

Assessment of The Availability of Physical Infrastructure In Sub Centres As Per IPHS Guideline of Dakshin Dinajpur District of West Bengal

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Abstract

Background: One of the main duties of a welfare state is to provide well developed, integrated and effective health services to the masses. Three hierarchies are observed in the health infrastructure of a developing country like India, with the Sub Center at the primary level. These centers follow the IPHS guidelines on function manpower infrastructure requirements. The main objective of the present study is to make a detailed assessment of sub centers of Dakshin Dinajpur district as per IPHS guideline

Methods: To complete the present study, a facility based cross sectional study has been conducted in Dakshin Dinajpur district. A total of 40 sub centers have been randomly selected from 8 blocks of the district. A predesigned and structured questionnaire has been prepared keeping in mind the IPHS guideline. The data collection period was Jan 2023-April 2023.

Result: The present study shows that 27.50% sub centers have not been converted into HWCs, 80% sub centers are serving populations in excess of standard value and 75% are serving villages in excess of their capacity. In the case of sub centers, the condition of building, electricity, and water is good. Along with the lack of number of rooms, examination room, separate toilet, there is also a shortage in Manpower.

Conclusion: In the case of the present study, it is seen that almost no Sub centre is fully maintaining the IPHS guidelines. Everyone has some deficiencies. However, if these deficiencies are repaired in the future, there is no doubt that the quality of service will increase.

Keywords: SC(Sub-Centre),HWC(Health and Wellness centre),IPHS(Indian Public Health Standard),Health infrastructure

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I. Introduction

A well developed health care infrastructure plays vital role in determining good health of the people of a nation (Saikia D. 2014).In rural India, Sub Centers do the main job of providing these health services. In the public sector, a Sub-Health centre (Sub-centre) is the most peripheral and first point of contact between the primary health care system and the community.(IPHS guideline 2012).The fifth five year plan period in India was 1974-78, in the first year of that plan MNP (Minimum needs program) was started. The main objective was to provide the minimum basic needs to ameliorate the standard of living of the people. As a part of this, emphasis is given on strengthening the rural health system for the rural population and a target of forming one sub center per 5000 population in plain areas or one SC per 3000 population for hilly and tribal areas is taken. Sub centers are mainly of two types one is type A and the other is type B. Type A offers all recommended services but no delivery service is available here. On the other hand type B offers delivery service along with recommended service. All the recommended services provided by the sub centers are: i)Maternal Health-antenatal care, Intranatal care, post natal care ii) Child health- immunization service iii) family planning & contraception iv) safe abortion service(MTP) v) curative services vi) Adolescent health care vii) school health services viii) control of local endemic diseases ix) disease surveillance x) water and sanitation xi) outreach/field services -VHND, Home visits xii) coordination and monitoring. About 18 registers are maintained by Sub Centers to provide all the above mentioned services properly.

These health centers will provide health services to the people at the grass root level in very remote rural areas. These sub-centres will be responsible for delivering all the public health related projects undertaken by the government to the grass root level across the country. That is, the success of various government projects depends on the performance of these sub centers. But at present these sub centers are not performing as expected in most of the states. Somewhere there may be lack of building infrastructure, somewhere there may be equipment related problems, somewhere manpower related scarcity is being observed. The Ministry of

Health and Family Welfare has published the IPHS (Indian Public Health Standard) guidelines Under NRHM (National Rural Health Mission) in early 2007. so that the network of more than one and a half lakh centers spread across the country should maintain a certain standard to provide services. By maintaining these guidelines the sub centers can further improve their performance. These guidelines have a detailed discussion on manpower building and truck standards of sub-centres. The main objective of the IPHS guideline was to ensure quality service in line with public demand.

II.Objectives

1. To detailed analysis of the condition of the physical infrastructure in sub centres of Dakshin Dinajpur District.
2. To assess the sub centers as per IPHS guidelines to find out the infrastructure and manpower gaps of the sub centers of Dakshin Dinajpur district.
3. To analyse the accessibility of Sub centres with different villages served by Sub centres.

