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ANALYSIS OF HEALTH EXPENDITURE IN INDIA

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ABSTRACT:

Health is one of the components of human development measures of a country. Health expenditure, whether it should be from the public sector or from the private sector is a big issue. The study analyzed the trends in health expenditure in India also the correlation between health expenditure and health indicators. Public expenditure on health is found to be very low in India but out-of-pocket health expenditure is found to be very high in India. In India 75 percent of the health expenditure is made by the households by out of their pockets and only 25 percent of health expenditure is met by the government. The study found that there is positive relationship between public health expenditure and human development. It suggests that there is a need to increase public investment on health care services.

"The health of the nation is as important as wealth of nation".

Adam smith in his book "An enquiry in to the nature and causes of wealth of nations" (1776) highlighted that wealth of nations depends upon productive labour. Productive labour is nothing but the human resource. It also depends upon the healthy individuals. The slogan "A Sound mind is in a sound body" is very appropriate here. Health of an individual is determined by health expenditure made either by the government or by the individuals. Economic development of any country depends on their available resources like human resources and natural resources. Human resources of the country are mainly determined by health and educational conditions of the country. Almost in all the countries health is state responsibility and India is no exception.

Whether it is developing country or developed country the state's role in developing a good health infrastructure and assuring good health to everybody becomes very important. Unfortunately health expenditure is highly unequal across the world, especially in India there is a huge gap between public expenditure and out of-pocket health expenditure made by the individuals. In India 75 percent of the health expenditure is made by the households and only 25 percent of health expenditure is met by the government. Out-of-pocket health expenditure is one of the major components of the household expenditure.

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This article deals with trends and pattern of health expenditure in India and analysis the correlation between public health expenditure and health indicators.

Objectives:

- To study the trends in health expenditure in India
- Analyse the correlation between public health expenditure and health indicators

Hypotheses:

On the basis of above standard objectives the study formulated following hypothesis.

- Public expenditure on health has been decreased in India
- There is a positive correlation between public health expenditure and health indicators.

Methodology

The paper mainly depends upon the secondary data. The major secondary sources of data were from the Directorate of Health and Family Welfare Services, Reserve Bank of India Database, World Bank Database and Directorate of Economics and Statistics. To analyze data, descriptive statistics, cross tabulation and chi-square test were used. For this SPSS 14.00 software has been used.

Analysis of Health Expenditure in India

One of the investments during five years plans in India is on health and family welfare. Pattern of investment on health and family welfare in different plan periods in India is shown in Table-1 and health sector outlay as percentage of total plan investment outlay during five year plans is shown in Graph-1.

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Table-1: Pattern of Investment on Health and Family Welfare in Different Plan Periods in India

Plan Period	Total plan Investment	Health Investment (in Crore)	Total Health and Family Outlay	% of Outlay
I plan (1951-56)	1,960.0	65.2	0.1	3.3
II Plan (1956-61)	4,672.0	140.8	5.0	3.1
III Plan (1961-66)	8,576.5	225.9	24.9	2.9
Annual plan (1966-69)	6,625.4	140.2	70.4	3.2
IV Plan (1969-74)	15,778.8	335.5	278	3.9
V Plan (1974-79)	39,426.2	760.8	469.8	3.1
Annual plan (1979-80)	12,176.5	223.1	118.5	2.8
VI Plan (1980-85)	1,09,291.7	2025.2	1,387	3.1
VII Plan (1985-90)	2,18,729.6	3,688.6	3,120.8	3.1
Annual plan (1990-91)	61,518.1	960.9	784.9	2.9
Annual plan (1991-92)	65,855.8	1,042.2	850.6	2.9
VIII Plan (1992-97)	4,34100.0	7,494.2	6,500	3.2
IX Plan (1997-2002)	8,59,200.0	19,818.4	15,120.2	4.09
X Plan (2002-07)	14,84,131.0	31,020.3	27,125.0	3.97
XI Plan (2007-12)	21,56,571	1,02254.6	-	6.50
XII Plan (2012-17)	-	75145.29	-	-

