



*ISTIP (Indian S&T and Innovation Policy):
First Study of its kind focusing on various
dimensions of innovation activity in India;
aiming at providing valuable inputs for S&T
and Innovation decision making.*

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and Anubha Mahajan. Authors are affiliated
to CSIR – NISTADS.*

1. Introduction

India is the 2nd largest populated country (1.21 billion) in the World constituting 29.1% of 0-4 age group, 8.3% of 60 plus, and 65.6% of 15-64 age group covering around 790 million (as per census 2011). Also increasing population density, especially in urban areas, and rising life style diseases in India underscore the need for attention on its population health in all age groups like never before. Indian government was committed to provide 'affordable healthcare' to all, predominantly through public sector since independence through various schemes and programs. According to Universal Health Care (UHC) it is defined as "each individual would have assured access to a defined essential range of medicines and treatment at an affordable price, which should be entirely free for a large percentage of the population" (12th plan document of planning commission, India 2012).

India is committed to its slogan of affordable healthcare to the majority even after it introduced health sector reforms in post 1990s, where it intend to provide affordable healthcare predominantly through private sector and public private partnerships (PPP). This document in essence analyses, whether the private sector or PPP model could deliver affordable healthcare to the majority of Indians, following health sector reforms.

*A three point strategy is required to make
Healthcare in India affordable and sustainable by*

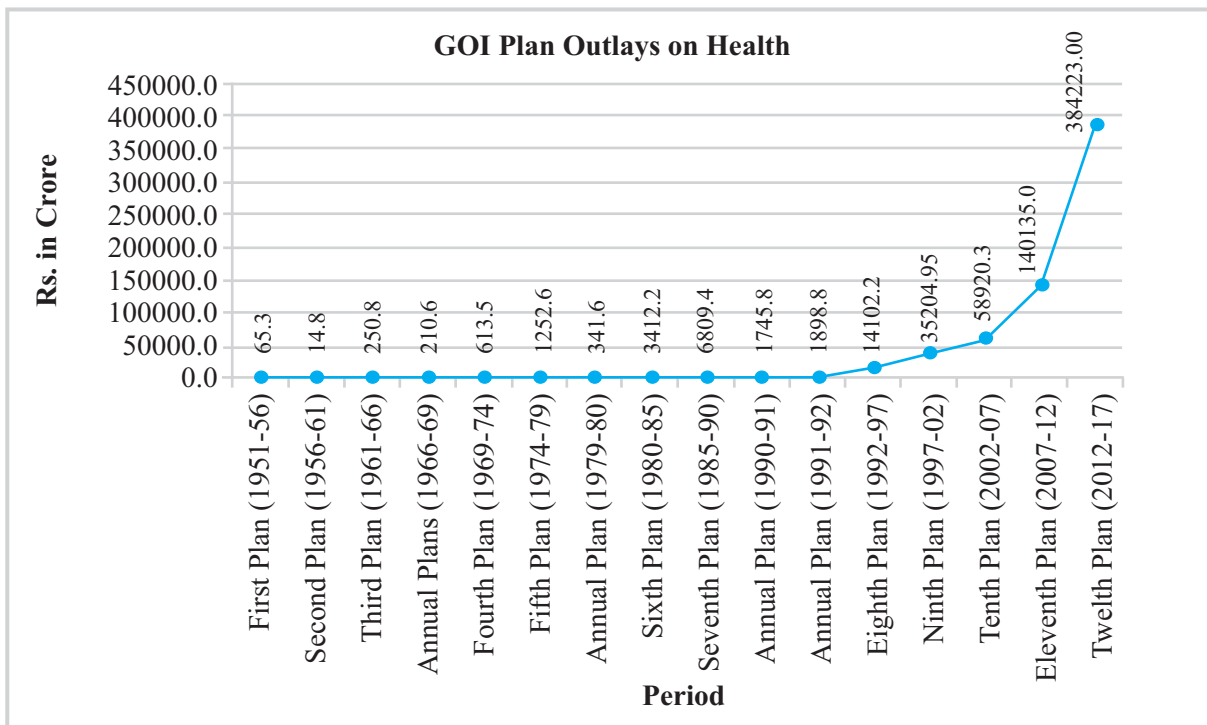
1. Increasing Public Health Spending
 2. Regulating Private Sector and
 3. Good Governance.
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2. Health sector Reforms in India

Health sector reforms include major changes such as 1) Reduction of investments in Public health sector, 2) opening up healthcare to the private sector, 3) Private Investments in public hospitals, 4) Introduction of user fees, and 5) Techno-centric public health interventions etc.

Incentives to private health sector include reduction of direct taxes, Income tax exemptions for 5 years for setting up rural hospitals and Health Insurance, higher depreciation in medical equipment, custom duty exemptions for imported equipment that are lifesaving, promotion of publicly financed health insurance schemes, preferential and subsidized allocation of land that has been acquired under the public acquisitions Act, subsidized education for medical, nursing and other paramedical professional graduating from government institutions, and the provision for 100% foreign direct investment (FDI).

Figure 1: Government Expenditure on Health in India



Source: Planning Commission of India, Budget Division of Department of Health, NRHM, AYUSH, NACO & Health Research

The effect of health sector reforms is evident from the **a)** Stagnation of growth in health infrastructure due to major cuts in health budget during the period 1991-93 (figure 1); **b)** Economically poor population further exposed to ill health, due to concurrent reforms in other sectors of Indian economy such as inter-sectoral subsidies in Public distribution system, education and transport; **c)** Increased cost of medical care and medicines; **d)** Reduction of essential drugs list under Drug Price Control Order (DPCO) from 378 to 140 in 1987 to 73 in 2011, though the current government has brought 52 more drugs under price control recently [http://in.reuters.com/article/2014/12/12/india-pharmaceuticals-prices idINKBN0JQ0L020141212], thus covering 400 drugs instead of 348 drugs in the National List of

Essential Medicines (NLEM) 2011; **e)** Increased household out-of-pocket expenditure on health has become the 2nd major cause of indebtedness in rural population, next to agriculture; **f)** Altered the production patterns in health sector; **g)** Domination of donor-driven priorities shape Indian health agendas/strategies; **h)** High-quality medical care is accessed only by middle-class Indians & medical tourists; **i)** Health research suffered in disease surveillance, and other health research organizations; **j)** Expansion of Family Welfare Programs at the expense of Primary health care (PHC) etc., that led to the limited or no access to quality care to the majority of Indians.

3. *National Rural Health Mission (NRHM) & Access to Affordable Healthcare*

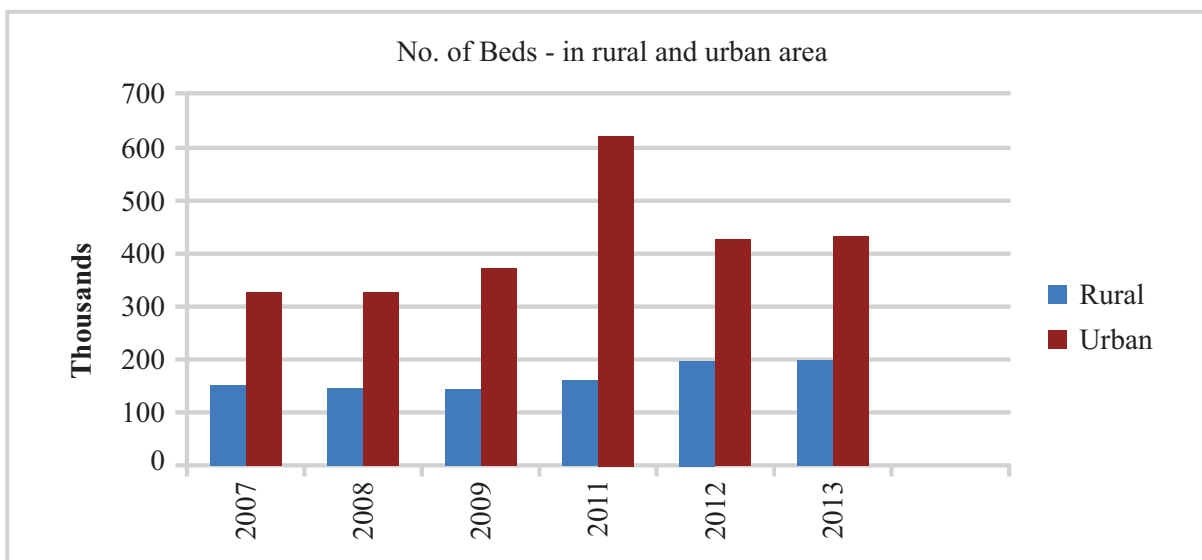
Deterioration of healthcare services following health sector reforms was pointed out by an Independent Commission on Development and Health in India (ICDHI, 1995), that recommended future actions, which was widely discussed, and as a fall out of these discussions, National Rural Health Mission (NRHM) was launched in April 2005. NRHM's objective was to develop a comprehensive healthcare to rural India by improving social determinants of health like nutrition, sanitation, hygiene and safe drinking water besides providing healthcare services, through 'Public Private Partnerships (PPP).' NRHM intended to provide quality healthcare to rural population (65%) by strengthening infrastructure, manpower, transport, health information system, access to diagnostic facilities/services, medicines and immunization through good governance (decentralization and district management of health, community participation and ownership of assets etc.). The objectives of NRHM were in line with Millennium Development Goals (MDG) that was launched in 2000, and India being a signatory to MDG has an obligation to meet the same. Launching of NRHM increased health budgets marginally could improve health care capacity building to some extent, but, access to quality healthcare has not improved. NRHM was criticized for its lack of managerial, social and political competence in the administration of healthcare delivery¹ and that its objectives were reduced to achieving MDG² than improving overall health services