III. Materials and Methodology

Dakshin Dinajpur, a district in the northern part of West Bengal, was selected for this study. Latitudinal extension of Dakshin Dinajpur district is 26.35.15. to 25.10.55 N and longitudinal extension is 89°00'30'' E to 87.48.37 E. The study was undertaken in 2023, which covered 8 blocks of Dakshin Dinajpur district. Approximately 16 % (40) of the total Sub centre of the district were selected randomly for this study. 5 sub centres were selected from each 8 blocks. Necessary permission was obtained from CMOH office before data collection. The researcher collected necessary information from health personnel (ANM, HA(F)) from 40 sub centres of 8 blocks of Dakshin Dinajpur district. As this research paper solely relies on primary database, a structured questionnaire is used for primary data collection.

The data collected from forty sub-centres are presented in tabular form with the help of MS Excel. The data has been analyzed with the help of descriptive statistics.

IV. Result and Discussion

Before starting a detailed discussion about the infrastructure and manpower of sub centers in Dakshin Dinajpur district we will try to highlight some important issues related to sub centers. The topics that will be discussed in this segment are the type of sub center, Population coverage, Village coverage and Accessibility of villages served by Sub center.

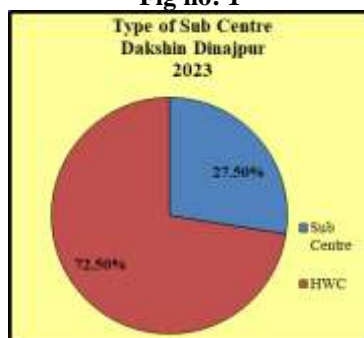
a) Type of Sub Centre: Regarding the type of sub center, it is first necessary to mention that all the sub centers in Dakshin Dinajpur district are Type-A type as per the standard of IPHS guideline. That is, they provide all services recommended by IPHS but do not provide any delivery related services. But the type we will discuss here is whether the sub centers are only sub centers or have evolved into health and wellness centers. Note that under the Ayushman Bharat scheme, the central government has targeted to convert 150,000 lakh welfare centers across the country into HWCs (Health and Wellness Centres) between 2018-2022. Table No. 1 and Fig No. 1 show that out of the total surveyed Subcentres in the district, 27.50% are still functioning only as Normal Subcentres while 72.50% subcentres have been converted into HWCs. Another important point is that HWCs provide services related to Non-communicable diseases (High BP, Diabetes, Hypertension etc).

Table no 1: Type of Sub Centre in Dakshin Dinajpur 2023

Type	Total No	%
Sub Centre	11	27.5
HWC	29	72.5
Total	40	100

Source: Field Survey, 2023

Fig no: 1



b) Population coverage: Another important issue related to sub-centers is population coverage. The IPHS guidelines state that the sub centers in the plain area will serve a population of 5000. That is, serving a population of more than 5000 means a reduction in service quality. Table number 2 and number 2 show that only 20% sub centers of the district serve 3000-5000 population, 47.50% sub centers serve 5000-7000 population, 27.50% sub centers serve 7000-10000 population and 5% The sub center serves a population of over 10000. So it is clearly seen that 80% sub center of the district is serving more population than IPHS guideline. If service provided to a population more than the prescribed population, sometimes some population remains unserved.

Table no 2: Population coverage by a Sub Centre

Population Served	No. of SC	%
3000-5000	8	20
5000-7000	19	47.5
7000-10000	11	27.5
>10000	2	5
Total	40	100

Source: Field Survey, 2023

Fig no: 2



c) Village covered by Sub centre: Now the topic that will be discussed is how many villages are served by the sub center. In Rural Health Statistics, 31st March 2020 (Ministry of Health and Family Welfare, GOI) it is mentioned that there will be 4 Villages under a Sub centre. From Table No. 3 and Figure No. 3 below it is seen that 25% of the sub centers of the district provide services to 3-4 villages. The percentage of such sub centers giving coverage to 5-7 villages is 30%. 35% sub centers in the district are serving 8 to 10 villages and 10% sub centers are serving more than 10 villages. So from the data in the table it is clear that 75% sub center of the district is providing services to more than 4 villages. In providing coverage to more number of villages, there is a possibility that the service quality will decrease.

