

## **THE PUBLIC EXPENDITURE PATTERN IN THE HEALTH SECTOR IN TAMIL NADU – A REVISIT**

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### **ABSTRACT**

Since health is a state subject in India and also the state accounts for 75 per cent of the public spending in the health sector, a study on health sector is more appropriate from the state level. The state of Tamil Nadu has attained better health status in terms of mortality indicators, even comparable with developed western countries and is higher than the all-India average. But now the state of Tamil Nadu is facing new challenges and issues in her health sector. Tamil Nadu is now passing through a period of health transition. In this study an attempt is made to investigate the expenditure pattern of the health sector in Tamil Nadu. The results explicate that the total expenditure on health has increased only 0.13 per cent per year in Tamil Nadu.

### ***Key Words:***

Health Expenditure, Tamil Nadu Public Expenditure on Health

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## **I. Introduction:**

Since health is a state subject in India and also the state accounts for 75 per cent of the public spending in the health sector, a study on health sector is more appropriate from the state level. The achievement and challenges of the health sector essentially act as guidelines for selecting the thrust area for research. The state of Tamil Nadu has attained better health status in terms of mortality indicators, even comparable with developed western countries and is higher than the all-India average. Tamil Nadu has one of the lower GNP per head among the different Indian states but has remarkable achievements in generating high quality of life. In Tamil Nadu even prior to independence, the state played a very active role in the health sector by providing finance and health services. One of the driving forces in achieving better health indicators was the active intervention of the princely kingdoms in the southern part of the state. Epidemiological transition shows change disease pattern and prevalence of high morbidity. Therefore, the healthcare needs of the population are increasing.

But now the state of Tamil Nadu is facing new challenges and issues in her health sector. Tamil Nadu is now passing through a period of health transition. The share of government spending in Tamil Nadu out of total expenditure remains low at 11.87 per cent and that of household's remains at 88.13 per cent [A shyamala, 2010]. The problem appears more relevant in the state because even now, one-third of the people remain poor and one-fifth of the labor force remains unemployed. Hence, an attempt is made to investigate the expenditure pattern of the health sector in Tamil Nadu, giving emphasis to its growth dimension.

## **II. Review of Literature:**

**Roxani Karagiannis (2017)** concluded that a redistribution of health expenditures shares from the central government to households is observed. Households seem to pay for the reduction in public in pharmaceutical spending while the central government spent a higher amount for outpatient and ancillary care of citizens. **Ravi Duggal (2009)** concludes that National Rural Health Mission programme failed because the states had responded by reducing their expenditure. Instead of decentralizing expenditure on health, the center had taken control of a larger share of resources for the sector. **Joy Elamon, Richard W Franke and Ekbal (2004)** found that 30 percentage of the poorest group getting treatment in government hospital of

Kerala, the remaining patients are in the private hospitals due to the lack of medicines, lab supplies, needed equipment and the service quality. **Varadarajan (2004)** had analyzed the impact of fiscal crisis on health care services. The government health care expenditure as a proportion of GSDP had declined 1.46 per cent in 1992-93 to 1.17 per cent in 2001-02. The non-salary component of revenue expenditure and capital expenditure were suffered during the crisis. **Mahal.A, Yazbeck.A, Peters.DH and Ramana GNV(2002)** found that the health subsidies were not particularly well-targeted to the poor in India, especially the poor who lived in rural areas and in the poorer states. South Indian states such as Kerala and Tamilnadu were considerable better than their poorer counterparts in the north such as Uttar Pradesh and Bihar. **Selvaraju (2003)** suggests that unless the government increase the expenditure the health sector will meet serious issues in both the equity and efficiency of the health system.