4. *Capacity Building in Public Healthcare Sector (2007-13)*

4.1 Infrastructure: Primary Health Care Centres (PHCs) increased from 22,699 in 2006 to 24,448, Sub Centres (SCs) from 146,026 to 151,684 and Community Health Centres (CHCs) from 3,910 to 5,187 in 2013. Number of government hospitals and beds have increased slightly from the year 2007 to 2008, which was steady until 2011, followed by a steep rise in the year 2012. At present average rural population covered by SCs is 5,624 against the norm of 3,000-5,000, by PHCs 34,876 against the norm of 20,000-30,000 and by CHCs 173,235 against the norm of 80,000-120,000 indicating that at least there are enough health care centres to serve the population. However, their uneven distribution between urban and rural India makes it inequitable access across India (Fig 2). The growth of beds in rural hospital showed an increase of 27%, while in urban areas it is 31% from 2007 to 2013, in spite of steady improvement, it is still inadequate.

¹Banerjee D. Politics of rural health in India. National Rural Health Mission (NRHM), documents. New Delhi: Jan Swasthya Abhiyan; 2005.

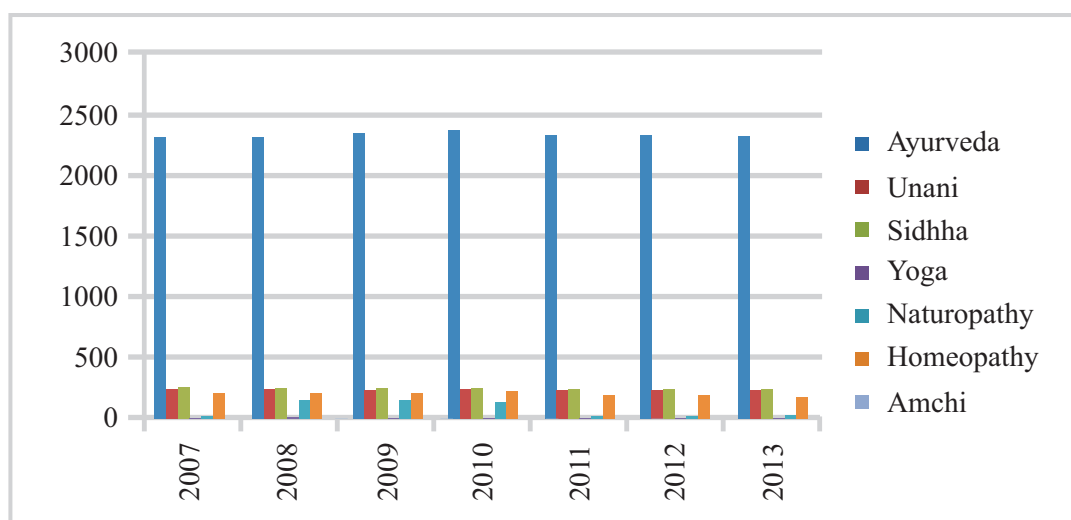
²Bajpai V and Saraya A. Development of healthcare services in India, The National Medical Journal of India, Vol. 26, NO. 2, 2013, 100-105.

Figure 2: Growth of Beds in Rural and Urban Govt. Hospitals (2007-13)

Source: Compiled From National Health profiles from 2007-2013, MOHFW, GOI

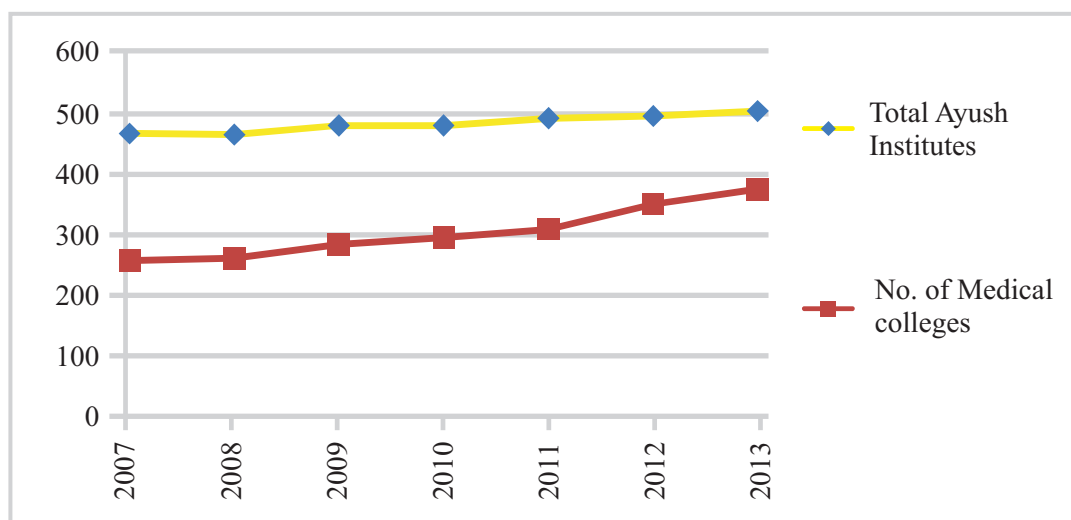
Average population served per government hospital and per hospital bed was larger in 2007 has come down steeply since 2011 and stagnated in 2013 (NHP 2007-13). The overall shortfall of doctors in PHCs decreased by 6% between March 2009 and March 2010, though it varies across states.

Indian Government emphasized the need for improving traditional health systems under the department of Ayush in its 11th & 12th five year plan period is evident (Fig 3).

Figure 3: Growth of all Ayush Hospitals (2007-13)

Source: Compiled From National Health profiles from 2007-2013, MOHFW, GOI.

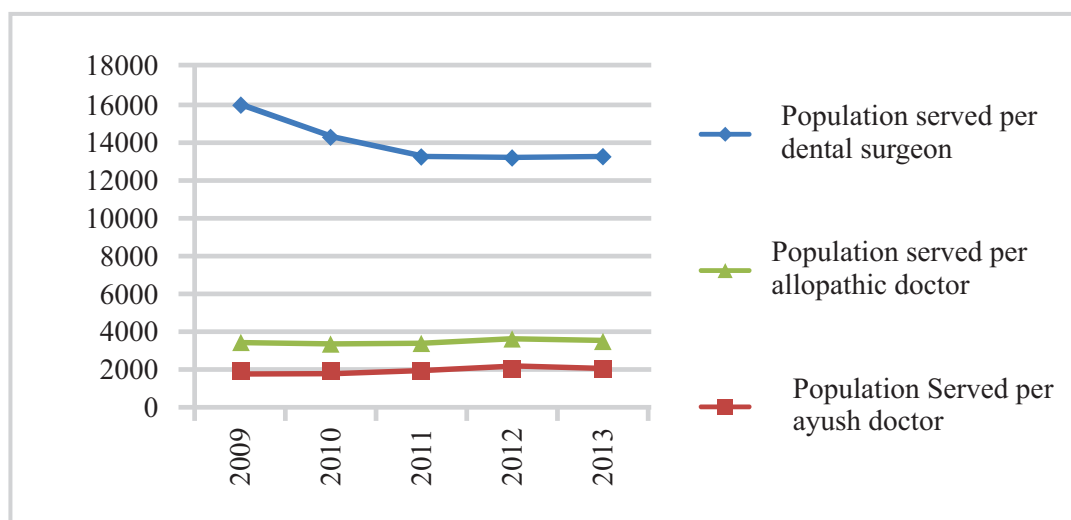
Among Ayush, ayurvedic institutions are the highest followed by homeopathy, Unani, Siddha, yoga and naturopathy. Similarly, Ayush teaching institutes have also grown steadily in the last 7 years, and in fact their number is more than Allopathic medical colleges (fig 4).

