

## EMERGING TRENDS IN HEALTH CARE: CHALLENGES AND OPPORTUNITIES

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### Abstract

*The Healthcare sector, in India, is at an inflection point and is poised for rapid growth. India's annual healthcare spending of \$65 billion at the market-exchange rate, \$160 billion in general purchasing-power parity (PPP) terms and \$500 billion in healthcare PPP terms has turned India into a major healthcare market. The Indian Healthcare sector currently represents a USD 40 Billion industry. The industry is expected to grow to ~ USD 280 Billion by 2020. A combination of demographic and economic factors is expected to bring about increased healthcare coverage in India which is expected to drive the growth of the sector.*

*While the Indian Healthcare sector is poised for growth in the next decade, it is still plagued by various issues and challenges with rise in disease burden and lack of infrastructure and manpower. Indian healthcare expenditure is still amongst the lowest globally and there are significant challenges to be addressed both in terms of accessibility of healthcare service and quality of patient care. Both the public and private sector in India need to work in tandem to make healthcare available, accessible and affordable. Present paper attempts to take an overview of challenges and opportunities in this sector in India.*

**Keywords:** Health care, emerging trends, challenges, opportunities

**JEL Codes:** H51, I1

### I. INTRODUCTION

#### A Conceptual Framework of Health & Health Economics

Health is a multifaceted concept and thus it defies any precise definition. The narrow definition of health posits it as the absence of disease. The broad definition of health, however, does not rest merely on the absence of disease but the fulfillment of a whole range of personal, physiological, mental, social and even moral goals. World Health Organization's (WHO) constitution defines health as "a state of

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*complete physical, mental and social wellbeing and not merely the absence of disease or infirmity*" (WHO, 1992). Although, this definition is a fine and inspiring concept and its pursuit guarantees health professionals unlimited opportunities for carrying out work in future, it may not be of much practical relevance (Doll, 1992) and also it seems to work against its effective functioning (Saracci, 1997). Such a definition is too wide and not amenable for any meaningful economic analysis or for any resource allocation. Necessarily, health has to be defined from a practical point of view and, therefore, it has been defined according to life expectancy, infant mortality, and crude death rate, etc (Reddy, 1992). In fact, it is studied as a function of medical care, income, education, age, sex, race, marital status, environmental pollution, and also certain personal behaviour like smoking habits, exercise, and the like. It is also used as an independent variable to explain labour force participation rates. Health status is often used to explain wages, productivity, school performance, fertility and the demand for medical care.

## **II. Rationale of the Study: Why Does Health Matter?**

For an individual, health has a double function. On one hand, perfect health represents value of its own, a target that needs to be reached as closely as possible. On the other hand, there are other aims in life as well e.g. good health gives good income in labour market (Zweifel and Breyer, 1997). World Development Report, 1993 explained good health as a crucial part of well-being. It further asserted that spending on health can also be justified on purely economic grounds. Improved health contributes to economic growth in four ways: it reduces production losses caused by worker illness; it permits the use of natural resources that had been totally or nearly inaccessible because of disease; it increases the enrollment of children in schools and makes them better able to learn; and it makes alternative uses of resources that would otherwise have to be spent on treatment (World Bank, 1993).

## **III. Scope of the Study: Health Economics**

Economics applies to all activities where scarcity and choice exist (Lee and Mills, 1983a), Health is no exception to that.

Over the last few decades, treating health economics as an independent scientific discipline and providing specific treatment to the topics related to the economics of the health care sector have become more and more common. Currently, the field is so well established that it has appeared in the ordinary curriculum of most universities, and even if health economists are mainly to be found in the medical departments, the connections to economics proper are being strengthened, and the methodologies applied are getting refined.

Health economics is the study of how scarce resources are allocated among alternative uses for the care of sickness and the promotion, maintenance and improvement of health, including the study of how health care and health-related services, their costs and benefits, and health itself are distributed among individuals

and groups in society. It is concerned with such matters as the allocation of resources between various health promoting activities, the quantity of resources used in health services delivery; the organization and funding of health service institutions, the efficiency with which resources are allocated and used for health purposes, and the effects of preventive, curative and rehabilitative health services on individuals and society (Lee and Mills, 1979).

