Increasing the Percentage GDP Healthcare Expenditure from 1.15 to 2.5%-A Road Map

By

Shubham Painoli

Dissertation submitted for the partial fulfillment of the

MBA Hospital and Health Management

Academic year, 2015-2017

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INSTITUTE OF HEALTH
MANAGEMENT RESEARCH
(WHO Collaborating Centre for District Health System Based on Primary Health Care)

IIHMR UNIVERSITY

TO WHOMSOEVER MAY CONCERN

This is to certify that Dr. Shubham Painoli student of MBA Hospital and Health Management from The IIHMR University, Jaipur has undergone internship training at IIHMR University from 06-02-2017 to 05-05-2017.

The Candidate has successfully carried out the study designated to his during internship training and his approach to the study has been sincere, scientific and analytical.

The Internship is in fulfillment of the course requirements.

I wish her all success in all her future endeavors.

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THE IIHMR UNIVERSITY, JAIPUR

CERTIFICATE BY SCHOLAR

This is to certify that the dissertation titled Increasing the Percentage Healthcare GDP from 1.15% to 2.5% - A Road Map and submitted by Dr. Shubham Painoli Enrollment No. IIHMR-U/01/2015-17/0349 under the supervision of Dr. Monika Chaudhary for award of MBA in Hospital and Health Management of the University carried out during the period from 06-02-2017 to 05-05-2017 embodies my original work and has not formed the basis for the award of any degree, diploma associate ship, fellowship, titles in this or any other institute or other similar institution of higher learning.

Signature

THE IIHMR UNIVERSITY, JAIPUR

CERTIFICATE BY SCHOLAR

This is to certify that all ethical issues have been considered while collecting data for my dissertation titled Increasing the Percentage Healthcare GDP from 1.15% to 2.5% - A Road Map.

Signature of student

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Chapter 1: Background: India's Health Expenditure vis a vis The World Health Expenditure

Today's world is going through the transition due to change in the external environment like demographic changes, advancement in technology, societal and cultural norms and political legal instability. Healthcare industry got affected by changing trend of environment result in the transition in healthcare itself. There are many underlying issues responsible for growth in healthcare expenditure like the rising burden of diseases, growth of population, inflation rate and advancement in technology. World Health Statistics 2016 proposed sustainable development goals for improving the health indicators, bringing equity in society and introducing universal health coverage across the world.[3] this rising demand for healthcare and expansion of the healthcare industry poses the challenge to the world in terms of healthcare spending and fund raising for healthcare.

Every industry of the world is expanding and so do the healthcare industry. But with the expansion rather than sluggish and stagnant growth of the industry, there comes challenge of excess spending, rising cost, inadequate capacity etc. In fact, there are many new areas which open the opportunity of healthcare spending, providing accessible and affordable care to the personnel yet the accountable authority is unable to use the funds efficiently. Based on current GDP forecasts, global health care spending should grow more than 6% annually over the next decade.[2] such a rapid growth in healthcare industry will make it the focus point for the investments by both public and private players.

There is lack of equity in healthcare all around the globe as the health spending of the world is around US$ 6.9 trillion which is unequally distributed between the countries out of which 82% spend on the OECD countries where 18% of the population of the world is living and Rest 18% health spending did by the other countries. WHO estimated spending needed to provide basic life services per person is around US$ 44 which varies country wise like highest health spending in Norway around US$ 9908 and lowest in Eritrea around US$ 12 per person.

Government health spending on healthcare also varies in countries like Norway spending US$ 8436 and low as Myanmar spending US$ 3 per person.

Out of pocket spending also varies country wise like higher in Switzerland around US$ 2384 and lowest in Mozambique around US$ 1.64 so there is a need of the equitable division of healthcare spending and government of all the countries should make an effort to make it equitable.

Table below shows some of the global data on health expenditure from WHO Global Health Expenditure 2014:

Table 1: Health expenditure data (2011)[1]

Total expenditure for health for 2011: US$ 6.9 trillion	Average Total expenditure for health per person per year: US$ 1008
Country with highest total spending on health per person: Norway (US$ 9908)	Country with lowest total spending per person on health: Eritrea (US$ 12)
Country with highest government spending per person on: Norway (US$ 8436)	Country with lowest government spending per person on: Myanmar (US$ 3)
Country with highest annual out-of-pocket household spending on health: Switzerland (US$ 2384)	Country with lowest annual out-of-pocket household spending on health: Mozambique (US$ 1.64)
Average amount spent per person on health in countries belonging to the Organisation for Economic Co-operation and Development (OECD): US$ 4584	Percentage of the world's population living in OECD countries: 18%
Percentage of the world's total health expenditure on health currently spent in OECD countries: 82%	WHO estimate of minimum spending per person per year needed to provide basic, life-saving services1: US$ 44
Number of WHO Member States where health spending – including spending by government, households and the private sector and funds provided by external donors – is lower than US$ 44 per person per year: 26	Number of WHO Member States where health spending is lower than US$ 20 per person per year: 6
Percentage of funds spent on health in the WHO African Region that has been provided by donors: 9.4%	

Share of Total Health Care Spending in Select Economies

There are many developed countries that adequately spend on healthcare like New Zealand who spend approximately 11% in healthcare out of total GDP where public spending is approximately 9%.12. Public spending is adequate as compared to India.

Developing countries like Ghana, South Africa and Sri Lanka spend less percentage of their GDP in healthcare but still the public spending is more in these countries as compared to India (table). India, on the other hand, although the total health expenditure is very less (4.65%), yet the public spending on healthcare is less (approximately 1.4%)

[1] Atlas 2014, 'WHO Global Health Expenditure Atlas September 2014', 'WHO'.

Table 2: the total percentage of healthcare spending and percentage of public spending by different countries[2]

Country Name	Total health spending2014	Public health spending 2014
New Zealand	11.0296101	9.082656345
Canada	10.449582	7.411931884
Japan	10.22874408	8.550081685
Australia	9.42230024	6.316592658
United Kingdom	9.11547172	7.578850169
Afghanistan	8.18227382	2.932833722
Greece	8.08426702	4.985039193
Poland	8.0257236	4.507639603
Uzbekistan	7.22213686	3.11124825
Ukraine	7.00385794	3.604521121
Vietnam	5.83852176	3.820019105
Nepal	5.797226	2.337819114
United States	5.58011591	8.278517711
China	5.54822768	3.095174286
Iraq	5.53887318	3.33814899
South Africa	5.02357493	4.24326873
India	**4.68508833**	**1.407237618**
Ghana	3.55729189	2.128885085
Sri Lanka	3.50335011	1.96395333
Indonesia	2.84686016	1.075536301

Insurance Density

Penetration of insurance in both the years is compared in 2012 and 2013 shows variation across different countries. United States shows decrease in total insurance company from 4047 to 3979, whereas in UK it increases from 4350 to 4561. Although there are many insurance company penetration in the different countries, India is having least penetration of insurance that is 53 in 2012 which decreases to 52 in 2013.

Life insurance companies also decreases in India from 2012 to 2013 from 43 to 41 and for covering the household health spending, we need health insurance in India.

[2] World Bank 2014.

Table 3: Insurance companies in India 2012-13[3]

Countries	2012**			2013**		
	Total	Life	Non-Life	Total	Life	Non-Life
United States	4,047	1,808	2,239	3,979	1,684	2,296
United Kingdom	4,350	3,256	1,094	4,561	3,474	1,087
France	3,544	2,239	1,304	3,736	2,391	1,345
Germany	2,805	1,299	1,505	2,977	1,392	1,585
Switzerland	7,522	4,121	3,401	7,701	4,211	3,490
Japan	5,168	4,143	1,025	4,207	3,346	861
Hong Kong	4,544	4,025	519	5,002	4,445	557
India	**53**	**43**	**11**	**52**	**41**	**11**
China	179	103	76	201	110	91
Brazil	414	226	189	443	246	197
Russia	182	12	170	199	19	180
South Africa	1,081	882	199	1,025	844	181
World	656	373	283	652	366	285

Out of Pocket Spending

Out of pocket expenditure is the main concern for most of the countries now days. To reduce the catastrophic household spending on health, government charge taxes from the people. Also many private insurance players come in the market to reduce the burden of health spending. Countries like US, euro areas where out of pocket spending is 11.8 and 14.1 on healthcare respectively, the public spending on healthcare is highest among all countries which are 47.1 and 76.1 respectively. OOPS reduce more by spending more on private insurance which reduces the spending to 41.1 and 9.7 respectively (table).

Contries like China and Latin America where oops is higher than US and Euro areas which are 33.8 and 32.1 respectively still the public spending and private insurance on healthcare is adequate as compared to India (table). India should Increase the public spending and private insurance in order to reduce OOPS.

[3] CRISSIL ASSOCHAM INSURANCE REPORT OCTOBER 2015, 'Inclusion + Intermediation + Technology = Inflection The Next Game In Insurance'.

Table 4: healthcare expenditure mechanism in various countries[4]

	Out Of Pocket Expenditure	Public Expenditure	Private Insurance
U.S	11.8	47.1	41.1
Euro Areas	14.1	76.1	9.7
Advances Economies	14.7	61.1	24.1
Latin America	32.1	52.6	15.1
China	33.8	55.8	10.3
Asia Ex Japan	34.5	54.9	10.4
Emerging market Economies	35.8	52.5	11.5
India	**58.2**	**32.2**	**9.5**

[4] October 2015, Global Healthcare Investment Outlook, GLOBAL HEALTH CARE OUTLOOK- Reconciling Rapid Growth & Cost Consciousness, The Carlyle Group.

Chapter 2: Background: Global Disease Burden and its Comparison with India

Benchmarking of the countries for Disease Burden:

Global Burden of Disease Study 2010 compares the two situations of 1990 and 2010 where they compare 15 countries based on Age Standardized Death Rate, Age Standardized YLL Rate, Age Standardized YLD Rate, Life Expectancy at Birth and Health Adjusted Life Expectancy at Birth. In these past years, India Improved at a slow rate. Countries with more public spending like Uzbekistan, Iraq where public health spending is approximately 3% of GDP, have shown improvement in above indicators and stood in better position than India according to table. Countries like Pakistan where the public spending is approximately 0.9% which is less than India (approximately 1%)still they are in better position than India in terms of the disease burden (table).

These findings indicate that the Government of India should focus more on increasing their health expenditure as well as allocating the funds efficiently so as to bring down the disease burden of India.

Table 5: 15 countries which are ranked from 1 to 15 according to Global Burden of Disease Study 2010 where 1 indicating the best rank and 15 indicating the worst rank:[5]

Age-standardized death rates, YLL rates, YLD rates, and life expectancy at birth and health-adjusted life expectancy at birth for 1990 and 2010, both sexes combined																				
Country	Age-standardized death rate (per 100,000)				Age-standardized YLL rate (per 100,000)				Age-standardized YLD rate (per 100,000)				Life expectancy at birth				Health-adjusted life expectancy at birth			
	1990		2010		1990		2010		1990		2010		1990		2010		1990		2010	
	Rate	Rank	Rate	Rank	Rate	Rank	Rate	Rank	Rate	Rank	Rate	Rank	LE	Rank	LE	Rank	HALE	Rank	HALE	Rank
Iraq	809	4	783	5	24,631	2	22,488	5	12,166	3	11,933	5	69.9	3	70.9	5	59.8	3	60.8	6
Federated States of Micronesia	1,476	13	1,258	13	42,732	10	31,526	9	13,632	11	12,681	11	61.1	10	65.6	11	52.3	11	56.7	9
Kiribati	1,879	15	1,528	15	58,098	14	43,508	14	15,513	15	14,585	15	56	14	61	14	47.2	14	51.8	14
Congo	1,696	14	1,401	14	60,756	15	49,063	15	15,443	14	14,357	14	54.7	15	58.8	15	46	15	49.9	15
Cape Verde	785	2	586	1	25,843	4	16,730	2	13,500	10	12,947	12	69.8	4	75.1	2	59.1	6	63.7	3
Philippines	909	6	868	6	28,515	7	23,262	7	13,334	9	12,483	8	67.8	7	70.1	6	57.8	8	60.3	7
Mongolia	1,283	10	1,218	12	44,720	11	34,325	13	11,523	1	11,482	3	60.5	11	64.6	13	52.8	10	56.5	11
India	**1,447**	**12**	**1,097**	**11**	**50,084**	**13**	**33,366**	**11**	**13,727**	**12**	**12,494**	**9**	**58.3**	**13**	**65.2**	**12**	**49.8**	**12**	**56.2**	**12**
Vietnam	876	5	595	2	26,230	5	15,123	1	12,188	4	10,909	1	68.9	5	75.6	1	59.5	4	65.8	1
Moldova	1,000	8	912	8	26,698	6	22,769	6	11,653	2	11,362	2	68.1	6	70	7	59.3	5	61	5
Nicaragua	762	1	652	3	25,101	3	16,911	3	12,459	6	11,835	4	70.3	2	74.4	3	60.1	1	64	2
Palestine	794	3	694	4	23,225	1	18,413	4	12,827	7	12,639	10	70.6	1	73.2	4	59.9	2	62.2	4
Pakistan	1,120	9	982	9	41,231	9	33,518	12	12,877	8	12,323	7	62.3	9	65.7	10	53.3	9	56.5	10
Yemen	1,361	11	1,068	10	47,661	12	32,041	10	15,157	13	14,318	13	59.3	12	65.8	9	49.4	13	55.2	13
Uzbekistan	972	7	911	7	29,477	8	26,063	8	12,381	5	12,150	6	67.3	8	68.8	8	57.8	7	59.3	8

[5] GLOBAL BURDEN OF DISEASES, INJURIES, AND RISK FACTORS STUDY 2010, WHO

Global burden of disease study 2010 compares the situation of 25 diseases across same 15 countries and the relative position of India with respect to other countries. Ranking colour legends are also indicated like green for rank 1 to 3, yellow for rank 4 to 7, orange for rank 8 to 11 and red for 12 to 15. Green colour indicates good position of country in relation to disease and red indicated bad position of the country (table).

If we talk about comparison of disease burden of India with other countries, out of 25 diseases 15 marked by red legend (which shows the worst position of India in those particular diseases), 4 orange legends, 4 yellow legends and 2 green legends which clearly states that there is high disease burden in India as compared to the other countries.

Table 6: 15 countries which are ranked from 1 to 15 according to Global Burden of Disease Study 2010 where 1 indicating the best rank and 15 indicating the worst rank[6]

Ranking of leading age-standardized rates of disability-adjusted life years (DALYs) relative to comparator countries in 2010																									
Country	Preterm birth complications	Diarrheal diseases	Lower respiratory infections	Ischemic heart disease	COPD	Tuberculosis	Neonatal sepsis	Road injury	Iron-deficiency anemia	Self-harm	Neonatal encephalopathy	Low back pain	Stroke	Major depressive disorder	HIV/AIDS	Diabetes	Fire	Congenital anomalies	Protein-energy malnutrition	Falls	Meningitis	Cirrhosis	Migraine	Asthma	Measles
Iraq	8	7	6	12	3	2	14	3	9	1	9	11	6	5	2	13	10	13	6	3	8	1	3	8	1
Federated States of Micronesia	2	9	7	8	8	9	7	6	6	12	2	10	13	3	1	14	12	2	11	11	11	9	6	14	12
Kiribati	4	11	9	6	11	12	8	10	4	14	10	9	14	12	9	15	9	4	14	13	14	12	5	15	6
Congo	11	15	13	7	13	15	11	15	12	8	11	3	10	13	15	8	14	14	15	12	15	11	4	10	14
Cape Verde	3	10	3	2	9	4	12	8	13	4	3	8	4	8	14	4	8	1	9	4	10	2	11	9	10
Philippines	10	6	10	10	10	14	5	2	8	5	6	12	7	10	4	10	2	8	7	2	6	5	9	13	13
Mongolia	9	5	11	14	12	8	3	14	2	11	13	5	15	6	5	2	11	9	4	7	9	14	13	2	4
India	**15**	**12**	**8**	**9**	**15**	**11**	**15**	**13**	**14**	**15**	**12**	**7**	**2**	**2**	**12**	**5**	**15**	**6**	**13**	**15**	**12**	**7**	**14**	**11**	**15**
Vietnam	5	3	2	1	7	5	2	9	1	6	1	2	5	1	11	1	3	3	5	5	3	6	10	5	11
Moldova	1	1	4	13	4	6	4	7	5	13	4	15	9	4	13	3	7	7	1	9	1	15	8	1	3
Nicaragua	7	8	5	3	2	3	9	1	3	7	8	4	1	9	7	9	1	11	8	1	4	8	7	7	5
Palestine	13	2	1	5	1	1	10	5	7	3	7	14	12	15	3	11	4	10	3	6	2	3	1	4	8
Pakistan	14	13	12	4	14	13	13	4	11	9	15	1	3	7	8	7	13	12	10	14	13	10	15	6	9
Yemen	12	14	15	11	6	10	6	11	15	2	5	13	8	14	6	12	5	15	12	8	7	4	2	12	7
Uzbekistan	6	4	14	15	5	7	1	12	10	10	14	6	11	11	10	6	6	5	2	10	5	13	12	3	2
Ranking Legend		1 - 3				4 - 7				8 - 11				12 - 15											

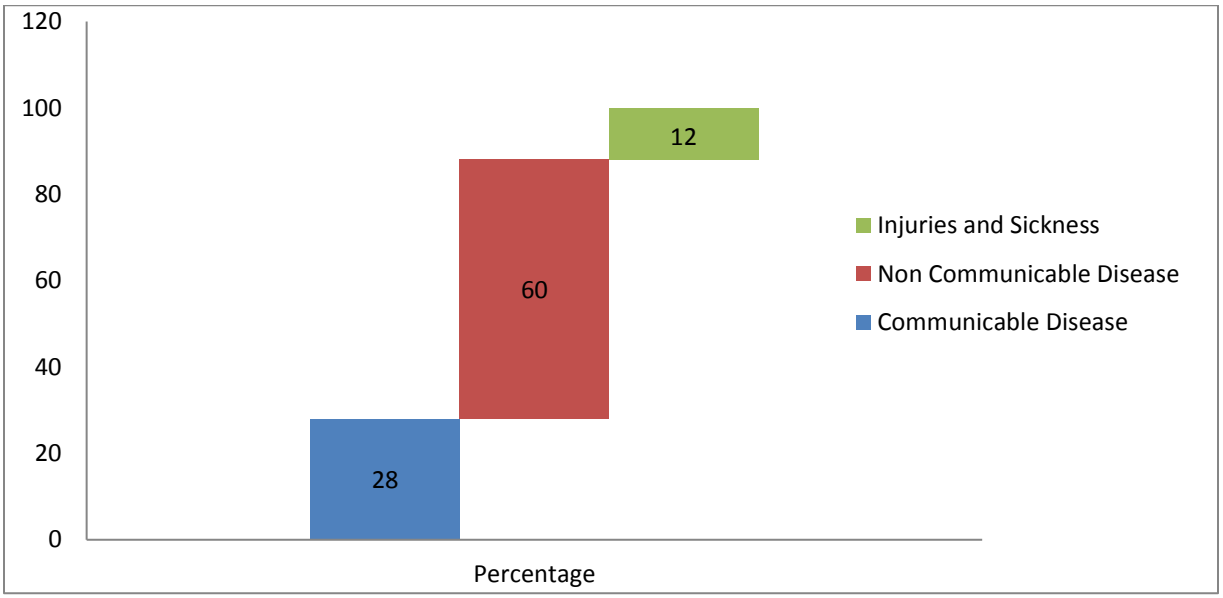
[6] GLOBAL BURDEN OF DISEASES, INJURIES, AND RISK FACTORS STUDY 2010, WHO

Chapter 3: Background: Situation of Disease Burden in Context of Indian Healthcare 2016

Indian Healthcare Disease Burden:

Indian Healthcare is going through a demographic transition resulting in behavior and lifestyle changes in the life of an individual. Communicable diseases are predominant before the demographic transition which is shifted towards the non communicable diseases after the transition. Situation analysis of Indian healthcare in 2017 shows that non communicable disease imparts 60% of burden apart from communicable diseases and injuries, which make it the major focus area for reducing the total economic healthcare burden of India.

