

Revival of the Public Healthcare Sector in India: A Case Study of Tamil Nadu

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In India, 80% of people do not have any protection for health. The main reason for this state of affair is that the public expenditure on health in India is very low. There is only limited number of sub-centres, primary health centres and community health centres apart from a huge shortage of healthcare professionals such as specialists, doctors, nursing staff, health assistants and health workers. All these indicate the appalling state of public health in India. It is a mere reflection of the performance of various states' in the provision of healthcare services to people through the public healthcare sector. Tamil Nadu was one of the best performing states, but for the recent past it is slipping down in its health status. In comparison with 2005, in 2021 there is an improvement in the number of sub-centres in position, number of community health centres with specialists and a decrease in the number of primary health centres without doctors and community health centres without specialists, lab technicians and pharmacists in rural areas of the state. The strength of nursing staff is more than the minimum required. But the number of sub-centres and primary health centres without regular water and power supply increased. The growth of sub-centres, primary health centres and community health centres in comparison with the population growth is insignificant. The average rural population covered by a healthcare centre, particularly sub-centres, increased between 2005 and 2021. There is also a rise in the shortfall in the manpower deployed in health centres and a fall in other facilities such as operation theatre and labour room. The number of sub-centres without healthcare workers both male and female increased between March 2005 and March 2021. In primary health centres, the shortfall of health assistants, both male and female increased. In community health centres there is a huge shortfall of specialists and technical staff. These are not good signs of development. However after the takeover by the new government in May 2021 a few positive steps have been taken. If they succeed and considering a few more consistent steps taken in the coming days, then there will be a good chance for the public healthcare sector of Tamil Nadu to move up and to attain its past glorious status.

Keywords: Public expenditure, Sub-centres, Primary health centres, Community health centres and health workers.

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INTRODUCTION

The modern healthcare is affordable only to 20% of Indians and 40% of Indians, who are the so called non-poor, pay for it with

difficulty. The remaining 40% of Indians are not affordable to it. In the country where 80% of people do not have any protection for health, and 70% of healthcare facilities are private and only 30% are public, healthcare is treated like a private good (Mohanty, 2020). The reason for this state of affair is that the public expenditure on health in India is very low. In European countries like UK and in a few other emerging economies, government health spending is almost 90% while it is less than 30% in India (Ghosh, 2017). Hence healthcare facilities available in public hospitals are very poor. Even the number of health centres is not enough to meet the requirement of people. There is only limited number of sub-centres (SCs) (the first contact point between the community and the healthcare system), primary health centres (PHCs) (the first contact centre between the rural people and the medical officer) and community health centres (CHCs) (the first contact point between village people and specialists) apart from a huge shortage of healthcare professionals such as specialists, doctors, nursing staff, health assistants and health workers. Further in many healthcare centres there is no power, no drinking water, no toilet and no good road leading to such centres. All these indicate the appalling state of public health in India, which is much below China, Sri Lanka and Bangladesh in the Global Burden of Disease, and occupies 154th rank (Ghosh, 2017). It is a mere reflection of the performance of various states' in the provision of healthcare services to people through the public healthcare sector. A few states like Kerala, Tamil Nadu and Maharashtra perform well while other states like Bihar and Uttar Pradesh perform worse. Of the best performing states, Tamil Nadu is the second best after Kerala. The health index score of Kerala is 82.2 out of 100 and it is 72.42 for Tamil Nadu in 2019-'20. The score of Nagaland is just 27, the lowest and that of Bihar is 31 (Data Point, 2021). However, for the last few years there has been a widespread shortage of manpower in healthcare centres functioning in rural Tamil Nadu. Hence, the state has slipped six places in the health index released by the NITI Aayog. Its rank was third in 2015-'16, but ninth in 2017-'18 (Staff Reporter, 2019). Hence it is the utmost necessity of researchers to bring to light the lapses existing in the public healthcare sector functioning in the rural areas of different states. Therefore this study seeks to answer the following question 'Is the Public Healthcare Sector in Tamil Nadu Getting Revived?' and also ventures into highlighting the lapses existing in the public healthcare sector functioning in the rural areas of Tamil Nadu.

Importance of the Study

Tamil Nadu is one of the well performing states as far as health is concerned. The main reason for the good performance of Tamil Nadu is that healthcare policies and the government spending on healthcare have emphasized on

the improvement of primary healthcare services. It is reported that the Health and Family Welfare Department of Tamil Nadu has spent about 45% of its annual budgets on primary healthcare. Another reason for the success is that there is greater autonomy to agencies within the public sector. There is a full autonomy and flexibility to plan immunization campaigns and other primary healthcare initiatives and to get all kinds of support from charitable bodies wherever necessary. District officers are given the authority to develop local solutions to problems that emerge from maternal deaths and successful local strategies have been replicated in other districts to reduce all types of mortality rate. Tamil Nadu is the only Indian state with a district public health management cadre at the district level, which is vital for the effective health delivery system. Tamil Nadu also effectively uses the resources it receives from the Central government and spends more efficiently in comparison with most other states. The establishment of Tamil Nadu Medical Services Corporation is another significant forward step in procuring drug (medicine) and about 15% of the state's health budget is spent for drugs (Muraleedharan et al., 2011).

