

# A STUDY TO EVALUATE THE EFFECTIVENESS OF SUB CENTRES IN DELIVERING RURAL HEALTHCARE SERVICES IN SONITPUR DISTRICT OF ASSAM

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## ABSTRACT

**Introduction-** Assam is one of the eight North-Eastern States which is categorized as low performing state in terms of rural healthcare services. Assam with 34 million population is the 14<sup>th</sup> most populated state in India. More than 80% of the states population lives in rural areas, but health sector in rural areas of Assam is not developed as expected. The Sub Centre being the first contact point between the primary healthcare system and the community plays a pivotal role in the rural healthcare services. Though NRHM have completed 10 years of its journey in Assam but the health scenario in rural areas of Assam is far behind the desired result. This paper has made an attempt to find out the present status of the sub centres of Sonitpur District of Assam and the reasons that acts as a hindrance in the way of providing quality service to the community.

**Methodology-** The study was done in Sonitpur district of Assam. The study is descriptive in nature and the data has been collected from the workers of the selected Sub-centres of the District through personal investigation using pre-structured questionnaire cum schedule.

**Results-**Inadequate infrastructure facilities, non-availability of quality equipments, scarcity of medicines, lack of health manpower availability and issues of sub centre health workers are some of the reasons that act as a barrier in providing effective health care services.

The study has also brought to light the positive side of sub centre services.

**Conclusion-** Current scenario of rural healthcare service in Assam is not as expected. Government should take initiatives for strengthening the rural healthcare services by improving infrastructure, providing quality equipments and medicines, providing adequate and well trained staff and tackle the issues of health workers so that they can contribute efficiently for the improvement of rural healthcare services.

**Keywords-** Sub centres, Healthcare Services, Sonitpur District, Assam.

## 1. INTRODUCTION

Good health is not merely an absence of disease but is a state of complete physical, mental and social well-being of a person [1]. Health is an important component for the development of the economy. The development of a nation depends upon the health status of its people. Therefore, a nation should have provision for sound healthcare facility both in urban and rural areas.

India is the second most populated country of the world where 70% of the population lives in rural areas [2]. Though the nation has been growing economically at a rapid pace over the last two decades but the development particularly in rural healthcare sector has a long way to go.

Recognizing the role of health in development and to improve the rural healthcare, the National Rural Health Mission (NRHM) was introduced. The Government of India launched the NRHM on April, 2005 to provide accessible, accountable, affordable, effective and reliable primary healthcare services especially to the poor and vulnerable section of the population [GOI, 2005-12] [3]. One of the important motive of NRHM is to provide every village in the country with trained female community health activist i.e. Accredited Social Health Activist (ASHA) to act as an interface between the rural people and health service outlets. In order to reduce regional imbalances in the health outcomes, the NRHM has given more emphasis on the low performing states with special focus on 18 states viz. Eight Empowered Action Group (EAG) states, eight North-Eastern (NE) states, Jammu-Kashmir and Himachal Pradesh.

Assam is one of the eight North-Eastern States which is categorized as low performing state in terms of rural healthcare services. Assam with around 34 million populations is the 14<sup>th</sup> most populated state in India where more than 80% of the state population lives in rural areas. Though NRHM have completed 10 years of journey in Assam but the health sector scenario in rural areas of Assam still has a long way to go and is far behind the desired result. More specifically, the paper tries to provide an overview of the sub-centre infrastructure facilities, the health human resource availability and issues of health workers of Sonitpur District of Assam.

### **Rural Healthcare System in India**

Rural healthcare infrastructure in India has been developed as a three tier structure consisting of Sub-Centres (SCs), Primary Health Centres (PHCs), and Community Health Centres (CHCs) based on pre-determined population norms. The Sub-Centre for a population of 5000 in plain and 3000 in hilly/difficult area is the first contact point between the primary and the community healthcare system and consist of Auxiliary Nurse Midwife (ANM) and one male Multipurpose Health Worker [MPHW (M)]. There is also a Lady Health Worker (LHV) who is in charge of six sub-centres and each LHV is provided with basic drugs for minor ailments.

Primary Health Centres (PHCs) for a population of 30,000 in plain and 20,000 in hilly/difficult area is the second tier that are established and maintained by the state government under the Basic Minimum Services Programme (BMS)/ Minimum Needs Programme (MNP). It consists of a medical officer who is in charge of the PHC supported by 14 paramedical and other staff. PHC acts as a referral unit for six subcentres.