Economic aspects of relationship between health status and productivity, financial aspects of health care services, economic decision making in health and medical care institutions, planning of health development and such other related aspects are the major areas covered under health economics.

Some salient features of health economics are health and medical care as economic goods, health as a private or a public good, measurement of health, stock of health, investment aspects of health, loss due to ill health, resource costs of different diseases, effects of health and medical care provision, planning of health and medical care, choice of technology in health care system, etc. There are both positive and normative ways of looking at the problem in health economics.

The normative issues relate to what should be, for example, what should be the appropriate budget allocation for HIV/AIDS control. The positive branch of health economics applies all modern microeconomic theory in health care/medical care. Demand for health care that depends on the income of the individual, his/her taste, public and private supply of health care, etc is a subject matter in positive health economics.

The connection between the health status of the individual (or the population as a whole) and consumption of medical services builds the link between “economics of health” and “economics of health care”. Health care refers to any type of services provided by professionals or para professionals with an impact on health status. Health care system is a formal structure for a defined population, whose finance, management, scope and content is defined by laws and regulations. It provides for services to be delivered to people to contribute to their health...delivered in defined settings such as homes, educational institutions, work places, public places, communities, hospitals, clinics, etc.

#### **IV. OBJECTIVES**

1. To study the existing health care market in India for identifying gaps and to assess potential for new ventures
2. To map the present Health care scenario in India vis- a- vis rest of the world.

#### **V. RESEARCH METHODOLOGY**

After doing Literature Review, Secondary data are collected through Census Reports, WHO Health Report, and Directorate of Health Govt. reports, ASSOCHAM reports and many more.

## VI. Data Analysis

### 1. Indian Healthcare Market

Market Size in 2011: \$50 billion CAGR: 14-16%

Market Size (2015) Projection: \$100 billion

Reasons for Growth: Concurrent efforts in development of infrastructure

Creation of demand for higher levels of healthcare

Rising awareness of end users

Aggressive launch of innovative insurance / reimbursement and financing policies



*Note:* All figures are rounded; the base year is 2011. Source: Frost & Sullivan  
*Source:* McKinsey Global Institute, 2011

### Indian Healthcare Scenario in comparison to rest of the world

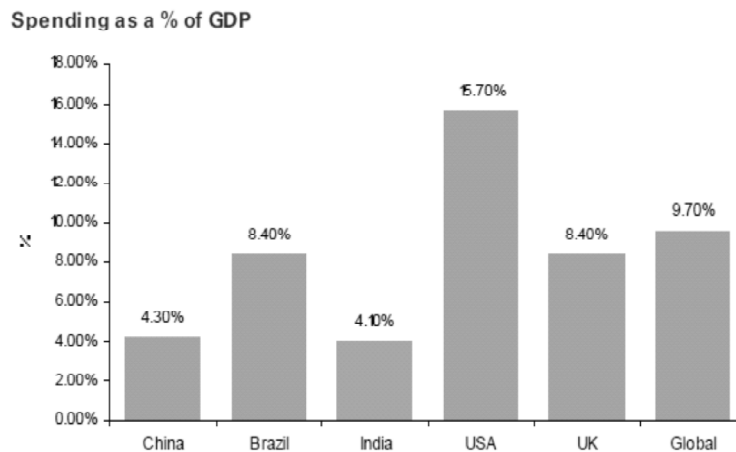
**Table 1**  
**Current Size of the Healthcare Industry**

	<i>Health Expenditure % GDP</i>	<i>Doctors / 1000</i>	<i>Hospital Beds / 1000</i>
World	2.6	1.5	3.3
Developed Countries	6.1	2.8	7.2
India	5.2	0.47	0.9
			<i>India</i>
Health Expenditure % of GDP			5.2
Government's share of total expenditure			4.4
Per capita spending on health (\$)			96

*Source: Health scenario in India, IAS 2007*

The Indian Healthcare sector currently represents a USD 40 Billion industry. India's healthcare spend is significantly low when compared to the global, developed and other similar emerging economies. The Indian healthcare spend is less than half the global average in percentage terms when compared on a "percent of GDP" basis.

