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ISID



CHANGING PATTERN OF PUBLIC
EXPENDITURE ON HEALTH IN INDIA
Issues and Challenges

Shailender Kumar Hooda

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CHANGING PATTERN OF PUBLIC EXPENDITURE ON HEALTH IN INDIA

Issues and Challenges

*Shailender Kumar Hooda**

[Abstract: This study analyzes the implications of changing pattern of government health expenditure in India during the last two and a half decade (1987-88 to 2011-12). This includes the impact of different policy (health and macroeconomic) changes on the change in level and compositional pattern of health expenditure. The results show that government health spending has remained almost constant during the period and hovered around one per cent of GDP, which is even lower than most of the developing countries. The existing level of health spending is much lower than the required level of resources to provide the basic health facilities in the country across states. The spending in rural area, where basic health facilities are missing, and on preventive services is not only accounted very low compare to urban and curative care but also shows declining trends over the period. India spending in health is current/staffing in nature which has left meagre resources for capital account and to purchase drugs, medicines and equipments. The adverse macroeconomic conditions have resulted in declining in health expenditure both at centre and state level. The health policy change, particularly the National Rural Health Mission (NRHM), however has shown positive impact on health expenditure. The health expenditure shows increasing trend after the implementation of NRHM but remained lower (about 1.2% of GDP) than its ambitious commitment of 2-3 per cent of GDP. Central transfer of funds to state, which were earlier passing through state budget (through Centrally Plan and Sponsored schemes-CPS/CSS), after the implementation of NRHM started bypass the state budget. This has resulted in discontinuation of some of the health programmes/schemes running in the states. Further, a sharp decline in CPS/CSS transfer before the NRHM narrates that some of the health programmes have even discontinued before the NRHM came into effect. The increasing trend in central allocation under NRHM to states (particularly in needy/high focused states) however is a healthy indication but some of the allocated funds remained unutilized in many states. This shows inadequate absorptive capacity of state which further slowing down NRHM implementation. Based on the finding it can be argued that, to secure better health outcomes, India needs to double or triple its existing health spending with their proper allocations. The high spending however can be a necessary condition but not sufficient. Therefore, along with the high commitments of spending, it became important to ensure that allocated funds get spend effectively across states.]

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1. Introduction

The public expenditure on health has not only been recognized in fighting with major diseases like HIV/AIDS, tuberculosis, malaria, meeting the Millennium Development Goals (MDGs) targets, reducing poverty but also important for industrial and economic development of a country (CMH, 2001; NCMH, 2005; UN, 2008¹). It is argued that public health expenditure is one of the important components for the provisioning of health facilities which further result in better health outcomes. India's performance in improving the health outcomes however remained far from satisfactory. India seems to be off-track in achieving most of the Millennium Development Goals (MDGs) targets. For instance, some of the health outcomes (like infant, child and maternal mortality rates) are not only low but even worse than some of the developing countries. The infant mortality rates (IMR) in India is around 54 whereas Sri Lanka's IMR is 17 (WHR, 2010). The life expectancy at birth (about 64) of an average Indian is at least 15 years lower than those in developed countries and even lower than the neighbouring Sri Lanka (about 74 years). Almost half of Indian children suffer from malnutrition which is in some places worse than Sub-Saharan Africa. More than 50 per cent of women suffer from anaemia (WHR, 2010). The rural-urban gaps in health outcomes are not only still persist but widened (Peters *et. al.*, 2002).

The literatures have argued that countries with high level of public spending in health have secured better health outcomes compare to the countries with low level of spending in health (NCMH, 2005). Thus, size of the public fund in health sector matters for better health outcomes. Beside the level of spending, health outcomes are most affected by allocation pattern of public funds in health sector (Breman and Shelton, 2001; Gumber, 1997; Tim Ensor, 2003). It is argued that low level of spending on medicine, drugs, equipment and preventive care can be one of the significant causes of slow progress in some of the health outcomes. The allocation of public funds towards water supply and sanitation (which is preventive in nature) can have salubrious impact on both short as well as long term healthy life in developing/poor countries/regions compare to the expenditure on medical, public health and family welfare (which are of both curative and preventive nature).

¹ [http://www.internationalhealthpartnership.net/pdf/IHP%20Update%2013/Taskforce/TF%20REVISED%20Press%20statement%20\(2008%2011%2030\)%20v%206.pdf](http://www.internationalhealthpartnership.net/pdf/IHP%20Update%2013/Taskforce/TF%20REVISED%20Press%20statement%20(2008%2011%2030)%20v%206.pdf)

Thus, to understand the reasoning behind the unsatisfactory nature of health outcomes, one needs to study whether India spends sizeable amount of public funds in health and whether the funds allocated properly. This can be identifying by studying whether India's level of health spending is at the international level of health spending and/or does the level of health spending is adequate to meet the required provision of basic health services in the country? Secondly, it also became important to understand whether public funds in health sector are properly allocated in to different components, services and programmes? The examination of such questions however is not straightforward. Both level as well as allocation pattern of health expenditure in most cases are politically motivated and some time government either give priority or faces pressure to provide the other complementary services compare to health in their budget. The high allocation towards other complementary services may leave little fund for health sector, if resources are limited. Furthermore, the macro-economic conditions in general and health policy initiatives in particular can have diverse impact on government health expenditure. As regards to the macro-economic conditions, the adverse conditions likely to have serious repercussion for overall finances of the country (Breman and Shelton, 2001) and consequently may affect the overall government expenditure and expenditure on various services including social and health sector as well. The impact of these conditions on health expenditure however again depends how the government has accorded priority to health sector. As regards to the health policy initiatives, amongst the other, the National Rural Health Mission (2005) of India has set an ambitious goal of increasing in government health spending to 2-3 per cent of GDP. This Mission has also mandated that some of the central funds, which were earlier routed through states budget (particularly under Central Sponsored and Plan Schemes-CSS/CPS), will bypass the state budget and will be implemented through state's implementing agencies. The predominant responsibilities of health sector in India, under the 7th Schedule of the Constitution however are primarily with the state governments. Therefore this changing nature of central transfer can affect the health expenditure of the state governments. This can result in variation in health expenditure across states and therefore need to be examined.

In order to understand the political economy of public health expenditure, this study analyzes the implications of changing pattern of government health expenditure in India during the last two and a half decade. This includes the impact of different policy (health and macroeconomic) changes on the change in level and compositional pattern of health expenditure. The level of health spending is analysed by comparing India's spending with the

international standard of health spending, status of health against the required level of spending to provide the basic health facilities in the country, status of health spending against the government's commitments made under annual budget and/or health policies/plans and status of fund utilization against the allocated funds. This will help us to understand how health sector has been given priority in India. The changing pattern in health expenditure first is analysed by studying the compositional change in government health expenditure and then impact of different policy (health and macroeconomic) changes on health expenditure is evaluated. The composition change in health expenditure is analysed for rural–urban, direct (*medical, public health, family welfare*)–indirect (*water supply, sanitation*), preventive–curative, plan–non-plan, revenue–capital and staffing–non-staffing etc. The impact of different policy changes is analysed by studying the behaviour of health expenditure trends, growth and variation by dividing the study period into different sub-periods, including pre and post NRHM period. These issues are analyzed at the 16 major states (which covers around 90% of India's population) level of India and consider the period from 1987-88 to 2011-12.

Followed by the Introductory Section, Section-2, deals with the data source and methodology adopted in the study. The Section-3 provides an overview of the level of health spending to understand how health sector has been given priority in India. The changing pattern of health expenditure is analyzed in Section-4. The final Section-5 summarizes the finding of the study and tries to draw some policy lessons to reform the Indian health sector.

2. Data Source and Methodology

The data limitation on health expenditure allows us to consider the period starting from 1987-88 to 2011-12. This period is of great significance, as it considers the period of two and a half decade of economic reform/liberalization. This period allows us to study the changing pattern of health expenditure in a liberalized economy. This exercise is largely based on secondary data sources. The data sources namely, Finance Account of the State Governments, Original Budget of the State Government, RBI-State Finances: A study of Center and State Budget, Ministry of Health and Family Welfare, National Rural Health Mission are utilized.

The compositional change in the allocation pattern like revenue–capital, plan–non-plan, direct–indirect, rural–urban and economic classification like staffing salary and non-staffing (drugs and medicine etc.) is analyzed by

using data from *Finance Account of the State Governments*, provided by Controller Auditor General (CAG) of various states. The data on economic classification however is not provided by CAG and therefore is collected from *Original Budget Papers of the State Governments*, for select years 1992-93 and 2005-06. Further the change in health expenditure under different macroeconomic conditions is analyzed by using data from RBI-State Finances: A study of Center and State Budget. To study the change pattern of health expenditure under different health policies, along with the health policy documents the budget paper of state governments and NRHM expenditure statements provided by Ministry of Health and Family Welfare are used.

To arrive at the certain policy conclusion, the results in this study are presented for individual state and by level of development of a state (like low, middle and high income states). The NRHM identified that in some of the Indian state there exist high fertility and mortality rates, these state therefore termed as high focused states. Most of the low income states, out of 16 states, (namely, Assam, Bihar, Himachal Pradesh, Madhya Pradesh, Orissa, Rajasthan and Uttar Pradesh) come under the umbrella of high focused states. Therefore, the results are presented both for high focused and non-high focused states separately and for all state taken together.

To show the level of public expenditure on health in India, the health expenditure first is compared with international standard of spending². To understand how priority has been accorded to health sector, the health expenditure are presented in per capita terms (at 1993-94 prices), as a ratio of Gross Domestic Product (GDP), Gross State Domestic Product (GSDP) and total expenditure of the Centre and State government respectively. To understand the implications of changing pattern of government spending a detailed analysis of compositional change in health expenditure and the impact of change in different health policies and macroeconomic conditions is analysed. As discussed above, the central government has made commitment to spend 2-3 per cent of GDP under the banner of NRHM in 2005. The NRHM is a central funded programme. However, the state governments are also asked to increasing their funding (along with the centre) in health. The central devolution of fund to states is based on conditionality i.e., states need to increase their own spending at a specified rate in tandem with increased central funding. Therefore to understand

² Savedoff, (2007) study argued that a country should spend at least around 5 per cent of GDP in health to achieve better health outcomes.

whether the state governments are able to scale up the programme as per their capacity, the study has examined the absorptive capacity of states to utilize the fund properly. Thus the absorptive capacity of fund utilization needs to be understood for an appropriate policy suggestion. The absorptive capacity of a state is estimated by identifying the ratio of unspent amount of funds with the state government to the total funds released by the central government. The state own priorities to health sector is analysed by studying whether state governments fulfil their budgetary commitments which are made while presenting the budget. This is analyzed by taking the share of Actual funds (after Revised Estimates) allocation to the amount that was committed in state's Budget (Budget Estimates).

