Inter – State Comparisons on Health Outcomes in Major States and A Framework For Resource Devolution For Health

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Introduction

Globally, investment in health is regarded as an integral component of human development. Evidence establishing the interrelationship between good health and the creation of wealth, between the environment and population health and the growing interdependence among countries, has contributed to attributing peoples' health status to good governance. (CMH, 2000) Further, the wide externalities and spillover effects of health and correlations between public health spending, poverty and social well being at the aggregate level, has gradually transformed health care from an individual to a social responsibility and a political imperative.

India is among the handful of 15 countries[1] that stubbornly continues to accord a low priority to the health and well being of its citizens. Even as it has transited from being a low income country to a lower middle income country, whether at times of low growth or high growth, for over six decades, public spending on health has stagnated within the narrow band of 0.8 to 1.2 % of GDP.

With the available resources, meager as they may be, the government at the central and state levels managed to establish a wide network of health facilities, provide free care to the poor under the reproductive and child health and infectious disease control programmes, run medical colleges and specialty hospitals etc. But outcomes have been disappointing. India contributes to 17.6% of the global disease burden and is responsible for a third of all deaths on account of common infectious diseases like TB or leprosy that are curable and inexpensive to treat (WHO Statistics, 2012). India accounts for a quarter of global maternal mortality and infant mortality. It has the second highest number of persons living with HIV AIDS. Compare to China: it too had a debilitating colonial past and has a large population base, yet life expectancy – a measure of development along with average height - is 10 years ahead of India. Even the neighbouring countries like Thailand, Bangladesh (except for MMR) and Sri Lanka have a better record of health indicators than India as can be seen below in **Table I:**

[1] Other countries that also spend about 1% of GDP on health are Indonesia, Bangladesh, Singapore, Laos, Cambodia, Afghanistan, Pakistan, Azerbaijan, Yemen, South Sudan, Eritrea and Chad. Myanmar spends less than 1% (WHO, 2011)

Table I. Outcomes in Some Select Countries

Country	GNI Per Capita in current International $ 2012*	General Govt. Ex. On Health as % of total Govt. Exp. 2010	U5MR/1000 live births (2011)	MMR/ lakh live births (2010)	IMR/1000 live births (2011)	LE (2010)
BRICS						
India	3901	6.8	61	178(2013)	42	65.8
China	9040	10.9	15	37	13	76
Russia	22720	12.7	12	34	10	69
Brazil	11530	10.7	16	56	14	74
South Africa	11010	12.4	47	300	35	58
South East and South Asia Region						
Thailand	9280	14.3	12	48	11	74.3
Sri Lanka	6030	6.9	12	35	11	75.1
Bangladesh	2030	8.9	46	240	37	70

***Source** : * World Bank 2013; Rest WHO Health Statistics 2013*

Within the country too, India's health status has wide disparities - among regions, states and sub population groups as discussed in detail in the following pages. Absence of safety nets is responsible for driving an estimated 4.8% of the country's population (5.3% rural and 2.5% urban) into impoverishment on account of medical treatment, nullifying to an extent the incomes being earned under various developmental programmes. As per the CES, 68th Round, 2011, people in India spend 6.8% of the consumption expenditure on health care.

Chronic low public investment in health in India is one reason for the poor health outcomes and high out of pocket expenditures being incurred by people for seeking health care. This is not in keeping with its economic development story. Besides, India has much to gain from the large population base of a young work force that can provide the demographic dividend, provided it is healthy and productive. Therefore, to alleviate poverty, provide opportunity, expand capability and sustain development, governments' fiscal capacity needs to be enhanced in a significant manner. This will enable them to discharge their varied welfare responsibilities, particularly those related to education and health that have a direct bearing on human development. Substantial investment in health for assuring a universal access to an essential package of public goods is of foundational importance for equity.

Due to wide differentials in resource endowments and levels of economic development, states present substantial disparities in quality of life and health status. The comparatively better developed states like Kerala and Tamil Nadu do have better health outcomes when measured in terms of life spans or premature mortality on account of infectious diseases when compared to those that have high levels of poverty and low access to public goods. Paradoxically, Kerala and TN also face a health crisis of sorts when measured in terms of the large burden of expensive- to -treat non communicable diseases that are closely associated to life style changes requiring huge investments in health for both promotive and curative health. Thus, with almost all states facing fiscal stress juxtaposed with rising demand for health services, the role of the fiscally better endowed center assumes great importance. Central transfers if done intelligently and purposefully can mitigate disparities and help bridge the gaps in performance and also steer the direction of change and transformation, by making human capability, of which health is a critical component, central to the development dialogue.

Objectives

This paper has two objectives. One, to study the interstate disparities and the second, to suggest options that the Finance Commission may consider for bridging the disparities within a time frame:

1. To undertake an interstate comparison of health outcomes, with particular focus on the role of public health financing; and
2. To suggest measures, including transfers of federal resources to states, for improving performance and assuring an equitable access to basic needs, based on the principles of universality and entitlement.

The paper is divided into five parts: Part I provides very briefly the historical context; Part II gives an account of the wide interstate disparities and existing inequalities in health outcomes, while also underlining the primary importance of poverty alleviation and social determinants, namely drinking water, sanitation and nutrition to good health; Part III deals with current policy of resource transfers; Part IV explores the options available and the way forward for federal transfers to minimize interstate disparities in the universal access to a defined package of public health goods; and Part V concludes with a set of recommendations for the Fourteenth Finance Commission.

Part 1: Historical Context of India's Health Policy

The Constitutional provision under Article 246 Schedule VII, provides the legal basis for the assignment of functions between the Center and the States. While the Center has wide concurrent powers on medical education, mental health, food adulteration, drugs, population control and family planning, social security and social insurance, maternity care of labour, prevention of infectious diseases and vital statistics including registration of births and deaths, the states are responsible for public health and sanitation, hospitals and dispensaries. Since health care is a continuum and not amenable to a static division of functions, inevitably, there are several grey areas with potential for duplication of service provisioning, that overall, has created a vertical asymmetry in the availability of resources and responsibilities. Alongside, historical and fiscal disabilities on account of weak availability of exploitable resources and the comparatively higher cost of service delivery in several states, have contributed to a horizontal asymmetry that accounts for the huge health disparities among and within states (Vithal, 2001). Such asymmetries have been further exacerbated by the low priority accorded to health within the overall discourse on development. All development planning has been driven by growth in terms of the production of goods, like cement and steel, rather than the status of wellbeing of the people producing them.

Though a state subject, it was Government of India that played a significant role in designing the health system architecture for the country. Based on several expert committee reports, the design evolved over time. By the late 70's –mid 80's, India had a 5 step model of health facilities based on population norms with well defined standards and functions. The model consisted of a sub-center with two paramedical functionaries for every 5000 population; a primary health center for every 30,000 population manned by a doctor and support staff of nurses, laboratory technicians, pharmacists; a Community Health Center for every 100,000 population consisting of 4 specialists and support staff; a district hospital with 300 beds; and medical colleges/ specialist hospitals providing tertiary care.

The design was, however, not matched with funds. Due to low funding that never exceeded an average of 3% of total government outlays, the facilities did not have appropriate infrastructure or staff. Lack of residential quarters, or money for drugs or diagnostic equipments, de-motivated doctors and the support staff to stay in rural

primary health centers, making absenteeism the order of the day. Policies, such as permitting dual practice by doctors dis-incentivized them from performing their public duties and instead, pushed them to focus on their own private practice. Besides, inconvenient siting of facilities – determined more by availability of free land – and poor road/transport connectivity, further lowered access of primary health care services.

Impact of IMF Conditionality

The already poorly designed and poorly implemented public health policy got a set back in early 90's with the harsh conditionalities imposed by the IMF as a part of its structural adjustment policy aimed at controlling the fiscal deficit. Reduced budgets resulted in the shutting down of training schools, non filling up of vacancies or making new appointments, further cuts on recurring expenditures for drugs and consumables etc. The only programmes that the health department implemented during this period, were those for which World Bank loans were available – namely infectious disease control programmes, family planning and child immunization. All capital investment came to a halt except in those few states – Andhra Pradesh, Karnataka, West Bengal, Tamil Nadu, Uttar Pradesh that obtained World Bank loans for construction of the district and sub district level hospitals during 1996-2000. During the years (1995-2002) there was only a marginal increase in aggregate health spending from 0.88% of GDP to 0.9% that too on account of pay revisions, declining to 0.83% in 2001-02. [2] In per capita terms during 2004-05, the highest public spending, among larger states, was by Kerala at Rs 287 while the lowest was Bihar at Rs. 93. **(Table II)** During this decade, state government spending was estimated to be 0.46% of GDP. Health expenditures per capita increased 1.95% to every 1% increase in per capita incomes indicating a health expenditure growth of 18% per annum in nominal terms and 11% in real terms.[3]

Low funding compelled the government to provide care on a selective basis focusing on bringing down malaria from an estimated 75 million cases to 2 million, eliminating leprosy, containing TB, eradicating small pox (1981), guinea worm (1999) and polio (2010), expanding coverage of children under vaccine preventable diseases – maternal and child health and family planning. Such exclusive focus on vertically

[2] Sources: Report on Currency & Finance, RBI, Various Issues; Statistical Abstract of India, Government of India, various issues; Handbook of Statistics of India, 2012

[3] Bhat Ramesh "Analysis of Public and Private health care Expenditures", Jan 7th 2006, EPW

driven disease control programmes reduced the capacity of primary health facilities to provide either preventive or curative care services for minor ailments. The dominant presence of informal and unqualified practitioners as primary providers of treatment and referral is a direct result of the absence of comprehensive primary health care service delivery.

Growth of Private Sector: Rising Costs

The consequential void created by the virtual withdrawal of the state, combined with the epidemiological shifts due to improved incomes, changes in life styles and technological advances, triggered an effective demand for other health services, related to non infectious diseases, medical and acute care, surgeries etc. This demand was met by the private sector – by default.

The emergence of a private sector, unregulated for quality or price, increased per capita private health expenditures. Kerala that had a higher incidence and demand for the more expensive – to - treat non communicable diseases gave rise to a large network of private hospitals and higher per capita expenditures of Rs 2663, nearly ten times more than public. In contrast was Bihar with a per capita private expenditure of Rs. 420. Of interest is the gap in private spending per capita among these two states, which is a reflection of both demand and supply factors as well as the income elasticity to health expenditures. Bhat[4] in his paper argues that private health expenditures as percentage of per capita incomes increased from 2.7 during 1961-70 to 5.53 during 2001-02. During the decade 1991-2003 private health expenditures are reported to have grown at 10.88% per annum in real terms while per capita incomes grew at 3.76% per annum.

Starting in late 80's, within a span of 20 years, the private sector accounted for 60% of inpatient treatment and 80% of all outpatient treatment[5]. In the absence of insurance policies, an aggressive, unregulated and rapidly proliferating private sector accompanied by a shrunken public sector, resulted in impoverishment, with 40% of the hospitalized losing their life time assets to pay for medical treatment. In 2004-05, average private per capita spending was four times that of public spending at Rs 959 against Rs 242. As per the NSSO 60th Round Survey, over 20% of those needing medical treatment could not avail of it on grounds of affordability.

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[4] *Bhat Ramesh "Analysis of Public and Private health care Expenditures", Jan 7th 2006, EPW*
[5] *National Sample Survey Organization, Survey on Morbidity and Health Care , 60th Round, 2004-05*

Thus, while cost of private care steadily increased, due to public expenditures being stagnant, inter state disparities widened. Poor fiscal space at the center and state led to further centralization of the planning and designing of policy, and increased dependence of the states on the center. Inter state differentials in fiscal abilities was due to unequal resource capacities – an inequality that federal transfers had failed to mitigate.

Public Policy Response: The NRHM

In 2005, the central government launched the National Rural Health Mission (NRHM) with a threefold increase in budgets to address this crisis, and a firm resolve to revitalize the ailing primary health care system in rural India. The NRHM was designed on five core principles – decentralization of funds to implementing agencies; flexibility in funding to enable states address their needs; provisioning of funds for the refurbishment or construction of health facilities as per need; community participation through the institution of community health workers and governance mechanisms through village and facility level committees and provisioning of improved quality of services through training and contracting of human resources, improved logistics etc. During the XI th. Plan period (2007-12), an estimated Rs. 59,636[6] crores (GOI and state share combined) was incurred on refurbishing and building health facilities, appointing over a hundred thousand health personnel, providing a million trained health workers at the rate of one for every 1000 population and providing performance linked incentives for better outcomes. With demand side incentives and supply side improvements, institutional deliveries increased from 34.6% to 66.6% [7] as did full immunization coverage from less than 40 to 62%. Even as new vaccines have been introduced in the programme, polio has been eradicated. **Table III** seeks to capture the health outcomes over time under some critical indicators.

[6] Ministry of Health & Family Welfare, GOI
[7] Planning Commission, 2012

Table III – Outcomes Under Some Indicators Over a Time Period

Year	MMR/100,000 live births	U5MR/1000 live births	IMR/1000 live births	Life Expectancy	No. of Primary Health Facilities
1947	2000	NA	146	36.7	725
1981	810	115*	110	54	57,363
2000	301	94.5	70	64.6	1,63,181
2005 (NRHM)	254	NA	58	NA	1,72,608
2012	178	55	42	65.8	1,76,648

*NHP Targets - MMR 100 by 2010; IMR <30; MDG – U5MR 38 by 2015; Source: Ministry of Health & Family Welfare, Statistics 2011 * 1991*

Part II: Interstate Comparison of Health Outcomes:

India's health status is in keeping with the socio economic disparities and inequities that characterizes this country's development path which has placed India's HDI at 136 out of 186 countries and income Gini coefficient at 0.33[8]. The poor levels of development are best captured in the two indicators related to life expectancy and average height as both are an outcome of good nutrition, hygienic environment (air, water and sanitation) and timely access to preventive and curative care services. Thus, Kerala has a life expectancy of 74.2 years - 12 years more than in Madhya Pradesh that is at 62.4 (2012). Likewise, be it the risk of death during pregnancy or levels of infant mortality, Kerala is fourfold lesser than MP. Both these states are at the two ends of the development spectrum in terms of the number of malnourished, access to hygienic environment or access to basic services.

Achieving MDG 4, 5 & 6

For capturing the equitable functioning of the health system, maternal and infant mortality and deaths of children under five years of age, are commonly used as proxy indicators since they deal with the most vulnerable and weakest links in society. The assumption in doing so is that a system that can deliver and provide services that reduces mortality and morbidity among these sections is equitable and fair. In 2000, a global consensus declared certain development goals to be achieved by 2015. Known as the Millennium Development Goals (MDG), such a consensus helped mobilize domestic resources and coordinate donor aid on specific outcomes. Goals 4, 5 and 6 relate to the reduction in childhood mortality, maternal mortality and infectious diseases, namely malaria, TB and HIV/AIDS respectively. In 2002, the G-8 countries took an unprecedented step of establishing the Global Fund for AIDS, TB and Malaria

[8] UNDP, 2013, Rise of the South

providing it with substantial funding and several Partnerships for addressing childhood and maternal mortality. These international developments not only provided additional resources to India but also stimulated a renewed interest to focus on the much neglected health sector.

Under 5 Mortality (MDG 4)

The MDG's are today accepted as a standard for fair comparison of a country's effort. Accordingly, under the three critical indicators of maternal, infant and child mortality, it is clear that despite all the efforts and improved investments made under the NRHM, India will still not be able to achieve its MDG targets by 2015. Progress of the Under 5 Mortality Rate (U5MR) has also been tardy. A major proportion of child mortality is on account of diarrhea and acute respiratory infections. 3 to 6% of child deaths are on account of measles. Though included in the Universal Immunization Programmes since 1986, measles vaccination was given high focus only since 2010. The Indian Institute of Population Sciences took up a study of 109,000 deaths in children younger than 5 years from six national surveys covering 597 districts. Findings showed that during the period 2001-2012, under-5 mortality fell at a mean rate of 3·7% per year. 222 (37%) of 597 districts are expected to achieve their target of 38 deaths per 1000 live births by 2015, but an equal number (222 [37%]) will achieve MDG 4 only after 2020 and the remaining after 2023. Female mortality at ages 1–59 months exceeded male mortality by 25% in 303 districts in nearly all states of India, totalling about 74, 000 excess deaths in girls. (IIPS, 2012)

In 2010, the Registrar General of India was funded to take up household surveys in all the 309 districts of the 9 High Focus States[9]. Data from the two annual surveys conducted so far over a sample of 20.6 million population and other programme data has shown that about 184 districts in these High Focus States account for two thirds of the infant and maternal mortality. In fact the IIPS study cited above, showed that just 14% of the districts accounted for 33% of U5MR and 251 districts accounted for 43% of neo natal mortality, a determinant for expanding life spans.

[9] The 9 states account for 50% of the country's population; 60% of the births; 71% of infant mortality; 75% of U5MR and 62% of MMR - RGI

Maternal Mortality (MDG 5)

Though, globally, under maternal mortality (MDG 4) India is one of the well performing countries with a rate of decline at 4% per annum during the MDG reference period of 1990-2008 as against the global average of 1.3, yet, it is much lesser than China or Egypt which achieved a 8.4% annual reduction during the same period. A cross country study of 181 countries showed that maternal reduction is driven by 4 factors: fall in the Total Fertility Rate; increases in per capita incomes; educational attainments; and proportion of women having skilled birth attendants[10]. It is therefore, not surprising that the goal of less than 100 per 100,000 live births of maternal mortality has been achieved only in Kerala, Maharashtra and Tamil Nadu at 66, 87 and 90 respectively (SRS, 2012) . These states are high performers under all these 4 indicators as compared to the northern states where MMR is very high at 292 in UP and 328 in Assam. Overall, the average Maternal Mortality Rate for the 4 southern states is 105, for the major high focus states is 257 while for the others is 127 **(Table IV)**

Table IV - Indicators Impacting on Maternal Mortality – Comparison Among Some States

State	Total Fertility Rate 2011	Per Capita Income in Rs. 2011-12	% deliveries by SBA - 2012	Female Literacy % 2011 census	MMR 2011	MMR 2001
TN	1.7	84058	92.4	73.86	90	134
Kerala	1.8	83725	99.7	91.98	66	110
UP	3.4	29417	48.4	59.2	292	517
Assam	3	33633	61.8	67.2	328	490
India	2.4	60972	66.6	65.4	178	301

Source: Ministry of Health &Family Welfare, GOI

Given the high level focus to maternal care, the rates of decline during the 3 year averages prior to 2005 (pre NRHM) and in 2009 (post NRHM 3 year average of 2007-09) have been modest - nearly constant at 24 and 22 for the southern states; 63 and 67 for the northern and 25 and 26 for the others. The maximum reduction of points has been in Assam that fell from 490 per lakh live births in 2003 to 480 in 2006 to 390 in 2009 showing a decline by only 10 points in the pre NRHM period as compared to a fall by 90 points after the launch of the NRHM[11]. A worrying factor, however, is that during the 3 year average for 2009-12, there has been a marginal reduction in the annual declines of maternal mortality in almost all the high focus states of Assam, MP,

[10] Hogan, M. C. *et al*. (2010), Maternal mortality for 181 countries, 1980-2008: a systematic analysis of progress towards Millennium Development Goal 5, *The Lancet*, vol. 375: 9726, pp. 1609-1623.

[11] Registrar general of India 3 year averages 2001-03;2004-06;2007-09

Odisha and Bihar, though as a whole, India crossed the 200 mark and came down to 178 per 100,000 live births **Table V.** Such marginal to near stagnant declines, appear to suggest that for rapid reduction of maternal mortality, the strategy has to be multifactorial and not the current uni – dimensional approach that entails an exclusive focus on institutional deliveries by incentivizing the beneficiary through cash transfers, which is one of the main planks of the NRHM strategy **(Panel Data of MMR at Appendix A)**

Infant Mortality

Under Infant mortality i.e., children dying before age one - 13 states and UT's out of the 32, have achieved the goal of less than 30 per 1000 live births – with Goa and Manipur having achieved 10, Kerala 12 and Tamil Nadu 21. The laggard states are MP at 56, Assam at 55, UP at 53, and Chhattisgarh at 47. During the period 2005-2012 (pre and post NRHM), the average fall has been 16 points from 58 to 42. The northern states of Bihar and MP, Odisha and UP did well by reducing 18, 20 and 22 points respectively, above the national average of 16. However, IMR has been reducing at about 3% points per year against the required 7% to achieve the MDG by 2015, calling for greater acceleration. One reason for the slow fall of IMR has been the weak priority attached to neo natal mortality that is responsible for two thirds of infant mortality, partly due to the excessive attention to immunization that accounts for less than 8% of IMR and polio eradication. Reduction of IMR is a reflection of not only preventive education for behavior change, such as early breastfeeding and immunization, but also home visits by a trained worker for early identification of babies suffering from diarrhea or respiratory infections, and management of birth asphyxia etc. and a sound referral back up. Such sound preventive, early diagnosis and referral systems are dependent on both financial and human resources **(Panel Data for IMR at Appendix B)**

Population Health – Disease Control Programmes (MDG 6)

Population health is dependent on public health capacity to prevent and minimize the incidence of infectious diseases that spread on account of factors beyond individual control. Environmental and socio economic conditions are distal causative factors for the persistently high levels of prevalence of TB and respiratory infections, vector borne infections, leprosy, diarrhea and other water borne diseases, and behavioral diseases such as HIV/AIDS etc. Most are preventable and treatable.

While India has done well in eradicating small pox, guinea worm and polio, it faces the spectre of an increasing incidence of multi drug resistant TB and HIV that are expensive to treat. Alongside there is high level of mortality and morbidity on account of vector borne and water borne diseases. Yaws which was to have been eradicated by 1995 and is confined to small tribal pockets in Andhra Pradesh continues to be prevalent, as does kala azar, which exists in only about 36 districts of Bihar and West Bengal among the poorest strata of the SC community. Infact, malaria, that predominantly affects the tribals living in the forest areas of North East, Odisha and tribal tracts of MP, Chhattisgarh, Jharkhand, AP, Maharashtra and Gujarat is highly underreported. An expert committee constituted by the DGHS, GOI[12] submitted that as against the officially reported annual incidence of 0.54 million cases of malaria there could be about 10 million; and as against the official reports of deaths at 1000, the number could be in the range of 30,000-56,000. Alarming, yet far lesser than that estimated in another study, that showed that deaths due to malaria could be as high as 240,000, a major factor for the high maternal and infant mortality[13]. Such burden could easily be contained if long lasting medicated nets that cost about Rs. 250 each, could be provided to the affected population groups. Yet, given our priorities where the state is willing to subsidize Rs. 2 lakhs for a heart ailment, less than 15% of the required nets have so far been provided.

Communicable diseases, that have been eliminated or contained in other countries, continue to account for almost 38% of all mortality in India. This is a poor reflection of the state of public health capacity in the country. It is also a reflection of the lopsided priorities in public funding, needing immediate policy corrections. Communicable diseases have disproportionately higher levels of prevalence among the poor, living at the margin and nutritionally and immunologically compromised and hence more susceptible to infectious diseases and ill health. Poverty, poor housing, unhygienic environment and lack of access to safe water are distal determinants. The absence of preventive services and access to early diagnosis and treatment are direct causes for premature mortality and high incidence of morbidity.