Source: Plan Documents of Different Years

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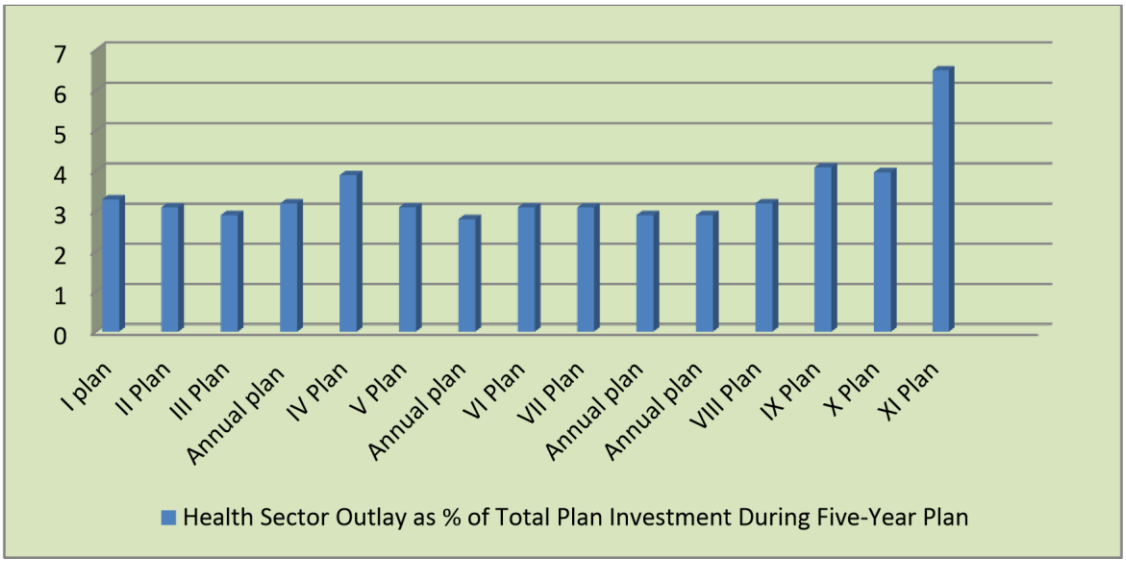
Graph-1: Pattern of Investment on Health and Family Welfare in Different Plan Periods in India



Source: Plan Documents of Different Years

In India, health sector was focused by government throughout five year plans. As shown in the table-1 and Graph-1 in the first five year plan period investment on health and family welfare as percentage of total plan investment were just 3.1 percent and gradually increased to 4 percent from ninth five-year plan till the tenth plan and it increased to 6.5 percent in the eleventh five-year plan, however it is still less than 10 percent as visualized in the objectives of five-year plans.

Table-2 shows the various sources of health expenditure during 2015-16. Graph-2 shows the same in percentage.

Table-2: Sources of Finance for Health Expenditure in India -2015-16

Sources of Finance for Health Expenditure	**Health Expenditure (In Percentage)**
Union Government	7.8
State Government	15.3
Local bodies	0.8
Household share	69
Contribution by enterprises	4.8
NGO`s	1.6
External/donors funding	0.7

Source: National Health Accounts Estimates for India- 2018

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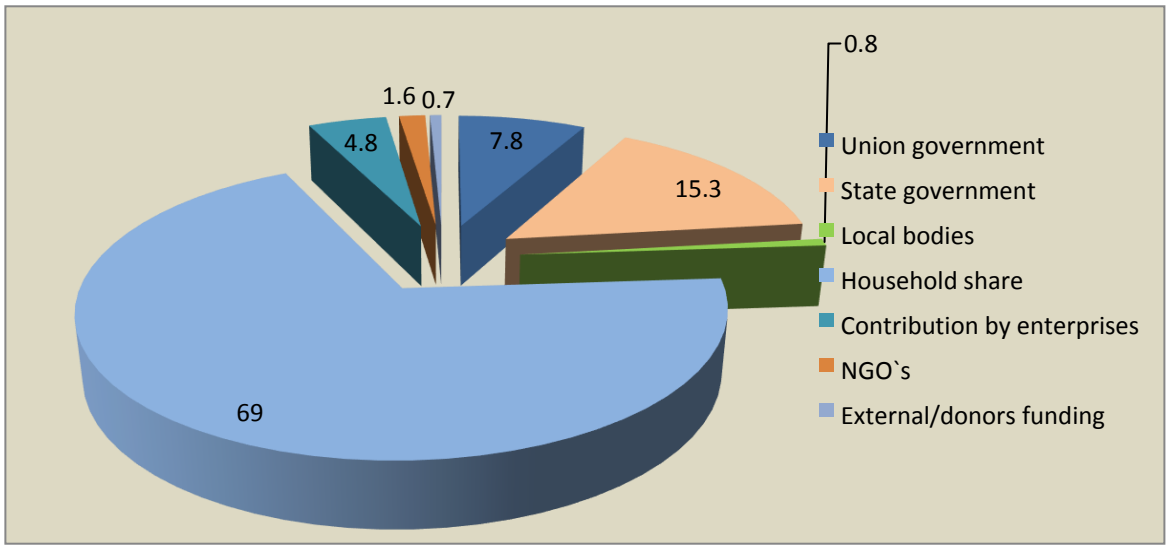
Graph-2: Sources of Finance for Health Expenditure in India-2015-16