Health is a state subject in India. The central government however can directly intervene in establishing major hospitals to assist medical education and research and intervene through Central Plan and Centrally Sponsored Schemes³ - which are implemented through state budget. Until 2002-03, most of the central schemes were routed through the states' budget and the funds were being transferred as grants to the states as consolidated funds. But, because of nation-wide externalities of some of the health services, the central government has initiated important interventions under National Common Minimum Programme⁴ (NCMP), the most important of them being, National Aids Control Organisation (NACO) and National Rural Health Mission⁵ (NRHM, 2005). Now most of the central funds (particularly the NRHM funds) routed through state's implementing agencies⁶

³ Most of the CSS directed at augmenting health services are (almost) 100 per cent financed by the centre and routed through the state budget. There are some central schemes, where central component are 88, 75 and 50 per cent.

⁴ Until the 11th Plan, the funding for the scheme came entirely from the central budget. This has been made a shared cost programme with central and state governments contributing 85 and 15 per cent respectively. The mission covers the entire country but 18 states are chosen as high focus states. These include all special category states (which include North-eastern, Sikkim, Himachal Pradesh) Uttarakhand, and Jammu and Kashmir) and the low-income general category states (i.e., Uttar Pradesh, Bihar, Chattisgarh, Jharkhand, Orissa, Madhya Pradesh, and Rajasthan).

⁵ The expenditure on NRHM is an umbrella programmes subsuming various centrally sponsored schemes in health and family welfare including the Reproductive and Child Health II (RCH-II), National Disease Control Programmes for malaria, tuberculosis, kala azar, filaria, blindness and iodine deficiency and Integrated Disease Surveillance Programme, etc.

⁶ But part of NRHM funds also flow through the state treasuries and are reflected in the state health budget (Berman, P. and Ahuja, R., 2008). According to their

contd...

particularly though the involvement of *Panchayat Raj* institutions⁷, i.e., District *Panchayats*⁸ and Village *Panchayats*⁹. Thus to understand the complexity of this changing pattern of government health spending became important. This complexity is analysed by studying the central government health expenditure that is routed through different channels. Specifically, the (i) central transfer passes through state budget in terms of CSS/CPS and (ii) central transfer bypassing the state budget and routed through state implementing agencies, particularly the expenditure on NRHM components, are analyzed.

Beside the change in health policies¹⁰, any change in macroeconomic condition¹¹ can have diverse impact on health sector spending both at centre and state level. The impact of different macroeconomic conditions on health expenditure is captured by analyzed by dividing the whole study period (i.e., 1987-88 to 2011-12) into different sub-periods. The sub-periods are identified by analyzing the health expenditure trends and break (in time period) is given at the major turning point in health expenditure.

observation about 31 per cent of NRHM allocations during 2005-08 were to flow through treasury. Specifically, they mentioned that over 60 per cent of all central government health allocation is now routed through NRHM and out of which, about 69 per cent bypassing state's budget.

- ⁷ Funds are transferred from the centre to the district health missions through the State Health and Family Welfare Society. The direct transfer of funds to the Zilla Parishad, through the State Health and Family Welfare Society for implementing the NRHM.
- ⁸ The District Health Mission is implemented by the *Zilla Parishads* (district *panchayats*). It will control, guide and manage all public health institutions (PHI) in the district, sub-centres (SC), primary health centres (PHC) and community health centres (CHC).
- ⁹ Village *panchayats* will select, appoint and supervise the Accredited Social Health Activist (ASHA) to act as an interface between community and public health system. The design also allows for the allocation of untied funds at SC, PHC and CHC level. The healthcare system and the estimated expenditure requirements, is expected to be built from the village upwards.
- ¹⁰ The first and second National Health Policy are announced in 1983 and 2002 respectively, National Rural Health Mission in 2005 and Universal Health Coverage report in 2012.
- ¹¹ India has gone through different changes at the macro-economic front. The adverse macroeconomic conditions started in early 1991 (the period of early stress of fiscal crisis), fiscal crisis in 1991 and financial crisis in 2008-09. The other macroeconomic policies are like the 5th and 6th Pay Commissions recommendations in 1996-97 & 2006-07 respectively, Fiscal Responsibility and Budget Management Act, 2003 etc.

Specifically, the study period is divided into four sub-periods – a six years gaps sub-periods, like (i) the period of early years of fiscal stress to fiscal crisis period (i.e., from 1987 to 1992); (ii) the period of initial year of economic reforms in the country when several state governments embarked on a process of fiscal restructuring or structural adjustment programmes, i.e. from 1993 to 1998; (iii) the period from 1999 to 2004, during which several changes taken place starting from the implementation of 5th Pay Commission recommendations, FRBM Act (which affected the overall priority of government spending), initiation of second degree of economic reforms (2001-02), and second National Health Policy (2002); and (iv) the period after implementation of NRHM, from 2005-06 to 2011-12, called the period of reform in the health sector.

How these macroeconomic conditions have impacted the expenditure in the health sector is studying by analysing the trends and variations in the growth rates of health expenditure across states. The growth rates are estimated in per capita health expenditure under different sub-periods. The growth rates in health expenditure, under different sub-periods, are estimated by applying the '*Kinked Exponential Growth Model*' technique (Boyce, 1986). This model is preferred over the conventional growth rate estimation models primarily because this model makes use of entire time series information even while estimating the growth rate for a sub-period in the series. That is, this model allows us to incorporate all phases at a time simultaneously without distorting the statistical properties of the coefficients. An estimation of growth rate for a sub-period, which includes few observations, provides misleading result. This model removes such type of inconsistency by taking exponential trend function. The major advantage of this method is that the sample size and the degrees of freedom can be increased by combining the sub periods. The increase in the sample size is definitely an advantage when the sub period estimation is based on a very small sample size. The following generalized kinked exponential growth model is estimated:

$$Y_t = \alpha_1 + \beta_1(D_{1t} + \sum_{j=2}^m D_{jk1}) + \beta_2(D_{2t} + \sum_{j=2}^m D_{jk2} + \sum_{j=3}^m D_{jk3}) + \dots + \beta_i(D_{it} + \sum_{j=i}^m D_{jki} + \sum_{j=i+1}^m D_{jki}) + \dots + \beta_m(D_{mt} + D_{mk_{m-1}}) + u_t$$

Where,

Y = real per capita public expenditure on health;

D = dummies; K = break (kink) points; B's = coefficients of estimated growth rate;

j = is jth sub period;

D_j = is a dummy variable which takes the value 1 in the j^{th} sub-period and 0 otherwise and t is renormalized so that it is 0 at the break point.

This model can be estimated using Ordinary Least Square (OLS) method with one, two and multiple kink points. As discussed above, this study has identified four sub-periods at the macro-economic front. The growth rates in health expenditure are estimated by taking into account all these four sub-periods at a time.

3. Health Expenditure: An Overview

A cross-countries analysis of health expenditure shows that some country spend more public funds than others and some countries rely more on the private sector for service delivery. The developed countries, in most cases, spend high amount on health both as per cent of GDP and out of their total budget compare to the developing countries. The variation in public health spending ranging from less than 1 per cent to more than 8 per cent of GDP and from 1.3 per cent to 54.2 per cent out of total government expenditure (*Table-1*). The public expenditure on health in India is recorded one of the lowest amongst the developed as well as South East Asian countries, except Pakistan. The low per capita income country like Sri Lanka's spends more public fund in health than India. The quantum of public spending on health, in per capita term, also recorded low in India. While, even some developing countries like, Nepal and Bangladesh (who's per capita GDP almost less than half of India's GDP) managed high public spending on health out of their GDP than India (*Table-1*).

The low level of public expenditure has resulted in government failure in providing adequate public health infrastructure. The availability of health facilities in India is comparatively much lower (about 1:1000 - bed: population ratio) than the developed nations, about 7:1000 (WHS, 2009). This probably forces the less privileged to seek unregulated private healthcare with significant adverse impact on out-of-pocket (OOP) expenditure. The burden on household out-of-pocket expenditure is accounted very high ranging from 71 per cent (*Figure-1*) to 75 per cent (*Table-1*). This probably not only pushes the non-poor into poverty (Wagstaff and Doorslaer, 2003) but also affect the final outcomes. It is worth to mention that the health outcomes (like, infant mortality rate) recorded better in most of the countries where public spending on health is high. In India, beside its some of the worst health indices (discussed above), public spending on health has not gone beyond one per cent of GDP (*Table-1*). India spending in health is recorded one of the lowest compare to the international level of health spending, which is much lower than the prescribed norm (5% of GDP) by Savedoff (2007).

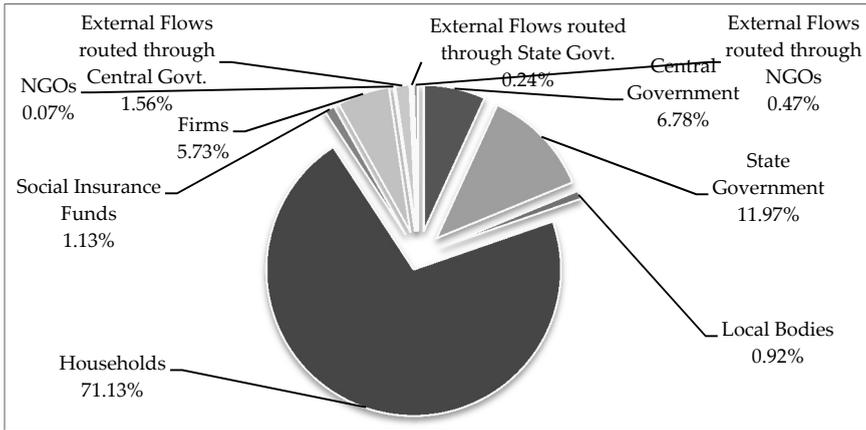
Table-1
Health Expenditure: An International Comparison

HDI index	Country	Total exp. on health as % of GDP 2006	Public exp. on health as % of GDP 2006	Public exp. on health as % of total exp. on health 2006	Public exp. on health as % of total govt. exp. 2006	Per capita total exp on health (PPP int. \$) 2006	Health attainments 2007		GDP per capita (US\$) 2007	Total population (millions) 2007
							Life expectancy at birth (years)	IMR per 1000 live births		
13	US	15.3	7.0	45.8	54.2	6719	79.1	6	45592	308.7
22	Germany	10.6	8.2	76.9	17.9	3465	79.8	4	40324	82.3
4	Canada	10	7.0	70.4	17.8	3673	80.6	5	40329	32.9
2	Australia	8.7	5.9	67.7	17	1164	81.4	5	39066	20.9
8	France	11	8.8	79.7	16.7	3420	81.0	3	41970	61.7
21	U K	8.2	7.2	87.3	16.3	2815	79.3	5	45442	60.9
53	Mexico	6.6	2.9	44.2	11.8	778	76.0	18	9715	107.5
87	Thailand	3.5	2.3	64.5	11.3	264	68.7	6	3844	67
92	China	4.6	1.9	40.7	9.9	216	72.9	19	2432	1329.1
144	Nepal	5.1	1.6	30.5	9.2	52	66.3	43	367	28.3
102	Sri Lanka	4.2	2.0	47.5	8.3	171	74.0	17	1616	19.9
75	Brazil	7.5	3.6	47.9	7.2	674	72.2	20	6855	190.1
146	Bangladesh	3.2	1.0	31.8	7.1	37	65.7	47	431	157.8
66	Malaysia	4.3	1.9	44.6	7	544	74.1	10	7033	26.6
111	Indonesia	2.5	1.3	50.5	6.2	82	70.5	25	1918	224.7
134	India	3.6	0.9	25	3.4	86	63.4	54	1046	1164.7
141	Pakistan	2	0.3	16.4	1.3	47	66.2	73	879	173.2

Source: World Health Statistics (2009) and Human Development Report (2009).