Figure 4: Growth of Medical Colleges and Ayush institutes (2007-13)

Source: Compiled From National Health profiles from 2007-2013, MOHFW, GOI.

4.2 Human resource on Health: In 2013 there were 106813 allopathic doctors, 5805 specialists, 292498 health workers and 30819 health assistants available in India. Overall about 6-6.5 lakh doctors available currently, and India requires 4 more lakhs by 2020.

Population served per dental surgeon is much higher compared to allopathic and Ayush doctor (Fig 5), and the situation is improving in case of dental surgeon with a steady growth of dental surgeons registered under MCI & state councils.

Figure 5: Population served per Allopathic/ Ayush Doctor and Dental Surgeon (2009-13)

Source: Compiled From National Health profiles from 2007-2013, MOHFW, GOI.

Population served per Ayush doctor is little lower compared to allopathic doctor and dental surgeon in government hospitals (fig 5). The total number of doctors registered under Medical council of India (MCI) and state councils also show a steady incline since 2007 with a peak in the year 2011 followed by a steady decline until 2013 (NHPs 2007-2013).

Though there is a slow growth of total health workers, the strength of doctors at PHCs has stagnated in the last 7 years. Around 7,467 posts of doctors are lying vacant out of 33,515 sanctioned posts (July 2014) in PHCs across the country. Total 5422 posts of specialists out of 10,904 posts are currently vacant in the PHCs. Though, Allopathic doctors posted at PHCs have increased by 45% during 2005-2013 in rural areas, yet there is shortage for doctors due to their unwillingness to work in rural areas. Many doctors who are posted in rural hospitals remain absent for long periods. In the absence of doctors, patients visiting the healthcare centres are treated by stand-in health personnel like pharmacists and nurses.

Overall there is a shortfall of 63.9% specialists, shortfall of 75% of surgeons, 65.9% of obstetricians and gynecologists, 80.1% of physicians and 74.4% of pediatricians at CHCs. Similarly, the growth of lady health visitors & pharmacists has stagnated, though the strength of nurses and midwives has improved since 2010. A steady increase of auxiliary nurse midwives was also observed since 2010. Population served per pharmacist is growing, while population served per nurse is declining (NHP 2007-13).

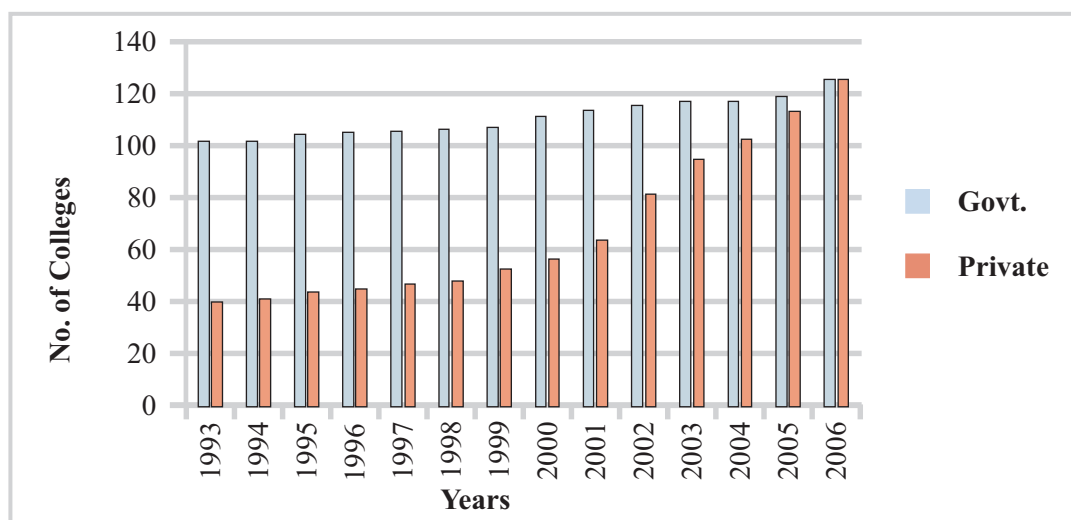
The above illustrations show that though there is slow growth of public health capacity, it is unevenly distributed and inadequate. Good governance can ensure optimum utilization of the expanded healthcare capacity in public sector.

5. Exponential Growth of Private Medical Education in India (2007-2013)

Traditionally, education and training of medical doctors was carried out by the State, and private sector had little interest till two decades back. India had 19 medical colleges graduating 1200 doctors each year in 1947. In 1990, only about 33 per cent of the medical schools were privately operated, the proportion has now doubled to about 57 per cent³. Though, there is a steady growth of both government and private medical colleges in India since 1991 to till 2005, in 2006 they are in equal number and by 2013 the situation has reversed (Fig 6 and table 2). Currently there are more private medical colleges (215) compared to government colleges (183) totaling around 398 in India (Table 1&2).

[<http://www.mciindia.org/InformationDesk/ForStudents/ListofCollegesTeachingMBBS.aspx>] indicating an exponential growth of medical colleges since 2006.

³Rao, M., Rao, K. D., Shiva Kumar, A. K., Charrerjee, M., & Sundararaman, T. (2011) Human resources for health in India. Lancet 377(9765), 587-598.

Figure 6: Growth of Medical Colleges during 1993-2006

Source: <http://www.hrhindia.org/Paper2/Appendix/Appendix.html>

Total number of Students admitted in medical colleges is also growing and also the female students' strength is growing since 2010-11 unlike in the previous years where male students admissions were always more comparatively (NHP 2007-13). The rapid growth of private medical colleges is due to their registration under trusts as they provide tax concessions under reforms (Fig. 6 & table 2).

Table 1: Growth of Medical Colleges in India

Year	Total Number of Medical Colleges
2007-08	266
2008-09	289
2009-10	300
2010-11	314
2011-12	356
2012-13	398

Table 2: Growth of Public, Private, Trust, Govt-Trust, University Medical Colleges (2011-13)

Year	Types of Medical Colleges				
	Private/Trust	Govt.	Society	Govt. Society	University
2011	182	148	0	0	0
2012	186	161	7	1	0
2013	195	173	8	1	1

Due to lack of accountability, many private colleges have come up without the permission of the MCI and without basic necessary facilities, and quality of healthcare workers is compromised. Eighty eight per cent of private sector institutions constitute colleges offering courses in general nurse midwifery.

However, little is known about several unrecognized & unregistered nursing schools, especially in southern states, as lack of regulation continues to be a major issue³. Private hospitals without qualified nurses are alarmingly high, as they do not follow any standard practices and nursing personnel are generally trained on the job⁴.

Moreover, the medical doctors trained in government colleges through public resources are either lost to foreign countries or to private sector as many of them set up their own private clinics and Nursing homes, leading to shortage of qualified doctors in public hospitals. In 2005, 20 health workers were served per 10,000 population out of them 70% work in private sector hospitals.

6. Rapid Growth of Private Healthcare Infrastructure

There is a steady steep growth of private hospitals, dispensaries and also allopathic doctors since 1974-86 till today, but availability of beds were more in public hospitals compared to private sector till 2003⁵ (table 3). Government hospitals maintained a steady growth till 1986 and their number is less now compared to private hospitals in the country.

⁴Barai – Jaitly, Tejal. **National conference report: Emerging Health Care Models: Engaging the Private Health Sector, 25th– 26th September 2009 YMCA**. Mumbai: CEHAT, vi,42 p., 2010.

⁵Duggal Ravi, Oommen C. Kurian, Padma Bhate-Deosthali and Suchitra Wagle (2012). Political economy of Healthcare In India. Health for the Millions, Oct - Dec., 2012, Vol. 38, No. 4.