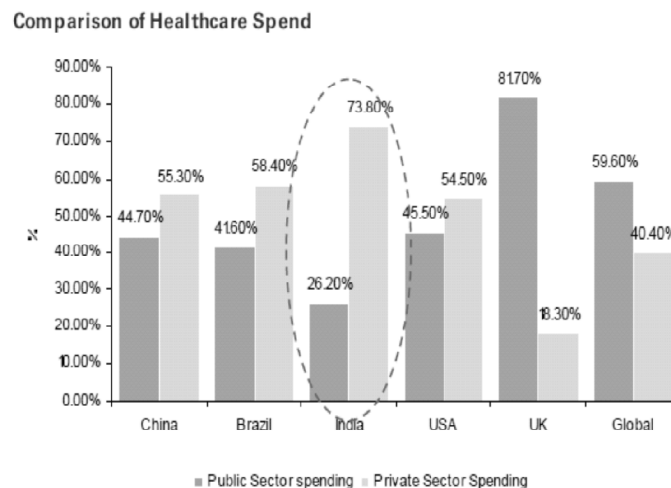
**Graph 1: Spending as a % of GDP**



Source: WHO World Health Statistics 2010

The healthcare spend, when compared on the basis of public-private contribution, also depicts a skewed picture. As is noted from the comparison below, Private Sector contribution to the healthcare sector at ~75 percent is amongst the highest in the world in percentage terms. Public spending, on the other hand, is amongst the lowest in the world and is ~23 percentage points lower than the global average.

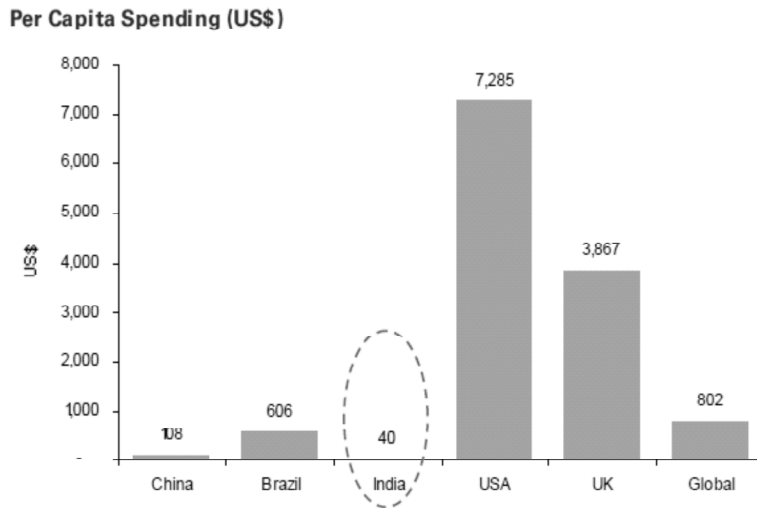
**Graph 2: Comparison of Healthcare Spend**



Source: WHO World Health Statistics 2010

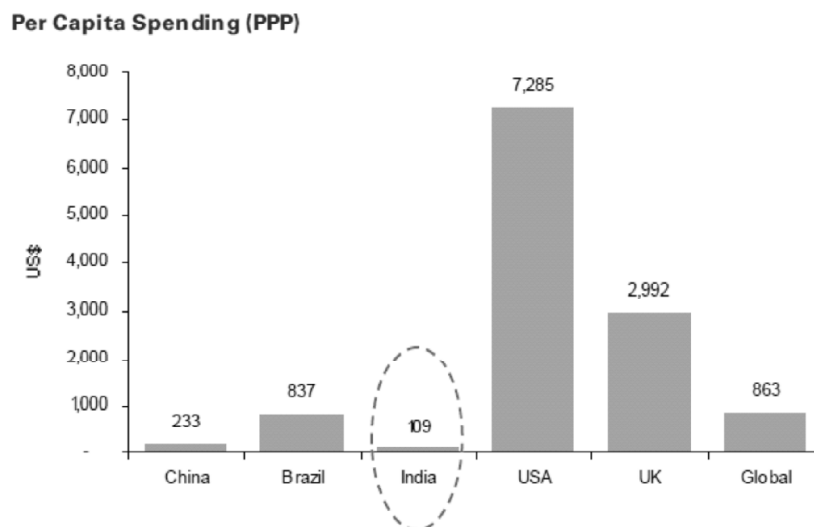
Finally, the healthcare spend examined on a per capita basis, both in terms of USD (at average exchange rate conversion) and in terms of Purchasing Power Parity (PPP), is amongst the lowest globally. Further, when compared to the global average, the per capita Indian healthcare spend is ~95 percent lower on an average exchange rate basis and ~87 percent lower on a PPP basis.