Followed by OOP, public spending (combining of centre, state and local government) on health is the second largest components in India. The contribution of firm, NGOs, insurance and external sources are marginal (Figure-1). Out of the total government spending, the share of central government constitutes around one-third and state governments around two-third. The 73rd & 74th Constitutional Amendments (1992-93) however have envisaged the delegation and devolution of some of health related functions to Local Governments, the share of spending by local governments on health services remained negligible. This indicates that health expenditure is the predominant responsibility of state governments. Being health a state subject, as per the Constitution, it was expected that state government would deliver the health services adequately to meet the health need of the population. To equip the general population with health facilities, the government of India specify that every state needs to fulfil the prescribed norm of certain number of CHCs, PHCs and SCs in the country. This will help in achieving the 'Health for All by the year 2000'. The

Figure-1
Health Expenditure in India by Sources of Funding: 2004-05



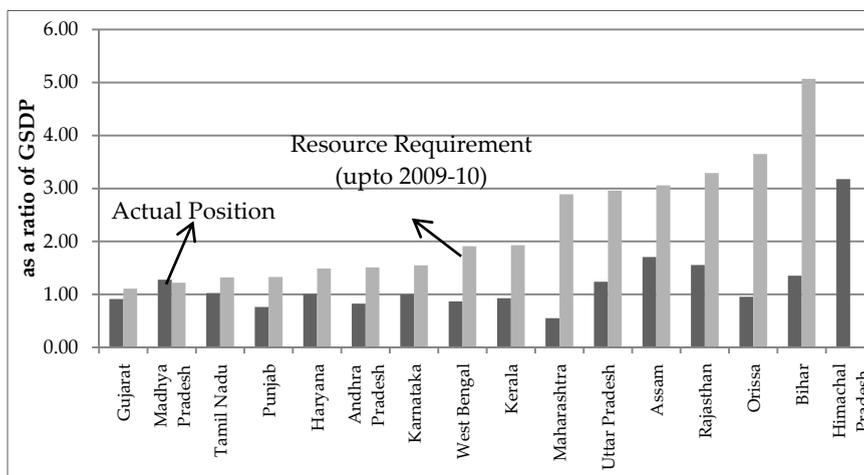
Source: National Health Account for India: 2004-05, Ministry of Health and Family Welfare, Government of India, 2009.

National Commission of Macro-Economic and Health (NCMH, 2005) of India estimated the required level of resource that need to be spend to meet the adequate level of basic health services in the country, by every state government by the end of 2009-10. An analysis of the required level of resources against the actual allocation of resources shows that most of the state governments found unable to achieve the prescribed level of health spending. There exist high gaps between required resources and actual spending in most of the states, except Himachal Pradesh (*Figure-2*). The gaps in resource requirements surprisingly recorded much higher in some of the richer states like, Punjab and Maharashtra as well as in some low income states like Bihar, Orissa, Rajasthan and Uttar Pradesh.

Not only states showing failure to achieved the required level of health spending, the commitments of resource allocations made under various policy reform, for the provision of health services, has left much to be desired in India. An analysis of various policy documents reveals that objectives of Bhore Committee (1946), which was constituted to recommend the provisioning of health facility in country, to provide a minimum level of health infrastructure are not fulfilled even in the year 2010 (*Table-2*). After the independence government of India, under the Community Development Programme (1951-55), formulated a plan to achieve a certain level of health infrastructure in the country, particularly the CHCs and PHCs. The results from *Table-2* show that India is lagging behind to achieve these targets. As per Indian Public Health Standard (IPHS), there should be 4-6 beds and 30 beds in each primary health centre (PHC) and community

health centre (CHC) respectively. In 2010, only 59 per cent PHC and 72 per cent CHC have achieved the prescribed standard.

Figure-2
Resource Requirements vs. Actual Spending in Health:
A State Level Profile



Note: The actual expenditure includes medical, public health, family welfare, water supply, sanitation and NRHM allocation for the year 2010-11. For resource requirements see NCMH background paper, Rao, M.G., Choudhury and Anand M: 2005, pp.297-317.

Source: RBI-State Finance: A Study of State Budget and NRHM expenditure statements.

Table-2
Health Policies Commitments vs. Reality of Spending on Health in India

Policy Initiatives	Commitments	Achievements / Failure/ Existing Position		Remarks
Bhore Committee, 1946	PHC with 75 beds for each 10,000-20,000 population	% of PHC with 4-6 beds (as on March 2010) = 59.3% % of CHC with at least 30 beds (as on 2010) = 71.8%		Failed
Community Development Programme, 1951-55	One PHC per one lakh population	One PHC per 5.5 lakh population, 2010		Failed
Alma Ata Deceleration, 1978 and First National Health Policy, 1983:	To achieve the target of	Existing in 2000-01	Requirement in 2000-01	
	One PHC per 20, 000 - 30,000 population	22842	24717	Failed
	One Sub-Centre per	137311	148303	Failed

<i>Policy Initiatives</i>	<i>Commitments</i>	<i>Achievements / Failure/ Existing Position</i>		<i>Remarks</i>
Strategy to achieve 'Health for All by the year 2000 AD'	3000- 5000 population			
	One Community Health Centre per 100,000 population	3043	7415	Failed
Second National Health Policy, 2002	Increase govt. spending in health from existing 0.9 per cent to 2 per cent by 2010	Public expenditure on health recorded 1.09 per cent of GDP in 2010		Failed
	Increase share of central grants to constitute at least 25 per cent of total health spending by 2010	Centre : State ratio in 2010 was 29:71		Achieved
	Increase the state sector health spending from 5.5 per cent to 7 per cent of the budget by 2005 and to 8 per cent of the budget by 2010	State spending on health out of total expenditure was recorded 6.67 per cent in 2005 and about 6.41 per cent in 2010		Failed
National Rural Health Mission, 2005	Increase the government spending in health (from its around one per cent level) to 2-3 per cent of GDP by 2012, the end of 11th Five Year Plan	It is recorded around 1.2 per cent of GDP at the end of 11 th Plan and even after adding water supply and sanitation expenditure it hovered around 1.6 per cent of GDP, which is less than the commitment		Failed
Universal Health Coverage Report, 2012	Increase the government (centre and states) spending in health from its current level 1.2 per cent of GDP to 2.5 per cent by the end of 12 th Five Year plan, and to at least 3 per cent of GDP by 2022	Past experiences show that the health expenditure 2.5 per cent of GDP looks unrealistic to achieve		unfeasible /unrealistic to achieve

Source: Author's calculations, using relevant policy documents

Health, however, is an important component for economic development but India announced its first National Health Policy in 1983, after three and a half decade after its independence. This reflects the government concern towards health sector. In this policy, India committed to achieve 'Health for All by the year 2000' through the introduction of certain number of CHCs, PHCs and SCs in the country. The prescribed numbers of physical and human infrastructure in health sector have not been achieved. The existing numbers of CHCs, PHCs and SCs in the year 2001 were lagging behind the

required provision of health infrastructure (*Table-2*). Further, the second National Health Policy of India announced in 2002 which committed to increase the public spending in health from existing 0.9 per cent to 2 per cent of GDP and from 5.5 per cent to 8 per cent of the budget by 2010. The spending in 2010 recorded, about 1.09 per cent of GDP and 6.85 per cent of total budget, less than the commitments. Similarly, the National Rural Health Mission (2005) of India has committed to spend 2-3 per cent of GDP by 2012, the end of the 11th Five Year Plan. The targets of NRHM spending have not been achieved (*Table-2*). The health spending was recorded around 1.2 per cent of GDP at the end of 11th Plan. After adding the expenditure on complementary (the water supply and sanitation) services it hovered around 1.6 per cent of GDP, which is again less than the committed level of health spending. These experiences show the government's failure in serving and providing the adequate health services to the population. India, despite its low health outcomes, no major lesson has been learnt from the past. The results show that even the Primary Health Care approach never been implemented effectively; the goals for 'Health for All by 2000' has not been met and the spending commitments have not been fulfilled. This reflects that governments (both centre and states) have given less priority to health sector in India. In the recent proposal, the Universal Health Coverage, 2012 has proposed to increase government (central and state combined) spending in health from the current level of 1.2 per cent of GDP to at least 2.5 per cent by the end of the 12th Plan and to at least 3 per cent of GDP by 2022. The past experience shows these commitments seem abortive to achieve.

4. Changing Pattern of Health Expenditure

4.1. Implications of Compositional Change

The changing pattern of health expenditure in this section is analyzed by studying the compositional change in health expenditure. Specifically the expenditure on direct- indirect, revenue-capital, plan-non plan, salary-non salary, rural-urban activities is analyzed. The data analysis on direct and indirect activities shows that expenditure on indirect activities, in composition term, is lower than the direct health expenditure. The expenditure on indirect health activities is recorded low (about 33.2%) in low income states compare to the middle (49.2%) and high (45.4%) incomes states in the year 2004-05 (See *Appendix-1*). The expenditure on indirect health category however generally assumed to be preventive in nature and

direct health expenditure involves both curative¹² and preventive components. These expenditure categories have some profound implications both for provisioning of health care as well as affect the outcomes of health sector and have advantages one over the others. The expenditure on water supply, sanitation and nutrition some time can have more salubrious impact in both long as well as in short term on healthy life of the population, if let say the water borne disease is high. Therefore, this low level of spending in water and sanitation facilities probably have resulted in low access to safe drinking water, sanitation and nutrition facilities in some of the states. This can further result in high prevalence of water borne disease, undernourishment, malaria, etc., in low income states (NCMH, 2005). Thus it can be argued that the expenditure on these items should not only be sustained but also augmented, more particularly in low income states. This is because in such states the level of education is low and it is quite likely that a significant number of cases of disease and affliction may be unreported or undetected and/or don't give importance to the health and/or affliction may report at the last stage. It became imperative that a large component of expenditures should be allocated towards preventive along with the curative services. The declining trend of these expenditure categories as a ratio of GSDP over the period (See *Appendix-2*) reveals that state governments are not serious to provide these services to the population.