Table 3: Public Private Distribution of Healthcare Infrastructure

	Hospitals		Dispensaries		Hospitals Beds		Allopaths	
Year	Pub.	Pvt.	Pub.	Pvt.	Pub.	Pvt.	Pub.	Pvt.
1964	*	*	*	*	*	*	39.6	60.4
1974	81.4	18.6	*	*	78.5	21.5	*	*
1981	56.2	43.8	86.2	13.8	71.6	28.4	29.4	70.6
1986	54.7	45.3	*	*	73.9	26.1	26.6	73.4
1988	44.1	55.9	50.6	49.4	70.1	29.9	*	*
1991	42.6	57.4	40.4	59.6	67.8	32.2	*	*
1993	33.4	66.6	37	63	64.6	35.4	*	*
1996	31.9	68.1	39	61	63.4	36.6	*	*
1997	31.72	68.28	43.28	56.72	61.49	38.51	*	*
1998	30.02	69.98	43.32	56.68	67.2	37.2	*	*
1999	25.35	74.65	47.63	53.37	6.74	38.26	*	*
2000	28.78	71.22	47.67	52.33	62.34	37.66	*	*
2001	27.48	72.52	45.9	54.1	61.83	38.17	*	*
2002	26.31	73.69	46.71	53.29	61.67	38.33	*	*
2003 onwards segregated date not updated								
*Not available								

Source: Health for the Millions, Oct - Dec., 2012, Vol. 38, No. 4

'The growth of private hospitals has increased from 14 per cent in 1974 to 74 per cent in 2002. Today 74.05 per cent of hospital beds are in urban areas, whereas 69 per cent of the population lives in villages⁵. Though the number of hospital beds increased in private sector in post 1990s, it is accessible to those who can afford (table 4).

Table 4: Beds in Public and Private Hospitals in some States of North India (2012)

Year	No. of Beds							
	<100		100-500		500-1000		>1000	
	Private	Public	Private	Public	Private	Public	Private	Public
Delhi	9		20		3	3		3
Haryana			5		1		1	
Jammu & Kashmir				2				1
Chandigarh		1	2			1		1
Punjab	9		11		2		1	1
Rajasthan	6		13	1	4		1	1
Himachal Pradesh	2		1					
Uttar Pradesh	7		26	2	4	3	1	1

Source: compiled from "Bridging the Divide - for a Healthy India: Agenda for Transforming Healthcare Delivery in the Northern Region", Grant Thornton India [www.granthornton.in] & Confederation of Indian Industry CII, New Delhi, India.

6.1 The Growth of Charity/Private Trust Hospitals

Historically, charitable hospitals were set up by philanthropists to provide free or concessional medical care. However, unlike earlier times, large number of hospitals in India were registered under the Trust or Societies Act, as it provides tax concessions in the last 3-4 decades (table 5), though they don't indulge in any kind of charity. Several well-known hospitals such as Bombay Hospital, Jaslok, Breach Candy, Lilawati, Hinduja, Kokilaben Dhirubai Ambani and Nanavati are owned by corporate and registered under the Bombay Public Trust Act are operating as Trust hospitals, but they do not provide free service to the poor. Only the rich or insured patients can afford the hospital charges.

Table 5: Growth of Non-Profit Healthcare Institutions in Post 1990s

Period	No. of Non-Profit Healthcare Institutions
Before 1970	1683
1971-80	2311
1981-90	6014
1991-2000	16614
2001-2009	32718

Source: Report on Non-Profit Institutions in India, CSO, Govt. of India, 2011, New Delhi

There are laws that meant to register and regulate charitable institutions to benefit the poor. However, general public is not aware of these laws.

These trusts are supposed to provide free service to economically poor class of 10% of inpatient and 25% of out-patient treatment. These hospitals get all the tax benefits that the law provides but they do not treat genuinely poor patients as mandated by law, citing that such treatment (10% free beds) causes losses⁶.

The private health care provision remains unregulated as well as unethical in practice. For instance, the profitability rate of Apollo group of hospitals is 40 per cent, and despite being public trusts their financial data is not available in public domain. The tax that would accrue to the state would be many times over this figure⁵.

6.2 Increased Foreign Direct Investments (FDI) in Healthcare

Health Sector reforms facilitated foreign direct investments (FDI) in pharmaceutical majors of multinational companies (MNCs), and FDI flows have increased as shown in table 6 & 7. FDI up to 100% is in operation in Pharmaceutical Sector since 2001. FDI flows in Health sector are mainly in drugs and pharmaceuticals (5%) followed by hospitals & diagnostic centres and Medical & surgical appliances (table 6 & 7).

Table 6 : Increased FDI Flows in health sector (April 2000 to June 2012)

Sector	Amount (Crore INR)	Amount (Million USD)	% with Total FDI (+)
Hospital and diagnostic centers	6,340.88	1,395.82	0.80
Medical and surgical appliances	2,469.41	523.54	0.30
Drugs and Pharmaceuticals	45,313.03	9,659.26	5.53

Source: FDI Statistics June 2012, DIPP, Ministry of Commerce & Industry, GOI

According to DIPP (2014), the drugs & pharmaceutical sector attracted FDI worth US\$ 12,688.71 million during April 2000 - September 2014. [http://indiainbusiness.nic.in/newdesign/index.php?param=industryservices_landing/347/1].

During the 1990s, Indian healthcare grew at a compound annual rate of 16%, and it is currently valued around more than \$34 billion, or roughly 6% of GDP, projected to grow to nearly \$40 billion.

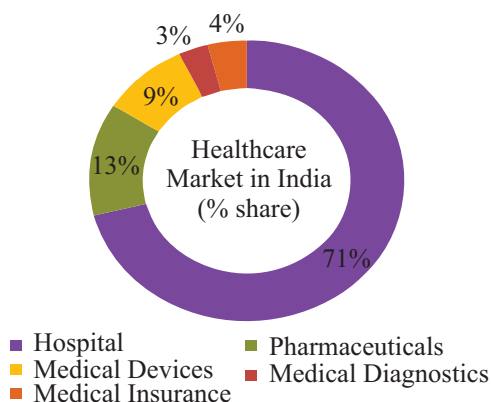
⁶Kurian, Oommen C., David Siddarth (2013). Free Medical Care to the Poor: The Case of State Aided Charitable Hospitals in Mumbai. Mumbai: CEHAT, 2013 [ISBN : 978-81-89042-64-6].

Table 7: Increased Investments in Healthcare Facilities during 2000-2008

Company Name	Year	Investor	Transaction value (US \$ million)
Vikram Hospital	2008	ICICI venture, India	24
Oyster & Pearl Hospitals	2008	Saviour Health care	13
Rockland Hospitals	2008	IFC, USA	14
Health Care Global	2008	Premji Invest, India	20
Health Care Global	2007	IDFC PE, India	10
Apollo Hospitals	2007	Apax Partners, UK & IFC, USA	-100
Sahyadri Hospitals	2007	ICICI Venture, India	36
Fortis Health Care	2007	Trinity Capital, India	20
RG Stone	2007	ICICI Venture, India	10
Hianandani Hospital	2007	Fortis Health Care, India	-6
Manipal Hospitals	2006	IDFC PE, India	-20
Max Health Care	2006	Warburg Pincus, USA & IFC, USA	-45
Sterling Hospital	2006	Actis, UK	-300-400
Narayana Hrudayalaya	2007	AIG & JP Morgan, USA	-100
Medica Synerge	2008	ICICI, Venture India	16

Source: Report on Bridging the divide- for a healthy India by CII, April 2013

According to Confederation of Industry of India (CII), hospitals constitute 71% of large chunk of healthcare market followed by pharmaceuticals & medical devices, medical diagnostics and insurance in India (Fig 7).

Figure 7: Growing Healthcare Market in India

Source: Report on Bridging the divide- for a healthy India by CII, April 2013

Both imports and exports have increased (table 8 & 9). Though the country is almost self-sufficient in case of formulations, it still continues to import Drugs and Pharmaceuticals based on economic considerations, but not necessarily due to non-availability from domestic sources. The rate of growth of imports of medicines has increased from 18% (2003-04) to 35% within 5 years (Table 8).

Table 8: Growth of Imports of Pharmaceuticals

Year	Imports of Drugs & Pharmaceuticals	Growth % in Crores
2003-04	15213	18.6
2004-05	17228	13.2
2005-06	21230	23.2
2006-07	25666	20.8
2007-08	29354	14.3
2008-09	39821	35.6
2009-10	42456	6.62
2010-11	47551	12.0
2011-12	51393.29	8.08
2012-13	55692.53	8.36

Source: Compiled from annual Reports (2011-12 & 2013-14), Depart. of pharmaceuticals, Ministry of Chemicals & Fertilizers, GOI.

