

Emerging Trends in Healthcare

A Journey from Bench to Bedside

17 February 2011

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MESSAGE

I am glad to learn that the Associated Chambers Of Commerce and Industry is organizing a day long summit on "Emerging Trends in Healthcare"—a journey from bench to bedside, on 17th Feb. 2011 at New Delhi.

To provide a reliable healthcare to one and all is, no doubt, a big challenge. It is imperative to work together as only governmental efforts will not suffice. Delhi has provided the best health infrastructure and it is also developing it as medical tourism centre. I am sure that the summit will provide an excellent opportunity to interact on all issues related to Health sector and will also be able to present feasible suggestions to make public health more qualitative and purposeful.

My best wishes for the success of the summit.

Sheila Dikshit
(SHEILA DIKSHIT)



गुलाम नबी आज़ाद
GHULAM NABI AZAD



स्वास्थ्य एवं परिवार कल्याण मंत्री

भारत सरकार

निर्माण भवन, नई दिल्ली-110108

Minister of Health & Family Welfare

Government of India

Nirman Bhavan, New Delhi-110108

31 January, 2011

MESSAGE



I am very happy to know that the Associated Chambers of Commerce and Industry is conducting a one-day summit on 'Emerging Trends in Healthcare' on 17th February 2011.

Healthcare research has always been at the frontier of knowledge and has always been infused with a degree of exalted purpose as it involves saving human lives and alleviating human sufferings. Commercially also, healthcare research in pharmaceuticals, medical equipments, health infrastructure, healthcare services has been a mainstay of the economy.

Events like this Summit provide an ideal platform for the exchange of ideas and reading and developing new concepts in this critical field. Flow of information through such gatherings will certainly enhance the march of healthcare science and enable the researchers, practitioners and care providers with new tools to serve the people.

I wish the organizers and participants the best in their endeavours.

(Ghulam Nabi Azad)

Acknowledgement



India's competitive advantage lies in the lower production and research cost, its large pool of low cost technical and scientifically trained personnel, and large number of compliance certified manufacturers and service providers, which make us different from others. ASSOCHAM feels that technology incubation is no longer confined to a few institutions; it is a responsibility that we have to share, if we wish to see a better and a healthy future ahead. There is an immense need to develop skilled manpower in the area of healthcare and modern as well as traditional medicines. I am glad that this Summit on Emerging trends in Healthcare will bring forth the journey from research desk to the bedside of patient, as we will look at healthcare at the frontline to identify some common challenges that may help explain the complex nature of healthcare and the scale of the "change" challenge.

I wish to thank KPMG for unanimously contributing towards this Knowledge Paper, which gives a rich and comprehensive insight of the trend in healthcare. I would also take the opportunity to thank QCI for supporting this event. The case studies contributed by the dynamic stake holders show their vibrant efforts and commitment towards providing the best of their services and support towards improving the healthcare scenario of India, I wish them great success ahead. Last but not the least, I wish to extend a token of appreciation for the Healthcare/BioPharma team for their effort and interaction with the Healthcare/Bio Pharma industry at different levels.

A handwritten signature in black ink, appearing to read "D.S. Rawat".

(D.S.Rawat)
Secretary General
ASSOCHAM

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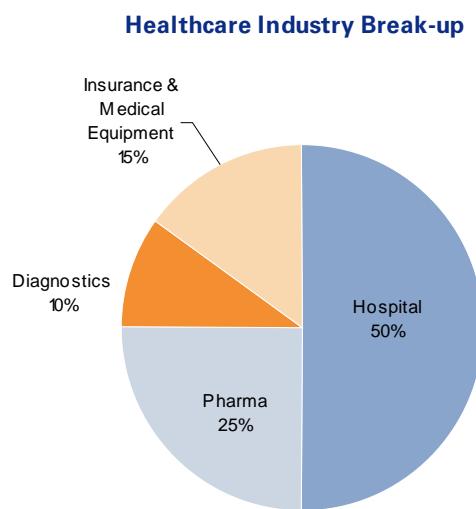
Introduction

The Healthcare sector, in India, is at an inflection point and is poised for rapid growth in the medium term. However, 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. While this represents significant opportunity for the private sector, the Government can also play an important role in facilitating this evolution.

Current State of Healthcare in India

Current Size of the Healthcare Industry

The Indian Healthcare sector currently represents a USD 40 Billion industry¹. A break-up of the sector as of 2009 is provided:



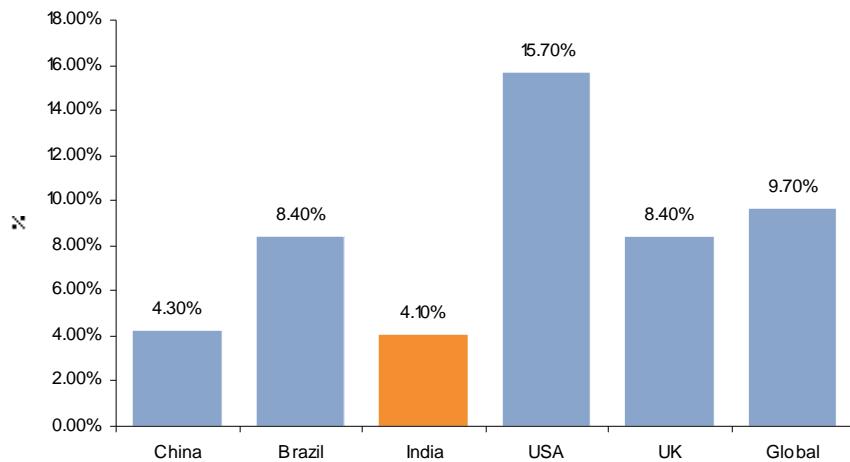
Source: IDFC Securities Hospital Sector November 2010

India's healthcare spend is significantly low when compared to the global, developed and other similar emerging economies. To further illustrate this point, we have examined the Indian healthcare spend on various parameters.

The Indian healthcare spend is less than half the global average in percentage terms when compared on a "percent of GDP" basis.

¹ Source: IBEF

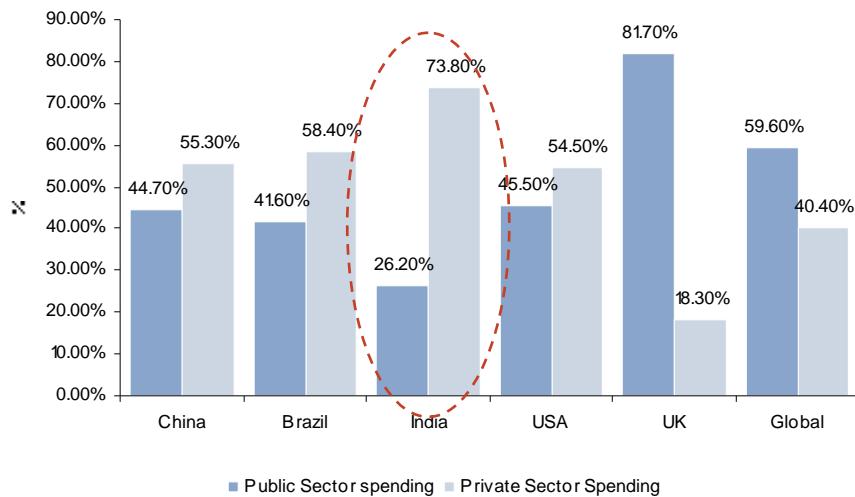
Spending as a % of GDP



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.

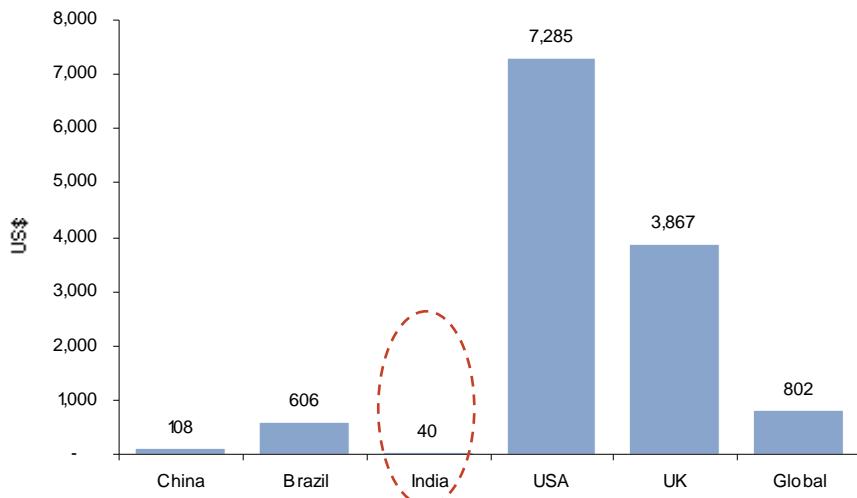
Comparison of Healthcare Spend



Source: WHO World Health Statistics 2010

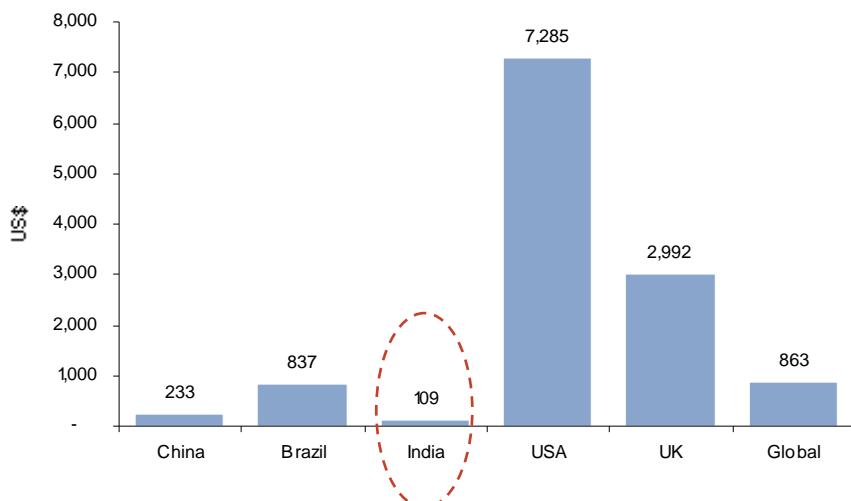
Finally, the healthcare spend examined on a per capita basis, both in terms of USD (at average exchange rate conversion) and in terms of Purchasing Power Parity (PPP), is amongst the lowest globally. Further, when compared to the global average, the per capita Indian healthcare spend is ~95 percent lower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

Per Capita Spending (US\$)



Source: WHO World Health Statistics 2010

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 percent of the GDP in 2009 to 8 percent in 2012.²

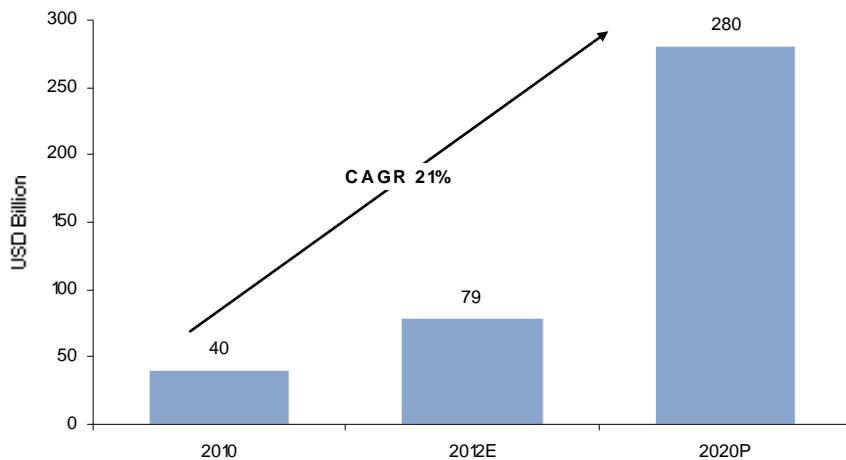
Growth in the Healthcare Industry

As stated earlier, the Indian Healthcare Industry is currently estimated at USD 40 Billion. The industry is expected to grow to ~USD 79 Billion by 2012 and ~ USD 280 Billion by 2020³. The average CAGR for the next 10 years, therefore, has been estimated at ~ 21 percent.