[12] High Level Expert Committee constituted by Minsitry of Health & Family Welfare in 2010
[13] Prabhat Jha *et al*. (2010), Million Death Study, Toronto, Canada: Centre for Global Health Research.

Health Infrastructure

Health outcomes are dependent on the availability of institutional mechanisms with capability to translate money and policy to defined activities. Therefore, the spread of infrastructure, both in terms of physical buildings as well as availability of personnel, drugs and equipments, are a critical factor.

Over the past forty years, India has so far established 1,48,366 Sub Centers, 24,049 Primary Health centers and 4,833 Community Health Centers. 90% of the PHC's and 97% CHC's and 65% of sub-centers have their own buildings. With about Rs. 3000 towards rental allowance per annum, most of the sub-centers are housed in thatched huts or in single rooms providing sub optimal care. Needless to say, these 35% residual facilities are in the most deprived parts of the country. Worse, almost 174 districts in 7 major states have several sub-centers located more than 3 kms away from the village, resulting in lower institutional deliveries etc. (DLHS III). Likewise, in terms of manpower, over 65% sub centers do not have the complementary male worker, 10.3% primary health centers have no doctors and in the CHC's there is a 69.7% overall shortage of specialists, with shortfalls of 80% among pediatricians and physicians, 75% among surgeons and 65% among gynecologists. Further, while these facilities are to be located as per certain population norms, sanctions were frozen to a 1990 population census[14]. Thus, in 2012, sub-centers had a population range from 1,009 to 10,227 against the norm of 5,000, while several CHC's catered to over 1.31 lakh population, against a norm of 1 lakh. Under each of these indicators – adequacy of facilities, infrastructure and personnel, the worst performers are the High Focus, laggard states of Jharkhand, Chhattisgarh, Bihar, UP etc.

With a view to standardize the infrastructure availability, in 2007 and again in 2012, the Ministry of Health & Family Welfare, came up with uniform standards laying down the facilities and the services that ought to be provided at every level of care at district and below. Known as Indian Public Health Standards, national policy has been to ensure its implementation. Measured against these standards, about 742 CHC's, 3,633 PHC's and 23,940 respectively conformed to them[15]. This bleak position is largely on account of inadequate funds and non-availability of human resources.

[14] Under NRHM, states were permitted to establish facilities as per need – yet not many did due to lack of funds and the inability to close down existing facilities, even if not in use. In other words, NRHM did not trigger any such reorganization of facility siting based on need and convenience as opposed to population.

[15] Rural health Statistics, 2011 Ministry of Health & Family Welfare, GOI

Shortages of personnel in government facilities is both on account of overall non availability in the country as well as the poor working environment combined with poor remuneration making migration to foreign countries and to the private sector more attractive. The procedural delays in recruitment and poor forward planning for timely filling up of positions on account of attrition are other reasons. Even adopting far more modest and minimal standards of two health workers at the sub center or one doctor at a primary health center, as defined in the NCMH, would require almost 1% of GDP to be earmarked just for infrastructure. Conforming to the much more ambitious but definitely needed revised standards would require higher amounts. Infact it has been estimated that filling up gaps in accordance with the old norms, in 16 states alone, would require an outlay equivalent to 0.6% to GDP (Rao, 2012).

Large populations, non sanction of posts and nearly a third of those sanctioned vacant and low budgets for drugs, equipment and maintenance have undoubtedly affected the optimal functioning of the facilities in providing even basic care. Such a situation is on account of a combination of factors - the persistently low funding; and poor governance in terms of personnel management for achieving better outcomes. These factors are undoubtedly more pronounced in the northern states.

Impact of NRHM

Clearly there is a divide between the northern states and the rest. Kerala and Tamil Nadu are high performers, AP, Karnataka, Maharashtra, West Bengal, Gujarat have the potential to bridge the gap further. Of concern then, are the states of Bihar, MP, UP, Rajasthan, Odisha, Chhattisgarh, Jharkhand and Assam among the larger states. These states have been laggard states since decades. In fact in 2001, they were categorized as EAG states for focused attention. Under NRHM, they were called the High Focus States to be eligible for 30% additional funding as compared to the Non High Focus States. After the launch of the NRHM the High Focus States have done significantly better. The better outcomes in these states is reflective of how infusion of funds aimed at the strengthening of the public health capacity by way of personnel, drugs and transport facilities, cash incentives has impacted on outcomes. This is shown in **Table VI** below.

Table VI: Comparisons of Outcomes 2003-2012 before and after NRHM for Some States

State	IMR		MMR		TFR		Primary Care Facilities Improvement
	2003	2012	2003	2012	1990	2011	2005-2012
Best Performing							
Kerala	11	12 (1)	110	66	1.8	1.8	111 CHC
TN	43	21(22)	134	90	1.9	1.7	84 SC; 350 CHC
Maharashtra	42	25	149	86	2.3	1.8	127SC; 31PHC
Average Decline %							
Middle Performing							
AP	59	41	195	110	2.2	1.8	54 PHC; 117 CHC
Karnataka	52	32	228	144	2.2	1.8	728 SC; 629 PHC
Gujarat	57	38	172	122	2.8	2.4	88PHC; 46 CHC
Average Decline %							
Poor Performing							
Bihar	60	43	371	219	4.2	3.6	215 PHC
Chhattisgarh	70	47			3.1	2.7	1293 SC; 238 PHC; 33 CHC
Madhya Pradesh	62	56	379	230	3.8	3.1	104 CHC
Jharkhand	51	38			3.2	2.9	141 CHC
UP	76	53	517	292	4.4	3.4	32 PHC; 123 CHC
Rajasthan	75	49	445	255	3.8	3.0	975 SC; 56 CHC
Odisha	83	53	358	235	2.6	2.2	76SC; 148 CHC
Average Decline %							
All India	60	42	301	178	3.0	2.4	3283 SHC; 1287 PHC; 1229 CHC
Annual Decline	0.5	1.3	4.7	4.2	0.03	0.03	

Source, Ministry of Health &Family Welfare, GOI

Today's challenge for India is to cross the epidemiological divide by effectively containing the burden of infectious diseases. Known as pre-transition diseases or diseases of underdevelopment, most countries followed a trajectory that consisted of first reducing caseloads and eliminating / effectively containing, infectious diseases through multi pronged strategies, before launching onto addressing the post transition or post development, lifestyle related diseases. It is on such strong public health foundation that the health system edifice stands in those countries. India, on the other hand, in its hurry to keep pace with the rest, is in the danger of abandoning its task of controlling the infectious disease burden even as it seeks to shift attention towards non communicable diseases. It is a fact that due to life style changes – junk foods, lack of exercise, increased alcoholism, tobacco and drug addictions, environmental pollution, stress and genetic factors - there has been a perceptible increase in the number affected by diabetes, cancers and cardio vascular diseases. There is an unacceptably high level of mental morbidity that has been badly neglected. With the

change in age composition there is an increase in the number of chronic infections and diseases of the elderly. All these need simultaneous attention as India has lost that window of opportunity to sequence its disease burden. Since money is fungible, prioritization becomes a necessity. The state has to make hard choices – addressing those conditions that affect the poor more disproportionately, and those that markets do not find profitable. **(Table VII).**

Table VII. The Epidemiological Divide - Proximate and Distal Causes of Infectious and Non- Infectious Diseases

Name of Disease	Magnitude (Disease Burden)/ lakh	Annual Incidence (New cases)/lakh	Deaths per year/lakh	Common Age group (years)	Risk groups
Malaria	--	10-11	0.30 – 0.50	Children & Young	Rural, Poor – mainly Scheduled tribes – environmental conditions
HIV/AIDS	24	1.2	1.7	20-50	Most marginalized – sex workers and their clients – mainly migrant labour, drug addicts, Homosexuals, Male>Female;
TB	39	20	3.5	30-45	Poor – rural and urban…poorly ventilated housing and nutritional deprivation, tobacco, environmental pollution
Cancer	28	10-11	5-6	40+	Cervical Cancer in Rural Population, Breast Cancer in Urban women, Oral Cancer in tobacco users
Heart Diseases	290	NA	12-15	40+	Obese, Diabetics, Tobacco & Alcohol users; Urban>Rural
Diabetes	620	NA	2	40+	Obese; Urban>Rural – rich foods, lack of exercise, stress
Hypertension	20-30% of adults			Adults	-Do-
Road Accidents	--	4-5	1-1.5	25-65	Drunk driving, high speed, not obeying traffic rules

Source : Programme Divisions of the Ministry of Health & Family Welfare, GOI

Importance of Social Determinants

Basically, balanced development is one that that assures need based incomes and a good quality of life. Access to ventilated housing, nutritious food, safe water, clean environment, healthy habits, timely medical services for early diagnosis and treatment and self worth, is essential for good health and well being. But of this list, those having the highest and the most direct impact are four - poverty and its manifestation in the form of a lack of access to safe water, sanitation, nutrition and health care. These then define and determine the trajectory of disease profile in the country.

Piped Water Supply & Sanitation

In 1986, India launched a Mission for the universal provisioning of protected piped water supply. Twenty five years later, 41.8% of the population and 29.6% of rural population has access to piped water supply from treated and untreated sources. **Table VIII**. What is certainly unacceptable is that states like Bihar have only 4.4% (2.56% rural) of the population covered under tap water while Jharkhand has 12.9 (3.71 is rural); Odisha 13.8 (7.4% rural). For the whole of northern India, the coverage is 27.6%, three times lesser than southern or western states. Piped water supply is important as water borne diseases occur in the systems of water conveyance. In piped water, chlorinated and filtrated, safety factor is almost 99% that gets reflected in the sharp declines in the occurrence of water borne diseases like diarrhea, dysentery, viral hepatitis, cholera etc. With an estimated 3 billion episodes of diarrhea, predominantly among under 5 children, it is an important causative factor for the high U5MR.

Sanitation is yet another critical determinant of health. As per the census 2011, an estimated 29% of rural households had a toilet, up from 21.92 in 2001. Unlinked with water, utilization of individual toilets is reportedly low. In the High Focus States, hardly a fifth of the population had access to a toilet with barely 8% in rural households of Jharkhand, 13% in MP and Odisha. Open defecation not only robs individuals, particularly women, of their right to privacy, but also enhances the risk of the spread of communicable diseases like cholera. Cholera and such water borne diseases / outbreaks impair retention and absorption of food and are a distal factor for malnutrition and substantial morbidity and mortality. **Table IX**

The importance of water and sanitation cannot be over emphasized when one refers to the WHO estimates in 2013 where 23% of global disease burden is attributed to environmental factors: unsafe drinking water, lack of appropriate sanitation and hygiene. While 88% of diarrhea deaths are estimated to be on account of unsafe water, 13 million deaths can reportedly be averted if environmental concerns were attended to. What is unacceptable is that India accounts for 4.54 lakh persons dying every year on account of unsafe water and no sanitation and worse is, that of them, 4.05 lakhs are children under 5 years old. The death rate on account of these factors among under 5 years old is 315 per 1 lakh children as compared to 0 in the USA and Canada, 56 in China and 59 in Thailand (WHO Statistics, 2013). These facts indeed

offer compelling arguments for the need to reset our priorities and redefine development. What would be of value is to internalize capacity to correlate the occurrence of water borne disease outbreaks and the disaggregated data of child mortality. In the absence of such data, only a broad correlation based on aggregated data is possible, which does show that states like Kerala, TN and Maharashtra, which have relatively better access to protected water and sanitation as compared to the northern states, have lower U5MR.

Therefore, expansion of sewerage systems and toilet construction with water supply is critical for containing transmissible diseases. Repeated occurrence of waterborne diseases[16] is debilitating to health. Though investment in water and sanitation could reduce morbidity substantially, programmes aimed at the universal provisioning of piped water supply and improved sanitation have been stymied for want of funds and distorted priorities. Infact, it is on account of the low access to safe water and sanitation and hygienic environment that it took India over 25 years to bring a closure to polio which had a direct cost of over $3 billions and an indirect cost of delayed achievements under other health conditions.

Malnutrition

Malnutrition is yet another major public health problem in the country with nearly 47% of children malnourished. Stunting is the cumulative effect of malnutrition. Malnourishment impairs cognitive abilities, the proper growth of the individual in terms of height and productivity. While there is a High Level National council on India's Nutritional Challenges, chaired by the Prime Minister nothing tangible has emerged, with this Council meeting for the first time in November, 2010, since its inception in 2008. Both, ICDS, Midday Meal Scheme and now the Food Law are expected to be the means of addressing the problems of nutrition. They have so far been inadequate in addressing the problem of nutrition, despite the huge public outlays, due to poor strategy, design and weak governance, corruption in particular. In terms of health outcomes, nutrition related diseases are high in India and need to be resolved on priority. **Table IX** attempts an association between U5MR and social determinants among select states.

Table IX: Role of Social Determinants to U5MR Among Top 3 and Bottom 3 States

Name of State	% Population	% Population	% children	U5MR

[16] in India, the average diarrhea episodes per child per year is reported to be 3 but a studies show that in areas like Delhi it could be as high as 7 due to consumption of contaminated water

	covered with piped water(rural)	covered with toilets	malnourished under 6 years by weight	Rate
Tamil Nadu	78	48	30	25
Kerala	30	95	23	13
Punjab	51	79	25	38
Bihar	4	23	56	59
Uttar Pradesh	27	36	42	77
Madhya Pradesh	23	29	60	73
All India	44	61	42	55

Source: Census 2011 for water and sanitation; NFHS III for nutrition and Ministry of H&FW, GOI for UMR.

Unlike other developing and developed countries that witnessed an epidemiological transition from communicable diseases to non communicable diseases on account of improved incomes and better living conditions, India is facing the dual burden of these diseases. The near absence of regulatory and incentive frameworks to guide, control and channelize human behavior towards healthy life styles with comprehensive preventive health care, make India one of the 'sickest' countries entailing high social costs. Be it TB, maternal death or CVD, the most affected and at highest risk are those in the productive age group of 20-45. In other words, universal access to safe water, sanitation, nutritious food, and effective preventive health education and counseling related to tobacco and alcohol consumption alone can reduce morbidity in India by nearly half, making a good case for increasing public investment in health and thereby contributing to higher economic growth.

Part III: Resource Transfers: Health Financing

One of the important pillars of a health system is financing, others being governance, payment systems, human resources, regulation and information (WHO, 2005). The way health service delivery is financed defines how equitable and fair it is – the two extremes being the tax based health system of UK, and the individual households payment based like in India. All European countries provide extensive social protection where health care is free and out of pocket expenditures very minimal. In the USA on the other hand, despite spending 18.5 % of GDP on health and close to 48% of total spending by government, over a third of the population have no access to health care, a distortion that Patient Protection and Affordable Care Act (better known as Obamacare) is seeking to address. Thus, while in advanced European countries every individual has access to health services, in India and the USA, access is circumscribed by the ability to pay. Addressing such inequity is increasingly being seen as the responsibility of the State.

Need for Public Health Spending

While it could be argued that there is no robust data to demonstrate the direct correlation between public health spending and health outcomes and the mere increase in public spending no guarantor for equitable health[17], yet, data of India as well as of other countries, does point towards an association between increased public investment and enhanced access to services, particularly by the poorer sections. Such associations make it clear that health cannot be left to markets and a minimum threshold of public intervention is essential to ensure equity and fairness. This largely arises on account of the character of the health markets that are known to be inherently imperfect on account of an asymmetry of information and other barriers to entry making competition or choice as means of controlling prices or rational distribution of resources impossible. Likewise, while the lack of knowledge or access to perfect information enhances the vulnerability of the patient, public/merit goods are neglected by markets on grounds of non profitability and low returns on investment, making public policy intervention an imperative and public spending a necessity.

While so, increasing costs of care and the unpredictable, lumpy nature of health expenditure has generated a demand for financial risk protection. India's response has been patchy and limited in addressing this need. With the establishment of the IRDA in 2000, over 400 million people have some form of health security under four types of insurance programmes concurrently under implementation in India and entailing a premium amount of about Rs. 20,000 crores per annum(public and out of pocket private):1. The Central Government Health Scheme under which all government employees borne on the Consolidated Fund of India obtain total health cover for a nominal premium deducted at source from their salary bills; 2. States having different schemes for their own employees and in addition to their own tax based insurance schemes aimed largely for those living below poverty line. 3. Government of India (Ministry of Labour) has also launched a universal health insurance scheme (Rashtriya Swasthya Bima Yojana) for BPL families in the informal sector alongside health cover for the employees in the formal system. 4. Private insurance where private individuals pay the premium for an assured sum.

[17] US spends 18.5% of GDP on health and yet has worse indicators compared to some European countries that spend half of that amount. Likewise South Africa spends 8.5% of GDP on health and has a longevity of life of 58 and a third of the pregnant women infected with HIV.

As all the insurance schemes – private or tax based – provide partial coverage against an assured sum and are based on fee for service systems of payment, India's financing system is considered to be regressive, iniquitous and highly inflationary. To therefore reduce costs and the inflationary pressures, tax based spending in India has to be substantially increased to make the system more affordable and equitable. In fact, global discussion in the context of a post MDG – post 2015 scenario, is veering towards increasing national responsibility by pegging all LMIC's to ensure a minimum public spending of 5% of GDP on health and donor aid commitment to about 0.1% of GDP for ensuring universal health coverage.

Public Spending in India

Public spending in India has always been abysmally low, wavering between 0.9 to 1.2% of GDP. During the XI th. Plan, India spent about 4.1% of its GDP on health[18]. Of this 27% was public spending up from 17% in 2002, the rest being spent by households, with marginal amounts by private sector or external aid. The Central Government increased health spending 2.5 times over the amounts incurred during the X th. Plan while the states put together spent only 2.14 times more, together accounting to 1.04% of GDP[19]. In terms of per capita, this amount translates to Rs. 400 with wide variations across states.

Table X gives a comparison between the average per capita public spending on health incurred in 19 major states during 2004-05 and 2011-12. During this 7 year period, spending per capita increased from an average of Rs 242 to Rs 411 (in 2004-05 prices) indicating a steady rate of over 20% growth per year. The spending on primary care was Rs 374 per capita in real prices. In current prices, the total health spending was Rs 537 and on primary care Rs 390 per capita. There was doubling of expenditures in states like Gujarat, Maharashtra, MP, Karnataka and an impressive spending in the new states of Chattisgarh, Uttaranchal and Jharkhand. While it is clear that all states have increased their spending, an outlier is Kerala where public health spending in real terms was stagnant at Rs 287 up from 282 during 2004-05. Considering that, Kerala, is facing a huge non-communicable disease burden, public health spending should have gone up to provide the necessary risk protection. It

[18] Planning Commission "12th Plan Document" 2012
[19] Planning Commission – 12th Five Year Plan Vol II Chapter on Health

clearly appears that the state withdrawal from the health sector has been significant in recent years[20].

Analyzed in real terms, the gap between the highest and lowest states appears to have narrowed only marginally by 0.4 times, given the significant push under NRHM. For example, in 2004-05 (prior to NRHM) the highest spenders were Kerala and Tamil Nadu at Rs 287 and 223 per capita, 3 times more than Bihar which had the lowest spending at Rs 93 per capita. In 2011-2012, Bihar continued to be the lowest spender at Rs 182 per capita (in 2004-05 prices) indicating a doubling against the highest spending by Tamil Nadu at Rs 475 which was 2.6 times more. What this shows is that health inflation is eating into the increased resources with the same services needing higher spending. The higher spend in southern states like TN and Karnataka at Rs 408 per capita as compared to Rs 310 by northern states, is reflective of better utilization of health services and the epidemiological divide. Reduction in childhood mortality increases life spans but also shifts spending from the young to the old, on diseases that are more expensive to treat. Overall, since the percentage rate of growth in public spending is lower than health prices, there is an increasing share of spending on health in total household expenditures with about 40% of the non food component being incurred on medical treatment (CES, 2012).

In terms of the proportion of health spending to total revenue spending, the data indicates that it was 7.02% in 1984-85 that steadily declined to 5.7% and 3.4% in 1995-96 and 2003-04 respectively increasing to 4.4% in 2011. None of the states achieved the original 7% even though these were years of economic prosperity. Among the larger states, barring Kerala, Goa and Rajasthan that spent more than 5% as ratio to aggregate expenditure[21] rest of the states averaged between 3 and 4. The lowest were Haryana (3.4%) and Odisha and MP spending about 3.5%. In other words, despite substantial increase of central funding, state spending continued to be in the range of 3-5% with 4.4% as national average[22]up from 3.4 % in 2003-04. These ratios have been consistent over the decade from 2000-2012. It is clear that the

[20] The spending for Kerala was constructed by triangulating data. Since one third of the budget is devolved to local bodies, the spending on primary care in particular may not be accurate. While more work is needed, yet however does not change the assertion that the State has been withdrawing from the health sector in recent years. A document of Kerala Government shows it to be by 35% (State Plan for Health – GOK, unpublished)

[21] Budget documents of State Documents- RBI

[22] RBI Statement 42 – Expenditure on Medical and Public Health and Family Welfare – as Ratio to Aggregate Expenditure

States need to treble their spending to achieve the minimum 8% indicated in the NHP, 2002 so as to reach the desired amount of 3% of GDP.

Increased spending by the Central Government was a deliberate policy aimed to narrow the disparities between states, particularly those having a high disease burden and poor fiscal capacity. Central transfers for health consist of the transfers awarded by the Finance Commission and allocated by the Planning Commission under the Centrally Sponsored Schemes and Central Sector Schemes of the Ministry of Health & Family Welfare. It is generally believed that transfers through both these instruments have failed to reduce the interstate disparities "as too insufficient to offset fiscal disabilities", and the Planning Commission's Gadgil Formula and CSS mechanisms "having a weak equalization impact" (Rao, 2008). This is discussed below.

Finance Commission

Article 275 and 280(1) (b) provides for making grants to states for a general or a specific purpose…" should be intended for augmenting revenues of receiving states without any limitation as to how the money so made available should be spent". It is under this article that the Finance Commission recommends the sharing of federal grants to states as laid down in the Constitution. These general purpose awards are strictly unconditional as the amounts are derived from taxes that are to be shared with the states to augment their revenues and are not federal monies. One provision in this system is for making grants to states for special purposes such as addressing a variety of issues ranging from judicial and police administration to heritage conservation, environment to health and education. Through the years, the Grant in Aid component of the FC award did grow from 7.72% during the 7th FC to 18.87% in the 12th FC - an increase from Rs. 1609 .92 crores to Rs.1,42,396 crores. In all these years, a minimal amount of Rs. 10,888 crores has so far been allocated to health. Combined with the states' lack of preference for investing in health, and the low priority accorded to it under the grant in aid mechanism, the Finance Commission has been a virtual non player in the health sector, despite health being central to all human development.