Table no 3: Village Covered by a Sub centre

Village Covered by Sub centre	No. Of Sub Centre	%
3--5	10	25
5--7	12	30
7--9	14	35
>9	4	10
Total	40	100

Source: Field Survey, 2023

Fig no: 3



d) Accessibility of villages: It is not only important to have a certain number of villages under the sub center but also the villages should be located within a certain distance. In this context, Rural Health Statistics (31st March 2020) states that the average radial distance of sub centers should be 2.5 km. There are total 254 villages under the 40 sub centers selected for this study. Among these villages, 53.15% of the villages are located within a distance of less than 2.5 km (Easily Accessible), 37.01% of the villages are located between 2.5-5 km (Moderate Accessible) and 9.84% of the villages are located at a distance of more than 5 km (Less Accessible). If the accessibility is less, the interest of the service receivers in taking the service will decrease and the service providers will also face problems in providing the service. Since 46.85% Villages of the district are moderate and less accessible, it is normal to have more or less service related problems.

Table no 4: Mean Distance of Villages from Sub Centres

Mean Distance of villages	Total no. of villages	%
Below 2.5 Km	135	53.15
2.5 Km- 5 Km	94	37.01
>5 Km	25	9.84
Total	254	100

Source: Field Survey, 2023

Fig no: 4



e) Building and Infrastructure facilities: To run a sub center properly, it needs a specific building. Along with building, some other essential infrastructure is needed to provide good services. An attempt will be made to analyze two issues below.

In the case of sub centers of Dakshin Dinajpur district, it is seen that 85% of sub centers of the district are running in government buildings, only 15% of sub centers are running in rented buildings. Another notable fact is that out of the total sub centers in the district, 90% of the center buildings are pucca and only 10% of the sub center buildings are still kucca.

After this, if we review the number of rooms in the sub center, it is seen that the percentage of sub centers with 1-2 rooms is 37.5%, the percentage of sub centers with 3-5 rooms is 55% and 7.5% sub center Running with >5 rooms. 77.5% of the total sub center of the district are single storey houses and 22.5% of the sub center are two storey houses.

Next the two issues that will be discussed are patients waiting room and separate toilet for patients. Table no 5 shows that only 30% sub center have waiting room facility and 70% sub center have no waiting room. Where there is no waiting room facility, patients wait on the balcony. A separate toilet is very important for patients. Especially mothers coming for ANC registration need a toilet to use their pregnancy kit. It is seen that 47.50 sub centers have separate toilets but 52.50% sub centers have no separate toilet.

Next another important infrastructure is a separate examination room. This infrastructure is required at the sub center for ANC check up of pregnant women. From the table it is seen that in case of 70% sub center this infrastructure is available but 30% sub center still lacks this infrastructure.

It is also seen from table number five that there is no labor room facility in any sub center of the district. That is, each Sub center is of Type-A category. Another point to be noted is that 25% sub centers have quarter arrangements for ANMs while 75% sub centers do not have any quarter arrangements. It is noteworthy that although some sub-centres have quarters for ANMs, no ANMs reside there.

Table no 5 also shows that 67.50% sub centers have running water system and 32.50% sub centers are still dependent on PHE/Mark II tube well. Only 20% sub centers have managed to arrange water purifiers to provide purified drinking water to patients while 80% sub centers have no water purifiers.

