



## Assessment of Physical Infrastructure of sub-centres in Central India as per Indian Public Health Standards 2012 Guidelines: A Cross Sectional Study

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### Abstract

**Background:** The sub-centres (SCs) are under constant criticism for their inability to deliver quality services and one of the reason is non-availability of adequate infrastructure, In spite of having adequate efforts, there still remain many loopholes in some parts of the delivery system, which has an impact on the overall performance and quality of health services, particularly in the rural area.

**Methods:** Present observational descriptive cross-sectional study was conducted in Sub-Centres in a district of central India, questionnaire is obtained from the website of DGHS, Department Of Health and Family welfare. The duration of the study was from June 2015 to Nov 2017

**Results:** Our study showed that out of total 13 sub-centers studied all 13 (100%) Sub-Centres were located in easily accessible area, having their own designated building with complete construction. Compound wall was present in 10(76.9%) Sub-Centres, whereas 8(61.5%) Sub-Centres had good condition of plaster on the wall, 11(84.6%) Sub-Centres had good condition of floor. Total 11 (84.6%) Sub-Centres had labor room and examination room. Toilet facility was available only in 1(7.7%) Sub-Centre as specified in IPHS.

**Conclusion:** From the present study it was seen that none of the SCs completely adhered to the IPHS standards, however they fulfilled the majority of criteria for infrastructure.

**Keywords:** IPHS (Indian Public Health Standard), SC (Sub-Centre).

### Introduction

In the public sector, a sub-centre is the most peripheral and first point of contact between the primary health care system and the community.

A Sub-centre provides interface with the community at the grass-root level, providing all the primary health care services. As sub-centres are the first contact point with the community, the success of any nationwide program would depend largely on the well-functioning sub-centres providing services of acceptable standard to the people.<sup>(4)</sup>

The purpose of the health sub-centre is largely preventive and promotive, but it also provides a basic level of curative care. As per population norms, there shall be one sub-centre established for every 5000 population in plain areas and for every 3000 population in hilly/tribal/desert areas. The health planners in India have visualized the sub-centres (SCs) as the proper structural units to provide health services to the rural population.<sup>(10)</sup>

The SCs are under constant criticism for their inability to deliver Quality services, The main

reasons are the non-availability of health workers, inadequate infrastructure and facilities, and insufficient supply of drugs, equipment<sup>(3)</sup> In spite of having adequate efforts, there still remain many loopholes in some parts of the delivery system, which has an impact on the overall performance and quality of health services, particularly in the rural area<sup>(7)</sup>

The Government of India recognized the importance of health in the economic and social development and improving the quality of life of our citizens, and launched the National Rural Health Mission (NRHM) on April, 12th 2005 to carry out necessary architectural correction in the basic health-care delivery system.<sup>(12)</sup>

One of its commitments was to make all facilities fully equipped according to Indian Public Health Standards (IPHS), to meet people's health needs and provide quality health care. The health care system in India has expanded considerably over the last few decades; however, the quality of services is not uniform. Therefore, standards were introduced through the NRHM mechanism in order to improve the quality of public health care.<sup>(9)</sup>

In order to provide quality care in these sub-centres, Indian public health standards (IPHS) are being prescribed to provide basic primary health care services to the community and achieve and maintain an acceptable standard of quality of care. They have been used as the reference point for public health care infrastructure planning and up-gradation in the States and union territories. The IPHS documents have been revised in 2012 keeping in view the changing protocols of the existing programs and introduction of new programs especially for non-communicable diseases.<sup>(10)</sup>

### Objectives

1. To assess the physical infrastructure available at the Sub-Centres in one of the selected district in central India.
2. To evaluate adherence of health facilities with Indian Public Health Standards Guideline 2012.

### Data collection instruments

Evaluation questionnaire of sub centre evaluation was obtained from the website of DGHS, Department Of Health and Family welfare. Approval from the Institutional Ethics Committee was sought. The purpose of this study was discussed with the District health officer of selected district and permission was taken, the study protocol was explained to all the ANMs of selected Sub centres of District. Then the sub centres were visited with prior consultation of in charge of the sub centre. Data was collected by interviewing service providers through a structured standard questionnaire and physical verification at the sub centre.