² IBEF November 2010

³ IBEF_November 2010

Healthcare Industry



Source: IBEF

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

Demographic factors:

- **Increase in Population:** Expected increase in population from about 1.1 billion in 2009-2010 to 1.4 billion by 2026⁴
- **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 opportunities⁵
- **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 2009-2010E to 26 percent in 2014-2015P making healthcare more affordable⁶
- **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 rates⁷

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 sector⁸
- **Medical Tourism:** India emerging as a major medical tourist destination with medical tourism market expected to reach USD 2 billion by 2012⁹

⁴ Crisil Research Hospitals Annual Review November 2010

⁵ KPMG Analysis

⁶ Crisil Research Hospitals Annual Review November 2010

⁷ NFHS Survey

⁸ KPMG Analysis

⁹ IDFC Securities Hospital Sector November 2010

- **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 and increase in the penetration from the current 10 percent-15 percent to almost 50 percent at a CAGR of 24 percent. At an institutional level, insurance penetration is likely to continue to increase from 5 percent to 15 percent to 20 percent. In tertiary care this is almost as high as 40 percent-55 percent with the inclusion of employer paid coverage.¹⁰

Emerging Trends in Healthcare: Challenges and Interventions

While the Indian Healthcare sector is poised for growth in the next decade, it is still plagued by various issues and challenges:

1 Dual Disease Burden:

- Urban India is now on the threshold of becoming the disease capital of the world and facing an increased incidence of Lifestyle related diseases such as cardiovascular diseases, diabetes, cancer, COPD etc. At the same time, the Urban Poor and Rural India are struggling with Communicable Diseases such as tuberculosis, typhoid, dysentery etc. Rural India is also seeing a higher occurrence of Non-Communicable Life-style related diseases. This represents a serious challenge that the Indian Healthcare system would need to address

2 Lack of Infrastructure and Manpower: Accessibility to healthcare services is extremely limited to many rural areas of the country. In addition, existing healthcare infrastructure is unplanned and is irregularly distributed. Further, there is a severe lack of trained doctors and nurses to service the needs of the large Indian populous.

The private sector has evolved a multi-pronged approach to increase accessibility and penetration. It has tackled the issue of Lifestyle related diseases with the development of high-end tertiary care facilities. Also new delivery models such as Day-care centres, single specialty hospitals, end-of-life care centres, etc. are on the horizon to service larger sections of the population and address specific needs.

The Public Sector is keen to continue to encourage private investment in the healthcare sector¹¹ and is now developing Public – Private Partnerships i.e. PPP models to improve availability of healthcare services and provide healthcare financing.

Both sectors have also undertaken initiatives to improve functional efficiencies in the form of Accreditations, Clinical research, outsourcing of non-core areas, increased penetration of healthcare insurance and third party payers.

These issues and initiatives have been further discussed in the ensuing sections.

¹⁰ KPMG Analysis

¹¹ National Health Policy, 2002

Changing disease patterns: Implication for healthcare infrastructure

Changes in the lifestyle of the people are resulting in a dual disease burden. This emanates from the complexity of communicable and non-communicable diseases in the rural and urban regions of the country. The occurrence of these disease patterns has impacted the healthcare infrastructure requirements and has resulted in infrastructural challenges for the government and the private players.

Changing Disease Trends

India rates poorly on even the basic healthcare indicators when benchmarked against not only the developed economies, but also the other BRIC nations. This is evidence of the fact that a significant portion of the Indian population is unable to access healthcare services. This is a consequence of:

- Lack of healthcare infrastructure
- Lack of trained and qualified manpower

Indicator	Year	India	Developed Economies			Emerging Economies		
			US	UK	Japan	Brazil	Russia	China
Life expectancy at birth (years)	2008	64	78	80	83	73	68	74
Infant Mortality Rate (probability of dying by age 1 per 1000 live births)	2008	52	7	5	3	18	9	18
Maternal Mortality Rate (per 100000 births)	2000-09	254	13	7	3	77	24	34

Source: WHO, World Health Statistics, 2010

These issues have been examined and discussed in the sections below.

Changing Disease Pattern: The Dual disease burden

India's urban population has witnessed an increase of 4.5 times over 1951-2001 compared to a 3 times increase in the total population over the same period¹². With increasing urbanization and the problems associated with modern-day living in urban settings, the disease profiles are shifting from infectious to lifestyle-related.¹³ It is estimated that by 2012, 50% of the spending on inpatient beds would be for lifestyle-related diseases¹⁴.

¹² IDFC Securities Hospital Sector November 2010

¹³ IDFC Securities Hospital Sector November 2010

¹⁴ Strategic Healthcare Solutions Private Limited, Article "Healthcare: Destination India", 2007

India faces the following challenges in disease control:

- Tackling maternal and infant mortality as well as communicable diseases such as Tuberculosis, vector-borne diseases of malaria, kala-azar and filaria, water-borne diseases such as cholera, diarrhoeal diseases, leptospirosis, and the vaccine-preventable measles and tetanus
- Tackling rising occurrence of non-communicable diseases (NCDs) including cancers, diabetes, cardiovascular diseases, chronic obstructive pulmonary diseases and injuries
- Developing systems to cope with the category of the new and re-emerging infectious diseases like HIV, avian influenza, SARS, and H1N1 influenza¹⁵

Burden of Non Communicable Diseases

Disease	Number of Cases	Deaths 2005*	Projected Number of Cases 2015**	Projected Deaths 2015**
Cardiovascular	3,80,41,090	20,89,50 8	6,40,71,981	34,20,752
Diabetes	3,10,39,932	N/A	4,58,09,149	N/A
COPD	1,70,20,000	N/A	2,22,10,000	N/A
Cancer	20,16,700	5,38,858	24,96,133	6,66,563

*CVD/diabetes data from 2005; COPD from 2006; cancer from 2004.

** Projected data for CVD/diabetes is for 2015; COPD is 2016; cancer is 2014.

Source: World Health Organisation, World Health Statistics 2010

The four leading chronic diseases in India, as measured by their prevalence, are cardiovascular diseases (CVDs), diabetes mellitus (diabetes), chronic obstructive pulmonary disease (COPD) and cancer. All four of these diseases are projected to continue to increase in prevalence in the near future given the demographic trends and lifestyle changes in India¹⁶.

Healthcare infrastructure deficiencies

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 1.23¹⁷ which suggests an evident manpower gap.

Indicators	Year	India	USA	UK	Brazil	China
Hospital Bed Density (per 10000 population)	2000-2009	12	31	39	24	30
Doctor Density (per 10000 population)	2000-2009	6	27	21	17	14

¹⁵ AR, Government of India Ministry of Health and Family Welfare, September 2010

¹⁶ World Health Organisation, World Health Statistics 2010

¹⁷ CII, Technopak report

Indicators	Year	India	USA	UK	Brazil	China
Births attended by skilled health personnel (percent)	2000-2009	47	99	NA	97	98
No of doctors	2009	6,43,520	7,93,648	1,26,126	3,20,013	18,62,630
No. of Nurses	2009	13,72,059	29,27,000	37,200	5,49,423	12259240
No. of Dentists	2009	55,344	4,63,663	25,914	2,17,217	1,36,520
Avg. no. of doctors per bed	2009	0.6	0.81	0.53	0.69	0.46
Avg. no. of nurses per bed	2009	1.27	3	0.16	1.18	3.02
No. of doctors per 1000 population	2009	0.6	2.7	2.1	1.7	1.4
No. of nurses per 1000 population	2009	1.3	9.8	0.6	2.9	1

Source:www.oecd.org, www.whoindia.org

In 2009, the number of beds available per 1000 people in India was only 1.27, which is 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 areas¹⁸.

	2008	2018	2028
Additional Beds Required	1.1 million	3.1 million	2 million
Bed/1000 population ratio	0.7 to 1.7	4	5

Source: CII Technopak

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 areas¹⁹.

Parameter	Current Annual Production	To fill the gap
Physicians	30,558	9,93,500
Nurses	1,14,218	2,510,250

Source: CII Technopak

¹⁸ Source: National Health Profile 2009

¹⁹ Source: CII Technopak

As of FY10, 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 percent of the medical colleges are in the 6 states of 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 states²⁰.

²⁰ Source: Task Force on Medical Education for the National Rural Health Mission and The National Medical Journal of India Vol. 23, No. 3, 2010

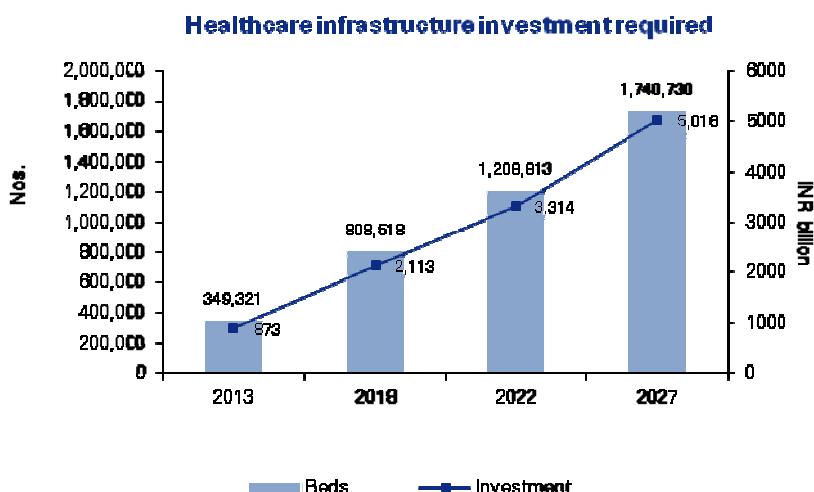
Emerging Trends in Healthcare Delivery

In the last decade, private participation in the healthcare sector has risen significantly on the back of increased interest by investors and rising Private Equity and Mergers and Acquisitions (M&A) activity. Further, the sector has also evolved through increased investment in R&D and the introduction of specialised delivery models.

Investment Trends

Driven by increased domestic demand for high-end investment services as well as medical tourism, the healthcare sector has attracted huge investments lately. The healthcare sector is likely to see an increase in investment from USD 34.2bn in 2006 to USD 78bn in 2012E (CAGR of 15 percent), with ~80 percent of investments from private players.²¹ The investments to this scale are expected to increase the bed ratio from 0.9 beds per 1000 people to 1.85 beds per 1000 people.²²

Moreover, large scale investments in infrastructure are required to make healthcare facilities on par with developed countries.