The expenditure on direct health services which comprises of medical, public health and family welfare is largely concentrated on medical and public health services and growing steadily over the period from 1987-88 to 2004-05. As a corollary, the expenditure on family welfare, which largely comprising of preventive interventions and reproductive and child health¹³, have been declining steadily in composition term from 15.3 per cent to 9.8 per cent, 18.4 per cent to 15.6 per cent and 22.1 per cent to 15.6 per cent from

¹² The distinction between curative and preventive expenditure depends critically upon the basis for reference. For instance, expenditure on treating any Tuberculosis afflicted person may be considered as curative from the point of view of the individual, but given the contagiousness of the disease, from the society's point of view this may be categorized as preventive expenditure.

¹³ In practice it may be difficult to segregate expenditure that could be strictly grouped under alternative classifications like say, preventive or curative functions. Similarly, it is extremely difficult to analyze the expenses directed towards primary, secondary, tertiary or quaternary care, from a strictly budget-based analysis.

1995-96 to 2004-05 in high, middle and low income states respectively (See *Appendix-1*).

The composition of total health expenditure including medical, public health, family welfare, water supply, sanitation and nutrition shows that almost 85-95 per cent of expenditure is current in nature (See *Appendix-1*). The capital expenditure, which is considered the sole determinant of creating physical infrastructure, is constituted a low amount. Furthermore, the capital expenditure also shows declining trends as a ratio of GSDP (See *Appendix-2*). The declining trends in capital expenditure is an indication of low priority, in terms of providing physical infrastructure and purchasing of new medical equipments. Declining the share of capital expenditure however will not be problematic if state(s) have fulfilled the proscribed norms of health infrastructure. But, as reported earlier and, most of Indian states are facing a shortfall in achieving the proscribed norms of health standard. The low as well as declining share of capital expenditure further likely to force/pushback the recurring (revenue) expenditure to grow. Such situation may affect the effectiveness of public expenditure to perform better.

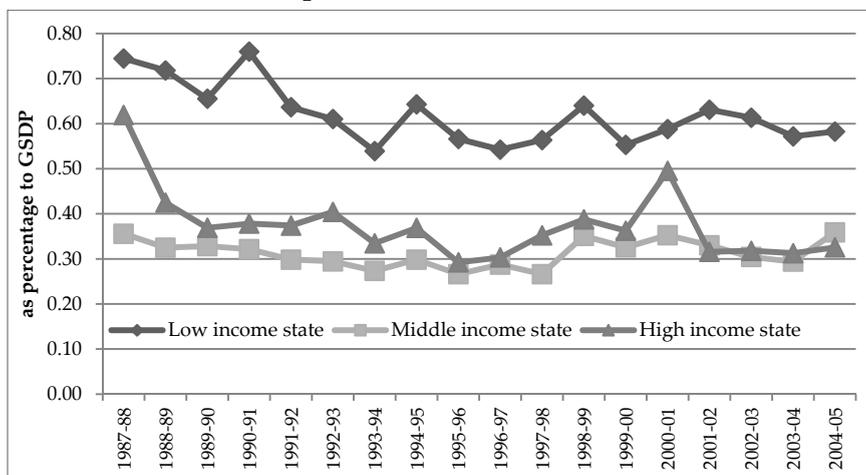
The categorization of total health expenditure into plan and non-plan components provides some robust analysis of the government's initiatives in health sectors. By definition, plan expenditure is considered as an important component for the welfare of the society. It arises out of schemes freshly introduced in an on-going Five Year Plan period. In the same period, non-plan expenditure arises out of schemes carried forward from previous Five Year Plan periods. Non-plan expenditure generally supports the old schemes of the governments and plan expenditures are the new schemes. Since new schemes add to the economy's productive capacity as the old schemes did in the past. The plan expenditure reflects the government's investment in enhancing the economy's productive capacity. The data analysis shows that expenditure on plan component, in compositional terms and as per cent to GSDP, is increasing across the states. This is a healthy indication to add in the productive capacity of the state in health sector. The increment in plan components remained more noticeable in middle income states compare to the low and high income states (See *Appendix-1 & -2*). This may mean that middle income states have launched more new health schemes compare to the poorer and richer states and have added in productive capacities and resulted in better health outcomes in these states compare to the others (Health Information of India, 2006).

The health expenditure in India is highly regional biased, particularly toward urban area. The share of urban health spending is almost $\frac{3}{4}$ compare

to rural health spending (See *Appendix-1*). In compositional term, the share of rural spending (which includes medical and public health) recorded about 24.5 per cent in the year 2004-05 (See *Appendix-1*). This share is recorded high in low income states (about 35.7%) compare to the middle (about 21.4%) and high (15.8%) income states. The health spending (including components on medical, public health, family welfare, water supply and sanitation) also shows biasness towards rural area. Interestingly, the public expenditure in the rural area (including all these components) in compositional term is recorded high in low income states (about 43%) followed by 39 per cent and 27 per cent in middle and high income states respectively (See *Appendix-1*).

The ratio of health spending (on medical, public health, family welfare, water supply and sanitation) is constituted less than one per cent of GSDP in the rural area and nearly one per cent in the urban in 2004-05 (See *Appendix-2*). The rural health expenditure as per cent to GSDP shows declining trends from 1987-88 to 2004-05. Urban spending also declining. The declining trends however are more pronounced in rural health spending compare to the urban in most of the states (*Figures-3 & -4*). This discussion reveals that India's health system is still biased towards urban area. That is, the system which we had been inherited from the colonial rule at the time of independence.

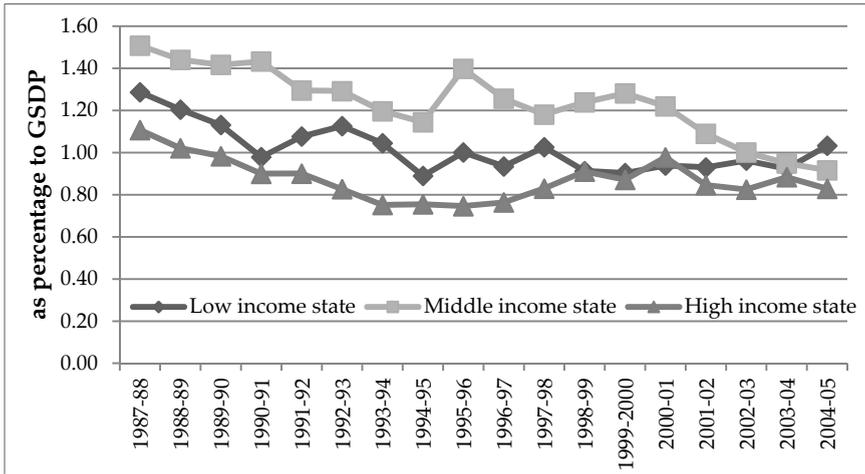
Figure-3
Trends in Public Expenditure on Health in Indian States: Rural



Note: The expenditure includes medical, public health, family welfare, water supply and sanitation.

Source: Finance Account of State Governments.

Figure-4
Trends in Public Expenditure on Health in Indian States: Urban



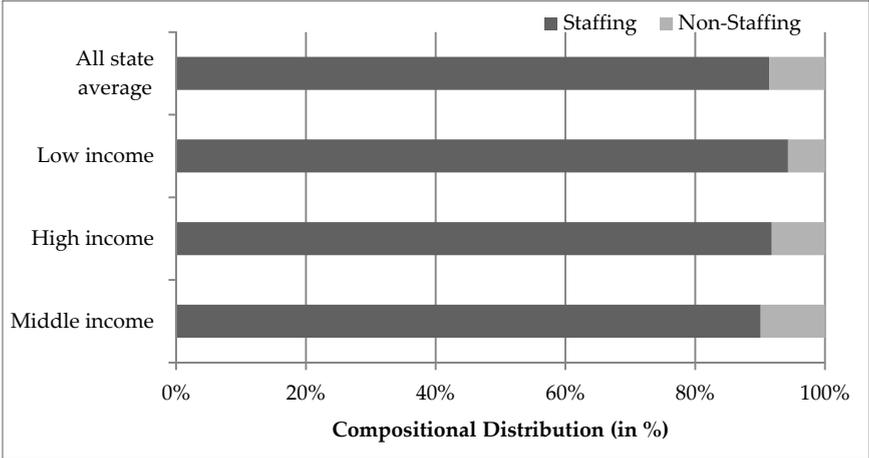
Note and Source: see Figure-3.

This discussion leaves a question whether India needs to restructure the existing structure/pattern of health spending. This probably based on the distinctive need of both rural and urban separately. For instance, the per capita cost of servicing a densely populated area may be lower, due to technological indivisibility and economics of scale, than that for a widely dispersed population. On the contrary a densely arranged population may have larger needs either due to higher reporting of incidence or due to enhanced vulnerability from proximity with the afflicted individuals. On the rural side, the low availability of private health facilities, high burden of mortality, morbidity and disease in rural areas with high proportion of population (nearly 70%) enforces us to argue that every state needs to provide comprehensive public health facilities to meet the demands of rural population, which is already lower than the Indian Public Health Standard (IPHS) as reported in Bulletins of Rural Health Statistics (Table-2). Furthermore, the health standards of both rural and urban areas of India are lower than even some of the developing countries and lagging behind to achieve the Millennium Development Goals Targets. Thus, both rural as well as urban area of India need more funds to improve the overall health standards. The restructuring in health expenditure therefore should not be done by changing the nature of existing resources allocated to health but it should be done through additional spending in health sector.

The structure of expenditure on health services by economic classification shows that the staffing expenses constitute the largest proportion around 90 per cent in the year 2005-06 (Figure-5). This leaves little fund to purchase

machinery, equipment, drugs, material and supplies. A high proportion of wages and salaries and corollary a low proportion on drugs and material supplies is evocative of poor service delivery in terms of quality. However, it can also be argued that in principal, the first claim of the priorities of expenditure on merit goods (as health is merit goods) should be on appropriate staffing. This may be followed by expenditure on drugs and material supplies to make the service delivery more effective. But, even after 60 years of independence, the trends have not been changed in India. Still the spending on staffing component is very high. The non-staffing components have been ignored. This probably has resulted in high out-of-pocket (OOP) expenditure on households, particularly to purchase the

Figure-5
Economic Classification of Government Health Expenditure
in Rural India: 2005-06



Note: This includes expenditure on medical, public health and family welfare. Staffing components includes expenses on salary, wages, scholarship and offices expenses and others; Non-Staffing components include machinery, equipment, material-supply and drugs. Non-staffing expenses for the state of Assam have not been covered.

