industry, lending it both national and international reputation
- Large investments by private sector players are likely to contribute significantly to the development of India's hospital industry, which comprises around 80 per 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

Note: As per latest available data

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

PER CAPITA HEALTHCARE EXPENDITURE HAS RISEN AT A FAST PACE

- Per capita healthcare expenditure grew at a CAGR of 5 per cent during 2008–15 to US\$ 68.6.
- 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

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 diseases 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
- 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; 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 US\$ 15 million and is expected to rise at a CAGR of 20 per cent during FY16-20, reaching to US\$ 32 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.

Home healthcare

- Developments in information technology (IT) and integration with medical electronics, has made it possible to provide high quality medical care at home at affordable prices. It enables the customers to save upto 20-50 per cent of the cost.
- The home healthcare market stood at US\$ 3.2 billion in 2016 and is estimated to reach US\$ 4.46 billion by the end of 2018 and US\$ 6.21 billion by 2020.

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

Source: IRDA, CII, Grant Thornton, Gartner, Technopak, Aranca Research

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

Increasing penetration of health insurance

- In FY18 (till September 2017), gross direct premium income from health insurance stood at 23.90 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 23.6 per cent during FY15-17. Gross healthcare insurance premium in the month of September 2017 stood at US\$ 2.7 billion

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
- Mobile health industry in India is expected to reach US\$ 0.6 billion by 2017

Technological initiatives

- 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
- 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

Source: Business Standard, Ministry of External Affairs, Ministry of External Affairs (Investment and Technology Promotion Division)

PORTERS FIVE FORCES ANALYSIS



Porter's Five Force Framework Analysis

Threat of Substitutes ●

- 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

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

Bargaining Power of Buyers ●

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

Threat of New Entrants ●

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

- Positive Impact
- Neutral Impact
- Negative Impact

Source: Aranca Research

STRATEGIES ADOPTED



STRATEGIES ADOPTED

Cost leadership

- Private players in the industry are making their supply chains 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 and good human capital management (i.e. training).

Differentiation and diversified business approach

- 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
- 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.

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.

Merger and Acquisitions

- In April 2017, IFFCO has invested 26 per cent stake in a start-up firm Gramin Health Care (GHC), a affordable and easily accessible service for farmers to educate them about basic health.
- In April 2017, Religare sold its 80 per cent stake in Religare Health Insurance Co. Ltd. to a group of investors led by True North for US\$ 193.37 million.
- Serum Institute of India, the world's largest vaccine manufacturer, bought a defunct unit of Nanotherapeutics Inc., Czech Republic-based injectable polio doses maker, for US\$ 78.49 million. The acquisition will help the Serum Institute of India to become the largest manufacturer of injectable polio vaccine in the world by increasing production capacity four-fold to more than 200 million doses by 2019.
- Fortis Healthcare has approved the de-merger of its hospital business with Manipal Hospital Enterprises. TPG and Dr. Ranjan Pal could invest Rs. 3,900 crore (US\$ 602.41 million) in Manipal Hospital Enterprise.

Source: Aranca Research

GROWTH DRIVERS



INDIAN HEALTHCARE SECTOR IS POISED TO GROW

Growing Demand

- Rising incomes and affordability
- Growing elderly population, changing disease patterns
- Rise in medical tourism
- Better awareness of wellness, preventive care and diagnosis

Policy Support

- Encouraging policies for FDI and the private sector
- Reduction in customs duty and other taxes on life-saving equipment
- NRHM allocated US\$ 10 billion for healthcare facilities
- National Health Insurance Mission to cover entire population

Focus

- Expanding research and development and distribution facilities in India
- Use of modern technology
- Providing support to global projects from India

Merger and Acquisitions

- Rising FDI and private sector investments
- Lucrative M and A opportunities
- Foreign players setting R and D centres and hospitals