Such 'neglect' of health by the successive Finance Commissions was a consequence to the general understanding and intellectual premise on which the FC chose to function, namely that health provisioning being a state responsibility, resource

transfers should be only enabling, leaving states, to "be free to allocate among competing purposes according to their best judgment"[23] It was also the general view, particularly in the earlier decades of development that growth would automatically translate to well being, as an individual, being rational, will consume and behave in a manner that will be conducive to good health. The fact that these assumptions had no basis in reality was never considered in any depth.

The principles of examination were set out by the First Commission which sought to "determine the eligibility of a state for grants in aid, the budget has necessarily to be the starting point of an examination of fiscal need", as opposed to identifying needs and assessing the adequacy of the budget in addressing them. Of importance was the second principle that stated that "Grant in Aid to help equalize standards of basic social services in the different states by bringing up the levels of such services in the poorer states" while the third referred to taking account of "special needs or obligations of national concern" or "grants ….to further any beneficent service of primary importance" providing scope for the Finance commissions to earmark funds for subjects that fell predominantly under the state sphere under the Grants in Aid mechanism. All these principles were sound and accepted by all the subsequent Finance Commissions, however, interpreting them in accordance with their own understanding.

All through the years, the Finance Commissions, in particular the 5th, 6th., 7th and the 9th FC expressed their concerns and despaired at the "need for equalization" and at the widening disparities between states and the need to narrow them, seeing Article 275 as the main instrument. The 6th FC laid down 3 principles for Grant in Aid: fill fiscal gaps; narrow disparities in the availability of various administrative and social services between the developed and less developed states and take into account the spending burdens cast on a state because of its peculiar circumstances or matter of national …..". In terms of ideas, the 7th FC was the first to discuss the concept of equalization while defining the role of transfers to "…narrow, as far as possible disparities in the availability of various administrative and social services between the developed and less developed states, the object being that every citizen, irrespective of the state boundaries within which he lives, is provided with certain basic national minimum standards of such services. (7th. Finance Commission) While the long term

[23] Otto Niemyers' Report quoted by Vithal and Sastry, 2001

objective may be to provide to each citizen the services at the levels obtaining in the most advanced states, due regard should be had to the feasibility of upgrading these standards in the shorter term….."

The 8th FC considered the concept of distance from the average levels of expenditure to be assisted on priority. While the articulation and principles would eminently be suitable for providing resources for health that qualified on all counts for serious consideration, none did.

The health sector had to wait till the 12th FC that sought to develop a normative framework for resource allocation to assure "total funds match total needs" in a 2 step approach that consisted of: 1. All states to spend a certain proportion of total revenue expenditures on health and education; and 2. Identify those falling short and provide to cover 30% of the distance to reach the group average. Based on this norm, 7 states were provided Rs. 5887.08 crores for health out of a total grant of Rs 1,42,640 crores (4%). But these transfers turned out to be ineffective as the "conditionalities were too complicated" and the grants treated in isolation and "in not contextualizing the Grant (to NRHM) .....…and assuming shares to total expenditure as preference and not lower resource availability and different income elasticity of demand for health expenditures" (Rao, 2008). Besides, even this limited concern for health was not followed up, with the 13th FC taking a different view. Allocating Rs 5000 crores (out of 17 lakh crores awarded which comes to 2.9%), the 13th FC made its releases to states conditional to the improvement in infant mortality rates, taking the SRS data of 2009 as baseline. In operational terms this has been difficult to implement resulting in the better off states availing the first tranche of funds as compared to those most in need. Out of Rs 1500 crores released in the first instalment (Ministry of Finance, GOI), 6 states have got almost Rs 1000 crores (Maharashtra (Rs 133 cr. IMR is 25), TN (168 cr IMR is 21), Punjab (106.71 cr. IMR is 28) and the rest by 3 NE states which also have low IMRs. Besides, the allocations are too meager and too scattered to be of any value. For example, AP with a budget of over Rs 5500 crores is provided Rs. 200 crores (of which Rs 13 crores has been released) for construction of primary health centers that may or may not have any impact on infant mortality.

It is remarkable to note the lack of consistency or a development vision in the working of the different Finance Commissions. The words "equalization" or "needs" clearly had different meanings for different Commissions. They did not mean the creation of

conditions conducive for the optimal development of all citizens or providing a level playing field for building ones capacity and capabilities, which is why privilege continues to be the factor for upward mobility. With neither any rationale nor basis for the amounts earmarked to states for health or the conditionalities attached, these transfers have been of marginal value. Besides the amounts being small, the procedures for approvals and monitoring centralized with the state finance departments, have not made their access and utilization worthwhile. In the absence of a shared vision driving the process of resource transfers, the fiscal allocations have been adhoc and the utilization more in the nature of gap filling.

Overall, the general view has been that 'despite these mechanisms, the transfer system has failed to offset the fiscal disabilities of the poorer state and the states with poor health indicators are left with large unmet expenditure needs" (Vithal, 2010; Rao, 2005).

The Planning Commission

The Planning Commission provides resources to states as per the Gadgil formula as well as under Centrally Sponsored Schemes that are implemented by the states and monitored by the Central Ministries. As health care is a state subject, a sizeable proportion of the funds allocated to the Ministry of Health and Family Welfare are released to the states as grants under various centrally designed schemes such as, disease control programmes – TB, Vector Borne diseases, Leprosy, HIV/AIDS, Blindness, Hypertension, Cancer, CVD, Diabetes, and geriatric care and the National Rural Health Mission etc. Under the 11th Plan, financing for the NRHM that included disease control programmes was 100% centrally sponsored and subject to two conditions: one, that the states would provide matching assistance of 15% and later 25% of the total amount being released under NRHM; and the second, that the states would increase health spending to 10% of total government spending. Central grants are released in cash for salaries for contracting health personnel, infrastructure development etc; and in kind in the form of drugs, vaccines, reagents or equipments. States in turn incur expenses on infrastructure maintenance, personnel and all other activities as required and not covered by central grants. If monetized, the share of state governments to such programmes as sponsored by central government would account for about 50% of expenditure on these activities though called 100% centrally sponsored. Besides, under central plan budget for NRHM, almost 25% of the plan

budget is released to states under treasury route for components that ought to fall under non plan, namely the salaries of the ANM working in the sub centers, rentals for the sub center and past expenses on family planning programmes etc.

Likewise, the central ministry also implements centrally formulated, funded and administered projects that have a direct utility for the state populations, for example, establishing AIIMS like institutions or Regional Cancer Centers etc. The Ministry also provides grants to states under specific schemes such as strengthening specialty hospitals or establishing nursing schools etc. under which capital and recurring grants are met by the Government of India while the administration is by the state government.

Health outcomes are multi-factorial necessitating horizontal approaches across sectors and administrative boundaries. The Planning Commission is considered the right forum to ensure a coordinated policy framework where health action is suitably enhanced by an equal amount of resources and attention being paid to its other determinants. Such sectoral investments are made under the mechanism of the Centrally Sponsored Schemes.

In a well researched article Rath has analyzed the role of CSS. Her analysis shows that over the years, the number of CSS has increased and so have the proportion of amounts spent under them. Since the Ninth Five Year Plan, the proportion of CSS to Gross Budgetary Support grew from 31.3% to 41.59%, from Rs. 99,002 crores to Rs. 6,60,506 crores. During the last 3 plan periods the elasticity of per capita CSS and central sector transfers with respect to per capita GDP has been 2.5 showing that for every 1% increase in per capita income, central transfers have been 2.5. While this has been a progressive step, the focus on health and social determinants has been relatively small.

During the 11th Plan, 15 Flagship schemes accounted for 80% of the CSS and 40% of total central assistance. Of the total amount of Rs. 6,98,701 crores released for these 15 schemes, health (NRHM 9.34%), drinking water (5.69%), sanitation (0.94%) and nutrition (ICDS 5.58%) accounted for Rs 1,50,579 crores (21.59%). Since most grants are subject to co-sharing with the states (ranging from 15% to 50%), it has been argued, that such schemes create distortions in states' ability to set their own

priorities. Maharashtra, for example, is required to earmark 10% of its revenue budget to avail of the CSS grants (Rath, 2013).

A more consistent criticism has, however, been that CSS essentially encroach upon and violate the principles of sharing of responsibilities as assigned in the constitution, resulting often in duplication and immense distortions. This is a valid observation. For example, the central government provides the transport charges of a community health worker, while the states struggle to meet the high costs of medical education, violating the constitutional assignments of functions under which public / community health falls under the state list while medical education falls under the concurrent list. Moreover, while the functions of the community worker have alternative solutions that good governance and management can provide at the local level, such substitution is not possible in education and training - poor faculty and facilities produce poorly trained doctors or nurses having an adverse impact on the quality of care and outcomes in the long term.

Elaborating the above, an interesting example of the shortcomings of the CSS is in relation to the set of issues related to human resources, a critical variable that impact outcomes. Adequate evidence is available showing large scale absenteeism and the non availability of doctors in rural areas. CSS typically seeks to treat the symptoms by hiring doctors at absurdly low rates, short term training in multi-skilling, providing incentives such as preferential admission in Post Graduate courses etc. with limited impact. The problems of why doctors resist going to rural areas are due to multiple factors –poor pay scales, poor working environment, weak scope for professional advancement, inability to cope with rural settings, corruption, non transparent transfer policies, lack of facilities for stay and schooling for children etc. requiring a comprehensive set of solutions ranging from paramedicalizing primary care, reorienting the training of doctors to make them functionally suitable to work in rural settings, improving work environments, better pay scales, a fairer transfer policy and transparent career progression, work recognition, and strict supervision besides addressing the whole issue pertaining to conflicts of interest in permitting private practice etc. CSS ought to then have as a conditionality the states to come up with a suitable HR policy and also initiate the reform of medical and nursing education that falls within the scope of the central government. In other words, the mere allocation of greater funds or the transfer of more resources –without clear strategies addressing

systemic deficiencies – and no conditions - is no substitute to assuring that the allocated money will achieve the desired outcomes.

Similarly, subsidizing the construction of toilets is a progressive step in incentivizing behaviour change, the reasons for open defecation were also on account of the lack of water and the sewerage and solid waste disposal systems that are expensive to install and falls within the domain of the state. In such a context providing subsidies is a soft option entailing political dividends

Besides, the implementation design of the Centrally Sponsored Schemes, create several systemic problems. For example, there is no certainty or predictability regarding release of funds. Though a five year plan is finalized and physical targets given, yet every year the issues are revisited and implementation time lost in the uncertainty of what quantum of funds would be available for the following year, or worse, reducing fund availability in the middle of the year. Such year to year unpredictability disrupt routine and procurement processes, causing delays in the supply of drugs and consumables to the states. While it is certainly advantageous for the center to procure, as scale helps obtaining competitive rates and better quality[24], yet, delays can compromise with patient health. Operational problems in the field also arise, when the central government tends to fix scales of pay or the perdiem for training or travel etc. that vary from program to program. So for example, internationally funded programmes give better per diem for training and therefore have full attendance as compared to those funded from the domestic budgets. And equally important is the delayed release of funds due to the elaborate procedures of utilization certificates and audit procedures that often end up with funds getting released only at the fag end of the year. Since rules require “unspent funds” as on the last day of the financial year to be remitted back to the treasury, much fudging is done to show utilization, even when the funds may have been received only on the last day and if that is not possible then spend much time obtaining a revalidation from the finance department. It is for such reasons that the trend has been to constitute autonomous societies so that the funds atleast do not lapse. Such design issues are contributory factors for the underutilization of funds and under performing.

[24] The quality of drugs procured at state level in several instances have been found to be poor for two reasons: corruption and the absence of strict quality assurance protocols. Situation is far better and more streamlined in the center. States for these reasons have very often requested the center to procure for them. Some states like NE or Bihar and Jharkahnd have no procurement capacity in the first instance.

Impact of Central Transfers through NRHM, 2005-2012

The National Health Policy, 2002, identified three finance goals to be achieved by 2010:

1. Increase health expenditure by Government as a % of GDP from the existing 0.9 % to 2.0%;
2. Increase share of Central grants to Constitute at least 25% of total health spending;
3. Increase State Sector Health spending from 5.5% to 7% of the budget by 2005 and further increase to 8% by 2010.

Since achieving Goal 1 is dependent on a threefold increase in the state sector spending as proportion to total public spending, the central government imposed two other conditions for release of central grants 1. To provide 15% share of that amount being released for NRHM; and 2. To increase health allocations to 10% of total revenue expenditure financial assistance. Besides, a measure of 'focus' was also provided by seeking to provide 1.3 times more of resources to the 18 high focus states relative to others. The purpose of these goals were to ensure that the central transfers were not being substituted by states diverting equal amounts to other aspects of health care not funded by NRHM as argued by Rao and Choudhury in their paper where they found that there was a tendency of states to shift expenditures to central grants (Rao, 2009).

By the end of the 11th. plan period, against Goal 1, health spending was 1.1% to GDP as in 2012[25]; Goal 2 was achieved on an All India basis with wide inter state disparities, where critical states like UP had a central spending of about 15%; and under Goal 3 data shows that the central transfers did not stimulate an appreciable increase in health spending by states which continued to average between 3-5%, having increased by 1% point to pre NRHM levels. Finally, expenditure patterns show that NRHM funding to High Focus States was not 1.3 times relative to others and instead continued to fund those that had the capacity to spend.

For understanding the extent to which the goals laid down have been achieved, and to also understand the manner of utilization of funds and the quality of spending, expenditures incurred by 19 states, representing 90% of the country's population and

[25] Including RSBY, drinking water, sanitation, ICDS and midday meals took the total spending to 1.94% to GDP – Planning Commission 12th Fiye Year Plan Report Vol II

population of High Focus States, during the two years 2007-08 and 2011-12 (base line and end line of the XIth Plan) were analyzed. In addition to the issues raised above, another two questions were studied:

1. Whether the relative proportions of spending under primary, secondary and tertiary care were being maintained, particularly with the Planning Commission asking states to spend 70% of their health budgets on primary care; and
2. Whether there is an optimality or effectiveness of spending assured by having a balanced mix of the various critical components impacting outcomes – salaries, drugs, equipment, infrastructure etc.

Analysis of 19 Major States

Data was obtained from the state Demand for Grants and expenditure statements of the NRHM, State AIDS Control Organizations and the allocations made under Central Sector Schemes for non-communicable diseases and the RSBY of the Ministry of Labour. Data was analyzed under 4 categories – (i) assess the total expenditure incurred by the health department as a whole and as indicated in the accounts – plan/non plan – revenue/capital; (ii) assess the distributional preferences in allocation of budgets between primary, secondary and tertiary care, for which program data was also collected to triangulate it with the budget outlays; (iii) assess the allocative efficiencies and quality of spending on primary care in terms of the balance in inputs among the various components required for an outcome; and (iv) assess the state and central government shares. The state spending patterns for the two years were then collated to understand the financial flows with a view of absorption of funds[26]. In the following paragraphs, findings of the budgetary data of 19 states show the following:

Central Transfers – Substitution or Supplementation

Though as proportion to the GDP, public health spending has increased only marginally from 0.9% to 1.1%, most remarkable during the 11th. Plan period has been the increase in central funding as proportion to total public spending from 17% during 2001-02 to 24%[27] in 2012, reducing to that extent the burden on the states. However, such increases were uneven across the states– among the high focus states, while Chhattisgarh and Bihar accounted for over 39% and 33% respectively of their

[26] It is a matter of grave concern that this was an enormously difficult task on account of the fragmentation of data between budget, society grants etc. The data sets of GOI and States do not match though both claimed sourcing from audited figures – central government, invariably showing higher expenditures than states. In all cases we adopted the state figures which had the 'approval' of the concerned secretary. Many states (Assam, Haryana, Kerala) had difficulties in capacity to understand and analyze budget documents.

[27] All in current prices

spending to Central grants, the proportions for West Bengal, Uttarakhand and UP were about 18%. Among the large states AP had the lowest proportion of central funding at 16% while relatively better off states like Maharashtra and Karnataka accounted for 31% and 28% respectively, showing that states with better implementation capacity made better use of the NRHM and other central sector funds. All states increased in gross terms (current prices) the allocation for health and barring AP, most provided their share of 15% of NRHM matching funds. Infact, of interest is the increase of own resources earmarked by Bihar for health by 12% points in the five years reducing its dependence on the center from 45% in 2008-09 to 33% in 2011-12 and MP by 7%, points. During this period, states maintained a 74% share of the total government spending on health **Table XI.**

Overall, stacking one variable of Central funds transferred to states as CSS against the other variable of state health budgets, does not appear to provide evidence of state governments substituting central funds with their own (except AP). Instead, evidence suggests increased health spending in gross terms though not as proportion to total government spending or SGDP. However, while central funds were used as an additionality to supplement states own efforts, yet it would be correct to assert that states continued to provide a low preference for health even when the resource pie had expanded. Not only that, but of worry is the nature of new investments – more eager to buy insurance coverage (Bihar, West Bengal) than in investing in improving the foundations of a sound primary health system. Emerging from this, in the absence of a national vision of health built on consensus, each state had its own scale of priorities, ones that were guided by visibility and need, making it the responsibility of the central government to provide primary care, though beyond its Constitutional responsibility.

Allocative Efficiencies and Quality of Spending

There are two aspects that determine allocative efficiencies – distribution of resources among different levels of care and the amounts allocated to different activities at a particular level. The first is also dependent on the epidemiological status of a people and nature of demand. For example, while India spends most of its money on primary and secondary care, in the US 90% of the total spending is consumed by just 1% of the patients. Tertiary care guzzles in far more resources and therefore, if not carefully monitored can crowd out other levels in equal need of resources. Secondly, in the health sector, it is not enough to merely spend but ensure that the spending is

balanced out among the various components. A doctor in a facility without drugs or equipment will be only partially productive. Besides, in times of financial stringency, it is the salary component that is safeguarded and budgets for drugs or maintenance often slashed. Very often, during the last quarter of the financial year, the Ministry of Finance imposes a unilateral 10% cut[28] as a means of containing the fiscal deficit, which often falls on not paying for the drugs procured resulting in delaying supplies or cutting down on drugs supply. Such measures have often resulted in increasing drug resistance as patients have either been denied the life saving drugs or been provided only half the dosage.

In the 12th Plan document, the Planning Commission has called for earmarking 70% of the health budget for primary care. Though the basis for such a target is not clear, it is nevertheless important that primary care is protected against other sectors, particularly when the health budget itself is not increased.

Though, in percentage points, some states reduced their budgets for primary care or kept it stagnant, in absolute terms the amounts increased across the states. Comparing two reference points - 2007-08, the first year of the XIth. Plan and 2011-12, the end year – expenditure trends become easier to appreciate. Thus, while TN spent Rs 2,856 crores in 2011-12 on primary care, in percentage terms, it had reduced from 58% in 2007-08 to 54%. Likewise Gujarat also increased its primary care spending from a low of Rs 922 crores in 2007-08 to Rs 2,115 in 2011-12 but in percentage terms it was a reduction from 57% to 54% of total health spending. [29]. Bihar and Chhattisgarh also indicated reductions from 85% to 68% and 61% to 58% respectively. However, given the huge gaps in primary care in these two states such reductions may not appear to be justified. Overall the average for all states was 56% in 2007 that came down by 3% points in 2011-12.

The outlier is AP where the budget for primary care dwindled by 7% points from 53% to 46% during the period 2007-12, as the money got diverted to the state sponsored insurance scheme called Arogyashri, under which patients got cover for high cost surgeries that were being provided by corporate hospitals.

[28] This is the most unfortunate aspect of cutting fiscal deficit. A 10% cut can be strategized in such a way , that atleast life saving activities are not disrupted and people suffer rather than resorting mechanical cuts, activity wise across the board.
[29] Infact for years NRHM funds were unuthorisedly diverted to the Arogysshri Trust.

With improvement in primary care service delivery and shifts in the epidemiological profile towards non communicable diseases, the proportion of expenditures on primary care will come down as, for example, in UK where it is only 30%. If, therefore, 50% is taken as the cut off point, then both Odisha and Rajasthan have to spend more. While Odisha went up from a low of 36% in 2007-08 to 44% by 2012, Rajasthan reduced from 50 to 47% for primary care, which is inadequate in view of the health status in both these states.

In analyzing such expenditures there are three points to observe: one, that these figures also include the devolutions from the GOI under NRHM and therefore, the actual state effort will need to be read by subtracting GOI funding. Second, this data shows the steady increase in state capacity to absorb and utiize funds. And third, such increased spending on primary care has been at the cost of secondary care in some states, such as Tamil Nadu, that spent only 4% on district hospitals - perhaps because NRHM funds could also be incurred for improving district hospitals. The relatively high percentage of spending on secondary care, say in states like UP or Uttarakhand, is also reflective of the need to respond from the supply side to the pressures triggered on the demand side under conditional transfer schemes like the Janani Suraksha Yojana that provide Rs. 1,400 to pregnant woman for delivering in a government facility. With the primary health centers in disarray, most deliveries take place in the poorly endowed district hospitals that have now been improved with wards, labor rooms, operation theatres etc. with NRHM assistance **Table XII.**

Regarding the composition of spending, almost all states, barring Odisha, West Bengal, Gujarat and Punjab, showed an increase in salaries. This increase could be on two counts: the impact of the VIth Pay Commission and the NRHM funding support for appointing personnel on contractual terms. This then explains the dramatic increase under this head in UP where filling up long pending vacancies resulted in an increase in expenditure from 39% to 60%. Likewise, MP also increased from 38% to 54%, Rajasthan from 53% to 63% and Bihar from 27% to 37%. **Table XIII.**

As a norm, salaries and wages should be about 50% and drugs 10%. It is pertinent to see how little Bihar, Punjab, Rajasthan, Jharkhand, Himachal Pradesh, Maharashtra, Gujarat and Uttarakhand spent on drugs – all ranging from 1-3%, while southern states like AP and Karnataka spent about 14%. Data does not however help derive any pattern on drug spending and appeared to be more of a state level decision.

Similarly, capital expenditure has also been minimal at 8%. Most expenditures were incurred under the 30% of the NRHM Pool budget earmarked for taking up refurbishing of facilities or construction of new ones etc. Infact, capital expenditures were equivalent to the amounts provided as grants to local bodies (6%) and incentives to community health workers (7%) (demand side interventions) that ought to have been two fold as demand after a point gets impacted by quality which is a supply side function. On the overall, spending appears to have been driven more by the schematic approach prescribed by the central government, rather than own needs. Yet, given the huge demand and the meager resources, states struggled to do their best.

Part IV - Way Forward

There are clearly three propositions that typify India's current status – improving health standards of its people, reducing disparities and promoting equity among states and social groups and increasing the fiscal space to achieve them. It is in this context that two definitions need to be recalled. One of Heller who has defined fiscal space as "the availability of budgetary room that allows a government to provide resources for a given desired purpose without any prejudice to the sustainability of a governments financial position" and second - the definition of an equitable health system as defined by WHO "access to key promotive, preventive, curative and rehabilitative health interventions for all at an affordable cost". (Rao, 2009)

Decentralization

As has been discussed in the earlier paragraphs, health policy making is centralized and its impact on determining state priorities is disproportionate to its share of resources in overall health spending. For example, the norms for sitting a health facility, the kind of personnel to be appointed and services to be provided and basing on that, determining the quantum of funds to be released is a prime example of the centralization of health policy. Similarly, laying down the remuneration to be paid to a community health worker. If primary care falls within the ambit of the state government, then it should be left to the state governments to decide the type of architecture that is most appropriate to it, including defining the norms and payment systems of the personnel to be deployed.