Source: Original Budget Paper of the State Governments.

medicine, across the Indian states¹⁴. Thus, it can be argued that more public spending on non-staffing (particularly on medicine) is urgently required to

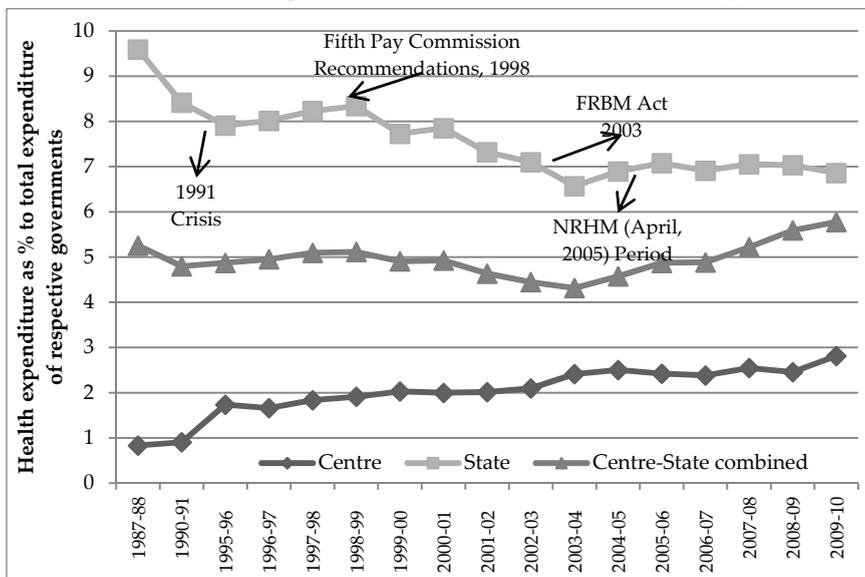
¹⁴ The data analysis from NSS 60th Round shows that the expenditure of households to purchase the medicine, amongst the other components, is very high. This is high amongst the poorest segments of the society. (for detail see Shailender Kumar Hooda, 2012, unpublished Thesis)

reduce the burden of household OOP expenditure. This can easily be done by procuring medicine and by providing free medicine to the needy, as the state like Tamil Nadu and Kerala have started procuring and distribution of medicine in the state.

4.2. Implications of Policy Changes

The impact of change in macroeconomic conditions and health policy changes (particularly the NRHM) is analyzed by studying the trends, growth and variation in health expenditure in India across states. As discussed above, during the study period several important changes have been taking place at the macro-economic front in India. The data analysis of the impact of these changes show that the health expenditure of the state governments affected adversely in 1991 fiscal crises and thereafter. The share of health expenditure in the total expenditure of the state governments' shows declining trends (*Figure-6*). This share however shows increasing trends during the time of 5th Pay Commission recommendations (in 1998-99). This probably is because of increase in salary expenses. India however announced its second National Health Policy but increment in

Figure-6
Government Health Expenditure and Macro-Economic Changes in India



Note: This includes expenditure on medical, public health, family welfare, water supply and sanitation.

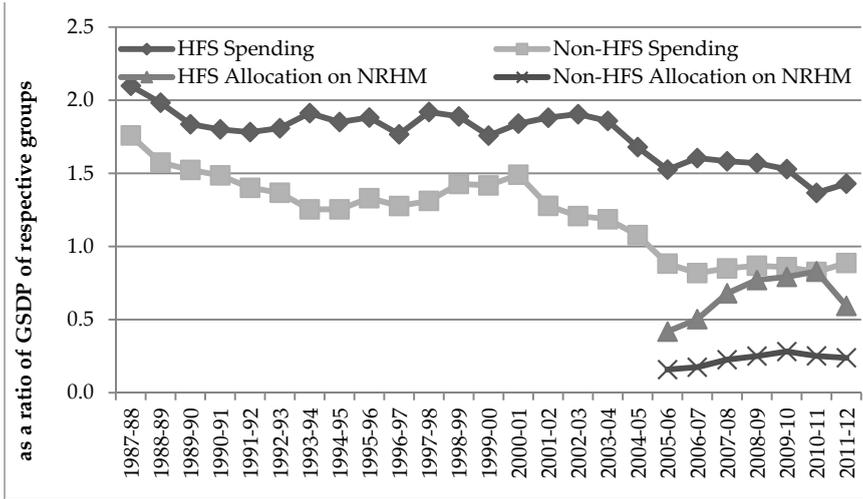
Source: Author's designed, Indian Public Finance Statistics.

health expenditure are not noticeable thereafter. This is probably because of the implementation of Fiscal Responsibility and Budget Management (FRBM) Act in 2003-04. This Act enforces the government to reduce the fiscal and revenue deficits, either by increasing the revenue resources or by restructuring/curtailing the overall public expenditure. The results also show that in this process the public expenditure on health has reduced significantly (*Figure-6*). In 2005, the central government made a landmark decision and implemented the National Rural Health Mission in April 2005 and committed to spend 2-3 per cent of GDP in health sector. The analysis shows that the share of health expenditure in total expenditure however increased marginally, after implementation of NRHM. As discussed earlier the government's commitment of 2-3 per cent of GDP has not been fulfilled. The trends in health expenditure in the most recent years is also not looking convincing because of major setback after international crisis 2008-09. The central spending on health as percentage of total central spending however shows a marginal increment during the study period (*Figure-6*).

Besides the aggregate, the results at for high focused (HFS) and non high focused states (NHFS) show that total health expenditure as a ratio of GSDP is declining in both of the categories of states (*Figure-7*). The expenditure in per capita terms however show increasing trends in both high focused and non-high focused states (*Figure-8*). The conflict between increasing trends in per capita term and at the same time decreasing trends as a share of GSDP reveals that responsiveness of change in health expenditure to GSDP is lower than the responsiveness of health expenditure change to population. Per capita fund requirement to provide the basic health facility however high in high focused states, but the responsiveness of the change in health expenditure to population is recorded low in these states (*Figure-8*). The central and states allocation on NRHM components on the other side show increasing trends from 2005 to 2012 both in per capita term as well as share of GSDP in both HFS and non-HFS. The funds allocation on NRHM components however recorded high in HFS compare to the non-HFS (*Figure-7 & -8*), which is a healthy indication. This reflects that NRHM funds allocation based on priority of needy states.

A more detailed analysis of NRHM allocation shows that central government, which has committed to transfer more fund in state health sector, has not fulfilled its commitment of fund allocation. The share of allocated fund against the commitments of fund allocation turned is recorded low. This is recorded even low in high focused states compare to the non-HFS. About 18 per cent and 15 per cent funds are allocated less than commitments by central government in HFS and non-HFS respectively

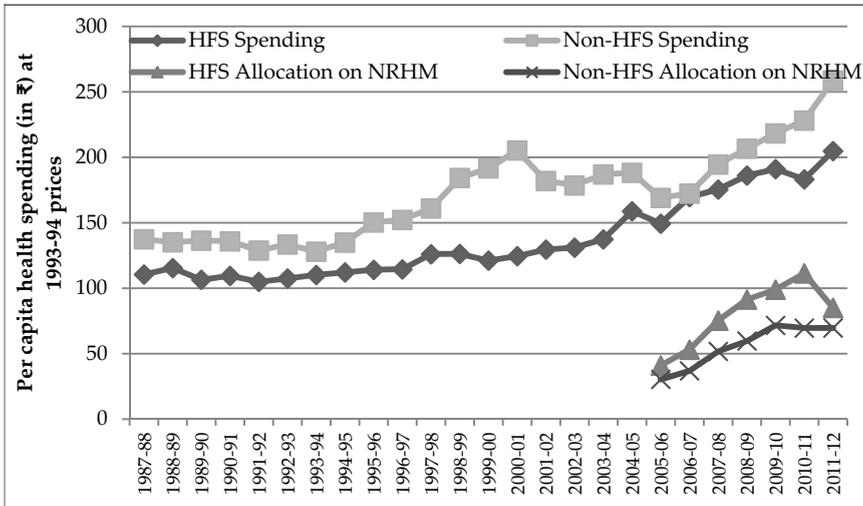
Figure-7
Trends in Health Expenditure as Per Cent to GSDP:
Pre and Post NRHM Analysis



Note: The NRHM items include expenditure on RCH flexipool, NRHM flexipool, infrastructure maintenance, IPI (pulse polio), National Disease Control Programmes (NDCP).

Source: RBI-State Finances: A Study of Budget; NRHM Expenditure Statement.

Figure-8
Trends in Per Capita Health Expenditure:
Pre and Post NRHM Analysis (in ₹)



Note and Source: see Figure-7.

(Table-3). Along with the commitment of more devolution of central fund to states, the central government asked the state to increase their own spending at a specified rate in tandem with increased central funding. The results show that state governments are failing in their capacity to absorb the allocated funds by central government. The share of unspent amount with the state as a ratio of total funds released by central government is recorded around 6.4 per cent and 12.5 per cent for high focused and non-high focused states respectively (Table-3). This shows the inadequate absorptive capacity of state government to utilize the fund properly. The absorptive capacity however found to be high in high focused states compare to the non-high

Table-3
Status of Funds Utilization and Budgetary Priority of State to Health (per cent)

State	Fund Released vs. Fund Utilized: NRHM Spending		Budgetary Commitment vs. Actual Spending: State's Spending in Health \$	
	Amount released by GOI as a ratio of commitment under NRHM: 2005-06 to 2012-13	Absorptive Capacity: Unspent amount with states as a ratio of total fund released by GOI under NRHM: 2005-06 to 2012-13	Revised Estimates as a ratio of Budget Estimates: 2011-12	Account (Actual spending) as a ratio of Budget Estimates: 2010-11
Andhra Pradesh	81.3	29.1	101.8	96.6
Assam#	76.5	7.1	104.6	76.9
Bihar#	72.6	-19.1	110.7	82.6
Gujarat	86.0	-11.0	104.7	101.2
Haryana	90.1	-13.8	117.4	109.4
Himachal Pradesh#	96.5	-23.8	99.0	127.0
Karnataka	83.1	-8.8	103.6	102.4
Kerala	83.9	17.1	98.8	93.5
Madhya Pradesh#	84.4	-1.4	107.6	109.9
Maharashtra	83.6	-15.0	106.1	107.4
Orissa#	90.8	21.9	94.2	87.5
Punjab	96.2	47.6	97.1	89.8
Rajasthan#	103.4	4.7	106.1	88.3
Tamil Nadu	86.6	10.2	101.0	105.4
Uttar Pradesh#	77.3	19.4	103.4	95.9
West Bengal	84.0	56.1	94.6	101.7
high focused states (all #)	82.0	6.4	104.6	93.5
Non-high focused states	84.8	12.5	102.7	101.7

Note: \$: Expenditure on Medical, Public Health, Family Welfare, Water Supply and Sanitation.