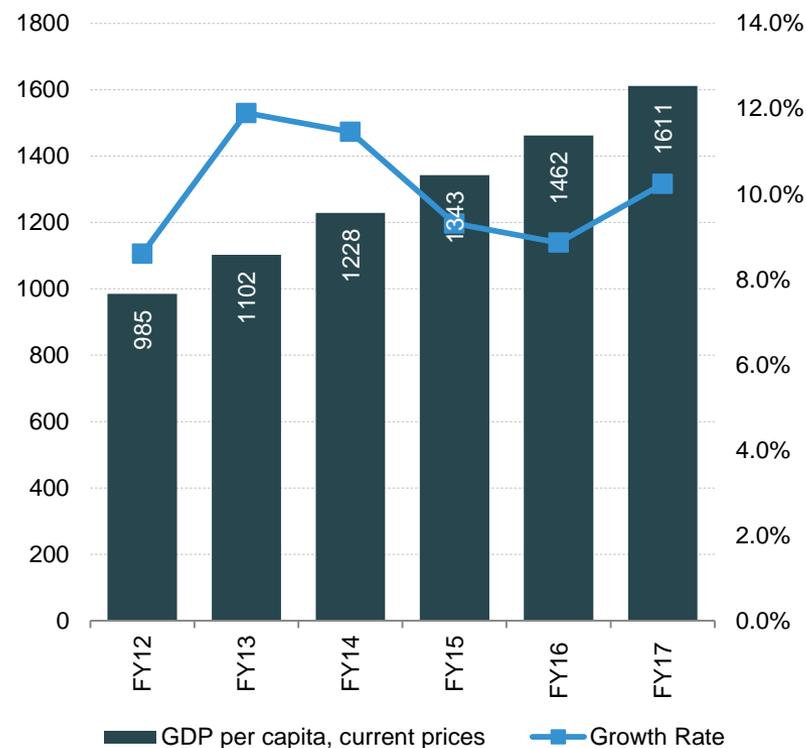
Note: FDI – Foreign Direct Investment, MandA - Mergers and Acquisitions NRHM - National Rural Health Mission

Source: Health Ministry, Aranca Research

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 was US\$ 68.6
- 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

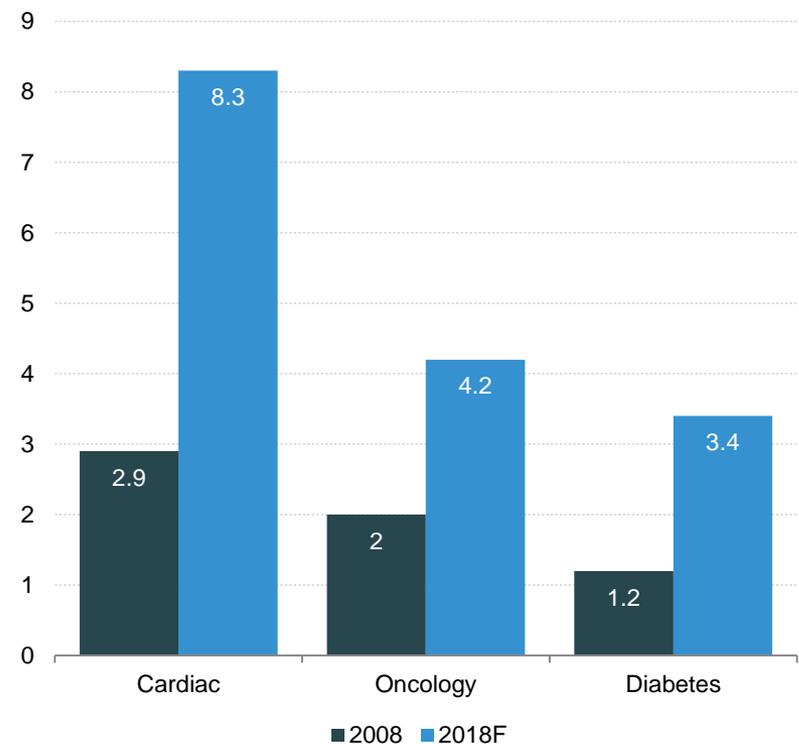
Trends in per capita income in India (USD)



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

Number of hospitalised cases (million)



Source: Apollo Investor Presentation March 2016

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 April 2017, medical tourism market in India is US\$ 3.0 billion in size and is expected to reach US\$ 6 billion by 2018. During 2013-16, the country's medical tourism market witnessed growth at a CAGR of 27 per cent.
- The number of foreign tourists coming to India for medical purposes rose by almost 50 per cent to 201,333 in 2016 from 134,344 in 2015.
- 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.
- The Ministry of AYUSH, Government of India has been implementing various initiatives to promote ayurveda, yoga and other AYUSH systems of medicine on an international level and was allocated Rs 15.28 crore (US\$ 2.36 million) in 2017-18 for this purpose.
- The number of foreign tourist arrivals (ATA's) during 2016 were 4,27,014 which accounted for 4.85 per cent of the total FTA's