Figure 1: Pattern of Disease Burden in India[7]



Mortality and Morbidity by Non Communicable Diseases in India

Of 56 million global deaths in 2012, 38 million, or 68%, were due to non-communicable diseases. The four main NCDs are cardiovascular diseases, cancers, diabetes and chronic lung diseases. The burden of these diseases is rising disproportionately among lower income countries and populations. In 2012, nearly three quarters of non-communicable disease deaths -- 28 million -- occurred in low- and middle-income countries with about 48% of deaths occurring before the age of 70 in these countries (Global Health Observatory Data).

The leading causes of NCD deaths in 2012 were cardiovascular diseases (17.5 million deaths, or 46% of all NCD deaths), cancers (8.2 million, or 22% of all NCD deaths), and respiratory diseases, including asthma and chronic obstructive pulmonary disease (4.0 million). Diabetes caused another 1.5 million deaths (Global Health Observatory Data).

[7] Situation Analysis: Backdrop to the Indian Health Policy 2017

Table 7: Top 10 Non Communicable Diseases Causing Death, Causes of YLD and Risk Factors in 2015[8]

Rank	Top 10 NCD Causing Death Rate in 2015	Leading causes of YLD in 2015	Risk Factors
1	Ischemic Heart Disease	Iron Deficiency Anemia	Air Pollution
2	COPD	Lower back and Neck Pain	Dietary Risk
3	Cerebrovascular Disease	Sense organ Disease	Child and Maternal Malnutrition
4	Lower Respiratory Infect	Depressive Disorders	High Systolic Blood Pressure
5	Diarrheal Disease	Other Musculoskeletal	High Fasting Plasma Glucose
6	Tuberculosis	Migraine	Unsafe Water, Sanitation and Handwashing
7	Diabetes	Skin Diseases	Tobacco Smoking
8	Chronic Kidney Disease	Diabetes	High Total Cholestrol
9	Neonatal Preterm Birth	Anxiety Disorder	Alcohol and Drug Use
10	Road Injury	COPD	High Body Mass Index

Percent Change of Mortality and Morbidity by NCD in 2005-15

Though India comes up with lot of technology and intervention in the field of healthcare, yet only slight difference has been observed in the indicators which are shown in the figure below. From the figure, it is clearly seen that the burden of disease has been reduced as the indicators are showing like in neoplasm, cardiovascular diseases, chronic respiratory diseases, cirrhosis of liver and other diseases mentioned in the table but the change is not such significant and very less change has been observed.

On the other hand there are some diseases whose impact was such that there is an increase in the disease burden from year 2005 to 2015. As a result of these diseases percent rate of the mortality and morbidity indicators changes comes out to be negative. As mentioned in the table below, DALY is negative in the case of digestive diseases and Hemolytic Anemia, YLL in case of Digestive Diseases, Gynecological Diseases, Hemolytic Anemia, YLD in case of Hemolytic Anemia and death in case of gynecological diseases and other communicable diseases.

Table 8: Percent Change of Mortality and Morbidity by NCD in 2005-15:[9]

[8] Institute of Health Metrics and Evaluation 2015
[9] Institute of Health Metrics and Evaluation 2015

Diseases	Death	DALY	YLL	YLD
Neoplasms	0.32	0.27	0.26	0.47
0Cardiovascular diseases	0.29	0.22	0.22	0.24
Chronic respiratory diseases	0.13	0.07	0.04	0.16
Cirrhosis and other chronic liver diseases	0.15	0.09	0.09	0.28
Digestive diseases	0.05	-0.02	-0.04	0.04
Neurological disorders	0.49	0.21	0.31	0.19
Mental and substance use disorders	0.35	0.21	0.31	0.20
Drug use disorders	0.34	0.24	0.30	0.20
Depression	0.00	0.21	0.00	0.21
Diabetes, urogenital, blood, and endocrine diseases	0.42	0.23	0.28	0.16
Urinary diseases and male infertility	0.39	0.30	0.27	0.38
Gynecological diseases	-0.01	0.12	-0.08	0.12
Hemoglobinopathies and hemolytic anemias	0.01	-0.08	-0.12	-0.03
Lower Back and Neck Pain	0.00	0.25	0.00	0.25
Musculoskeletal disorders	0.49	0.23	0.41	0.23
Other non-communicable diseases	-0.02	0.14	-0.07	0.23

Source: Institute of Health Metrics and Evaluation

Problem Statement: The out of pocket spending in healthcare is very high and the public spending is very low in India

Research Question: How to increasing the public spending to2.5 So that the goal of universal health coverage is achieved and the allocation of funds is made in such a way that out of pocket spending comes to a minimum.

Objectives:

1. To study the allocation of the health expenditure sector wise in India.
2. To access the health expenditure requirements to attain universal health coverage in India.
3. To forecast the increased public spending needs in India sector-wise.
4. To develop a proposed plan for increased public health spending of India.

Objective	Methodology
To study the allocation of the health expenditure sector wise in India.	Secondary data from Budget Estimate, Government Reports and Policy Papers
To access the health expenditure requirements to attain universal health coverage in India.	Open Forum Discussion
To forecast the increased public spending needs in India sector-wise.	Open Forum Discussion
To develop a proposed plan for increased public health spending of India.	Literature review of the identified areas

Research Methodology:

Research Context: The context of research is primarily health financing, particularly public expenditure on health in India. The research in the broad context will touch upon challenges faced by the health sector in India and health programs to be implemented in-order to combat those challenges.

Research Design: The study would be a descriptive Study which will involve description of existing health expenditures both private and public and will also include a descriptive analysis of allocation of budget, availability of resources and further suggestions to allocate the increased health spending, public and private, to attain universal health coverage.

Method of Data Collection:

The data collection would be from primary and secondary sources.

Primary data collection will be done through open house discussion at IIHMR University to access the health expenditure requirements and to forecast the increased public spending needs sector wise to attain universal health coverage in India.

Secondary data collection will be done by collecting health expenditure data sheets from central and state government as well as from government reports and policy papers. It will help to study the allocation of the health expenditure of 12th budget plan in India from year 2012 to 2017

Primary data collection

In order to fulfil the research objective of identifying the potential areas where health spending should increase in India, qualitative data collection method would be used through open house discussion at IIHMR University and In Depth Expert interview.

Open house discussion at IIHMR University

All the findings from the secondary data analysis will be presented in an open forum discussion at IIHMR University, participated by health care experts, research officers, faculty members and Ph.D students. A required permission would be sought from Dean Research, IIHMR University. A discussion on present health care spending profile will be held and potential areas of Healthcare GDP spending would be brainstormed in an open forum discussion. The viewpoints/deliberations of all the participants would be recorded in an audio recorder. The proceedings of the open forum discussion would be scripted. The transcription will be analysed to bring out the potential domains in which health spending needs to be done in India.

Secondary data collection

Budget estimates

Expenditure data will be taken from central and state government data sheets. Actual and budgeted estimates of health expenditures would be taken for the last five financial years (Twelfth Five year plan). Analysis regarding the allocation of health budget sector wise done by downloading the Excel file from the government database and summarizing the data based on the variables mentioned in the Excel sheet would be done.

Summarization of the spending of various departments such as NRHM, Department of Health and Family Welfare, Department of Health Research, NACO and Department of AYUSH would be done. Furtherthe spending would be analysed under two categories: plan and non-plan estimates.

Government reports and Policy papers

There will be an extensive literature review done to find out the heads under which we will identify how much resources India have in present Scenario. Then by comparing these heads

with the standard of WHO health delivery system, the need of the additional resources can be estimated by performing gap analysis in the Excel sheet. This analysis will form a base to forecast the increased public spending needs in India sector-wise and will help to determine a proposed plan for increased public health spending of India.
Paper on challenges of Indian healthcare will also need to be considered to gain access to the universal health coverage. out of pocket spending, disease burden, inadequate insurance coverage and poor health care delivery system are some key issues which needs to be addressed. Reports and policy papers will be explored to understand these key features in context of the Indian health system.
Reports will also be explored in order to determine the present health system in India. Main focus will be given to understand the mechanism of Indian health care public spending in different domains of healthcare. Papers will also be helpful to gain insight about different health programs and various health schemes where the government is spending in the form of their public healthcare spending.

Data Analysis:

Data analysis for the quantitative and qualitative data would be using Ms Excel.
Data from the Government database will be analyzed and summarized in tables and graphs. Gap analysis for healthcare delivery system would be done by comparing with WHO healthcare delivery system guideline. This will give us an idea of the areas where India is lacking and accordingly in which areas more public spending needs to be done.

Ethical Review:

Permission of Ethics Review Board, IIHMR University, Jaipur needs to be taken in order to conduct the open forums and personal interviews in the organisation.

Dissemination of Information:

It is done by making a PowerPoint presentation and presenting it in front of the IIHMR faculty panel. Further by the approval of the panel, hard copy of the research will be submitted in the library.

Conclusion:

This research will summarize the present scenario of India in terms of GDP allocation in healthcare. As per the availability of resources in India, further analysis and calculations will bring out the health spending need in India, bringing the concept of UHC in India and give the overall plan to increase public health spending in India.

Chapter 4: Health Insurance Sector in India

Universal health insurance in India: Ensuring Equity, Efficiency and Quality

Insurance deals with collection of the funds from the community, pooling and allocating the funds to the people who need it. Insurance play an important role in achieving the goal of Universal Health Coverage. Many socioeconomic classes are present in India due to which Indian Healthcare come up with many Insurance coverage models which are shown in the figure:

System characteristic	Health financing structure			
	Public sector	Private health insurance	Social health insurance schemes (ESIS and CGHS)*	Community-based Health Insurance (CBHI) schemes
Source of finance	• General tax (>90%) • User charge (minor, recently started)	Actuarial premiums • Individual risk rated • Community rated (discount)	• Payroll tax (1.75% of pay) • Employer contribution (4.75%) • Government subsidy from general tax	• Hypothecated contribution for - CBHI • Government or donor subsidy
Financial intermediary	• Central Government • State Government • Urban local bodies and PRI**	General Insurance Company (GIC) and intermediaries Private companies encouraged	Employees State Insurance Corporation (for ESIS) Central Government (CGHS)	Community managing the CBHI scheme
Service provision	Government employed doctors and health personnel in rural health centres, district hospitals and tertiary hospitals	Mainly large urban-based private hospitals	• ESI Hospitals and dispensaries • CGHS dispensaries • Empanelled private hospitals for both	Local government and private hospitals
Target group	Universal access for curative services Targeting for special age groups for national health programs	Voluntary enrolment on ability to pay. Mainly urban rich insured	ESIS: factory workers and family with salary less than Rs 10,000. CGHS: Central Government employees and family	Informal sector
Physician payment	Salary as per Central and State Government norms	Mostly FFS***/ sometimes capitation	Government doctors: salary	Variable but mostly FFS
Hospital payment	Paid in kind for drugs/ equipments Budget for other overheads	Mostly FFS***/ sometimes capitation	Government hospital: Paid in kind for drugs/ equipments Budget for other overheads Private: FFS/ Fixed rates	Variable but mostly FFS

*Employees State Insurance Scheme (ESIS) and Central Government Health Scheme (CGHS), **Panchayati Raj Institutions, ***Fee for service

Insurance coverage in India in 2009-10

Table below shows the public and private sectors responsible for the insurance coverage of the Indian population in year 2009-10. The private insurance covers only the small part of the population, 4.5% while government covers most part of population in the form of Social Health Insurance (SHI), 4.75% of total population and Government Based Schemes, 15.87% of total population. Community based Health Insurance cover .62 % of total population. Total covered

population was 309.75 million people (25.75%) out of total population of India which is about 1210 million people.

Table 9: Study showing the people covered under different health schemes in India[10]

Scheme	Type of Insurance	No. of Beneficiaries (in Millions)	% of Population Covered
CGHS	SHI	3	0.25%
ESIS	SHI	55.4	4.50%
RSBY	Government Based	79.45	6.5%
Rajiv Arogya Shri (AP)	Government Based	70	6%
Kalaingnar (TN) (Discontinued)	Government Based	35	3%
Vajpayee Arogayasgree	Government Based	1.4	0.12%
Yeshawani	Government Based	3	0.25%
Private Health Insurance	Private Insurance	55	4.5%
CBHI	CBHI	7.5*	0.62%
Total Population Covered		309.75	25.75%
Total Indian Population		1210	

Present Scenario of Insurance Coverage under Various Schemes

There are various heads under which total number of people covered under the health insurance scheme is mentioned in the table. Data shows the people covered under different health schemes:

Private health insurance occupies the major part of 22.63% followed by RSBY 13.66%, ESIS 6.83% and CGHS 0.27%. CBHI is linked with the private insurance company and the allocation of funds is done by the private companies through the micro insurance schemes.

[10] author and Scientific Research Publishing Incorporation, Community based Health Insurance in India: Prospects and Challenges, Bhaskar Purohit

Table 10: Current situation of number of People covered under different health Schemes:

Schemes	Type of Insurance	Number of Beneficiaries	% population covered
Private health insurance[11]	-	273931324	22.63
RSBY[12]	Government	41331073(families) 165324292 (considering average 4 in a family)	13.66(population)
ESIS[13]	Government	82722915	6.83
CGHS[14]	Government	3359445	0.27
CBHI	--	Linkage with Private Insurance Company(who health insurance coverage in india)	--

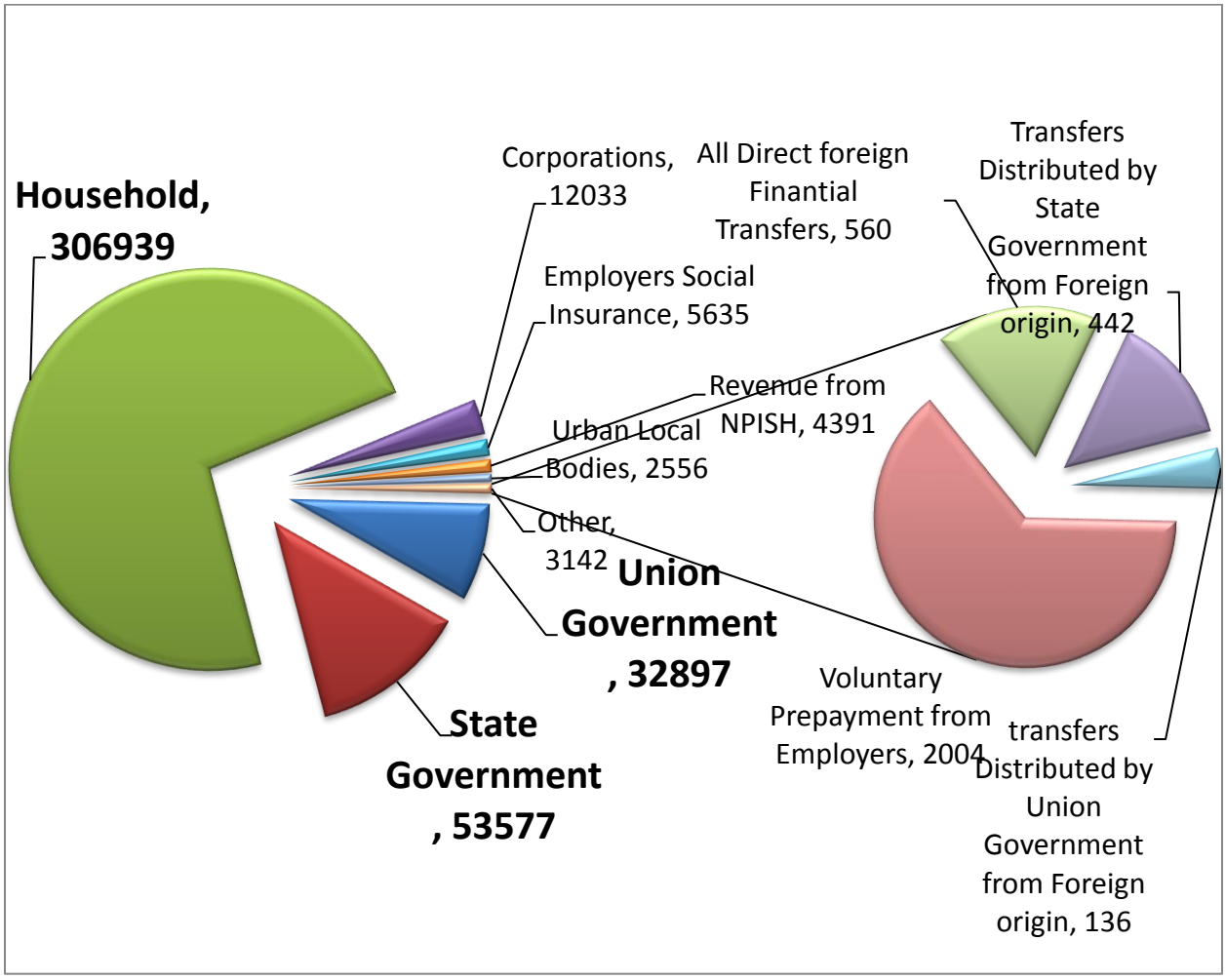
[11] Lok Sabha unstarrd question number 3424,, 5.8.2016
[12] www.RSBY.gov.in
[13] http://www2.esis.com/esis-en/
[14] http://cghs.gov.in/

Chapter 5: Situation of Healthcare GDP Spending and Its Allocation in Different Health Sectors of India

Healthcare Expenditure in India: Health Financing Mechanism and Expenditure in India and expenditure on health

India spends a lot of money in availing the healthcare services. Healthcare spending has been done from variety of sorces. Financing of healthcare has been done under various heads as shown in the following figure

Figure 2: Mechanism of Healthcare Financing in India[15]



There are three main heads under which most of the health spending has been done are the household spending (306939 crores), followed by Spending done by State (53577 crores) and Central (32897 crores) Government. Focus should be done on increasing the healthcare spending of the central and state government and decreasing the healthcare expenditure of the household.

[15] National Health Accounts 2013-14

There should be a brief knowledge about the expenditures which can be divided into two parts: the household expenditure and the government expenditure.