In rural areas in almost all states, healthcare facilities available are insufficient to the requirement. Tamil Nadu is also not an exception to this. The main scope of the rural people is the public healthcare sector as most of the rural people are poor and marginalised. It is a prerequisite to have a strong public healthcare sector to make the people healthy. Unfortunately it is weakening in Tamil Nadu; a symptom of discouraging trends appears from 2005. After 2005 three governments have been formed and the present government which assumed responsibility in May 2021 is the fourth one. Each government has taken a few measures relating to healthcare facilities. But, it is not known to the public the extent to which the steps taken by the past governments have helped the state to regain its past glory. Against this backdrop, it is of utmost important to researchers to bring to light what happened after 2005, whether the lapses existing in the public healthcare sector in rural areas continue or the lapses are being removed and the system is getting revived.

LITERATURE REVIEW

A review of literature is very necessary to know the different concepts related to the topic as well as to get proper direction to the present study. The accessible studies regarding the working of public healthcare sector are reviewed here.

Bang (2022) explains that public healthcare in tribal areas is starved of funds and human resource. There is a shortage of 27% to 30% of health centres and 33% to 80% of medical doctors in various states in India.

The Global Gender Gap Index, 2022 released by the world Economic Forum (Special Correspondent, 2022)

indicates that India is the worst country, 146th rank, in terms of health and survival, among 146 countries compared.

Kannan (2021) pointed out that in reproductive and child health, Tamil Nadu is ahead of many states. As per the NFHS - 5, in the state the neo-natal mortality rate is only 12.7, IMR is 18.6, and U5CMR is 22.3 per 1,000 and institutional births is 99.6% and births attended by skilled health personnel is 99.2%.

Mohanty (2020) asserts that in India the public spending on healthcare is only 1.13% of the GDP and the shortage of healthcare workers, particularly nurses and midwives, is huge. In India healthcare is private dominated and the sector is driven by profit. Because of high out-of-pocket healthcare expenditure, nearly 70 million non-poor people slide into poverty on a year-to-year basis. According to Yellappa (2020) in India, the nurse-population ratio is very low, 1.7:1,000 while the WHO norm is 3 nurses per 1,000 people.

Ghosh (2019) indicated that the central government's allotment on healthcare is continuously decreasing in the budget. It fell from 0.40% in 2013-'14 to 0.30% in 2016-'17 and slightly increased to 0.33% of the GDP in 2018-'19.

Pandey (2018) estimates the out-of-pocket healthcare expenditure at 77.6% in Tamil Nadu and the highest in Kerala at 83.7%. The main reason for this state of affair is that the public-funded health insurance schemes are not effective as they are not supported by the proportionate establishments of public healthcare infrastructure. Vachana (2020) reports that in India the out-of-pocket healthcare expenditure was 62.4% in 2017 against the world average of 18.2%.

Kanmony (2017) indicated that the performance of the public healthcare is losing its importance in Tamil Nadu as there are vacancies for and shortfall of healthcare professionals like specialists, doctors and health assistants. The main reason for this state of affair is the continuous fall in the allotment of funds for the public healthcare sector in the state.

Pandey (2017) reported that many people, even people from the poor households, seek treatment from private hospitals. In rural areas 72% and in urban areas 79% of people go to private hospitals or clinics and the rest only go to government hospitals for treating their ailments. India handed over its public healthcare facilities to private players who are making the best use of the situation and exploiting the people to the maximum.

Kirtane (2017) asserts that though health experts demanded for an allocation of 2.5% of GDP for the public healthcare sector, it is only around 1% in all yearly budgets. The compound growth rate of central government's allocation of funds for public healthcare sector during the last 12 five year plans is -0.48%. Instead of a rise in the allocation of funds for the public healthcare sector there is a fall in allocation.

Sundararaman et al. (2016) reported that the growth of the central government's spending in real terms on public health between 2004-'05 and 2009-'10 was 13.65%, but it plummeted to 0.31% between 2010-'11 and 2014-'15, a sharp decline in public health expenditure in real terms. The actual expenditure in 2014-'15 was lower than the expenditure in 2011-'12. All these have immediate adverse effect on the availability and quality of public healthcare services. This view was supported by Kanmony (2009); Meeta and Rajivlochan (2010); Nagulapalli (2014).