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

RE-EMERGENCE OF TRADITIONAL MEDICAL CARE

Market size and Services Offered

- The traditional (ayurvedic) market in India is expected to rise at a CAGR of 16 per cent over 2016-2021. In 2015, Government of India had approved All India Institute of Ayurveda in New Delhi, it would be a 200 bedded hospital. The institute was inaugurated in October 2017 on the occasion of Ayurveda Day.
- 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

- 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
- As of March 2017, Philips is shifting its focus towards adoption of new wave technologies for enhancing its hold in healthcare sector by leveraging its expertise in Deep Learning, Machine Learning and Artificial Intelligence.

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

Developing infrastructure

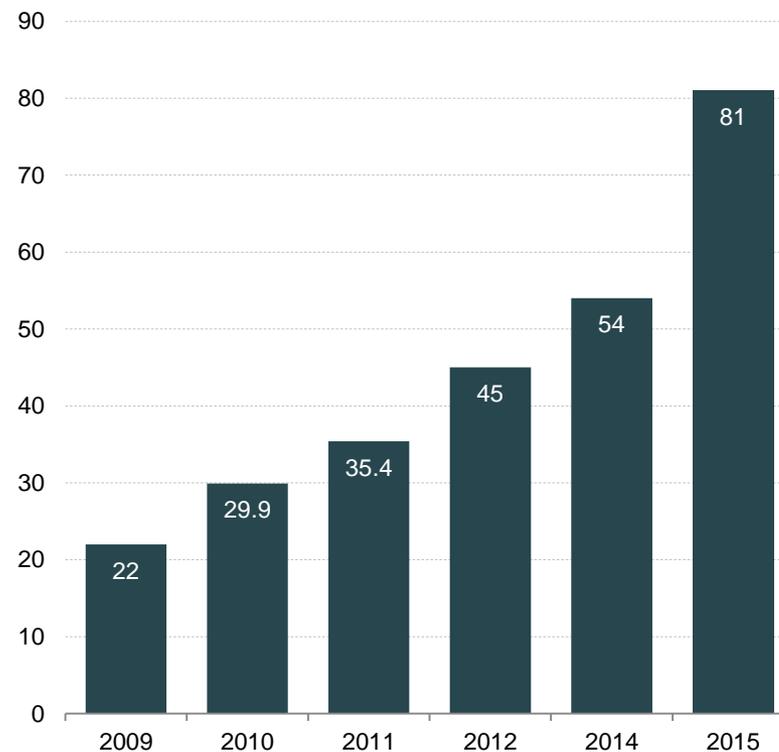
- In Union Budget 2017-18, the government announced to setup 2 new AIIMS in Jharkhand and Gujarat. As of December 2017, the work on these two AIIMS has started. Deoghar has been finalised as the site for the AIIMS at Jharkhand and 4 sites have been offered by the government for the AIIMS in Gujarat.
- As of December 2016, the country has a total of 403 Ayurveda, Siddha and Unani colleges and attached hospitals. As of April 17th 2018, number of primary health centres (PHCs) increased to 32,524 and number of sub centres reached to 167,584.
- In December 2017, the Government of India provided grant-in-aid under the National AYUSH Mission (NAM), to set up AYUSH educational institutions in States and Union Territories where such institutions are not available in the government sector.

Source: Ministry of Health, Make in India, RNCOS, KPMG, Aranca Research; Notes: AYUSH - Ayurveda, Yoga, Naturopathy, Unani, Siddha and Homoeopathy

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 US\$ 100 billion by 2015 and further to US\$ 280 billion by 2020
- The private hospital market in India is estimated at US\$ 81.0 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
- Cloudnine Hospitals is planning to open 10 new maternity hospitals in India by 2019 with a total investment of Rs 200 crore (US\$ 31.03 million).