Out of Pocket Expenditure in India: Expenditure Done by the Household

Curative Treatment and Direct Expenditure in India

Paper published on data of NSSO 2014 shows the relation of out of pocket expenditure with the curative services provided by health care facility. They took following variables in their study: Morbidity during 15 days/1000, percentage of public health facility utilized for outpatient treatment, Expenditure on outpatient treatment in 15 days, percentage of public health facility utilized for inpatient treatment, Expenditure on Hospital Delivery.

Table 11: Prevalence of reported morbidity (PAP) within 15 day recall period per 1000[16]

Variables	India 2014	
	Rural	Urban
Morbidity during 15 days / 1000	89	118
OP treatment –Public health facility%	21	28
Expenditure for OP treatment 15 day period-Indian Rupees	509 (328)*	639 (411)*
Hospitalization during last 365 days / 1000	35	44
IP treatment – Public health facility%	42	32
Expenditure for IP treatment- Indian Rupees	14935 (9611)*	24436 (15725)*
Expenditure for Hospital delivery- Indian Rupees	5544 (3568)*	11685 (7519)*
Any public health Insurance(RSBY)support %	13	12
Borrowing %	25	18
NB: *Brackets – Inflation adjusted values in Indian rupees		

Public Health Insurance Support and percentage of Borrowing done against health expenditure. Expenditure values are given in Rupees and for comparison; values were adjusted for inflation by taking base year as 2000 and inflation correction factors 1.134, 1.554 for 2004 and 2014 respectively. Values of the incurred expenditure are shown in the above table.

[16] Open Access journal, Increasing Out-Of-Pocket Health Care Expenditure in India-Due to Supply or Demand**?,** Jayakrishnan T, Jeeja M, Kuniyil V and Paramasivam S

Treatment expenditure: OP care

More than 2/3 of the treatment expenditure was attributed to direct expenditure which is also the consideration in this study. During the 15 days recall period, the combined average per capita Treatment expenditure (MPCE) as OOP for OP care per episode was reported to be Rs. 574 (Rural - 509, Urban - 639)

Treatment expenditure: IP care

Average Treatment expenditure of IP patient for rural areas is around 9611 rupees and for urban areas, it is 24436 rupees. The first income class quintile varies from rural to urban people, which is around 10146 and 11199 respectively. On the other hand, the fifth income class quintile varies from 21293 to 42675 rupees in rural and urban population respectively.

Table 12: Curative treatment and direct expenditure in India[17]

Income Class Quintile	MPCE Indian Rupees		OP Morbidity Prevalence per thousand		OP Expenditure Indian Rupees	
	Rural	Urban	Rural	Urban	Rural	Urban
1	800	1182	65	79	524 (337)	476 (306)
2	1000	1600	73	101	415 (267)	482 (310)
3	1264	2200	85	124	469 (302)	553 (356)
4	1667	3200	93	127	454 (292)	721 (464)
5	> 1667	> 3200	131	156	618 (398)	828 (533)
NB: ( ) Brackets – Inflation adjusted values in Indian rupees.						

Treatment expenditure: Delivery care

Expenditure for delivery was Rs. 5544 in rural and Rs. 11685 in urban areas. Utilization of private sector for hospital delivery is reflected on the higher expenditure for hospital deliveries in urban areas.

[17] Open Access journal, Increasing Out-Of-Pocket Health Care Expenditure in India-Due to Supply or Demand**?,** Jayakrishnan T, Jeeja M, Kuniyil V and Paramasivam S

Sources of financing to meet expenditure

More than 80% of the expenditure is met by OOP expenditure. Rural and urban households primarily depended on their household income or saving, borrowings and publicly financed Health Insurance Schemes.

Table 13: Prevalence of reported morbidity (PAP) within 15 day recall period per 1000[18]

Income Class Quintile	Indian Rupees MPCE		Hospitalization Public sector Utilization %		Hospitalization Expenditure Indian Rupees		Any PFHI Coverage %		Borrowing %	
	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban
1	800	1182	57.5	48	10146 (6529)	11199 (7155)	10.1	7.7	26.8	21.7
2	1000	1600	52.9	43.5	11276 (7256	14533 (9352)	10.7	10.6	25.8	21.9
3	1264	2200	47.1	32.7	10326 (6645	17926 (11535)	11.9	12.9	25.3	20.7
4	1667	3200	42.8	28.3	13482 (8676	24776 (15943)	15.9	13.5	26.0	18.1
5	> 1667	> 3200	28.9	18.7	21293 (13702	42675 (27461)	17.0	15.1	23.1	13.7
NB: ( ) Brackets – Inflation adjusted values in Indian rupees										

Sources of financing to meet expenditure

More than 80% of the expenditure is met by OOP expenditure. Rural and urban households primarily depended on their household income or saving, borrowings and publicly financed Health Insurance Schemes.

PFHI schemes mostly cover the hospitalised individual. It ranges from 10.1% to 17% in rural areas from first to fifth income class quintile. For urban areas, it ranges from 7.7% to 15.1% in income class quintile. It indicates that PFHI schemes coverage is more for rural areas than the urban areas.

Amount borrowed for healthcare expenditure also varies. Borrowing ranges from 26.8% to 23.1% in rural areas and 21.7% to 13.7% in urban areas. It indicates that borrowing for healthcare expenditure is more in rural areas than the urban areas

[18] Open Access journal, Increasing Out-Of-Pocket Health Care Expenditure in India-Due to Supply or Demand**?,** Jayakrishnan T, Jeeja M, Kuniyil V and Paramasivam S

Expenditure done by the Government:

Budget estimate and Actual Estimate

Government of India prepares the GDP healthcare expenditure every year called budget estimate after consultation with the planning commission of India. The allocation is done in various departments which are involved in utilization of this fund. When the Departments started working on proper utilization of funds, the actual money which is invested at that time called actual estimate. There are four such bodies in India which are involved in allocation of GDP health expenditure are Department of Health and Family Welfare, Department of Health Research, Department of AYUSH and National Aids Control Society.

Budget estimate of India

Department of Health and Family Welfare is the major department in allocation of health expenditure provided by the government of India. Earlier health and family welfare departments are separate but they are combined in year. GDP health expenditure allocated under Department of Health and Family Welfare rises sharply from 2006-07 to 2016-17 from 2305 crore rupees to 9100 crore rupees. NHM occupies the major part of GDP health expenditure and budget estimate allocation rises sharply from year 2007-17 to 2016-17. NHM is also covered under Department of Health and Family Welfare.

Department of Health Research has come under play in 2009-10. Allocation of GDP health expenditure rises from 420 crore rupees to 750 crore rupees from 2010-11 to 2016-17.

Very less attention is given to AYUSH and so the allocation of GDP health expenditure was around 381.60 crore in 2006-07. It rises slowly and comes to 1050 in year 2016-17

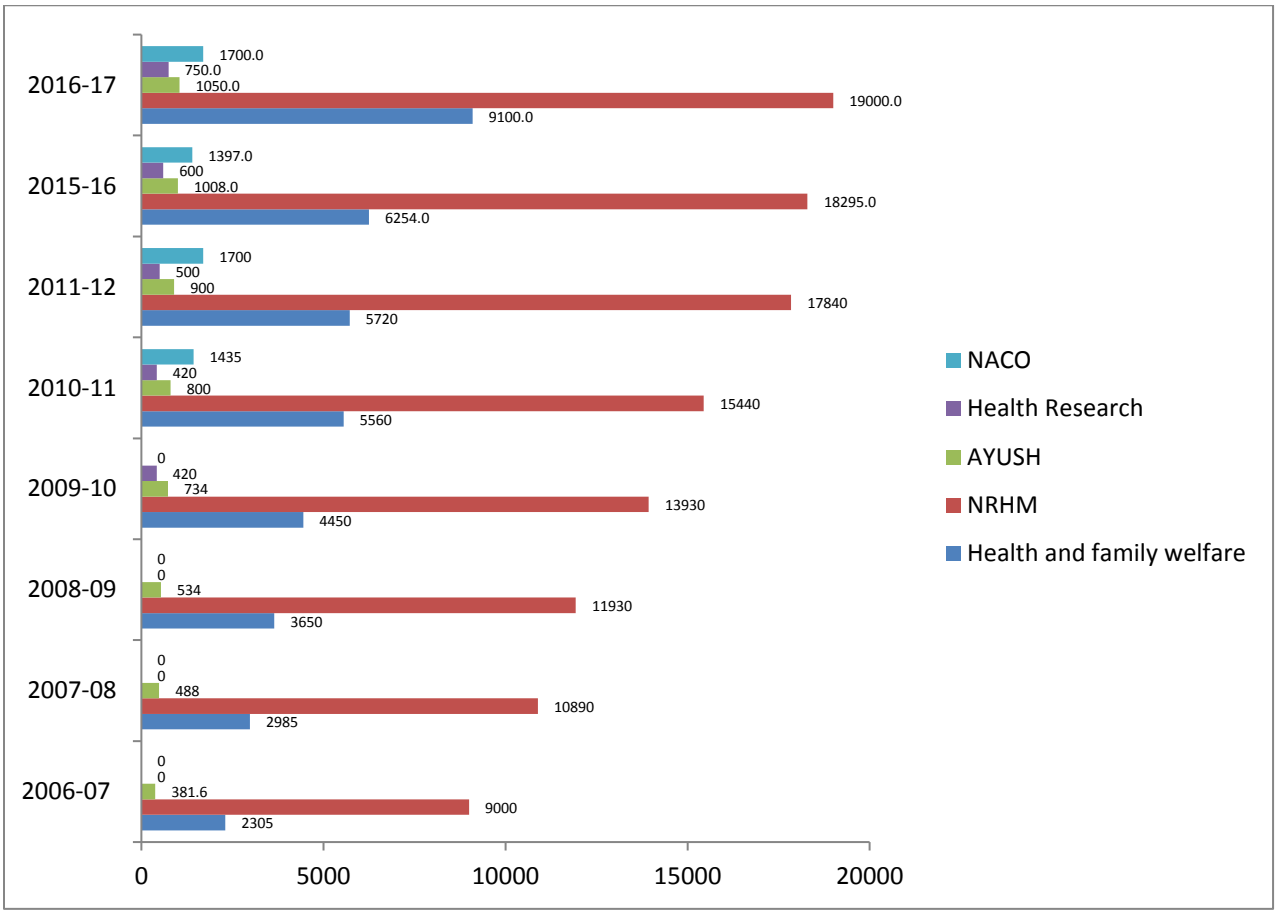
National Aids Control Society earlier was the part of Department of Health and Family Welfare, has been separated from year 2010-11 and the budget estimate provided by the government has shown rise from 2011 to 2017 from 1435 crore rupees in budget estimate of 2010-11 to 1700 crore rupees in 2016-17

It concludes that most of the GDP health budget estimate goes to NHM followed by Department of Health and Family Welfare, National AIDS control Society, Department of AYUSH and then Department of Health Research.

Actual estimate of India

Actual estimate of department of health and family welfare increases from 1982.44 crore rupees to 4666.06 crore rupees in 2006-07 to2010-11. Then it shows further decline in year 2011-12 and 2012-13 of 4160 and 4145.43 crore rupees respectively. Then the budget rises upto 7504 crore rupees in revised estimate in year 2015-16.

Figure 3: Comparison of Budget Estimate of India in healthcare[19]



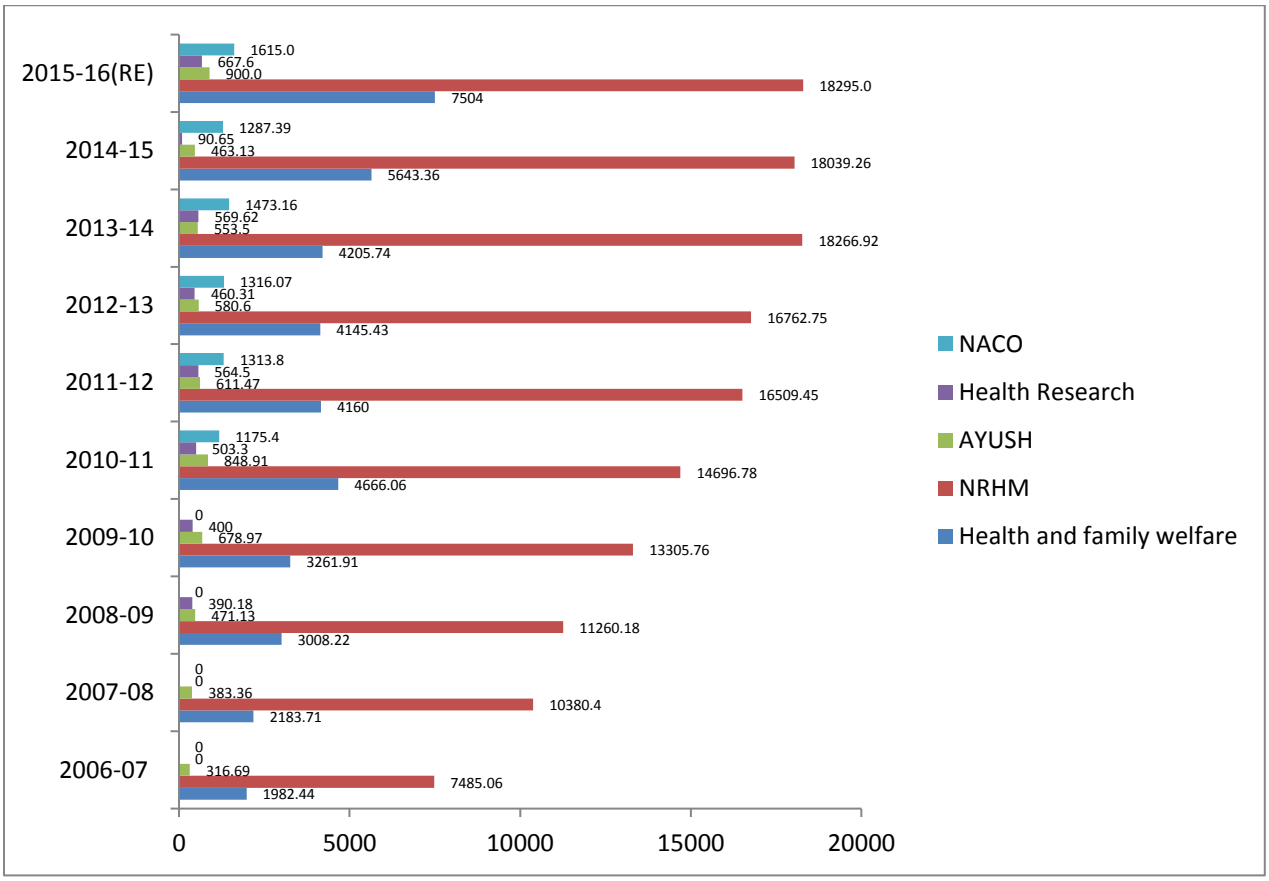
Actual budget of NHM also increases from 2006-07 to 2011-12 upto 7485.06 crore rupees to 16509.45 crore rupees. After , actual budget of NHM shows inconsistency in the expenditure pattern upto year 2016 as shown in the graph.

Department of health research come into play in 2008-09 and its actual estimate rise from 390.18 crore rupees to 56.crore rupees in year from 2008-09 to 2011-12 respectively. Then the budget shows inconsistent behaviour in all the following years' up to 2015-16 which is shown in the figure.

Department of AYUSH also shows increase in actual estimate from 2006-07 to 2011-12 from 316.69 crore rupees to 611.47 crore rupees respectively. It then shws decrease in budget from 2012-13 to 2014-15 from 580.60 crore rupees to 463.13 crore rupees respectively. It than again rises exponentially and budget becomes crore rupees.

[19] Planning Commission of India 2017

Figure 4: Comparison of Actual Estimate of India in healthcare[20]



National AIDS Control Society shows increase in budget estimate up to year 2013-14 to 1473.16 crore rupees after that it declines to 1287.39 crore rupees in year 2014-15, and rises to 1615 crore rupees in year 2015-16.

Conclusion is that the actual budget estimates on NHM is the highest followed by department of health and family welfare, National AIDS Control organisation, Department of AYUSH and then Department of Health Research. Trends are showing rise in actual estimate up to 2012 in most of the departments and after than it shows either decline or inconsistency in the pattern.

Department of Health and Family Welfare, Government of India

Planned and Non Planned Health Spending and Allocations in Department of Health and Family Welfare, Government of India

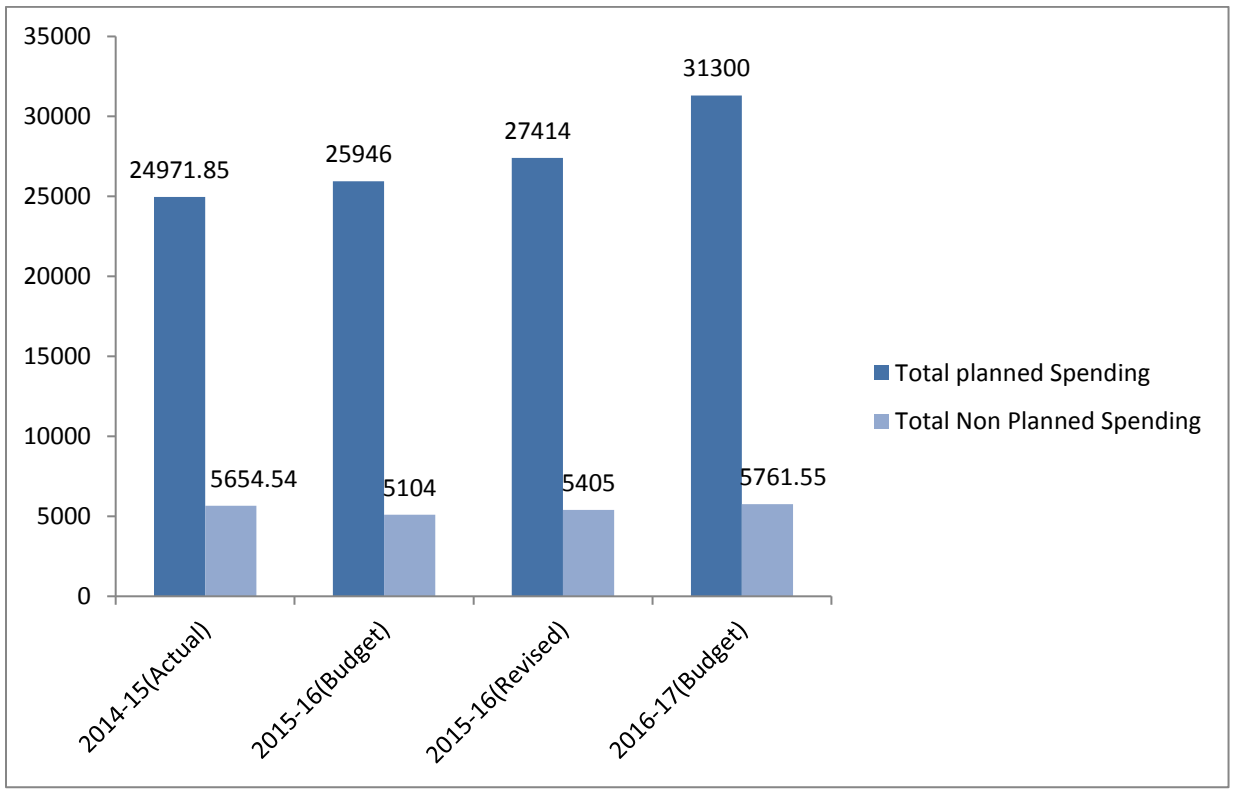
The planned and non planned government health budget under various years has been shown in the figure. From the figure, it is clearly indicated that the planned expenditure increases from 24971.85 crore rupees to 31300 crore rupees in year 2014-15 to 2016-17 respectively. Non

[20] Planning Commission of India 2017

government healthcare budget reduces from 5654.5 crore rupees to 5405 crore rupees in year 2014-15 which further increases to 5761.55 crore rupees in year 2016-17.