Nagpal (2014) revealed that out-of-pocket spending is one of the important reasons for impoverishment of people in India. The public spending on health is just hovering around 1%. The out-of-pocket spending was about 70% in 2005 and this was one of the highest percentages in the world. In 2011, the out-of-pocket spending decreased to 60%. The improvement since 2005 is not enough for the country's level of socio-economic development and the public health spending has also not kept pace with the country's dynamic economic growth. Prasad and Cyril (2010); Reddy (2012); Bansod and Sarang (2014) uphold this view.

Mills et al. (2013) say that India's health system has to be reformed. Majority of the primary health centres in India fall far short of the government's minimum standards and this is a reason for the rural people to prefer private healthcare providers.

Prasad and Raghavendra (2012) exposed the fact that the government gives exemption of import duty for expensive medical equipment and it has subsidised rates for land to build hospitals to the private healthcare providers and it provides reimbursement provision for all government employees to avail health services in corporate hospitals, while the public sector is neglected. It was up held by Chatterjee (2009).

Goel (2010) pointed out that in India, primary health centres have not made much impact. They aim at providing healthcare for the poor people, but the shortfall of male health assistants at PHCs to the extent 7,169 and female to the extent of 5,941 results in the poor performance of PHCs. The reasons for the failure of the PHCs are: i) health experts' lack of commitment, ii) opposition from local practitioners, iii) insufficient training to community health workers, iv) urban oriented medical education, v) uneducated village community, and vi) poor/no mechanism for community supply of drugs.

Baru et al. (2010) reveal that in India, the investment made on public health sector is the lowest (19 to 20%) among the world countries. The low public investment is the main reason for not only the poor functioning and utilisation of public services but also for the impoverishment of individuals. Individuals take medical treatment in private hospitals as the quality of services in public hospitals is very poor.

From the review of related studies it is crystal clear that the public healthcare sector is in a dilapidated condition. However there is no study related to the functioning of public healthcare sector in a state over a period of time. Hence, this article tries to explain what happened in the public healthcare functioning in rural areas of Tamil Nadu.

Research Gap

The review of related studies has clearly revealed that the public healthcare sector in rural areas all over India is in a dilapidated condition. Almost all studies reviewed concentrate mainly on public spending on healthcare sector, shortfall healthcare professionals, government policies towards private hospitals and performance of primary health centres in India. No study is found in focussing on the lapses existing in public healthcare sector functioning in a particular state over a period of time. Hence this study tries to fill this gap and this study is the premier one in this aspect.

MATERIALS AND METHOD

This study is explorative in nature. It tries to explore the lapses existing in public healthcare sector in rural Tamil Nadu. This article makes use of secondary data only. The data have been collected mainly from three reports of Rural Health Statistics – 2011-'12, 2014-'15 and 2020-'21 and from journals and newspapers for collecting information related to the policies adopted by the present government. In the reports of Rural Health Statistics there are also some important information related to the year 2005 and so the relevant data related to the topic were also used. Thus the period of study is from 2005 to till date and the researcher has purposely chosen these years as there are discouraging symptoms appeared in the public healthcare sector of Tamil Nadu after 2005. The important factors taken for analysis are: healthcare infrastructure, particularly number of SCs, PHCs and CHCs, manpower in healthcare centres, particularly health workers, health assistants, doctors and specialists, and other basic facilities such as availability of operation theatre, referral transport and labour room and water and power. Tables are used for presenting data. Average annual growth rate (AAGR) and percentages are calculated for analyzing data.

RESULTS AND DISCUSSION

Healthcare Facilities Available

In a well-functioning public healthcare sector, the number of public health centres has to be increased in proportion to the increase in population. But it is not so in Tamil Nadu, which is one of the developed states in India, for the past few years. Further, in many areas the state has been moving from good

to the worse. There is no increase in the number of sub centres for a long period, particularly after 2012. It was 8,706 in 2012 and it remains the same for a long period, only in 2019 it increased to 8,713 and this is the number even at the end of March 2021 also. The number of PHCs decreased from 1,380 in 2005 to 1,369 in 2014 but increased to 1,422 in 2021. The number CHCs functioning in the state was only 35 up to 2012. But it increased to 385 in 2012 and remains the same as on 31 March 2021. All these details are portrayed in Table 1.

It is very clear from Table 1 that the number of health centres increases in numbers, SCs from 8,682 to 8,713, PHCs from 1,380 to 1,422 and CHCs from 35 to 385 between 2005 and 2021. The average annual growth rate is just 1.94 for SCs, 2.63 for PHCs between 2005 and 2021. But the number CHCs available in the state increased from 35 in 2005 to 385 in 2012. Since then there has been no change. The number of CHCs increased to 385 in 2012 as there was a conversion of some PHCs into CHCs. But it is reported that there is no shortfall of health centres in Tamil Nadu as the total number of health centres functioning is more than the minimum required. (Shortfall is the difference between the minimum required and the number in position and vacancy is the difference between the number of posts sanctioned and the number in position and of the two, shortfall is more important than vacancy as shortfall is related to the minimum required).