Market Size of Private Hospitals (US\$ Billion)

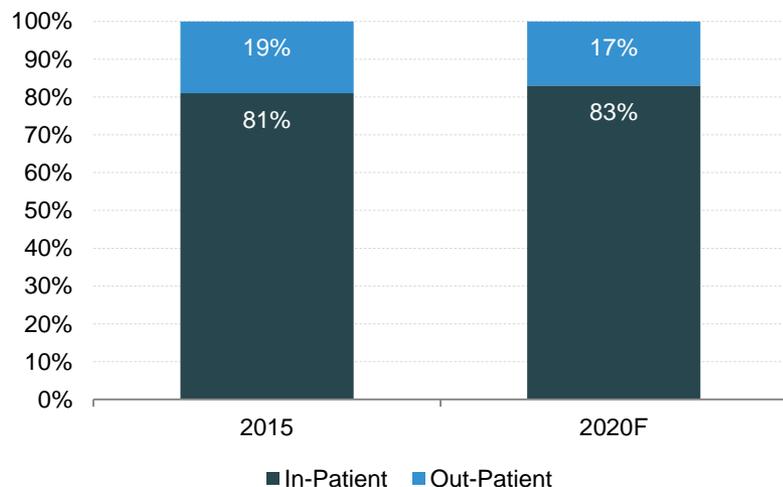


Note: As per latest available data

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

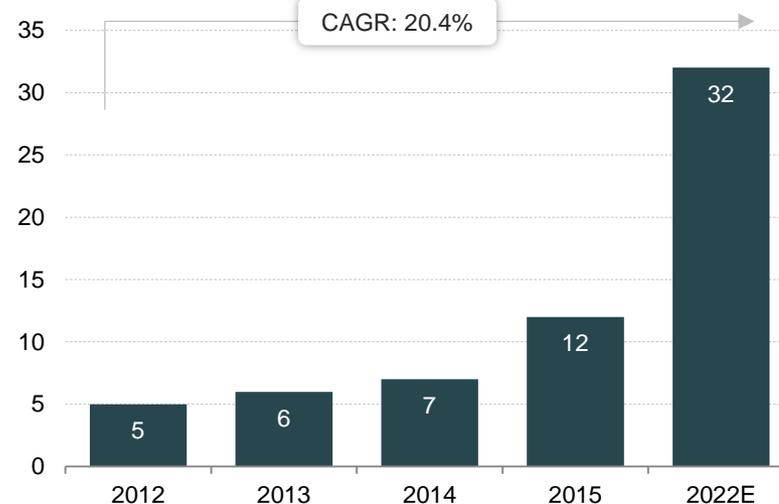
GROWING IN-PATIENT / OUT-PATIENT AND DIAGNOSTIC MARKET

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 US\$ 697.21 million in 29,115 health facilities of India

Market Size of Diagnostic Market (US\$ Billion)



- Over 2012-22, diagnostic market is expected to grow at a CAGR of 20.4 per cent to US\$ 32 billion from US\$ 5 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

Note: As per latest available data

Source: Apollo Investor Presentation, Apollo Hospitals Annual Report 2015, Fortis Investor Presentation

POLICY SUPPORT AND GOVERNMENT INITIATIVES...

(1/5)

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, 5 projects under PPP have been completed and has become operational

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 5 years

National Deworming Initiative

- In February 2018, the Ministry of Health and Family Welfare, Government of India has launched the National Deworming initiative for the benefit of over 322 million children as a part of its commitment to ensure high quality healthcare to every child in the country.

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

Source: Aranca Research

POLICY SUPPORT AND GOVERNMENT INITIATIVES ...

(2/5)

National Health Policy 2017

- The Union Cabinet, Government of India, has approved the National Health Policy 2017, which will provide the policy framework for achieving universal health coverage and delivering quality health care services to all at an affordable cost.

Innovation

- India's first ever 'Air Dispensary', which is based in a helicopter, will be launched in the Northeast and the Ministry of Development of Northeast Region (DONER) has already contributed Rs 25 crore (US\$ 3.82 million) for its funding.

OTC medicines

- An in-principle approval for a new category of over the counter (OTC) medicine has been given by the Drug Consultative Committee (DCC), Government of India, to help save patients' time and money.