Community Health Centres (CHCs) for a population of 1,20,000 in plain and 80,000 in hilly/difficult area is the uppermost tier that are established and maintained by the state government under MNP/BMS programme. Each CHC must have a surgeon, a physician, a gynecologist, a pediatrician, 21 paramedical and other staff along with 30 beds for indoor patients, operation theatre, labosur room, X-ray and laboratory facilities. CHC should have four PHC within its jurisdiction [4].

As per Bulletin on Rural Health Statistics in India, 2011 there are 148124 Sub-centre (SCs), 23887 Primary Health Centre (PHCs), and 4809 Community Health Centre (CHCs) in the country out of which 7259 SCs, 1510 PHCs and 244 CHCs are located in the North Eastern Region (NER) providing service to the rural population. Even though a well structured public healthcare system exists, the infrastructure as well as the staff that are required to provide the healthcare services is inadequate from many perspectives.

## 2. REVIEW OF LITERATURE

The term physical infrastructure in health has a wider meaning which includes not only healthcare centre, dispensaries or hospitals but also well trained staff [4]. Though centralized planning was accepted for the development of the health sector in the country but there exist differences in the urban-rural health status [5] due to multiple human resource challenges in rural areas [6,7]. Recognizing the role of health in development and to improve the rural healthcare the Government of India launched the NRHM on April, 2005. The NRHM aims at reducing regional imbalances by increasing health human resources and appointing ASHAs, ANM and MPHWS in each block and monitoring and evaluating their performance [8]. Though NRHM has brought some improvements in the rural healthcare system but it has not been able to achieve the desired results [9].

## 3. METHODOLOGY

The paper is based on both primary and secondary data. Primary data has been collected from the selected Sub-centres of Sonitpur District of Assam from July to December, 2017. Of the 8 health blocks of Sonitpur District, 4 health blocks has been considered for the purpose of the study. There are a total of 156 sub-centre in the 4 health blocks under study, out of which 80 [more than 50%] sub-centres has been selected using Purposive Sampling Technique. Data has been collected from the health workers of the selected sub-centres through personal investigation using pre-structured questionnaire cum schedule. Secondary data has been collected from websites, journals, articles, sub-centre record book and District NRHM office.

The analysis carried out in this study is descriptive in nature. The various data and information obtained regarding availability of infrastructure and other basic facility, availability of equipments, health manpower availability in the SCs has been tabulated for analysis.

## 4. FINDINGS AND DISCUSSIONS

*i. Population of the sub centre:* As per Indian Public Health Standards (IPHS) population norms for Sub-Centre [SC], there shall be one SC established for every 5000 population in plain area [10]. In the study area there are 25% Sub-centres having population 3000 or below, 32% has population between 3000-5000, 28% has population between 5000-7000 and there are 15% Sub-centres whose population is above 7000. Thus, in the study area there are only 57% SCs fulfilling the norms.

*ii. Ownership of sub centre building:* A sub centre should have its own building within its locality to provide the villagers with the required services. 51% of the sub centres has their own permanent building, 10% functioned from other government building and 39% from rented buildings.

*iii. Connectivity:* As per the IPHS norms, a Sub-centre should be located within the locality so that no person has to travel more than 3 km to reach it. Moreover, a village Sub-Centre should have some road communication. Study revealed that about 56% of the sub-centres cover villages where a person has to travel more than 3 kms to reach the sub-centres. Moreover some of the Sub-centres are located in such places to which there are no public transport facility and the patients has to go to the SCs either through walking or through personal vehicle and for the poor people of the rural area, it is difficult to arrange vehicles to reach the centre.

*iv. Infrastructure facility:* As per IPHS norms, a sub centre should have 4-5 rooms with facilities of a Labour room, one clinic/ office room, a store room and a washroom. It should also have accommodation facility for ANM [10]. Table 1 shows the infrastructure facilities available in the sub centres under study.

From table 1 it is evident that 43% SC has only 1-3 rooms and were not in a position to provide proper service to the villagers. Lack of space creates problem for SC workers with regard to checkup of pregnant women, storage of the medicines, accommodation facility, etc.