It concludes that planned expenditure rises over the year while non plan budget trend varies year by year.

Figure 5: Planned and non Planned health expenditure in Depaertment of Health and family Welfare[21]



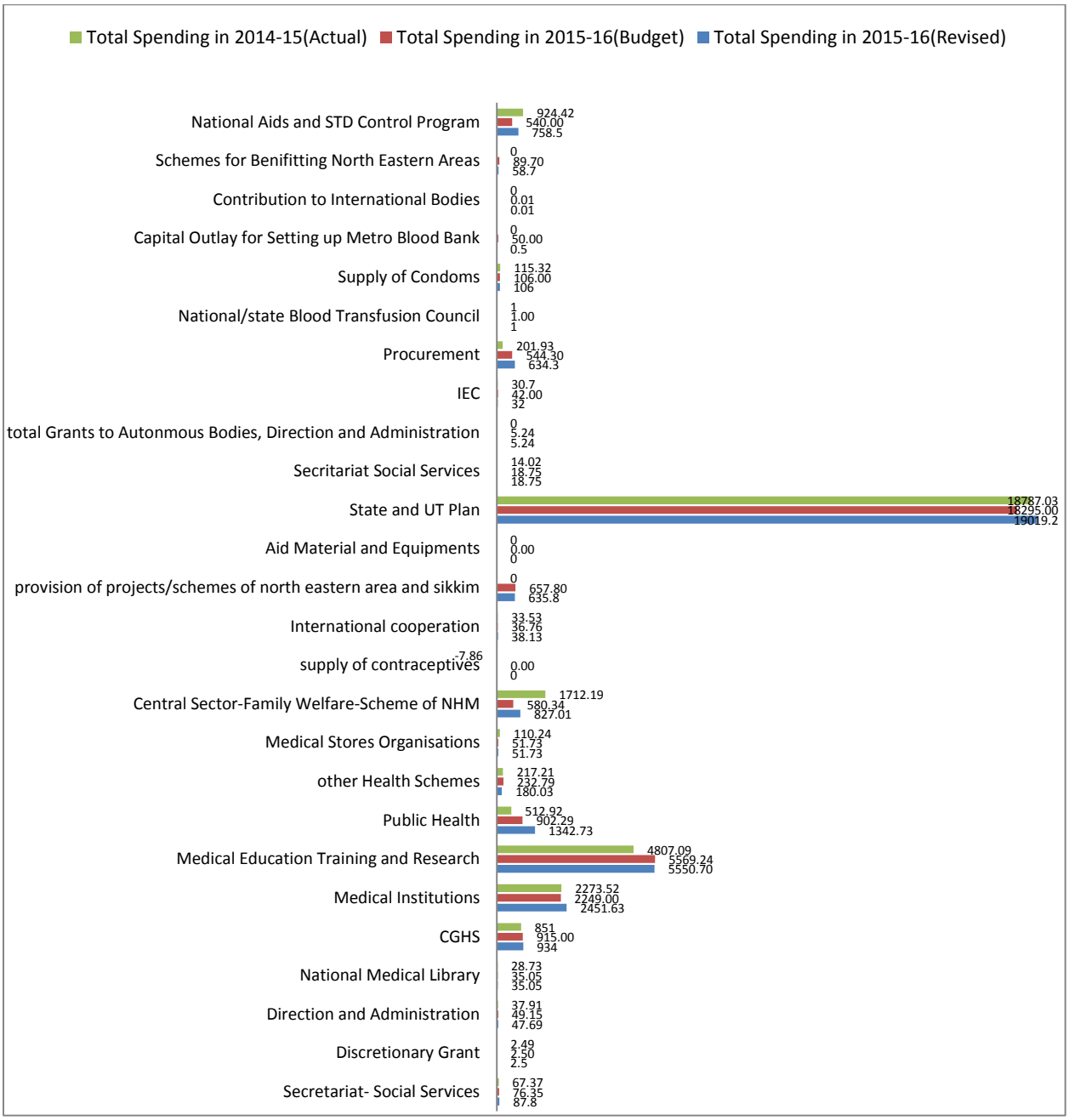
Health expenditure from 2014 to 2017:

The details of comparison of all the sectors where department put its health expenditure is given in the graph below. Figure indicates some of the important points. Most of the budget is allotted in making the State and Union Territories plan followed by Medical Education, Training and Research and Medical Institutions.

Very less or no budget is allotted in making discretionary plan, supply of condoms, Aid and Equipments, Secretariat social services, Total Grants to Autonomous Bodies, Direction and Administration, National/State blood Transfusion Council, Setting up of Metro Blood Bank and Contribution to International bodies. Supply of Condoms also get return on investment of 7.86 crore rupees in year 2014-15.

[21] Planning Commission of India 2017

Figure 6: Comparison of Total Expenditure in Department of Health and Family Welfare from 2014-16[22]

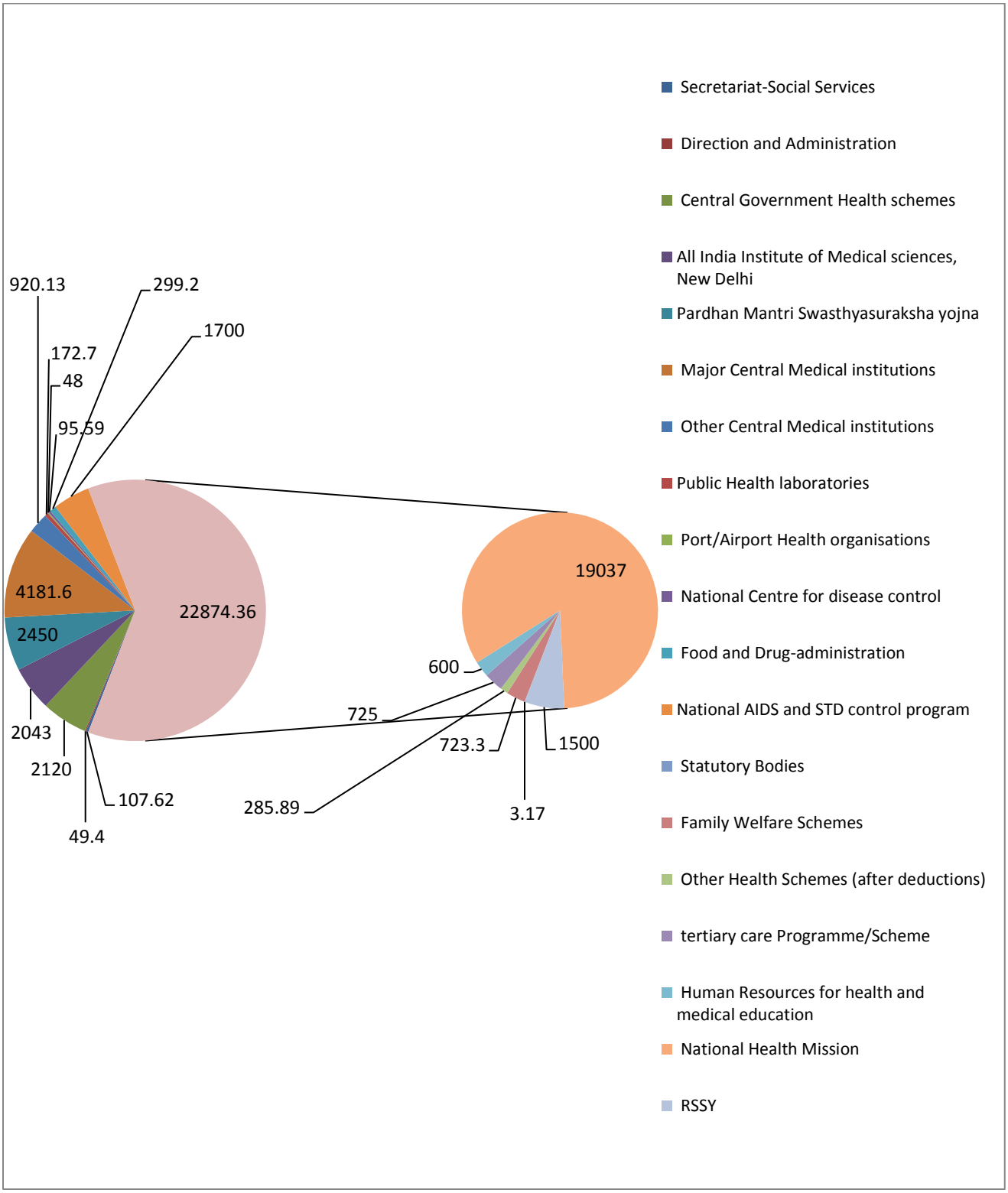


Healthcare Expenditure from 2017

Budget expenditure of Department of Health and Family Welfare year 2016-17 is shown in the graph below. Graph explains some of the potential areas where the government planned to spend the budget allotted to department. Graph concludes some following important points.

[22] Planning Commission of India 2017

Figure 7: Healthcare Expenditure in 2017 in Department of Health and Family Welfare[23]



[23] Planning Commission of India 2017

NHM have the highest budget estimate as compared to all the other sectors that is 19037 crore rupees.

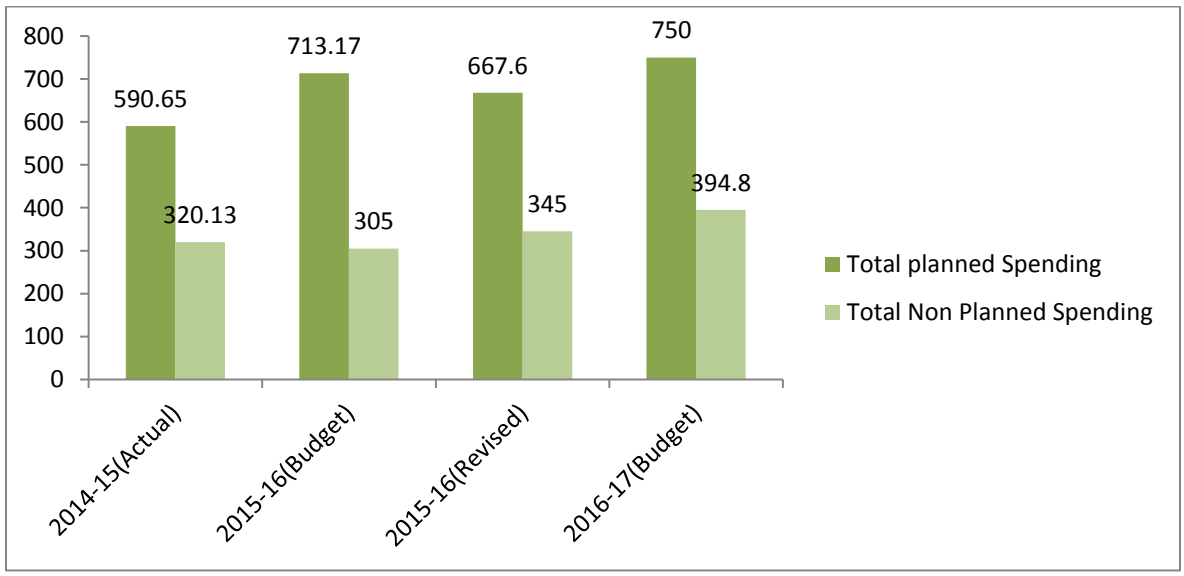
Statutory bodies have the lowest budget estimates of 3.17 crores as compared to other sectors.

Department of Health Research, Government of India

Planned and Non Planned Health Spending and Allocations in Department of Health Research

Planned spending of Department of Health Research increases from 590.65 crore rupees to 713.17 crore rupees 2014-15. It reduces to 667.6 crore rupees during the preparation of revised estimate from 2015-16 but rises to 750 crore rupees in the budget estimated by Government of India. Rising estimate is clearly showing that Government is willing to spend more on Department of Health Research.

Figure 8: Planned and Non Planned Health Spending and Allocations in Department of Health Research[24]



Unplanned budget reduces from 320.13 crore rupees to 305 crore rupees in the year 2014-15 actual budget to 2015-16 estimated budget. Then it again rises from 345 crore rupees in 2015-16 revised budget to 394.8 crore rupees in 2016-17 estimated budget. It indicates that the programmes which were started earlier doesn't appear to get finished on time

Comparison of Total Health Spending from Year 2014 to 2017

Description of the health expenditure in various areas has been given in graph. There are few conclusions which can be drawn out of the graph that:

[24] Planning Commission of India 2017

Most of the expenditure is done on ICMR and its expenditure is highest from all the other sectors.

Some areas where Department is either not spending or spending very less are International Cooperation in Medical and Health Research, Promotion and Guidance on Research Governance

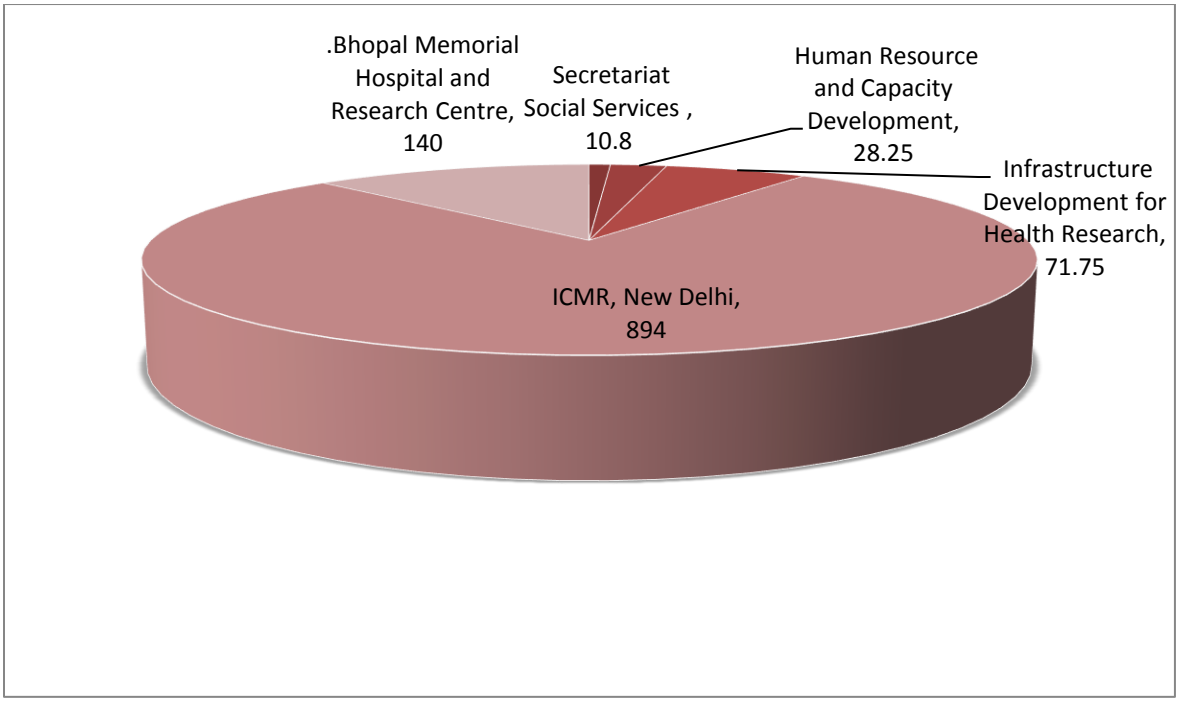
Figure 9: Comparison of Total Expenditure in Department of Health and Family Welfare from 2014-16[25]

[25] Planning Commission of India 2017

Issues, Matters Related to Scientific Societies and Associations, Cheritable and Religious Endowments.

Importance is given to the projects and schemes of North Eastern Areas and Sikkim as a result of more allocation of budget in these areas. in Medicine and Health Research Areas.

Figure 10: Healthcare Expenditure in 2017 in Department of Health and Family Welfare[26]



The focus areas where government is allocating the public health budget in 2017are given in the figure below. Out of the total allocation of budget, ICMR has been granted crores followed by Bhopal Memorial Hospital and Research Centre, Infrastructure Development for Health Research, HR and Capacity Building and Secretariat Social Services.

National Aids Control Organisation

Planned and Non Planned Health Spending and Allocations in Department of Aids Control, Government of India

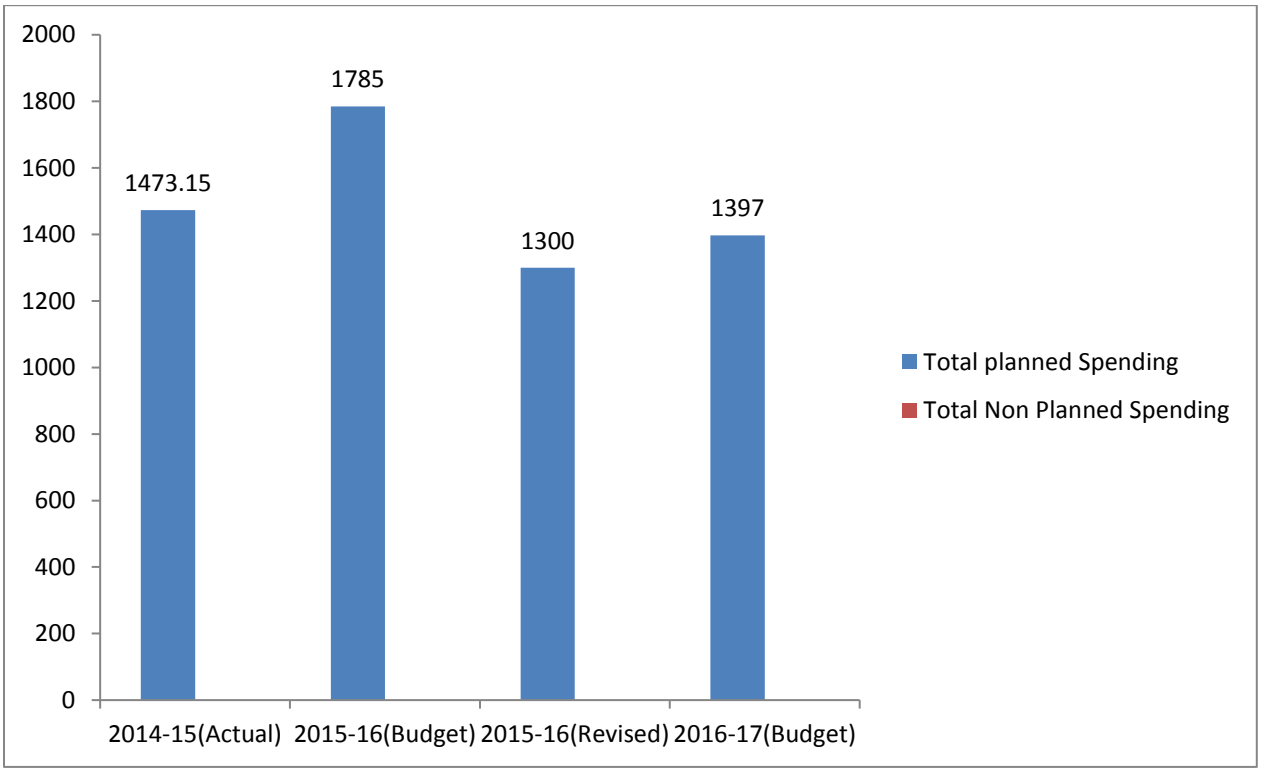
Non planning heads in NACO are absent but the planning heads of government budget estimate varies in the figure mentioned below. Data from 2014-2017 shows highest planned spending of 1785 crore rupees in year 2015-16. The lowest planned spending done in the year 2015-16 where the budget estimate is around 1300 crore rupees.