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 US\$ 491 towards medical expenditure if they are not covered under health insurance

Tele-medicine initiatives

- The Government of India undertook several initiatives for strengthening the tele-medicine network for providing healthcare services in India.
- **National Medical College Network (NMCN):** The government has selected 50 government medical colleges to interconnect for e-education and e-healthcare delivery. For this, a National Resource Centre (NRC) with necessary centralized infrastructure and seven Regional Resource Centres (RRCs) have been set up.
- **State Telemedicine Network (STN):** The states and union territories have been provided support under the National Health Mission (NHM) under Program Implementation Plan (PIP) to create reliable, ubiquitous and high speed network backbone.

Source: Aranca Research

Medical institutions

- In October 2017, All India Institute of Ayurveda was inaugurated in New Delhi. The institute has been set up over an area of 10 acres at a cost of US\$ 24.37 million.
- The Ministry of Health, Government of India has planned to transform 150,000 sub-health centres into health and wellness centres that provide comprehensive primary care.
- The Government of India is working towards improving the doctor population ratio and has added over 5,800 PG seats in government medical colleges in calendar year 2017.
- Under the Union Budget 2018-19, the government has allocated Rs 452.25 crore (US\$ 69.86 million) for the upgradation of state government medical colleges (PG seats) at the district hospitals and Rs 794.07 crore (US\$ 122.66 million) for government medical colleges (UG seats) and government health institutions.

Union Budget 2018-19

- Under the Union Budget 2018-19, the allocation to the Ministry of Health and Family Welfare has increased by 11.5 per cent year-on-year to Rs 52,800 crore (US\$ 8.16 billion).
- Health, education and social protection has been allocated Rs 1.38 lakh crore (US\$ 21.32 billion), the Department of Health Research has been allocated Rs 1,800 crore (US\$ 278.04 million), Rashtriya Swasthya Bima Yojna (RSBY) has been allocated Rs 2,000 crore (US\$ 308.93 million), the National Rural Health Mission (NRHM) has been allocated Rs 9,752.82 crore (US\$ 1.51 billion), the flexible pool for non communicable diseases, injury and trauma has been allocated Rs 1,004.67 crore (US\$ 155.19 million)
- The Government of India has announced two major initiatives under the Ayushman Bharat programme, namely, the 'National Health Protection Scheme' and the move to bring healthcare closer to homes via the health and wellness centres.
- The National Health Protection Scheme is largest government funded healthcare programme in the world, which is expected to benefit 100 million poor families in the country by providing a cover of up to Rs 5 lakh (US\$ 7,723.2) per family per year for secondary and tertiary care hospitalisation.
- The government has allocated Rs 1,200 crore (US\$ 185.36 million) towards the National Health Policy 2017 under which 150,000 health and wellness centres, will provide healthcare closer to homes of the people.

Source: Aranca Research

POLICY SUPPORT AND GOVERNMENT INITIATIVES ...

(4/5)

Recent Initiatives

- Mr J P Nadda, Union Minister of Health and Family Welfare, Government of India, launched initiatives such as LaQshya, for labour room quality improvement, a mobile application for safe delivery, and operational guidelines for obstetric high dependency units (HDUs) and intensive care units (ICUs), on Universal Health Coverage Day, 2017.

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.

Intensified Mission Indradhanush (IMI)

- The Intensified Mission Indradhanush (IMI) has been launched by the Government of India with the aim of improving coverage of immunisation in the country and reach every child under two years of age and all the pregnant women who have not been part of the routine immunisation programme.

Signing of MoU

- India and Cuba have signed a Memorandum of Understanding (MoU) to increase cooperation in the areas of health and medicine, according to Ministry of Health and Family Welfare, Government of India.
- In April 2018, the Memorandum of Understanding (MoU) signed between India and Iran received an ex-post-facto approval from the Government of India for cooperation in the field of health and medicine.

National Nutrition Mission

- The Union Cabinet approved setting up of National Nutrition Mission (NNM) with a three year budget of Rs 85,217 crore (US\$ 13.16 billion) to monitor, supervise, fix targets and guide the nutrition related interventions across ministries.
- The programme is aimed at reducing the level of stunting, under-nutrition, anemia and low birth babies
- Over 100 million people are expected to be benefited by this programme; and all states and districts will be covered within the programme.

Pradhan Mantri Surakshit Matritva Abhiyan (PMSMA)

- As of January 2018, Pradhan Mantri Surakshit Matritva Abhiyan (PMSMA), a programme launched in 2016 to ensure comprehensive and quality antenatal check-ups to pregnant women across India, has crossed the 10 million mark.