The central government should set the norms/targets to be achieved but leave the process of how to achieve them to the state governments. Locally elected bodies at

district level and below need to be empowered to supervise by devolving to them the authority to monitor the functioning of the village based functionaries. FC or GOI should seek to reiterate the Constitutional position in terms of assignment of functions and make a beginning by providing funds for health action directly to districts for components that are to be spent at that level.

There is an urgency to emphasize the importance of decentralization, and greater de-concentration of decision making and resource devolution while allocating and distributing funds in the health sector, as centrally conceived models are expensive and for several states clearly unaffordable and unreachable. Having said that, decentralization cannot be simplified to mean the mere release of funds without ensuring capacity and existence of good governance as it can amount to abdication of responsibility on the one hand and facilitate corruption and siphoning off of funds on the other.[30]

Guaranteeing Services – Package of Public Goods

Both the definitions of fiscal space and healthy well being cited above define the challenges that policy makers face given the huge disparities between states on both counts – health standards and the capacity to address - the hiatus between availability of funds and the goals laid down in the various policy documents. These definitions also raise the issue of cost and need, necessitating making choices, on what the state can and should provide to its citizens - as a guaranteed entitlement, as opposed to providing for every health need of all its citizens under the growing clamor for 'universal health coverage'. Such choices become imperative as the standards of health of a people will have to depend on the fiscal and taxable capacity of the country at a given point in time bringing in the concept of relativity and comparability between tax rates and levels of services to be assured. (Rao, 2009)

Due to the externalities involved and the current environment of favoring unbridled privatization, the process of decentralization to districts will need to be a calibrated strategy that is in tandem with a capacity to own and discharge responsibilities in a cost conscious manner and in sync with national goals. Such an approach would inter alia, imply the Center having the capacity to set national priorities, goals and

[30] Importatn to remember the caseof UP where thousands of crores of NRHM were embezled and left 5 persons dead and the health secretary in jail.

benchmarks, for data analysis and concurrent monitoring which is, at present, abysmally weak. Like in Canada, goals could be less prescriptive and based more on shared principles, such as non denial of care on grounds of caste or affordability, equity of access, equal treatment in quality of care, adherence to standards etc. Canada devolves substantial amounts to provinces subject to such conditions. The Fourteenth Finance Commission may therefore, consider devolution of funds (not just the component related to the grants in aid) subject to certain conditions of national concern so as to act as a strong incentive for state compliance.

India's fluctuating and unstable macroeconomic position (9% growth in 2011 and 4.8% in 2013), wide inter state disparities, with large needs and poor fiscal capacity converging in a few states / regions and competing demands for resources, make it necessary to define, in monetary terms, a basket of services to be made available. Such an approach can help measure the distance of the states from the ideal mean, both physical and financial. A mix of fiscal policies will then need to be defined laying down the minimum that a state must spend and mobilize and the resultant gap that requires to be bridged with federal transfers by the Finance and Planning Commissions for assuring equity.

As indicated in the earlier sections of this paper, merit or public goods having wide externalities, are the ones that the state needs to provide for as a mandatory requirement, not a preference. Infectious diseases, reproductive and child health, primary care that includes preventive and curative services, piped water, sanitation and nutrition then qualify as candidates for the basket of a minimum essential package. The focus will need to be preventive education, early diagnosis and early treatment. Such a strategy is not only in the larger interests of the population but is also more cost effective. In environments where there is no health insurance, patients tend to delay seeking treatment in order to defer expenditures, making it more costly for the system and the patients to be treated later. It is therefore on grounds of cost effectiveness that primary care needs to be the bulwark of the health system – warding off disease and referring up cases as per medical need. It is also necessary to ensure that these services are universally accessible and free at point of service, paid for by the state.

There are four components of the basic package of public goods:

1. The three social determinants that form the foundation of the health system;
2. The primary health infrastructure consisting of buildings, drugs, personnel and equipments as they determine the effectiveness of the services being provided;
3. Morbidities that have to be addressed and for which incidence data is available on a state wise basis; and
4. Public health goods that are non rival in character and are also of equal need throughout the country such as information and advocacy campaigns against tobacco or alcohol consumption or life style changes for preventing diabetes etc.

I. Social Determinants

Drinking Water

Against the aspiration of universal access, the 12th Five Year Plan has targeted to achieve a goal of 55 lcd of water per head through piped water supply to over 55% of the population by 2017. As per the Census 2011, the current coverage of population with tap water is about 41.82% – 29.65% in rural areas and 69.43 % in urban areas.

During the 11th Plan, an amount of Rs. 45,711 crores by the Central Government and Rs 49,000 by the states was incurred on drinking water as a whole. Of that the amounts spent on protected water supply is not available. For the 12th Plan, the Working Group recommended a proposed coverage of 118 million house holds with piped water supply at an outlay ranging between Rs. 2,72,377 crores to of Rs. 3,48,968 crores. Against this, the Planning Commission has indicated an allocation of Rs 98,015 crores for drinking water (of all kinds – open sources, borewells, tube wells, protected water supply schemes etc) and Sanitation (including sewerage systems, solid waste disposal, subsidy for toilets etc.) put together.

Our calculations of the amounts required for assuring 100% of the population in urban areas and 75% in the rural areas with piped water supply comes to Rs. 2.50 lakh crores calculated at the rate of Rs.6000 per head. For raising coverage levels of rural areas to 55% from the current level of 29.6% an amount of Rs 83,052 crores investment would be needed in 9 states.

In this context, attention is drawn to the emergence of new technologies that are getting deployed in the rural countryside. In the fluoride affected district of Mahbubnagar in Andhra Pradesh, there are nearly 300 water treatment plants that provided purified water through the technology of reverse osmosis. This water is being delivered at the home for Rs 6 for a 20 litre can. Anecdotal evidence from the

communities visited by the author, shows that since the introduction of these treatment plants, there has been a drastic reduction in disease occurrence. Such cost effective approaches need to be scaled up by government that will entail a different financial stream.

Sanitation

The national goal is to ensure that all households have access to a toilet. In addition to households, schools and other public places need toilets as well. Besides providing Rs. 10,900 as subsidy to individual households the Department of Drinking Water and Sanitation also spends on sewerage systems and solid waste management etc.

As per census 2011 data, 69% rural households and 19% urban households do not have access to toilets with substantial inter state differentials. Most northern states of Bihar, Chhattisgarh, MP, Jharkhand, Orissa have barely 20% of the population with access to toilets. Again, there are huge differentials between the rich and the poor – 15% of the poor have access to toilets against 58.4% among the better off sections with the poor having a 16 times higher propensity to defecate in the open (GOI 2011) . It is, however, important to note that alongside providing toilets, there is an equal urgency to undertake health education campaigns such as washing hands with soap after using the toilet and before eating. A study showed that 22% of the people surveyed washed their hands with soap before eating and 55% after defecating. These were 12% and 39% in Chattisgarh, 4% and 66% in West Bengal, 28% and 48% in UP [31]etc. respectively. In other words, for reducing morbidity on account of poor hygiene toilets, water and clean habits are all of equal value.

The current policy of the GOI is to provide a subsidy of Rs 10,900 to every BPL family for constructing a toilet. Keeping inflation and time lag between now and the time of actual release of FC funds, an amount of Rs 12,000 has been adopted for calculations for this paper. Calculated at this rate, an amount of Rs. 1,51,906 crores would be required for providing toilets to all and Rs 1,24,771 lakhs for 75% of rural population only. Assuming 30% are BPL families, an amount of Rs 40,446 crores would be required to cover them all with toilets.

[31] Working Group on DW&S for 12th Five Year Plan, by the Department of Drinking Water and Sanitation, Ministry of Rural Development, Government of India

Notwithstanding the importance of the individual toilet subsidy scheme which has achieved popular traction, yet, it is the view of the author, that what India needs to invest in is the infrastructure – sewerage lines, solid waste disposal systems, recycling of water etc. activities that require heavy investment, particularly in urban areas. Once such systems are made available, demand for toilets will arise.[32] Therefore rather than subsidizing toilet constructions, central government should incentivize states to accord a higher priority to laying down disposal systems. In the absence of access to data and unit cost estimations for establishing such systems in rural and urban areas, it is difficult to estimate the actual amounts required. A study conducted of 33 cities projected a demand of Rs.39,000 crores for replacing the truncated systems and building new ones to meet the emerging demand[33]. In view of the importance of this public good, the FC may consider funding studies to assess the amounts needed and also provide earmarked funds to take up the provisioning of this infrastructure, saturating urban and semi urban areas to start with.

Nutrition

The third critical determinant is malnutrition. The ICDS is the vehicle to address this issue among the 0-6 year olds. The total amount required per year calculated at Rs. 9 per head for 300 days per year comes to Rs 17,485 crores. The funds provided are adequate. What is not is the design itself that the concerned department should review in order to shift investments. There is also a need for a horizontal convergence of programmes, such as for example, one of the priority areas of investment for the MNREGS could be the construction of an ICDS center. It is unacceptable that in most parts of the country ICDS centers run in verandahs or in poor accommodation**.**

II. Health Infrastructure

Government policy is to provide for health facilities based on a population norm as indicated in the earlier paragraphs. Under NRHM, this policy was liberalized to include need as basis of siting a facility. Yet there is scant evidence of the number of additional centers or closure of unviable ones. The 12th. Plan, articulated the concept of a facility measured in terms of time taken (first proposed in the NCMH) to access medical attention but not followed up with mapping and listing of the existing facilities

[32] Sewerage systems in cities of Delhi, Bombay,Madras etc were laid first by the British during the early 19th Century to mitigate the high rates of disease outbreaks on account of poor sanitation. Since then, investment in this sector has been inadequate.

[33] National Institute of Urban AffairsStudyof Water Supply, Sanitation and Water Waste management in Urban Areas, June, 2005

and conducting community dialogue to understand their concerns/preferences etc. In the absence of such information, data on facilities existing and required have been based on population norm as listed in the Rural Health Statistics report of the Ministry of Health & Family Welfare.

As per existing guidelines and the Census 2011, there ought to be 7,857 Community Health Centers for every 1 lakh of rural population; 26,188 Primary health Centers for every 30,000 population and 1,57,131 sub-centers for every 5000 population. Against that, there is at present a gap of 3,469, 5887 and 27,430 of CHC, PHC and SC respectively. The existing ones are also poorly equipped and have inadequate infrastructure with many PHC's functioning in erstwhile single room sub-centers and many sub-centers in thatched accommodation. Needless to say these overall figures hide the wide disparities among states and within districts.

In 2012, the Ministry of Health & Family Welfare issued revised IPHS detailing the services, equipments, building area, human resources and drugs that ought to be available at each of these facilities. A costing exercise to implement the IPHS undertaken by the Ministry of Health & Family Welfare, shows that an amount of Rs. 6.25 crores, Rs 1.75 crores and Rs 19 lakhs is required towards capital costs for a CHC, PHC and a SC respectively, while the recurring costs are estimated to be Rs 3.5 crores, Rs. 90 lakhs and Rs. 9 lakhs per year. For urban health too, a Community Health center for every 3 lakh population and One PHC for every 50,000 population is under consideration.

Based on the Ministry costing, it has been calculated that an amount of Rs. 1,11,674 crores non - recurring and Rs. 48,221 crores per year towards recurring would be required for establishing new facilities and strengthening the existing ones to IPHS[34]. Of this Rs 92,313 crores of capital investment and Rs 37,934 per year for recurring is required only for rural areas. Against this huge capital investment gap, a measly Rs 6,000 crores or so might have been spent during the 11th Plan. At this pace, India will never be able to achieve its norms that not only require a massive infusion of capital but also a substantial scale up in making human resources available. Human resource availability is a huge constraint due to a growing internal demand as well as global pull and push factors.

[34] Existing are calculated at 50% of amounts required for a new facilities.

The IPHS are difficult to achieve in the short and medium term. Availability of the required human resources is the major impediment. There is an urgent need to review the norms so as to make them need based and functionally relevant.

The need for such a review stems from three factors: the substantial shifts in terms of communications and health seeking behaviour since the seventies when the three tier structure was conceived; technology that has brought in new dimensions of virtual access; and a proliferation of choices. For example access to higher facilities are preferred in several rural areas (Kerala) due to quick transport services and good road networks. Or most specialist advise can be accessed through telemedicine and internet. This is true for diagnostics also where blood samples can be transported and results sent transmitted through the internet. Or more optimal uses of practitioners of Indian Systems of Medicine or qualified nurse practitioners as substitutes for doctors at the PHC settings and so on.

III Essential Services

In 2004, the NCMH undertook a detailed unit cost analysis of services to be included in a basic package that essentially consisted of reproductive and child health, infectious diseases and screening and basic services for some non communicable disease conditions that were to be delivered in the sub-centers, Primary Health Centers and Community Health Centers. Estimated on caseload and unit costs of care in government facilities for 70% of the population, the amount came to Rs 34,650 crores per year. Taking the current case load, an increase in salary costs at an average of 30%, unit costs as calculated for HIV/AIDS Phase IV and emerging concerns like drug resistant TB and long lasting Impregnated nets etc. that were not there in 2004, and adding another 5% costs for urban care, and taking population coverage to 75%, the amounts needed for basic preventive and early screening services for delivering the package of essential services has been calculated as Rs. 45,613 crores or Rs 507 per capita per year, as indicated in **Table XV** These are the bare minimum and if these services are to be procured from the private sector, a three to fourfold increase will need to be factored.

Table XV: Service Package: Rs in Crores in Current Prices

Category	Preventive Services	Estimated No of Cases/ lakhs	Amount per case in Rs.	Curative Services	Amount /case in Rs	Total amount/case/ Rs (4+6)	Total Amount/Cr/yr (7*3)
1	2	3	4	5	6	7	8
Maternal Care	ANC and PNC	230	250	Delivery – normal, complicated, ceasarian	Average 7500	7750	17,825
Childhood Diseases	Immunization IEC and HH visits	300	300	Diarrhoea, ARI, etc.	200	500	15,000
TB 10% +ve	Testing	35 2	100 250	Regular MDR	1420 5500	100 1670 5500	 584 110
Malaria	Bed nets, spraying , IEC	10 0.30	500	Treatment Severe	1250 2500		1250 750
Leprosy	IEC	2	50	Treatment	1345500	1550	31
HIV/AIDS	Condoms/IEC/ PPTCT/ Testing/Blood Supply/ART etc						2275*
Others – minor ailments		1330**	100				1330
NCD (1.Diabetes/2.CVD/ 3.Cancers/4.Blindness)	IEC / Testing	300 300 11 45	1)75 2)65 3)675 4)100	Drugs IOL	1)265 2)765 3)7500 4)8000	1)340 2)830 3)8175 4)8100	1020 899 3645
Total							44719
IEC@10 of total							447
Overheads @10%							447
Total Rs /Cr/year							45613
Per Capita over75% of 120 crores population							507

Source: Authors calculations based on data furnished by programme officers and reflect minimum amounts for the activities listed and do not reflect programme costs in a comprehensive manner. Costs also in government facilities – private sector may be double or more depending on level and location of facility.

* NACO has worked out activity wise, component wise unit costs and is comprehensive ** @140/1000 rural: 70% rural population

The previous paragraphs provided the financial implications of providing universal access to the most basic public goods. Based on government costing norms and the amounts allocated for these sectors in the 12th Five Year Plan, it is estimated that India needs to make an investment of Rs. 10.70 lakh crores of which Rs. 5.1 lakh crores is for capital and Rs. 5.5 lakh crores is towards recurring cost for 5 years. Against this, the Planning Commission has provided for Rs 3.9 lakh crores to these sectors leaving a resource gap of Rs. 6.6 lakh crores.

Funding Options for FC

The Finance Commission is **not** expected to provide for the resource gap. Infact the FC is expected to only examine non plan expenses, which is anomalous as the life of a FC is only 5 years. Therefore, it is best for FC to consider filling gaps in infrastructure that will enable raise standards.

Contextualizing FC resources within the amounts allocated for these sectors in the 12th Five Year Plan[35], keeping in mind the institutional limitations of the Finance Commission and the ability of the states to absorb and utilize the funds within a period of 5 years, three options have been worked out for consideration subject to four riders:

1. Since Nutrition is already well funded and the problems are not lack of money but of governance, no further funding is recommended under 14th FC for nutrition;
2. Expenditures under piped water supply, sanitation and health infrastructure need to be shared by the States, as a matter of principle, as addressing such basic needs ought to be the first charge on any developmental budget. In sharing a part of the burden, the States also get sensitized to the real cost of the good;
3. There is a shortage of funds for the provisioning of the most basic of services. This gap then needs to be bridged on priority.
4. It should be mandatory for States and Central Ministry to create posts and appoint well qualified finance staff at all levels before release of the second tranche of funds. Alternatively provide some additional inducements.

Option 1 (2 Scenarios) Basic Primary Health Package

Envisages funding for

I i (a) piped water supply to 100% urban and 75% rural; (b) cover 30% of BPL and all SC/ST populations in rural areas with toilet subsidy as per existing policy; and (c)

[35] This by no means implies availability of the resources. For example, against an allocation of Rs 3 lakh crores for Health, hardly 17% has so far been released during these two years of the Plan.

funds for capital expenditures required to upgrade existing facilities and establish new CHCs'[36] as per IPHS norms – **total outlay required comes to Rs 2, 43,422 crores.**

I ii (a) achieve the 12th Five Year Plan Goal of 55% population being covered with piped water supply; (b) 30% BPL population in rural areas being assisted for toilets; and (c) provide gap filling grants as per modified NCMH norms for capital expenditures which are far more modest as compared to IPHS estimates[37] **– total outlay Rs 1,58.340 crores. Table XVI gives details of the two options component wise and Table XVII provides the State wise details.**

Assumptions :

The Planning Commission has provided about Rs. 98,105 crores for drinking water and sanitation sector that comes to 25% of the total estimated demand. Assuming 50% state share for drinking water, an amount of Rs 1.25 lakh crores is required for universal coverage and Rs. 53,000 crores to achieve 55% coverage in the country.

Regarding sanitation an amount of Rs. 17,189 crores is required towards toilet subsidy for 30% BPL families.

It is assumed that of the Rs 1.93 lakh earmarked for NRHM during the 12th Plan, about 20% of it would be available for capital expenditures. That comes to about Rs 38,000 crores (which 6 times more than what was spent on capital works during XI th. Plan) Under scenario 1 that envisages bringing existing facilities and establishing new CHC's upto IPHS an amount of Rs 78,929 crores would be needed. The resultant gap comes to Rs. 39,465 crores.

Under scenario 2 of Option 1, taking Modified NCMH norms, an amount of Rs. 27,100 crores would be the total need. If FC provides this funding, the available budget funds could be spent for creation for posts and recurring costs as per IPHS.

A basic package of minimum primary services has been costed at Rs 507 per capita per year. As on today the percapita expenditures on primary care in rural areas is Rs 330, leaving a gap of Rs 177 per head. Calculating for total rural population, the gap comes to Rs 13,887 crores which has been proposed.

The calculations for the two scenarios under Option 1 are detailed below:

[36] This is recommended as CHC's can provide comprehensive – out patient and in patient care, including training and supervision and act as gatekeeper for specialist referral,

[37] IPHS Non Recurring Costing for CHC, PHC and SC is Rs 6.25, 1.75 and 0.90 crores agasint modified NCMH costing at Rs 2.25, 0.75,and 0.15 crores rspectively @ Rs 1500 per sft for CHC & PHC and Rs. 1000 fr SC.

Table XVI: Total Estimated Amounts required for Achieving Universal Access to Primary Health Care in a 5 Year Period Under Option I – Scenario (i) and Scenario (ii)

1	2	3	4	5	6	7
Sl. No	Item	Amount Provided in 12th Plan Rs/cr	Existing coverage % (Approx.)	Total Resources Required to achieve national norms Rs /Cr	Scenario i Rs/Cr @ 50% state sharing for DW and15% for toilets & 25% of Planning Commission allocation	Scenario ii Rs/Cr @55% population to be covered for DW; 30% BPL
I	DW & Sanitation	98,105 (all drinking water and sanitation)	45	2,50,168 + 1,51,906 (only piped water supply and toilets)	1,25,499 for DW; and 17,189 for toilet subsidies	Rs 52,782 + 17,189
	ICDS per annum	87,425	90	87,425 (17,485 x5)	NIL	-NIL
II	Health Infrastructure (capital)	1,93,405.7 allocated for NRHM. 10% Assumed for Capital Infrastructure and 70% for recurring costs for basic services 11,824 for NACO	70	Capital Ex to achieve IPHS Rs 1,11, 674 crores Recurring is Rs. 2,41,107cr.)	Only Capital for all existing facilities + new CHC's as per IPHS comes to Rs 78,929 crores Of this Rs 39465 is from Planning Commission leaving gap of Rs 39465.	Rs 27,100 crores for Ensuring ALL health facilities including establishment of new ones as per population 2011 as per NCMH costing
III	Basic Services per annum	- DO-	66	@ Rs 507 per capita an amount of Rs 2,28,065 would be required . Of this Rs 69,435 is the gap	61,268 for 5 years	61,268 for 5 years
	Total for 5 years	3,78,935			2,43,422 of which for Health Rs 1,08,900 for health	1,58,340 of which Rs 96,535 crores only for health

Authors calculation based on current prices obtained from programme officers.

* 25% of total cost been adopted towards drugs and diagnostics and added with the amount for IEC which is extremely neglected and needs a very major push

Option II: Total Outlay Rs 69,968 Crores

Notwithstanding the fundamental importance of the health determinants, they cannot substitute for real investments that have to be made in the health sector. Despite access to healthy environments people do fall sick: they need to be prevented from doing so and when sick, treated.

The second option, therefore, suggests that on grounds of equity to access and quality of care, and to halt and reduce the widening interstate disparities, it is proposed that the FC funding be made available for only for those districts that fall short of the All India average, by focusing on the High Focus States. For this purpose three parameters were studied to identify the districts that need additional support for infrastructure – institutional deliveries, sub-centers beyond 3 kms from the village and the number of PHCs' that are functioning 24 x 7 to come upto national averages. Analysis from the DLHS Survey 3 conducted in 2007-08 showed that for Institutional deliveries 202 districts in 8 states had even lower than their state averages – Bihar had a state average of 27.5 and the number of districts that were even lower than that were 17 out of the 38 districts. Bihar state average itself was nearly half of the national average of 47% deliveries. Other equally low performing states were Chattisgarh (18% deliveries and 7 districts lower than that), Jharkhand (17.7 and 12 districts); UP (24.5 and 29 districts) Uttarakhand (30 and 8 districts) etc. Likewise about 30% of subcenters were located at a distance more than 3 kms. 119 sub centers in 9 states fell under this category. Under the third indicator of 24 hour PHC, about 52% PHC's in the country were open all day and night. 139 PHCs' fell below this average in about 10 states.