Source: Centrum Healthcare Sector October 2010

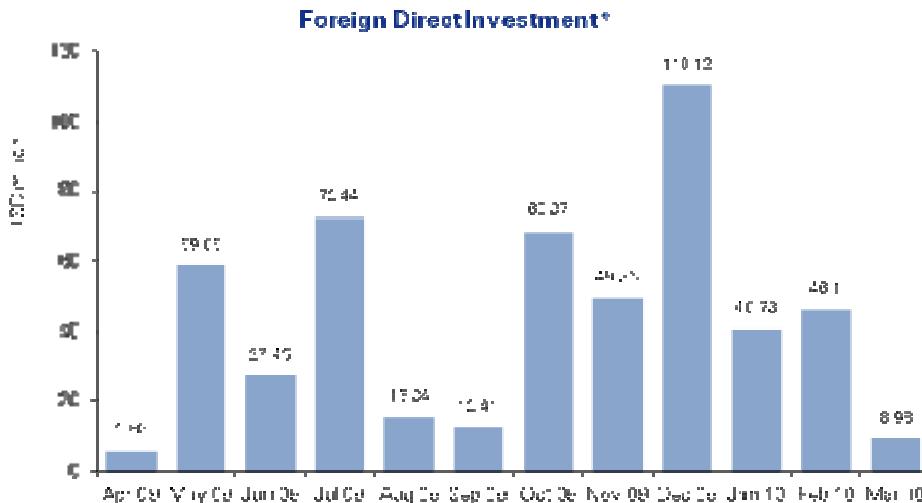
Foreign Direct Investment (FDI)

The FDI inflows in the hospital sector have not been significantly high despite government incentives to attract FDI investments (including 100 percent FDI in most health-related services). There are currently limited number of “100 percent foreign-owned healthcare” players in the Indian market. However, this scenario is expected to change given the attractiveness of the sector. Many foreign players are making a foray into the market through joint ventures with local healthcare units. For example, Singapore's Pacific Healthcare made its first foray into the Indian market, opening an international medical centre, which is a

²¹ Source: Centrum Healthcare Sector October 2010

²² Source: Centrum Healthcare Sector October 2010

joint venture with India's Vitae Healthcare, in the Indian city of Hyderabad. Singapore-based Parkway Group Healthcare PTE Ltd had entered the Indian healthcare market in 2003 through a joint venture with the Apollo group to build the Apollo Gleneagles hospital, a 325-bed multi-speciality hospital at a cost of USD 29 million²³ and is looking at a joint venture for another tertiary care hospital in Mumbai. Many international diagnostic care players have entered India and others including medical education players are looking keenly at sectoral entry points.



Source: Indiastat

*FDI for Hospitals and Diagnostic Centres, Medical and Surgical Appliances, Drugs and Pharmaceuticals

M&A Deals

Pharma, biotech and healthcare sector has seen significant traction over the 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 14 percent of the total M&A deal value in 2009. Pharma, biotech and healthcare sector saw inbound M&A deals to the tune of 52 percent of the total M&A deal value in 2010.²⁴

	Number	Value (USD billion)
2007	NA	1.5
2008	NA	5.5
2009	23	1.5
2010	57	6.2

Source: Grant Thornton Deal Tracker

Private Equity Investment

There has been an increase in the PE and VC activity (both domestic and global) over the past couple of years. These investments have been made across the healthcare delivery chain. However, these investments are mostly made in tertiary care hospitals in metros/ tier II cities, chains of hospitals, diagnostic labs, etc.

²³ Source: IDFC Securities Hospital Sector November 2010

²⁴ Source: Grant Thornton Deal Tracker, 2010

The private equity investments nearly doubled in value in 2010 for the pharma, healthcare and biotech sector. A number of PE investors invested in hospitals and healthcare services.

	Number	Value (USD billion)
2009	15	148.5
2010	23	320.4

Source: Grant Thornton Deal Tracker, 2010

Developments in Research

Healthcare research is a core focus within the healthcare sector. In the Union budget 2010/11, the expenditure budget of the Ministry of Health and Family Welfare for health research increased by 25 percent Y-o-Y corresponding to USD 110 million in absolute terms.²⁵ Notable research efforts in the last few years include Wellquest's research centre in Hyderabad and Biocon India's and Bristol-Myers Squibb's joint R&D centre at Biocon's SEZ in Bangalore²⁶.

Moreover, rising R&D costs and declining R&D productivity, has led to outsourcing being a key strategy for improving profitability for global innovator companies. This has been a key driver for the growth of Contract Research and Manufacturing Services (CRAMS) in India.

Contract Research in India

Contract Research is a fast emerging business opportunity for Indian companies, particularly for midsized 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 2012.

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 market²⁷.

²⁵ Economic Intelligence Unit Healthcare November 2010

²⁶ Cygnus, Industry Insight - CRAMS 2010

²⁷ Cygnus, Industry Insight - CRAMS 2010

Emerging Trends in Clinical Research

Clinical research in many specialities has led to improved disease management and patient care, reduced ALOS, better BTR (Bed Turn Over Rates) making healthcare delivery more sustainable. This also significantly improves the DALY (Disease Adjusted Life Years).

Research in better diagnostic care has been in both laboratory medicine moving to higher generation ELISA's, NAT (Nucleic Acid Testing), moving to molecular diagnostics, immunology and antigen testing, evolving disease markers and so on. On the radiology front too there have been substantial improvements from traditional methods to computerisation, PACS (Picture Archived Computerised System), better radiation dose control and so on.²⁸

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, autoimmune 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 this²⁹.

A variety of institutes such as AIIMS, L.V. Prasad Eye Institute, Centre for Stem Cell Research at CMC Vellore 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 bone marrow 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 and Stemade 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 year³⁰.

²⁸ Source: Cygnus, Industry Insight - CRAMS 2010

²⁹ Source: Department of Biotechnology, Annual Report 2010

³⁰ Source: DNA, "Stem-cell bankers seek to tap India" September 2010

Drug Eluting Stents

Deaths due to cardiac ailments will increase by 100 percent in India by 2015³¹. Drug eluting stents (DES) are increasingly being used in the treatment of coronary artery diseases.

One of the major benefits of DES is that the procedure is minimally invasive and the performance is equal or better than bare metal stents (BMS). Even though polymers are important in keeping the drug intact, polymer free DES are likely to minimize DES-related complications. An interesting facet of research is being undertaken at Surat-based Envision Scientific. The judicious application of nano particles will increase the cell absorption and thus reduce the complications of the drug and polymers Nano carrier delivery can be used for different medical applications. Companies like Envision scientific, B-Braun, are addressing these key issues with landmark researches. The latest research in this field is drug eluting balloon (balloons without stents) which will travel the artery and act at the wound site.³²

Hospitals and Research

In India, many corporate hospitals and major public hospitals are actively involved in conducting clinical trials of various drugs.

Private corporate hospitals such as Apollo Care, Narayana Hrudayalaya, Usha Cardiac Institute, Shankar Netralaya, Indraprastha, Breach Candy, and Bayer diagnostics as well as public hospitals such as All India Institute of Medical Sciences, Nizam Institute of Medical Sciences and many of the Medical colleges and teaching hospitals are actively involved in various stages of clinical trials³³.

Many of them have state-of-the-art infrastructure facilities for conducting clinical trials and treating patients. These have not only helped in improving patient outcomes but also helped in tackling increased volume of patients suffering from debilitating diseases.

Developments in Private Healthcare

Evolving Delivery Models

Day care Centres

Need: The concept of out-patient surgeries is growing worldwide as in-patient facilities can be expensive and inconvenient in some cases. A large number of surgeries can now be performed without the patient having to be admitted at all with the help of Daycare Surgery Centres. This delivery model is advantageous for both healthcare providers and consumers. It is estimated that by 2020, 75 percent of all surgical operations will be carried out in ambulatory surgery centres/units³⁴. Today over a quarter of the surgeries are contributed by ophthalmic procedures. The cost advantage of day surgery is best achieved in free-standing centres or free-functioning units within hospitals.

³¹ Source: Express Pharma Online, "Lupin launches Ivabrad", 2008

³² Source: KPMG Analysis

³³ Source: Cygnus, Industry Insight - CRAMS 2010

³⁴ Source: indianhealthcare.in

In India, the concept of stand-alone daycare surgery centres is currently in its infancy. Many of the major hospitals have a separate daycare surgery centre which caters to the management of ambulatory (also commonly referred to as "same day surgery") procedures. In India, about 20 percent of all surgical procedures are performed on outpatients³⁵.

Studies reveal that treatment in these centres would cost about 47 percent less than in hospitals³⁶. This model can be economically efficient for the Indian healthcare which is scarce in resources³⁷.

Potential Benefits:

The range of services provided and the cost are the prime benefits of the day care services.

In a hospital with the day care services the surgery department provides services for eye surgery, including removal of cataracts, eye muscle surgery, Arthroscopic surgeries, General surgery, Cosmetic surgery and removal of foreign bodies, providing the patient with plethora of services in a small time frame.

An average corporate hospital on the other hand takes a minimum of 18 months in the making and a minimum of three to five years to break even. Company executives point out that even in a hospital set up around 75 percent of revenue is finally made from the surgeries. This fact further supports the growth of day care centres.

Capex and EBIDTA: Due to the dependency on the speciality and level of care that a Day Care Centre would cater to it is difficult to pen down an industry average on the Capex but a fair indicator would be INR 3.5 – 4.5 Million / bed for an international standard day care centre. EBIDTA margins for Day Care centres range between 25 percent and 30 percent with a pay back of ~ 3 – 4 years³⁸.

Case Studies³⁹:

NOVA DAY CARE CENTRE

The promoters and the US-based private investment firm, plan to set up around 100 day-care surgery centres in the next three to four years with an investment of over INR 800 crore. The company executives' claim that the patients could save about 15-20 percent in surgery costs at Nova's day care centres compared to the corporate hospitals rates.

"The low-cost model and the high efficiency rates of 450 surgeries per month per centre would make it a befitting model for India, which has a bed to population ratio of 0.7 per thousand persons compared to the world average of 3.3. Overnight room costs and related overhead costs are eliminated and the model enables surgeons to attend to more patients in less time.

It essentially aspires to focus on minimally invasive surgeries, which use the technological advances in most optimum manner. The day care surgery model has a market potential of INR 42,000 crore in the country. (Suresh Soni, chairman and co-founder, Nova told FE.) In the first phase, the group plans to build 25 centres in 10 major cities in the next two years. They plan to build around 125 operation theatres.

³⁵ Source:indianhealthcare.in

³⁶ Source:indianhealthcare.in – "Daycare Surgery 4 Centres", 2010

³⁷ Source: Article by Express Healthcare

³⁸ Source: KPMG Analysis

³⁹ Source: Company Websites

"The seven to eight months break even of this model is an attractive proposition for the healthcare verticals compared to 2-3 years which a hospital takes." (Girish Rao, CEO-NOVA)⁴⁰

Medical Centres, a specialised day care surgery centre chain, and Max Healthcare Institute Limited (MHC) recently announced a Joint Venture (JV) to expand the reach of day care surgery in the National Capital Region. MHC will hold a 31 per cent stake in the JV entity. This strategic alliance is designed to help both companies boost the reach and efficiency of their services. Nova is set to expand its reach across the NCR region with two day care centres scheduled to open in the next few months with plans to reach a total of six centres in the near future.