Finally, four important points will be discussed below. The first of these is the provision of electricity. In this case, the condition of the district is being observed quite well. 95% sub centers of the district have electricity while 5% sub centers still do not have electricity. The second issue is the service display board in the

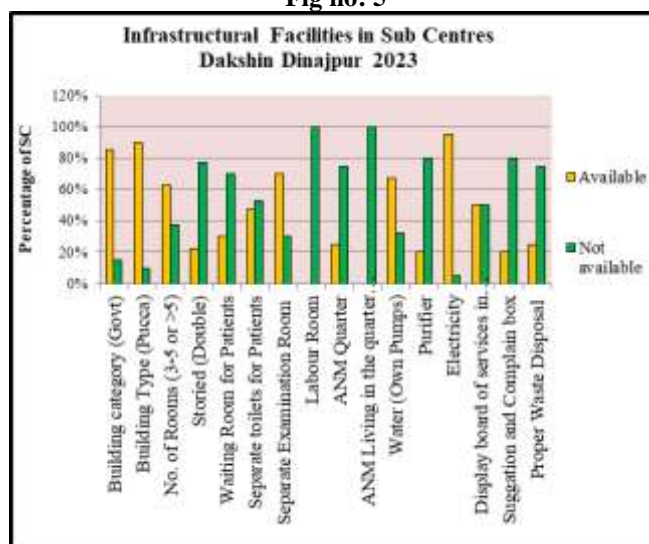
local language. In this case it is seen that 50% sub center has a display board but the 50% sub center has no display board. The third thing is suggestion and complaint box. To maintain the quality of service properly, it is important to see the feedback that comes in the suggestion and complaint box regularly. It can be seen from the table that 20% sub center has a suggestion and complain box but the 80% sub center does not. The last important thing is proper waste management. A lot of waste is generated every day while providing services to sub-center patients. If they are not properly managed, they can create harmful effects. From the table it is seen that only 25% of the sub centers of the district do proper waste management while 75% of the sub centers have not given importance to this issue yet

Table no 5: Infrastructural Status of Sub Centres, Dakshin Dinajpur, 2023

Sl No.	Infrastructural Parameters	Total No.	%	
1	Building Category	Govt	34	85
		Rented	6	15
2	Type of Building	Pucca	36	90
		Kucca	4	10
3	Total Rooms	1--2	15	37.5
		3--5	22	55
		>5	3	7.5
4	Storied	Double	9	22.5
		Single	31	77.5
5	Patients wating room	Available	12	30
		Not Available	28	70
6	Separate Examination room	Available	28	70
		Not Available	12	30
7	Toilet for patients (Separate)	Available	19	47.5
		Not Available	21	52.5
8	Facility of labour room	Available	0	0
		Not Available	40	100
9	Facility of ANM quarter	Available	10	25
		Not Available	30	75
10	ANM living in the quarter	Yes	40	0
		No	0	100
11	Water supply	Running water	27	67.5
		PHE/MARK II	3	32.5
12	Water Purifier	Available	8	20
		Not Available	32	80
13	Electricity	Available	38	95
		Not Available	2	5
14	Display board of available service (local language)	Available	20	50
		Not Available	20	50
15	Suggestion or Complain box	Available	8	20
		Not Available	32	80
16	Proper waste disposal	Yes	10	25
		No	30	75

Source: Field Survey, 2023

Fig no: 5



f) Doctor visit, Equipment, Drug & Manpower

Below are some other important issues related to sub center such as doctor visit, equipment, drug and manpower will be discussed.

In terms of doctor visits, it is seen that 57.50% sub centers do not have any doctor visits. Only 20 percent of the sub-centers are visited by doctors once a month and only 22.50% of the sub-centres are visited by doctors once in two months.

To serve pregnant mothers and babies coming to a Sub center, the equipment that is available in the Sub center are BP monitor, Hb monitor, Glucometer, dropper and weight machine. Good service can be maintained only when all the equipment is working properly. It is seen from the table that all the equipments are functional in 62.50% Sub center of the district. In case of 20% Sub center 1 equipment not functioning and in case of 17.50% sub center 2 equipment not functional.

