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Requirement and Shortfalls of Tribal Healthcare Infrastructure in India

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Abstract

The scarcity of infrastructure facilities in tribal regions poses significant obstacles to the effective delivery of healthcare services to tribal communities. Addressing these deficiencies is crucial for realizing the objectives of Universal Health Coverage and the health-related Sustainable Development Goals. In light of these challenges, this paper endeavors to assess the availability of healthcare facilities, specifically Sub-Centres, Primary Health Centers (PHCs), and Community Health Centers (CHCs), with a specific focus on tribal areas, while also examining the primary challenges that need to be addressed. The paper exclusively scrutinizes the state-wise percentage shortfalls in public health centers, utilizing data from Rural Health Statistics. Regarding sub-centers, there remains a substantial deficiency in enhancing the capabilities of PHCs and CHCs in tribal areas. Notably, the study reveals that sub-centers and PHCs in the tribal-dominated North-Eastern states exhibit a more favorable health workforce situation compared to other regions of India. This research highlights the critical issue of infrastructure inadequacies in tribal regions and underscores the imperative of targeted interventions to rectify these deficiencies. The findings underscore the importance of strengthening healthcare facilities and augmenting the healthcare workforce in tribal regions as a means to achieve the goals of Universal Health Coverage and the health-related Sustainable Development Goals.

Keywords: *Tribal Health, Infrastructure, SDG, SCs, PHCs, CHCs, India.*

Introduction

Scheduled Tribes, constituting 8.6 percent of India's population, represent one of the most vulnerable segments of society. This diverse group is primarily concentrated in various regions across India, and they share common challenges of low literacy rates and poor health outcomes (Naidu, 2015). The health indicators for tribal populations are notably worse than the national averages. According to the National Family Health Survey 2015-16, the Infant Mortality Rate (IMR) among tribes was 44.4 per 1000 live births, and the Under-five Mortality Rate (U5MR) was alarmingly high at 57.2 per 1000 live births. Compared to the general population, these rates were 12 percent and 18 percent higher, respectively. This disparity extends to other social determinants of health, including literacy, employment, and housing conditions, all of which disproportionately affect tribal health (Government of India, 2019).

In general, India's tribal communities face a multitude of health challenges, including malnutrition, communicable diseases, maternal and child health issues, sickle cell disease, accidents, addiction, and more. Traditional healing practices strongly influence their healthcare-seeking behavior, although awareness of modern medicine and public health facilities has gradually improved in tribal villages over the years.

Healthcare is a fundamental right for all individuals, but the scarcity of quality healthcare infrastructure and trained healthcare providers in rural areas hinders

access for the general population and exacerbates the issue for tribal communities. The migration of healthcare professionals to urban areas further compounds the challenge of providing effective healthcare to tribal populations. Numerous studies have highlighted the severe shortage of healthcare workers in India's tribal healthcare services (Kaushik, 2008; Rao et al., 2011), and existing health services have struggled to address the growing health problems among tribal populations (Mukherjee et al., 2011). Among tribes, women and children are particularly vulnerable (Prakash et al., 1993). The Indian government has made efforts to address these workforce shortages through programs like the National Community Health Volunteer program (1978) and the National Rural Health Mission (2005), with varying degrees of success. However, challenges persist, and rural areas, especially tribal regions, continue to face a shortage of healthcare personnel.

The shortage of healthcare workers in tribal areas is particularly concerning, with rural India having only a fraction of the healthcare professionals found in urban areas (NSSO, 2005). Rectifying these deficiencies is essential for achieving the goals of Universal Health Coverage and the health-related Sustainable Development Goals (SDG-3). In light of these challenges, this study aims to assess the availability of healthcare infrastructure for tribal health and the key challenges that need to be addressed. The insights gained from this study will be instrumental in making healthcare more accessible to the marginalized sections of society.

Methodology:

This study utilized data from the Rural Health Statistics (RHS) and Census (2011) Reports, made available by the Government of India (GoI), to conduct an assessment of the state of public health infrastructure in tribal populations. The research is specifically focused on evaluating the status of healthcare facilities in rural tribal areas of India for the year 2021-22.