[26] Planning Commission of India 2017

Comparison of Budget Estimate

All the budget estimate heads are mentioned in the figure which shows various areas where the department health expenditure is done. Some important conclusions can be drawn out of the findings from figure below

Figure 11: Planned and Non Planned Health Spending and Allocations in National Aids Control Organisation [27]



Highest health expenditure is done on Grants in aid to SACS, Autonomous Bodies and Directions followed by expenditure on State Plan and then on Procurement.

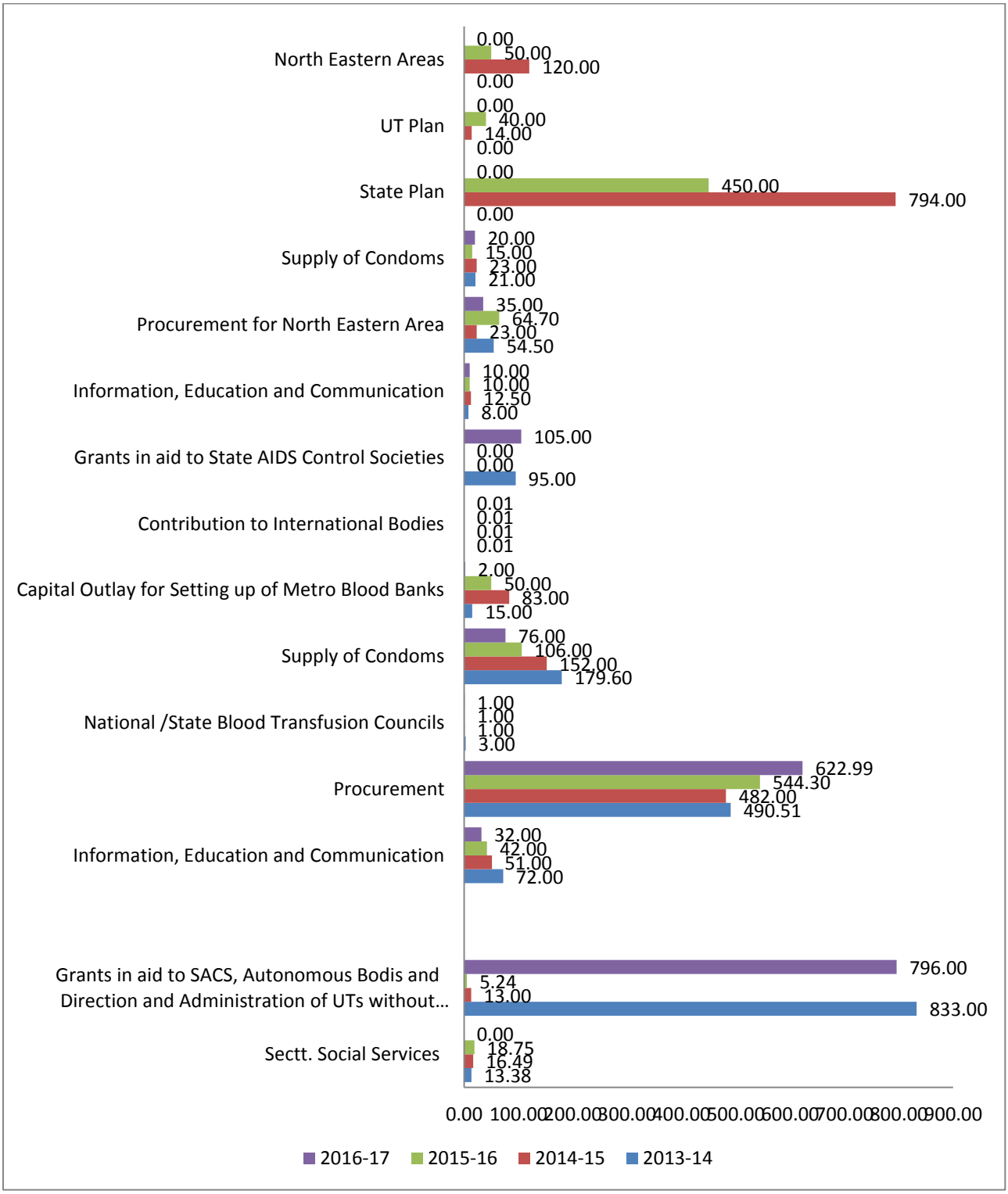
Areas with is no expenditure/ less expenditure are Secritariat social servives, National/State Blood Transfusion Council and Contribution to International Bodies.

Comparison of Actual Estimate

Figure clearly indicates that the highest actual estimate comes out to be that of State Plan followed by Procurement and Grants in aid to SACS, Autonomous Bodies and Direction. Areas with no actual estimates are Funds in North Eastern Areas, Suply of Condoms, Procurements, IEC Material, Grants in Aid to State AIDS Control Society, Contribution to International Bodies and Administration of Union Territories without Legislature. Areas with little or no grants are funds for Setting Metro Blood Banks and National/State Blood Transfusion Council.

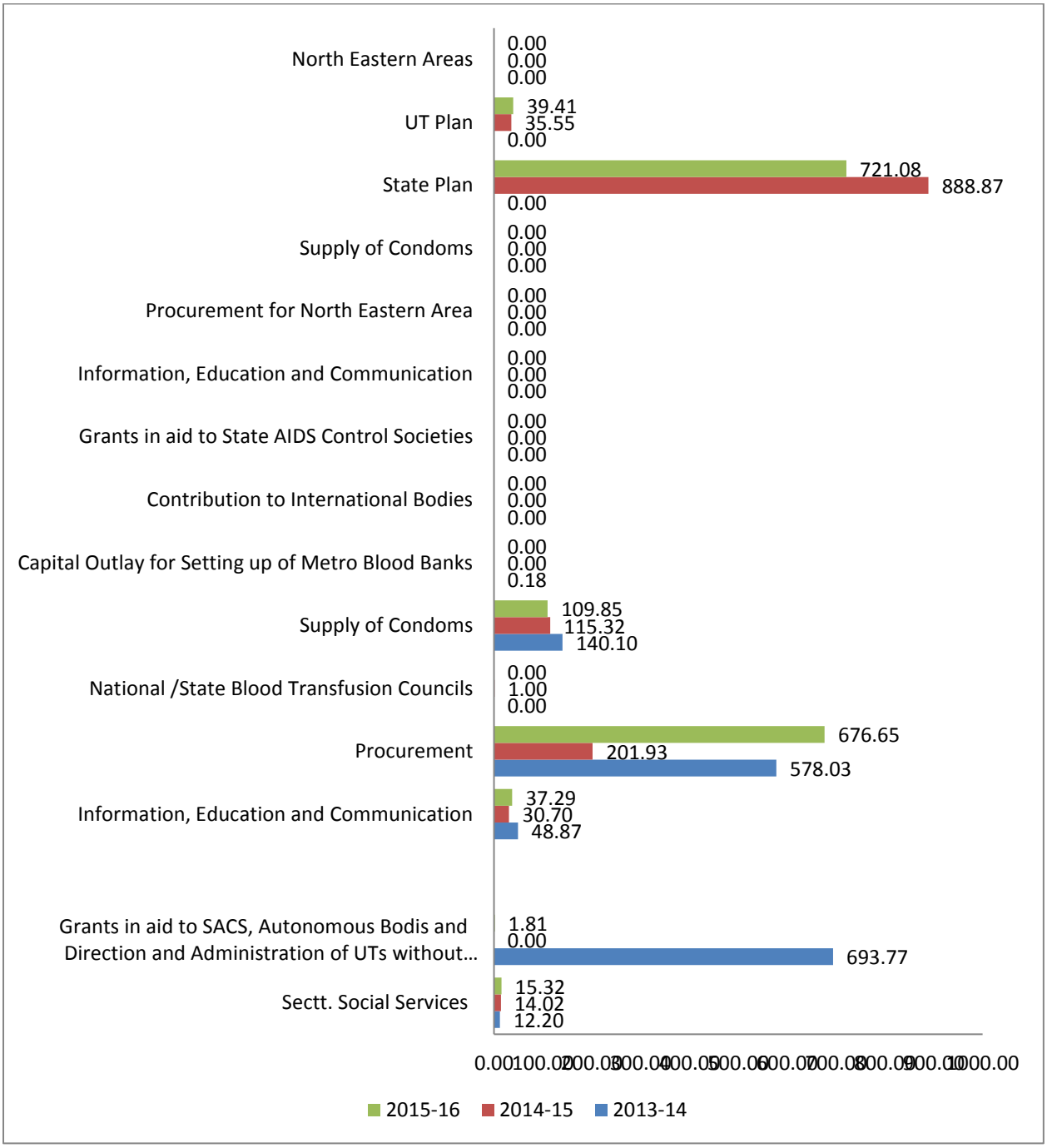
[27] Planning Commission of India 2017

Figure 12: Budget Estimate in National Aids Control Organisation [28]



[28] Planning Commission of India 2017

Figure 13: Actual Estimate in National Aids Control Organisation[29]



Department of AYUSH, Government of India

The treatment done under AYUSH has been recognised worldwide and it is the natural way to heal the body. Government of India, instead of such a limited budget, try to allocate a good amount to department of AYUSH.

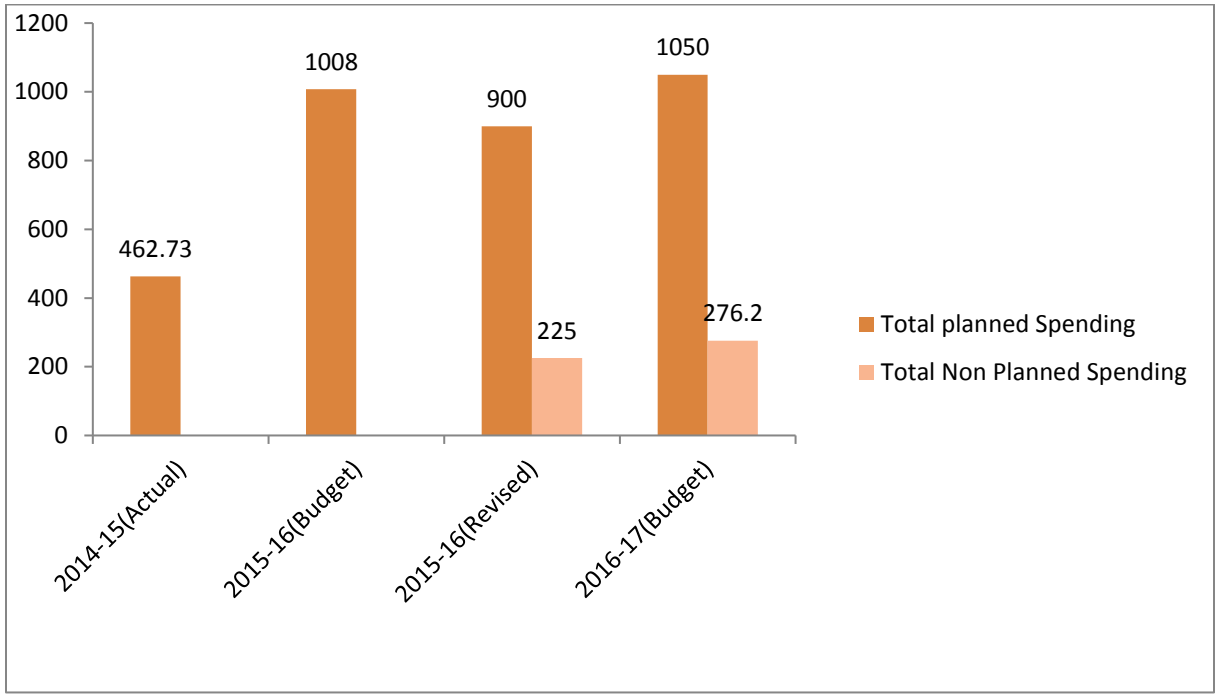
[29] Planning Commission of India 2017

Planned and Non Planned Health Spending and Allocations in Department of AYUSH, Government of India

The planned budget rises from 2015 to 2017 from 1008 crores to 1050 crores. There is absence of unplanned expenditure till 2015-16 budgets. Unplanned expenditure comes under revised budget, that is 225 crore which comes on 2015-16 and it rises upto 276.2 crore in the budget estimate given in 2016-17.

Graph clearly indicates that the potential areas for health expenditure in AYUSH are increasing year by year and there are many programmes which still require the allocation from total Healthcare GDP even after the time period which is decided by government.

Figure 14: Planned and Non Planned Health Spending and Allocations in National Aids Control Organisation [30]



Comparison of Total Expenditure in Department of AYUSH from 2014-17

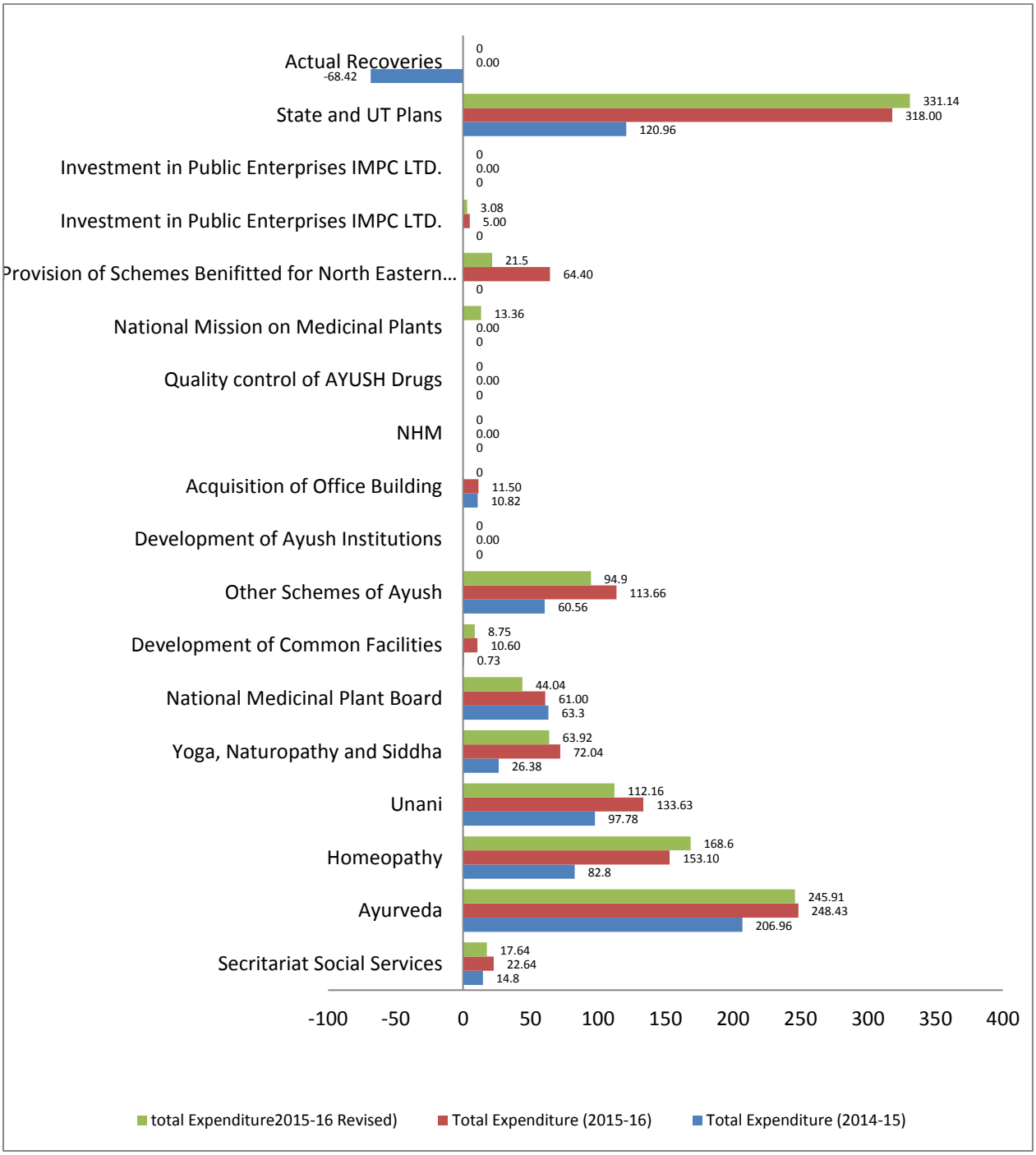
Department of AYUSH put more of its health expenditure in states and union territories which increases from 120.96 crore to 331.14 crore. Under state and union territory plan, department, expenditure is done on national mission on medicinal plants, national mission on AYUSH and in AYUSH promotion through National AYUSH Mission. Some areas where they exempt of doing the expenditure under the same are AYUSH departments, hospitals and dispensaries and drug quality control.