After equipment, drugs are another important aspect of the Sub center. Regarding drugs, 22.50% health personnel of sub center responded that drug supply in their center is very good. 55% sub center responded that their center has adequate drug supply and 22.50% sub center responded that their center has drug supply shortage.

Now let's discuss about the main driving force of the sub center i.e. manpower. The first position to be discussed in Manpower is CHO. CHOs have been appointed as new posts only in those sub-centres which have been converted into HWCs. Table no 6 shows that 67.50 percent centers in the district have CHO posted and 32.50 percent centers do not have CHO. The percentage of sub centers having first ANM available is 87.50% and 12.50% sub centers are running without ANM. On the other hand the percentage of Sub centers with 2nd ANM available is 75% and 25% Sub centers have no 2nd ANM. It is also seen from the table that 62.50% of sub centers have both 1st and 2nd ANM while 37.50% of sub centers do not.

Table no 6: Doctor Visit, Equipment, Drug Supply & Manpower

SI No.	Parameters	Total no. of SC	%	
1	Visit of Doctors	No visit	23	57.5
		once a month	8	20
		once in a 2 month	9	22.5
2	Equipments	All working	25	62.5
		1 not working	8	20
		2 not working	7	17.5
3	Drug Supply	Well	9	22.5
		Fair	22	55
		Shortage	9	22.5
4	Community Health officer	Yes	27	67.5
		No	13	32.5
5	1st ANM / HA(F)	Yes	35	87.5
		No	5	12.5
6	2nd ANM / CHA	Yes	30	75
		No	10	25
7	1st ANM & 2nd ANM both	Yes	25	62.5
		No	15	37.5

Source: Field Survey, 2023

Fig no: 6

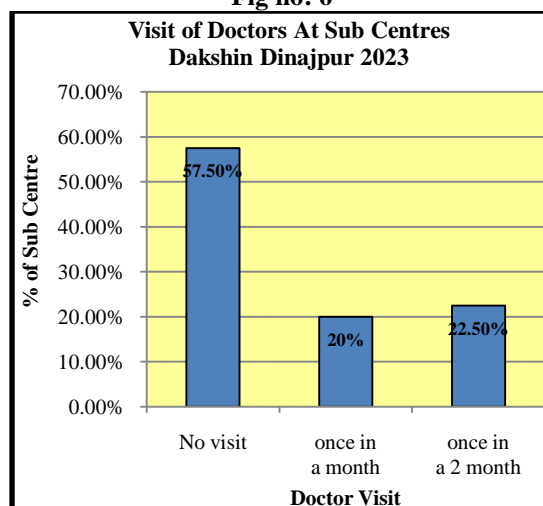


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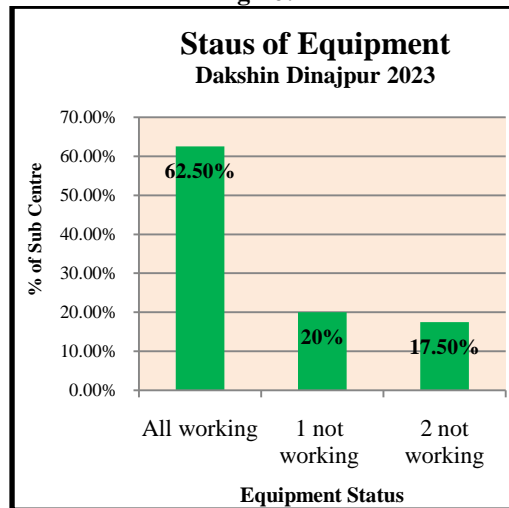