Drugs and Pharmaceuticals manufacturers are free to import and produce any drug that is approved by the Drug Control authorities (Department of Pharmaceuticals 2012-13). This would allow the companies to import highly expensive brands of drugs of MNCs to sell them in Indian markets for their profit. Many times doctors prescribe expensive drugs to consumers, though cheaper drugs are available with same formula and which is equally effective in terms of its medicinal value.

This would only increase the burden of the consumer to spend more on expensive medicines, though compulsory licensing provision of WTO-TRIPS facilitated bringing down the prices of some anti-cancer drugs under DPCO recently (table 11). As there is no strict implementation of drugs being prescribed and sold as generics, the import allowances to pharmaceutical industry would encourage selling only those brands of drugs that are highly expensive for their profit.

Increased FDI flows (table 6) made Indian MNCs in the forefront in global markets, and Indian pharmaceutical industry soon became 4th largest producer of the medicines by volume and became a major global exporter of generic drugs. India's pharmaceuticals share of exports in sales has steadily grown from 15 per cent in 1993-94 to 41 per cent in 2009-10. The rate of growth of exports of bulk drugs was greater than formulations during the 1990s, which was reversed in post 2005 period, while formulations showed steady growth throughout⁷.

Table 9: Growth of Exports of Drugs

Year	Exports of Drugs & Pharmaceuticals	Growth % in Crores
2003-04	2,956	3.18
2004-05	3,139	6.19
2005-06	4,515	43.84
2006-07	5866.37	29.92
2007-08	6734.15	14.79
2008-09	8648.90	28.43
2009-10	9959.0	15.15
2010-11	11113.86	11.59
2011-12	14287.66	28.55
2012-13	16965.09	18.73

Source: Compiled from annual Reports (2011-12 & 2013-14), Department of pharmaceuticals, Ministry of Chemicals and Fertilizers, GOI.

⁷Joseph, Reji K (2012) Policy Reforms in the Indian Pharmaceutical Sector since 1994: Impact on Exports and Imports, Economic and Political Weekly. Vol.47No. 18, pp. 62 – 73.

Table 10: Trade Balance of Drugs & Pharmaceuticals

Items/Years	2006-07	2007-08	2008-09	2009-10	2010-11
a) Exports of Drugs & Pharmaceuticals and fine chemicals	25666	29354	39821	42456	47551
Share in Total Exports %	4.5	4.5	4.7	5.0	4.2
b) Imports of Medicinal and Pharmaceuticals Products	5866	6734	8649	9959	10937
Share in Total Imports %	0.7	0.7	0.6	0.7	0.6
Trade Balance	19800	22620	31172	32497	36614

Source: Compiled from annual Reports (2011-12), Department of pharmaceuticals, Ministry of Chemicals and Fertilizers, GOI.

Though the table 10 shows the rate of share of total exports (declined from 5% to 4.2%) and the share of total imports (declined from 0.7% to 0.6%) has declined after 2009-10, trade balance of drugs & pharmaceuticals in essence show growing trend of pharmaceuticals exports.

7. Increased Prices of Medicines & Declined Access to Affordable Medicines

Exports of drugs were much higher than the domestic consumption led to the escalation of the prices of essential medicines as their availability declines in the country. India has a large unmet domestic demand for critical medicines. Around 65 per cent of the Indian population still lacks access to essential medicines. The share of drug expenditure in outpatient department (OPD) that was estimated to be at 63 % in January 2004 had risen to 82 per cent in 2010⁵. According to National Health accounts, 38-62 per cent of inpatient expenditure in rural and urban areas accounted for medicines.

The national list of essential medicines (NLEM) 2011 order of India included a list of 384 essential medicines under price control. However, experts were critical of the selection criteria of essential drugs inclusion under DPCO (2013), which was based on the ceiling price (decided by taking the simple average of prices of brands with more than 1% market share) would exclude certain drugs with specified strengths out of DPCO. These criteria excludes all chemical analogues (excludes 500mg paracetamol and includes 650mg paracetamol), all existing and various combinations of NLEM and non-NLEM medicines, and many useful drugs for asthma, Diabetes, MDR-TB, basic drug for iron deficiency prophylaxis, falciparum malaria medicines except artesunate tablets and many other expensive drugs such as meropenem, imipenemcilastatin, tigecycline, colistin, abciximab, tirofiban, eptifibatide, mycophenolatemofetil, tacrolimusomits etc⁸.

NLEM was criticized that the national pricing policy is in favour of pharma industry, because if all essential medicines with their strengths and formulations are brought under DPCO, it would affect sales of 86% of anti-diabetics; 88% of anti-malarials; 63% anti-infectives; 81% of anti-TB drugs; 99% of blood related drugs; 71% of cardiac; 90% of derma; 85% of gastrointestinal; 86% of gynaec; 100% of hepatoprotectives; 73% of HIV related; 56% of hormones; 82% of neuro/CNS; 94% of opthal/otologicals; 99% of sex stimulants/rejuvenators; 90% of pain/analgesics; 94% of respiratory ; 100% of

stomatologicals; 99% of vitamins/ minerals/nutrients; 68% of vaccines; etc., and the “benefit” to the average citizen is only about Re 1 per month⁸. It is not at all in favour of consumers unless government's pricing policy is revised in the interests of public than in favour of industry.

The Indian pharmaceutical formulations industry is characterized by wide-ranging prices for the same product with high profits, apart from marketing and selling unnecessary irrational combinations (table 11). An analysis of marketing trends of medicines in India showed that > 60% of the top-selling 300 drugs which accounted for nearly 80% of the retail sales are not to be found in the national essential drug list⁸.

Table 11: Prices of Essential Medicines with and without DPCO

Category	Name of Drug	Decontrolled Price (Rs.)	Controlled Price (Rs.)
Anticancer	Tab. Gefitinate	11,500	5,900
	Tab Nolvadex	200	45
	Tab Veenat	11,500	8,500
	Tab Glivec	1,08,000	8,500
Blood Pressure/Heart	Tab Cardace 5mg.	128	92
	Tab Seloken XL 50	164	78
	Tab Losar 50mg.	94	67
	Tab Plavix	1,615	147
Antibiotics	Tab Moxicip 400	399	250
	Tab Moxif	418	295
	Tab Taxim O 200	198	118
	Tab Augmentin 625	263	150
	Tab Taribid 200	173	34
Cholesterol	Tab Storvas 10	97	62
Anti-Depressants	Tab Alprax 0.5	39	31
	Tab Alprax 0.25	22	15
Eye-Drops	Xalatan	1,187	450
	Xalacoon	1,348	515
Diabetes	Inj. Humam Mixtard	169	140
	Tab Amaryl 2	208	98
Injections	Albumin 20	5,500	3,800
	Anti D	3,500	2,200
	Anti Rabies (Kamrab)	7,000	2,670

⁸S Srinivasan, T Srikrishna, Malini Aisola (2014). Pharma Price Control Policy Unrealistic and Unfair, Economic & Political Weekly EPW August 23, 2014 vol XLIX no 34, 13-15.

Others	Tab Decdak 2	21	10
	Tab Zyloric 100	34	21
	Tab Ocicid 20	97	50
	Tab Megafreeflex	346	255
	Tab Andriol	157	115
	Tab CCM	194	177
	Tab Amdepin	47.40	31.60
T.B. Drugs	Rcinex	54	49.70

Source: peoplesdemocracy.in/2014/10/19_pd/decontrolling-drug-prices

The Profit motivated pharmaceutical industry always complain of losses if many drugs are under price control. However, health systems in Kerala and Tamil Nadu and LOCOST (Vadodara) has demonstrated that even with less prices (under DPCO) industry can still make its profits and at the same time a centralized procurement systems can also make them affordable⁹ (table 12).