End of life care centres

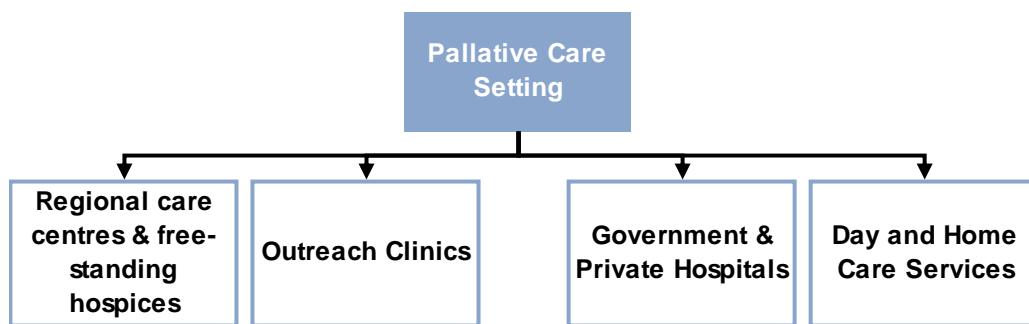
Need: In medicine, end-of-life care refers to medical care not only of patients in the final hours or days of their lives, but more broadly, medical care of all those with a terminal illness or terminal condition that has become advanced, progressive and incurable. Therefore end of life care centres have three objectives

- To reduce the agony and burden of prolonged dying process
- To develop mental peace at the time of death
- To establish ethical principles supporting death in the Indian hospitals

Potential Benefits: By increasing the proportion of community and homecare, palliative care can reduce costs associated with hospital stays and emergency admissions much palliative care can be and is given at home.

In India, over 138 organisations provide hospice and palliative care services in 16 states or union territories. These services are usually concentrated in large cities and regional cancer centres, with the exception of Kerala, where services are more widespread⁴¹.

Palliative care structure in India



Single Speciality Hospitals

Need: Single speciality hospitals are a small but rapidly growing genre among today's hospitals in India. The growing number of speciality centres and hospitals signals a move towards maturity of the healthcare industry with an increasing complexity of business and consumer affordability.

⁴⁰ Source: Financial Express February 5, 2010

⁴¹ Source: Department of Social Policy & Social Work, University of York, York, United Kingdom

Speciality hospital formats range from low-risk speciality including eye care, dermatology, mother and child to high-end speciality including cardiology, cancer and transplant medicine.

The mid-level specialities are offered in a multi speciality hospital format. The low-risk speciality models require low capital expenditure and have comparatively low operating costs as in-patient stay is rarely required for day procedures. This reduces the need for support infrastructure and offers easy replication. Consumers expect convenience and are not willing to travel too far for such speciality services.

Potential Benefits:

There are several advantages to Single Speciality Hospitals

- Cost efficiency due to higher volumes
- Provide higher quality care due to greater specialization
- Easily attract human resource
- Economies of scale and scope
- Ease of operation
- Increase consumer satisfaction
- Competitive pricing and increased choice for consumer

Capex and EBIDTA: Capital Expenditure is estimated at INR 4 to Million / bed depending on the specialty. Typical EBIDTA margins range from 30 percent to 34 percent although some specialities have higher margins. Pay Back period is estimated at 2 – 3 years which may vary with the speciality⁴².

Case Studies:⁴³

Arvind eye care

- 3,950 beds at five hospitals.
- Examines more than two million patients annually.
- Arvind surgeon performs an average of 2,000 or more surgeries per year, measured against the Indian national average of 250.
- By developing a core competency expanding access in a focused area of care organizations in developing countries can marshal needed resources.
- Being a specialty care system has made it easier for organizations such as Arvind to standardize management and clinical processes, train a specialized paraprofessional workforce, pursue lower-cost technology, and build volume with focused community outreach and education

Mohan's diabetic care

- 61 bedded in-patient diabetes care unit Specialist consultations in the fields of cardiology, neurology, nephrology, urology, dermatology, ophthalmology, psychology, orthopaedics and paediatrics
- Staff have been trained and prepared for emergency care
- Wide range of surgical services for the diabetes patients with three well equipped operation theatres.
- Surgeries related to diabetic foot complications, general and eye surgeries (cataract and glaucoma) are routinely done.

⁴² Source: KPMG Analysis

⁴³ Source: Company Websites

Ayurvedic and Wellness Care

Ayurvedic treatments are 5,000 years old in India with the bulk of the ayurvedic treatment market concentrated in South India, mostly in Kerala⁴⁴. PE firms are also investing in this space while mergers with ayurveda pharmacies are also taking place.

Ayurvedic market (which is a part of the Beauty and Rejuvenation market) is estimated at INR 40 Billion in 2009⁴⁵. India is a popular destination for ayurvedic therapies leading to a large number of foreign tourists visiting local spas and ayurvedic treatment centres. Inbound medical tourism in India is therefore growing at a 12 percent CAGR.

The State government of Kerala also has taken certain initiatives to encourage Ayurvedic spas and resorts as a tourist destination. Spa's in Kerala receive government approval when they are set up.

Ayurveda centres which are approved/certified by the State Department of Tourism are eligible for claiming 10 percent state investment subsidy or electric tariff concession and considered during publicity and promotional activities through print and electronic media by the Department

Kerala government has even collaborated with large private players in order to develop resort spas. In order to attract tourists into India, the Government has introduced various schemes and to implement them it has also tied up with leading wellness centres. Tourism ministry launched a promotional scheme offering one night free stay at a spa centre in India if a tourist books three nights at a certain wellness centres⁴⁶

Hospitals are also setting up wellness centres to cater to the requirements of the medical tourists

- Apollo Hospitals has an entity called Apollo Wellness Plus which has fitness and ayurvedic treatment centres
- Manipal Hospitals provides ayurvedic treatment, fitness solutions through Manipal Cure and Care⁴⁷

Case Studies⁴⁸:

Kerala Ayurveda Ltd.

- Ramesh Vangal owned KAL was founded in 1945
- It is listed on Bombay Stock Exchange
- It has 30 wellness centres which are mostly concentrated in the south but it also has its presence in the north
- It owns Kerala Ayurvededagram that is present in Bangalore
- It has entered into an Expression of Interest with Coimbatore based Arya Vaidya Pharmacy to become the largest Ayurveda Utility

Ananda Spa

- It has destination spas in Tehri - Garhwal, Uttarakhand which provides Treatment based on ayurvedic science via herbal scrubs, wraps and packs

⁴⁴ Source: Research on India, Wellness Services Market Report, 2010

⁴⁵ Source: Research on India, Wellness Services Market Report, 2010

⁴⁶ Source: Kerala Tourism; India PR Wire "Bharat Hotels"; "Kerala government to develop resort"; May 2009; Alisha Travels

⁴⁷ Source: Research on India, Wellness Services Market Report, 2010

⁴⁸ Source: Company Websites

VCC Ayurveda and Panchakarma Clinic

- It is located in central Kerala
- It provides Kerala Massage therapy, relax-detox therapy, rejuvenation therapy, anti-ageing therapy and also has weight loss programs

Kare

- Kerala Ayurvedic Research and Rejuvenation is located on the outskirts of Pune
- Its services include ayurvedic massage therapy, anti-ageing ayurvedic therapy

Developments in Public Healthcare

Initiatives by the Government

To tackle the challenges mentioned, the Government has taken various initiatives to improve the Public Healthcare system in India. The Government launched the National Rural Health Mission (NRHM) in 2005 which aims to provide quality healthcare for all and increase the expenditure on healthcare from 0.9 per cent of GDP to 2-3 per cent of GDP by 2012.

According to Union Budget 2010-11, the plan allocation for Ministry of Health and Family Welfare has increased from USD 4.2 billion in 2009-10 to USD 4.8 billion in 2010-11.

Moreover, in order to meet revised cost of construction, in March 2010 the government allocated an additional USD 1.23 billion for six upcoming AIIMS-like institutes and up-gradation of 13 existing Government Medical Colleges⁴⁹.

The Union Cabinet on October 20, 2010 approved the proposal of the Ministry of Health and Family Welfare to declare National Institute of Mental Health and Neuro Sciences (NIMHANS), Bangalore as an Institute of National Importance on the lines of All India Institute of Medical Sciences, New Delhi, Post Graduate Institute of Medical Education and Research, Chandigarh and Jawaharlal Institute of Postgraduate Medical Education and Research, Puducherry.

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

⁴⁹ Source: Firstcall Research, Apollo Hospitals Enterprise Limited Company Research Report, Q2, 2011

- 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 below⁵⁰:

- 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

⁵⁰ Source: Technopak Report "A Peek into the Future of Healthcare: Trends for 2010"

Building Functional Efficiencies

While infrastructure improvement, capacity addition and development of manpower are critical for the Indian healthcare sector, it is also necessary that the existing facilities are operated in an efficient manner. This can be ensured through various means such as Accreditation, adoption of Cost Accounting Procedures and finally increased penetration of Healthcare Insurance.

Accreditation

Accreditation is one of several models of external evaluation used by healthcare entities throughout the world to regulate, improve and promote health care services. Domestically, accreditation is sought from the National Accreditation Board for Hospitals and Healthcare Providers (NABH), an entity under the control of the Quality Council of India.

JCI an international accreditation arm of the US joint commission also provides accreditation. Few hospitals in India like Moolchand Hospital; Fortis hospitals etc. have already been accredited by this body⁵¹.

Trends of Accreditation

To date, only 17 Indian hospitals are JCI-accredited and all are large corporate entities, including hospitals in the Apollo, Fortis, and Wockhardt Hospital systems⁵².

As of March 2007, over 700 Indian hospitals had applied for NABH accreditation. The NABH is involved in the accreditation of blood banks, diagnostic centres, nursing homes, dental clinics, and Ayurvedic centres in addition to private hospitals, nursing homes. As of January 1, 2008, only 12 medical facilities have been accredited by NABH⁵³.

Advantages of Accreditation

- Patients benefit in terms of high quality of care and patient safety. They are serviced by credential medical staff and their rights are respected and protected.
- Accreditation results in helping continuously improve the overall services of the hospital in order to provide high quality care with least possible risks. Accreditation provides an objective system of empanelment by insurance and other third parties. It provides access to reliable and certified information on facilities, infrastructure and level of care with education on good practices to improve business operations.