37% SC did not have any extra examination room. Out of the 37%, almost 30 % sub-centres has only 1 room and they used partition to divide the room into 2 so as to operate as a clinic/office room and examination room. Almost all the Sub-centre having 1 room were in rented buildings. 69% SC under study did not have any store room and they managed to keep the equipments and medicines in the SC almirah. Some SCs even used the workers residence room or the workers kitchen available in the sub-centre as the store room as in many cases no workers reside therein. There were only 31% sub-centres which fulfilled the norms of a store room.

Again, 45% sub-centres under study did not have proper washroom facility. This creates problem for both the sub-centre workers and the visiting patients. The study also revealed that 43% SC has no boundary wall/ fencing and lacked safety and security measures which created problem for the sub-centre workers to reside therein.

Though residential facility is provided to the workers in majority of government SCs but in many SCs workers did not reside there. Out of the 53% SC having accommodation facility the percent of worker resident in SCs were very few. The main reason behind this according to the workers were non-availability of safety and security measures, absence of electricity and proper drinking water facility in the sub-centres.

v. **Basic Facilities:** SC water sources are tube well, well, hand pump, etc. In many SCs there is high concentration of iron in water and purification means such as water filtration or water is boiled to make it drinkable. Despite such efforts only 54% SC has drinkable water. Hence, the Sub-centre worker has to carry water from their home to the workplace.

Table 1 depicts that there were 48% SC which did not have electricity services. Study has revealed that a large number of government buildings did not have electricity facility. Absence of electricity facility in the SCs create problem for the worker especially in summer season. In a cloudy or rainy day it becomes necessary to put on the lights for checkups or to deliver other kind of services. Thus absence of proper drinking water facility and electricity services in the SC acts as a hindrance in the way of providing desired services to the community.

Sl. No.	Particulars		Number	Frequency
1	Rooms in the SCs as per norms	Available	46	57%
		Not Available	34	43%
2	Examination Room	Available	50	63%
		Not Available	30	37%
3	Store Room	Available	25	31%
		Not Available	55	69%
4	Washroom Facility	Available	44	55%
		Not Available	17	21%
		Not Usable	19	24%
5	Boundary Wall/ Fencing	Available	46	57%
		Not Available	34	43%
6	Accommodation facility for ANM	Available	42	53%
		Not Available	38	47%
7	Water facility	Available and Drinkable	43	54%
		Not Drinkable	25	31%
		Not Available	12	15%
8	Electricity facility	Available	42	52%
		Not Available	38	48%

Source: Field Survey, 2017

vi. **Equipments:** As per IPHS norms, a sub-centre should have the basic and supporting equipments required to provide the primary healthcare services to the community. Table 2 shows that majority of the sub-centres under study has the basic equipments needed in a sub-centre but lacked availability of support equipments. In absence of availability of support equipments sub-centre are unable to provide satisfactory services to the community. Though the basic equipments are available but in most cases they were not of the standard quality. Lack of standard equipments creates barrier in the way of providing quality services to the people.

Sl. No	Basic Equipments	Frequency	Percentage
1	Weighing Scale-Infant	75	94%
2	Weighing Scale-Adult	70	88%
3	BP apparatus	74	92%
4	Hemoglobin meter	66	82%
5	Thermometer	74	92%
6	Dressing tray/ Set	76	95%
7	Stethoscope	75	94%
8	Savlon solutions	58	72%
9	Cotton bandage	71	89%
10	Absorbent cotton	68	85%
11	Adhesive tape	40	50%
12	Surgical Scissors	62	78%
13	Forceps	52	65%
14	Disposable Syringe	76	88%
15	Disposable Gloves	45	56%
16	Torch	40	50%
17	Vaccine Carrier	80	100%

Support Equipments			
18	Acetic acid for urine test	48	60%
19	Benedicts lotion for urine test	60	75%
20	Ointment providine iodine USP	45	56%
21	Dipstick for Urine test for protein and sugar	53	66%
22	Cleaning material- bleaching powder, detergent	64	80%
Source: Field Survey, 2017			

**vii. Medicines:** Generally Iron and Folic acid tablets, Zinc tablets, Diarrhea tablets, Paracetamol tablets, ORS and Vitamin A solution is available in the SCs throughout the year. On the other hand, Malaria medicines (June to August) and Albendazole (February and August) are available at particular month of the year when the disease affects maximum. From the study it has been found that sub centres face scarcity of medicines at times and in such case they have to bring the medicines from the nearest PHC if available there. Sometimes medicines are not available in adequate quantity even in government hospitals. Insufficient medicines in the SC acts as a barrier in the way of providing quality services to the community.