Table 12: Comparison of Chittorgarh, TNMSC Procurement Prices and Retail Market MRPs

Generic Name of Drug	Unit	Chittorgarh Tender Rate (Rs.)	MRP Printed on Pack/s trip (Rs.)	TNMSC Prices 2010-11 (Rs.)	Brand Name and Manufacturer	Per MIMS (December 2008)
Albendazole tab IP 400mg	10 tablets	11.00	250.00	4.62	Albezole-Khandelwal	Rs. 12.00 per tablet
					Combantrin –Pfizer	Rs. 14.83 per tablet
					Nemazole- IPCA	Rs 9.75 per tablet
					Zentel-GSK	Rs 17.00 per tablet
Alprazolam tab IP 0.5mg	10 tablets	1.40	14.00	0.45		
Arteether 2ml Inj.	1 inj.	9.39	99.00	9.71 for 80 mg per vial		
Amlodipine tab 5 mg.	10 tablets	2.50	22.00	0.42 for 10 tabs of 2.5 mg	Amlodac-Zy-Alidac	Rs 15.10 per strip of 15 tablets
					Amlopres-Cipla	Rs 36.86 per strip of 15 tablets
					Calchek-IPCA	Rs 22.50 per strip of 10 tablets
					Lama-Statmed	Rs 15.03 per strip of 10 tablets
					Myodura-Wokhardt	Rs 15.45 per strip of 7 tablets

⁹Srinivasan 2011, Medicines for All', the Pharma Industry and the Indian State, Economic & Political Weekly (EPW), June 11, 2011 vol xlvi no 24, 43-50.

Cetirizine 10 mg	10 tablets	1.20	35.00	0.50		
Ceftazidime 1000mg	1 inj.	52.00	370.00	8.77 for 250 mg injection		
Atorvastatin tab 20 mg	10 tablets	18.10	170.00	2.30 for 10 tabs of 10 mg		
Diclofenac tab IP 50mg	10 tablets	2.20	25.00	0.63	Nac- Systopic	Rs 16.00 per strip of 10 tablets
					Tromagesic-Thermis	Rs 3.15 per strip of 10 tablets
					Voveron- Novartis	Rs 34.70 per strip of 15 tablets
Diazepam tab IP 5 mg	10 tablets	1.90	29.40	0.47	Calmpose- Ranbaxy	Rs 22.20 per strip of 10 tablets
					Placidose- Lupin	Rs 14.00 per strip of 10 tablets
					Valirum-Nicholas Piramal	Rs 23.00 per strip of 10 tablets
Amikacin 500 mg	1 inj.	6.95	70.00	6.78		

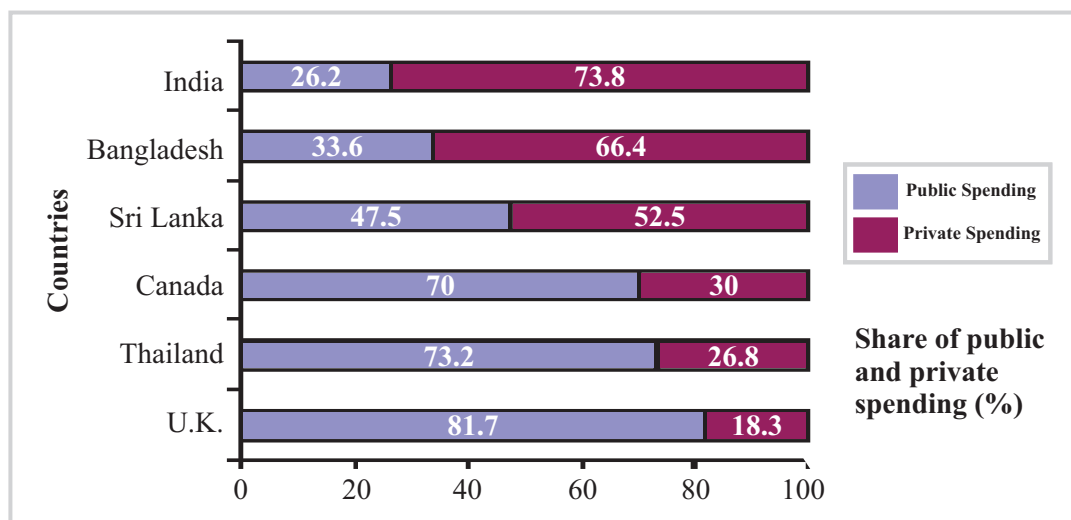
Source: Srinivasan, 2011, *Economic & Political Weekly*, June 11, 2011, 24:43-50.

Tamil Nadu Medical Services Corporation (TNMSC) caters to all levels of care and patients can get these medicines free from government health system. In case of Chittorgarh and Nagpur district the patients above poverty line have to pay for these medicines at the same low prices. The system runs based on a monthly credit from the suppliers, with the provision for returning unused medicines and with no working capital from the district administration. The 20% margin on the procurement prices takes care of the overheads. Suppliers are mostly well-known companies quoting much lower prices for the district administration and this effort was possible due to the sale of generic drugs at low prices by other private retail pharmacies in Chittorgarh through advocacy about the availability of generic medicines in their shops⁹.

8. Government Expenditure on Health in India

India ranks amongst the lowest in the world in government spending on health, which is around 0.9% of GDP, compared to a global average of 6.0% of public health spending (WHO). Though there is a steady growth of public expenditure on health in the last 7 years in absolute numbers¹⁰, while its proportion of private spending on health is one of the highest. Public spending on health registered a substantial increase during a decade (1975–85) around 1.05%, has decreased slowly followed by economic reforms in 1990s.

¹⁰ An estimate of public expenditure on health in India”, May 2012 NIPFP Report.

Figure 8: Public & Private Expenditure on Health in Select countries

Source: World Health Statistics 2010, WHO

India spent only 1.4% of its GDP on public health in 2009-10, which was extremely low, both in absolute terms and in comparison with other developing countries such as Nepal, Bangladesh, China, Thailand, Argentina and Brazil, and its private spending is the highest of 70% compared to both developing and developed countries in 2010 (Fig 8). Even the developed countries like Canada and UK spends maximum share compared to private spending of 30 and 18 percent respectively.

Also fiscal allocation from centre to states have also declined from 19% to 7% of total expenditure on health between 2004-05 and 2010-11, and public health expenditure on health between state and centre ratio has remained stable at 35:65 over the years (2006-2011)¹¹. It is observed that in countries where government spending on health is high (UK, Sweden, Germany, France, Denmark, Norway and Japan), life expectancy at birth is also noted to be long as 82 years (Draft National Health Policy 2015) [<http://www.mohfw.nic.in/showfile.php?lid=3014>]. The latest draft National Health policy (2015) motto is same as that of National Health Policy 2002 to provide healthcare services through PPP, though it intends to increase health expenditure on health in the coming 5 years.

8.1: Increased Out-of-pocket house-hold expenditure on Health

According to the NRHM Framework document, “more than Rs. 100,000 crore is being spent annually as household expenditure on health, which is more than three times the government expenditure on health.” Huge health care expenditures have been the major cause of household debt and poverty that shattered families of poor in the country. The out-of-pocket expenditure as per cent of private expenditure on health was 92.2% in 2000, which reduced to 74.4% in 2008 [http://mospi.nic.in/Mospi_New/upload/SAARC_Development_Goals_%20India_Country_Report_29aug13.pdf].

¹¹Garg CC. *Equity of health sector financing and delivery in India*. Takemi Fellow in International Health. Harvard School of Public Health, June 1998. Available at <https://www.hsph.harvard.edu/wp-content/uploads/sites/114/2012/10/rp144.pdf> (accessed on 29th Dec 2014).

9. Access to Healthcare through Public Private Partnerships (PPPs)

9.1: Hospitals through PPPs

PPP in hospitals meant in India that Government provides free land, direct financial assistance and large tax exemptions to private health sector in exchange for the provision to provide free services to a certain percentage of poor patients. One such example is The Apollo Indraprastha Hospital that was founded in 1996, in collaboration with the Apollo Hospitals Group and the Government of the National Capital Territory of Delhi. The government leased 12 acres of prime land at a nominal sum of one rupee per month, and built the entire hospital building at a cost of more than Rs.1700 million, the with 25% of stakes in it and the rest of the money was drawn from public financial institutions, while only a small percentage of investment was from the Apollo Group. According to the lease, 200 beds were reserved for poor patients for free out of 600 beds in-patient capacity, and only in cases of emergency with government permission, 5 beds out of the reserved beds for poor patients can be used by paying patients. It should also treat OPD patients free. However, none of these lease agreement is followed by the hospital. Moreover, after Apollo Hospital profiting from the initial investment by the government, had now offered to buy up the entire share of the Delhi government¹². This example shows that private corporate hospitals do not stick to long-term commitment.

However, High court indicted Apollo Hospitals heavily for the violation of its commitment to treat poor patients free of charge, and directed certain private hospitals to ensure free treatment to 10 percent in-patients and 25 percent outpatients. The recent Supreme Court judgment directed that the private institutions would provide medical care free of cost to the poor, pending preparation of a scheme which would involve private players in treating the poor. This mandatory ruling was given on the ground that the land for construction was given on an undertaking which bound the private players to provide free health care to people who belong to economically weaker sections of the society.