### **III. STATEMENT OF THE PROBLEM**

In a developing country, one of the objectives of the government intervention is to finance and protect the poor. The performance of the health sector depends on the ability of the system to provide a service that is appreciated and utilized by the intended beneficiaries, especially the poor. In this context, healthcare financing schemes of the government are generally designed to serve two purposes from the equity point of view to ensure equal access to health and to protect patients from catastrophic losses due to illness, thus preventing poverty [Timothy Evans, 2001]. This study concentrates on the link between the expenditure pattern of the government in the health sector, household spending and equity dimensions. An equity lens of focusing on equal opportunities and avoidance of absolute deprivation and poverty due to healthcare payments has the scope for policy and institutional reforms aimed at long-term prosperity. Achieving equity is to ensure good health coverage for all and to sustain the development indicators in health. The key factors of this study are that it seeks to identify the equity issues of healthcare financing system in Tamil Nadu.

### **IV. The Methodology of the study:**

The objective of the present study is to review and assess the public expenditure pattern in the health sector in Tamil Nadu.

Secondary data are used for the present study. Secondary data on GDP, NSDP, public expenditure on health in Tamilnadu, per capita public health expenditure in Tamilnadu are used for analysis. Besides the budget documents, other government publications authorized published works and journals are also used.

## V. Statistical Tools and Analysis

In order to analyze the growth and trend of public health expenditure in Tamilnadu during the period 1999-00 to 2016-17, the simple linear and semi-log linear model are used:

They are

$$y = a + bt.$$

$$\log y = a + bt$$

Where  $y$  and  $\log y$  are the dependent variable, 'a' is constant, 'b' denotes simple growth rates of variables, and 't' denotes the time period.

**Table 1 Growth of Revenue Expenditure on Health in Tamil Nadu from 1999-2000 to 2016-17**

Year	Revenue Expenditure on Health (Rs. in Millions)	Annual Growth Rate
1999-2000	9641.90	---
2000-01	9716.80	0.78
2001-02	9666.30	-0.52
2002-03	9499.70	-1.72
2003-04	10935.10	15.11
2004-05	11113.00	1.63
2005-06	11079.00	-0.31
2006-07	13097.20	18.22
2007-08	14422.30	10.12
2008-09	18950.60	31.40
2009-10	25205.00	33.00
2010-11	33955.80	34.72
2011-12	35390.20	4.22
2012-13	41340.20	16.81

2013-14	47156.50	14.07
2014-15	53070.20	12.54
2015-16*	60137.10	13.32
2016-17**	65347.30	8.66

\*Revised estimate; \*\* Budget Estimate

Source: TN Statistical Hand Book various issues; various issues by RBI, India.

Table-1 reveals that the growth of revenue expenditure on health in Tamil Nadu from 1999-2000 to 2016-17. It indicates that revenue expenditure on health has gradually increased from 9641.90 million in 1999-2000 to 65347.30 in 2016-17. The annual growth rate of revenue expenditure on health implies an oscillation in the government spending on health between -1.72 per cent and 34.72 per cent. For example in the year 2001-02 and 2005-06 it indicates a negative growth rate, but in the following year up to 2011-12 has increased the growth of revenue expenditure on health. After 2011-12 it has fluctuated growth rate it shows that the government has shrunk the allocation of financial resources to the health sector.

**Table 2 Growth of Capital Expenditure on Health in Tamil Nadu from 1999-2000 to 2016-17**

Year	Capital Expenditure on Health (Rs. in Millions)	Annual Growth Rate
1999-2000	639.70	---
2000-01	268.90	-57.96
2001-02	352.20	30.98
2002-03	483.40	37.25
2003-04	659.30	36.39
2004-05	477.90	-27.51
2005-06	2449.80	412.62
2006-07	1015.70	-58.54
2007-08	741.60	-26.99

2008-09	1240.90	67.33
2009-10	3531.70	184.61
2010-11	3247.20	-8.06
2011-12	1754.20	-45.98
2012-13	2523.60	43.86
2013-14	3628.40	43.78
2014-15	3222.80	-11.18
2015-16	2496.10	-22.55
2016-17	3322.90	33.12

The above table-2 indicates data on the growth of capital expenditure on health for the period from 1999-2000 to 2016-17. The year 2006-07, 2007-08, 2010-11, 2011-12, 2014-15 and 2015-16 shows a negative growth rate that is -58.54, -26.99, -8.06, -45.98, -11.18, and -22.55 respectively. In the remaining periods percapita expenditure shows a positive growth rate. But the middle of the year it has increased by more than ten folds (412.62 million). It is a remarkable growth rate in the health sector. From this table, it observed that there is instability in health care expenditure and also India's health care capital expenditure growth rate is very meager as compared to other countries.