**Graph 3: Per Capita Spending (US\$)**



Source: WHO World Health Statistics 2010

**Graph 4: Per Capita Spending (PPP)**



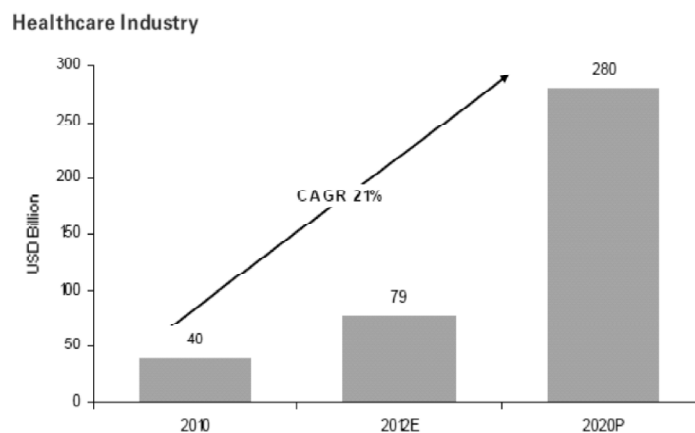
Source: WHO World Health Statistics 2010

India's healthcare spending is, however, growing at a healthy CAGR of ~14 percent from 5.5 per cent of the GDP in 2009 to 8 percent in 2012.

### Growth in the Healthcare Industry

As stated earlier, the Indian Healthcare Industry is currently estimated at USD 40 Billion. The industry is expected to grow to ~USD 280 Billion by 2020. The average CAGR for the next 10 years, therefore, has been estimated at ~ 21 per cent.

**Graph 5: Healthcare Industry**



## ROLE OF GOVERNMENT IN HEALTHCARE SECTOR

**Table 2**  
**India's Health Budget has gone by 4000 Crore to 3 0,702 Crore (2010)**

<i>Particulars</i>	<i>Percentage</i>
Total expenditure on health	5.2% of GDP
Public health investment	0.9% of GDP
Budget allocation for health	1.3% of central budget
Government expenditure	25%
State budgetary allocation	5.5%
Central contribution to state	15%

Government has taken an initiative to institutionalize a mechanism of Public-Private Partnership in health care right up from district level. Government has also extended 5 years tax holiday for hospitals more than 100 bed still 2013 not only in rural but also in tier-2 & tier-3 cities.

**DRIVERS OF GROWTH FOR THE HEALTHCARE SECTOR:** A combination of demographic and economic factors is expected to bring about increased healthcare coverage in India which is expected to drive the growth of the sector.

**(a) Demographic Factors**

- **Increase in Population:** Expected increase in population from about 1.1 billion in 2009-2010 to 1.4 billion by 2026.
- **Shift in demographics:** 60 percent of the population in the younger age bracket and an expected increase of geriatric population from current 96 million to around 168 million by 2026. This represents a huge patient base and creates a market for preventive, curative and geriatric care opportunities.
- **Rise in disposable income:** Households in the above INR 200,000 per annum bracket can benefit from an increase in disposable income from 14 percent in 2009-2010 to 26 percent in 2014-2015 making healthcare more affordable.
- **Increase in incidence of lifestyle-related diseases:** There is likely to be a marked increase in the incidence of lifestyle-related diseases, such as cardiovascular, oncology and diabetes, when compared to the communicable and infectious diseases.
- **Rising Literacy:** Growing general awareness, patient preferences and better utilisation of institutionalised care as a result of increase in literacy rates.
- **The increased spending power of middle class:** Is driving growth opportunities for corporate health care providers. The rising standard of living along with increased purchasing power and willingness to pay for quality health care has led to the emergence of high quality corporate hospitals. Changing life style patterns has created a market for preventive and curative care opportunities.