**viii. Workers in a Sub Centre**

**ANM:** As per NRHM norms, a provision for two ANMs (one permanent and one contractual) for each sub-centre having a population of 5000 in plain areas is prescribed [10]. Table 3 reveals that about 27% of the SCs under study has 1 ANM covering population between 3000-3500, 68% of the SCs has 2 ANMs covering population between 4000-7000. Only 5% of the sub-centres has 3 ANMs covering population above 7000. Generally sub-centres having large population and difficult to manage for 2 ANMs should have 3 ANMs. Though 43% SCs had population above prescribed norms [From (i)] but only 5% SC had 3 ANMs.

**ASHA Workers:** As per IPHS norms for sub-centres, there should be 1 ASHA worker for every 1000 population in the community. Study revealed that about 30% of the ASHA workers covered population 1000 or less, 50% of the ASHA workers covered population between 1100-1500 and 20% ASHA workers between 1500-2000. Thus in total there were 70% ASHA workers serving above norms. In such cases it becomes difficult for the ASHA workers to manage the population and provide proper services to the community.

**MPHW [Male]:** As per IPHS norms for sub-centres, there should be 1 [MPHW (M)] for every Sub-Centre in the community. They help in the control of communicable diseases as well as provide information on Environment Sanitation and give Health Education. They assist ANM to prepare and maintain the eligible couple as well as maternal and child health register. Moreover, they accompany ASHA workers during their night duty. Table 3 reveals that about 52% of SCs had MPHWS and 48% of the SCs did not have MPHWS. It is essential for a sub-centre to have a male multipurpose worker to carry out SCs function smoothly. Absence of MPHWS creates problem in carrying out its functions smoothly and efficiently. Therefore, MPHWS should be appointed in those centres where there are no such workers.

Table 3: Availability of workers in the Sub Centre				
Sl. No.	Workers		Number	Frequency
1	ANM	1 ANM	22	27%
		2 ANM	54	68%
		3 ANM	4	5%
2	ASHA	Covers Population 1000 or less	24	30%
		Covers Population above 1100-1500	40	50%
		Covers Population 1500-2000	16	20%
3	MPHW	Available	42	52%
		Not Available	38	48%
Source: Field Survey, 2017				

**ix. Issues of the Health Workers specially ASHAs**

- From the time of registration of the pregnant women till the birth of the child ASHA workers take full care of pregnant women. For the service delivered for 9 months ASHA workers get only Rs 600 for each pregnant women served if delivery is done in government hospital and Rs 300 if the birth of the child takes place in private hospitals.
- For all the ASHA works (from Wednesday camp, 1<sup>st</sup> Saturday meeting, Household survey, Birth and death registration, Eligible couple up-to-date, pregnant women and child vaccine or beneficiary list, early registration and new born frequent weight checkups) they receive only Rs.1000 per month from the Central government which is not sufficient for them.
- On the other hand, the state government of Assam has announced in 2012 to give ASHA workers Rs 1000 per month for their service given. But they had not received any payment from the State government till date. [Source: ASHA personal interview]

Inadequate remuneration to the ASHA workers may discourage their spirit to provide quality services to the community.

**x. Services provided in the camps organized by the Sub-Centres**

- Generally in monthly camps organized in their area the ANM and ASHA workers provide information to the eligible couple on family planning, educate the community about nutritious diet for mothers and children, conduct immunization programmed for the infants-children and pregnant women, create awareness regarding control of communicable diseases, personal and environmental hygiene; etc. They also counsel women on family planning, birth preparation, safe abortion, safe delivery, breast feeding, child immunization, on nutrition and care for new born and mother, on personnel hygiene during pregnancy, contraception and prevention of common infections, etc.
- Provide Vaccination for children (from BCG to Booster) [Table5,6]
- Conduct pregnant women weight check up, BP check up, abdomen check up, sugar check up, urine test, hemoglobin test. Give iron tablets to the pregnant women
- Provide medicines for fever, diarrhea and dysentery to the patients.

**List of vaccines provided by sub centres**

**1. Tetanus Toxoid (TT) shots:** Tetanus Toxoid (TT) injections are given to pregnant women to immunize the mother and the child from the risk of sometimes getting infected by the use of unsterilized instruments or unhygienic environment during delivery.