In many health centres there are less numbers of health professionals in position than the minimum required. As far as doctors in PHCs are concerned there is no shortfall in Tamil Nadu. Doctors in position in PHCs increased from 2,257 in 2005 to 2,375 in 2015, and further to 2,725 in 2021, an average annual growth rate of 29.35%. But, in Tamil Nadu there is a huge shortfall of specialists in CHCs. Table 2 represents the shortfall of specialists in various years.

The shortage of specialists was 92 (65.71%) in 2005, but it increased to 1,540 (100%) in 2014. There is no specialist in position from 2014 to 2018 against the minimum requirement of 1,540. The shortfall saw a small fall and reached 1,289 (83.70%) in 2021 (AAGR of 74.81%). In 2021, the shortfall of surgeons is 215 (55.84%), obstetricians & gynaecologists 348 (90.39%), physicians 349 (90.65%) and paediatricians 377 (97.92%), a total of 1,289. Apart from these there are shortfalls of 14 anaesthetists and 12 eye surgeons in CHCs functioning in Tamil Nadu in 2021.

Another lacuna is the shortfall of healthcare workers (HW). There is a shortfall of female health workers/ANM (HW (F)) in SCs. As far as HW (F) is concerned there were excess numbers in 2005. But in 2015 there was a shortfall of 1,030 (11.83%) and in 2021 it decreased to 299 (3.43%). In 2021 the short fall of HW (M) is 6,476 (74.33%), a small decrease from 7,440 (85.46%) in 2012. These details are given in Table 3.

Table 1. Number of SCs, PHCs and CHCs in Tamil Nadu in 2005, 2012, 2015 & 2020.

Year	SCs	PHCs	CHCs
2005	8,682	1,380	35
2012	8,706	1,227	385
2015	8,706	1,372	385
2021	8,713	1,422	385

Source: Rural Health Statistics - 2012, 2015 & 2021, Ministry of Health and Family Welfare (MHFW), Government of India (GOI).

Table 2. Shortfalls of Doctors in PHCs and Specialists in CHCs in 2005, 2012, 2015 & 2021.

Year	Doctors at PHCs			Specialists at CHCs		
	Reqd.	Post.	Short	Reqd.	Post.	Short
2005	1,380	2,257	*	140	48	92
2012	1,227	2,271	*	1,540	0	1,540
2015	1,369	2,375	*	1,540	0	1,540
2021	1,422	2,725	*	1,540	251	1,289

Source: Rural Health Statistics 2012, 2015 & 2021. Reqd =required, Post= in position, Short= shortfall & * = Excess

Table 3. Shortfalls of Health Workers in SCs in Tamil Nadu in 2005, 2012, 2015 & 2021.

Year	Females (F)			Males (M)		
	Reqd.	Post.	Short	Reqd.	Post.	Short
2005	8,682	8,885	*	8,682	NA	NA
2012	8,706	8,026	680	8,706	143	7,440
2015	8,706	7,676	1,030	8,706	2,284	6,422
2021	8,713	8,414	299	8,713	2,237	6,476

Source: Rural Health Statistics 2012, 2015 & 2021. Reqd =required, Post= in position, Short= shortfall & * = Excess, NA = Not available.

There is no shortfall of female health assistants ((HA) (F)) in PHCs in 2021 as persons in position (2,445) are more than the minimum required (1,422). But in other years, in the shortfall of HA (F) in PHCs the state's condition is very poor, a shortfall of 200 (16.30%) in 2012. But it increased slowly and reached a whopping high of 619 in 2019. However there is no separate data for male and female for 2021, a shortfall of 2,335 (82.10%) in 2021, the number in position is only 509 for a total of 2,844. There is no shortfall of male health assistance (HA (M)) in 2012 and 2015. But in 2021 the total, combined, shortfall is more than 1,422. It means that there is also a shortfall of HA (M) in 2021. Data regarding HA and nursing staff are given in Table 4.

It is clear from Table 4 that in 2005 there were 1,458 shortfalls of nursing staff. But after that there is an excess

number of nursing staff in position in all years. Apart from these there are shortfalls of pharmacists, laboratory technicians and radiographers. There were only 163 shortfalls for the posts of pharmacists in 2005. But it slowly increased and reached 235 in 2021. However for lab technicians the shortfall decreased from 554 in 2005 to 274 in 2021. As far as radiographers are concerned the shortfall increased from seven in 2005 to 234 in 2012. But it decreased to 190 in 2015 and further to 173 in 2021. It is noteworthy to know that pharmacists and lab technicians are for both PHCs and CHCs while radiographers are only for CHCs. These details are available in Table 5.