⁵¹ Source: <http://www.jointcommissioninternational.org>

⁵² Source: <http://www.jointcommissioninternational.org>

⁵³ Source: Gluck: An article from the Saint Louis University Journal Of Health Law & Policy

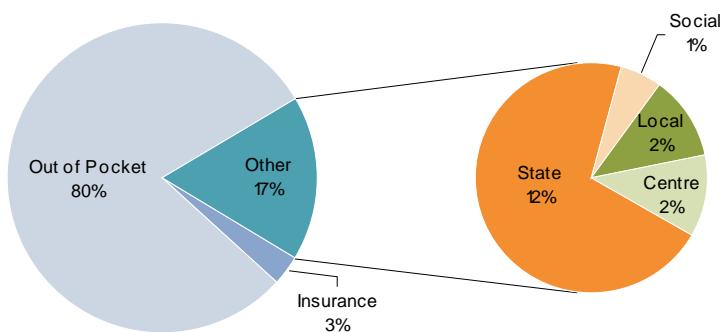
Healthcare Insurance

Indian health financing faces a number of challenges including:

- Increase in health care costs
- High financial burden on poor effecting their incomes
- Need for long term and nursing care for senior citizens because of increasing nuclear family system
- Increasing burden of new diseases and health risks
- Limited government funding leading to negligence of preventive as well as primary care and public health functions

Health insurance is established in many countries, however, still remains largely untapped in India. Less than 15 percent of India's 1.1 billion people are covered through health insurance⁵⁴. It mostly covers government employees, share of public financing in total health care is just about 1 percent of GDP. Over 80 percent of health financing is private financing, much of which is out-of-pocket payments and not by any pre-payment schemes.⁵⁵

Healthcare Financing



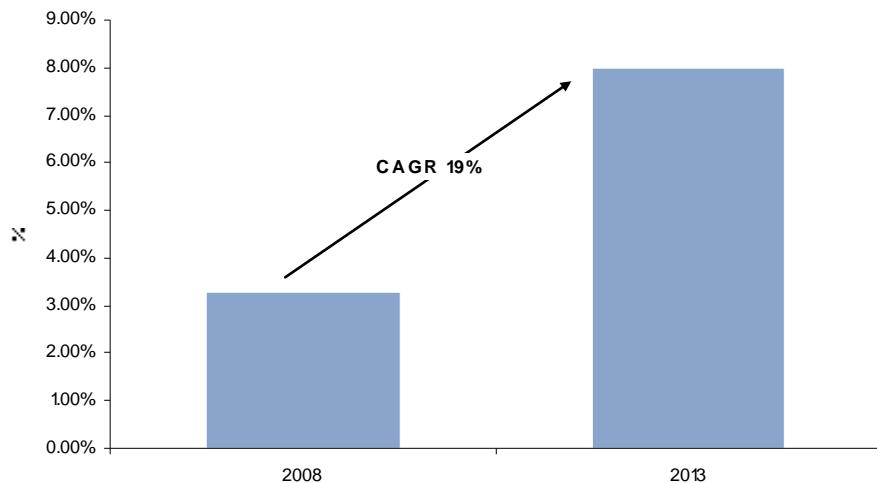
Source: Centrum Healthcare Sector October 2010, KPMG analysis

However, healthcare insurance is slowly picking up pace in India. According to the 2010 statistics released by the IRDA (Insurance Regulatory Development Authority), the total health insurance premiums written by non-life companies and standalone health insurance companies grew by 25.2 percent in FY 2010 over FY 2009.

⁵⁴ Source: www.indianhealthcare.in

⁵⁵ Source: Emerging Health Insurance in India – An overview, By J. Anita, Actuaries of India, Global Conference of Actuaries

Healthcare Insurance Penetration



Source: Centrum Healthcare Sector October 2010

Government insurance Schemes

Government initiatives like the Rashtriya Swasthya Bima Yojna (RSBY), Comprehensive Health Insurance Scheme (RSBY-CHIS), Kerala; Apka Swasthya Bima Trust (ASBT), Delhi; Niramya Health Insurance Scheme, Ludhiyana are now actively driving the health insurance market in India⁵⁶.

RSBY may also be extended to National Rural Employment Guarantee Act (NREGA) workers who worked under the scheme for 15 days in a year.

The initiatives can help address the needs of the people below poverty line as well as the other vulnerable sections of the society.

Emerging role of TPA's:

The TPA's (Third Party Administrators) have added to the changing scenario of health insurance in India. Their role is gradually changing from green field ventures to an established system. Their wide spread network with hospitals and other healthcare providers have certainly strengthened the health insurance structure in India.

Major TPA's	No of hospitals added to the network
I Care Health Management and Services	2040
E Meditek Services	867
Health India Services	786
Total coverage by all the TPA's in India	10974

Source: IRDA Annual Report 2010

⁵⁶ Source: Towers Watson – New Planned Launches Article 2010

To bring in uniformity and smooth functioning of the process, the IRDA (Insurance regulatory and development authority) has directed the TPA's to formulate standard guidelines and formats for better communication and transparency in the system.

Potential benefits:

- Visibility of health insurance in the hospitals and amongst the patients could improve
- Credibility of the health insurance practices will help improve driving more no of people into the system.
- A formal structure will be created reducing the ambiguity in the health insurance delivery

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.

Way Forward

Public Sector and Government Interventions – Now and Ahead:

Improving the Reach and better Quality:

- The government plans to undertake building 6 super speciality tertiary care hospitals with research and education centres across the country. These would cater to the weaker sections making high end clinical care available to the masses.
- Encouraging current initiatives on public private partnerships, for both the care provider and education sectors, should continue.
- The government should continue flagship programmes such as such as Rashtriya Swastha Bima Yojana (RSBY) and State level Insurance schemes like the Arogyashri, Chiranjeevi etc.
- At the base of the pyramid - To improve availability of medical staff in rural and far-flung and inaccessible areas, doctors, specialists and para-medicals are given monetary benefits such as 25 percent hike to those posted in difficult areas and 50 percent hike for those in areas that are almost unreachable by road.
- A truncated medical course designed by the Central Government from the Chinese “barefoot doctors model” that is assumed to produce 145,000 rural doctors every year which would cover most primary level needs⁵⁷. The existing health sub-centres, the first point of care for villagers, are now being manned by Auxiliary Nurse Midwives (ANM).
- Through NHSRC, the NRHM (National Rural Health Mission) is encouraging almost 200 hospitals to go for a sustained Quality Accreditation program and this is sought to extend to 400 hospitals.
- The CGHS (Central Government Health Services) has made it mandatory for all healthcare institutions and diagnostic centres providing care to have either NABH / NABL certification.

Healthcare Education⁵⁸:

- To meet the demand for more human resources, especially the doctors and nurses the government has reduced the land requirements from 25 acres for medical colleges to 10 acres in urban areas. The INC norm of 4 acres for nursing colleges has also been relaxed.

⁵⁷ Source: FICCI Report, 2010

⁵⁸ Source: Government Regulation issued by Medical Council of India & Indian Nursing Council

- Private medical colleges are allowed to conduct their own CET and the reservation criteria for government seats and management quota have been relaxed with a uniform pre-decided fee. Only the NRI reservation is maintained at 15 percent.
- Private medical colleges are now allowed to register under Section 25 Act, unlike earlier where they had to be under the Charitable Trust banner.

Tax Benefit Interventions⁵⁹:

- All new hospitals being set up in Tier II and Tier III towns of India are given a five year tax holiday by the government. The Union Budget 2009 – 2010 has stayed the order and this window is open from April 1, 2008 to March 31, 2013, during which the hospital must commence operations. Hundred percent tax deduction to private investors on the cost of building infrastructure for minimum 100 bed hospitals anywhere in India.
- For the diagnostic and medical equipment and consumable segment. Uniform concessional duty of 5 percent. CVD of 4 percent with exemption from special additional duty on medical equipment; retaining full exemption on assistive devices and medical rehabilitation aids. Weighted deductions on payments made to national labs have been increased from 125 percent to 175 percent.

Import Duty Concessions⁶⁰:

- Reduction in Import duty on equipment from 25 percent to 5 percent
- Customs Duty reduced from 16 percent to 8 percent for medical and veterinary furniture
- Custom's duty on 24 medical equipment like X-ray, tele-therapy stimulator equipment, goniometer etc. have been reduced to 5 percent
- Depreciation on medical equipment raised from 25 percent to 40 percent

Medical Device Interventions:

- The government announced a USD 69 million in October 2009 to promote domestic device manufacture to enable price control of critical equipment including stents, catheters, heart valves etc,
- Central government to set up the first specialised device centre 'National Centre for Medical Devices' in Gujarat to promote indigenous R&D efforts⁶¹
- Medical Devices Regulation Bill has been tabled and is under consideration⁶²
- Enabling IT driven healthcare to improve the reach and costs. Tele-medicine, as a branch of diagnosis and treatment, should be encouraged and widely implemented to help ensure availability and accessibility of care to all areas in spite of infrastructural inefficiencies

Public Sector – Action Items:

- Special benefits, Viability Gap Funding, and subsidies on cost of care for PPP initiatives would make it more attractive for the private sector to participate
- Awareness drives, IEC for Health Insurance schemes covering both the rural and urban poor to be initiated through collaborative approach like NGO participation etc.
- Incentivize corporate sector to take up healthcare initiatives for CSR activities
- The current compulsory rural stint for medical professionals to be continued. But needs to be augmented with better facilities and support systems

⁵⁹ Source: Income Tax Act, 1961 read with Income Tax Rules, 1962 & Customs Act, 1962 read with Customs Tariff Act, 1975

⁶⁰ Source: The Customs Act, 1962 read with The Customs Tariff Act, 1975

⁶¹ Source: FICCI Report, 2010

⁶² Source: FICCI Report, 2010

- Giving an infrastructure status to the industry and also encourage subsidies on power, water and other utilities to reduce overall cost of care
- Providing incentives to the industry to set up infrastructures in rural areas. This would lead to a multiple effect of improving the overall economic and social status also making it attractive and sustainable for medical professionals to work
- Making it mandatory for all diagnostic services to have a registration process which lays down some minimum standards criteria. This will help in the provision of better quality diagnostic services.
- Providing a common discussion platform for all quality councils which enforce, assess and maintain quality standards in Hospitals and Healthcare Institutions (including education).

Private Sector Interventions – Action Items:

- Private sector should work in tandem with the government on PPP initiatives to educate the later for developing more sustainable delivery models
- Provide Hub and Spoke models for both treatment and diagnostic care delivery
- Take on the responsibility of Medical Education which includes medical professionals, nursing, and paramedical staff
- To form a common healthcare forum / platform to corroborate all efforts which require policy decision changes which would give more lobbying power
- Encourage and extend CSR interventions in cross functional formats for capacity building of the public sector personnel. This can be done through exchange programs, CME's, short stay certifications in areas like hospital administration, quality controls, specialised nursing care like intensive care, operation theatre, high end diagnostics techniques and reporting for laboratory medicine and radiology CT / MRI scans, interventional radiology etc.
- Encourage provision locum medical staff for short durations or on specific programs
- Work with the government to encourage better penetration and utilisation of health insurance schemes
- Within their own set ups – encourage accreditation, make it mandatory for credentialing of Medical Professionals while recruiting/ appointing to help ensure quality standards.

CASE STUDIES

Acuity Information Systems Pvt. Ltd.

AIIMS, New Delhi deploys acuVena™ - Blood Bank Software



All India Institute of Medical Sciences , AIIMS, is considered as one of the most prestigious medical colleges in India and is globally recognized for providing best in class medical care to a large number of patients. It was established as an institute of national importance by an act of the Indian parliament with the objective of developing a strong curriculum and teaching guidelines for undergraduate and post-graduate education in all branches of medicine in India. The Department of Transfusion Medicine at AIIMS is running a full time Blood Bank in the Institute and also organizing teaching, research activities. The Blood Bank functions round the clock and is a Regional Blood Transfusion Centre for south Delhi.

AIIMS decided to go in for an end-to-end computerization of the blood bank services from management of donors to manufacturing of components as well as a detailed traceability to ensure the concept of haemo-vigilance from the standpoint of a donor and the recipient. AIIMS began to review some of the best-of-breed blood bank software products available and arrived at a solution from an Indian company by the name – acuis™. The name of their blood bank software product was acuVena™. The team behind acuVena™ had concentrated on the complexities of the workflows of independent and hospital based blood banks. Their solution had been successfully running at many of India's leading blood banks for the past five years. acuVena™ had been showcased at industry conferences in India and the USA and had evolved best practices from the industry over the years. Being an enterprise class, web-based software; it seemed to fit in line with the vision of the blood bank at AIIMS.

acuVena™ presents itself as a process-driven, feature-rich blood bank software that has been built on a Service Oriented Architecture. The key to its success has been the inputs given by the core R&D team consisting of domain experts who are stalwarts of the Indian blood bank industry. acuVena™ has mapped key stakeholders like donors, blood drive organizers and care-providers in its design from the ground-up. This insures that these stakeholders can actively interact with the system rather than the system being run essentially by technicians and data entry operators. The software can be broadly classified into the following subsystems:

Donor Centricity

One of the key stakeholders in the system is the donor. The system helps mark donors as eligible and defers those who are not eligible. The entire donor workflow has been traced onto acuVena™ process

map. Donor questionnaires are completely customizable. Donors can have the option of self-registration either via the web or an interactive touch screen module. It records history of previous donations and restricts donors from donating before their eligible period. acuVena™ has the added advantage of not losing track of donors who are temporarily unfit for donation by reminding them to come back when eligible.