Sl. No	Time	Vaccines	Type
1	Early in pregnancy	TT-1	Injection
2	4weeks after TT-1	TT-2	Injection
3	If pregnancy occurs within three years of the last TT vaccinations	TT-Booster	Injection

*Source: Field Survey, 2017*

**2. Immunization:** Immunization is the process by which an infant or a child is made immune by vaccine. Vaccine stimulates the baby's immune system to protect it from infection or disease. Immunization programme is essential to protect the child from life threatening diseases namely tuberculosis, diphtheria, polio, measles, smallpox and waterborne diseases.

Sl. No	Time	Vaccines	Type
1	At birth	OPV Zero dose	2 drops
		Hepatitis zero dose	Injection
		BCG	Injection
2	1 ½ months or 6weeks	Pentavalent 1 <sup>st</sup> dose	Injection
		OPV 1	2 drops
		Rota Virus 1 <sup>st</sup> dose	5 drops
3	2 ½ months or 10 weeks	Pentavalent 2 <sup>nd</sup> dose	Injection
		OPV 2	2 drops
		Rota Virus 2 <sup>nd</sup> dose	5 drops
4	3 ½ months or 14 weeks	Pentavalent 3 <sup>rd</sup> dose	Injection
		OPV 3	2 drops
		Rota Virus 3 <sup>rd</sup> dose	5 drops
5	9-10 months	Measles 1 <sup>st</sup> dose	Injection
		Japanese Encephalitis 1 <sup>st</sup> dose	Injection
		Vitamin A 1 <sup>st</sup> dose	½ spoon
	16 months	Measles 2 <sup>nd</sup> dose	Injection
		Japanese Encephalitis 2 <sup>nd</sup> dose	Injection
		Vitamin A 2 <sup>nd</sup> dose	1 spoon

*Source: Field Survey, 2017*

Sl. No	Vaccines	Time	Type
1	DPT Booster	16-24 months	Injection
		2 <sup>nd</sup> booster at the age of 5	
2	OPV Booster	16-24 months	2drops
3	Japanese Encephalitis	16-24 months	Injection

4	Vitamin A (3 <sup>rd</sup> to 9 <sup>th</sup> dose)	3 <sup>rd</sup> to 9 <sup>th</sup> doses are given at an interval of 6 months till the age of 5.	1spoon
5	DT Booster	5 years	Injection
6	TT	10 years to 16 years	Injection
<i>Source: Field Survey, 2017</i>			

Each injection if taken from private nursing homes will cost Rs. 2000-3000. Therefore, government has taken initiative to provide these vaccines free of cost to the people. These initiatives have helped the rural people specially the poor and vulnerable section to make their children healthy and free from various diseases.

A fully immunized infant is one who has received BCG; three doses of OPV, Pentavelant, Rota Virus; and Measles before 1 year. Immunization is one of the most important service provided by the Sub-Centres to the community. From the study it has been found that the Immunization Programme in Sonitpur District has been working well and almost all the mothers in the study area has immunized their child against the life threatening diseases.

## 5. CONCLUSION

Health and human resource development are integral components of the overall socio-economic development of a nation. The development of a nation is only possible when its people are fit and fine. Though India has made considerable progress after independence but the rural healthcare system in India has remained unsatisfactory even after six decades of planned development in the country. Current public health system in India has many limitations with regard to the healthcare services in rural areas. Assam being one of the low performing states in terms of rural healthcare services has not been able to achieve the desired health outcomes. Though NRHM has completed 10 years of its journey in Assam and various policies have been adopted by the state government, still Assam rural healthcare services has a long way to go to achieve the desired results.

Study has revealed that many sub-centres operate above the prescribed population norms and lacked proper infrastructure facilities for which they are unable to provide the desired services to the community. Problem related to the usability of washroom facility, absence of electricity facility, non-availability of proper drinking water, lack of quality equipments and medicines and poor density of the health workers in many sub centres are some of the reasons that has come to focus from the study which acts as a barrier in the way of providing efficient services to the community. Apart from all the drawbacks the study has brought to light the positive effect of sub centre services. The government initiative entrusted to sub-centres to organize Wednesday camps, ANM/ASHA Antenatal and Postnatal checkups, Immunization programmed for child and mother and awareness camps has contributed in recent years in the development of a disease free community and reduce complications during pregnancy.

Thus, the state government should undertake steps towards establishment of new sub centres, the existing sub centres must be provided with well trained and adequate staff, and the essential facilities and the equipments should be improved so that it can be utilised by the people in an effective manner.

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