**Table 3 Growth of Total Expenditure on Health in Tamil Nadu from 1999-2000 to 2016-17**

Year	Total Expenditure on Health (Rs. in Millions)	Annual Growth Rate
1999-2000	10281.60	---
2000-01	9985.70	-2.88
2001-02	10018.50	0.33
2002-03	9983.10	-0.35
2003-04	11594.40	16.14
2004-05	11590.90	-0.03

2005-06	13528.80	16.72
2006-07	14112.90	4.32
2007-08	15163.90	7.45
2008-09	20191.50	33.16
2009-10	28736.70	42.32
2010-11	37203.00	29.46
2011-12	37144.40	-0.16
2012-13	43863.80	18.09
2013-14	50784.90	15.78
2014-15	56293.00	10.85
2015-16	62633.20	11.26
2016-17	68670.20	9.64

Table-3 shows data on total expenditure (Revenue + Capital) on health in Tamil Nadu from 1999-2000 to 2016-17. The lowest value of 9983.10 Million is recorded in the year 2002-03 and the highest value of Rs.68670.20 million is registered in the year 2016-17 and it displayed a continuous increase after the year 2002-03. The annual growth rate of total expenditure on health indicates an ebb and flow in government spending on health between -2.88 and 42.323 Per cent. In the year 2004-05 it indicates a negative growth rate that is -0.03 but in the following years up to 2010-11 but in the following year it has increased to 16.72 per cent, up to 2010-11 has positive growth but in the year 2011-12 it reveals negative growth rate that is 0.16. After 2012-13 it shows positive growth rate. It concludes that government increasing the allocation of financial resources in welfare motive.

**Table 4 Results of Trend Analysis of Revenue Expenditure on Health in Tamil Nadu during 1999-00 – 2016-17**

Model	a	b	SE <sub>b</sub>	t	Sig.	R <sup>2</sup>	Adj.R <sup>2</sup>	CGR
<b>SLR</b>	-5511.34	3385.55	323.97	10.45	.000	.872	.864	--
<b>Semi-Log</b>	8.690	.132	.008	15.583	.000	.938	.934	14.11

Source: Calculated based secondary data.\*significant at one percent level.

The result of trend analysis has given in table- 4 shows that the revenue expenditure on health has increased Rs.3385.55 million per year that is 13 per cent per year. Both the models significant at one per cent level and the values of Adj.R<sup>2</sup> indicate a good model fit. The Compound Growth Rate for the period 1999-2000 to 2016-17 is 14.11 per cent which indicates a normal growth in the revenue expenditure on health.

**Table 5 Results of Trend Analysis of Capital Expenditure on Health in Tamil Nadu during 1999-00 – 2016-17**

Model	a	b	SE <sub>b</sub>	t	Sig.	R <sup>2</sup>	Adj.R <sup>2</sup>	CGR
SLR	-68.921	194.72	33.022	5.897	.000	.685	.665	--
Semi-Log	5.801	.144	.021	6.801	.000	.743	.727	15.48

Source: Calculated based secondary data.\*significant at one percent level.

The result of trend analysis has given in table- 5 explicates that the capital expenditure on health has increased by Rs.194.72 millions per year and the Semi-Log Linear Regression Model results show that the capital expenditure on health has increased by 0.14 per cent per year. It is notable that the capital expenditure on health is more fluctuating one in Tamil Nadu. Both the models significant at one percent and the values of Adj.R<sup>2</sup> indicate a moderate model fit. The Compound Growth Rate for the period from 1999-2000 to 2016-17 is 15.48 per cent which implies a good growth in capital expenditure on health during the period.