Bag Lifecycle

acuVena™ maintains the detailed history of a bag right from the time the stores officer receives it, till it is finally issued to the intended recipient. The system accepts donors of whole blood as well as aphaeresis. It allows component preparation depending on the type of bag chosen. acuVena™ enables typing of blood for Red Cell, Leucocyte and Platelet Antigen. One can view the transfusion centre's stock according to stock location, blood group or component. Every stage of the blood bag from collection, component preparation, storage, stock movement, cross-match, issue, return and discard are traceable within the system. The system has an option of automatic as well as manual discard of blood components.

Transfusion Care

The system allows both internal and external blood requests. In case of tertiary care centers, the blood banks also serve external requests from neighboring hospitals and nursing homes. The system supports bulk issues to storage centers, emergency issues, cross-match, issue, return and billing of blood components in stock. acuVena™ enables adverse transfusion reaction reporting from the point of care.

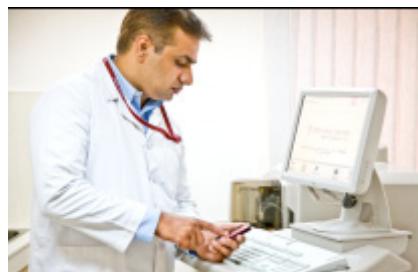
Blood Drive (Camp) Management

acuVena™ has a comprehensive blood drive (blood camp) organization module that helps blood banks organize resources (personnel, vehicles, consumables and assets) for blood drives (camps).



Donor Loyalty: acuVena™ stores information about donors who are eligible as well as those who may not be eligible to donate today. This eligibility is automatically calculated by an intelligent questionnaire system that calculates the number of days a donor may be deferred due to a pre-existing condition. Since such a system is rule based, it allows the blood center to change the eligibility days depending on the rules set forth by the governing regulatory authority.

Storing data of ineligible donors not only helps the blood center call them back when they are next eligible, it also enables the blood center from pro-actively knowing the status of the donor if he/she revisits before they are next eligible to donate. In addition, this helps the blood center convert (motivate) replacement blood donors into voluntary blood donors by calling them when they are next eligible to donate blood.



Faster TATs (Turn-Around-Times): Since the stock levels are instantly accessible within and outside the system, the blood bank staff are able to attend to blood requests in an efficient manner. The system allows blood reservation in advance. The system has in-built email and sms alerts for adverse transfusion reaction, low stock levels and expiring units of blood.



Process Driven: Having been built with inputs from domain experts of the blood transfusion industry, the software has covered the various stages of blood banking in a comprehensive manner. It covers red cell antigen, platelet antigen and HLA typing. It takes into account informed consent of donors depending on the type of collection (whole blood or aphaeresis), exhaustive information related to blood collection, donor reactions as well as various stages of the component manufacturing process depending on the kind of bag used. These process driven stages can be traced per blood unit and technicians can also generate worklists corresponding to these stages that they choose to do in batches.



Enhanced Trace-ability: acuVena™ covers all the stages of donor management and component preparation. The blood bank personnel using acuVena™ can trace back any blood unit to the donor medical history or to the date of purchase of the blood bag from the vendor. The intelligent labeling system also displays the test results of the Transfusion Transmittable Infectious markers carried out on the blood unit for enhanced safety. Any adverse transfusion reaction can be documented in the system and is once again traceable to the donor and blood bag.

Greater Compliance: The system generates most of the essential reports required to be submitted to the authorities. Many blood banks either dedicate personnel for this activity or spend a lot of time collating this data again as most of the processes and consumables of the blood bank are not fed into the blood bank module of the HIS. acuVena's process driven approach not only captures the essential information, it generates most of the reports required by the authorities who seek this information. These reports can be generated in addition to the manual registers being maintained by the blood bank.



Focus on Point of Care: Deploying a best of breed blood bank software like acuVena™ ensures that senior officials concentrate on using the data effectively to achieve their quality initiatives rather than creating the reports. By freeing up their time from report generating activity, it also enables the care-providers in a blood bank focus more transfusion care and research related activities.

Novartis India Limited

Thematic Areas

Healthcare

Location of Arogya Parivar sites

Uttar Pradesh, Uttarakhand, Bihar, Rajasthan, Gujarat, Maharashtra, Chhattisgarh, Andhra Pradesh, Tamil Nadu, Karnataka

Case Study: Arogya Parivar – Improving healthcare access for India's rural poor

Mission: To improve healthcare access for the underserved millions located at the 'bottom-of-the-pyramid' using a social business approach.

Objective: To create health awareness among people and to improve healthcare infrastructure for the marginalized rural poor.

Reaching out to rural India

According to the World Health Organisation, 65% of India's population does not have access to quality healthcare. These not-so-privileged people are disfranchised of their right to health with women and children being among the worst sufferers in the 600,000 + villages spread across the country. Low disease awareness, poor healthcare infrastructure, low income (50% live on less than a dollar a day), lack of an adequate distribution system exacerbates the issue. For daily wage earners, good health is often not a priority.

Novartis firmly believes that pharmaceutical companies can play an impactful role in creating healthcare awareness among the poor and also in upgrading the knowledge of healthcare providers. Towards this end, Novartis set up Arogya Parivar, a rural healthcare initiative, as a pilot in two states in 1997.

Arogya Parivar is based on the four pillars of awareness, adaptability, availability and affordability. These principles work in an integrated way to ensure long-term impact, and make comprehensive healthcare available in rural areas.

The medicines include anti-TB drugs, antibiotics, anti-infectives, anti-diabetics, branded generics, over-the-counter cures for coughs, colds, allergies, diarrhea and calcium deficiencies. Products also include non-steroidal anti-inflammatory agents, anti-fungal and anti-anxiety treatments. It combines social entrepreneurship with corporate social responsibility to specifically address the health needs of rural India while providing opportunities to expand business in an innovative and responsible way.

It employs a combination of techniques used by pharmaceutical and consumer goods companies and its fundamental innovation rests on applying a marketing mix based on the "4 As" – Awareness, Acceptability, Affordability and Availability – adapted to low-income markets.

Awareness: Arogya Parivar conducts health education programmes at the grassroots level with the help of Health Educators recruited from among the villagers themselves. Educators share information on preventive health measures and educate the community on the need for and importance of good health.

Adaptability: The therapeutic area portfolio is customised as per the local disease burden. All communication including that on product packs is adapted to local conditions.

Availability: Strong links with doctors ensure last-mile availability and go far beyond traditional pharma practices which focus on doctor detailing. The extended supply chain reaches out to the local pharmacy in the village.

Affordability: Innovative solutions, strong branding and local resources make a difference. Since villagers often perceive medical care as being expensive and inaccessible, medicines are made available in small packs at affordable prices.

Arogya Parivar is organized around a light central marketing and planning team responsible for creating materials used in the field: leaflets, posters, training manuals, mini movies for awareness, including translation in local languages. It goes beyond simple promotion to the doctor to creating awareness among the rural population and finally reaching out to every patient for drug compliance.

Field operations are structured into independent cells, each covering a radius of approximately 35 km or 20 miles. Each cell is managed by a supervisor, assisted by a few health educators whose main role is to raise disease awareness among the people including prevention and treatment, refer patients to doctors, brief physicians about the program and meet patients to ensure patient completes prescribed treatment.

The patient at the centre

All activities are centred on the patient by involving various stakeholders.

1. Complement doctor detailing with FMCG marketing approach resulting in a new way to market
2. Introduce new pack sizes so price point remains same as also products such as ORS (oral rehydration salts) aimed at the rural market.
3. Distribution system uses foot soldiers so that it reaches critical economic mass for direct deliveries.
4. Collaborative effort with local social development agencies for community participation and wider reach.
5. Follows a patient centric approach that addresses the community on health issues, educates and motivates people for their overall well-being, uses doctor referral cards to help track patients and engages with the patient to ensure compliance.

Reaping results

Arogya Parivar has enhanced access to medicines for close to 50 million people in 10 Indian states covering 30,000+ villages with 11 health programs: tuberculosis, skin and gynaecological infections, diabetes, micro-nutrients during pregnancy and childhood, intestinal worms, acid reflux, cough and cold and allergies. People covered is expected touch 100 million (25% of people at stake) by 2011.

In 2010, there were 250+ Arogya cells covering 189 districts across 10 states in India, including Uttar Pradesh, Uttarakhand, Bihar, Rajasthan, Gujarat, Maharashtra, Chhattisgarh, Andhra Pradesh, Tamil Nadu and Karnataka offering improved healthcare access to almost 50 million people.

With 11 therapeutic applications to address the rural/local disease burden, Novartis in India has come up with special drugs and packaging to meet the needs of this growing market. For instance, the company has developed a WHO-approved ORS + Zinc anti-diarrheal formulation in affordable sachets, and an anise flavor. The Arogya Parivar concept is a winning one, empowering villagers, providing employment, improving rural healthcare, and strengthening the Novartis brand in the remotest of villages. What makes it extra special is that the model can be replicated in other geographies facing similar healthcare challenges.

Arogya Parivar receives accolades

Arogya Parivar has received internal and external recognition. Arogya Parivar was awarded "Best Long-term Rural Marketing Initiative" in India for 2006-2008 by Rural Marketing Association of India (RMAI), largest association of its kind in the country. More recently Arogya Parivar received the CMO Asia award in 2010 for the best rural brand. The initiative also received global recognition from Corp Ethical in 2010.

Chronic Care Foundation

An initiative towards preventing chronic diseases in India

The second half of the twentieth century witnessed major health transitions in the world, propelled by socio-economic and technological changes which profoundly altered ways of living. Among these health transitions, the most globally pervasive change has been the rising burden of non-communicable chronic diseases (NCCDs). Even as infections and nutritional deficiencies are receding as leading contributors to death and disability, cardiovascular diseases (CVDs), cancers, diabetes, nephrologic ailments, and other chronic diseases are becoming major contributors to the burden of disease. India too illustrates this health transition, which positions NCCDs as a major public health challenge of growing magnitude in the twenty-first century.

The World Health Report 2001 had indicated that NCCDs account for almost 60% of deaths and 46% of the global burden of diseases. Seventy-five per cent of the total deaths due to NCDs occur in developing countries. Facing a double burden, with a heavy load of infectious diseases and an increasing burden due to NCDs, it is estimated that India accounts for 17% of global cardiovascular mortality, and this is projected to rise to 50% in the future, thereby accounting for a major proportion of disease and deaths.