Fig No: 8

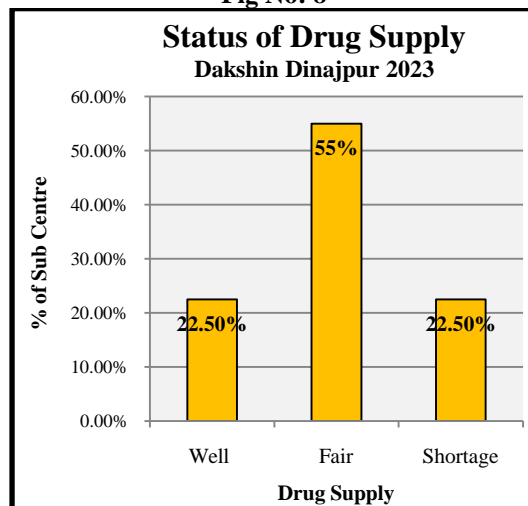
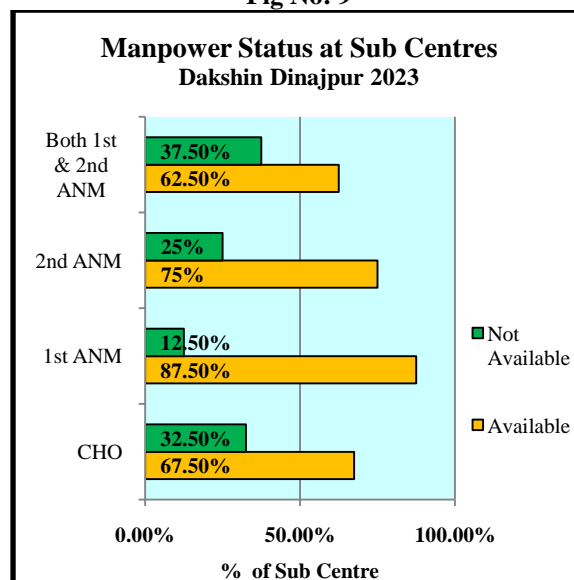


Fig No: 9



Limitation of the study:

Although there are over 250 sub centers in the district, only 40 sub centers have been taken for research due to lack of time and resources. After covid-19, the government started looking at the infrastructure development of sub centers just at that time i.e. in 2023. So if more sub center could be included in the study along with taking the data till March 2024, better analysis could be done.

V. Conclusion:

After detailed study of sub centers as per IPHS guideline, gaps have been observed in various areas such as building infrastructure, equipment, medicine, staff and doctor visit etc. Although there has been an emphasis on infrastructure development of sub centers in the district since the covid-19 pandemic, however, in the areas where the sub centers are lagging behind, such as staff recruitment, logistic support, action needs to be taken very urgently. Every sub center needs to be converted to HWC as soon as possible. Besides, every sub center should increase the number of doctor visits, normal delivery opportunities should be increased by introducing labor room facility in the sub centers located in very important locations. ANM quarters should be made habitable in marginal sub centers and they should be encouraged to stay. Through these steps, it will be possible to make medical care more accessible for the rural marginalized people.

Acknowledgements

Thanks to CMOH Sir of Dakshin Dinajpur district for giving permission to collect data from sub centres for this research work. Thanks to all the health personnel (ANM,CHA) of the sub centre who helped by providing relevant data.

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Plate no 1: Pregnant mothers come to get services at a rented sub centre



Plate no 2: A mother brought her child to the sub centre for immunization



Plate no 3: Awareness meeting with mothers at Sub centre



Plate no 4: The researcher is collecting relevant data from the health personnel (ANM,CHA,ASHA) of the Sub Centre



Plate no 5: Equipments (BP monitor, Hb monitor, glucometer, dropller) should beavailable for ANC check up of expectant mothers in a sub centre



Plate no 6: A single storied building sub centre of Dakshin Dinajpur district,where there is no waiting room, separate toilet, ANM quarter facility



Plate No 7: A double storied Sub centre where all the facilities available(Except labor room)



Plate no 8: A Sub centre is being converted into HWC(Health and Wellness centre)