Health expenditure for AYUSH promotion (central) includes Ayurveda, Homeopathy, Unani and Yoga, Naturopathy and Siddha. There are various heads like Central Council for research,

[30] Planning Commission of India 2017

National Institutes, All India Institutes and some schemes in Ayurveda, Homeopathy, Unani, Yoga, Naturopathy and Siddha, where the health expenditure is done. After revised budget except Homeopathy, the budget of other sectors declines a little. Health budget of Ayurveda

Figure 15: Comparison of Total Expenditure in Department of Health and Family Welfare from 2014-16[31]



[31] Planning Commission of India 2017

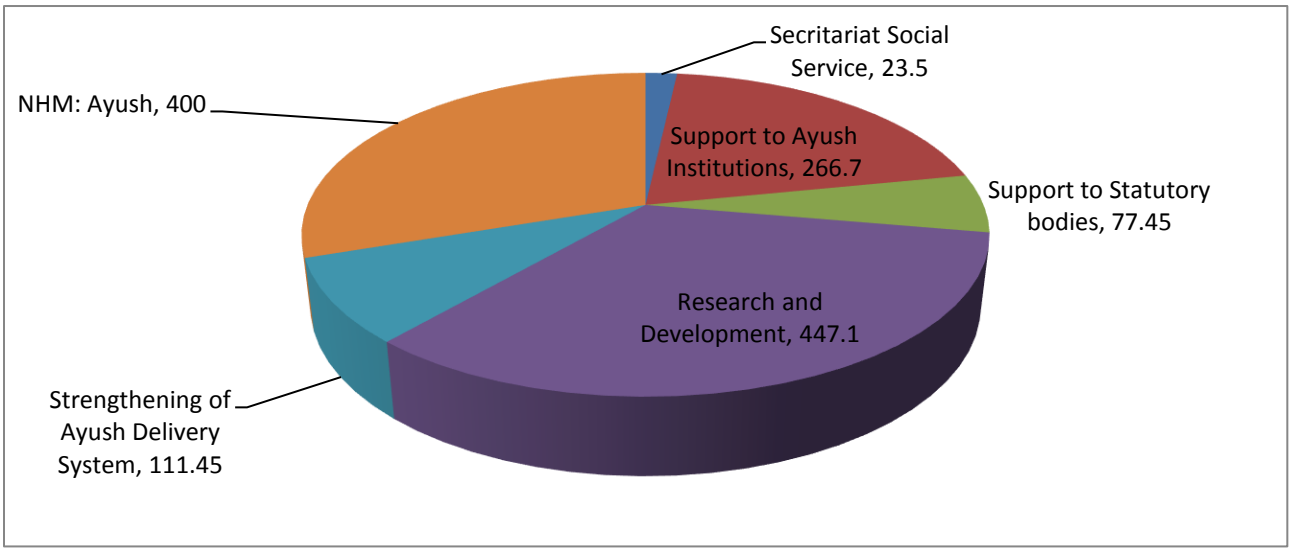
from 248.43 crore to 245.91 crore, Unani from 133.63 crore to 112.16 crore and Yoga, Naturopathy and Siddha from 72.04 crore to 63.92 crore. The health expenditure also declines from 133.66 crore to 94.9 crore in other AYUSH Schemes which includes IEC, extra mural research projects, Assistance to accredited AYUSH Centers of Excellence in Non-Governmental/ Private Sector engaged in AYUSH education/drug Development & Research/ Clinical Research/ Folk Medicine etc., PPP for Setting special clinics/IPD, National Institute of Siddha, National Commission for Human Resource in AYUSH, National Institute of Medicinal Plant, National Institute of Sowa Rigpa, Central council for Research in Sowa Rigpa, Indian Institute of AYUSH Pharmaceutical Sciences, National AYUSH Libraries and Archives, Pharmacovigilance Initiative for ASU Drugs, Central Drug Controller for AYUSH, National AYUSH Health Programme, AYUSH Gram and other programmes.

Health expenditure on Development of Common Facilities reduces from 10.60 crore to 8.75 crore. Expenditure on National Medicinal Plant Board also decreases from 61 crore to 44.04 crore Department of AYUSH also start to invest in National Mission of Medicinal Plant which is 13.36 crore but there are some areas where spending has not been done like development of AYUSH institutions, Quality Control of AYUSH Drugs and Investment in Public Enterprises. Deductibles are also recovered by Department of AYUSH in 2014-15 which comes around 68.42 crore but recoveries are absent in later years.

Expenditure in 2017

Government estimated budget of 1326.20 crore rupees for department of AYUSH in year 2016-17 where 447.10 crore rupees will go in Research and development followed by NHM AYUSH which is 400 crore rupees. Government is also planning to spend 266.70 crore rupees to support AYUSH institutions and 111.45 crore rupees for strengthening the AYUSH Delivery System. 77.45 crore rupees spend to support the statutory bodies and 23.5 crore goes to the secretariat social services

Figure 16: Healthcare Expenditure in 2017 in Department AYUSH[32]



[32] Planning Commission of India 2017

Chapter 5: Identification of the Potential Area where public Expenditure need to be Done to Increase the Percentage of Current Healthcare Public Expenditure from 1.15% to 2.5%

Identification of the potential Areas:

Potential areas are identified on the basis of open forum discussion by the healthcare field experts at IIHMR University, Jaipur. The aim of this discussion is to explore the various domains under the specified areas where the money can be allocated. Situation Analysis 2017 draft has been taken as the base of discussion and four areas has been identified where systematic public health spending can be done. The areas mentioned in the draft have been shown in the table below. Some other areas are also identified. The open forum discussion is recorded and scripted to find out the areas where public spending needs to be done. Following areas are identified through open forum:

Table 14: List of Potential Areas where public Spending need to be done

Areas Mentioned in the Situation Analysis Policy Draft[33]	Areas Identified in the Open Forum
Lifestyle Modification	Preventive Health and Risk Factors Reduction
Biological Factors	Genetic Factors and birth defects
Environmental Factors	Water and Sanitation, Indoor, Outdoor and Industrial Pollution
Health System Related Factors	Screening of Diseases, Road infrastructure and Design, Human Resource and Public Hospitals and HMIS

The areas which are identified through open forum discussion fall under the category of the preventive and curative healthcare which should be further explored. Classification of areas identified in the Discussion is further divided under preventive and curative category shown in the table below:

Table 15: classification of the Identified areas in Preventive and Curative care

Categories	Areas
Preventive Healthcare	Preventive Health and Risk Factors Reduction, Genetic Factors and birth defects, Indoor, Outdoor and Industrial Pollution, Water and Sanitation, Screening of Diseases, Road infrastructure and Design
Curative Healthcare	Human Resource and Public Hospitals and HMIS

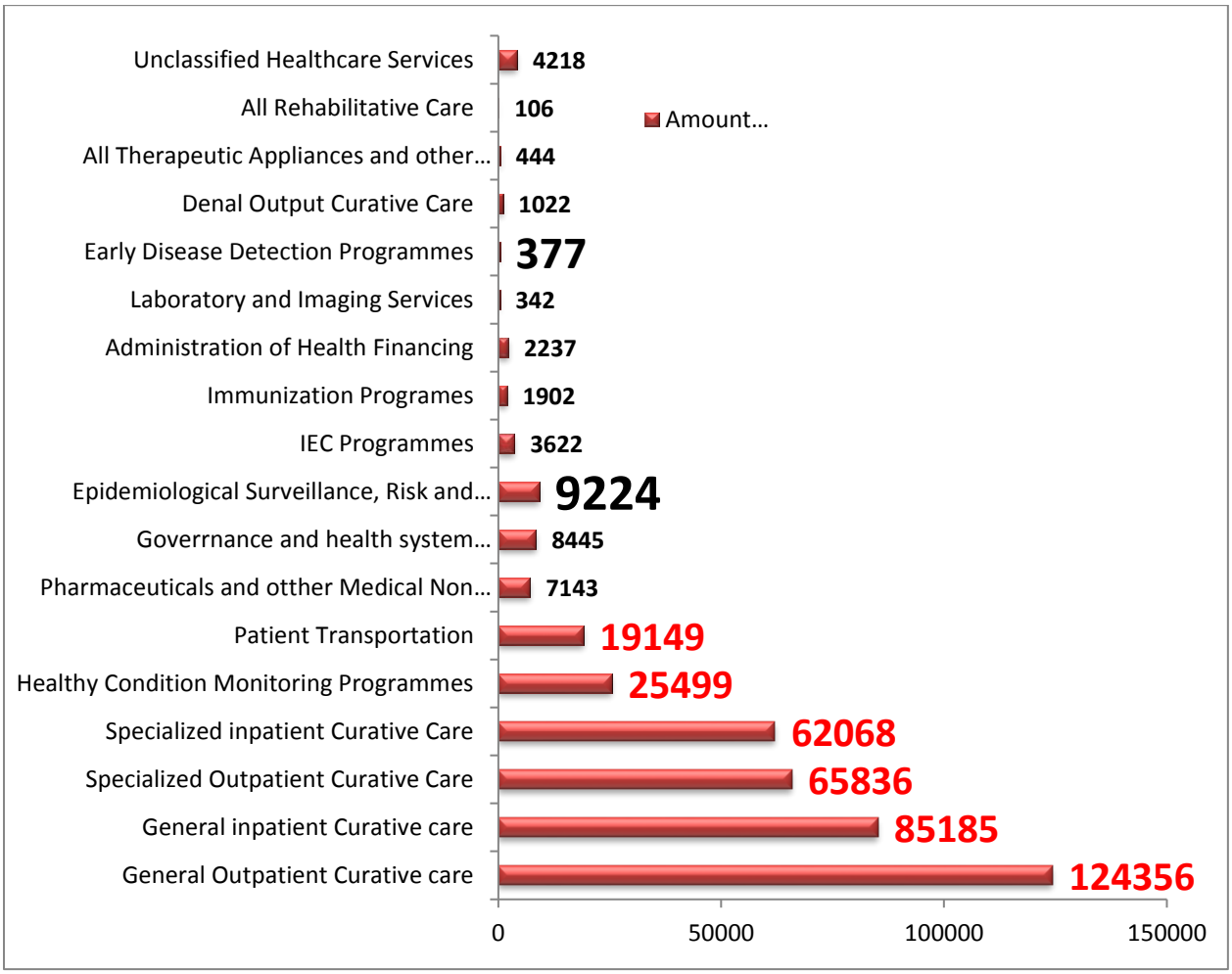
[33] Situation Analysis: Backdrop to the Indian Health Policy 2017

Keeping in view the table above, it is important to explore the healthcare expenditure pattern in India in terms of preventive and curative healthcare in order to decide the roadmap where additional spending needs to be done.

Indian Healthcare Situation in Terms of Preventive and Curative Healthcare:

Expenditure Primary healthcare is the key for prevention of the diseases before it occurs. In general category, most of the allocation of Expenditure done on the outpatient curative care followed by inpatient curative care. Same pattern is seen in case of the expenditure in the specialized curative care. Very less healthcare expenditure programes like epidemiological surveillance, IEC programes and early disease detection program, which in turn, directly or indirectly contributing the preventive healthcare of India. Expenditure figures are mentioned in the figure above.

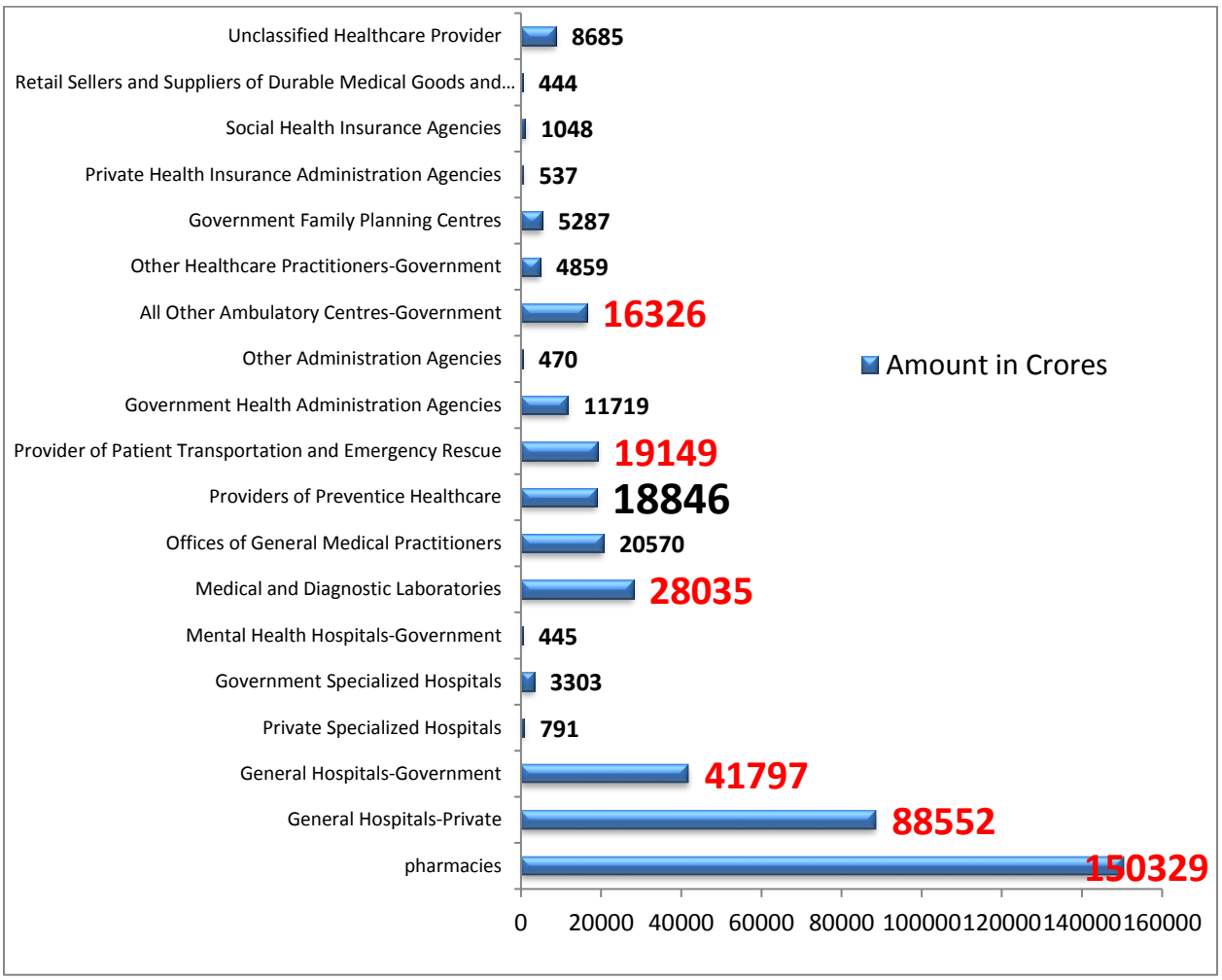
Figure 17: total Expenditure done by public and private sectors in Healthcare[34]



[34] National Health Accounts 2013-14

In the curative healthcare also, most of the healthcare expenditure is done on pharmacies, hospital, medical and diagnostic labs and transportation. 18,846 crore rupees goes to preventive healthcare which is very less if government has to come up with some interventions in the lifestyle modification, where the disease burden of NCD's contribute to total 60% of the disease burden.

Figure 18: total Functional Expenditure done in Healthcare[35]



It is clearly mentioned in the figure above that most of the healthcare expenditure is done on the curative healthcare by all the financing mechanism of healthcare. Approximately 80.6% expenditure goes to curative healthcare as compared to the preventive healthcare which is only about 9.6%.

[35] National Health Accounts 2013-14

Chapter 7: Exploration of the Areas through the concept of Preventive Healthcare

Top 10 Diseases of India and their Risk Factors:

In order to reduce the disease burden in India, there is a need to address the NCD's and the causes associated with it. Risk factors play an important role in understanding the patho-physiology of occurrence of the non communicable diseases. Identification of these diseases along with their risk factors is of prime importance in order to improve the current situation of disease burden in india.

table 16: top 10 non communicable disease occurrence in India along with their risk factors:[36]

Top 10 Diseases	Risk Factors
Ischemic Heart Disease	Family History, Age, Ethnicity, Tobacco, BP, Cholesterol, obesity, Physical Inactivity, Diabetes, Unhealthy Diet, Alcohol Abuse
COPD	Tobacco Smoking, Air Pollution, Occupation Dust and Chemicals, Genetic Factors
Cerebrovascular Disease	High BP, Atrial Fibrillation, Smoking, Poor Diet, Cholesterol, Physical Inactivity, Obesity, Diabetes, Alcohol Abuse, Stress
Lower Respiratory Infection	tobacco smoke, second hand tobacco smoke, other indoor air pollutants, outdoor air pollutants, allergens, occupational agents, diet and nutrition, post infectious chronic respiratory diseases
Diarrheal Disease	Smoking, Poor Diet, Diabetes Mellitus, Cancer, Obesity, Hypertension, Cardiovascular disease, Chronic condition, Family History, Pregnancy, Stress
Tuberculosis	HIV, Substance Abuse, Silicosis, Diabetes, Kidney Disease, Low Body Weight, Organ Transplant, Head and Neck Cancer, Crowding, Occupational diseases from hospital
Diabetes	Family History, Diabetes, Unhealthy Diet, Physical Inactivity, Age, High BP, Ethnicity, Impaired Glucose Tolerance, History of Gestational Diabetes, Poor Nutrition in Pregnancy
Chronic Kidney Disease	Age, High BP,CV disease, Smoking, Obesity, Ethnicity, Family History
Neonatal Preterm Birth	Physical Injury, Multiple Miscarriage, Stress, Obese or Underweight, High BP, Diabetes, Infections, Poor Nutrition, Smoking, history of Premature Birth
Road Injury	Age, Sex, Social Deprivation, Level of Economic Development, Mixture of High Speed Motorized traffic and Vulnerable Road Users, Excessive Speed, Alcohol Abuse, Darkness, Vehicle Factors, Defect in Road Design, Layout, Maintenance, Poor Eyesight, Human Toletence Factor, No Seat Belts

[36] Institute of Health Metrics and Evaluation 2015

Methodology for reduction of the Risk Factors

Risk factors associated with the NCD's has been already shown in the table above. Achievement in reduction in the risk factors will ultimately reduce the burden of these diseases. Identification of some methodology has been done in table below, the intervention of which, help in the reduction of the risk Factors and in turn, the NCD's.

There is a need of some intervention which can probably reduce the occurrence of the risk factors. Intervention has already been shown in the table below. The heads which represent these interventions have been classified in the table

Table 17: Risk factors and their Interventions

Lifestyle response	Eating Habits, Work life balance, Family Life, alcohol and tobacco abuse, Physical activity,
Health Systems response	Hospitals, Health Research, Drugs and Pharmaceuticals, Medical Devices, Diagnostic laboratories, ambulance, Public Health Programs
Environmental Response	Pollution - Air, Water, Noise, Thermal, Radioactive, Plastic
Social Intervention response	Awareness, Education, Taxations, social structures, culture, traditions, Values
Infrastructural Response	Amenities, Public Facilities to support healthy lifestyle,

Interventions has been identified which can help in minimizing the risk factors and in turn, the disease burden. Risk factors are classified, which can be reduced, has been shown under the their specific mentioned interventions. Table below shows the relationship of the risk factors with the Intervention.

Table 18: Appropriate Intervention of each Risk Factor

Risk factors \ Interventions	Lifestyle Response	Health System Response	Environmental Response	Social Intervention Response	Infrastructure Response
Tobacco/Smoking	✓			✓	
Alcohol	✓			✓	
Physical Inactivity	✓				✓
Unhealthy Diet	✓			✓	
Occupational Exposure			✓		✓
Obesity	✓				
Blood Pressure	✓	✓			
Cholesterol	✓	✓			

High Glucose Level	✓	✓			
Stress	✓				
Pollution			✓		✓
Previous Family History		✓			
Systemic Diseases	✓	✓			
Genetic Factors		✓			
Road Design and Layout, Vehicle Manufacturing, Excessive Speed					✓

Research Evidence for the Interventions

There are various research findings which support the interventions mentioned in the table above. The research paper shows various projects, their interventions and the money required to spend on per person in order to avert 1 DALY per person. The list of some of the studies has been mention under the table shown below.