Source: National Health Accounts Estimates for India- 2018

As sown in the above Table-2 and Graph-2, in India, the health sector is financed by various sources of funding like union government, state government, Local bodies, by households, by enterprises, NGO`s, and external/donors funding. In the year 2015-16, 7.8 percent of total health expenditure shared by union government, state government contributed 15.3 percent, local bodies shared 0.8 percent, major share of health expenditure by households i.e. 64.7 percent which supports our study that major health expenditure in India is by the households. 4.8 percent of the health expenditure is contributed by enterprises and 1.6 percent health expenditure shared by NGO`s and 0.7 percent shared by external/donors. It is observed that major share of health expenditure is contributed by households and government share is less than 30 percent which indicates that public investment on health is very less.

Not only the public investment on health is very low in India but also total health expenditure as percentage of GDP is less than 5 percent. This is shown below in Table-3 and Graph-3.

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Table-3: Health Expenditure as a Percentage of GDP in India

Year	Total health expenditure (% of GDP)	Public health expenditure (% of GDP)	Private health expenditure (% of GDP)
2001	4.28	0.80	3.46
2002	4.25	0.77	3.47
2003	4.01	0.75	3.26
2004	3.96	0.71	3.25
2005	3.78	0.76	3.03
2006	3.64	0.75	2.89
2007	3.52	0.74	2.78
2008	3.52	0.80	2.72
2009	3.50	0.89	2.59
2010	3.30	0.86	2.41
2011	3.20	0.94	2.31
2012	3.30	0.93	2.40
2013	3.70	0.87	2.88
2014	3.60	0.86	2.76
2015	3.90	0.92	2.68
2016	3.66	0.93	2.73
2017	2.94	0.97	1.97
2018	2.95	0.89	2.06
2019	3.01	0.99	2.02

Source: Computed from World Development Indicators- database

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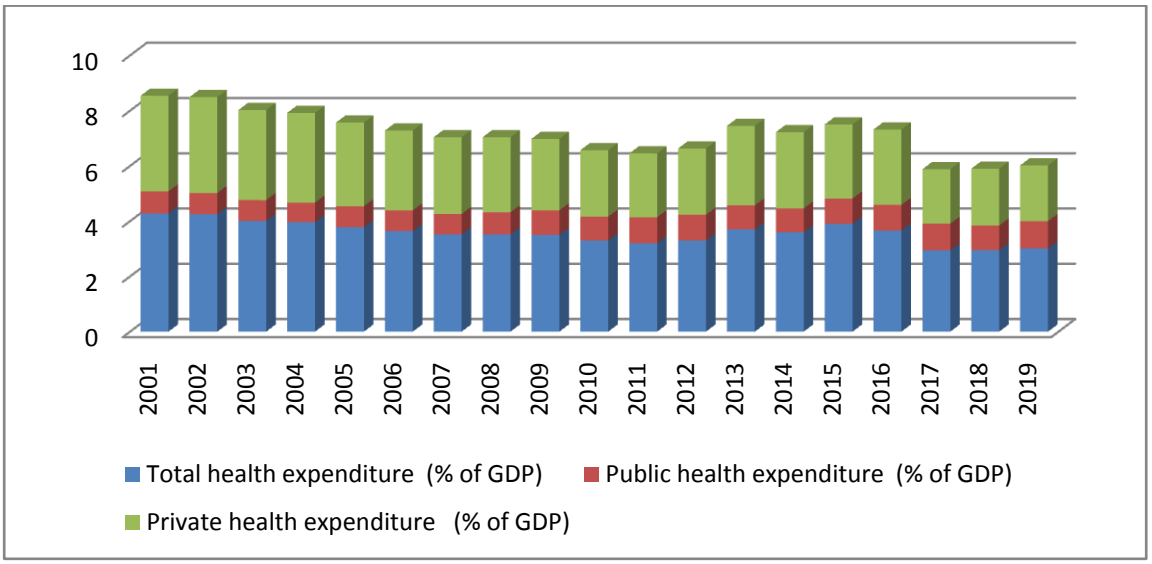
Graph-3: Health Expenditure as a Percentage of GDP in India