**(b) Economic Factors**

- **Tax benefits:** Lower direct taxes, higher depreciation on medical equipment, income tax exemption for 5 years to hospitals in rural areas, etc. are being provided by the Government to the sector.
- **Medical Tourism:** India emerging as a major medical tourist destination with medical tourism market expected to reach USD 2 billion by 2013.
- **Insurance coverage:** Increase in health insurance coverage with a number of private players and foreign players entering the market to cater to increased demand. The sector is expected to see an increase in the penetration from the current 10 -15 percent to almost 50 percent at a CAGR of 24 per cent. At an institutional level, insurance penetration is likely to continue to increase from 5 per cent to 15 per cent to 20 percent. In tertiary care this is almost as high as 40 -55 per cent with the inclusion of employer paid coverage.
- To encourage investment in the health care sector, government of India has allowed 100% FDI under the automatic route.



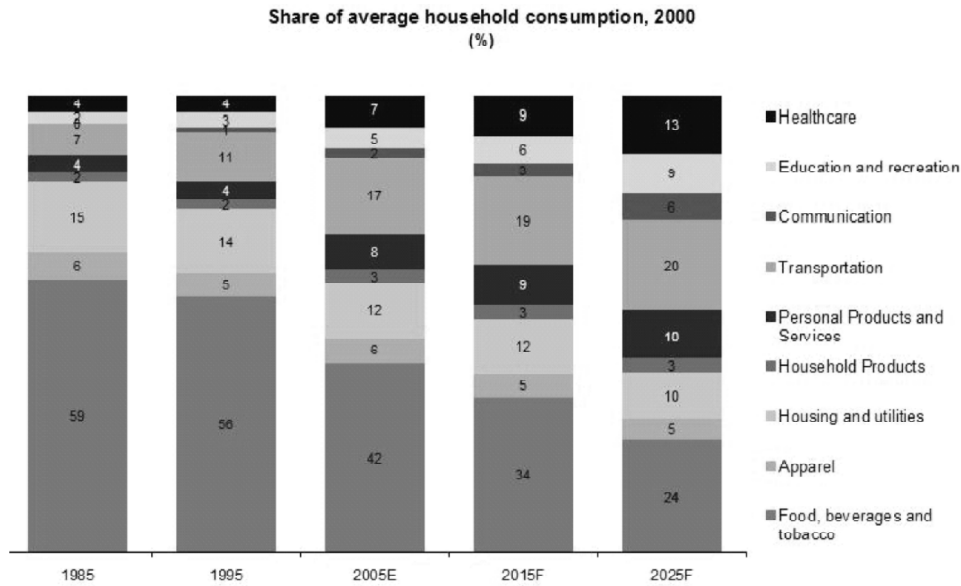
- Government has also accorded the infrastructure status to the hospitals and has announced lower tariffs (between 5–8 per cent) on medical equipment and devices.
- In a move that would benefit the corporate hospital chains expanding in urban areas, the government has decided to extend its provision of tax relief to new hospitals with over 100 beds in metros and other urban agglomerations, which had been deprived of such benefits till now.
- With a view to encouraging investment in hospitals in non-metro areas, the benefit of sub-section (11B) of section 80-IB had been extended to hospitals located anywhere in India, other than defined “excluded area”. Sub-section (11B) of section 80-IB provides for a tax holiday for five consecutive assessment years, beginning from the initial assessment year.
- The tax relief would also apply to ‘new’ hospitals with over 100 beds in previously ‘excluded area’ which includes the urban agglomerations of Greater Mumbai, Delhi, Kolkata, Chennai, Hyderabad, Bangalore and Ahmedabad, the districts of Faridabad, Gurgaon, Ghaziabad, Gautamudh Nagar, Gandhi Nagar and the city of Secunderabad. Tax benefit is no way available to hospitals which are constructed and have started or would start functioning at any time during the period beginning the 1st day of April, 2008 and ending on the 31st day of March, 2013.
- Customs duty exemption on specific personal medical aids like crutches, wheel-chairs, walking frames and artificial limbs
- Factors like privatization of medical insurance are making the market more attractive for international & national corporate players
- Medical Tourism has grown to USD 2 billion in 2012
- India has the fastest growing health care IT market in Asia, with an expected growth rate of 22%. Government has allowed Foreign Direct Investment up to 100% in hospital services and upto 26% in health care insurance.
- The market for medical devices and equipment in India is estimated to reach nearly US \$ 5 billion by 2014.
- Foreign investment has been allowed in all sectors of health care in India.
- Government has reduced custom duty on medical equipment by 5%.
- Import duty on life saving equipment has been reduced from 25% to 5%.