Table 19: Research Evidence Supporting Various Interventions

Interventions	Project Name/Location	Interventions	Results	Cost of Daly Averted	Number of DALY/Death/Life Years Saved/ Averted
Lifestyle and Social Intervention Response	North Karelia Project	Lifestyle Interventions: Quit Tobacco/Alcohol, Education/Awareness, Promotion of Healthy Diet and Exercise	Change in all Causes: 49% Cardiovascular:68% CHD:73% Cancers:44% Lung Cancer:71%	1.80-4.50 USD	1DALY /year
	Low and Middle Income	Raising the Price of Tobacco up to	Decrease in Tobacco Intake	US$3 to US$42	1 DALY

	Countries	33%			
	high-income countries	Raising the Price of Tobacco	Decrease in Alcohol intake	US$85	
	_____	access to nicotine replacement therapies	Decrease in Tobacco Intake	US$75 to US$1,250	1 DALY
	Europe and Central Asia, Latin America and the Caribbean, and Sub-Saharan Africa,	Taxation on Alcohol by 25% advertising bans	Decrease in Alcohol Intake	US$100 and US$200	1 DALY
	_____	Yoga Intervention	Decrease Mental Disease	US$750	1 DALY
Health System and Infrastructure Response	US and UK		Reduction in Cancer	1300-6200 USD	1 life year Saved
	South Asia	traffic safety legislation enforcement	Decrease in Unconditional Injuries	US$14	1 DALY
	East Asia and Pacific	Speed Bumps		US$9	1 DALY

Environmental Response	African Region	Chlorination of Water Filtration Solar Disinfection	Diahhroea Prevention	US$53 US$61 US$1235-730	1 DALY
	Region African Countries	Introduction of Improved Stove in Household	Reduction in Household Pollution		1 DALY
Genetic Response	Latin America and Caribbean	folic acid fortification of grains to prevent birth defects	Decrease in Birth Defect Decrease	USD36 USD	1 DALY

Source: Cost-Effective Strategies for Non communicable Diseases, Risk Factors, and Behaviors**, Evaluation of the costs and benefits of interventions to reduce indoor air pollution, Water Quality Interventions to Prevent Diarrhoea: Cost and Cost-Effectiveness**

Health Expenditure on Preventive Healthcare Program:

The population of India is approximately 1.20 billion where the health needs of the people are fulfilled by doing expenditure on the curative healthcare. Some of the studies has been taken from the designed intervention and cost is estimated according to spending done on per person by the program and calculation of total DALY averted due to its implementation:

Table 20: cost evaluation and DALY avert by the Interventions

Areas Mentioned in the Situation Analysis Policy Draft	Intervention and Study	Cost per Person in Dollars and Rupees	Total Cost of Intervention = Indian Population (1,210,193,422) *cost per person	Total DALY/Life Years Saved
Lifestyle Modification	North Karelia Project (Lifestyle Modification)	1.80-4.50 USD Average 3.15 USD) 202.45 rupees	245,003658,283.9 rupees	1,210,193,422
Health System Related Factors	US and UK Study(Screening of Cancers) East Asia and Pacific (Traffic Safety Legislation Enforcement)	1300-6200 USD Average(3750 USD) 241012.50 rupees US$14 899.78 rupees	291,671,742,119,755 rupees 1088,907837,247.1 rupees	1,210,193,422
Environmental Factors	African Region (Chlorination of Water Filtration)	US$53-US$61 Average 57 USD 3663.79 rupees	4433894557589.38 rupees	1,210,193,422
Biological Factors	Latin America and Caribbean (folic acid fortification of grains to prevent birth defects)	USD36 USD 2313.72 rupees	2800,048,724,349.8 rupees	1,210,193,422

Chapter 8: Exploration of the Areas through the concept of Curative Healthcare

Human Resource in Public Health Sector

Human Resource is the integral part of the healthcare delivery system. It aid in delivery of the health services in efficient and effective way.

Number of Doctors at District/Sub District in India (As on 31.3.2016)

Number of doctors sanctioned and doctors in position in various district and sub districts are shown in the figure below. After the gap analysis it is clearly shown that 100 positions of doctors in district hospital are still vacant whereas in sub district hospital, 4273 position of doctors are vacant in sub district hospitals.

Table 21: number of Doctors in District Sub District[37]

Location of Hospital	Sanctioned	In Position	Gap Analysis
District Hospital	21578	21478	100
Sub District Hospital	16650	12377	4273

Strength of Para Medical Staff in District/Sub Districts in India

Number of Para medical staff sanctioned and in position in various district and sub district level have been shown in the figure below. Gap analysis clearly indicates that 1252 staff in district and 6559 staff in sub district is required to bridge the gap.

Table 22: number of Para Medical Staff in District/Sub Districts in India[38]

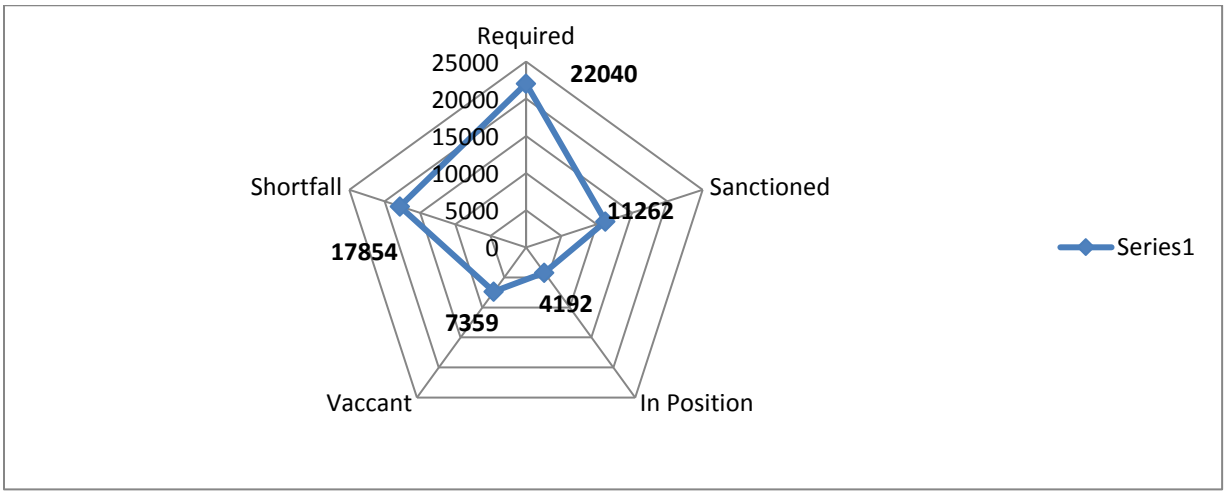
Location of Hospital	Sanctioned	In Position	Gap Analysis
District hospital	64718	63466	1252
Sub District Hospital	37534	30975	6559

Total Specialists Doctors in CHC in India

Total sanctioned posts are less (11262) than the requirement (22040) in case of number of Specialist in CHC in India. Number of available specialist doctors in CHC are 4192 with the vacant post of 7359. Overall, there is a shortfall of 17854 Specialist Doctors in CHC in India.

[37] Planning Commission of India
[38] Planning Commission of India

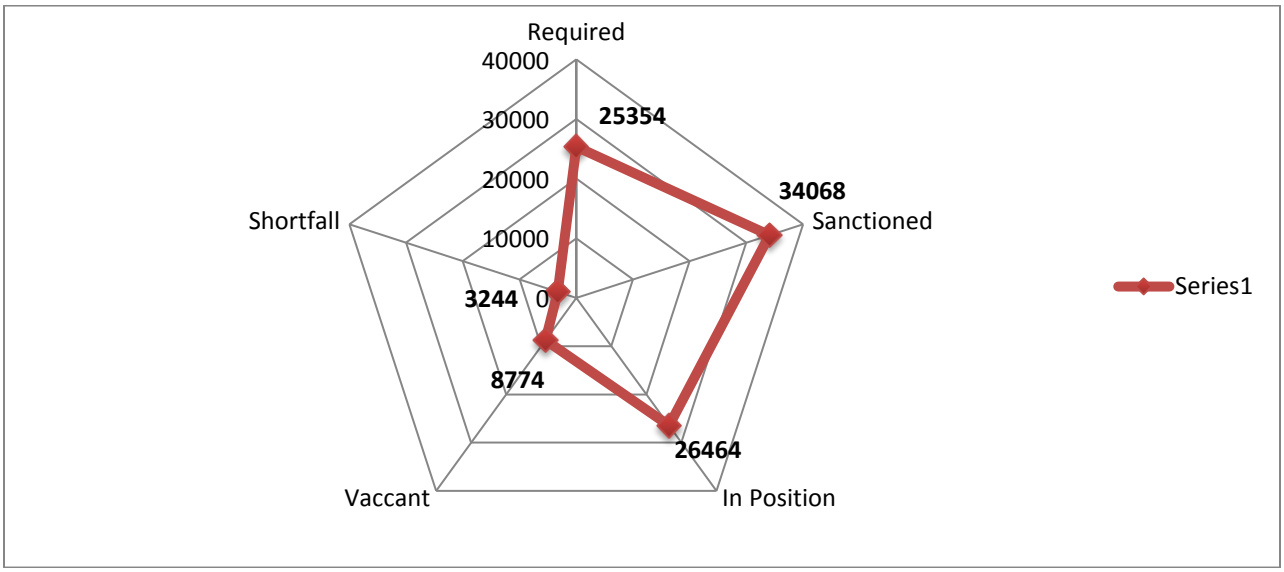
Figure 19: Total Specialists Doctors in CHC in India[39]



Total number of Allopathic Doctors in PHC in India

The post sanctioned by Government of India for Allopathic Doctors in PHC are more (34068) as compared to the required posts (25354). Vacant post is 7884 and doctors in position are 26464. Overall there is a shortfall of 3244 Allopathic doctors in PHC in India.

Figure 20: Total number of Allopathic Doctors in PHC in India[40]

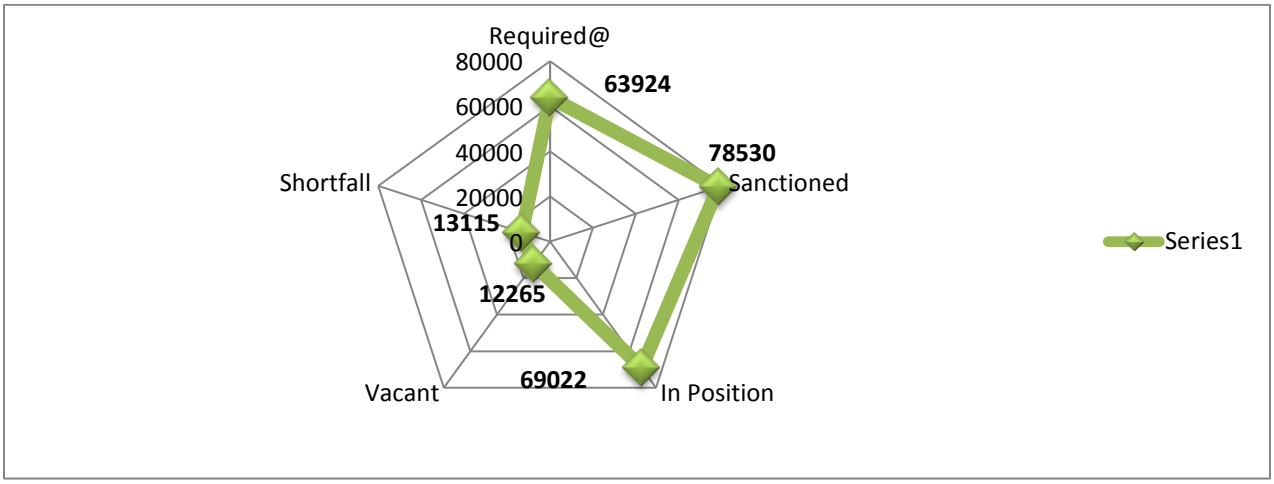


[39] Planning Commission of India
[40] Planning Commission of India

Number of Nursing Staff in Primary Health Centre (PHC) and Community Health Centre (CHC) in India

The number of sanctioned post for PHC and CHC in India are 78530 which are more than the required post for the nursing staff which are around 63924. In position staff nurses are 69022 and vacant position is 12265 in PHC and CHC. Overall, there is a shortfall of 13115 nursing staff at PHC and CHC

Figure 21: Number of Nursing Staff in Primary Health Centre (PHC) and Community Health Centre (CHC) in India[41]



Number of Health Workers and Health Assistant in India

The number of male health workers and health assistant in year 2016 in India are 53422 and 15668 respectively. The number of female workers and assistant in year 2015 in India are 212185 and 13372 respectively.

Table 23: Number of Health Workers and Health Assistant in India[42]

Workforce	Male(2016)	Female(2015)
Health worker	53422	212185
Health Assistant	15668	13372

The requirement of 1 Health worker or Assistant is required on 1000 population which means that by calculating the Indian population, 1,210,193,422 population of India requires 1210193 health workers/assistant. Gap analysis clearly shows the requirement of health workers in India

[41] Planning Commission of India
[42] Planning Commission of India

which is, 1210193-294647 = 915546 health workers.

AYUSH Registered Practitioners in India (2015)

Total number of AYUSH registered practitioners in India is 744563 out of which 402079 belongs to Ayurveda followed by 283840 Homeopathy practitioners. Registered Unani practitioners are 48213, Siddha practitioners are 8388 and Naturopathy practitioners are 2043 in number in India.

Table 24: AYUSH Registered Practitioners in India (2015)[43]

Ayurveda	Unani	Siddha	Naturopathy	Homeopathy	Total
402079	48213	8388	2043	283840	744563

Health Expenditure on Human Resource

Total money which should be allocated to address the gaps of human resource is around 429 hundred billion rupees.

Table 25: Calculation of Health Expenditure on Human Resource[44]

Human Resource	Shortfall of Human Resource	Salary per Annum (7th Pay Commission) Average Salary	Number of Human Resource Required*Salary Per Annum
Doctors	25471	17,40,216	44325041736
Paramedical Staff	7811	9,41,886	7357071546
Health worker/Assistant	915546	4,12,500	377662725000
Total Expenditure Per Year			429,344,838,282

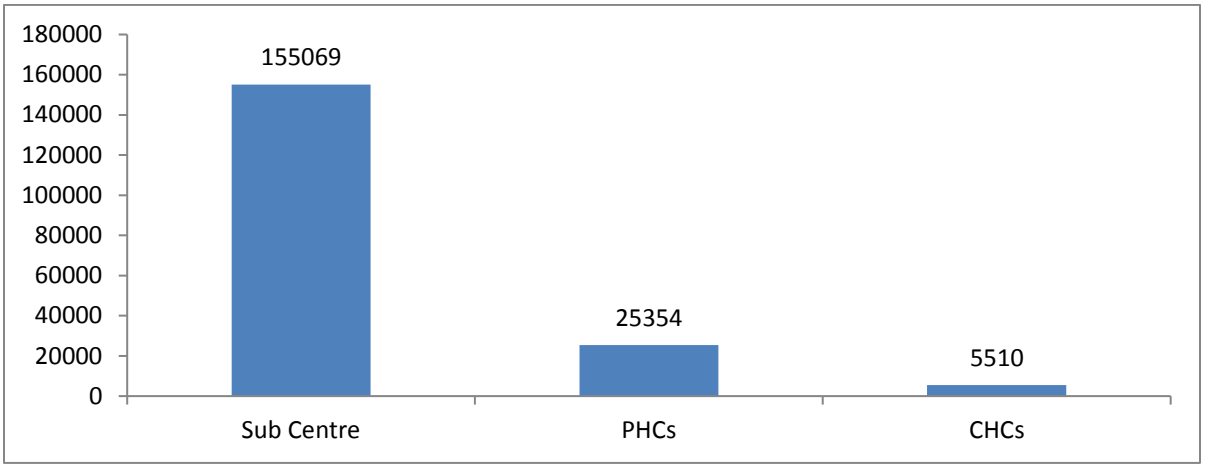
[43] Planning Commission of India

[44] IIM Ahemdabad, A Study for Comparing Salaries/ Emoluments in the Government Sector Vis a Vis Central Public Sector Undertakings/ Private Sector in India

Public Hospitals

Total numbers of Sub centres are 155069, total numbers of PHC are 25354 and total numbers of CHC in India are 5510 in India.

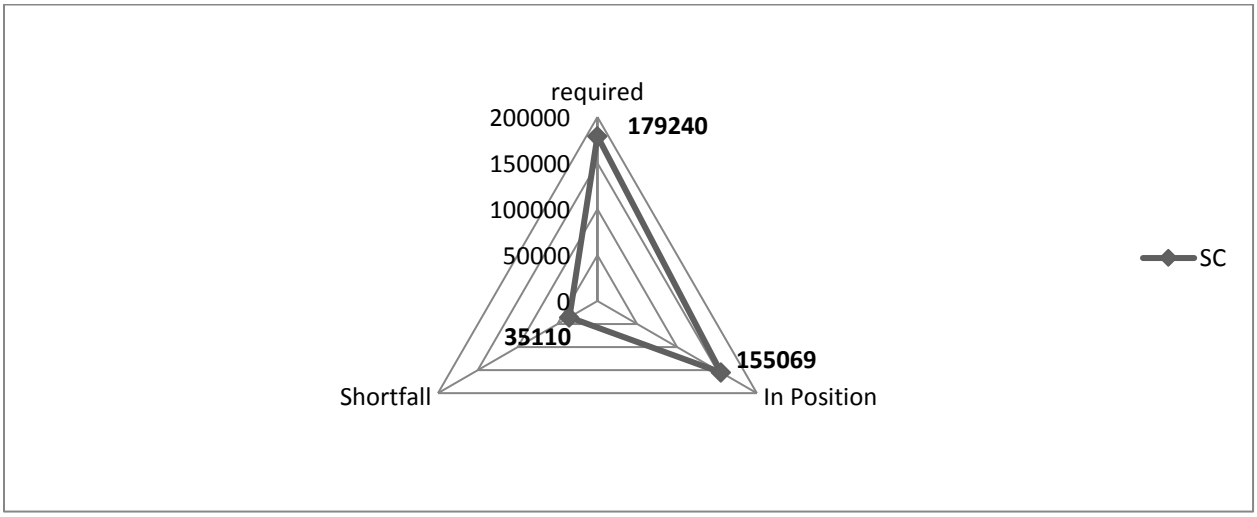
Figure 22: Public Health Infrastructure Number of Sub Centre (SC), Primary Health Centre (PHC) and Community Health Centre (CHC) in India (31.3.2016)[45]



Shortfall in Health Infrastructure in Rural India (31.6.2016)

The Requirement is calculated using the Prescribed Norms on the Basis of Rural Population from Census, 2011. Shortfall is derived by Adding State-wise Figures of Shortfall Ignoring the Existing Surplus in Some of the States.