**Table 6 Results of Trend Analysis of Total Expenditure on Health in Tamil Nadu during 1999-00 – 2016-17**

Model	a	b	SE <sub>b</sub>	T	Sig.	R <sup>2</sup>	Adj.R <sup>2</sup>	CGR
SLR	-5580.26	3580.26	327.740	10.924	.000	.882	.874	--
Semi-Log	8.756	.132	.008	16.546	.000	.945	.941	14.11

Source: Calculated based secondary data.\*significant at one percent level.

Table-6 reveals that results of trend analysis of total health expenditure in Tamil Nadu. Results show that the total expenditure on health has increased 3580.26 million per year and the semi log-linear regression model results reveal that the total expenditure on health has increased 0.13 per cent per year. Both the models are significant a one percent level and the values of adj. R<sup>2</sup>

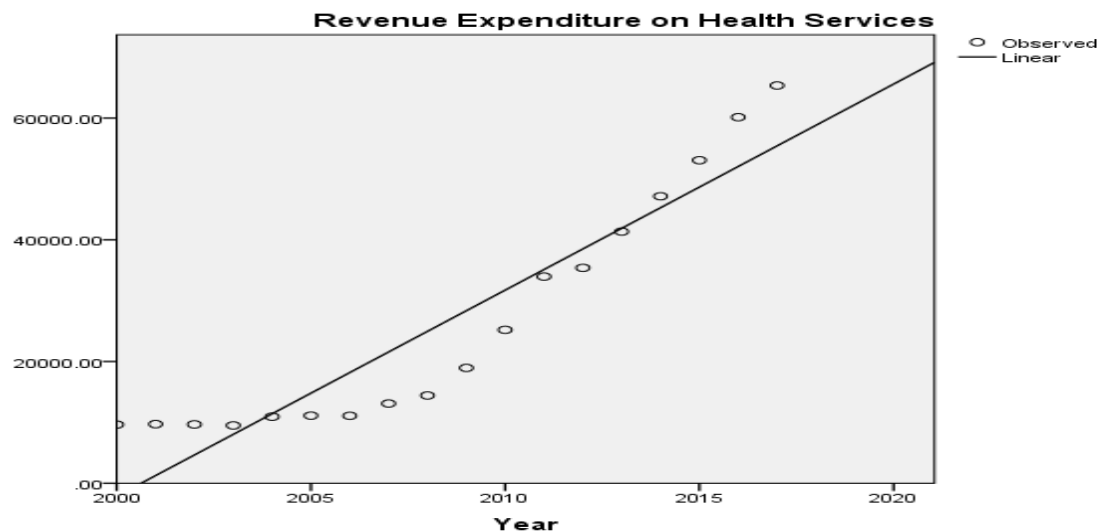


indicates a good model fit. The Compound Growth Rate for the period 1999-2000 to 2016-17 is 14.11 per cent which indicates a good growth in the revenue expenditure on health.

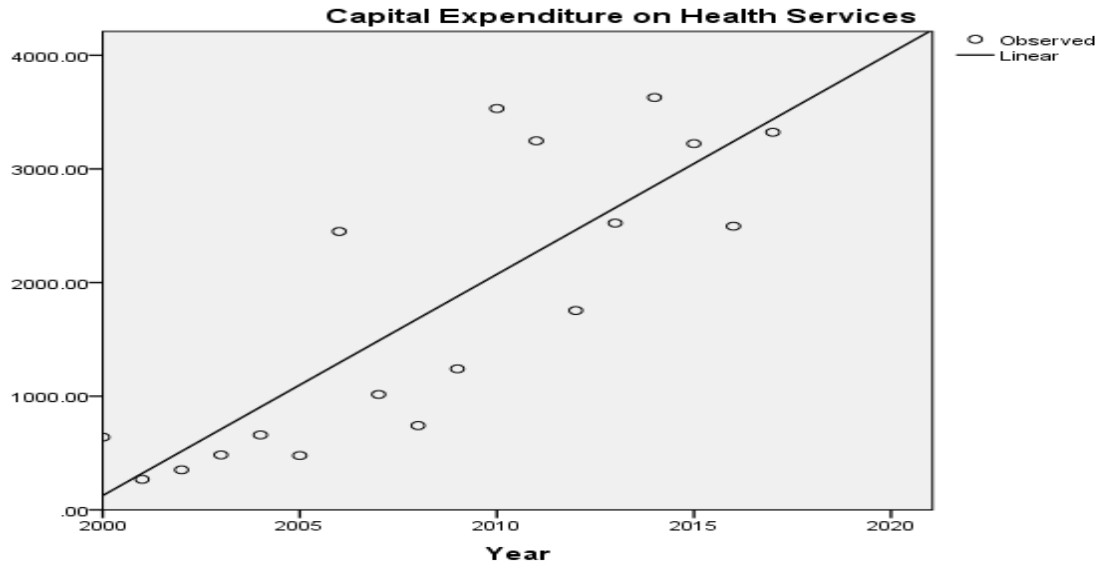
## VI. Conclusion:

The central and state governments are responsible for the provision of primary healthcare in the country. A spending of less than 1 per cent of the GDP on public health is not only dismally low but most of the expenditure is on staff salaries leaving little or nothing for facilities, drugs and other consumables. The large existing network of public primary care facilities can and should be used more effectively with the help of private partnerships to enable better delivery. Building better forward and backward linkages through a superior referral system would cause the secondary and tertiary care facilities to be more manageable and prevent them from being overburdened.

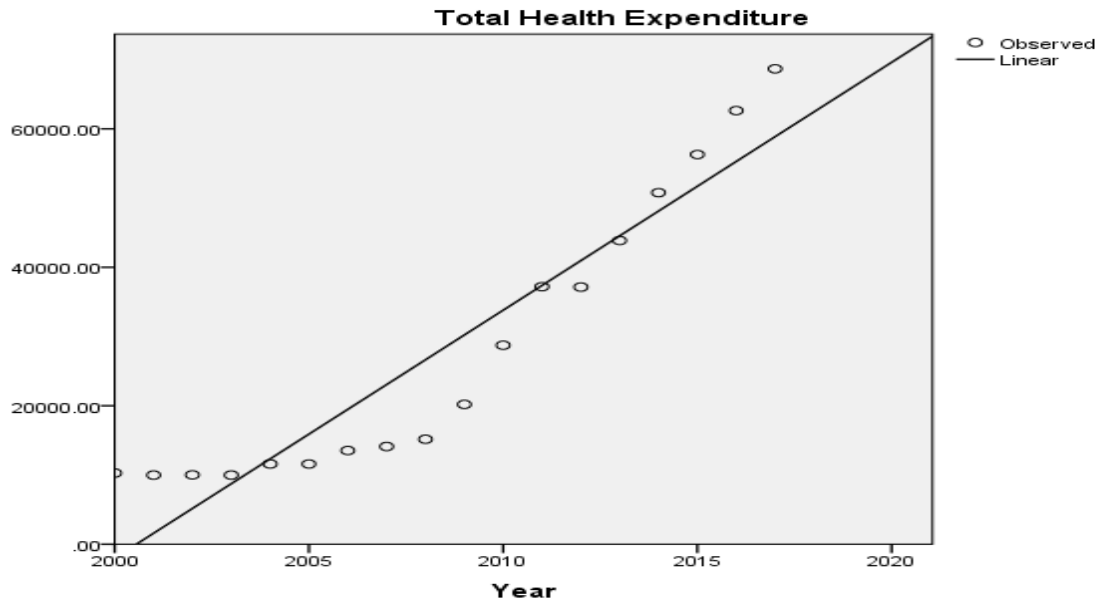
**Figure-1. Trend of Revenue Expenditure on Health in Tamilnadu**



**Figure 2 Trend of Capital Expenditure on Health in Tamilnadu**



**Figure 3 Trend of Total Health Expenditure in Tamilnadu**



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