Based on a composite index of various variable, the Government of India has identified the bottom 25% of district in each state (about 184 in the country) for special effort. This is also a valid approach as it will help restore intra district inequities in every state, while bridging the gap between the states. However, for the purpose of the FC, the wider definition based on the DLHS survey has been proposed. The GOI districts as well as the worse performing as per the Annual Health Survey are included under the districts listed for assistance. This approach will help bring in substantial equalization across the country.

Accordingly under this option, it is proposed that about 174 of the backward districts in 7 High Focus States may be provided an adhoc amount of Rs. 50 crores to enable

restructuring the health infrastructure to come upto the national averages. It is expected that over two thirds of IMR, Neo Natal Mortality, MMR and U5MR will be addressed with this investment.

In states where the percapita expenditures for essential services is below Rs. 507, the gap maybe provided.

The financial implications of Option II comes to Rs. 69,968 crores as under:

Table XVIII: Option II (State wise details are at Table XIX)

Item	States	No. districts to be covered	Amount /district Rs./cr	Total Rs/cr
Strengthening Infrastructure	Bihar, CTS, JH, MP, Odisha, UP, Uttarakhand	174	50	8700
Essential Package	All States			61,268
Total				69,968

Option III – Total Outlay Rs1.00,220 Crores

The essential package as defined above is input oriented. The major barriers to optimal utilization and health outcomes in India are however, lack of knowledge, poor institutional structures and weak governance, namely corruption. In the earlier years, much focus was given towards establishing institutions for research and training. Say for example, the National large number of institutes for training and research at the national, regional and state levels. Almost all are defunct now or functioning poorly for want of faculty and support. Even ANM and government nursing schools need a large amount of investment in providing the conducive atmosphere for learning, library and teaching aids etc. While so, the NRHM has neglected in building up this training infrastructure (except a few ANM schools) resulting in sever shortages among front line personnel.

Likewise, there is hardly any operational research capacity. There are still only a handful of health economists in the country while we need not less then a hundred. This is one reason for most policy design being bereft of evidence. Research is also needed to formulate appropriate policies for health promotion and dissemination. In short, progress under health, needs a knowledge base and institutionalized human development/capacity building infrastructure for scaling up interventions. Recognizing the importance of this investment for the future, a third option is proposed, consisting of eight components as detailed below:

(i) Tap water to cover 55% of rural and urban population in 7 States

(ii) 20% BPL for toilet subsidy in all states;

(iii) In the 'bottom' 117 districts of the 7 High Focus States, provide funding for the construction of health facilities as per existing norms but modified personnel /skill mix. Strengthening the delivery of primary care services, alongside provisioning of safe water and sanitation in these 117 core districts can bring down IMR, MMR and U5MR by over 50%. These being the poorest and most backward, it also addresses the issue of equity. Since facility level data is not readily available, a notional amount of Rs 75 crores per district is earmarked as the Health Development and Equalization Fund for recurring and non recurring expenditures. The GOI/States will also need to identify an agency with dedicated teams to take up baseline surveys and construction activities within a time bound manner. The FC may also support the appointment of a special Project Director for this project at the district level to ensure timely implementation.

(iv) 50% of the resource gap for essential services which comes to Rs. 34717 crores.

(v) There are three critical functionaries that could dynamically change the quality of service delivery at the community level: the Multi Purpose Workers – Male, the Auxiliary Nurse midwives– (ANM's or MPW- Female) and the Nurse Practitioner. The main bottleneck in having these personnel available in large numbers is on account of the focus on doctors and medical colleges and the neglect in developing training institutions for these personnel. While the MPW (F) are adequately available (but poor quality), there is an acute shortage of training Infrastructure for male workers and virtually

(vi) None for nurse practitioners[38]. While male workers are needed for disease control programmes, nurse practitioners could be good substitutes for doctors at the PHC. Since the shortage of doctors is very high, particularly in the High Focus States, it is proposed that funding be provided for (i) upgrading and strengthening two existing training Institutions for ANM/MPW for training multipurpose workers to address current needs – geriatric care, community nursing etc. and (ii) Upgrade the existing graduate college of nursing / establish a new one, as College for Training Nurse Practitioners (CTNP) in 500 districts of the country. For such upgradation of 3 district level institutes for MPW and NP training, an amount of Rs. 5 crores per institute is recommended.

(vii) A funding grant of Rs 10 crores each is proposed for establishing 5 Regional Centers for Health Economics and Financing (RCHEF). This funding could be given to existing Institutions of repute with core competence in economics and public financing such as Institute of Economic Growth, NIPFP, Center for Budget Studies, Indian Statistical Institute etc. The start up funding will help them establish the required infrastructure and faculty for undertaking operational research, in service training of government personnel, award degrees in short term courses and doctoral fellowships on health policy related issues. Such an initiative will go a long way in helping build up some in house

[38] 200 nurse practitioners are produced a year in ….institutions. Nurse Practitioners are graduate or diploma nurses with one year intensive training in midwifery with capacity to handle complex cases. NP's were responsbile for the reduction in maternal mortality and promoting womens health in most european countries and Turkey.

expertise in this vital area of study. Such an external stimulus is to be read within the context that hitherto all health research has been dependent on foreign funding and the Health departments at the central and state levels do not necessarily have a culture for quantitative research and basing policy on an evaluation of the cost effectiveness parameters.

(viii) One Institute of Repute may be developed under the Department of Health Research or CSIR as the National Center for Clinical Excellence as recommended in the NCMH Report along lines of the one in UK. NICE In UK is a technical arm to undertake economic and technical evaluations of all technological products before their inclusion in the National Health Scheme. Such cost effective evaluations provide the financial and technical advantages of the drug or diagnostic test. In the absence of such evaluations, In India, technologies are donor/vendor driven entailing huge financial implications to the sector.

(ix) Under World Bank funding, most states were assisted to establish Institutes of Health & Family Welfare for training their personnel etc. Most are defunct due to lack of funds and bureaucratic procedures for filling faculty positions. It is proposed that with FC funding, these Institutions be developed as autonomous bodies as State Institutes for Health Promotion & Research(SIHPR). One major reason for poor programme design and poor preventive and promotional health in the country is lack of institutional capacity for analysis of evidence and knowledge brokering for policy formulation and for health promotion. It is recommended that these Institutes be provided Rs. 10 crore grant to revive and build this expertise.

The total financial implication of Option 3 is summed up as below:

Table XX: Option 3 (State Wise Details at Table XXI)

Item	Number	Amount Rs/Cr	Remarks
Drinking Water	As per data	44,741	To bring average access to piped water to 55% in rural and urban areas
Toilets	As per data	5,730	20% of BPL beneficiaries in rural areas
Health Infrastructure in 174 laggard districts as per NCMH standards into Rs 75 crores per district	Major States	13,050	Filling gaps for primary care services for recurring and non recurring Will reduce IMR, MMR, U5MR by two thirds and morbidity /mortality on account of malaria by more than half
Basic Services Gap	All Gap states	30,364	50% of gap
MPW Training (F & M)	Upgrading 2 existing Centers per district in 75% districts @ Rs 5 per institute	4,061	Will produce better quality and updated to new challenges ANM/Male workers for the districts
Nurse Practitioners training	Upgrading one Nursing College /district for NP course @ Rs 5 cr each / 405 districts	2025	Will help produce the required human power for front line work
RCHEF	Up gradation of 5 existing Institution of Repute @ 10 crores each	50	Will help produce trained manpower for operational research in health, provide high quality in service training and evidence for better policy
NICE	1@10	10 Crores	Under aegis of DHR /CSIR for Technology research
SIHPR	20@10	200 crores	Vital fro research, promotion and training of personnel /dissemination of information to public on Health Promotion and Preventive Health
Total 1,00,242 of which only Health – Rs 49,970			

The state wise allocations under each of the option may be seen at Table XIX. It shows that UP alone requires about 25% of the resources while Bihar requires 15-20% of the resources under all options. Thus these two states have a backlog more than 30% of the gap.

Table XXII: State Wise Distribution of Resources Under All Options

States and Region	Total for Option 1 - Scenario 1	Total for Option 1 - Scenario 2	Total for Option 2	Total for Option 3
EAST REGION				
Odisha	15,280	10,970	6,030	8,616
West Bengal	24,459	16,896	6,629	3,899
Sub Total	39,738	27,866	12,659	12,515
WEST REGION				
Goa	65	31	0	24
Gujarat	5,103	1,183	0	602
Maharashtra	9,691	3,446	0	805
Sub Total	14,859	4,659	0	1,432
NORTH REGION				
Bihar	41,323	34,506	14,950	22,671
Chhattisgarh	6,830	4,390	1,996	4,714
Haryana	1,996	735	0	303
Himachal Pradesh	583	262	0	157
Jharkhand	9,906	7,255	3,021	6,141
Madhya Pradesh	19,574	13,331	6,314	11,758
Punjab	3,442	1,467	0	298
Rajasthan	15,150	9,462	4,215	6,338
Uttar Pradesh	58,252	41,747	21,877	28,731
Uttarakhand	909	373	250	554
Sub Total	1,57,964	1,13,528	52,623	81,665
SOUTH REGION				
Andhra Pradesh	9,355	5,476	1,683	1,595
Karnataka	8,929	4,311	2,404	1,828
Kerala	6,864	1,024	599	472
Tamil Nadu	5,713	1,477	0	736
Sub Total	30,861	12,287	4,686	4,630
Total Of this for Health Only	2,43,422 1,00,733	1,58,340 88,368	69,968 69,968	1,00,242 49,970

Whatever be the financing options considered by the Fourteenth Finance Commission, one thing that the data provided in this paper brings out clearly is that mere postponing these critical investments only prolong the agony and get more expensive for the system to redress later. These are essential investments that are fundamental to a quality of life and there can be no two different opinions on the desirability or otherwise of the State's responsibility to provide them.

Part V: Recommendations for Consideration of FC

The Finance Commission has a responsibility to assist the states to provide comparable levels of services at comparable tax effort and to ensure provision of essential services. From this perspective, it is important that states with poor fiscal space be enabled to provide access to essential services with high nation-wide externalities as defined in the essential package. In other words, a citizen of a state cannot be penalized on grounds of circumstance of birth or residence. The state has a duty to equalize and provide uniform opportunity to all without discrimination. The entire concept of transfer of resources from a higher level of government to a lower level is precisely based on this premise. In other words, there has to be a purpose for a transfer mechanism and must be aimed to achieve certain development milestones within measurable time frames.

In this connection there are a few important issues related to the health sector that need careful consideration. As can be seen, under all three options, a disproportionately higher amount of funds have to be released to and utilized by the poorly performing states which are also those that have poor institutional capacity to absorb the funds. In some states, a health secretary also handles various unrelated departments. The departments themselves are weak and technical leadership in the directorates in several states poor, corrupt and politicized. Such states do not have HR policies in place, transfers are means of making money or used as punishment demoralizing the well performing personnel. States like Jharkhand that desperately need assistance, procurement systems and engineering staff to build up the health facilities are poor.

In addition to the poor institutional systems, other reasons that adversely impact on the absorption capacity are the system of financial releases. As noted earlier, for absorption, financial releases have to be timely and made predictable with a 3 month advance into the next financial year made available. This is very critical as, for example, it is these laggard states that account of more 80% of malaria and vector borne diseases that flare up during the monsoon season which calls for preparation before monsoon in April and May, the months when funds are not available. It is also useful in this regard for budgets related to sectors such as education and health that are time bound, being ring fenced by making a minimum floor of expenditures as given.

In so far as FC grants being recommended for the 14th FC are concerned, impact will only follow if the support is substantive and the funds are released well in time directly to the implementing agency. For assuring its utilization and quick absorption, it is suggested that a dedicated cell / committee be constituted in the Ministry of Health at the central and state levels to dovetail the amounts within the annual plan to be approved and follow up implementation and utilization, and submitting reports to the Finance Department. Releases of the last quarter of the departmental budgets may also be contingent on the progress achieved on the implementation of these schemes. Unless there is some seriousness provided to the implementation of the FC releases, mere sanction of funds will have no impact. The reason for poor implementation is partly on account of FC programmes treated in a routine manner by some functionary in the finance department who has no ownership and partly as the amounts are scattered over a wide variety of small schemes making impact assessment very difficult.

Based on such an understanding and in view of the evidence detailed in the previous paragraphs, the following recommendations are submitted for the consideration of the Finance Commission:

1. Financial Allocations for Health to States

Basically, there is no state in India having the capacity to provide comprehensive primary health care as per norms. Therefore, when words 'better' or 'lagging' are used, they are relative and contextual. In other words, judged from any standard norm, all are deficient. Yet, even within this race at the bottom, some states are lagging behind and require additional funding support – support just to reach the average mean and basics of life – clean air, clean water, toilets basic nutrition and basic care. In addition to the scenarios detailed above, the FC can also adopt three approaches to arrive at the financing package:

1. The cost of the total package can be expressed in terms of per capita and those falling under the national average be provided assistance upto 50% of the distance; or
2. Based on the total amount arrived at by calculating all the three categories and dividing that with the relevant state population, an actual requirement has been arrived at. Since the social and economic disparities, both in terms of resource availability and institutional capability is very high, regional averages have been arrived at and so the distance to the average mean can be a better target to aim for ; or

3. Finance the entire amount of the gap to have the 'big bang' effect and leap frog the development process. This will be possible only on condition that the institutional capacity of the lagging states/districts are substantially improved/ strengthened/ overhauled.

Besides funding, FC should also lay down certain norms as prerequisites for financial assistance for health. These norms would be helpful in the long run and can also be carried over by the Planning Commission while making plan releases:

1. By end of 14th FC, all states to spend 7% of their total government (revenue and capital) expenditure for health. For those states that are unable to do so, after taking into consideration their commitments, taxable capacities etc. FC may provide the gap to reach the target;

2. FC grant in aid be provided on a 50% and 75% sharing basis among the better off and the laggard group of states respectively. Such sharing will incentivize states to undertake detailed mapping exercises to justify the investment and a thorough review of the actual need and not population as the only rational measure to assess need and utilization. In so doing the states need to follow the two principles of differential planning as well as resource devolution to address the issues of inter and intra district inequalities and disparities. In other words, FC may consider providing the funding assistance directly, without intermediation of the state, to the 100 to 200 laggard districts that account for over three quarters of morbidity and mortality.

3. Undertake Institutional Reform through a set of actions: routing all central assistance through the treasury; funding posts for the next ten years so that qualified and trained staff for financial management can be appointed; provide for a rolling fund equivalent to three months of expenditures mandatorily available with the implementing agencies to ensure no disruption in the delivery of services. This is necessary as some disease outbreaks are seasonal making the financial cycles inappropriate. Overall, the financing systems that are more of an accounting nature need to be reformed appropriately to suit the specific needs of the health sector.

4. The Central Ministry and the States should be advised to build and expand their planning and monitoring capacity by creating posts to be filled with appropriately trained personnel. Likewise, special attention needs to be paid to states in building their capacity to build and maintain infrastructure and undertake procurement.

5. The FC funds must be monitored closely – preferably by an identified mechanism at the Ministry of Health to ensure timely implementation of the plans and achievement of the goals laid down. Either the funds need to be released and integrated with the health budgets or the FA who reports to the Ministry of Finance be made personally responsible for non utilization of the funds. The current position of approval, release and monitoring of implementation by the Ministry of Finance does not permit contextualization of the grants with the departmental concerns. In this regard, FC may also consider following the Australian example of having a permanent FC to ensure implementation of the finances devolved to the states are spent to achieve the stated goals.

6. State budgets need to be standardized and made available bilingually. With each state having their own definitions of terminology and classification of

expenditures, there is no harmonization. Bihar, for example, has no non plan component, making any analysis under plan and non plan meaningless. Secondly, the Ministry of Statistics/ Planning Commission/Finance should be assisted to bring out the National Health Accounts every year. The process can be started with a requirement to have all releases and expenditure details at district levels placed on the internet every year.

7. With the serious shortage of personnel well versed in public finance, action should be taken to build institutional capacities at the central and state levels to have more personnel trained in public health accounts with an understanding of budgets so that they can be appointed at all levels of health facilities. There is inaccurate data and data from different sources do not match. This has been worsened with the creation of societies and having the accounts audited by chartered accountants. Non availability of clean and accurate data on physical and financial parameters is a serious constraint on evidence based planning and effective decentralization.

2. FC Grants as Additionality, not Substitution of Existing Expenditures

The FC grants to be released will need to be incorporated as part of the annual plan prepared by the states that must clearly indicate health budgets to be 0.5% to 1% more than the previous year, so as to achieve 7% of total revenue expenditure of the state, by end of 2019. The baseline will need to the final expenditures incurred on health during the financial year 2014. FC grants may comprise 30% as additionality of the incremental increases year on year. To ensure that the fungibility of resources is not taken advantage of to divert the funds towards tertiary care and away from public goods basket, such increases will necessarily have to be only in the primary care sector of the health budget that must account for atleast 50% of the total health budget as a norm. Sounds complex but is not when actual numbers are worked out.

3. Resource Transfers as Incentives

The transfer mechanism can be viewed in two ways – one, as an incentive to fill gaps and enable states to bridge them by providing additional resources; and two, to utilize the instrumentality of the transfer mechanism as a stick for steering some ‘harmful’ policies towards a particular direction.

4. The Disincentives: Sale of Liquor and Tobacco

Providing resources to ‘improve’ peoples’ health alongside encouraging revenue earnings through excise sales of alcohol and tobacco may not help achieve the objective of healthy well being. There is adequate evidence that has shown a strong association between consumption of these products and ill health calling for strict

regulation by legal and fiscal means[39]. This issue was deliberated by the Vth . Finance Commission when states sought to be compensated for the revenue loss on account of banning the sales of these products.

The increasing burden of disease as well as health costs merit a relook at this discussion. Issue is whether states like TN or AP that earn huge excise incomes through sale of liquor should be discouraged through suitable compensation, to find some alternatives, or, disincentivized by deducting like amount from the overall amounts they would be eligible as central transfers. Or by perhaps having such revenues be pooled into a Health Stabilization Fund by making contributions proportional to revenues earned. The revenues earned by the Fund could then be spent on primary health care in the low performing states. Several countries like Thailand levy extra taxes (sin taxes) to deter consumption. However, higher prices can also result in a greater outgo of incomes of the poor and/ or more sickness, with the poor resorting to the more dangerous but cheaper substitutes like spurious liquor/ zarda and bidis.

The author is not competent to suggest the fiscal measures that could dis-incentivize states from pushing tobacco and alcohol sales beyond reasonable limits. But it is clear that so long as no action is taken to reduce consumption of alcohol, drugs, tobacco, junk foods and enforce traffic regulations, the mere increase in health budgets and insurance coverage will have a limited value.

5. Taxing Medical Tourism and Cross Subsidize Backward States

Very similar to this is also the option available for taxing hospitals accredited for medical tourism. Corporate hospital earnings are huge on account of medical tourism. Even if the additional tax is transferred to the foreign patient, it will not count for much as the prices being paid in India are 10-15% of what it would have cost for the same procedures in developed countries. With medical tourism at $2 billion and going towards $ 10 billion, and considering the hospital capacity (beds, doctors, nurses etc.) that are being diverted to cater to other nationals, money so earned by the ‘luxury service tax’ can go to augment the health budgets of the backward states.

Part V Conclusion

[39] The current policy environment in India regarding health is very similar to US. Even while we follow the US pattern of development, we need to realize that by 2030, it is projected that 30% of GDP will be spent on health in the US and in some states like California, health spending is almost touching 50% at the cost of education and other equally important developmental needs.

Due to the high degree of information asymmetry that characterizes the health sector, regulation through legal and financial instruments is the usual strategy that countries follow. Regulations regarding the qualifications and other prerequisite to practice or on technology and drug use etc. have however been found to be less effective as in the ultimate analysis, the patient – doctor relationship becomes dependent on factors like trust and faith. It is for this reason, that many countries have resorted to financial instruments to incentivize rational behavior by all stake holders on the demand and supply side. Monopolizing market power on behalf of the patients by the state (UK, Japan) is one such strategy to ensure both price control and the quality of services being provided.

India's public policy on health has been remarkable for the absence of any such deliberate policy aimed at either controlling price, regulating quality or enhancing outcomes. A weak infrastructure, poor enforcement of regulations related to the private sector and poor incentives structures have together created a dysfunctional and inequitable system where the poor are being denied care and shortchanged in terms of quality. Commercialization of health care has been at the cost of neglecting public health and infectious disease control as they carry little scope for making profits, making a compelling case for strong state intervention by substantially increasing public spending.

It is further argued that there is an urgent need to revisit accepted definitions of development on the one hand and the systems of transfer mechanisms on the other. Existing systems of resource transfers have failed to offset the disabilities of the disadvantaged states to address the unmet needs of health, education or basic goods, further exacerbated by the plan and non plan conundrum with the FC and PC applying different yardsticks. This too needs to be reviewed and commonality in the principles of devolution adopted so as to stimulate momentum in the implementation of policies.

What is needed is an equitable system of health care delivery that provides access irrespective of ability to pay or circumstance and equal opportunity to optimize ones' full potential. Clearly, argued on grounds of economics or ethics, the Finance Commission can no longer turn its back on the health sector on grounds of constitutional propriety.

ANNEXURE - 1

ACKNOWLEDGEMENTS

This paper has been written with the hope that it will be persuasive enough for the 14th Financial Commission to allocate substantial funds to the much neglected health sector to help the country achieve the basic goal of health and well being of its people.

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4. Dr. Rajendra Prasad, Joint Director, Directorate of Public Health
5. Mr. Siva Koteswara Rao, Chief Accounts Officer, Directorate of Public Health, AP
6. Mr. Rajendran, APSACS
7. Mr. N. Srinivasulu, Commisionerate of Health, AP
8. Dr. Ramakrishna, APSACS
9. Mr. Sreekala, Finance Controller, APSACS

Karnataka

1. Mr. Sindhusree, NRHM

Tamilnadu,

1. Ms. Nandini

1. Krishna Kumar
2. Mr. Gaurav Khasa
3. Ms. Meenakshi

Methodology for Collection and Analysis of Information

The methodology for collection and analysis of information of the study involved the following steps.