In rural India, the healthcare delivery system predominantly relies on a tiered approach, with Sub-Centres (SCs) serving as the primary level of care, followed by Primary Health Centres (PHCs), and then, for more extensive populations, Community Health Centres (CHCs). Given the uneven distribution of tribal populations across different regions of India, this study calculates the state-wise shortfalls in healthcare centers at each of these levels using a percentage-based methodology. The resulting data sheds light on the requirements and deficits in health infrastructure for tribal populations.

Analysis and Discussion:

Healthcare Infrastructure in Tribal Areas

Healthcare infrastructure serves as a vital gauge for understanding a country's healthcare delivery mechanisms. In India, the rural healthcare infrastructure has been structured as a three-tier system comprising Sub-Centres (SCs), Primary Health Centres (PHCs), and Community Health Centres (CHCs). This system aims to extend healthcare services to rural populations. Significantly, population norms for establishing these public health facilities differ between plain and tribal areas, reflecting a conscious effort by policymakers to ensure healthcare accessibility for tribal communities. For instance, in tribal areas, the population norms for setting up Sub-centres, PHCs, and CHCs are 3000, 20,000, and 80,000, respectively, as opposed to 5000, 30,000, and 1,20,000 in plain areas (National Health Mission, 2017).

Between 2005 and 2015, there has been a notable increase in the number of all three types of healthcare centers in tribal areas. However, these numbers remain insufficient to meet the prescribed population norms (Rural Health Statistics, 2014-15). Despite relaxed norms for establishing health centers, the desired transformation has not materialized. Recognizing the need for more comprehensive healthcare delivery, Ayushman Bharat Health and Wellness Centres (AB-HWCs) were introduced in February 2018. This initiative aimed to enhance existing sub-centres and PHCs to provide Comprehensive Primary Health Care (CPHC), encompassing preventive and health promotion services at the community level, including for tribal populations. To ensure healthcare reaches the doorsteps of tribal communities, an additional Mobile Medical Unit (MMU) is provided for tribal areas when patient demand exceeds 30 per day, in contrast to 60 per day in plain areas (Government of India, 2019).

The healthcare infrastructure in India is a critical component of healthcare delivery, with tailored population norms for tribal regions. The introduction of Ayushman Bharat Health and Wellness Centres represents a strategic step toward more comprehensive primary healthcare, acknowledging the unique needs of tribal populations and their accessibility to healthcare services.

Table 1: Number of Phcs, Chcs, and Sub-Centers Operating in Tribal Areas

S. No.	State/UT	(As on 31st March 2022)		
		Sub centre	PHCs	CHCs
1	Andhra Pradesh	955	158	17
2	Arunachal Pradesh #	367	131	57
3	Assam	844	188	36
4	Bihar *	N App	N App	N App
5	Chhattisgarh	2943	417	93
6	Goa *	N App	N App	N App
7	Gujarat	2756	422	88
8	Haryana *	N App	N App	N App
9	Himachal Pradesh	106	45	8
10	Jharkhand	2465	159	100
11	Karnataka	195	31	7
12	Kerala	285	40	13
13	Madhya Pradesh	3263	361	111
14	Maharashtra	2076	318	66
15	Manipur	239	48	8
16	Meghalaya #	459	147	28
17	Mizoram #	373	66	9
18	Nagaland #	452	136	23
19	Odisha	2701	445	134
20	Punjab *	N App	N App	N App
21	Rajasthan	1557	243	70
22	Sikkim	48	12	0
23	Tamil Nadu	545	96	21
24	Telangana	621	95	8
25	Tripura	486	53	9
26	Uttarakhand	121	13	2
27	Uttar Pradesh *	N App	N App	N App
28	West Bengal	970	102	39
29	A & N Islands	41	4	1
30	Chandigarh *	N App	N App	N App
31	Dadra & Nagar Haveli and Daman & Diu	49	6	0
32	Delhi *	N App	N App	N App
33	Jammu & Kashmir	169	60	2
34	Ladakh #	288	33	7
35	Lakshadweep #	9	4	3
36	Puducherry *	N App	N App	N App
All India		**25383**	**3833**	**960**

Source: RHS, 2021-22

Notes:

N App - Not applicable

#: States are primarily tribal regions.

*: UT/State does not have a distinct tribal population or area.