POLICY SUPPORT AND GOVERNMENT INITIATIVES ...

(5/5)

Single Window System

- Drug Controller General of India (DCGI) has proposed to set up a single window system for start-ups and innovators seeking approvals, consents, and information regarding regulatory requirement.

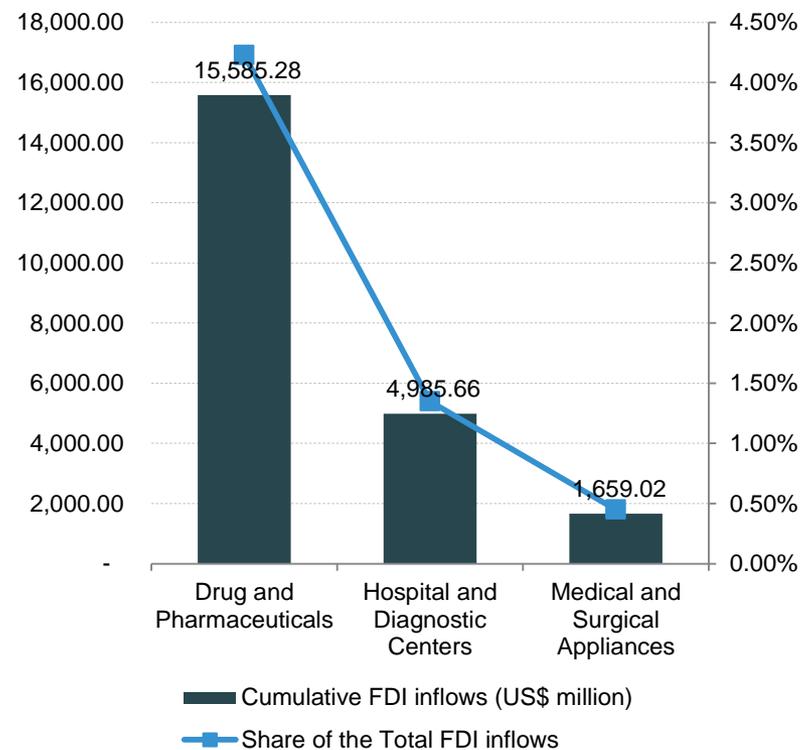
National Health Mission(NHS)

- In March 2018, the Union Cabinet of India approved the continuation of National Health Mission with a budget of Rs 85,217 crore (US\$ 13.16 billion) from 1st April 2017 to 31st March 2020.

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 – December 2017, FDI inflows for drugs and pharmaceuticals sector stood at US\$ 15.59 billion.
- Inflows into sectors such as hospitals and diagnostic centers and medical appliances stood at US\$ 4.99 billion and US\$ 1.66 billion, respectively, during the same period
- In February 2017, German healthcare firm Merck announced its plans to open their 4th bio production centre worldwide and their 1st in India. It will help the local companies to manufacture biosimilars and biotech drugs.

Cumulative FDI inflows (From April 2000 Up to December 2017) into the healthcare sector (US\$ million)



Note: FDI – Foreign Direct Investment

Source: Department of Industrial Policy and Promotion, Aranca Research

OPPORTUNITIES



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; 58,000 job opportunities are expected to be generated in the healthcare sector by the year 2025.
- Over US\$ 200 billion is expected to be spent on medical infrastructure by 2024.
- Over the years, India has made strategic interventions in National Health Mission and the national disease control programmes to ensure quality and affordable healthcare for all.

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 US\$ 8 billion in 2015, up from US\$ 3.8 billion in 2012. The market has more than 1000 players.^

Medical Tourism

- The Indian medical tourism industry is expected to reach US\$ 6 billion by 2018 from US\$ 3.0 billion in April 2017, growing at a CAGR of 27 per cent over 2013-16
- The number of foreign tourists coming to India for medical purposes rose by almost 50 per cent to 201,333 in 2016 from 134,344 in 2015.
- 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

Medical devices

- The medical devices market size, valued at US\$ 4 billion in 2016, is expected to reach US\$ 11 billion by 2022, backed by rising geriatric population, growth in medical tourism and declining cost of medical services.