It is highly appreciable that in all SCs all the three facilities, regular water supply, electricity and all-weather approach road are available in all years except 2021. There

Table 4. Shortfalls of Health Assistants (HA) at PHCs in 2005, 2012, 2015 & 2021

Year	HA (F)			HA (M)			Nursing Staff#		
	Reqd.	Post.	Short	Reqd.	Post.	Short	Reqd.	Post.	Short
2005	NA	NA	NA	NA	NA	NA	1,625	167	1,458
2012	1,227	1,027	200	1,227	2,393	*	3,922	7,046	*
2015	1,372	857	515	1,372	1,787	*	4,067	7,349	*
2021*	2,844		509		2,335		4,117	7,811	*

Source: Rural Health Statistics 2012, 2015 & 2021. *= There is no separate data for HA (F) and HA (M). Reqd =required, Post= in position, Short= shortfall & * = Excess, NA = Not available.

Table 5. Shortfalls of Technicians at PHCs & CHCs in 2005, 2012, 2015 & 2021.

Year	Pharmacists	Lab. Technicians	Radiographers
2005	163	554	7 (20%)
2012	200	539	234 (60.78%)
2015	231	443	190 (49.35%)
2021	235	274	173 (44.94%)

Source: Rural Health Statistics 2012, 2015 & 2021.

Table 6. SCs without Water, Power and Motorable Approach Road.

Year	Water	Power	Approach Road
2005	0	0	0
2012	0	0	0
2015	0	0	0
2021	145	92	0

Source: Rural Health Statistics -2012, 2015 & 2021.

are 145 SCs without water supply and 92 SCs without power supply in 2021. But all weather motorable approach road is available in all SCs in all years. These are presented in Table 6.

A PHC should have certain facilities such as labour room, operation theatre, referral transport, at least four beds for inpatients, regular water supply, electricity, and all-weather motorable approach road. Though these facilities are very limited in India, particularly in underdeveloped states, in Tamil Nadu these are available in almost all PHCs. The status of these facilities available in PHCs functioning in Tamil Nadu is given in Table 6. It is obvious from the Table 6 that there were no PHC without labour room in 2012. But in 2015 out of 1,372 PHCs, only in 1,229 PHCs have labour room, but 143 (10.42%) do not have this facility. There is functional operation theatre in 67 (5.46%) PHCs in 2012 and in 2021 also in only 122 (8.58%) PHCs. Referral transport facility is available in all PHCs in all years. However the

facility of at least 4 beds is available in 855 (69.68%) in 2012 and it increased to 899 (63.22%) in 2021. But in percentage term, the facility of 4 beds decreased from 70% in 2012 to 63% in 2021. Regular water supply is available in all PHCs in 2012 and 2015. But in 2021, it is not available in 192 (13.50%) PHCs. There is no PHC without electricity in 2012 and 2015. But power is available only in 1,234 (86.78%) PHCs, out of 1,422 functioning in the state, in 2021. All weather motorable approach road is available in all PHCs in all years.

In the state, both electricity and regular water supply available in all CHCs in all years though these details are not given in Table 7. In all years referral transport and all-weather approach road are available in all 385 CHCs. But there is no CHC with the all specialists in both 2012 and 2015. Even in 2021 four specialists are available only in eight centres (only in four CHCs in 2019). Labour room is not available in only one CHC, operation theatre is not functioning in

Table 7. Facilities Available in PHCs in Tamil Nadu in 2005, 2012, 2015 & 2021.

Year	LR	OT	RT	4Bs	RWS	Pr	AR
2005	NA	NA	NA	NA	NA	NA	NA
2012	1,227	67	1,227	855	1,227	1,227	1,227
2015	1229	73	1372	888	1,372	1,372	1,372
2021	1,325	122	1,422	899	1,230	1,234	1,422

Source: Rural Health Statistics 2012, 2015 & 2021. **LR** = labour room, **OT** = operation theater, **RT** = referral transport, **4Bs** = at least 4 beds, **RWS** = regular water supply, **Pr** = Electricity, & **AR** = all weather approach road, **NA** = Not available.

Table 8. CHCs with Labour Room, Operation Theatre, Water, Power and Toilet & Motorable Approach Road.

Year	LR	OT	30Bs	NBC	With all 4 Sp	AR	RT
2005	NA	NA	NA	NA	NA	NA	NA
2012	385	317	231	385	0	385	385
2015	385	349	299	385	0	385	385
2021	384	377	385	341	8	385	385

Source: Rural Health Statistics 2012, 2015 & 2021. **LR** = labour room, **OT** = operation theater, **30Bs** = at least 30 beds, **NBC** = new born care centre, **With all 4Sp** = with all 4 specialists, **AR**= all weather approach road & **RT** = referral transport.