## **2. India’s Share of Wallet is Shifting from Basic Necessities to Discretionary Items**

*Better economic conditions are making many items to move from discretionary to necessities list*

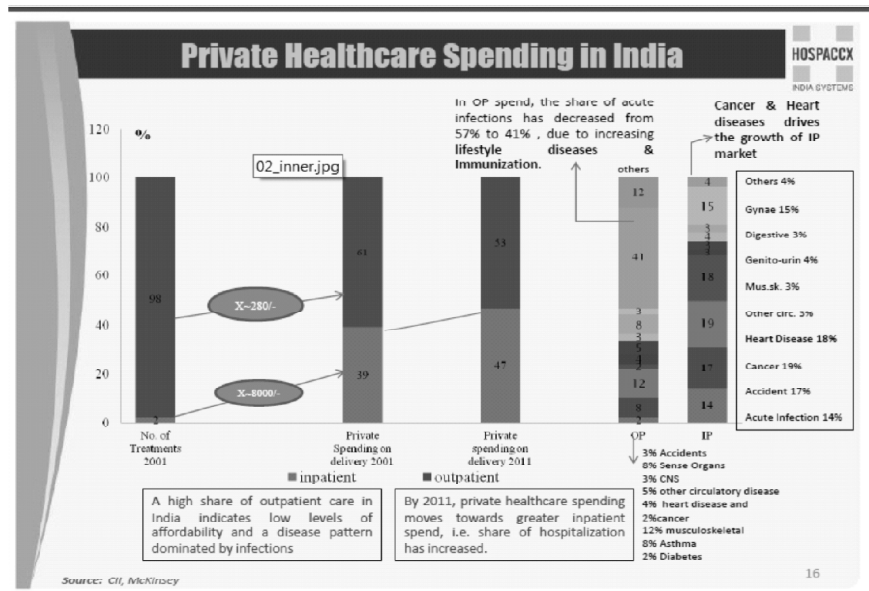
**Graph 6 Share of Average Household Consumption**

- (1) There is no split available between Foods, Beverage & Tobacco
- (2) E=estimate, F=forecast



Source: McKinsey Global Institute, 2007  
 Private Healthcare spending in India  
 Source: CII McKinsey

**Graph 7: Private Healthcare Spending in India**



## HEALTH STATUS OF INDIAN POPULATION

### *Cancer*

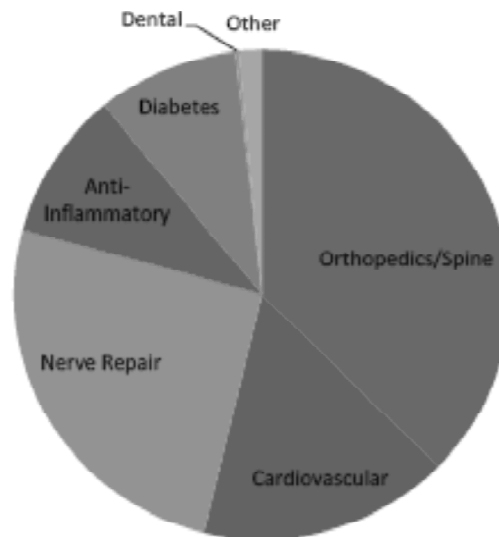
- The total number of cancer cases in India was estimated 924,790 in 2001.
- This is projected to increase to 1,557,800 by 2021.