9.2: Outsourcing healthcare services through PPPs

These include contracting out specific ancillary services such as diagnostic, security, canteens, sanitary services, handing public infrastructure, service delivery, handing over primary health centres to NGOs etc. Contracting out a super specialty hospital in Belgaum to the Apollo Group, establishment of a Cardiac centre by the Escorts Group in Chhattisgarh, and drug stores management in Rajasthan are some examples to cite. "Government efforts to collaborate with the private sector have been programmatic, sporadic, disjointed and tentative, and not the result of a well-thought strategy aimed at achieving national health goals".¹³

9.3: Health Insurance Schemes through PPP

Ten percent of India's population has any form of health insurance cover at present. Health schemes like Employees state insurance scheme (ESIS) and central government health scheme (CGHS) were entirely covered by government hospitals and dispensaries in pre 1990s. However, in post 1990s state and central

¹²Bajpai V and Saraya A. Healthcare financing: Approaches and trends in India, The National Medical Journal of India VOL. 23, NO. 4, 2010, 231-235.

¹³ PHFI Report, Srinath Reddy, Sakthivel Selvaraj, Dr. Krishna D. Rao, Mr. Maulik Chokshi, Preeti Kumar, Vandana Arora, Sachin Bhokare and Isheeta Ganguly (2011). A Critical Assessment of the Existing Health Insurance Models in India, a PHFI Report, sponsored by Planning commission of India, New Delhi.
[http://planningcommission.nic.in/reports/sereport/ser/ser_heal1305.pdf] (accessed on 29th Dec 2014).

government schemes also covered private hospitals in their list to provide healthcare to employees. This has increased government expenditure on health.

The mean hospitalization expenses of the private health of the ESIS and CGHS takes care of risk pooling and repayment as they are based on contribution from employer and the schemes are entirely public funded schemes. On the other hand, health care costs were very high in insurance schemes in commercial sector that covered in-patient treatment. “Nearly all providers under TN and CGHS are private hospitals, while in Andhra Pradesh over 80 per cent of the hospitalization occurs under Aarogyasri in private hospitals.”¹⁴

During 2009-10, over one-fifth of all government expenditure was on tertiary care, and the overall spending on hospital care under insurance schemes was around 37%. States such as, Delhi, Andhra Pradesh and Tamil Nadu have already spent well over half of all government expenditure on tertiary care.

Currently there are around more than 25 Community health insurance (CHI) schemes, by the state governments covering over 10 million lives all over India. Two hundred private hospitals and 153 public hospitals are covered under Rashtriya Swasthya bima yojana, enrolled 17 48 471 people from 8 states (table 11).

Table 13: Govt. Sponsored Insurance Scheme

States	No. of Districts			In district with enrolment		Hospitals		
	Selected	Complete	In Progress	Total BPL families	BPL families enrolled	Private	Public	Total
Bihar	38	30	8	1,50,11,570	73,98,390	814	50	864
Odisha	30	9	21	52,91,971	32,78,899	146	461	607
West Bengal	19	12	6	76,49,343	45,43,976	599	27	626
Mizoram	8	8	-	69,299	43,256	13	74	87
Gujrat	26	26	-	36,39,634	18,20,326	1,257	426	1,683
Maharashtra	32	23	9	44,38,792	20,81,821	1,207	15	1,222
Karnataka	30	-	30	36,71,204	16,80,913	478	318	796
Kerala	14	14	-	26,11,319	17,48,471	200	153	353

Source: Rashtriya Swasthya Bima Yojna, Government of India

An observation of existing health insurance schemes through PPP in India show that government costs on healthcare are increasing as government money is siphoned to bear the catastrophic costs (often unnecessary diagnostic and treatment) in private health sector, though consumers benefit as in case of Aarogyasri in Andhra Pradesh. It is argued that this model may not be sustainable in the long run given the

inherent profit motive of private sector and its unethical practices in the absence of regulation of private healthcare in India, would increase government expenditure on health.

10. Rising Healthcare costs in post reform period

According to HLEG, the private sector which accounted 8% in 1947, now accounts for 93% of all hospitals, 64% of all beds, 80%-85% of all doctors, 80% of out-patients, and 57% of in-patients [planningcommission.nic.in/reports/genrep/rep_uhc0812.pdf], covering all aspects of health care markets including health financing, health worker education and health equipment manufacturing and service.

It was expected that the expansion of private health sector would translate into equity in healthcare services in India. However, two decades of experience in India show that quality care and high cost of medical treatment are the dreadful barriers to access healthcare from private sector (Table 14 & 15). In Delhi, in patient private hospital admission charges are 2-3 fold higher compared to Government hospital (table 14). In 2003, fee-charging private companies accounted for 82% of India's \$30.5 billion expenditure on healthcare. Only 25% of the Indian population has access to Western medicine, mainly in urban areas, where two-thirds of India's hospitals and health centres are located.

Figure 14: Coronary angiography prices for one day stay in Delhi Hospitals

Management	Hospital	General Ward	Shared Room	Single Room
Corporate	Max Devki Devi	13,000	16,000	21,000
Corporate	Indraprastha Apollo	14,000	15,500	19,000
Trust	Sir Ganga Ram Hospital	13,000	13,500	19,000
Corporate	Fortis	10,000	11,000	12,000
Public	AIIMS	5,000		5,000

Source: (Lefebvre, 2008).

Table 15: Schedule of Charges: Fortis Escorts Hospital

S. No.	Service Name	Standard Charges	General Ward Charges	Twin Sharing Charges	Deluxe Charges	Super Deluxe Charges	Triple Sharing Charges
	CLOSURE (VSD) HIGH RISK						
	CARDIAC SURGERY	Sub Group	Open Heart Surgeries- Packages- Moderate Risk				
CRDS-69	Annuerisms Moderate Risk	185000		105000	225500	270500	
CRDS-70	Aortic Valve Replacement + Cabg Moderate Risk	175000		175000	212130	253380	155000
CRDS-71	Atrial Septal Defect Closure (ASD) Moderate Risk	145000		145000	176500	211500	
CRDS-72	CABG Carotid Endarterectomy Moderate Risk	170000		170000	207130	248380	
CRDS-73	Coronary Artery Bypass Graft (CABG) Moderate Risk	160000		160000	193750	231250	140000
CRDS-128	Double Valve Replacement + Coronary Artery Bypass Graft (CABG) Moderate Risk	199750		199750	242445	289880	175000
CRDS-74	Double Valve Replacement Moderate Risk	175000		175000	212130	253380	155000
CRDS-75	ICR/TAPVC/VSD with PS Moderate Risk	185000		185000	225500	270500	
CRDS-76	Mitral Value Replacement + CABG Moderate Risk	175000		175000	212130	253380	155000
CRDS-77	Other Open Heart Surgeries Moderate Risk	155000		155000	188750	226250	
CRDS-78	Patent Ductus Arteriosus Closure (PDA) Moderate Risk	145000		145000	176500	211500	
CRDS-79	Redo CABG Moderate Risk	170000		170000	207130	248380	160000
CRDS-80	Redo Double Value Replacement Moderate Risk	186500		186500	227340	272710	175000
CRDS-81	Redo Valve Surgery - Mitral Valve Replacement Moderate Risk	170000		170000	207130	248380	160000
CRDS-82	Redo Valve Surgery - Aortic Valve Replacement Moderate	170000		170000	201730	248380	160000

Source: FDI Statistics June 2012, DIPP, Ministry of Commerce & Industry, GOI

The direct costs for various services offered by private hospitals like Escorts, Fortis, Apollo etc., are highly expensive unaffordable by the poor (table 15).

Hospitalization expenditure shows a steep rise of 9% in private hospitals compared to government hospitals in rural areas.

Private sector prescribes unnecessary tests, diagnostic procedures and treatment methods at high cost. A 12 % increased expenditure in urban private hospitals in post reforms was noted compared to pre reforms period and its cost is further escalated to 37% within 10 years by 2004. Also, household expenditure

increased from 5.43 % in 1993-94 to 6.09 in 1998-99 and to 6.61% in 2004-05 in rural areas, and in urban areas it was 4.6% in 1993-94, has increased to 5.06 in 1998-99 and to 5.19% in 2004-05¹⁴.