1. Development of Data Collection Forms.
2. Orientation of State Teams
3. Data Collection and Review
4. Data Analysis

I. Development of Data Collection Formats

Data Collection Formats were developed in line with the objectives of the study and the data requirements for answering key questions of the study. The Data Collection formats included the following tables:

1. **Table 1**: Revised Estimates (RE) and Accounts –State by Major Accounts. This included collection of information on Budget Estimates and Accounts of the State contribution by Major Heads - Revenue and Capital; and Plan and Non-Plan.
2. **Table 2**: Revised Estimates (RE) and Accounts –State Sector Wise. This included collection of information on Revised Estimates and Accounts in five sectors – Primary Care, Secondary Care, Tertiary Care, Medical Education, and Other Costs.
3. **Table 3:** This table had *four sub tables* for further analyzing the primary care expenditure on the detailed expenditure heads. The four *sub tables* are as follows.
    a. **Table 3a**: Accounts - State Primary Care including Disease Control: This table provides information on the detailed expenditures made on primary care and disease control contributed with resources from the State Government.
    b. **Table 3b**: Accounts - GoI Primary Care including Disease Control. This table provides information on the detailed expenditure made on primary care and disease control with resources from the Government of India under National Rural Health Mission (NRHM). The expenditure also includes the state contribution (0-15%) which cannot be separated from the GoI contribution as they are proportionate to expenditures made during the year against all activities under NRHM.
    c. **Table 3c:** Accounts - GoI NACP. This table provides information on the detailed expenditure made on HIV with resources from the Government of India (GoI) through the National AIDS Control Program (NACP).
    d. **Table 3d**: Accounts - State and GoI Total Primary Care and Disease Control. This table provides information on the detailed expenditure made on primary care and disease control made by the state through contribution

from the State Government as well as Government of India. This is the total cumulative expenditure of tables 3a, 3b and 3c.

4. **Table 4** Revised Budget and Accounts - Total Budget by Source of Funds: This included collection of information on Total Health expenditure by Source. The various sources included are State and Government of India - Centrally Sponsored Schemes, NRHM (including disease control).

Definition of Sectors

For the purpose of data analysis the sectors of health care have been defined as below.

a. ***Primary Care:*** All costs related to personnel, services and management of facilities that provide primary care. This includes community based services as well facility based services at Block and below levels. The facility expenditure that has been included is Community Health Centers (CHC), Primary Health Centers (PHC) and Sub Health Centers (SHC).

b. ***Secondary Care****:* All costs related to personnel, services and facilities that provide secondary care. This includes services provided at facilities located above Block level and includes facilities like Civil Hospitals and General Hospitals.

c. ***Tertiary Care:*** All costs related to personnel, services and facilities that provide tertiary care. This includes various Super Specialty Hospitals and Medical College Hospitals that provide specialized care.

d. ***Medical Education:*** All costs related to Medical Education, other than those included in tertiary care related to costs of medical college hospitals.

e. ***Other Costs:*** Secretariat Costs, Health Statistics, research, Evaluation, Drug testing, Food testing, and others which do not come under the above.

Definition of Detailed Heads for Expenditure

The detailed expenditure Heads and the definitions of the same are as follows.

a. **Salaries:** All Salaries, Contractual Employee Costs and Wages

b. **Office Expenses:** All costs related to office management and administration

c. **Drugs and Supplies:** All costs related to drugs, consumables and supplies

d. **Machinery and Equipment:** All costs related to machines and equipment purchased, including vehicles other than maintenance

e. **Scholarships and Stipends:** Any cost provided to staff or beneficiaries for pursuing academic studies.

f. **Major Works**: All costs related to construction of new buildings.

g. **Maintenance and Minor Works:** All costs related to maintain building, equipment and vehicles and also minor works related to repair and refurbishment of the same.

h. **Grant In Aid:** Grant in Aid provided to other Local Government Bodies (Panchayats, Zilla Parishads).

i. **Compensation:** All costs incurred on and ASHA and other Volunteers. This also includes incentives provided to clients for family planning, blood donation, etc.

j. **Other Works:** This includes any other costs including cost of training, EMRI services, Health Camps, etc.

II. Orientation of State Teams

The orientation of state teams was done using two methodologies.

a. For the non-Hindi speaking states data on Revised Budgets and Expenditures on State Contribution was collected using the Budget Books from National Institute of Public Finance and Policy (NIPF&P), Delhi and send to States for review and filling of additional information on Budgets and Expenditure for Government of India contribution.

b. For the Hindi speaking states from North and Central India an orientation workshop was done in the Ministry of Health and Family Welfare, New Delhi, where in 2 persons – one from Finance and other from programs - was provided a one day orientation on the data collection formats.

III. Data Collection and Review

The data collection was done by the respective state teams with support using the Revised Budgets and Expenditure information available for the years 2007-08 and 2011-12. This was an iterative process with the states teams consulting the Study Team for clarifications and finalization of Tables. The Final Tables submitted by the state teams and finalized by the Study Team were sent to the State Government for final review and confirmation of information submitted to the Study Team. At every stage of data collection, the State Secretaries of Health were kept directly informed.

Overall, data for 19 states[40] has been collected by the Study team in coordination with the State Governments. This includes 15 states which collected themselves and submitted after review for at least two financial years – 2007-08 and 2011-12. Four states (Goa, Maharashtra, Punjab and Kerala) did not submit the data completely and the Study Team had to get data from other sources – Budget Books for State contribution, Information as furnished by the concerned Directors of Finance of National Rural Health Mission (NRHM) and National AIDS Control Organization (NACO) under the Department of Health and Family Welfare of Government of India; and Reserve Bank of India website. The information on health expenditure for these

[40] Orissa, West Bengal, Goa, Gujarat, Maharashtra, Bihar, Chhattisgarh, Haryana, Himachal Pradesh, Jharkhand, Madhya Pradesh, Punjab, Rajasthan, Uttarakhand, Uttar Pradesh, Andhra Pradesh, Karnataka, Tamil Nadu and Kerala.

four states was collected for only one financial year (2011-12). For central sector schemes, the concerned Joint Secretaries in the MOHFW furnished the information.

IV. Data Analysis

The Data Analysis was done by the Study Teams using the following information

a. Health Expenditures information collected from the states as per the above methodology.

b. Information on Social Determinants like Population, rural-urban households, access to piped drinking water and household toilets from Census 2011; and malnourishment among children in age group 0-5 years from National Family Health Survey 2005-06.

c. Information on current status of health infrastructure and Indian Public Health Standards (IPHS) norms is collected from Rural Health Statistics 2012 published by Ministry of Health and Family, GoI. The estimated cost of various personnel and facilities for meeting IPHS norms has been collected using the unit costs of Andhra Pradesh State Government.

d. Information on Five Year Plan Expenditure and Outlays have been collected from Planning Commission of India website and publications.

The analysis of information included the following tables.

1. State-wise expenditures by Revenue and Capital for years 2008-09 and 2011-12
2. State-wise expenditures by Sector (Primary Care, Secondary Care, Tertiary Care, Medical Education, Other Health Costs) for years 2008-09 and 2011-12
3. State-wise expenditures by Detailed Head (Salaries, Supplies and Drugs, Major Works, Equipment, Incentives, Maintenance & Minor Works, Grant-in-Aid, Others) for years 2008-09 and 2011-12
4. State-wise expenditures by Source (State Government, and Central Government) for years 2008-09 and 2011-12
5. Gap and Resources required for access to Piped Drinking Water based on Census 2011 data
6. Gap and Resources required for access to Household Toilets based on Census 2011 data
7. Gap and Resources required for addressing malnourishment based on NFHS-3 data
8. Gap and Resources Required for improving Infrastructure using data on infrastructure and health personnel using Rural Health Statistics data and PIHS norms information
9. Per Capita Health Expenditure and Per Capita Expenditure against GDSP using the Health Expenditure information and GDSP data for 2011-12.

ANNEXURE – II

Appendix A: Panel Data MMR 2001-2012 : Live Births, Maternal Deaths, Maternal Mortality Ratio in India by State from

	2001-03					2004-06				
India & Major States	**Sample Female Population**	**Live Births**	**Maternal Deaths**	**MMR 2001-03**	**95% Confidence Interval**	**Sample Female Population**	**Live Births**	**Maternal Deaths**	**MMR 2004-06**	**95% Confidence Interval**
INDIA TOTAL	5,039,583	459,631	1383	301	(285-317)	5,348,441	436,648	1110	254	(239-269)
Assam	202,943	19,619	96	490	(393-588)	162,882	11,663	56	480	(355-606)
Bihar/Jharkhand	321,721	42,112	156	371	(313-430)	304,690	37,452	117	312	(256-369)
Madhya Pradesh/ Chhattisgarh	220,269	27,563	104	379	(306-452)	300,897	33,125	111	335	(273-397)
Orissa	254,176	20,914	75	358	(277-439)	256,956	21,118	64	303	(229-377)
Rajasthan	248,891	31,371	140	445	(371-519)	221,039	27,092	105	388	(314-462)
Uttar Pradesh/Uttaranchal	462,547	62,659	324	517	(461-573)	446,016	54,566	240	440	(384-495)
EAG AND ASSAM SUBTOTAL	1,710,547	204,238	895	438	(410-467)	1,692,480	185,016	693	375	(347-402)
Andhra Pradesh	251,511	19,152	37	195	(132-257)	321,615	22,660	35	154	(103-206)
Karnataka	299,571	24,875	57	228	(169-287)	363,162	23,949	51	213	(155-271)
Kerala	274,990	16,448	18	110	(59-161)	283,975	14,669	14	95	(45-145)
Tamil Nadu	298,726	19,689	26	134	(83-185)	380,146	22,511	25	111	(68-155)
SOUTH SUBTOTAL	1,124,798	80,164	139	173	(144-202)	1,348,898	83,789	125	149	(123-175)
Gujarat	219,783	21,220	37	172	(116-228)	269,499	25,075	40	160	(110-209)
Haryana	163,710	17,075	28	162	(102-223)	155,579	14,495	27	186	(116-256)
Maharashtra	266,750	20,982	31	149	(97-201)	312,853	22,362	29	130	(83-177)
Punjab	142,595	11,090	20	178	(100-257)	182,169	12,991	25	192	(117-268)
West Bengal	390,702	29,972	58	194	(144-243)	442,177	31,204	44	141	(99-183)
Other	1,020,698	74,890	176	235	(200-269)	944,786	61,716	127	206	(170-242)
OTHERS SUBTOTAL	2,204,238	175,229	349	199	(178-220)	2,307,063	167,843	292	174	(154-194)

Source: Registrar General of India, Ministry of Home Affairs (SRS Estimates)

Appendix A: Live Births, Maternal Deaths, Maternal Mortality Ratio in India by State from

2001-2003, 2004-06, 2007-09 Special Survey of Deaths													
	2007-09					**2010-12**					**Drop in MMR (2001-03)-(2004-06)**	**Drop in MMR (2004-06)-(2007-09)**	**Drop in MMR (2007-09)-(2010-12)**
India & Major States	**Sample Female Population**	**Live Births**	**Maternal Deaths**	**MMR 2007-09**	**95% Confidence Interval**	**Sample Female Population**	**Live Births**	**Maternal Deaths**	**MMR 2010-12**	**95% Confidence Interval**			
INDIA TOTAL	5,678,691	436,411	926	212	(198-226)	6169091	430170	767	178	(166-191)	47	42	34
Assam	174,250	12,303	48	390	(280-500)	195275	12811	42	328	(229-427)	10	90	62
Bihar/Jharkhand	331,294	38,096	100	261	(210-313)	371114	38549	84	219	(172-266)	59	51	42
Madhya Pradesh/ Chhattisgarh	323,937	33,041	89	269	(213-325)	353851	32533	75	230	(178-282)	44	66	39
Orissa	272,797	20,616	53	258	(189-327)	293129	19981	47	235	(168-302)	55	45	23
Rajasthan	241,249	27,277	87	318	(251-384)	269335	26702	68	255	(194-315)	57	70	63
Uttar Pradesh/Uttaranchal	484,847	54,039	194	359	(308-409)	542640	53194	156	292	(247-338)	77	81	67
EAG AND ASSAM SUBTOTAL	1,828,374	185,372	570	308	(282-333)	2025344	183770	472	257	(234-280)	63	67	51
Andhra Pradesh	340,520	23,003	31	134	(87-182)	357699	22427	25	110	(67-153)	41	20	24
Karnataka	376,272	22,889	41	178	(124-233)	390941	21909	32	144	(94-194)	15	35	34
Kerala	287,854	14,624	12	81	(35-127)	305268	15351	10	66	(25-106)	15	14	15
Tamil Nadu	388,462	22,262	22	97	(56-138)	410769	22622	20	90	(51-130)	23	14	7
SOUTH SUBTOTAL	1,393,108	82,778	105	127	(103-151)	1464677	82309	87	105	(83-128)	24	22	22
Gujarat	280,969	24,435	36	148	(100-196)	301207	23552	29	122	(77-166)	12	12	26
Haryana	165,619	14,594	22	153	(90-217)	179220	14243	21	146	(83-209)	-24	33	7
Maharashtra	323,812	21,715	23	104	(61-146)	342534	20684	18	87	(47-127)	19	26	17
Punjab	193,705	12,691	22	172	(100-244)	206148	11988	19	155	(85-226)	-14	20	17
West Bengal	476,579	30,291	44	145	(102-188)	526090	29682	35	117	(78-156)	53	-4	28
Other	1,016,525	64,535	104	160	(130-191)	1123871	63942	87	136	(108-165)	29	46	24
OTHERS SUBTOTAL	2,457,209	168,261	250	149	(130-167)	2679070	164091	208	127	(110-144)	25	25	22

Source: Registrar General of India, Ministry of Home Affairs (SRS Estimates)

Appendix –B Panel Data for IMR 2001-2012

Sl. No.	India/Major States	Infant Mortality Rate (Pre-NRHM)																	
		Total					Decrease in IMR value (from 2001 to 2005)	Rural					Decrease in IMR value (from 2001 to 2005)	Urban					Decrease in IMR value (from 2001 to 2005)
		2001	2002	2003	2004	2005		2001	2002	2003	2004	2005		2001	2002	2003	2004	2005	
	INDIA	**66**	**63**	**60**	**58**	**58**	**8**	**72**	**69**	**66**	**64**	**64**	**8**	**42**	**40**	**38**	**40**	**40**	**2**
1.	Andhra Pradesh	66	62	59	59	57	**9**	74	71	67	65	63	**11**	40	35	33	39	39	**1**
2.	Assam	74	70	67	66	68	**6**	77	73	70	69	71	**6**	34	38	35	38	39	**-5**
3.	Bihar	62	61	60	61	61	**1**	63	62	62	63	62	**1**	52	50	49	47	47	**5**
4.	Chhatisgarh				60	63					61	65					52	52	
5.	Delhi				32	35					48	64					30	33	
6.	Gujarat	60	60	57	53	54	**6**	68	68	65	62	63	**5**	42	37	36	38	37	**5**
7.	Haryana	66	62	59	61	60	**6**	68	64	61	66	64	**4**	55	51	49	47	45	**10**
8.	Himachal Pradesh	43	61	42	51	49	**-6**	44	63	44	54	50	**-6**	21	28	18	15	20	**1**
9.	J & K				49	50					51	53					37	39	
10.	Jharkhand				49	50					51	53					34	33	
11.	Karnataka	58	55	52	49	50	**8**	69	65	61	54	54	**15**	26	25	24	38	39	**-13**
12.	Kerala	11	10	11	12	14	**-3**	12	11	12	13	15	**-3**	9	8	10	9	12	**-3**
13.	Madhya Pradesh	86	85	82	79	76	**10**	92	89	86	84	80	**12**	53	56	55	56	54	**-1**
14.	Maharastra	45	45	42	36	36	**9**	55	52	48	42	41	**14**	28	34	32	27	27	**1**
15.	Orissa	91	87	83	77	75	**16**	94	90	86	80	78	**16**	61	56	55	58	55	**6**
16.	Punjab	52	51	49	45	44	**8**	55	55	53	50	49	**6**	37	35	34	36	37	**0**
17.	Rajasthan	80	78	75	67	68	**12**	84	81	78	74	75	**9**	57	55	53	42	43	**14**
18.	Tamil Nadu	49	44	43	41	37	**12**	55	50	48	45	39	**16**	35	32	31	35	34	**1**
19.	Uttar Pradesh	83	80	76	72	73	**10**	86	83	79	75	77	**9**	62	58	55	53	54	**8**
20.	West Bengal	51	49	46	40	38	**13**	54	52	48	42	40	**14**	37	36	34	32	31	**6**

Source: Sample Registration System, Registrar General, India.

Note: A negative value in decrease shows that IMR has increased in that particular State

Appendix B Panel Data for IMR 2001-2012

Sl. No.	India/Major States	Infant Mortality Rate (Post-NRHM)								Decrease in IMR value (from 2005 to 2009)	Decrease in IMR value (from 2009 to 2012)
		Total									
		2005	2006	2007	2008	2009	2010	2011	2012		
	INDIA	**58**	**57**	**55**	**53**	**50**	**47**	**44**	**42**	**8**	**8**
1.	Andhra Pradesh	57	56	54	52	49	46	43	41	**8**	**8**
2.	Assam	68	67	66	64	61	58	55	55	**7**	**6**
3.	Bihar	61	60	58	56	52	48	44	43	**9**	**9**
4.	Chhatisgarh	63	61	59	57	54	51	48	47	**9**	**7**
5.	Delhi	35	37	36	35	33	30	28	25	**2**	**8**
6.	Gujarat	54	53	52	50	48	44	41	38	**6**	**10**
7.	Haryana	60	57	55	54	51	48	44	42	**9**	**9**
8.	Himachal Pradesh	49	50	47	44	45	40	38	36	**4**	**9**
9.	Jammu & Kashmir	50	52	51	49	45	43	41	39	**5**	**6**
10.	Jharkhand	50	49	48	46	44	42	39	38	**6**	**6**
11.	Karnataka	50	48	47	45	41	38	35	32	**9**	**9**
12.	Kerala	14	15	13	12	12	13	12	12	**2**	**0**
13.	Madhya Pradesh	76	74	72	70	67	62	59	56	**9**	**11**
14.	Maharastra	36	35	34	33	31	28	25	25	**5**	**6**
15.	Orissa	75	73	71	69	65	61	57	53	**10**	**12**
16.	Punjab	44	44	43	41	38	34	30	28	**6**	**10**
17.	Rajasthan	68	67	65	63	59	55	52	49	**9**	**10**
18.	Tamil Nadu	37	37	35	31	28	24	22	21	**9**	**7**
19.	Uttar Pradesh	73	71	69	67	63	61	57	53	**10**	**10**
20.	West Bengal	38	38	37	35	33	31	32	32	**5**	**1**

Appendix B Panel Data for IMR 2001-2012

Sl. No.	India/Major States	Infant Mortality Rate (Post-NRHM)								Decrease in IMR value (from 2005 to 2009)	Decrease in IMR value (from 2009 to 2012)
		Rural									
		2005	2006	2007	2008	2009	2010	2011	2012		
	INDIA	**64**	**62**	**61**	**58**	**55**	**51**	**48**	**46**	**9**	**9**
1.	Andhra Pradesh	63	62	60	58	54	51	47	46	**9**	**8**
2.	Assam	71	70	68	66	64	60	58	58	**7**	**6**
3.	Bihar	62	62	59	57	53	49	45	44	**9**	**9**
4.	Chhatisgarh	65	62	61	59	55	52	49	48	**10**	**7**
5.	Delhi	64	42	41	40	40	37	36	36	**24**	**4**
6.	Gujarat	63	62	60	58	55	51	48	45	**8**	**10**
7.	Haryana	64	62	60	58	54	51	48	46	**10**	**8**
8.	Himachal Pradesh	50	52	49	45	46	41	38	37	**4**	**9**
9.	Jammu & Kashmir	53	54	53	51	48	45	43	41	**5**	**7**
10.	Jharkhand	53	52	51	49	46	44	41	39	**7**	**7**
11.	Karnataka	54	53	52	50	47	43	39	36	**7**	**11**
12.	Kerala	15	16	14	12	12	14	13	13	**3**	**-1**
13.	Madhya Pradesh	80	79	77	75	72	67	63	60	**8**	**12**
14.	Maharastra	41	42	41	40	37	34	30	30	**4**	**7**
15.	Orissa	78	76	73	71	68	63	58	55	**10**	**13**
16.	Punjab	49	48	47	45	42	37	33	30	**7**	**12**
17.	Rajasthan	75	74	72	69	65	61	57	54	**10**	**11**
18.	Tamil Nadu	39	39	38	34	30	25	24	24	**9**	**6**
19.	Uttar Pradesh	77	75	72	70	66	64	60	56	**11**	**10**
20.	West Bengal	40	40	39	37	34	32	33	33	**6**	**1**

Appendix B Panel Data for IMR 2001-2012

Sl. No.	India/Major States	Infant Mortality Rate (Post-NRHM)								Decrease in IMR value (from 2005 to 2009)	Decrease in IMR value (from 2009 to 2012)
		Urban									
		2005	2006	2007	2008	2009	2010	2011	2012		
	INDIA	**40**	**39**	**37**	**36**	**34**	**31**	**29**	**28**	**6**	**6**
1.	Andhra Pradesh	39	38	37	36	35	33	31	30	**4**	**5**
2.	Assam	39	42	41	39	37	36	34	33	**2**	**4**
3.	Bihar	47	45	44	42	40	38	34	34	**7**	**6**
4.	Chhatisgarh	52	50	49	48	47	44	41	39	**5**	**8**
5.	Delhi	33	36	35	34	31	29	26	23	**2**	**8**
6.	Gujarat	37	37	36	35	33	30	27	24	**4**	**9**
7.	Haryana	45	45	44	43	41	38	35	33	**4**	**8**
8.	Himachal Pradesh	20	26	25	27	28	29	28	25	**-8**	**3**
9.	Jammu & Kashmir	39	38	38	37	34	32	28	28	**5**	**6**
10.	Jharkhand	33	32	31	32	30	30	28	27	**3**	**3**
11.	Karnataka	39	36	35	33	31	28	26	25	**8**	**6**
12.	Kerala	12	12	10	10	11	10	9	9	**1**	**2**
13.	Madhya Pradesh	54	52	50	48	45	42	39	37	**9**	**8**
14.	Maharastra	27	26	24	23	22	20	17	17	**5**	**5**
15.	Orissa	55	53	52	49	46	43	40	39	**9**	**7**
16.	Punjab	37	36	35	33	31	28	25	24	**6**	**7**
17.	Rajasthan	43	41	40	38	35	31	32	31	**8**	**4**
18.	Tamil Nadu	34	33	31	28	26	22	19	18	**8**	**8**
19.	Uttar Pradesh	54	53	51	49	47	44	41	39	**7**	**8**
20.	West Bengal	31	29	29	29	27	25	26	26	**4**	**1**

Table 11: Public and Private Expenditure on Health by States & Union Territories 2004-05