### *Cardiovascular Diseases*

- The mortality rate due to cardiac arrest and related causes was estimated 2.4 million in 1990.
- With increasing urbanization the problem is on the rise.

### *Hypertension, diabetes and renal diseases*

- The stress and life style related disorders are on the rise.
- The diabetic population in India is projected to increase rapidly to make it the place with highest diabetic citizens.



Pie Chart 1 Major diseases in India

Source: ICRA Report on Indian Healthcare & TIFAC

## VII. OPPORTUNITIES & THREATS

- **Healthcare infrastructure deficiencies:** The gap in between the services available and the services required is huge. All the hospitals are running at full capacity & also some of the Hospitals are running short of beds. The penetration of healthcare infrastructure in India is much lower than that of developed countries and even lower than the global average.

**Current Infrastructure:** The healthcare infrastructure in India is inadequate compared with the global standards. It lags behind the global average in terms of healthcare infrastructure and manpower. India has an average 0.6 doctors per 1000 population against the global average of 1.23 which suggests an evident manpower gap.

In 2009, the number of beds available per 1000 people in India was only 1.27, which was less than half the global average of 2.6. There are 369,351 government beds in urban areas and a mere 143,069 beds in rural areas.

At six doctors per 10,000 people, the number of qualified doctors in the country is not sufficient for the growing requirements of Indian healthcare. Moreover, rural “doctors to population” ratio is lower by 6 times as compared to urban areas.

In 2010, India had approximately 300 medical colleges, 290 colleges for Bachelor of Dental Surgery and 140 colleges for Master of Dental Surgery admitting 34,595, 23,520 and 2,644 students annually respectively. India needs to open 600 medical colleges (100 seats per college) and 1500 nursing colleges (60 seats per college) in order to meet the global average of doctors and nurses.

Moreover, the medical personnel are concentrated in urban areas. Around 74 percent of the graduate doctors in India work in urban settlements which account for only approximately one-fourth of the population. The countrywide distribution of these institutes is also skewed. 61 per cent of the medical colleges are in the 6 states Maharashtra, Karnataka, Kerala, Tamil Nadu, Andhra Pradesh and Puducherry, while only 11 percent are in Bihar, Jharkhand, Orissa and West Bengal and the north-eastern states.

- There is increase in lifestyle related diseases. There is potential market for super speciality services because all the main hospitals are located in main city. The new set up can trap remaining market area.
- India is a medical tourism hub, so new hospitals can also focus upon different specialties like bone marrow transplant etc.
- Medical insurance is growing rapidly.
- The upcoming hospitals can apply for NABHA accreditation which will be quality certification showcasing it as the finest hospital in the region.
- Quick changing technology is posing a threat to the established system.
- High turnover of Human resource is another threat.

## **EMERGING TRENDS IN HEALTHCARE DELIVERY**

**(a) Mergers & Acquisitions:** Pharma, Biotech and healthcare sector has seen significant traction over last four years with deal values ranging from USD 1.5 billion in 2007 to USD 6.2 billion in 2010. Healthcare services accounted for total 14% of the total M&A deal value in 2009. Pharma, Biotech and healthcare sector saw inbound M & A deals to the tune of 52% of the total deal value in 2010.

**(b) Stem Cell Research:** Stem cell therapy involves the rebuilding or replacing of cells damaged due to genetic and degenerative disorders including age-related functional disorders, immune diseases, cardiovascular disorders, Parkinson's and Alzheimer's diseases, different cancers etc. Scientists are working to create stem cell therapies that might help tackle a variety of disorders, and will help in the regeneration of a new organ.