Table 9. Average Rural Population, Area and Radial Distance Covered By an SC, a PHC and a CHC.

State	Population			Area (in Sq. km)			Radial Distance		
	SC	PHC	CHC	SC	PHC	CHC	SC	PHC	CHC
2005	4,022	25,306	997,762	NA	NA	NA	NA	NA	NA
2012	4,272	30,309	96,595	13.5	95.8	305	2.1	5.5	9.9
2015	4,276	27,195	96,700	13.5	85.7	303	2.1	5.2	9.8
2021	4,131	25,310	93,483	13.4	81.9	302	2.1	5.1	9.8

Source: Rural Health Statistics 2012, 2015 & 2021.

eight CHCs and new born care centre is not available in 44 CHCs in 2021 though these are functional in all CHCs in 2012 and 2015. There are only 231 CHCs with at least 30 beds in 2012. But it is available in all centres in 2021. All these details are presented in Table 8.

As far as separate toilet facility for males and females is concerned, it is available even in 2021 only in 3,455 SCs out of 8,713 and 1,288 PHCs out of 1422 and 384 CHCs out of 385. On the basis of rural population served and rural area, number of villages and radial distance covered by a health centre, the state is not in a better place. The average number of rural population served by an SC in Tamil Nadu is 4,131 against only 1,919 in Kerala in 2021. On an average a PHC has to cover 25,310 rural people in Tamil Nadu while it is

only 12,844 people in Kerala. In the coverage of rural population by a CHC Tamil Nadu has a huge number of 93,483 in 2021. The area covered by an SC is almost the same in all years, 13.5 sq. km, but for a PHC, it decreased from 95.8 sq. km in 2012 to 81.9 sq. km in 2021. For a CHC the respective areas are 304 sq. km and 302 sq. km. Radial distance covered by an SC is the same in all years, 2.1 km. But for a PHC it decreased from 5.5 km in 2012 to 5.1 km in 2021 and for a CHC it decreased from 9.9 km to 9.8 km between 2012 and 2021. These details are presented in Table 9. Further as on 31st March 2021, in terms of the average number of villages covered by an SC and a PHC Kerala is at the top with the minimum number of zero village for an SC and two villages for a PHC. In Tamil Nadu the

respective numbers are two and 13 in 2021. As far as the number of villages covered by a CHC is concerned it is eight in Kerala, the minimum. It is as high as 48 in Tamil Nadu.

Why is Tamil Nadu slipping down from a strong health status at the end of the 20th century to the present average status in the 21st century is the big question to be answered. It is easy for researchers and academicians to infer that it is mainly due to a continuance fall in the financial allotment in budgets for the public healthcare sector. The fall in the budget allocation is very high in Tamil Nadu in comparison with the national average and with many other states. While the percentage of budget allotment has declined between 1985-'86 and 2011-'12, from 7.02 in 1985-'86 to four in 2011-'12 (less by 43%) for the nation as whole, in Tamil Nadu it has fallen very sharply from 7.47 in 1985-'86 to 3.2 in 2004-'05 (less by 57%) and slightly increased to 4.00 (less by 46%), in 2011-'12. In 2018-'19, UP allotted a huge amount of 189.87 billion rupees and Maharashtra 122.25 billion rupees while Tamil Nadu only 99.76 billion rupees for the public healthcare sector. Public healthcare expenditure as a percentage GSDP is less than one per cent in all years and is continuously falling. It decreased from 0.93% of GSDP in 1998-'99 to 0.72% in 2015-'16. The share of health expenditure of the total social sector expenditure decreased from 16.02% in 1994-'95 to around 11% in 2005-'06. It is almost the same in all the years followed. The fund allotted in the budget for the year 2020-'21 is 158.63 billion rupees. Even after the formation of the new government in 2021, the budget (2021-'22) allocation in the interim budget shows a slash by 10.30 billion rupees, from 189.32 billion rupees in 2020-'21 to 179.02 billion rupees in 2021-'22.¹ These are the facts in the negative side of the public healthcare sector functioning in rural areas of Tamil Nadu. Here some questions arise in the minds of health experts. They are:

1. Whether is the state continuously moving down or taking steps to moving up?
2. What are the recently made policy changes in the state to get back its past glorious health status?
3. What are the challenges ahead in attaining the past glory?