Exclusively in tribal regions, a total of 25,383 Sub-Centres, 3,833 Primary Health Centres (PHCs), and 960 Community Health Centres (CHCs) have been established (Table 1). Recognizing that tribal communities across different parts of India exhibit distinct cultural, social, economic, and political characteristics (Guha, 2007), it becomes imperative to scrutinize variations in healthcare facilities regionally. Eastern India, encompassing states like Bihar, Jharkhand, Odisha, West Bengal, and the Andaman and Nicobar Islands, boasts the highest numbers of Sub-Centres, CHCs, and Health and Wellness Centres attached to PHCs (HWCs-PHCs) in tribal areas. In contrast, North-Eastern India has a higher count of PHCs. Nevertheless, significant deficiencies persist at every tier of healthcare infrastructure, and notably, Central India has not proportionately matched the population growth of tribal communities with the development of health centers (Rural Health Statistics, 2021-22).

Healthcare services in India exhibit significant disparities across states, regions, and communities. The government of India has undertaken recent initiatives aimed at enhancing healthcare access and quality for its population, with the National Health Policy of 2017 being a prominent example. While these policies are designed to benefit the general public, special attention is directed towards addressing the healthcare needs of tribal areas. The effectiveness and outcomes of such initiatives in tribal regions merit thorough examination to assess their impact in terms of promoting social inclusiveness.

Table 2: Sub Centres, PHCS, and CHCS in Tribal Area Requirement and Deficiency

S.No.	State/ UT	(As on 31st March, 2022)									
		Estimated mid-year Tribal Population on 1st July 2022 in Rural Areas	Sub Centres			PHCs			CHCs		
			R	P	S	R	P	S	R	P	S
1	Andhra Pradesh	2235578	745	955	**	111	158	**	27	17	10
2	Arunachal Pradesh#	856243	285	367	**	42	131	**	10	57	**
3	Assam	4101442	1367	844	523	205	188	17	51	36	15
4	Bihar *	1516410	505	N App	N App	75	N App	N App	18	N App	N App
5	Chhattisgarh	8073397	2691	2943	**	403	417	**	100	93	7
6	Goa *	61949	20	N App	N App	3	N App	N App	0	N App	N App
7	Gujarat	8462631	2820	2756	64	423	422	1	105	88	17
8	Haryana *	0	N App	N App	N App	N App	N App	N App	N App	N App	N App
9	Himachal Pradesh	404760	134	106	28	20	45	**	5	8	**
10	Jharkhand	9086894	3028	2465	563	454	159	295	113	100	13
11	Karnataka	3449898	1149	195	954	172	31	141	43	7	36
12	Kerala	230835	76	285	**	11	40	**	2	13	**
13	Madhya Pradesh	16584104	5528	3263	2265	829	361	468	207	111	96
14	Maharashtra	9501900	3167	2076	1091	475	318	157	118	66	52
15	Manipur	848401	282	239	43	42	48	**	10	8	2
16	Meghalaya #	2378890	792	459	333	118	147	**	29	28	1
17	Mizoram #	536021	178	373	**	26	66	**	6	9	**
18	Nagaland #	1134576	378	452	**	56	136	**	14	23	**
19	Odisha	9635546	3211	2701	510	481	445	36	120	134	**
20	Punjab *	0	N App	N App	N App	N App	N App	N App	N App	N App	N App
21	Rajasthan	9977780	3325	1557	1768	498	243	255	124	70	54
22	Sikkim	130572	43	48	**	6	12	**	1	0	1
23	Tamil Nadu	634163	211	545	**	31	96	**	7	21	**
24	Telangana	2733521	911	621	290	136	95	41	34	8	26
25	Tripura	1043625	347	486	**	52	53	**	13	9	4
26	Uttarakhand	280175	93	121	**	14	13	1	3	2	1
27	Uttar Pradesh *	1182140	394	N App	N App	59	N App	N App	14	N App	N App
28	West Bengal	4896019	1632	970	662	244	102	142	61	39	22
29	A&N Islands (1)	25465	8	41	**	1	4	**	0	1	**
30	Chandigarh *	0	N App	N App	N App	N App	N App	N App	N App	N App	N App
31	Dadra & Nagar Haveli and Daman & Diu	153009	51	49	2	7	6	1	1	0	1
32	Delhi *	0	N App	N App	N App	N App	N App	N App	N App	N App	N App
33	Jammu & Kashmir	1291499	430	169	261	64	60	4	16	2	14
34	Ladakh #	208000	69	288	**	10	33	**	2	7	**
35	Lakshadweep#(1)	1904	0	9	**	0	4	**	0	3	**
36	Puducherry *	0	N App	N App	N App	N App	N App	N App	N App	N App	N App
	All India/Total	**101657344**	**33870**	**25383**	**9357**	**5068**	**3833**	**1559**	**1254**	**960**	**372**