Source: Computed from World Development Indicators- database

Trends of total health expenditure and its components as percentage of GDP in India are presented in the Table-3 and Graph-3. Total health expenditure as percentage of GDP is highest in 2001 that was 4.26 percent and lowest in 2017 that was 2.94 percent. In the study period, 2001-2019 total health expenditure has been reduced from 4.26 to 2.94. As evident from the Graph-3 the public health expenditure as percentage of GDP has been just around only 1 percent which is very low in India compared to developed countries. There is no much difference in growth of public health expenditure in the study periods 2001 to 2019. It increased only 0.19 percent over the period of time. As shown in Table-1.3 and Graph-3 private health expenditure is reduced from 3.47 to 1.97 percent in the study period. It has decreased by 1.16 percent in the study period 2001-2019. Not only total health expenditure as percentage of GDP is reduced but also private health expenditure as percentage of GDP also decreased, whereas public health expenditure as percentage of GDP increases marginally.

Public and private health expenditure as percentage of total health expenditure varied from time to time. Table-4 and Graph-4 depicts the public health expenditure as a percentage of total health expenditure, private health expenditure as a percentage of total health expenditure and out-of-pocket expenditure as a percentage of total health expenditure.

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Table-4: Public and Private Health Expenditure as Percentage of Total Health Expenditure

Year	Public health expenditure (% of total health expenditure)	Private health expenditure (% of total health expenditure)	Out-of-pocket expenditure (% of total health expenditure)
2001	18.88	78.79	74.11
2002	18.16	79.38	73.37
2003	18.72	79.76	73.42
2004	17.98	79.78	72.48
2005	20.13	78.34	73.15
2006	20.51	78.06	72.26
2007	20.90	77.59	70.82
2008	22.63	75.50	69.15
2009	25.61	73.37	66.76
2010	26.21	72.82	65.18
2011	28.87	70.26	62.22
2012	27.99	71.07	63.00
2013	23.07	76.66	69.07
2014	23.66	75.59	67.01
2015	25.64	73.65	64.66
2016	25.43	73.55	64.58
2017	32..95	66.46	55.11
2018	30.08	69.08	55.32
2019	32.79	66.38	54.78