About 47 per cent of the total rural hospitalisation cases in the country were financed by the sale of assets or loans, and in urban India it is about 31%, with the proportion ranging from 13 to 55% for different class of households⁵. The financial reason cited for not accessing health care was 15% in rural and 10% in urban areas in 1986-87, which rose sharply to 28% in rural and 20% in urban areas in 2004 (MoHFW 2007).

The cost of healthcare services in post liberalization period increased 5 fold in public sector and 7 fold in private sector, whereas purchasing power of poorer classes has not changed during the same period⁵. In addition, government spending on public health declined, coupled with deregulation of essential medicines based on market mechanisms has weakened welfare needs of public and public health systems.

The newly formed BJP government in its Budget announcement (2014) promised to provide free drug and diagnostic service to achieve “Health For All” by setting up medical, dental colleges, AIIMS like institutions in some states, Model Rural Health Research Centres, launching national program to halt the deteriorating malnutrition situation in India, and to Strengthen State's Drug Regulatory and Food Regulatory Systems within six months. It's been 6 months now, only time can reveal its promises.

However, it is once again reiterated that increased public health spending and strict regulation of private sector with Good governance can only sustain affordable healthcare in India.

11 Policy Recommendations to Ensure Access to Affordable Healthcare

- 1. Increase public expenditure on health for optimum utilization of existing public health resources and for the expansion of capacity wherever gaps exist.*** It is the public health sector that always provided affordable quality healthcare despite inadequacies as acknowledged by the recent 'National draft on health policy 2015'—“In terms of comparative efficiency, public sector is value for money as it accounts (based on the NSSO 60th round) for less than 30 % of total expenditure, but provides for about 20% of outpatient care and 40% of in-patient care. This same expenditure also pays for 60% of end-of-life care (RGI estimates on hospital mortality), and almost 100% of preventive and promotive care and a substantial part of medical and nursing education as well.”
- 2. Improve determinants of health on priority basis such as provision for clean environment, (sanitation & hygiene and access to safe drinking water), good living conditions and balanced diet.*** This will bring down air born & water born diseases drastically. Experience of developed nations showed that it is primarily social determinants of health that promised good health than the techno centric approaches (vaccines and medicines). Tuberculosis, malaria are rare in developed countries.
- 3. Involve local panchayats and local communities to do a need based analysis for expanding and providing healthcare facilities, skilled human resource and social determinants of health for a comprehensive healthcare.***
- 4. Provide autonomy to local Panchayats*** (village, block, and district) or decentralize health administration to work towards affordable healthcare, while respective states and union health ministry may monitor their accountability and progress.

¹⁴Baru Rama, Arnab Acharya, Sanghmitra Acharya, A K Shiva Kumar, K Nagaraj, Inequities in Access to Health Services in India: Caste, Class and Region, Economic & Political Weekly EPW september 18, 2010 vol xlv no 38, 49-58

5. ***Connect & reach up to remote areas through existing systems, like Indian Postal services.*** Indian postal services are very efficient in reaching even the remote corners of the country. A PHC unit can be attached with each post office as connecting point for distribution of essential medicines (allopath and ayush) with first aid kits and a trained health personnel from the local community can be made in charge of the unit.
6. ***Generate health workers from within local communities (ASHAs, Health workers/assistants, Nurses and paramedical staff) with attractive salaries to ensure involvement, commitment and employment to rural population.*** Successful community based monitoring and planning that was implemented in 13 districts, 37 blocks and 150 PHCs and 680 villages across 13 districts of Maharashtra involving around 25 civil society organizations [http://www.copasah.net/uploads/1/2/6/4/12642634/community_based_monitoring_and_planning_in_maharashtra.pdf] can be adapted to the rest of India for making health services accountable and responsible.
7. ***Improve mechanisms to train and retain skilled health manpower by providing incentives to work in rural villages or by generating and training people from within the local community with better salaries, provision of accommodation and other good living amenities as in defense services.*** Providing regular employment with better salaries can ensure service delivery.
8. ***Build and adopt affordable health care delivery systems like Kerala, Tamil Nadu, Maharashtra and Mizoram in other states of the country, as they are proven examples to show that good governance and political will can deliver affordable healthcare to the majority.***
9. ***Strengthen Public sector for the stable affordable supply of vaccines and Universal immunization Programme.***
10. ***Introduce new vaccines only after its 'need, efficacy and safety is assessed in Indian population with scientific evidence and cost-benefit & cost-effective analysis.***
11. ***Balance the use of Vaccines with other preventive public health measures, than depending only on techno-centric approach.***
12. ***Implement evidence based policies to ensure health for all.***
13. ***Prioritize health research based on epidemiological evidence of disease surveillance***
14. ***Strengthen disease surveillance through networking with private and public health facilities and diagnostic centres using IT and through local panchayats.***
15. ***Instigate proactive approach in implementing corporate social responsibility of private companies to provide affordable healthcare services.*** The draft National Health Policy 2015 makes 'Corporate social responsibility' as mandatory. However, this should not be restricted to organising free camps to promote new vaccines introduction and new drugs of doubtful efficacy.
16. ***Ensure Access to Affordable Essential Medicines***
 - *Implement the sale of generic drugs as generics rather than as branded drugs*
 - *Ban production and marketing of irrational drugs and irrational combinations*
 - *Ban the sale of over counter drugs without prescription*
 - *Implement NLEM under DPCO. Include all new vaccines that are available in the open market under DPCO.*

- *Fix the prices based on domestic need rather than on market trend criteria to enable affordability of essential medicines. Increase National List of Essential Medicines (NLEM) to 500 medicines instead of 400 to cover medicines for rare conditions.*
 - *Set up a centralized public procurement system for procuring generic goods and fix the price of essential drugs low. Ensure the practice of high degree of transparency in the procurement and related operations to ensure the access of low priced medicines.*
 - *Ensure availability of medicines in all PHCs through a centralised public procurement system. Non availability of medicines in public health sector facilities, while non-affordability in private retail pharmacies is a major concern, though the availability of medicines is better in private shops in India.*
- 17. Regulation of private health sector to deliver free or affordable healthcare services through following measures,**
- *No further expansion of private healthcare facilities unless it is regulated to meet public health needs.*
 - *formulating similar norms and standards for government and private hospitals alike.*
 - *Stipulate uniform service charges in all private hospitals, clinics and dispensaries, diagnostic centres at par with public hospitals as **mandatory requirement**. Since large masses of people avail health services, the economies of scale would take care of private institutions profit needs as well as patient's need. Many private hospitals are bound to provided affordable services as per the stipulated law, as they acquired free government land.*
 - *Punishing doctors for prescribing branded medicines rather than generics.*
 - *Stipulate rules to all chemists and pharmacies to sell generic medicines rather than brands*
 - *Punishing chemists and pharmacies for selling branded drugs*
 - *Regulate unethical practices of drug promotion and punish those who conduct unethical practices of drug promotion, such as incentives as the “cut” practice by doctors, laboratories, CAT scan centres, etc.*
 - *Make accountable the professional medical associations like the Indian Medical Association (IMA), the Indian Association of Physiotherapists (IAP), the Federation of Obstetric and Gynaecological Societies of India (FOGSI), the Pharmacy Association, and the Medical Council of India (MCI), Indian academy of paediatrics (IAP), among others, for supporting, promoting any unethical practices in medicines/vaccines for complementation and implementation of the above objectives.*
 - *Elimination of corruption both in public and private healthcare system can only be achieved through appropriate stringent regulatory mechanisms and its implementation.*
- 18. Improving healthcare systems through Information Technology (IT)**
- ***Prepare a database on private health sector that can be accessed from the public domain.** Implement systematic recording and documenting the database on facilities, infrastructure, manpower available in the **private health sector** (as compiled in case of public sector on health by CBHI, MOHFW, GOI) for informed decision making for optimum utilization of private healthcare. Currently there is no authentic single data source is available on the same.*

- ***Link up all the accredited healthcare facilities, clinics, hospitals, dispensaries and diagnostic centres using information technology (IT) for collecting and documenting health information on patient (while maintaining privacy) by providing a unique code number to enable systematic documentation of ailments that affect Indian population in urban and rural areas.***
- ***Build authentic disease surveillance system from both public and private institutions using IT. Link up all diagnostic centres and private clinics through IT to record and document disease surveillance and health surveillance data through IT and feeding this information to a centralised data system like NIC to enable collation of health information data in one single source. This would help enable informed policy decision making.***

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For suggestions/feedbacks, please contact: y_madhavi@yahoo.com

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