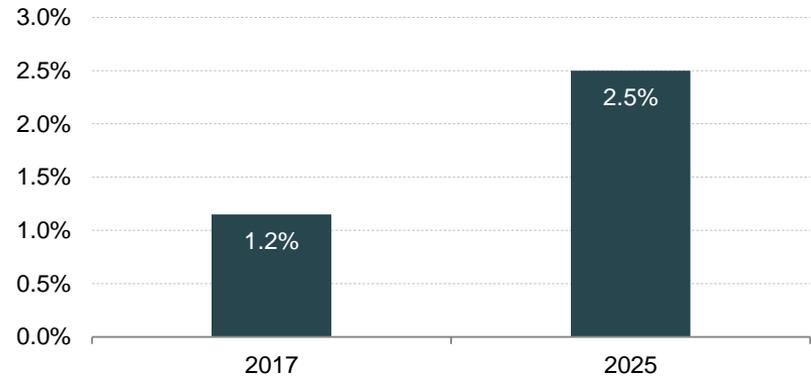
Note: ^ - As per latest available data

Source: Aranca Research

SCOPE FOR GROWTH, AS HEALTHCARE SERVICES REMAIN UNDER-REPRESENTED

- Huge scope for enhancing healthcare services considering that healthcare spending as a percentage of GDP
- Currently, the Government of India's expenditure on healthcare is 1.2 per cent of Gross Domestic product (GDP) and the government is targeting to increase that to 2.5 per cent by 2025.
- 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

Healthcare Spending as a Percentage of GDP



Source: WHO World Health Statistics 2015, E&Y, LSI Financial Services, Fortis Investor Presentation

- As of 2016, 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
- With increasing demand for affordable and quality healthcare, penetration of health insurance is poised to grow exponentially in the coming years
- In 2016-17, the overall health insurance premium collected in India was recorded at US\$ 4.78 billion.
- Health insurance premiums increased at a CAGR of 21.15 per cent between 2008–09 and 2016-17.

Health Insurance Premium Collection (US\$ Billion)



CASE STUDIES



MAX HEALTHCARE: WELL POISED TO TAP GROWTH OPPORTUNITIES

- Max Medcentre, Panchsheel Park – First Medcenter with OP facilities and day care surgeries
- Max Hospital, Pitampura – First hospital to be ISO certified and first high end secondary care centre in North Delhi.
- Max Heart and Vascular Institute, Saket - First Super Tertiary Care Facility with Advanced Cardiac Life Support Ambulances and Air Evacuation Service.
- Max Super Speciality Hospital, Bathinda- Max Healthcare extended its footprint in North India
- Max Super Speciality Hospital, Dehradun, Max Healthcare opened its first Super Speciality hospital in Uttarakhand
- Max Multi Speciality Hospital, Greater Noida -