With a vision to promote good health by proactively minimizing the incidence and effects of chronic diseases in the India, Chronic Care Foundation (CCF) was set up as a not for profit foundation, in 2006, to address issues relating to chronic diseases. CCF works to promote good health by proactively minimizing the incidence and effects of chronic disease in society and seeks to empower the community through prevention, advocacy, education and collaboration amongst stakeholders and the community leading to accessible, efficient health care system that improves the safety and quality of care of patients with chronic lifestyle diseases. The foundation is committed towards improving

the care and outcome of patients with non communicable chronic diseases like cardiovascular diseases, diabetes and chronic kidney diseases.

The foundation's activities range from conducting studies to identify the cause of these diseases to developing programs for promoting healthy behaviour and working with medical practitioners for better delivery and outcomes. The organization has undertaken niche research titled "***NCCDs in India – A study of the gaps, quality and cost of care***" on non-communicable chronic diseases on a pan-India basis- study in 17 states of India. Major recommendations that emerged from the research highlight that community based activities including education, communication, and interventions in communities, schools, and workplaces are essential to primary prevention of NCCDs. Recommendations also include the need to improve secondary and prevention of NCCDs by means of improved health care facilities and screening; and accessible tertiary care.

Under the National Programme for Prevention of Non Communicable Chronic Disease, CCF has launched a National Health Campaign titled "***Swasth Log, Swasth Desh***" to spread awareness on the risk factors leading to chronic diseases with specific focus on tobacco and alcohol in 17 states of India in collaboration with NGOs, private sector partners and government bodies. It covers a population of 600,000 including schools (n=22), women



groups (N=32), villages (51) and urban slums (17) in 17 states of India. CCF has organized several capacity building workshops for partner NGOs to work on health promotion programme and created a trained team of street theatre groups and magicians for community level awareness generation activities.



CCF also develops and disseminates communication material and strategies to promote positive behaviour amongst individuals, communities and societies for prevention of NCDs and help to provide a supportive environment for the people to sustain positive behaviour. We have launched health campaigns, Health melas and developed BCC/IEC materials piloted in Punjab, Haryana, Delhi and Uttar Pradesh.

Chronic Care Foundation has also organized regional Round Table Conferences of Specialists on Non Communicable Chronic Diseases in four regions of India with an aim to emerge with regional recommendations for interventions by different stakeholders.

With changing lifestyle patterns, tobacco is emerging as the leading cause of death and disability worldwide. Addressing the dire consequences on tobacco use on health, CCF has conducted several awareness generation programmes on tobacco as a risk factor for chronic disease in coordination with its partner NGOs in schools, slums, general community level programme in Resident Welfare Associations. One of the campaigns was organized in Amritsar in Jan 2010 entitled "**Nasha Mukht Punjab**" – (Punjab da josh – Punjab di Shaan). The campaign was directed at the youth to channelize them into effective change agents of health. Over a period of 5 days, 15 street plays were staged across the city of Amritsar-including market places, malls, schools and colleges, sensitizing the local community on the ill effect of addictions (tobacco, alcohol and drug) on health.



CCF in partnership with Anchal Charitable Trust and Pfizer India has launched a pilot initiative on Public private people partnership for tobacco control in Pahari Basti and Hauz Khas area of South Delhi. The project aims to develop a holistic approach towards prevention, treatment and care for tobacco users. Health Camps (in Pahari Basti slum) and Health Talks (in Resident Welfare Associations, Hauz Khas) have been organised to provide information on tobacco cessation, psychosocial counseling and support available for quitting. CCF has successfully established linkages with institutions like RML Hospital and Dental department of AIIMS for counseling and referral of tobacco users willing to quit. CCF has also established linkages with individual RWA, federation of RWA and private doctors in Hauz Khas area for referral of tobacco users.



Fresenius Medical Care India

Thematic Area

Critical Care – Affordable Quality Dialysis Treatment for HIV Patients

Case Study

Introduction

HIV infection or AIDS a health catastrophe first reported in India in 1986 in the state of Tamil Nadu has spread across the various states of the country. India, if seen demographically, maintains a status of second largest country is unfortunately also third largest country in terms of People living with HIV/AIDS(PLHAs).

As per NACO report prevalence rate of HIV/AIDS in India is 0.29 percent (2008-09) amounting the total population of more than 2.27 million people. The situation is more daunting as nearly 89% of PLHAs come from otherwise highly productive age group of 15-49 years making the economic impact graver. Moreover with a society like India where still majority of family bread earner are men, out of total infected population approximately 60% happens to be male. Although with the concentrated effort of NACO and other organizations, scenario now is far better than it used to be in year 2002 with a prevalence rate of .45 percent of country's population.

Time is now to extend the support to HIV/AIDS patients beyond ART, HAART and PART and also focusing availability of treatment to the diseases that this population is thus exposed to. The case in focus showcases growing number of HIV/AIDS patients also becoming end stage renal disease (ESRD) patients, thereby their growing demand of dialysis treatment and insufficient supply of quality dialysis treatment and how an initiative by Fresenius Medical Care along with TANKER foundation has made an impact.

Requirement of Dialysis Treatment for Positive Patients

As per studies almost 17 percent of PLHAs suffer from Chronic Kidney Disease (CKD) some time or the other and almost 0.5 to 1% of them end up suffering from ESRD taking the figure to around 3,000(estimated) patients. With maximum hospitals and treatment facilities refusing dialysis to HIV/AIDS patients the demand and supply gap is very high and resulting in higher mortality.

Initiative by FMC India and TANKER Foundation

As they say problems are the biggest opportunities, the issues faced by patients were trigger for the joint initiative of FMC India and TANKER foundation. Major issue was that HIV/AIDS infected patients were being denied Dialysis treatment in private hospitals and the government facilities too were not fully equipped for the treatment delivery. Realizing the demand supply disparity and with a vision of providing affordable quality dialysis to this much needed segment, FMC India and one of its close associates, dedicated towards providing renal care and low cost quality dialysis, TANKER Foundation joined hands and started a dedicated facility for patients suffering with HIV/AIDS in Chennai.

The facility, inaugurated by Mr.Vayalar Ravi, Union minister of overseas affairs & civil aviation, inaugurated the facility. The facility started with two HIV/AIDS patients and today provides treatment to more than 6 patients. This particular facility of TANKER foundation today has become only facility providing quality dialysis treatment at affordable cost to HIV/AIDS patients. Moreover there is no discrimination done in treatment fees between HIV/AIDS patients and other patients.

Treatment Package

Patients being treated at TANKER Foundation dialysis facility are charged Rs. 375 per dialysis treatment which is almost eight times less than what is generally charged by other hospitals from HIV/AIDS patients for similar treatment, if at all they provide so. The medicine supply is taken care by Tamil Nadu Aids Control Society. The nominal cost charged for the treatment includes charges for all the accessories used in dialysis and other medicines like erythropoietin injections, iron source injections and antihypertensive drugs.

Impact of Initiative

- The dedicated facility has become only center providing low cost quality dialysis to HIV/AIDS patients.
- The facility is seen as single referral center for dialysis for HIV/AIDS patients in Chennai city.
- There is a significant improvement in the life style and confidence levels of patients being treated in the facility.
- With high quality standards in place till date there is no recorded infection to doctors or the clinical staff treating the patients, reinstating the fact that providing quality dialysis to HIV/AIDS patients is totally safe for treating practitioners.

Observations

- If the quality and hygiene standards are maintained properly then there is no excess risk of infections from HIV/AIDS patients to the treating doctors and clinical staff.
- With increasing life expectancy of HIV/AIDS patients, after introduction of HAART and ART, demand for dialysis treatment from the segment has increased and in future is bound to further increase.
- With world class quality standards in place, positive as well as normal patients can be provided dialysis treatment on the same machine.
- There is a social stigma and fear in dialysis patients of getting infected if they are being treated on same on which a dialysis patient is being treated. And a zero tolerance level for this.
- Great amount of awareness & education work is required for general public in general and dialysis patients in specific that if quality standards are followed HIV+ as well as a normal ESRD patient can be treated on the same machine.
- If a clinic is maintaining high quality standards, ideally as recommended by Center for Disease Control (CDC, USA) then there is no requirement of routine screening for HIV positivity in dialysis patients.
- Confidentiality of the patient's clinical condition shall be maintained very specifically.
- Patients infected with HIV/AIDS can be dialyzed by either Hemo-dialysis or Peritoneal dialysis as normal patients.
- There is no need for positive patients to be isolated from other patients, as this creates social inhibition.
- Single use of dialyzer is always recommended but with proper dialyzer reprocessing and disinfecting procedures in place clinics may include HIV/AIDS patients in the dialyzer reuse program.

With the success of the initiative the foundation looks ahead to spread the treatment and care facilities across the state.

Shantha Biotechnics

The genesis of Shantha Biotechnics Ltd can be traced back to the initiatives of Dr. K I Varaprasad Reddy, the Founder and Managing Director. Dr. Varaprasad, an electronics engineer by profession, established the company in 1993 with a mission statement – ‘To develop, produce and market cost-effective human healthcare products that conform to international standards of high order.’

Shantha Biotechnics, An ISO 9001 certified company, has developed and commercialized India’s first recombinant Hepatitis-B vaccine followed by human interferon alpha, Erythropoietin, cholera vaccine, measles vaccine besides Tetravalent vaccine (DPT +Hepatitis-B) and Pentavalent vaccine ((DPT +Hepatitis-B+Hib). It happens to be WHO-Geneva pre-qualified supplier of Hepatitis-B vaccine and combination vaccines.

The seeds of this ambitious venture were sown in Geneva at a conference on global programs for immunization. This is where Varaprasad first realized the pressing need for an affordable Hepatitis-B vaccine for India. At that point in time 5% of Indian population (45 million) was Hepatitis-B virus carriers. But the vaccine is not yet included in India’s National Immunization Program notwithstanding WHO’s directive due to the price factor. The imported vaccine was very costly and unaffordable even to upper middle-income groups. Indigenous vaccines were not available. In those circumstances Shantha Biotechnics took birth.

Buying technology from abroad would have pushed up the cost of the product. So to make the vaccine affordable to common man, Varaprasad decided to develop the technology in-house rather than importing it at a higher cost. His early years in R&D as electronics engineer in Defense Electronics Labs, had given him confidence in Indian Scientific talent and he was convinced that we could put India on the map for Genetic Engineering, if proper atmosphere was provided. Thus he unwittingly heralded biotech revolution in India.

The journey was not easy. Funding was major hurdle as biotech was unheard of in India those days. Thanks to investors from Oman and Technology Development Board in Ministry of Science & Technology, Shanvac-B, first ever indigenously developed Hepatitis-B vaccine could see the light of the day in August 1997. By adopting novel marketing techniques like Mass Vaccination Camps to reach the consumer, Shantha could cut down supply chain expenses. Also, it created much needed awareness of the importance of Hepatitis-B eradication among masses.

Even while selling Shanvac-B vaccine at 1/10th of the cost of imported vaccine, they maintained international standards in terms of quality and to reach the benchmark, successfully gone through WHO pre-qualification for most of their products. When Pfizer asked them to produce Hep-B vaccine under their brand name, the association helped Shantha to perfect systems, procedures and documentation apart from bettering quality of the product.

Shanvac-B became one of the fastest growing brands in the Indian pharma industry, and its success attracted four new Indian companies to launch their competing Hepatitis-B drug. GSK’s share in India for Hepatitis-B fell from 100% in 1997 to just 10% in 2000. Over 1998-2000, Varaprasad received 47 awards. This included the first-ever National Technology award received from the Prime Minister in May 1999 for home-grown technologies. In 2000, Ernst & Young bestowed Entrepreneur of the Year Award on him for his contributions to the field of life-sciences. Varaprasad was awarded ‘Padmabhushan’ in 2005 and Varaprasad and Shantha together won more than 250 awards by now. Without resting on laurels, they pursued their path vigorously and carved a niche for themselves to attract the attention of international Pharma majors.