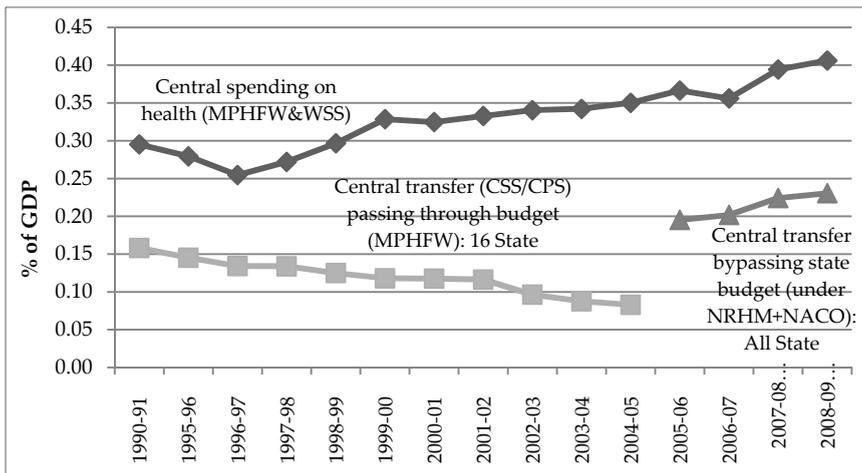
Source: RBI-State Finances: A Study of Budget and NRHM Expenditure Statement.

focused states, which is again a healthy indication. At the state level, the status of funds utilization recorded low in West Bengal and Punjab, where around 56 per cent and 48 per cent funds respectively have not been utilized, reflecting high inadequate absorptive capacity of these states. It can be argued that lack of inadequate availability of human resources, weak capacity to plan and execute plans probably limit the state government to absorb the central fund adequately.

The state's own priority to health sector is estimated from the state budget. As has been mentioned that budget is a most important policy instrument of every governments, which contains of many social, economic and general services. The government always present the provisional Budget Estimates of expenditure in the budget. There is high probability that there may be difference in Budget Estimates, Revised Estimates and Actual Spending which comes after one year. The state governments' priority and politics behind to spend in health is presented as the share of actual spending to Budget Estimates (commitments). The results show that there is a gap in the actual (Account) spending and Budget Estimates (BE). The ratio of Account to BE accounted 93.5 per cent in high focused states and around hundred per cent in non-HFS (*Table-3*). This reflects that probably the low level of fiscal capacity has come in the way to fulfil the expenditure obligations/commitments for the health sector in high focused states.

Beside these issues, the expenditure pattern, particularly the central transfer to state, has changed significantly after the implementation of NRHM. That is, some of the central government funds, which were earlier routed through state budget under the centrally sponsored and plan schemes, bypassing the state budgets after NRHM implementation. These changing routes of central transfer probably leave some implications for Indian health sector. This complexity is analyzed by looking at the expenditure of central government (i) passes through state budget in terms of CSS/CPS and (ii) expenditure that bypass state budget. It is important to mention here is that the central transfer to states through CSS/CPS is an important policy initiative of the central government to support various health programmes running in the state. This helps in meeting the recurring and non-recurring requirement of these programmes, especially the programmes related to communicable and non-communicable diseases such as trachoma, blindness control programmes, family welfare programmes and the others. The data analysis shows that the expenditure in this category is declining from 0.16 per cent of GDP in 1990-91 to 0.08 per cent GDP in 2004-05 (*Figure-9*). This declining trend in central transfer shows that some of the central sponsored health programmes have been discontinued. Furthermore, the phenomena of

Figure-9
Changing Pattern of Central Transfer to States in Health:
Pre and Post NRHM Analysis



Source: Finance Account of State Governments; Indian Public Finance Statistics; NRHM Expenditure Statement.

cutting the central spending from CSS/CPS, before implementing the NRHM, reduces the budgetary resources provided for dealing with several existing major communicable and non-communicable diseases programmes such as trachoma, blindness control and family welfare programmes, etc. Therefore, declining share of CSS/CPS prior to implementation of NRHM is a cause of serious worry. This also raises the question of sustainability of these programmes. That is, the long-term sustainability of any one or all of these central sponsored health programmes, to a large extent, depends on continuous funding from central government. The declining behaviour or uncertainties in resource flows from centre to state would certainly affect the implementation process and effectiveness of these programs at the state level and more particularly the needy (poorer) states. This probably indicates that state governments have to bear most of the burden of health expenditure to finance these programmes from their own resources.

The central spending on NRHM components, that bypassing the state budget and implementing through decentralized agencies, shows increasing as per cent to GDP from 2005-06 to 2008-09 (*Figure-9*). The increasing trend in health expenditure under NRHM, which route through decentralized agencies, can be a healthy indication for better delivery of health services and health outcome of rural area, but how these implementing agencies will utilize the transfer funds require separate exercise to analyze.

As regards to the sustainability of central sponsored (CSS/CPS) health programmes, a study of NRHM document reveals that NRHM consist some of the new schemes and repackages many of the existing health schemes which are now bypassing the state budget. For instance, the National Disease Control Programmes (NDCP) which were earlier with the Department of Health have now been made part of the NRHM. Similarly, the earlier schemes of the Department of Family Welfare such as reproductive and child health programme (RCH), immunisation, contraception, information education and communication (IEC), training and research, area projects and other family welfare services, are all included in the NRHM. The new initiatives under the NRHM are mostly financed through what is called the 'mission flexible pool' which provides for activities like selection and training of a new cadre of community health worker called Accredited Social Health Activist (ASHA), up-gradation of health facilities (community health centre and public health centres) to first referral unites (FRU) and facilities meeting the new Indian Public Health Standards (IPHS), constitution of patient welfare committees called *Rogi Kalan Samiti* (RKS) and district hospital management committees, mobile medical units, united funds for sub-centres, preparation of district action plans and so forth. There have also been some changes in the centrally sponsored schemes now falling under the NRHM umbrella. The earlier RCH programme (RCH1) funded a fixed set of activities. Under the NRHM, the earlier form of the RCH programme is being phased out. In RCH2, most activities are funded through an RCH flexible pool¹⁵ which supports decentralized planning and flexible programming by the states (for detail see NRHM, 2005). This shows that NRHM include many schemes covered under the CSS/CPS.

A study of expenditure on different components of NRHM through some light on the sustainability of earlier programmes sponsored through CSS/CPS. The NRHM mission flexible pool, which provides much of "new" funds to the states, constituted a higher amount and shows increasing trends as per cent to GDP over the period, except the two more recent years. Its share in compositional term has also increased from 13.2 per cent in 2005-06 to 35.2 per cent in 2012-13 (*Table-4*). The RCH flexible pool, which provides the greater flexibility to states spending on RCH related activities, has also constituted higher amount and show increasing trends as per cent to GDP. In compositional term its share increased from 17.6 per cent in 2005-

¹⁵ The flexible pool also incorporates 'pooled' funds of external funding agencies such as the World Bank and Department of International Development-DFID (Berman, P. and Ahuja, R., 2008).

06 to 26.4 per cent in 2012-13. The expenditure on maintenance of infrastructure however put on the priority at the time of launch of NRHM. This components constituted higher amount as per cent of GDP in 2005-06 but started declining thereafter. In compositional term, its share stood around half of the NRHM funds (about 46.9%) in 2005-06 but declined to 33.3 per cent in the year 2012-13 (*Table-4*). One of the possibility of declining in the expenditure of this components is that central government has allocated fund on conditionality basis that state governments needs to increase their own spending at a specified rate in tandem with the increased central funding. The inadequate absorptive capacity of state governments probably has come in the way that expenditure on these components have not been increased. As regards to the programmes relating to NDCP, the expenditure from these programmes, in composition term, declined significantly from 14.4 per cent in 2005-06 to 4.5 per cent in 2012-13. Similar trends are reflected in case of plus polio programmes. This raises the question of sustainability of these programmes running in the states. Therefore, it can be argued that overall increment in expenditure on NRHM components is a healthy indication for health sector. But the changing pattern of health expenditure, through different routes, leaves some

Table-4
Trends and Composition of Fund Allocation
on NRHM Components (per cent)

NRHM Programmes	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13
RCH Flexipool	17.6 (0.039)	23.3 (0.060)	24.8 (0.083)	30.5 (0.115)	27.5 (0.110)	26.0 (0.103)	32.5 (0.106)	26.4 (0.018)
NRHM Flexipool	13.2 (0.029)	24.3 (0.063)	30.1 (0.101)	29.0 (0.109)	33.1 (0.132)	35.0 (0.138)	33.8 (0.110)	35.2 (0.024)
Infrastructure Maintenance	46.9 (0.104)	31.4 (0.081)	30.2 (0.101)	27.3 (0.103)	28.4 (0.114)	29.9 (0.118)	29.1 (0.095)	33.1 (0.022)
IPPI (Pulse Polio)	8.0 (0.018)	8.4 (0.022)	4.9 (0.016)	5.2 (0.020)	4.1 (0.016)	2.6 (0.010)	2.3 (0.007)	0.9 (0.001)
National Disease Control Programme (NDCP)	14.4 (0.032)	12.5 (0.032)	10.0 (0.033)	7.9 (0.030)	6.9 (0.028)	6.5 (0.026)	2.2 (0.007)	4.5 (0.003)
Total NRHM Fund (₹ in Crore)	7548.9 (0.223)	10171.1 (0.257)	15356.8 (0.335)	19969.8 (0.377)	24440.1 (0.400)	28641.1 (0.394)	27191.3 (0.326)	6401.0 (0.068)

Note: These expenditure categories include total fund allocated by central and state governments and includes all Indian states (high focused -north east and other than north-east; and non-high focused states). Figures in parenthesis are as per cent to GDP (at factor cost, current prices 2004-05 series) and figures in non-parenthesis are the composition of total health expenditure.

Source: NRHM Expenditure statement provided by the Ministry of Health and Family Welfare.

questions of sustainability of some of the programmes and has also made the health expenditure more complex to understand. It can also be argued that increased funds which passing through state implementing agencies expected to improve the delivery system of health services in the rural areas in one hand but can make the centre-state finance relation more complex to understand on the other.