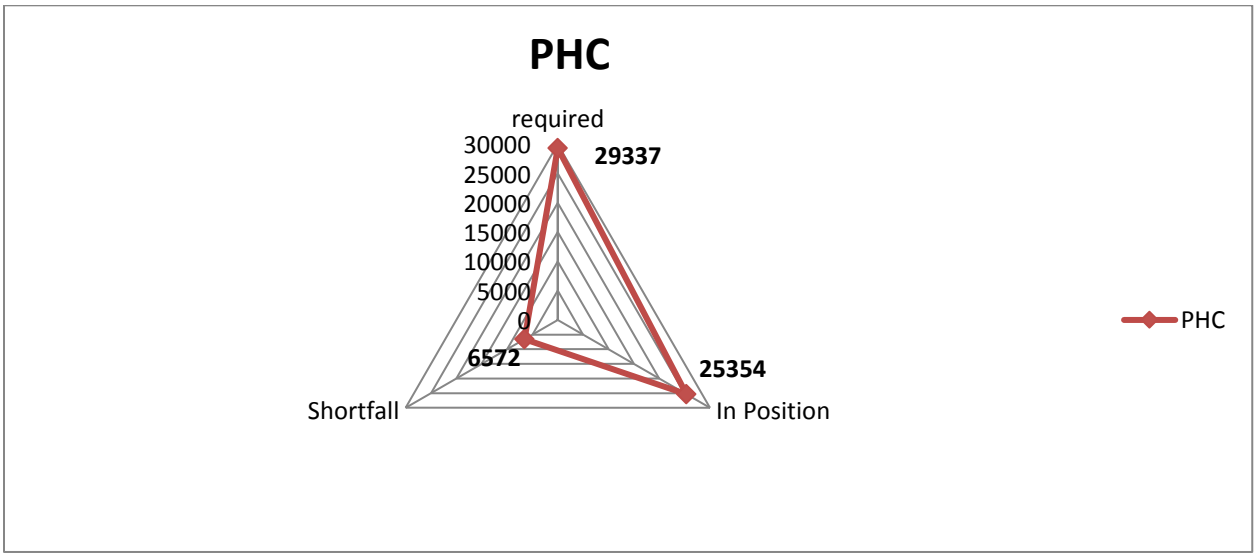
Figure 23: Shortfall in Health Infrastructure of Sub Centre[46]



[45] Planning Commission of India
[46] Planning Commission of India

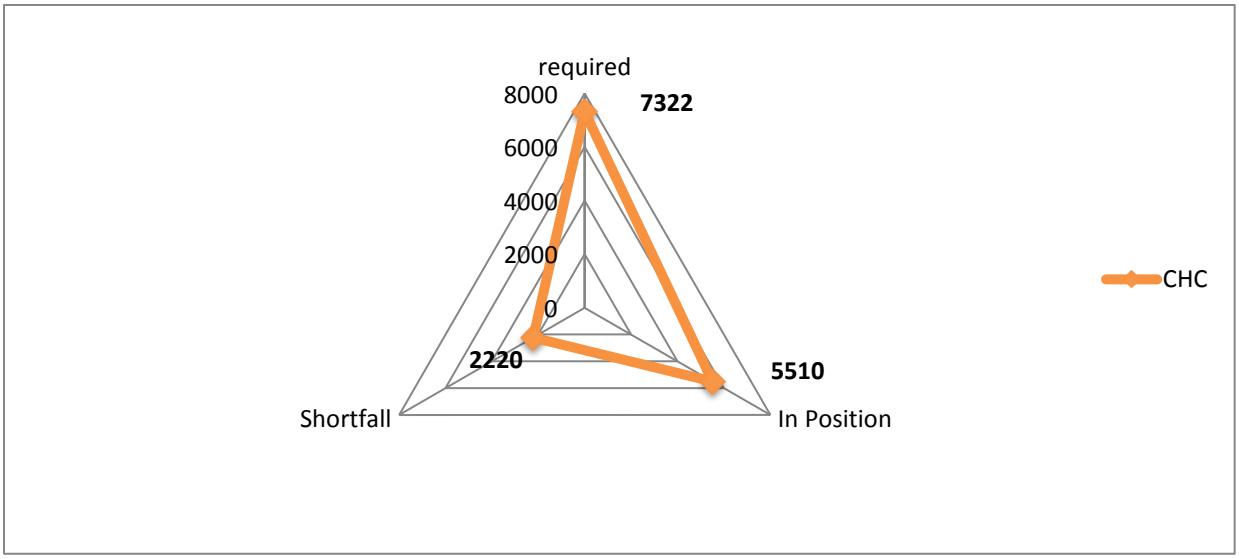
There is a shortfall of healthcare delivery infrastructure in India. Sub centers requirement in India is 179240 but the total numbers of sub centers in position are 155069 which show that there is a shortfall of 35100 sub centers overall in India.

Figure 24: Shortfall in Health Infrastructure of Primary Health Centres[47]



The required numbers of PHC in India are 29337 as compared to number of PHC in position which are 25354. Overall, there is a shortfall of 6572 PHC in India

Figure 25: Shortfall in Health Infrastructure of Primary Health Centres[48]



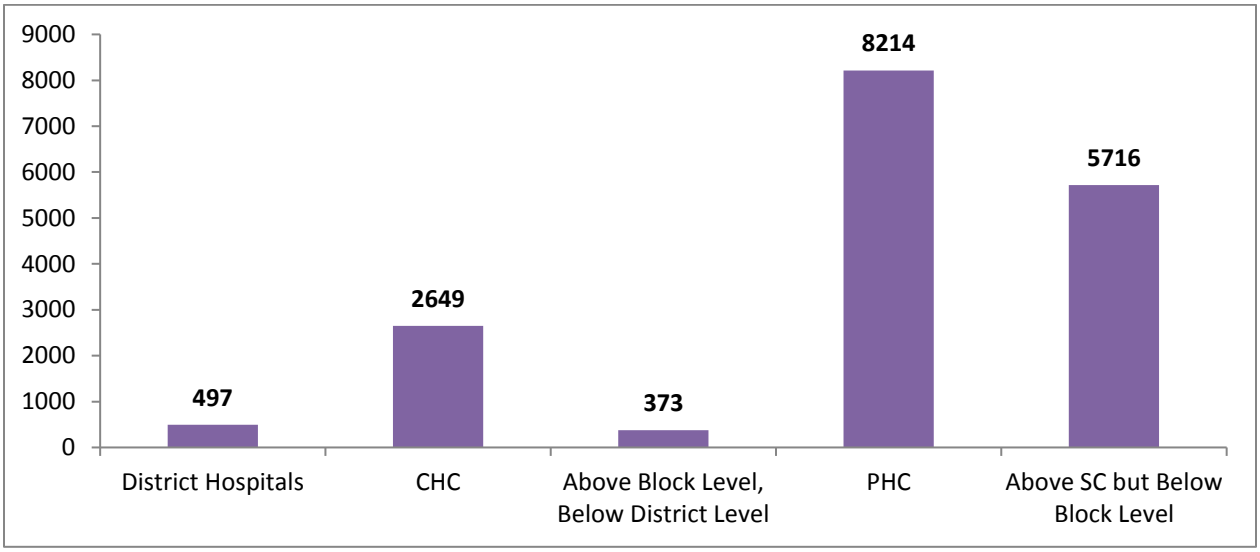
[47] Planning Commission of India
[48] Planning Commission of India

The total number of required CHC in India is 7322 as compared to the CHC in position which are 5510. Overall there is a shortfall of around 2220 CHC in India.

Number of AYUSH Co-located Facilities at Various Health Facilities under National Health Mission in India (31.3.2016)

Total AYUSH district hospitals and hospitals above block level but below district level in India are 49a7 and 373 respectively, which are very less in number. Total number of AYUSH PHC is 8214 followed by hospitals above SC and below block level 5716 and then 2649 CHC.

Figure 26: Number of AYUSH Co-located Facilities at Various Health Facilities under National Health Mission in India [49]



Number of Government/Private Medical Colleges with their Sitting Capacity (2015-16)

There are total 422 medical colleges in India out of which 200 are government medical colleges with sitting capacity of 27143 and 222 are private colleges with sitting capacity 29995. Total 57138 graduates passed out each year from both government and private medical colleges. Supply of these graduates can fulfill the gap requirement of the doctors in India.

Table 26: Number of Government/Private Medical Colleges with their Sitting Capacity[50]

Entity	Number of colleges	Capacity
Government	200	27143
Private	222	29995
Total	422	57138

[49] Planning Commission of India
[50] Planning Commission of India

Number of BDS/MDS colleges in India (2015-16)

Number of BDS colleges increases from 305 to 308 in year 2015-16 with sitting capacity increases from 26240 to 26530. On the other hand, MDS college's increases from 224 to 240 in year 2015-16 with number of admissions increases from 5505 to 5866 which makes around total number of graduates who are taking admission both in BDS and MDS colleges are 11371 in India.

Table 25: Number of Government/Private Medical Colleges with their Sitting Capacity[51]

Years	Number of BDS Colleges	Number of Admissions in BDS Colleges	Number of MDS Colleges	Number of Admissions in MDS Colleges
2014-15	305	26240	224	5505
2015-16	308	26530	240	5866

Health Expenditure on Health Infrastructure

Total money which should be allocated to address the gaps of infrastructure is around 178 hundred billion rupees.

Table 27: Calculations for the expenditure on health Infrastructure

Entity	Shortfall	Construction Cost for each construction[52]	Shortfall*construction Cost
Community Health Centre	**35110**	3200000-6000000 (Average: 4600000)	157995000000.00
Primary Health Centre	**6572**	**2800000**	18401600000
Sub Centre	**2220**	**800000**	1776000000
Total Cost			178,172,600,000

[51] Planning Commission of India

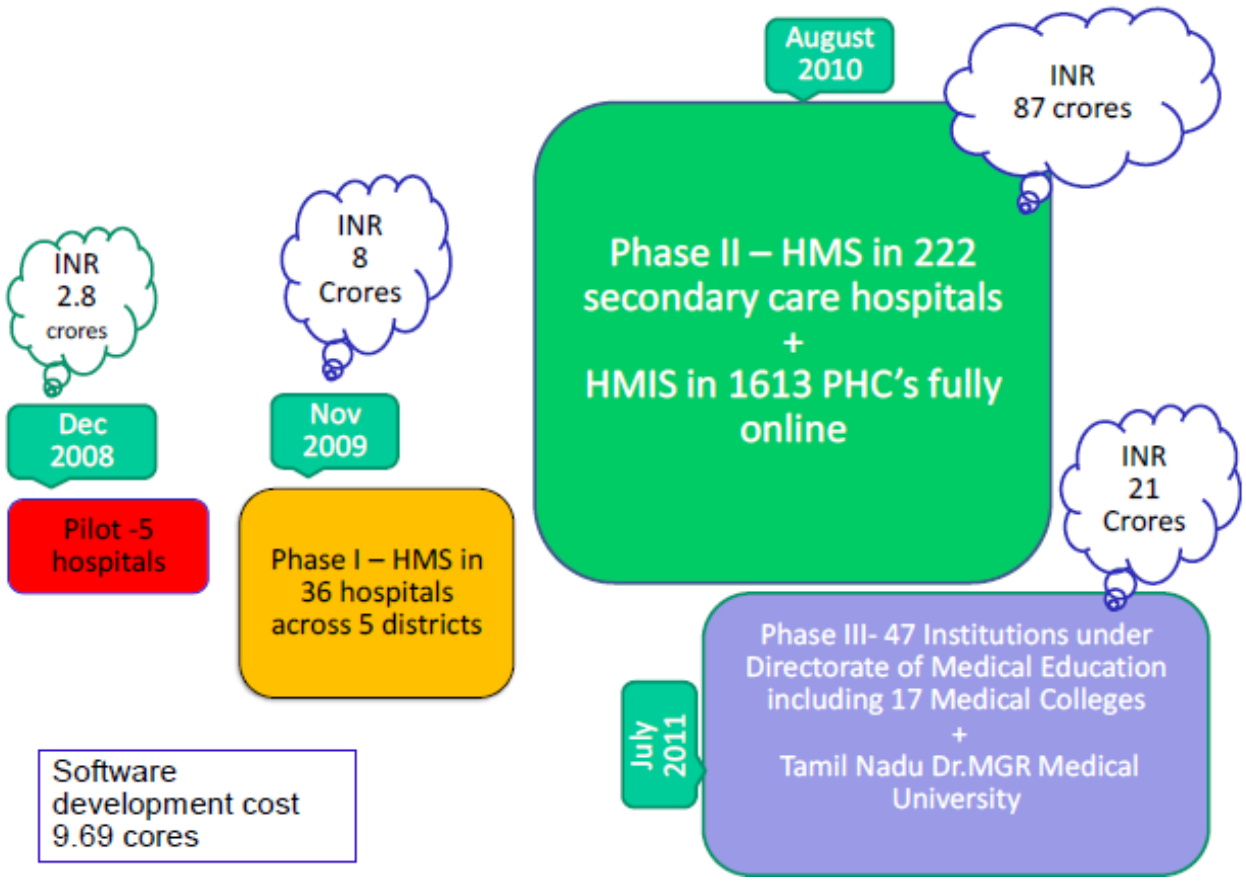
[52] Brief Write up Note on Proposed PIP proposals for Civil Construction Works for Financial year 11-12:- Sanctions already issued by NRHM up to 31.03.2010

Health Management Information System:

The HMIS or the Health Management Information System is an online portal through which medical professionals and the support staff in medical establishments can maintain crucial information about the patients. Ever since the creation of government health centres and public health services, there has been a great gap created between the decision makers and the implementers. This gap has been due to the lack of processes when it comes to processing the information and the lack of feedback upon sub-functional but existing systems. One of the many initiatives to bridge this gap has been the implementation of the HMIS system in every major public hospital, rural health centre and primary health centres across the state.

Government of Tamil Nadu took the Initiative to bridge the gap by implementing the HMIS in the state. The step by step implementation has been shown in the following diagram:

Figure 27: Implementation of HMIS phase wise in Tamil Nadu[53]



[53] International Journal of Scientific & Engineering Research, Volume 4, Issue 10, October-2013 282 ISSN 2229-5518, Health Management Information System implemented in Government Hospitals of Tamil Nadu, Natarajan.S,Panchanathan.V,Pankaj Kumar Bansal

128,49,00,000 is the cost which has been spend on the implementation. This is the roughly estimated average cost incurred by a state on implementing HMIS.

Strengthening of HMIS:

Total money which should be allocated to address the gaps of human resource is around 462 hundred billion rupees.

Table 28: cost of Implementation of HMIS in India

Total States and Union Territories in India	Average Expenditure for HMIS Implementation in a State[54]	Total States and UT in India*Average Expenditure for HMIS Implementation
36	128,49,00,000	462,564,000,00

[54] International Journal of Scientific & Engineering Research, Volume 4, Issue 10, October-2013 282 ISSN 2229-5518, Health Management Information System implemented in Government Hospitals of Tamil Nadu, Natarajan.S,Panchanathan.V,Pankaj Kumar Bansal

Chapter 9: Increasing the Percentage of Current Healthcare Public Expenditure from 1.15% to 2.5% - A Road Map Model

Calculation of Proposed Increased Expenditure:

The total GDP of India in year 2017 is 152.51 lakh crore rupees. India spend 1.15% of its GDP percentage in healthcare, which makes it around approximately 1.75 lakh crore rupees. Indian government need to increase its healthcare GDP up to 2.5%, in order to reduce the out of pocket spending of the household and to reduce the burden of disease in India. The amount which has come after the calculation of 2.5% increase in healthcare GDP is 3.431 lakh crore. So the money needed to bridge the gap from going to 1.15% to 2.5% of healthcare GDP is 167761 lakh crore rupees. Following table given below summarizes the calculations which is discussed above:

table 29: Calculation of Proposed Increased Expenditure

	Rupees in Lakh Crores
Present GDP of India	152.51
Present GDP on Health given by the Government	1.753865
Future GDP in healthcare, if Increase up to 2.5% by Government	3.431475
Total Money Needed to fill the gap of GDP in healthcare	167761

Planned Allocation of Net Money Needed to Increase GDP to 2.5%:

Draft on Situation Analysis for Indian Health Policy 2017 mention the areas where ideal spending should be done by the government in order to achieve the future goals of SDG, Universal Health Coverage and also keeping in mind the burden of diseases. The areas and the percentage of spending which should be done by the government on those areas are 50% on lifestyle modification, 20% on Biological factors, 20% on environmental factors and 10% on health system related factors as shown in the table below. The money which is needed to bridge the gap between the healthcare GDP is allocated according to the areas and percentage mentioned in the draft. The calculations of money which should be spend in the mentioned areas are shown in the table. This calculation laid down the road map of planned expenditure of money in the specified areas so as to increase the GDP on healthcare to 2.5%.

The money which is needed to bridge the gap between the healthcare GDP is allocated according to the areas and percentage mentioned in the draft. The calculations of money which should be spend in the mentioned areas are shown in the table. This calculation laid down the road map of planned expenditure of money in the specified areas so as to increase the GDP on healthcare to

2.5%.Calculating the above estimate, and the calculation done for the health programmes implemented in various countries, there is a need of making planned proportions of the above expenditure.

Table 30: Planned Allocation of Net Money Needed to Increase GDP to 2.5%:

Areas of Expenditure According to Situation Analysis Draft[55]	Allocated Amount from Net Money Needed to Increase GDP to 2.5% in lakh crores
50% on Lifestyle Modification	83880.5
20% on Biological Factors	33552.2
20% on Environmental Factors	33552.2
10% Health System Related Factors	16776.1
Total	167761

Road Map for Fabrication of the Model for Healthcare Expenditure for increasing GDP to 2.5%

Summarizing all the findings of the report give us the road map which can help in making a model which can be used a prototype model to come up with the planned model for the healthcare spending in the areas mentioned in the draft of Situation Analysis 2017.

Table 31: Road Map for Fabrication of the Model for Healthcare Expenditure for increasing GDP to 2.5%

Areas of Expenditure According to Situation Analysis Draft	Extra Expenditure to be done (in lakh crores)	Allocation areas	Allocation Amount in crores rupees
Lifestyle Modification	83880.5	Preventive Health and Risk Factors Reduction	245,003658,283.9
Biological Factors	33552.2	Genetic Factors and birth defects	2800,048,724,349.8
Environmental Factors	33552.2	Indoor, Outdoor and Industrial Pollution(water and Sanitation)	4433894557589.38
Health System Related Factors	16776.1	Screening of Diseases Road infrastructure and Design Human Resource	291,671,742,119,755 1088,907837,247.1 429,344,838,282

[55] Situation Analysis: Backdrop to the Indian Health Policy 2017, Planning Commission of India

	Public Hospitals	178,172,600,000
	HMIS	462,564,000,00

Conclusion

The research already highlights the increase in GDP spending can reduce the out of pocket spending and also highlighted the situation of healthcare in India in terms of Disease burden, out of pocket expenditure and the people insured. Research also reflects the Mechanism of public health expenditure and the focus of the government towards the curative care apart from the preventive care.

Areas are identified based on the Situation Analysis 2017 draft which will aid in increasing the public healthcare expenditure from 1.15% to 2.5% and all the basic calculations are done based on the identified areas, literature review from government journals and International published reports. This result in emergence of a road map which can guide the Indian Government regarding the allocation of expenditure in the areas mentioned in the draft. This leave a research area for the researchers to draw the healthcare model for India keeping in mind the roadmap designed in the study.