Source: RHS, 2021-22

Notes:

N App - Not applicable

N A - Data not available

Utilising established parameters based on Tribal population, the demand is determined. By aggregating state-by-state shortfall numbers and ignoring current surpluses in some states, the overall shortfall for India is calculated. The mid-year tribal population for 2022 was derived using Census 2011 data on the percentages of tribal residents living in rural areas.

R: Required; P: In Position; S: Shortfall; **: Surplus, *: UT/ State does not have a distinct tribal population or area; #: States are primarily tribal regions.

The population is below the CHC average of 80,000 people.

In accordance with this, Table 2 provides insights into the state-wise percentage shortfalls of Sub-Centres, Primary Health Centres (PHCs), and Community Health Centres (CHCs) in tribal areas for the year 2021. Over the study period, several states managed to reduce the shortfall of Sub-Centres, although this positive trend was not consistently reflected in the case of PHCs and CHCs, except for a handful of states. Any reduction in the percentage of shortfalls in healthcare centers in tribal areas represents a noteworthy achievement. Notably, Nagaland, Gujarat, and Andhra Pradesh transitioned from states with shortfalls to those with surplus Sub-Centres, indicating a substantial improvement. Similarly, Goa, Gujarat, and Andhra Pradesh achieved surplus status for PHCs, signifying commendable progress in healthcare infrastructure development (Saalim, 2020).

In the fiscal year 2021-22, several major southern states, such as Andhra Pradesh, Kerala, and Tamil Nadu, exhibited no shortfall in Sub-Centres, indicating commendable coverage of healthcare infrastructure. However, it is noteworthy that Karnataka, despite reporting a surplus in 2018, experienced a higher extent of shortage in Sub-Centres. A similar trend was observed in Assam concerning both Sub-Centres and Primary Health Centres (PHCs). This situation raises important questions regarding the allocation of resources and the maintenance of already established healthcare infrastructure, as highlighted by George in 2016.

With the exception of Assam, Manipur, and Meghalaya, the remaining five states in North-Eastern India reported no shortfall in Sub-Centres for the year 2021-22. Interestingly, all regions, except Northern India, had at least two or more states with surplus Sub-Centres. Impressively, nine states and union territories boasted surplus numbers in all three types of healthcare centers, including three tribal-dominated North-Eastern states: Arunachal Pradesh, Mizoram, and Nagaland. It is undeniable that fortifying the physical healthcare infrastructure would undoubtedly enhance the quality of healthcare services provided to tribal communities, as emphasized by Shrivastava et al. in 2013.

Conclusion:

In the context of tribal populations in India, there exists a profound healthcare divide when compared to their non-tribal counterparts. Despite the targeted objectives set forth by the Millennium Development Goals (MDGs) and the Sustainable Development Goals (SDGs), there remains a considerable gap in achieving good health and well-being for tribal populations. The challenges faced by tribal regions extend beyond the mere scarcity of healthcare facilities such as Sub-Centers (SCs), Primary Health Centers (PHCs), and Community Health Centers (CHCs). Accessibility to these healthcare resources poses a significant hurdle, exacerbated by the absence of adequate transportation and communication networks.

Tribal populations in India find themselves confronted with the daunting task of narrowing the health disparities that persist. Despite global commitments and government policies, these gaps persist, underscoring the necessity for all-encompassing strategies tailored to the unique healthcare challenges faced by tribal populations. In summary, the healthcare scenario for tribal communities in India is marked by substantial disparities, both in terms of infrastructure and accessibility. Achieving the health-related SDGs in these regions demands specialized attention and targeted interventions to ensure that tribal populations can access the quality healthcare they deserve.

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