Sl. No.	State/UT	Expenditure (in Rs 000)			Expenditure (in Rs)		In %	
		Public Expenditure	Private Expenditure	Total Expenditure	Per Capita Public	Per Capita Private	Public Exp. as share of GSDP	Public Exp as Share of State Expenditure
	1	2	3	4	5	6	7	8
1	Andhra Pradesh	15,166,809	69,133,745	84,300,554	191	870	0.72	3.22
2	Arunachal Pradesh	965,753	704,270	1,670,023	841	613	3.46	4.63
3	Assam	4,546,276	17,217,791	21,764,067	162	612	0.86	3.08
4	Bihar	8,264,168	37,256,449	45,520,617	93	420	1.12	4.12
5	Chattisgarh	3,231,005	13,830,517	17,061,522	146	626	0.7	3.35
6	Goa	1,229,966	2,053,843	3,283,809	861	1437	1.07	4.84
7	Gujarat	10,673,668	40,606,301	51,279,969	198	755	0.57	3.06
8	Haryana	4,609,237	19,866,486	24,475,723	203	875	0.49	3.19
9	Himachal Pradesh	4,003,601	5,598,467	9,602,068	630	881	1.74	4.98
10	Jammu & Kashmir	5,489,206	5,238,474	10,727,680	512	489	2.26	4.93
11	Jharkhand	4,452,383	9,902,296	14,354,679	155	345	0.78	3.83
12	Karnataka	12,901,254	33,041,496	45,942,750	233	597	0.87	3.77
13	Kerala	9,431,012	87,545,011	96,976,023	287	2663	0.88	4.65
14	Madhya Pradesh	9,375,858	41,694,492	51,070,350	145	644	0.87	3.19
15	Maharashtra	20,900,906	103,402,991	124,303,897	204	1008	0.55	2.88
16	Manipur	667,254	859,204	1,526,458	294	379	1.32	2.57
17	Meghalaya	1,043,636	1,125,015	2,168,651	430	464	1.75	5.04
18	Mizoram	805,874	247,185	1,053,059	867	266	3.28	4.43
19	Nagaland	1,330,660	375,247	1,705,907	639	180	2.49	5.85
20	Orissa	7,010,724	27,553,390	34,564,114	183	719	0.98	4.41
21	Punjab	6,322,375	28,456,190	34,778,565	247	1112	0.65	3.01
22	Rajasthan	11,283,333	34,868,833	46,152,166	186	575	0.98	3.9
23	Sikkim	612,475	240,773	853,248	1082	425	3.82	2.83
24	Tamil Nadu	14,334,228	66,562,101	80,896,329	223	1033	0.71	3.43
25	Tripura	1,097,598	3,877,742	4,975,340	328	1158	1.32	3.68
26	Uttar Pradesh	22,805,122	151,006,063	173,811,185	128	846	0.92	3.86
27	Uttarakhand	2,520,531	4,852,994	7,373,525	280	538	1.11	3.96
28	West Bengal	14,485,984	91,102,485	105,588,469	173	1086	0.69	4.32
29	A & N Islands	508,887	328,719	837,606	1275	824	NA	NA
30	Chandigarh	72,381	560,784	633,165	71	547	NA	NA

Sl. No.	State/UT	Expenditure (in Rs 000)			Expenditure (in Rs)		In %	
		Public Expenditure	Private Expenditure	Total Per Capita Expenditure	Per Capita Public	Per Capita Private	Public Exp. as share of GSDP	Public Exp as Share of State Expenditure
	1	2	3	4	5	6	7	8
				234,020	328	623	NA	NA
32	Daman & Diu	78,236	60,441	138,677	389	301	NA	NA
33	Delhi	8,618,674	2,614,528	11,233,202	560	170	0.94	-
34	Lakshwadeep	837,538	86,608	924,146	11965	1237	NA	NA
35	Pondicherry	1,051,023	1,699,652	2,750,675	1014	1639	2.02	-
	India	**263,132,133**	**1,044,135,932**	**1,307,268,065**	**242**	**959**	**NA**	**NA**

Source: National Health Profile 2009

Table V: Maternal Mortality Ratio in India by State

India & Major States	MMR 2001-03	MMR 2004-06	MMR 2007-09	MMR 2010-12	Drop in MMR (2001-03)-(2004-06)	Drop in MMR (2004-06)-(2007-09)	Drop in MMR (2007-09)-(2010-12)
INDIA TOTAL	301	254	212	178	47	42	34
Assam	490	480	390	328	10	90	62
Bihar/Jharkhand	371	312	261	219	59	51	42
Madhya Pradesh/ Chhattisgarh	379	335	269	230	44	66	39
Orissa	358	303	258	235	55	45	23
Rajasthan	445	388	318	255	57	70	63
Uttar Pradesh/ Uttaranchal	517	440	359	292	77	81	67
EAG AND ASSAM SUBTOTAL	438	375	308	257	63	67	51
Andhra Pradesh	195	154	134	110	41	20	24
Karnataka	228	213	178	144	15	35	34
Kerala	110	95	81	66	15	14	15
Tamil Nadu	134	111	97	90	23	14	7
SOUTH SUBTOTAL	173	149	127	105	24	22	22
Gujarat	172	160	148	122	12	12	26
Haryana	162	186	153	146	-24	33	7
Maharashtra	149	130	104	87	19	26	17
Punjab	178	192	172	155	-14	20	17
West Bengal	194	141	145	117	53	-4	28
Other	235	206	160	136	29	46	24
OTHERS SUBTOTAL	199	174	149	127	25	25	22

Source: Registrar General of India, Ministry of Home Affairs (SRS Estimates)

Table VIII : Percentage Share of access to Water and Sanitation by Household

States and Region	% Housheolds access to Piped Drinking Water			% Households Access to Toilets		
	Total	Rural	Total	Total	Rural	Total
Odisha	14%	7%	48%	22%	14%	65%
West Bengal	25%	11%	56%	59%	47%	85%
Sub Total	22%	10%	54%			
Goa	85%	78%	90%	80%	71%	85%
Gujarat	69%	56%	86%	57%	33%	88%
Maharashtra	68%	50%	89%	53%	38%	71%
Bihar	4%	3%	20%	23%	18%	69%
Chhattisgarh	21%	9%	62%	25%	15%	60%
Haryana	69%	64%	78%	69%	56%	90%
Himachal Pradesh	89%	89%	96%	69%	67%	89%
Jharkhand	13%	4%	42%	22%	8%	67%
Madhya Pradesh	23%	10%	62%	29%	13%	74%
Punjab	51%	35%	76%	79%	70%	93%
Rajasthan	41%	27%	83%	35%	20%	82%
Uttar Pradesh	27%	20%	52%	36%	22%	83%
Uttarakhand	68%	64%	78%	66%	54%	94%
Andhra Pradesh	70%	63%	83%	50%	32%	86%
Karnataka	66%	56%	80%	51%	28%	85%
Kerala	29%	24%	35%	95%	93%	97%
Tamil Nadu	80%	79%	80%	48%	23%	75%
India	44%	31%	71%	47%	31%	81%

Table X: Per Capita Health Spending on Health and Primary Care for 2011-12 in Current and 2004-5 Prices

State and Year	Total Popula-tion/Cr	Popula-tion Rural/Cr	Total Health Expen-ses	Primary Care Expen-ses	Total Per Capita Health Expenditure in Rs.	Total Per Capita Primary Care Expenditure in Rs.	Total Per Capita Health Expenditure in Rs. 2004-05 prices	Total Per Capita Primary Care Expenditure in Rs./ 2004-05 prices	Total Per Capita Health Expenditure during 2004-05/Rs
EAST REGION									
Orissa	4.1	3.5	1849	727	451	208	273	142	191
West Bengal	9.1	6.2	4327	1827	476	295	297	200	173
Sub Total	13.2	9.7	6,176	2,554	468	263	285	171	
WEST REGION									
Goa	0.14	0.06	416	160	2971	2667	1918	1721	560
Gujarat	6	3.5	4039	2115	673	604	439	445	198
Maharashtra	11.2	6.1	6899	3883	616	637	395	453	204
Sub Total	17.34	9.66	11,354	6,158	655	637	917		
Only MH+GUJ							417	449	
NORTH REGION									
Bihar	10.4	9.2	3228	1982	310	215	182	157	93
Chattisgarh	2.5	2	1501	805	601	403	364	305	146
Haryana	2.5	1.6	1514	958	606	599	353	372	203
Himachal Pradesh	0.68	0.6	1004	509	1476	848	970	669	630
Jharkhand	3.2	2.5	1402	826	438	330	307	200	155
Madhya Pradesh	7.2	5.25	3631	1772	504	338	328	262	145
Punjab	2.8	1.7	1959	1143	700	672	422	406	247
Rajasthan	6.8	5.15	3776	1768	555	343	304	225	186
Uttar Pradesh	19.9	15.5	7219	3999	363	258	224	189	128
Uttarakhand	1	0.7	840	558	840	797	528	557	280
Sub Total	56.98	44.2	26,075	14,320	458	324	310	264	
Incl Utt and HP							398		
SOUTH REGION									
Andhra Pradesh	8.4	5.6	5538	2521	659	450	408	283	191
Karnataka	6.1	3.75	4628	1419	759	378	469	258	233
Kerala	3.3	1.74	1395	766	423	440	282	222	287
Tamilnadu	7.2	3.7	5247	2856	729	772	475	532	223
Sub Total	25	14.79	16,808	7,562	672	511	408	324	
All States	112.52	78.35	60,412	30,594	537	390	411	374	
All India(GOI+State)	121	83.3	70112		579				242

Table XI: State-wise Total Health Expenditure by Source - 2007-08 and 2011-12 (in crores)

State and Year	State		CSS - GoI		NRHM & NACP - GOI		RSBY-GoI		Others		Total	% against all States
	Exp	%	Exp	%	Exp	%	Exp	%	Exp	%	Exp	
EAST REGION												
Odissa**												
2007-2008	603	79%	3	0%	154	20%	0	0%	0	0%	760	3%
2011-2012	1,162	63%	185	10%	498	27%	4	0%	0	0%	1,849	3%
West Bengal**												
2007-2008	1,581	91%	5	0%	154	9%	0	0%	0	0%	1,740	7%
2011-2012	3,502	81%	21	0%	640	15%	164	4%	0	0%	4,327	7%
Sub Total												
2007-2008	2,184	87%	8	0%	308	12%	0	0%	0	0%	2,500	10%
2011-2012	4,664	76%	206	3%	1,138	18%	168	3%	0	0%	6,176	10%
WEST REGION												
Goa**												
2007-2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2011-2012	392	94%	1	0%	23	6%	0	0%	0	0%	416	1%
Gujrat												
2007-2008	1,299	80%	112	7%	213	13%	0	0%	0	0%	1,624	7%
2011-2012	3,126	77%	277	7%	524	13%	112	3%	0	0%	4,039	7%
MAHARASHTRA												
2007-2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2011-2012	4,783	69%	517	7%	1,539	22%	60	1%		0%	6,899	11%
Sub Total												
2007-2008	1,299	80%	112	7%	213	13%	0	0%	0	0%	1,624	7%
2011-2012	8,301	73%	795	7%	2,086	18%	172	2%	0	0%	11,354	19%
NORTH REGION												
Bihar**												
2008-2009*	950	55%	2	0%	783	45%	0	0%	0	0%	1,735	**7%**
2011-2012	2,177	67%	16	0%	885	27%	150	5%	0	0%	3,228	**5%**

Table XI: State-wise Total Health Expenditure by Source - 2007-08 and 2011-12 (in crores)

State and Year	State		CSS - GoI		NRHM & NACP - GOI		RSBY-GoI		Others		Total	% against all States
	Exp	%	Exp	%	Exp	%	Exp	%	Exp	%	Exp	
Chattisgarh												
2007-2008	387	67%	80	14%	104	18%	0	0%	9	2%	580	**2%**
2011-2012	919	61%	130	9%	337	22%	69	5%	46	3%	1,501	**2%**
Haryana**												
2007-2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**NA**
2011-2012	1,142	75%	127	8%	218	14%	27	2%	0	0%	1,514	**3%**
Himachal Pradesh												
2007-2008	321	82%	41	10%	22	6%	0	0%	6	2%	390	**2%**
2011-2012	913	91%	18	2%	63	6%	6	1%	4	0%	1,004	**2%**
Jharkhand												
2007-2008	514	86%	9	1%	78	13%	0	0%	0	0%	601	**2%**
2011-2012	964	69%	71	5%	343	24%	24	2%	0	0%	1,402	**2%**
Madhya Pradesh***												
2007-2008	1,128	64%	165	9%	473	27%	0	0%	0	0%	1,766	**7%**
2011-2012	2,572	71%	343	9%	716	20%	0	0%	0	0%	3,631	**6%**
Punjab												
2007-2008	723	86%	61	7%	57	7%	0	0%	0	0%	841	**3%**
2011-2012	1,535	78%	138	7%	281	14%	5	0%	0	0%	1,959	**3%**
Rajasthan												
2007-2008	1,336	71%	178	9%	359	19%	0	0%	0	0%	1,873	**8%**
2011-2012	2,640	70%	362	10%	774	20%	0	0%	0	0%	3,776	**6%**
Uttar Pradesh**												
2007-2008	3,765	86%	23	1%	579	13%	0	0%	0	0%	4,367	**18%**
2011-2012	5,950	82%	21	0%	1,056	15%	192	3%	0	0%	7,219	**12%**
Uttarakhand**												
2007-2008	319	87%	1	0%	45	12%	0	0%	0	0%	365	**2%**
2011-2012	686	82%	6	1%	141	17%	7	1%	0	0%	840	**1%**
Sub Total												
2007-2008	**9,443**	**75%**	**558**	**4%**	**2,500**	**20%**	**0**	**0%**	**15**	**0%**	**12,516**	**52%**

Table XI: State-wise Total Health Expenditure by Source - 2007-08 and 2011-12 (in crores)

State and Year	State		CSS - GoI		NRHM & NACP - GOI		RSBY-GoI		Others		Total	% against all States
	Exp	%	Exp	%	Exp	%	Exp	%	Exp	%	Exp	
2011-2012	**19,498**	**75%**	**1,232**	**5%**	**4,814**	**18%**	**480**	**2%**	**50**	**0%**	**26,075**	**43%**
SOUTH REGION												
Andhra Pradesh												
2007-2008	2,333	81%	217	8%	331	11%	0	0%	0	0%	2,881	**12%**
2011-2012	4,635	84%	381	7%	522	9%	0	0%	0	0%	5,538	**9%**
Karnataka												
2007-2008	1,836	76%	134	6%	396	16%	0	0%	64	3%	2,430	**10%**
2011-2012	3,317	72%	225	5%	1,025	22%	1	0%	60	1%	4,628	**8%**
Kerala												
2007-2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**NA**
2011-2012	1,065	76%	30	2%	234	17%	66	5%	0	0%	1,395	**2%**
Tamilnadu												
2007-2008	1,818	79%	244	11%	246	11%	0	0%	0	0%	2,308	**10%**
2011-2012	4,262	81%	522	10%	463	9%	0	0%	0	0%	5,247	**9%**
Sub Total												
2007-2008	**5,987**	**79%**	**595**	**8%**	**973**	**13%**	**0**	**0%**	**64**	**1%**	**7,619**	**31%**
2011-2012	**13,279**	**79%**	**1,158**	**7%**	**2,244**	**13%**	**67**	**0%**	**60**	**0%**	**16,808**	**28%**
All States												
2007-2008	**18,913**	**78%**	**1,274**	**5%**	**3,994**	**16%**	**0**	**0%**	**79**	**0%**	**24,260**	**100%**
2011-2012	**45,743**	**76%**	**2,228**	**4%**	**10,282**	**17%**	**887**	**1%**	**110**	**0%**	**60,412**	**100%**

* Expenses are for Year 2008-2009 as those for 2007-2008 are not available

** Total expenses do not include that on Medical Education and hence the percentages may be on higher side

** Total expenses do not include that on Medical Education for 2007-2008 and the same for 2011-20012 have been taken as differential to Total Budget from that given on RBI website

*** Total Expenses may include expenses from Central Sponsored Scheme (CSS) under FW (2211)

Source: All data submitted by States except for Goa, Punjab and Maharashtra, which have been taken from Budget Books and records of GoI.

Source: Goa, and Maharashtra Information on State Budgets from State Budget Books for 2011-12 and information from GoI on Central contributions to state.

Source: Punjab Information on State Budgets from RBI website for 2011-12 and information from GoI on Central contributions to state.

Table XII: State-wise Total Health Expenditure by Level of Care :2007-08 and 2011-2012 (in crores)

Region and State	Primary Care		Secondary Care		Tertiary Care & Medical Education		Others		Total	% against all States
	Exp	%	Exp	%	Exp	%	Exp	%	Exp	
EAST INDIA										
Odissa										
2007-2008	269	36%	71	9%	153	20%	257	34%	750	3%
2011-2012	727	44%	143	9%	305	19%	468	28%	1,643	3%
West Bengal										
2007-2008	666	40%	798	48%	176	10%	37	2%	1,677	7%
2011-2012	1,827	44%	1,713	42%	562	14%	10	0%	4,112	7%
Sub Total										
2007-2008	935	39%	869	36%	329	14%	294	12%	2,427	10%
2011-2012	2,554	44%	1,856	32%	867	15%	478	8%	5,755	10%
WEST INDIA										
Goa										
2007-2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2011-2012	160	39%	137	33%	99	24%	19	5%	415	1%
Gujrat										
2007-2008	922	57%	185	11%	434	27%	76	5%	1,617	7%
2011-2012	2,115	54%	470	12%	1,189	31%	124	3%	3,898	7%
Maharashtra****										
2007-2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2011-2012	3,883	66%	243	4%	1,059	18%	707	12%	5,892	11%
Sub Total										
2007-2008	922	57%	185	11%	434	27%	76	5%	1,617	3%
2011-2012	6,158	60%	850	8%	2,347	23%	850	8%	10,205	18%
NORTH INDIA										
Bihar										
2008-2009*	1,432	85%	42	3%	181	11%	20	1%	1,675	7%
2011-2012	1,982	68%	202	7%	660	23%	77	3%	2,921	5%
Chattisgarh										

Table XII: State-wise Total Health Expenditure by Level of Care :2007-08 and 2011-2012 (in crores)

Region and State	Primary Care		Secondary Care		Tertiary Care & Medical Education		Others		Total	% against all States
	Exp	%	Exp	%	Exp	%	Exp	%	Exp	
2007-2008	347	61%	59	10%	76	13%	90	16%	572	2%
2011-2012	805	58%	105	8%	178	13%	311	22%	1,399	3%
Haryana****										
2007-2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2011-2012	958	65%	13	1%	288	20%	207	14%	1,466	3%
Himachal Pradesh										
2007-2008	226	70%	89	28%	6	2%	0	0%	321	1%
2011-2012	509	61%	154	19%	156	19%	10	1%	829	1%
Jharkhand										
2007-2008	391	68%	66	12%	105	18%	11	2%	573	2%
2011-2012	826	61%	135	10%	241	18%	163	12%	1,365	2%
Madhya Pradesh**										
2007-2008	1,089	62%	173	10%	309	18%	191	11%	1,762	8%
2011-2012	1,772	51%	445	13%	926	26%	358	10%	3,501	6%
Punjab										
2007-2008	449	54%	150	18%	139	17%	101	12%	839	4%
2011-2012	1,143	59%	312	16%	288	15%	198	10%	1,941	3%
Rajasthan										
2007-2008	920	50%	103	6%	511	28%	324	17%	1,858	8%
2011-2012	1,768	47%	361	10%	870	23%	754	20%	3,753	7%
Uttarakhand										
2007-2008	215	59%	88	24%	42	12%	19	5%	364	2%
2011-2012	558	62%	138	15%	143	16%	64	7%	903	2%
Uttar Pradesh										
2007-2008	2,323	56%	827	20%	952	23%	49	1%	4,151	18%
2011-2012	3,999	60%	1,190	18%	1,460	22%	49	1%	6,698	12%
Sub Total										
2007-2008	7,392	61%	1,597	13%	2,321	19%	805	7%	12,115	52%

Table XII: State-wise Total Health Expenditure by Level of Care :2007-08 and 2011-2012 (in crores)

Region and State	Primary Care		Secondary Care		Tertiary Care & Medical Education		Others		Total	% against all States
	Exp	%	Exp	%	Exp	%	Exp	%	Exp	
2011-2012	14,320	58%	3,055	12%	5,210	21%	2,191	9%	24,776	44%
SOUTH INDIA										
Andhra Pradesh										
2007-2008	1,509	53%	345	12%	677	24%	328	11%	2,859	12%
2011-2012	2,521	46%	499	9%	2,118	38%	364	7%	5,502	10%
Karnataka										
2007-2008	918	47%	354	18%	693	35%	7	0%	1,972	8%
2011-2012	1,419	42%	615	18%	1,345	40%	5	0%	3,384	6%
Kerala										
2007-2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2011-2012	766	75%	145	14%	95	9%	13	1%	1,019	2%
Tamilnadu										
2007-2008	1,344	58%	103	4%	594	26%	262	11%	2,303	10%
2011-2012	2,856	54%	188	4%	1,312	25%	906	17%	5,262	9%
Sub Total										
2007-2008	3,771	53%	802	11%	1,964	28%	597	8%	7,134	31%
2011-2012	7,562	50%	1,447	10%	4,870	32%	1,288	8%	15,167	27%
ALL STATES										
2007-2008	13,020	56%	3,453	15%	5,048	22%	1,772	8%	23,293	100%
2011-2012	30,594	55%	7,208	13%	13,294	24%	4,807	9%	55,903	100%

* Bihar: Expenses are for Year 2008-2009 as those for 2007-2008 are not available

** Medical Education for 2007-2008 and the same for 2011-20012 have been taken as differetial to Total Budget from that given on RBI website

*** Total Expenses may include expenses from Central Sponsored Scheme (CSS) under FW (2211)

Source: All data submitted by States except for Goa, Punjab and Maharashtra, which have been taken from Budget Books and records of GoI.

Source: Goa, and Maharashtra Information on State Budgets from State Budget Books for 2011-12 and information from GoI on Central contributions to state.

Source: Punjab Information on State Budgets from RBI website for 2011-12 and information from GoI on Central contributions to state.