Source: Computed from World Development Indicators- database

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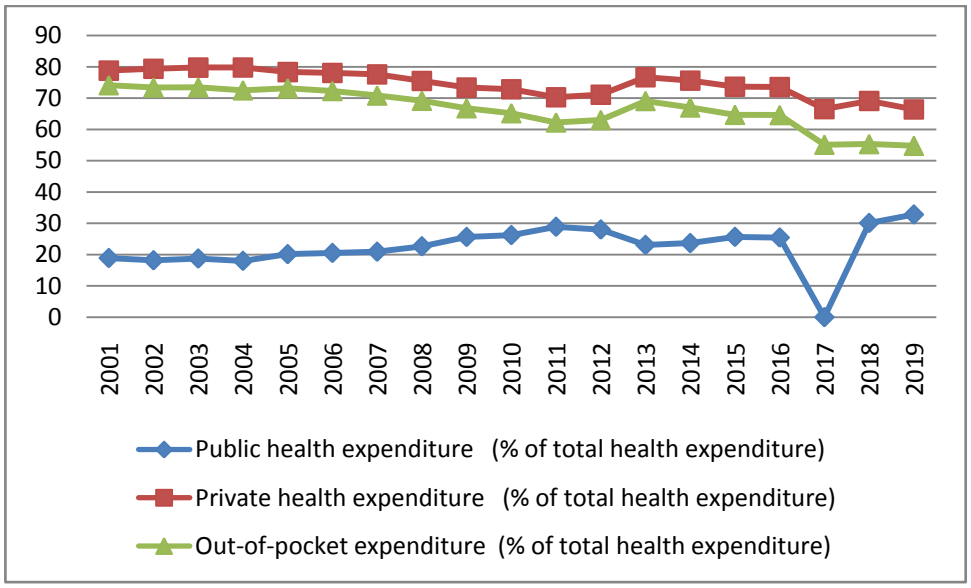
Graph-4: Public and Private Health Expenditure as Percentage of Total Health Expenditure



Source: Computed from World Development Indicators- database

Trends and pattern of components of health expenditure as percentage of total health expenditure is presented in Table-4 and Graph-4. Public health expenditure as a percentage of total health expenditure was lowest in 2004 i.e. 17.98 percent and highest i.e. 28.87 percent in 2011. It has been increased by 10.98 percent of total health expenditure. Private expenditure on health as percentage of total health expenditure reduced from 79.78 percent to 70.26 percent in the study period 2001-2016. The rate of growth of public health expenditure as a percentage of total health expenditure is greater than that of the rate of growth of private health expenditure as percentage of total health expenditure over the period 2001-2016 in fact the later has decreased after 2007. Out-of-pocket expenditure on health as percentage of total health expenditure was highest in 2001 that is 74.11 percent and lowest in 2016 i.e. 64.58 percent of total health expenditure. In the study period out-of-pocket health expenditure has been reduced marginally that is 9.53 percent of total health expenditure. It is observed that due to the increase in the public health expenditure, out-of-pocket expenditure of households on health has decreased. It suggests that increase in the public health expenditure will reduce the burden of out-of-pocket expenditure of the households and increases their standard of living.

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Over the period 2001-2016 the overall total health expenditure per capita, PPP (current international $), public health expenditure per capita, PPP (current international $) and private health expenditure per capita, PPP (current international $) has increased. This is shown below in Table-5 and Graph-5.

Table-5: Per-Capita Health Expenditure, PPP (International $)

Year	Total Health Expenditure Per Capita, PPP (International $)	Public Health Expenditure Per Capita, PPP (International $)	Private Health Expenditure Per Capita, PPP (International $)
2001	91.61	17.29	74.32
2002	94.43	17.15	77.27
2003	96.59	18.08	78.51
2004	104.04	18.71	85.33
2005	110.66	22.27	88.39
2006	117.65	24.13	93.53
2007	126.42	26.42	100.00
2008	131.85	29.83	102.02
2009	140.90	36.09	104.82
2010	145.63	38.16	107.47
2011	150.50	43.45	107.04
2012	163.69	45.82	117.87
2013	196.86	45.42	151.45
2014	205.89	48.72	157.17
2015	221.76	56.86	164.90
2016	241.48	61.40	180.08
2017	181.53	59.81	120.65
2018	195.57	58.82	135.1
2019	211.00	69.18	140.08