Besides showing the impact of different macroeconomic conditions and health policy reforms on public expenditure on health in a simple trends analysis, the analysis at the individual state level can provide more robust interpretation. The impact of these changes therefore is presented by showing the growth rates in per capita public expenditure on health at the state level. To identify how these macroeconomic and health policy changes have impacted the health expenditure of a state and how states have given priority to health sector. The impact is captured by dividing the whole period into four sub-periods. The growth rate estimation analysis shows that in the first sub-period (1987 to 1992) none of the state has recorded positive and significant growth rate in health expenditure. The states like Andhra Pradesh, Assam, Karnataka, Kerala, Gujarat and Punjab turned with negative and significant growth rate (*Table-5*). During this period, in the early 1980s, the first National Health Policy was declared in 1983 and committed to achieve 'Health for All by 2000' by providing adequate health services. But, the growth in public expenditure in health, to provide the adequate health service, could not be sustained in most of the Indian states.

In the second sub-period (1993 to 1998), the fiscal stringency induced by the structural adjustment measures affected the central as well as state finances in a big way. The thrust of structural adjustment programmes (SAP) was to reduce the budgetary deficit either by increasing the revenue resources or curtailing the expenditure or both. Because of limited base of tax structure the revenue of both centre and states government did not show any increment and showed similar trends in revenue/GDP ratio during the period. It reveals from the literatures that most of the Indian states gone through the process of expenditure curtailment (Berman and Shelton, 2001). The analysis from *Table-5* shows that the impact of curtailing in total expenditure of state governments resulted in adverse impact on health sector. The growth rate in health expenditure is recorded positive in only 10 states. The state those who have recorded positive growth in health expenditure may be because of increase in salary expenditure. The growth rate in health expenditure in some of the low income states like Assam and Uttar Pradesh witnessed negative and significant. The lower growth in health expenditure is witnessed in most of the high fiscal stringency

Table-5
Change in Growth Rates of Public Expenditure on Health Across States

<i>State</i>		<i>1987 to 1992</i>	<i>1993 to 1998</i>	<i>1999 to 2004</i>	<i>2005 to 2011</i>	<i>adj R2</i>
Andhra Pradesh		-0.055**	0.15***	-0.058***	0.035**	0.83
Assam		-0.052**	-0.041**	0.078***	0.117***	0.89
Bihar		0.018	0.029**	0.017	0.035***	0.81
Gujarat		-0.059*	0.086***	-0.042*	0.050**	0.46
Haryana		0.007	0.051***	0.026**	0.082***	0.92
Himachal Pradesh		0.005	0.033**	0.054***	0.024	0.85
Karnataka		-0.052***	0.087***	-0.024*	0.059***	0.83
Kerala		-0.029**	0.010	0.034***	0.077***	0.93
Madhya Pradesh		-0.027	0.073***	-0.012	0.026*	0.71
Maharashtra		-0.038	0.055	0.022	0.013	0.89
Orissa		-0.019	0.039***	0.015	0.058***	0.83
Punjab		-0.034*	0.042***	0.032**	0.039***	0.84
Rajasthan		-0.009	0.045***	-0.003	0.016	0.65
Tamil Nadu		0.045	0.001	-0.003	0.045**	0.28
Uttar Pradesh		-0.004	-0.039**	0.079***	0.069***	0.83
West Bengal		-0.023	0.072***	-0.013	0.046***	0.72
States (in No.) show significant growth rate	+ ve	None	10 States	6 States	13 States	---
	- ve	6 states	2 states	3 states	None	---

Note: ***, ** and * are level of significance at 1, 5, and 10 per cent respectively. The growth rates in per capita health expenditure are estimated by using Kinked Exponential Growth model.

Source: Finance Account of States and RBI-State Finances: A Study of Budget.

(identified through fiscal deficit to GDP ratio) states (RBI, 2006). That is, deteriorating fiscal position of a particularly state destabilized the spending pattern in India. However, some of the Indian states, even during fiscal stringency, continued its commitment to improve the overall health of the society by maintaining high growth rates in health expenditure. The differences in the responses of growth rates of health expenditure across states reflect that the fiscal stringency, political commitments, not the economic status, come in the way to allocate more public funds in health sector across states.

In the third sub-period (1999 to 2004), beside the FRBM Act (which may have adverse repercussion on expenditure) the other macro-economic changes like implementation of 5th Pay Commission, initiation of second generation economic reforms, announcement of second National Health Policy (2002) expected to have positive impact on health expenditure. The data analysis shows that only six states (namely Assam, Haryana, Himachal Pradesh, Kerala, Punjab and Uttar Pradesh) have witnessed positive and

significant growth rate in health expenditure. The growth rate turned negative and significant in Andhra Pradesh and Gujarat (*Table-5*).

In the fourth phase (2005-11), the government of India has initiated health sector reform and introduced National Rural Health Mission in 2005. Under the NRHM, government of India is committed to spend 2-3 per cent of GDP in health sector. The data analysis of growth rates estimation in health expenditure show that most of the Indian states have recorded positive and significant growth rates. Around thirteen states come out with positive and significant growth rates. None of state has recorded negative growth in health expenditure in this period. It can be argued that NRHM however able to maintain positive growth rates in health expenditure, but failed in achieving its 2-3 per cent of GDP commitment of spending.

Along with the growth rates, the health expenditure in real per capita terms shows high inter-state variation. This inter-state variation in health expenditure is increasing over the period. The value of coefficient of variation was recorded around 0.55 in the first sub-period and increased to 0.64 in the fourth sub-period (*Table-6*). The per capita spending in most of low

Table-6
Inter-State Variation in Per Capita Public Expenditure on Health (in ₹)

<i>State</i>	<i>1987 to 1992</i>	<i>1993 to 1998</i>	<i>1999 to 2004</i>	<i>2005 to 2011</i>
Andhra Pradesh	113	176	198	195
Assam	139	106	124	250
Bihar	69	80	94	108
Gujarat	164	170	223	211
Haryana	146	184	221	336
Himachal Pradesh	427	460	602	797
Karnataka	130	142	183	205
Kerala	146	135	164	236
Madhya Pradesh	120	149	180	175
Maharashtra	131	141	178	195
Orissa	102	110	128	169
Punjab	151	148	199	243
Rajasthan	200	227	252	267
Tamil Nadu	198	204	247	243
Uttar Pradesh	86	79	83	149
West Bengal	88	95	129	135
Mean	150	163	200	245
STDEV	82.3	90.0	118.6	157.5
COV	0.55	0.55	0.59	0.64

Source: Finance Account of States and RBI-State Finances: A Study of Budget.

income states is recorded lower than the high income states. Interestingly, in some of the high income states (like Gujarat and Maharashtra) the per capita expenditure is recorded lower than the average spending of all states. The variations in health expenditure themselves is not a matter for concern if it is due to the exercising of preferences by individual states on the basis of prevailing disease or mortality rate in the state. But, it became problematic when states with high prevalence of disease and/or mortality rates and states with high level of income allocate little/low funds in health sector. This may mean that either these states are shying away from fulfilling its constitutional commitment of 'Right to Health' for its citizens or consider health as low priorities sector.

It has been observed from the discussion is that the differences in health expenditure across states probably arise either because of preference or income of the state. The differences may also arise because of fiscal disabilities of the states arising from unequal capacities in raising revenues or due to varying cost of providing health services. The regional diversity and socio-economic conditions of a particular state however can also be the cause of inter-state variation in health expenditure. In order to fully evaluate the reason behind the differences in health expenditure, one needs to identify the degree to which the discrepancy in health expenditure is explained by the differences in state's income, fiscal capacity, priority of state governments or by other demographic factors. This however does not come under the preview of this study but can be the part of future research.

5. Conclusion and Suggestions

The health spending in India is dominated by private out-of-pocket spending with its high share about 71 per cent of the total spending. The public expenditure on health in India is recorded lower than the international standard of spending. The spending is also found lower than the required level of resources to provide the basic health facility in the country across states. India however has made many commitments, since the time of its independence, to spend in health for better health standard. A detailed study of different health policy documents shows that neither the centre nor state governments have ever fulfilled their commitment of health spending. This has resulted in inadequate provision of health facility in the country, e.g., bed: population ratio in India is 1:1000 compare to the 7:1000 in developed nations.

The changing nature of health expenditure into different components leaves many implications for health care reformists. The change in composition of

health expenditure shows that health spending is dominated by urban and curative cares whereas the spending in rural area and on preventive cares is very low. The overall (both rural and urban) health expenditure shows declining trends as a share of GDP. These declining trends however are more pronounced in rural area in most of the Indian states. Within in the rural health spending, the expenditure towards salary components is high whereas the spending on essential medicine, drugs and equipments is very low. The capital expenditure, which is sole determinant of physical infrastructure, is recorded very low in all the Indian states. The share of capital expenditure in total state's budget expenditure and in GSDP has even come down during the study period. Such trends of capital expenditure are likely to force/pushback the recurring expenditure to grow.

The impact of different macroeconomic conditions shows that health expenditure is highly and negatively affected under adverse macroeconomic conditions. Analysis at the state level shows that growth rate in per capita health expenditure in some of the low income states is recorded negative and significant. Interestingly, some of the high income states found unable to maintain significant positive growth rate in health expenditure. The coefficients of growth rate during different macro-economic changes vary considerably across states. There also exist a high inter-state variable in per capita health expenditure in India.

Amongst the other health policy changes, the public expenditure on health, after the implementation of NRHM in 2005, shows increasing trends. Under the mission, the government of India has set the ambitious goal of increasing the government health spending up to 2-3 per cent of GDP by the end of 11th plan. This shows a strong commitment of government towards health sector. But India spending in health is recorded low about 1.2 per cent of GDP than the commitments at the end of this plan. Thus, it can be argued showing marginal increment in the expenditure trends could not lead to the stated goal. Under the mission, the central government however has asked the state governments to increase their own spending at a specified rate in tandem with the increased central funding. The state government did not show the pace to increase their spending at the required level. Therefore, the transfer of central funds to state, which was based on some conditionality, could not be utilized by the state government adequately. This shows the inadequate absorptive capacity of state governments to utilize the fund properly, which further result in slowing down the NRHM implementation. It can be argued that lack of inadequate availability of human resources, weak capacity to plan and execute plans probably limit the state government to absorb the central fund adequately. Another feature of

NRHM was to providing the possible help to the needy states, to fill the gap in health outcome and facility between lagging and more advanced states. These states are categorized into high focused and non-high focused states respectively. The findings indicate that the NRHM has given adequate priority to needy states. The health expenditure in these states show increasing trends compare to the non-high focused states.