Shantha reinvests 25% of revenues back into R&D – the highest of any company in the country. In India, R&D average was only 0.1 to 0.2%, and in the US, most major companies put only 4 to 5 percent into

R&D. The research efforts at Shantha are further strengthened by collaborative arrangements and alliances with leading research institutions in India and abroad. Currently, Shantha Biotechnics is focusing its R&D efforts in the development of vaccines only.

Shantha caters to major international markets including Asia-Pacific, Africa, CIS and Latin America in addition to supra nations like UNICEF and PAHO. It expanded its vaccines portfolio by launching combination vaccines and new generation vaccines produced indigenously at its WHO cGMP plant near Hyderabad.

Apart from the single dose Hepatitis vaccine Shantha Biotechnics is working on typhoid conjugate, acellular pertussis and complaint based DPT. Rotavirus vaccine will also be an important part of the company's portfolio, apart from Human Papilloma Virus (HPV). Among the other products in the pipeline are JE vaccines, vaccine for varicella-zoster and heat-stable vaccines.

In September 2009, France's largest and world's 4th pharma major, Sanofi-Aventis, had acquired an 80% stake that another French family business Merieux Alliance held in Shantha Bio. Sanofi reaffirmed its commitment to Varaprasad's public health mission of providing affordable drugs. It planned to develop Shantha Bio into a global R&D hub, and to expand in India and in other emerging markets.

Legendary Sanofi Pasteur is '**the**' vaccine company with more than a century-old experience in development, production and marketing of vaccines. Shantha's world-class manufacturing facilities complying with USFDA standards can be best optimally utilized by Sanofi Pasteur for meeting global vaccine demand. Shantha can become the extended platform of Sanofi Pasteur in Southern hemisphere to serve the global vaccine requirements.

One of Shantha's premium products, Pentavalent (Hep-B+ DPT+ Hib) vaccine can be combined with Sanofi's IPV vaccine to come out with Hexavalent vaccine. Such many more winning combinations can emerge to serve the humanity. The product portfolios of Sanofi and Shantha are complementary to each other and their working together will maximize benefits of vaccination. This cuts down the cost of development of vaccines and the ultimate beneficiary is the common man in developed as well as developing nations.

Going Global - the Indian MNC

VLCC Health Care Limited

Date of registration of the company- 23/ 10/ 1996

Date of Commencement of Business- 23/ 10/ 1996

Mission: Transforming Lives

Impact: VLCC has helped improve India's wellness quotient, helping millions make the transition to healthy lifestyles

Legacy: Undisputed pioneers

The VLCC success story stems from its unwavering brand commitment to the idea of 'Transforming Lives' – the group's guiding vision. The VLCC transformation centers seamlessly married the scientific slimming programs with cutting edge skin and hair treatments. VLCC continues to pursue the mission with its network spread over 225 centers across 100 cities in 8 countries.

VLCC's founder and mentor, Vandana Luthra opened India's first Transformation Centre in New Delhi in 1989, at a time when the Indian market for wellness solutions was still nascent, and the concept of combining fitness and beauty as an approach to holistic wellness, as initiated by her, was a completely new paradigm.

Today, VLCC is a pioneer in the global wellness arena with presence in three related businesses in the 'wellness' domain:

- Slimming, skin & hair services;
- Education & training institutes;
- Manufacturing & retailing of personal care products.

VLCC centers are open 7 days a week, and service over 75,000 customer visits every month. In a world ruled by changing lifestyles and instant remedies like crash diets and appetite suppressants, the USP of the VLCC weight management program has always been their holistic and scientific approach towards transformation. Their slimming programs are based on scientific principles, using lifestyle and dietary modifications, and do not involve any surgical procedures or crash diets, nor do they require consuming any medication, diet pills or hunger suppressants. VLCC's slimming business helps the earth become lighter by over **90,000 kgs every month**.

VLCC International

The year 2006 marked VLCC's foray into overseas markets, with the opening of its first centre in Dubai. VLCC's major focus is to tackle the scourge of obesity and it made eminent sense to look at the Middle East market as its first overseas foray, given that obesity in the Middle East is rated as being amongst the highest in the world. In UAE specifically, over 60 per cent of the population is either overweight or obese.

Today, VLCC is an international brand with presence spread over 16 centers in the international market with 10 centers in the UAE, two each in Oman and Bahrain and one each in Qatar and Nepal. Two VLCC centers in Sri Lanka and one in Bangladesh will be operational by March 2011. By the year 2012, VLCC expects to expand its presence to 28 locations across the MENA and SAARC countries.

Largest Organised Player

The VLCC services business has a retail footprint of **a million square feet of retail space** across the country – from Jammu in the north to Trivandrum in the south and from Shillong in the east to Surat in the west, apart from its presence in the Middle East. VLCC is now well represented across the country, with 34 locations in south India alone. Regional business heads and offices enable prompt and efficient service delivery.

VLCC Personal Care has manufacturing facilities in Dehradun and Haridwar. Its current distribution network covers over **20,000 retailers and 300 distributors in India, Nepal, Sri Lanka and the GCC**. This business network is being expanded continuously to keep pace with the demand.

The VLCC Group currently has over 3000 direct employees including over 700 in overseas operations, and nearly 4000 indirect employees from 29 nationalities, with majority of these being doctors, nutritionists, psychologists, cosmetologists, physiotherapists and the like

Interwoven Social Responsibility

At VLCC, Corporate Social Responsibility is defined around two dimensions – one is the mission to eradicate obesity and spread awareness about obesity, diseases linked to it, and its lifestyle related causes. The other dimension of its CSR initiatives focuses on creating opportunities to support the underprivileged sections of our society, working to alleviate poverty, and in particular for the empowerment of women.

Some key highlights:

- VLCC centers offer slimming, skin and hair care services
- Over 225 centers spread across the globe
- VLCC makes the earth lighter by 95,000 kilos (weight loss) ever year
- More than 10,00,000 satisfied customers served since inception
- All centers are company owned and managed with the exception of 35 franchisees in Tier II and Tier III cities in India.

Businesses:

- VLCC Slimming, Skin & Hair Services Centers offer weight-loss solutions, beauty treatments and regular beauty salon services.
- VLCC Institutes of Beauty & Nutrition offer programs in beauty and nutrition. With a presence spread across 49 campuses in 38 cities in India, it is today Asia's largest vocational training network of its kind.
- VLCC Personal Care is a proprietary line of over 100 herbal and ayurvedic skin-care, hair-care and body-care products. These products are available at all VLCC centres and are also retailed through 20,000 plus stores across India and overseas. 'SHAPE UP', its flagship line of body shaping products is a category leader.
- The VLCC Day Spas in Mumbai, Delhi, Kolkata and Gurgaon, a luxury offering from the house of VLCC, offer spa therapies from around the world as also advanced hair, skin and nail services. The services at the spa are a combination of the time-honored tradition of personal touch with the latest skin care equipment and spa technology for "results-oriented" treatments.
- The VLCC Nutri Diet Clinic provides customized solutions to addresses diet needs from normal to medical/ therapeutic conditions, helping people adopt holistic wellness in their everyday lives. It is aimed at improving the overall wellness quotient of individuals through advisory services for dietary intake, customized on the basis of the individual's specific bio-chemical parameters and lifestyle.

Acknowledgement

VLCC is the world's first slimming, fitness and beauty corporate to get the **ISO 9001:2000 and SA: 8000 (Social Accountability) certification** for implementing corporate social responsibility standards. The VLCC Group has also been awarded the **ISO: 14001 certification** for meeting global environment standards, again a world's first for a company in its line of business.

About KPMG in India

KPMG is a global network of professional firms providing Audit, Tax and Advisory services. We operate in 146 countries and have 140,000 people working in member firms around the world. The independent member firms of the KPMG network are affiliated with KPMG International Cooperative ("KPMG International"), a Swiss entity. Each KPMG firm is a legally distinct and separate entity and describes itself as such.

Our Audit practice endeavors to provide robust and risk based audit services that address our clients' strategic priorities and business processes.

KPMG's Tax services are designed to reflect the unique needs and objectives of each client, whether we are dealing with the tax aspects of a cross-border acquisition or developing and helping to implement a global transfer pricing strategy. In practical terms, that means KPMG firms work with their clients to assist them in achieving effective tax compliance and managing tax risks, while helping to control costs.

KPMG Advisory professionals provide advice and assistance to enable companies, intermediaries and public sector bodies to mitigate risk, improve performance, and create value. KPMG firms provide a wide range of Risk Advisory and Financial Advisory Services that can help clients respond to immediate needs as well as put in place the strategies for the longer term.

KPMG in India, a professional services firm, is the Indian member firm of KPMG International Cooperative ("KPMG International.") was established in September 1993. As members of a cohesive business unit they respond to a client service environment by leveraging the resources of a global network of firms, providing detailed knowledge of local laws, regulations, markets and competition. We provide services to over 5,000 international and national clients, in India. KPMG has offices in India in Mumbai, Delhi, Bangalore, Chennai, Hyderabad, Kolkata, Pune, Kochi and Chandigarh. The firms in India have access to more than 5,000 Indian and expatriate professionals, many of whom are internationally trained. We strive to provide rapid, performance-based, industry-focused and technology enabled services, which reflect a shared knowledge of global and local industries and our experience of the Indian business environment.

ASSOCHAM

THE KNOWLEDGE ARCHITECT OF CORPORATE INDIA

EVOLUTION OF VALUE CREATOR

ASSOCHAM initiated its endeavour of value creation for Indian industry in 1920. Having in its fold more than 300 Chambers and Trade Associations, and serving more than 350000 members from all over India. It has witnessed upswings as well as upheavals of Indian Economy, and contributed significantly by playing a catalytic role in shaping up the Trade, Commerce and Industrial environment.

Today, ASSOCHAM has emerged as the fountainhead of Knowledge for Indian industry, which is all set to redefine the dynamics of growth and development in the technology driven cyber age of 'Knowledge Based Economy'.

ASSOCHAM derives its strength from its Promoter Chambers and other Industry/ Regional Chambers/Associations spread all over the world.

VISION

Empower enterprise by inculcating knowledge that will be the catalyst of growth in the barrier less technology driven global market and help them upscale, align and emerge as formidable player in respective business segments.

MISSION

As a representative organ of Corporate India, ASSOCHAM articulates the genuine, legitimate needs and interests of its members. Its mission is to impact the policy and legislative environment so as to foster balanced economic, industrial and social development. We believe education, IT, BT, Health, Corporate Social responsibility and environment to be the critical success factors.

MEMBERS - OUR STRENGTH

ASSOCHAM represents the interests of more than 350000 direct and indirect members. Through its heterogeneous membership, ASSOCHAM combines the entrepreneurial spirit and business acumen of owners with management skills and expertise of professionals to set itself apart as a Chamber with a difference. Currently, ASSOCHAM has 90 Expert Committees covering the entire gamut of economic activities. It has been especially acknowledged as a significant voice of the industry in the field of Information Technology, Biotechnology, Telecom, Banking & Finance, Company Law, Corporate Finance, Economic and International Affairs, Tourism, Civil Aviation, Corporate Governance, Infrastructure, Energy & Power, Education, Legal Reforms, Real Estate & Rural Development etc

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