Source: Computed from World Development Indicators- database

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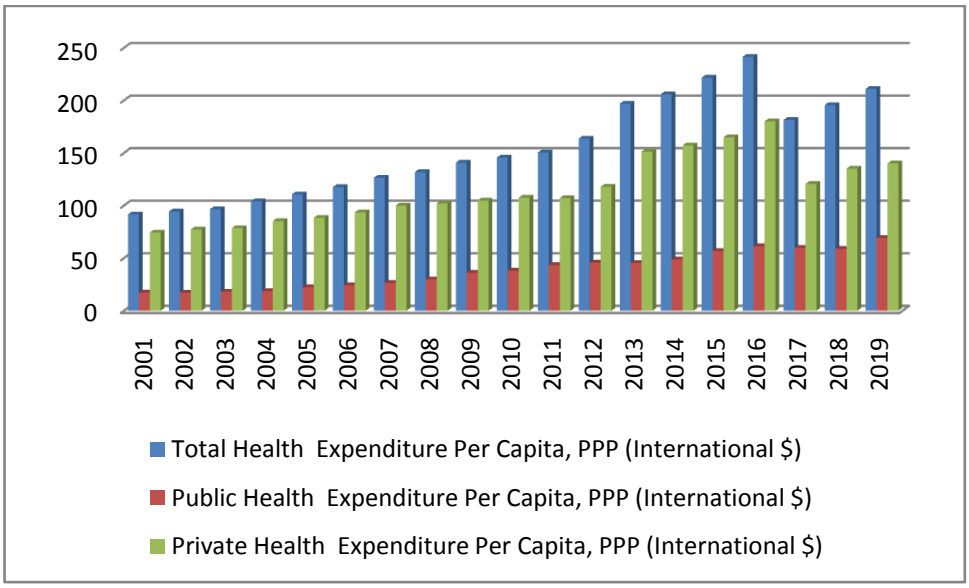
Graph-5: Per Capita Health Expenditure, PPP (Current International $)



Source: Computed from World Development Indicators- database

The above Table-5 and Graph-5 show the trend and pattern of per-capita health expenditure in terms of PPP (current international $) in India. As shown above, total expenditure on health in terms of PPP increased from $91.61 to $241.48 in the study period. Public health expenditure per capita, PPP (current international $) has been increased from $17.15 to $61.40 in the study period. Private health expenditure per capita, PPP (current international $) has been increased from $74.32 to $180.08 during the study period. Though the per capita health expenditure has shown increasing in the study period, but the major component of this increase is private health expenditure.

Results of Hypothesis Testing

Hypothesis 1: Public expenditure on health has been decreased in India.

To test the trends in health expenditure in India exponential growth model is used. The results are presented in Table-6.

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Table-6: Results of Hypothesis Testing 1

Variables	Co-efficient	Std. Error	t-value	pvalue	Rsquared	Result
Health expenditure (% of GDP)	-0.01036	0.0069	-1.50	0.157	0.92	Rejected
Public health expenditure (% of GDP)	0.04502	0.0044	3.26	0.002	0.49	Rejected
Public health expenditure (% of total health expenditure)	0.02400	0.0081	2.96	0.010	0.94	Rejected
Public health expenditure per capita, PPP (International $)	0.08991	0.0050	17.95	0.000	0.96	Rejected
Expenditure on medical and public health and family welfare (% of total expenditure)	0.00773	0.0061	1.26	0.000	0.85	Rejected
Expenditure on medical and public health and family welfare (% of GDP)	0.01534	0.0081	1.88	0.018	0.28	Rejected

The results in the above table-6 show that on average health expenditure as percentage of GDP has decreased by 1 percent annually during the study period but this decline in health expenditure is statistically not significant even at 10 percent level. Public health expenditure as percentage of GDP increased by 4.5 percent annually and this increment is statistically significant at 1 percent level. Public health expenditure as percentage of total health expenditure as increased by 2.4 percent annually and this increment is statistically

significant at 10 percent level. Public health expenditure per capita (PPP in international $) has increased nearly 9 percent annually and this increment is statistically highly significant at 1 percent level. Expenditure on medical and public health and family welfare as percentage of total expenditure has increased by 0.77 percent per annually and this increment is also statistically highly significant at 1 percent level. Expenditure on medical and public health and family welfare as percentage of GDP has increased by 1.5 percent per annually and this increment is statistically significant at 5 percent level.

Thus the hypothesis-1 that public expenditure on health has been decreased in India is rejected, hence public expenditure on health has been increased in India though health expenditure as percentage of GDP decreased.

The above analysis indicates that the public health expenditure in India is not up to the expected level. Public expenditure on health is considerably high in most of the developed countries which is evident from their health index and HDI. India being a vast country with 136 (2019) crores of population has 29 states and since health sector is a state subject there is no unanimity in the health expenditure among the states. It has to be tested whether it has led to an increase in out-of- pocket expenditure of the households or not whether it has lowering in their standard of living. This clearly indicates that there is a need for an increase in public health expenditure in India.

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