Recent Changes brought out in Tamil Nadu

Though there is no glaring appearance of great changes there are a few glimpses of favourable changes in recent years, particularly after the formation of the new government in May 2021. The first positive change made in the public healthcare sector is the allocation of more funds for this sector. After a long time only in the recent budget, 2022-'23,

the fund allocated for the public healthcare sector is more than 5% of the budget, 189.33 billion rupees, that is 6.1% of the total against the other states' average of 5.5%. There is a proposal to increase the number of PHCs by 25, from the present number of 1,422 to 1,447 and the proposal is also sent to the central government for permission². Further, the state has in its public health sector 900 super specialists in different disciplines. This number is comparable with only a few European countries and it is reported that doctor-population ratio is higher than the norm prescribed by the WHO. The healthcare managers of Tamil Nadu also unveiled a unique superannuation bond that legally binds all government doctors who have completed postgraduate or super speciality courses by availing themselves of in-service reservation to serve the government till their retirement. The main aim of this bond is to prevent brain-drain, either to private hospitals or to abroad (Chellamuthu and Ramanathan, 2022).

Another very important step is the introduction of a novel medical scheme called 'Makkalai Thedi Maruthuvam' (MTM) (medical treatment at the doorsteps of people). It was rolled out by the present government in August 2021. Under this scheme, healthcare professionals approach people at their doorsteps and do all feasible medical check-ups including check-ups for blood pressure and blood sugar and deliver drugs (medicines). It is reported that this scheme is designed to provide healthcare services ranging from drug delivery for hypertension and diabetes to providing palliative care, physiotherapy and continuous ambulatory peritoneal dialysis. Further doctors and nurses regularly visit home of patients and blood samples are also collected for testing. On the 24th of February 2022, it reached out to five million people and at the end of July it reached eight million people (Serena, 2022; 2022a). Thus it is addressing a critical gap existing in the present system in which there are a significant number of people who are unable to access health services. In reality, the MTM scheme is a blessing to the people of Tamil Nadu, particularly to the old people, immobile, people recovering from paralysis, differently abled and people requiring palliative care as well as those who are hesitant and resistant to go to public hospitals. It would certainly reduce the three gaps existing in the present system. The three gaps are: 1) Diagnostic gap, the undiagnosed getting diagnosed by house to house screening, 2) Therapeutic gap, diagnosed patients who are not on treatment or irregular treatment is reduced by drug delivery at home and 3) Control gap, those diagnosed but poor control over their diseases (Serena, 2022). Further the Health Minister of Tamil Nadu announced in assembly that 4,308 vacancies in the health department would be filled before the end of September 2022 (Special Correspondent, 2022).

¹ <https://www.newindianexpress.com/states/tamil-nadu/2022/mar/19/tn-budget-allocation-slashed-by-rs-1000-cr-health-sector-gets-a-body-blow-2431768.html>

² News, Phodigai: 2:30 pm news on the 3rd of June 2022.

All these do not mean that the public healthcare sector in Tamil Nadu has regained its past glory. In attaining its past glory the authorities have to encounter a number of challenges. Among them the first and the foremost is lack of funds for this sector. For example, a scheme called 'Amma Mini Clinic' introduced by the previous government at the end of its tenure was wound up mainly due to the non-allocation/availability of funds. Another challenge is the working of MTM scheme itself. Though it is better than the 'Amma Mini Clinic' scheme, under this scheme people have to visit these clinics instead of healthcare professionals visiting patients' home under the MTM scheme. It is reported that the workforce involved in the MTM scheme is not properly strengthened. Though much importance is given to MTM scheme, it is reported by the people from the health department that it is off the track. The authority is worrying about the number but not about testing and treating. Health officials claim that only four million persons have been benefitted through the MTM scheme instead of the government claim of eight million beneficiaries (Serena, 2022a). Further the government is filling 4,308 vacancies without looking into the shortfall, which is 11,031 in number, consisting of 299 HW (F), 6,476 HW (M), 2,335 HA, 235 pharmacists, 274 lab technicians, 173 radiographers and 1,239 specialists in CHCs as on 31st March 2021 (GOI, 2021). Further, the appointment of enough number of healthcare professionals is not an easy job as billions of rupees are required for it.

SUMMARY OF FINDINGS

If the workers of the MTM scheme are strengthened properly, the scheme will succeed to a certain extent in reducing the lacunae existing in the scheme. Further, if along with novel schemes like MTM enough fund is allocated for the public healthcare sector and enough number of healthcare professionals are appointed according to the requirement, certainly the public healthcare sector in Tamil Nadu will regain its past glory. The following further summarizes the findings:

1. In rural areas, in comparison with 2005, the strength of SCs increased by only 31 in 2021, from 8,682 in 2005 to 8,713 in 2021, that of PHCs increased by 42 (from 1,380 to 1,422 in the same period. But CHCs' strength remains the same after 2012.
2. As there is not much increase in health centres, the number of people served by a health centre increased between years. For an SC the strength increased from 4,022 in 2005 to 4,131 in 2021, 10.27% increase. A PHC had served a population of 25,306 in 2005 and 25,310 in 2021, a negligible increase. For a CHC there were 997,762 people under its care in 2005 as there were only 35 CHCs in that year. However it was only 93,483 in 2021 as number of CHCs increased to 385 in 2012 (96,595 people in 2012), a decrease of 3.22%.
3. Though there is no shortfall of doctors in PHCs there is a heavy shortfall of specialists in CHCs. The shortfall was 92 in 2005. There is no specialist in position from 2014 to 2019. However the shortfall is 1,289 (83.70%) in 2021. The shortfall of surgeons is estimated at 55.84%, obstetricians & gynecologists at 90.39%, physicians at 90.65% and pediatricians at 97.92% in 2021.
4. There is an excess number of HW (F) in 2005. But after that the shortfall of HW of both male and female was heavy, HW (F) 1,030 in 2015 and 299 in 2021 and for male there was a shortfall of 7,440 in 2012 and 6,476 in 2021.
5. There is also a shortfall of HA (F); 200 in 2012 and 515 in 2015 (in total a shortfall of 29.14%). For the year 2021 there is no separate shortfall for male and female but only a combined data, a shortfall of 2,335 (a shortfall of 82.1%).
6. The shortfall of nursing staff decreased in between years, a shortfall of 1,458 in 2005 but from 2012 to 2021 there is an excess number of nursing staff.
7. In both the years, there is a shortfall for all types of technical post, pharmacists, 163 in 2005 and 235 in 2021, lab technicians, 554 in 2005 and 274 in 2021 and radiographers, seven in 2005 and 173 in 2021.
8. The three important basic facilities are water supply, electricity and all-weather motorable approach roads. The first two are available in all SCs in all years except 2021. In 2021, there are 145 SCs without water supply and 92 SCs without power connection. But approach road is available in all SCs in all years.
9. In the availability of facilities such as labour room, operation theatre and referral transport in PHCs the state experienced some positive changes, PHCs with LR increased from 1,227 in 2012 to 1,325 in 2021. The respective figures are 67 and 122 for OT, 1,227 and 1,422 for RT, 855 and 899 for at least 4 beds, and 1,227 and 1,230 for regular water supply.
10. CHCs having all specialists and other facilities such as LR, OT, laboratory, NBCC, at least 30 beds and new born care centres (NBCC) are substantial in Tamil Nadu. Labour room is available in all CHCs in 2012, but one centre does not have this facility in 2021. OT facility was available in 317 in 2012 but in 2021 in 377. 30 beds are functioning only in 231 CHCs in 2012 but it is available in all CHCs. NBCC is available in 385 CHCs in 2012, but is available only in 341 CHCs. All the four specialists are available in no centre in 2012 but in eight CHCs in 2021.
11. There are separate toilets for males and females in Tamil Nadu only in 3,455 SCs, 1,288 PHCs and 384 CHCs even in 2021. It means that even in 2021, there

are many SCs and PHCs without separate toilet facilities for males and females.

12. The number of villages covered by an SC is two in Tamil Nadu (in Kerala it is zero), by a PHC is 13 (Kerala 2) and by a CHC is 48 in Tamil Nadu (8 in Kerala) in 2021. There is not much changes between years for area covered by an SC (13.4 sq. km in 2021), by a PHC (81.9 in 2021), and by a CHC (302 in 2021) and radial distance (2.1 km for an SC, 5.1 km for a PHC and 9.8 km for a CHC).

CONCLUSION

From the above discussion it is very clear that the public healthcare sector in rural areas is moving on the path of recovery as there is an improvement in the number of SCs in position, number of CHCs with specialists and a decrease in the number of PHCs and CHCs without doctors, specialists, lab technicians and pharmacists in comparison with 2005, in 2021. Furthermore, after the new government assumed charge in May 2021 a few positive steps like MTM have been taken to care for the health of people in Tamil Nadu. If these steps succeed and a few more positive steps as given below are taken in the coming days then there is a good chance for the public health sector of Tamil Nadu to move up and to regain its past glory.

Policy Implications

A strong public healthcare is very much necessary to protect all people, particularly the poor rural people from their ill health. If the concerned authorities take a few steps including the following, the ailing healthcare sector will experience a healthy future.

1. The reasons for the deplorable condition of the healthcare sector in Tamil Nadu are many. However, the main reason is that the public health spending is very low. To keep the pace, the state has to raise the budget allotment for this sector to more than 5% of the GSDP as it is done in the budget 2022-'23.
2. Adequate number of healthcare workers including specialists, healthcare workers, health assistants, pharmacists, lab technicians and radiographers should be appointed to remove their shortfall.
3. Healthcare facilities such as operation theatre, labour room, and new-born care corner in sufficient numbers with all facilities should also be established.

To ensure equal and equitable availability of healthcare services in rural areas the above mentioned measures may help the state government move in the right direction.

Conflict of Interest

The authors declared that no conflict of interest.

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