Table XIIIA State Health Expenditure - Rev. & Capital: 2007-08 and 2011-12 (in crores)

Region and State	Revenue			Capital			Loans	Grand Total	% against all States
	Plan	Non-Plan	Total	Plan	Non-Plan	Total			
EAST INDIA									
Odissa***									
2007-2008	96	501	597	6	0	6	0	603	3%
2011-2012	201	932	1,132	30	0	30	0	1,162	2%
West Bengal***									
2007-2008	197	1,322	1,519	62	0	62	0	1,581	8%
2011-2012	375	2,733	3,108	394	0	394	0	3,502	7%
Sub Total									
2007-2008	293	1,823	2,116	68	0	68	0	2,184	12%
2011-2012	575	3,665	4,240	424	0	424	0	4,664	10%
WEST INDIA									
Goa									
2007-2008	NA	NA	NA	NA	NA	NA	NA	NA	NA
2011-2012	122	249	371	21	0	21	0	392	1%
Gujrat									
2007-2008	458	735	1,193	104	2	106	0	1,299	7%
2011-2012	1,154	1,263	2,417	708	0	708	0	3,126	7%
Maharashtra									
2007-2008	NA	NA	NA	NA	NA	NA	NA	NA	NA
2011-2012	888	3,895	4,783	0	0	0	0	4,783	10%
Sub Total									
2007-2008	458	735	1,193	104	2	106	0	1,299	7%
2011-2012	2,164	5,407	7,572	729	0	729	0	8,301	18%
NORTH INDIA									
Bihar***									
2008-2009*	0	867	867	83	0	83	0	950	5%
2011-2012	0	1,725	1,725	453	0	453	0	2,177	5%

Table XIIIA State Health Expenditure - Rev. & Capital: 2007-08 and 2011-12 (in crores)

Region and State	Revenue			Capital			Loans	Grand Total	% against all States
	Plan	Non-Plan	Total	Plan	Non-Plan	Total			
Chattisgarh									
2007-2008	125	187	312	74	0	74	0	387	2%
2011-2012	451	375	826	93	0	93	0	919	2%
Haryana									
2007-2008	NA	NA	NA	NA	NA	NA	NA	NA	NA
2011-2012	468	1,314	1,781	50	0	50	0	1,831	4%
Himachal Pradesh									
2007-2008	121	181	302	18	1	19	0	321	2%
2011-2012	97	797	894	18	1	19	0	913	2%
Jharkhand									
2007-2008	33	299	332	142	40	182	0	513	3%
2011-2012	229	562	791	173	0	173	0	964	2%
Madhya Pradesh**									
2007-2008	477	545	1,022	106	0	106	0	1,128	6%
2011-2012	244	1,609	1,853	128	7	135	0	1,989	4%
Punjab									
2007-2008	2	717	719	3	2	5	0	723	4%
2011-2012	88	1,400	1,488	43	5	48	0	1,535	3%
Rajasthan									
2007-2008	237	1,013	1,250	86	0	86	0	1,336	7%
2011-2012	589	1,949	2,539	97	0	97	5	2,640	6%
Uttarakhand									
2007-2008	106	114	220	99	0	99	0	319	2%
2011-2012	260	348	608	78	0	78	0	686	1%
Uttar Pradesh***									
2007-2008	799	2,005	2,804	952	9	961	0	3,765	20%
2011-2012	1,327	3,745	5,072	868	10	878	0	5,950	13%
Sub Total									

Table XIIIA State Health Expenditure - Rev. & Capital: 2007-08 and 2011-12 (in crores)

Region and State	Revenue			Capital			Loans	Grand Total	% against all States
	Plan	Non-Plan	Total	Plan	Non-Plan	Total			
2007-2008	1,900	5,928	7,828	1,563	52	1,615	0	9,442	50%
2011-2012	3,753	13,823	17,577	2,001	22	2,023	5	19,605	41%
SOUTH INDIA									
Andhra Pradesh									
2007-2008	518	1,669	2,186	146	0	146	0	2,333	12%
2011-2012	1,486	2,994	4,481	154	0	154	0	4,635	10%
Karnataka									
2007-2008	456	1,021	1,478	354	0	354	4	1,836	10%
2011-2012	1,204	1,754	2,958	359	0	359	0	3,317	7%
Kerala									
2007-2008	NA	NA	NA	NA	NA	NA	NA	NA	NA
2011-2012	393	2,256	2,649	0	0	0	0	2,649	6%
Tamilnadu									
2007-2008	425	1,361	1,787	31	0	31	0	1,818	10%
2011-2012	1,439	2,792	4,231	14	17	31	0	4,262	9%
Sub Total									
2007-2008	1,399	4,051	5,450	532	0	532	4	5,986	32%
2011-2012	4,522	9,796	14,319	527	17	544	0	14,862	31%
ALL STATES									
2007-2008	4,050	12,537	16,588	2,267	54	2,320	4	18,912	100%
2011-2012	11,015	32,692	43,707	3,681	39	3,720	5	47,432	100%

* Bihar: Expenses are for Year 2008-2009 as those for 2007-2008 are not available
** Total expenses do not include that on Medical Education for 2007-2008 and the same for 2011-20012 have been taken as differetial to Total Budget from that given on RBI website
*** Total Expenses may include expenses from Central Sponsored Scheme (CSS) under FW (2211)
Source: All data submitted by States except for Goa, Kerala, Punjab and Maharashtra contributions to state.
Source: Goa, and Maharashtra Information on State Budgets from State Budget Books for 2011-12 and information from GoI on Central contributions to state.
Source: Kerala and Punjab Information on State Budgets from RBI website for 2011-12 and information from GoI on Central contributions to state.

Table XIIIB: Primary Care Expenditure Details - 2007-08 and 2011-12 (in crores)

State and Year	Salaries		Supplies and Drugs		Major Works		Equipment		Incentives		Maintenance & Minor Works		Grant in Aid		Others		Total	% against all States
	Exp	%	Exp	%	Exp	%	Exp	%	Exp	%	Exp	%	Exp	%	Exp	%	Exp	%
EAST REGION																		
Odissa																		
2007-2008	73	27%	54	20%	17	6%	2	1%	78	29%	2	1%	9	3%	34	13%	269	2%
2011-2012	202	31%	93	14%	36	5%	14	2%	23	4%	2	0%	103	16%	183	28%	656	3%
West Bengal																		
2007-2008	381	57%	41	6%	5	1%	5	1%	0	0%	4	1%	106	16%	124	19%	666	5%
2011-2012	899	50%	83	5%	53	3%	30	2%	0	0%	12	1%	272	15%	436	24%	1,785	7%
Sub Total																		
2007-2008	454	49%	95	10%	22	2%	7	1%	78	8%	6	1%	115	12%	158	17%	935	7%
2011-2012	1,101	45%	176	7%	89	4%	44	2%	23	1%	14	1%	375	15%	619	25%	2,441	9%
WEST REGION																		
Goa																		
2007-2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2011-2012	98	62%	14	9%	3	2%	3	2%	1	1%	1	1%	8	5%	30	19%	158	1%
Gujrat																		
2007-2008	601	65%	54	6%	17	2%	1	0%	0	0%	6	1%	21	2%	222	24%	922	7%
2011-2012	1,250	58%	107	5%	195	9%	11	1%	3	0%	17	1%	15	1%	564	26%	2,162	8%
Maharashtra																		
2007-2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2011-2012	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sub Total																		
2007-2008	601	65%	54	6%	17	2%	1	0%	0	0%	6	1%	21	2%	222	24%	922	7%
2011-2012	1,348	58%	121	5%	198	9%	14	1%	4	0%	18	1%	23	1%	594	26%	2,320	9%
NORTH REGION																		
Bihar																		
2008-2009*	382	27%	44	3%	52	4%	15	1%	5	0%	132	9%	0	0%	802	56%	1,432	11%
2011-2012	630	31%	118	6%	267	13%	9	0%	22	1%	116	6%	0	0%	859	43%	2,021	FALSE
Chattisgarh																		
2007-2008	175	50%	42	12%	31	9%	11	3%	44	13%	4	1%	0	0%	40	12%	347	3%
2011-2012	455	56%	38	5%	61	8%	21	3%	73	9%	8	1%	0	0%	157	19%	813	3%

Table XIIIB: Primary Care Expenditure Details - 2007-08 and 2011-12 (in crores)

State and Year	Salaries		Supplies and Drugs		Major Works		Equipment		Incentives		Maintenance & Minor Works		Grant in Aid		Others		Total	% against all States
	Exp	%	Exp	%	Exp	%	Exp	%	Exp	%	Exp	%	Exp	%	Exp	%	Exp	%
Haryana																		
2007-2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2011-2012	591	80%	24	3%	0	0%	10	1%	5	1%	0	0%	3	0%	107	14%	740	3%
Himachal Pradesh																		
2007-2008	176	78%	8	4%	15	7%	1	0%	1	0%	0	0%	0	0%	25	11%	226	2%
2011-2012	396	66%	6	1%	12	2%	0	0%	1	0%	3	0%	0	0%	185	31%	603	2%
Jharkhand																		
2007-2008	164	42%	20	5%	139	36%	16	4%	15	4%	1	0%	0	0%	36	9%	391	3%
2011-2012	449	53%	20	2%	136	16%	4	0%	84	10%	16	2%	1	0%	134	16%	844	3%
Madhya Pradesh																		
2007-2008	409	38%	197	18%	50	5%	12	1%	249	23%	43	4%	0	0%	129	12%	1,089	8%
2011-2012	944	51%	145	8%	164	9%	29	2%	291	16%	55	3%	1	0%	210	11%	1,839	7%
Punjab																		
2007-2008	373	83%	3	1%	9	2%	0	0%	1	0%	2	0%	0	0%	61	14%	449	3%
2011-2012	569	56%	15	1%	10	1%	25	2%	18	2%	0	0%	0	0%	376	37%	1,013	4%
Rajasthan																		
2007-2008	489	53%	24	3%	79	9%	1	0%	0	0%	13	1%	0	0%	314	34%	920	7%
2011-2012	1,106	63%	58	3%	95	5%	22	1%	20	1%	12	1%	12	1%	443	25%	1,768	7%
Uttar Pradesh																		
2007-2008	906	39%	106	5%	629	27%	5	0%	1	0%	78	3%	0	0%	598	26%	2,323	18%
2011-2012	2,402	60%	166	4%	296	7%	2	0%	145	4%	45	1%	0	0%	952	24%	4,008	16%
Uttarakhand																		
2007-2008	91	42%	7	3%	66	31%	2	1%	3	1%	8	4%	1	0%	37	17%	215	2%
2011-2012	305	55%	10	2%	46	8%	5	1%	7	1%	8	1%	0	0%	176	32%	557	2%
Sub Total																		
2007-2008	3,165	43%	451	6%	1,070	14%	63	1%	319	4%	281	4%	1	0%	2,042	28%	7,392	57%
2011-2012	7,847	55%	600	4%	1,087	8%	127	1%	666	5%	263	2%	17	0%	3,599	25%	14,206	55%
SOUTH REGION																		
Andhra Pradesh																		
2007-2008	845	56%	141	9%	28	2%	2	0%	117	8%	35	2%	66	4%	275	18%	1,509	12%
2011-2012	1,634	65%	368	15%	65	3%	3	0%	105	4%	44	2%	63	2%	239	9%	2,521	10%

Table XIIIB: Primary Care Expenditure Details - 2007-08 and 2011-12 (in crores)

State and Year	Salaries		Supplies and Drugs		Major Works		Equipment		Incentives		Maintenance & Minor Works		Grant in Aid		Others		Total	% against all States
	Exp	%	Exp	%	Exp	%	Exp	%	Exp	%	Exp	%	Exp	%	Exp	%	Exp	%
Karnataka																		
2007-2008	463	50%	92	10%	27	3%	1	0%	100	11%	14	2%	36	4%	185	20%	918	7%
2011-2012	907	64%	201	14%	36	3%	27	2%	50	4%	20	1%	46	3%	126	9%	1,413	5%
Kerala																		
2007-2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2011-2012	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tamilnadu																		
2007-2008	597	44%	112	8%	16	1%	5	0%	30	2%	47	3%	303	23%	234	17%	1,344	10%
2011-2012	1,301	46%	134	5%	86	3%	82	3%	39	1%	55	2%	559	20%	552	20%	2,808	11%
Sub Total																		
2007-2008	1,905	51%	345	9%	71	2%	8	0%	247	7%	96	3%	405	11%	694	18%	3,771	29%
2011-2012	3,842	57%	703	10%	187	3%	112	2%	194	3%	119	2%	668	10%	917	14%	6,742	26%
All States																		
2007-2008	6,125	47%	945	7%	1,180	9%	79	1%	644	5%	389	3%	542	4%	3,116	24%	13,020	100%
2011-2012	14,138	55%	1,600	6%	1,561	6%	297	1%	887	3%	414	2%	1,083	4%	5,729	22%	25,709	100%

* Expenses are for Year 2008-2009 as those for 2007-2008 are not available

** Total expenses do not include that on Medical Education and hence the percentages may be on higher side

* Bihar: Expenses are for Year 2008-2009 as those for 2007-2008 are not available

** Total expenses do not include that on Medical Education for 2007-2008 and the same for 2011-20012 have been taken as differetial to Total Budget from that given on RBI website

*** Total Expenses may include expenses from Central Sponsored Scheme (CSS) under FW (2211)

Source: All data submitted by States except for Goa, Kerala, Punjab and Maharashtra contributions to state.

Source: Goa, and Maharashtra Information on State Budgets from State Budget Books for 2011-12 and information from GoI on Central contributions to state.

Source: Kerala and Punjab Information on State Budgets from RBI website for 2011-12 and information from GoI on Central contributions to state.

Expenditures included under each of the Detailed Heads is given below

a. Salaries: All Salaries, Contractual Employee Costs and Wages

b. Office Expenses: All costs related to office management and administration

c. Drugs and Supplies: All costs related to drugs, consumables and supplies

d. Machinery and Equipment: All costs related to machines and equipment purchased, including vehicles other than maintenance

e. Scholarships and Stipends: Any cost provided to staff or beneficiaries for pursuing academic studies.

f. Major Works: All costs related to construction of new buildings.
g. Maintenance and Minor Works: All costs related to maintain building, equipment and vehicles and also minor works related to repair and refurbishment of the same.
h. Grant In Aid: Grant in Aid provided to other Local Government Bodies (Panchayats, Zilla Parishads).
i. Compensation: All costs incurred on and ASHA and other Volunteers. This also includes incentives provided to clients for family planning, blood donation, etc.
j. Other Works: This includes any other costs including cost of training, EMRI services, Health Camps, etc.

Table XVII: Option – I: State Wise Details

States and Region	Option I Scenario 1					Option I Scenario 2				
	Drinking Water	**Toilets**	**Health-Capital**	**Basic Services**	**Total**	**Drinking Water**	**Toilets**	**Health-Capital**	**Basic Services**	**Total**
	100% Urban and 75% Rural Coverage for Drinking Water r on 50% sharing basis accounting for Planning Commission Contribution	**30% covergae of BPL families on 85% Central sharing basis accounting for Planning Commission contribution**	**Capital Costs on 50% sharing for upgrading all Facilities as per IPHS and new CHC after accounting for Planning Commission contribution**	**Resources Required to fill Basic Services Gap for 5 years**	**Total for Option 1 - Scenario 1**	**55% Urban and Rural Coverage for Drinking Water on 50% sharing accounting for Planning Commission Contribution**	**30% covergae of BPL families on 85% Central sharing basis accounting for Planning Commission contribution**	**Capital Costs on 100% basis for upgrading existing facilities and new facilities as per revised NCMH standards**	**Resources Required to fill Basic Services Gap for 5 years**	**Total for Option 1 - Scenario 2**
EAST REGION										
Odisha	7,359	1,072	1,620	5230	15,280	4,106	1,072	562	5230	10,970
West Bengal	14,158	1,112	2,559	6629	24,459	6,502	1,112	2,652	6629	16,896
Sub Total	*21,517*	*2,184*	*4,178*	*11,859*	39,738	*10,609*	*2,184*	*3,214*	*11,859*	27,866
WEST REGION										
Goa	24	6	35	0	65	0	6	25	0	31
Gujarat	2,804	694	1,606	0	5,103	0	694	489	0	1,183
Maharashtra	5,605	1,235	2,852	0	9,691	702	1,235	1,509	0	3,446
Sub Total	*8,433*	*1,934*	*4,492*	*0*	14,859	*702*	*1,934*	*2,023*	*0*	4,659
NORTH REGION										
Bihar	20,602	2,124	5,097	13500	41,323	12,611	2,124	6,272	13500	34,506
Chhattisgarh	4,105	570	1,209	946	6,830	2,172	570	702	946	4,390
Haryana	1,043	200	753	0	1,996	0	200	536	0	735
Himachal Pradesh	8	66	508	0	583	0	66	195	0	262

Table XVII: Option – I: State Wise Details

States and Region	Option I Scenario 1					Option I Scenario 2				
	Drinking Water	Toilets	Health-Capital	Basic Services	Total	Drinking Water	Toilets	Health-Capital	Basic Services	Total
	100% Urban and 75% Rural Coverage for Drinking Water r on 50% sharing basis accounting for Planning Commission Contribution	30% covergae of BPL families on 85% Central sharing basis accounting for Planning Commission contribution	Capital Costs on 50% sharing for upgrading all Facilities as per IPHS and new CHC after accounting for Planning Commission contribution	Resources Required to fill Basic Services Gap for 5 years	Total for Option 1 - Scenario 1	55% Urban and Rural Coverage for Drinking Water on 50% sharing accounting for Planning Commission Contribution	30% covergae of BPL families on 85% Central sharing basis accounting for Planning Commission contribution	Capital Costs on 100% basis for upgrading existing facilities and new facilities as per revised NCMH standards	Resources Required to fill Basic Services Gap for 5 years	Total for Option 1 - Scenario 2
Jharkhand	6,074	660	950	2221	9,906	3,340	660	1,034	2221	7,255
Madhya Pradesh	11,281	1,480	2,349	4464	19,574	5,684	1,480	1,703	4464	13,331
Punjab	2,539	152	751	0	3,442	837	152	478	0	1,467
Rajasthan	7,490	1,162	2,283	4215	15,150	3,472	1,162	613	4215	9,462
Uttar Pradesh	28,819	3,040	7,015	19377	58,252	13,356	3,040	5,973	19377	41,747
Uttarakhand	388	99	422	0	909	0	99	274	0	373
Sub Total	*82,350*	*9,553*	*21,338*	*44,723*	1,57,964	*41,472*	*9,553*	*17,780*	*44,723*	1,13,528
SOUTH REGION				0					0	
Andhra Pradesh	3,023	1,482	3,166	1683	9,355	0	1,482	2,310	1683	5,476
Karnataka	3,135	866	2,524	2404	8,929	0	866	1,041	2404	4,311
Kerala	5,187	44	1,035	599	6,864	0	44	381	599	1,024
Tamil Nadu	1,855	1,127	2,731	0	5,713	0	1,127	350	0	1,477
Sub Total	*13,200*	*3,519*	*9,456*	*4,686*	30,861	*0*	*3,519*	*4,082*	*4,686*	12,287
Total	1,25,499	17,189	39,465	61,268	2,43,422	52,782	17,189	27,100	61,268	1,58,340

Table XIX: Option II - State Wise Details

States and Region	Drinking Water	Toilets	Health -Capital			Basic Services	Total
			Total Districts	High Focus Districts	Capital Costs at the rate of Rs. 50 crores per each of the 117 High Focus Districts	Resources Required to fill Basic Services Gap for 5 years	Total for Option 2
EAST REGION							
Odisha	0	0	30	16	800	5230	6,030
West Bengal	0	0	19	0	0	6629	6,629
Sub Total	*0*	*0*	*49*	*16*	*800*	*11,859*	12,659
WEST REGION							
Goa	0	0	2	0	0	0	0
Gujarat	0	0	33	0	0	0	0
Maharashtra	0	0	35	0	0	0	0
Sub Total	*0*	*0*	*70*	*0*	*0*	*0*	0
NORTH REGION							
Bihar	0	0	38	29	1,450	13500	14,950
Chhattisgarh	0	0	27	21	1,050	946	1,996
Haryana	0	0	21	0	0	0	0
Himachal Pradesh	0	0	12	0	0	0	0
Jharkhand	0	0	24	16	800	2221	3,021
Madhya Pradesh	0	0	51	37	1,850	4464	6,314
Punjab	0	0	22	0	0	0	0
Rajasthan	0	0	33	0	0	4215	4,215
Uttar Pradesh	0	0	82	50	2,500	19377	21,877
Uttarakhand	0	0	13	5	250	0	250
Sub Total	*0*	*0*	*323*	*158*	*7,900*	*44,723*	52,623
SOUTH REGION						0	
Andhra Pradesh	0	0	23	0	0	1683	1,683
Karnataka	0	0	30	0	0	2404	2,404
Kerala	0	0	14	0	0	599	599
Tamil Nadu	0	0	32	0	0	0	0
Sub Total	*0*	*0*	*99*	*0*	*0*	*4,686*	4,686
Total	0	0	541	174	8,700	61,268	69,968

Table XXI: Option III - State wise Details

	Drinking Water	Option III	Health					Basic Services	Total
States and Region	55% Urban and Rural Coverage for Drinking Water in High Focus States on 50% sharing basis after accounting for Planning Commission Contribution	20% covergae of BPL families on 85% Central sharing basis after accounting for Finnace Commission contribution	Total Districts	High Focus Districts	Capital Costs at the rate of Rs. 75 crores per each of the 117 High Focus Districts	Costs for 1 ANMTC, 1MPWTC, Upg. For College for Nurse Practitioners 15 crores (3 crores per year) in 75% of districts	Total Health Costs	Resources Required to fill Basic Services gap on 50% sharing basis for 5 years	Total for Option 3
EAST REGION									
Odisha	4,106	357	30	16	1,200	338	1,538	2615	8,616
West Bengal	0	371	19	0	0	214	214	3315	3,899
Sub Total	*4,106*	*728*	*49*	*16*	*1,200*	*551*	*1,751*	*5,929*	12,515
WEST REGION									
Goa	0	2	2	0	0	23	23	0	24
Gujarat	0	231	33	0	0	371	371	0	602
Maharashtra	0	412	35	0	0	394	394	0	805
Sub Total	*0*	*645*	*70*	*0*	*0*	*788*	*788*	*0*	1,432
NORTH REGION									
Bihar	12,611	708	38	29	2,175	428	2,603	6750	22,671
Chhattisgarh	2,172	190	27	21	1,575	304	1,879	473	4,714
Haryana	0	67	21	0	0	236	236	0	303
Himachal Pradesh	0	22	12	0	0	135	135	0	157
Jharkhand	3,340	220	24	16	1,200	270	1,470	1111	6,141
Madhya Pradesh	5,684	493	51	37	2,775	574	3,349	2232	11,758
Punjab	0	51	22	0	0	248	248	0	298
Rajasthan	3,472	387	33	0	0	371	371	2108	6,338
Uttar Pradesh	13,356	1,013	82	50	3,750	923	4,673	9689	28,731
Uttarakhand	0	33	13	5	375	146	521	0	554
Sub Total	*40,635*	*3,184*	*323*	*158*	*11,850*	*3,634*	*15,484*	*22,362*	81,665

Table XXI: Option III - State wise Details

	Drinking Water	**Option III**	**Health**					**Basic Services**	**Total**
States and Region	55% Urban and Rural Coverage for Drinking Water in High Focus States on 50% sharing basis after accounting for Planning Commission Contribution	20% covergae of BPL families on 85% Central sharing basis after accounting for Finnace Commission contribution	Total Districts	High Focus Districts	Capital Costs at the rate of Rs. 75 crores per each of the 117 High Focus Districts	Costs for 1 ANMTC, 1MPWTC, Upg. For College for Nurse Practitioners 15 crores (3 crores per year) in 75% of districts	Total Health Costs	Resources Required to fill Basic Services gap on 50% sharing basis for 5 years	Total for Option 3
SOUTH REGION									
Andhra Pradesh	0	494	23	0	0	259	259	842	1,595
Karnataka	0	289	30	0	0	338	338	1202	1,828
Kerala	0	15	14	0	0	158	158	299	472
Tamil Nadu	0	376	32	0	0	360	360	0	736
Sub Total	*0*	*1,173*	*99*	*0*	*0*	*1,114*	*1,114*	*2,343*	4,630
Total	44,741	5,730	541	174	13,050	6,086	19,136	30,634	1,00,242

ANNEXURE - III

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