With the implementation of NRHM, some of the central funds, which were earlier passes through state's budget (through Centrally Plan and Sponsored schemes-CPS/CSS), started bypassing the state's budget. This changing route of central transfer has put limitations on central sponsored health programmes running through CPS/CSS. The share of central transfer in CPS/CSS has come down, as per cent to GDP, significantly. This declining share of central transfer from CPS/CSS has resulted in discontinuous of some of the health programmes running in the village, specifically the plus polio and national disease control programmes. This has also made the financial relationship in a federal country like India more complex and health expenditure data more complex to understand. The central spending which bypassing the state budget, i.e., the NRHM spending, show increasing trends as per cent to GDP from 2005-06 to 2011-12. This bypassing nature of central transfer can probably lead to unintended consequences to mobilize the funds from state's own exchequer. As they may intend that NRHM is a financial responsibility of centre government. Secondly, the central funds that passing through the state implementing agencies became difficult to monitor, specifically whether these funds have been implemented effectively at the ground level.

The overall analysis confirms that India and its states are shying away from fulfilling its constitutional commitment of 'Right to Health' for its citizens. We have observed that public health sector have never been given change to perform well in India. Given the low level, declining and fluctuating behaviour of health expenditure over the last twenty five years, it is not surprising that the health sector performance in improving the health outcomes is not satisfactory. The failing nature of better health outcomes however can easily be reverse with the high level of public funds allocation in this sector. Specifically, India needs to double or triple its health spending from its existing level. Along with the commitments of health spending, it became important to ensure that the allocated additional public funds get spend effectively across its constituent states, which have shown low absorptive capacity to utilize the fund properly/effectively.

6. References

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Appendix-1
Change in the Composition of Public Expenditure on Health
in India States (per cent)

Codes	Items	HIS		AC	MIS		AC	LIS		AC
		2004-05	1995-96	GR	2004-05	1995-96	GR	2004-05	1995-96	GR
A	Direct Health	54.6	65.2	8.2	50.2	48.9	7.7	66.8	69.3	8.7
B	Indirect Health	45.4	34.8	13.1	49.8	51.1	7.1	33.2	30.7	9.9
A + B	Revenue	87.5	95.3	9.2	77.1	91.8	5.6	89.4	95.1	8.4
	Capital	12.5	4.7	21.4	22.9	8.2	19.0	10.6	4.9	17.8
A + B	Plan	38.2	37.2	10.4	49.9	38.5	10.2	49.8	44.7	10.3
	Non-Plan	61.8	62.8	10.0	50.1	61.5	5.2	50.2	55.3	8.1
A + B	State Owns'	90.6	87.7	10.5	85.7	83.7	7.7	81.0	77.0	9.7
	CSS/CPS	9.4	12.3	7.2	14.3	16.3	6.0	19.0	23.0	7.0
A	(a) Medical	68.1	60.7	9.4	74.7	69.3	8.5	75.2	63.7	10.5
	(b) Public Health	22.1	24.0	7.3	9.6	12.3	5.1	9.2	14.2	4.1
	(c) Family Welfare	9.8	15.3	3.5	15.6	18.4	6.0	15.6	22.1	5.0
B	(d) Water Supply and Sanitation	80.1	71.6	14.4	71.7	49.0	11.3	82.9	86.9	9.4
	(e) Nutrition	19.9	28.4	9.1	28.3	51.0	1.0	17.1	13.1	12.9
a + b	Rural	15.8	15.7	8.9	21.4	18.9	9.5	35.7	33.1	10.4
	Urban	46.2	44.4	9.3	47.9	49.0	7.8	40.2	39.4	9.8
	Medical Education, Training & Research	13.4	11.4	10.6	11.9	9.8	10.1	12.6	9.1	13.2
	Public Health	24.5	28.3	7.3	11.4	15.1	5.1	10.9	18.2	4.1
	Others	0.2	0.2	8.5	7.3	7.2	8.2	0.6	0.2	26.2
C	Rural	50.1	37.0	6.6	47.3	38.7	8.1	61.9	50.3	7.2
	Urban	5.1	3.5	7.4	3.7	6.3	0.5	3.6	2.6	8.6
	MCH Care	11.8	18.4	-1.0	10.9	14.5	3.0	10.8	11.6	4.2
	Others	33.1	41.1	1.3	38.1	40.6	5.3	23.7	35.5	0.8
D	Rural	40.0	48.1	12.3	57.5	44.1	14.3	50.0	43.4	11.0
	Urban	4.7	5.3	12.8	20.8	32.2	6.5	17.2	15.6	10.5
	Other	55.4	46.6	16.4	21.7	23.7	10.3	32.7	41.0	7.0
a+b + c+d	Rural	27.5	27.0	10.4	38.8	29.8	11.9	42.8	38.7	10.0
	Urban	27.2	29.1	9.5	32.6	38.1	7.3	29.4	26.9	9.9
	Other	45.4	43.9	10.6	28.6	32.0	7.8	27.8	34.4	6.6
#	Salary	90.5	90.7	14.4	79.1	88.9	13.8	83.6	94.2	11.6
	Administration	1.3	2.6	6.8	11.5	3.2	30.6	10.7	3.5	26.1
	Medicine & equipment etc	8.2	6.7	16.8	9.9	7.9	17.7	5.7	2.2	23.9

Note: HIS: High Income States; MIS: Middle Income States; LIS: Low Income States; # These ratios include spending on Rural Health Services, for the years 1992-93 & 2005-06.

Source: Finance Account of State Governments and # Original Budget Paper of State Governments, Detailed Demand for Grants (relevant years).

Appendix-2
Allocation Pattern of Public Expenditure on Health in India States

Codes	Items	Real Per Capita Expenditure (in ₹)						Share in GSDP (in %)					
		HIS		MIS		LIS		HIS		MIS		LIS	
		1995	2004	1995	2004	1995	2004	1995	2004	1995	2004	1995	2004
		-96	-05	-96	-05	-96	-05	-96	-05	-96	-05	-96	-05
A	Direct Health	90.0	114.4	83.6	100.2	56.6	71.0	0.66	0.59	0.91	0.73	0.94	0.97
B	Indirect Health	48.0	95.3	87.4	99.2	25.1	35.3	0.35	0.49	0.95	0.72	0.42	0.48
A +	Revenue	131.5	183.4	157.0	153.8	77.7	95.0	0.96	0.95	1.70	1.11	1.29	1.29
B	Capital	6.5	26.2	14.0	45.6	4.0	11.2	0.05	0.14	0.15	0.33	0.07	0.15
A +	Plan	51.3	80.0	65.8	99.5	36.6	52.9	0.38	0.41	0.71	0.72	0.61	0.72
B	Non-Plan	86.7	129.7	105.2	99.9	45.2	53.4	0.64	0.67	1.14	0.72	0.75	0.73
A +	State Owns'	121.0	189.9	143.1	171.0	63.0	86.1	0.89	0.98	1.55	1.24	1.04	1.17
B	CSS/CPS	17.0	19.7	27.9	28.4	18.8	20.2	0.12	0.10	0.30	0.21	0.31	0.27
A	(a) Medical	54.6	77.9	57.9	74.8	36.1	53.4	0.40	0.40	0.63	0.54	0.60	0.73
	(b) Public Health	21.6	25.3	10.3	9.7	8.0	6.5	0.16	0.13	0.11	0.07	0.13	0.09
	(c) Family Welfare	13.8	11.2	15.4	15.7	12.5	11.1	0.10	0.06	0.17	0.11	0.21	0.15
B	(d) Water Supply & Sanitation.	34.4	76.3	42.8	71.1	21.8	29.2	0.25	0.40	0.46	0.51	0.36	0.40
	(e) Nutrition	13.7	19.0	44.6	28.1	3.3	6.0	0.10	0.10	0.48	0.20	0.05	0.08
a +	Rural	11.9	16.3	12.9	18.1	14.6	21.4	0.09	0.08	0.14	0.13	0.24	0.29
b	Urban	33.8	47.7	33.5	40.5	17.4	24.1	0.25	0.25	0.36	0.29	0.29	0.33
	Medical Education, Training & Research	8.7	13.8	6.7	10.1	4.0	7.6	0.06	0.07	0.07	0.07	0.07	0.10
	Public Health	21.6	25.3	10.3	9.7	8.0	6.5	0.16	0.13	0.11	0.07	0.13	0.09
	Others	0.2	0.2	4.9	6.2	0.1	0.4	.001	.001	0.05	0.04	.001	0.01
c	Rural	5.1	5.6	5.9	7.4	6.3	6.9	0.04	0.03	0.06	0.05	0.10	0.09
	Urban	0.5	0.6	1.0	0.6	0.3	0.4	.001	.001	0.01	0.00	0.01	0.01
	MCH Care	2.5	1.3	2.2	1.7	1.5	1.2	0.02	0.01	0.02	0.01	0.02	0.02
	Others	5.7	3.7	6.2	6.0	4.4	2.6	0.04	0.02	0.07	0.04	0.07	0.04
d	Rural	16.5	30.5	18.9	40.9	9.5	14.6	0.12	0.16	0.21	0.30	0.16	0.20
	Urban	1.8	3.6	13.8	14.8	3.4	5.0	0.01	0.02	0.15	0.11	0.06	0.07
	Other	16.0	42.2	10.2	15.4	9.0	9.6	0.12	0.22	0.11	0.11	0.15	0.13
a+	Rural	33.6	52.4	37.7	66.4	30.4	42.9	0.25	0.27	0.41	0.48	0.50	0.58
b+	Urban	36.1	51.8	48.2	55.9	21.1	29.5	0.26	0.27	0.52	0.40	0.35	0.40
c+d	Other	54.6	86.5	40.5	49.0	27.0	27.8	0.40	0.45	0.44	0.35	0.45	0.38
#	Salary	6.9	15.4	14.0	28.9	12.2	19.9	0.05	0.08	0.15	0.21	0.20	0.27
	Administration	0.2	0.2	0.5	4.2	0.5	2.5	.001	.001	0.01	0.03	0.01	0.03
	Medicine & equipment etc.	0.5	1.4	1.2	3.6	0.3	1.4	.001	0.01	0.01	0.03	.001	0.02

Note and Source: see Appendix-1.

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ISID has developed databases on various aspects of the Indian economy, particularly concerning industry and the corporate sector. It has created On-line Indexes of 203 Indian Social Science Journals (OLI) and 18 daily English Newspapers. More than one million scanned images of Press Clippings on diverse social science subjects are available online to scholars and researchers. These databases have been widely acclaimed as valuable sources of information for researchers studying India's socio-economic development.

About the PHFI

The Public Health Foundation of India (PHFI) is a public private initiative that has collaboratively evolved through consultations with multiple constituencies including Indian and international academia, state and central governments, multi & bi-lateral agencies and civil society groups. PHFI is a response to redress the limited institutional capacity in India for strengthening training, research and policy development in the area of Public Health.

Structured as an independent foundation, PHFI adopts a broad, integrative approach to public health, tailoring its endeavours to Indian conditions and bearing relevance to countries facing similar challenges and concerns. The PHFI focuses on broad dimensions of public health that encompass promotive, preventive and therapeutic services, many of which are frequently lost sight of in policy planning as well as in popular understanding.

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