In India, the Department of Biotechnology has allocated more than USD 66 Million over the last five years towards basic and applied research in stem cell technology. The focus is to understand the fundamentals of stem cells function and conduct clinical trials to gauge the effectiveness of the therapy. National Centre for Biological Sciences (NCBS) in Bangalore is involved in this.

A variety of institutes such as AIIMS, L.V. Prasad Eye Institute, Centre for Stem Cell Research at CMCVellore and National Centre for Cell Sciences (NCCS) at Pune University are focused on applications for specifically three areas: Regeneration of damaged muscles due to heart attack, stroke or cornea damage. This confirms to the high incidence rate of heart attack, blindness and stroke in India. The task of these institutes is to locate promising sources of stem cells, apply stem cell therapy to cure patients and verify if the procedure is stable enough for wider application.

The private efforts have been a great help in this context. Dr. Satish Patki et-al and Dr. Naresh Trehan have demonstrated successful models for stem cell research in India with tests on endometrium and bonemarrow cells respectively. Reliance life sciences have been given the nod for venturing into stem cell research in India. Storing the stem cells can be of great benefit to the healthcare fraternity. Companies like Reliance Life Sciences, Lifecell have created facility to store stem cells from umbilical cord and milk teeth. Stem-cell banking therefore is emerging as a hot destination for investments. Its market in India is touted to be about USD 22 Million, and is growing at over 40 percent per year.

**(c) Contract research:** Contract Research is a fast emerging business opportunity for Indian companies, particularly for mid-sized companies. The market size of contract research in India in 2009 was USD 0.9 billion compared with USD 0.6 billion in 2008, a growth of 50%. Players in the Indian CRO market in the year 2005 were 20 and increased to 100 in the year 2008. These are expected to be in the range of 150-200 in the year 2014.

Hospital chains are venturing into contract research to reduce their operational and clinical costs. Fortis Healthcare has become the latest entrant in contract research with its Fortis Clinical Research Services. Apollo Hospitals' site management organization—Apollo Spectra Research Foundation—has been managing clinical trials for some years now and the Max group, owner of Max chain of hospitals, has a contract research organization called Neeman Medical International.

About 60 percent of the global clinical trials market is outsourced to developing countries like India. Indian generic pharma companies like Daiichi Sankyo, Dr. Reddy's along with the global players such as Pfizer and Merck are involved in the outsourcing in the Indian market.

***Private-Public Partnerships:*** The Indian Government is focused on developing the PPP model to cover the demand-supply gap prevalent in the healthcare sector. Private sector expertise coupled with efficiencies in operation and maintenance would lead to improved healthcare services delivery to the masses. This model can act as a catalyst in the creation of new capacity and improvement of efficiency in the existing infrastructure established. The Government also embraced PPP model to counter epidemics like H1N1 swine flu, HIV, etc. However, it is evident that this model be far more beneficial.

#### **THE CRITICAL SUCCESS FACTORS FOR PPP ARE**

- Political Commitment and introduction of requisite regulations
- Policy and legal framework for operating PPP models
- Strong control mechanisms for efficient oversight including dispute resolution procedures
- Risk apportionment through careful design of the contract
- Incentivize the private sector with an 'acceptable rate of return'

#### **FEW SUCCESSFUL PPP PROJECTS ARE MENTIONED BELOW**

- Karnataka Karuna Trust; Yashaswini Scheme
- Tamil Nadu Mobile health services
- Andhra Pradesh Aarogyasri
- Andhra Pradesh Diagnostic Services for 4 Medical Colleges
- West Bengal Mobile health services
- Madhya Pradesh Community outreach program
- Rajasthan Contracting in public hospitals
- Gujarat Chiranjeevi Project

#### **VIII. CONCLUSION**

Healthcare is at an influx of paradigm shifts in terms of changing disease patterns, increasing dual disease burden for both rural and urban India. On the supply side there has been uneven distribution of healthcare infrastructure and resources posing various challenges to the sector. A multi-pronged approach from key stake holders is necessary to address the issue. Both the public and private sector need to work in tandem to make healthcare available, accessible and affordable. India would need various solutions towards this end.

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