1985

2000-05

2006-10

2011-14

2015 onwards

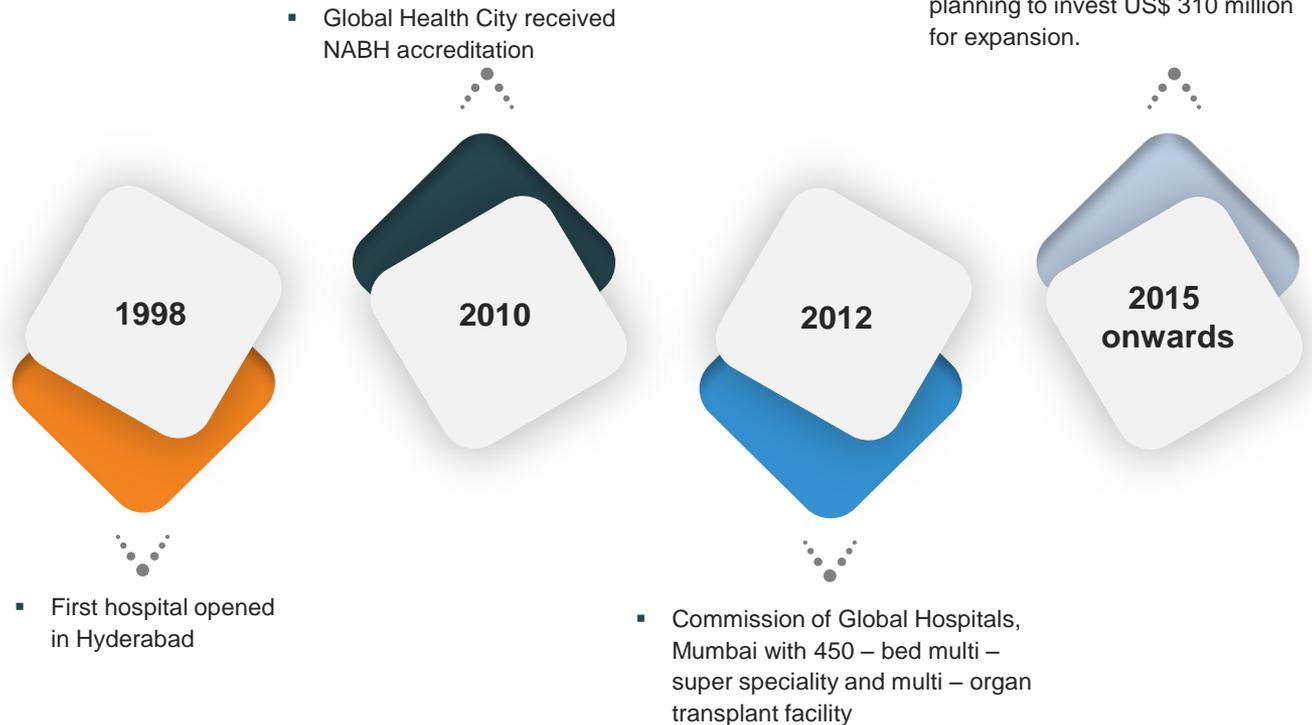
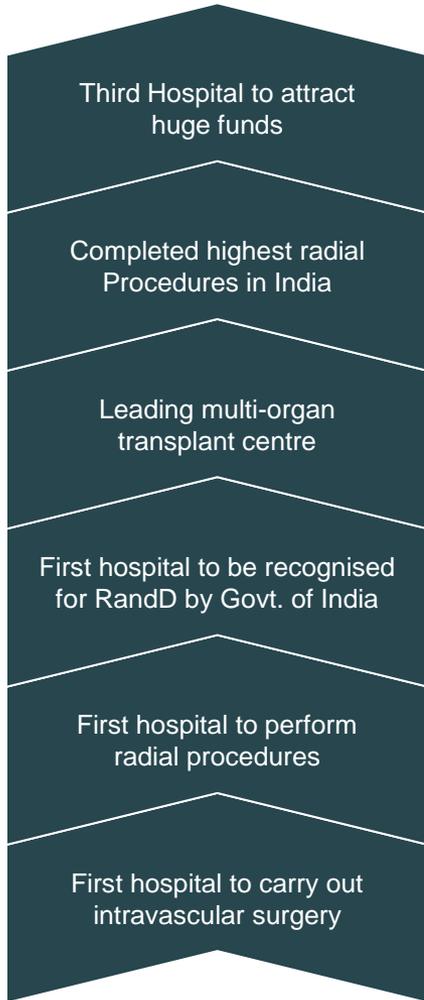
- The company was founded and listed in the NSE and BSE with 37,000 shareholders.

- Max Super Speciality Hospital, Saket - First Multi, Super Speciality Tertiary Care Location
- Max Hospital, Gurgaon - High End Secondary Care Centre in Gurgaon
- Max Healthcare received NABH and NABL certification for its laboratories.
- Max Healthcare receives NABH Accreditation for Blood bank

- Pushpanjali Crosslay Hospital officially becomes Max Super Speciality Hospital
- Saket City Hospital officially becomes Max Smart Super Speciality Hospital
- Max Super Speciality Hospital, Saket is accredited by the Joint Commission International

Source: Aranca Research, Company Website

GLOBAL HOSPITALS: SET TO GROW WITH HOSPITAL NETWORK EXPANSION



Source: Aranca Research, Annual Report

KEY INDUSTRY ORGANISATIONS



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

USEFUL INFORMATION



- 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
- MandA: Mergers and Acquisitions
- NHRM: National Rural Health Mission
- PPP: Public Private Partnerships
- RandD: Research and Development
- US\$: 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	INR Equivalent of one US\$
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
2016-17	67.09
2017-18	64.45

Exchange Rates (Calendar Year)

Year	INR Equivalent of one US\$
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	67.21
2017	65.12

Source: Reserve Bank of India

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