### Study Duration

The duration of the study was from June 2015 to Nov 2017.

### Statistical Analysis

Data was entered and analysed using statistical software Epi Info and Microsoft Excel. Descriptive statistics (percentage, frequency) were used to summarize the different factors of IPHS Standards for Sub-centres

### Results

In the present study Out of total 13 sub-centres studied all 13 (100%) sub-centres were located in easily accessible area, having their own designated building with complete construction. Compound wall was present in 10(76.9%) sub-centres, whereas 8(61.5%) sub-centres had good condition of plaster on the wall, 11(84.6%) sub-centres had good condition of floor. Total 9(69.2%) sub-centres were located in such a way that no garbage dump, cattle shed, stagnant pool were situated nearby.

**Table no. 1:** Distribution of sub-centres as per Infrastructure as specified by IPHS

Infrastructure	Sub Centre having facilities(n=13)		Sub Centre adhering to IPHS standard(n=13)	
	NO	%	NO	%
Location of sub-centres	13	100	13	100
Government building available	13	100	13	100
Present stage of construction of building(complete)	13	100	13	100
Compound wall , fencing	10	76.9	10	76.9
Condition of plaster on wall	8	61.5	8	61.5
Condition of floor	11	84.6	11	84.6
Any is Close to (garbage dump, cattle shed, stagnant pool)	4	30.8	9	69.2

Out of 13 sub-centres studied all 13(100%) had prominent display board regarding service availability, clinic room, 11 (84.6%) sub-centres had labour room and examination room.

Toilet facility was available only in 1(7.7%) sub-centre as specified in IPHS.

**Table 2:** Distribution of sub centres as per Infrastructure as specified by IPHS

Infrastructure	Sub-centre having facilities(n=13)		Sub centre adhering to IPHS standard(n=13)	
	NO	%	NO	%
Prominent display boards regarding service availability in local language	13	100	13	100
Toilet facility	1	7.7	1	7.7
Labour room	11	84.6	10	77
Clinic room	13	100	13	100
Examination room	11	84.6	10	77

Out of the 13 sub-centres studied all 13 (100%) had facility of electricity in all parts, water supply, and mobile phone, 12 (92.3%) sub-centres had the facility for waste disposal, overhead tank, pump and residential facility for staff. None of the sub-centres (0%) had landline telephone

**Table 3:** Distribution of sub centres as per Infrastructure as specified by IPHS

Infrastructure	Sub-centre having facilities(n=13)		Sub centre adhering to IPHS standard(n=13)	
	NO	%	NO	%
Waste disposal	12	92.3	12	92.3
Electricity	13	100	13	100
Telephone(Landline)	0	0	0	0
Mobile phone	13	100	13	100
Water supply	13	100	13	100
Overhead tank and pump	12	92.3	12	92.3
Residential facility	12	92.3	12	92.3

### Discussion

A Sub-Centre should have its own building. If that is not possible immediately, the premises with adequate space should be rented in a central location with easy access to population. Sub-Centre to be located within the village for providing easy access to the people and safety of the ANM<sup>(10)</sup>. In our study all 13 (100%) sub-centres had its own fully constructed building, and were located in easy accessible part of village. Reddy N B et al<sup>(3)</sup> showed that 50% SCs were housed in government buildings and the remaining 50% were being operated in rented buildings, study by Biswas D et al<sup>(1)</sup> showed that three SCs out of 40 SCs were in rented apartments and the rest were in government buildings, study by Nair V M et al<sup>(6)</sup> showed only half of the sub-centres had their own building, study by Roy P M et al<sup>(7)</sup> showed that SCs in most of the places (68.8%) were in their own building whereas construction was complete in only 37.5% of the SCs. Study by Patel S et al<sup>(8)</sup> found that 80% of the sub-centres had the designated government buildings which was easily accessible, study by Patil K S et al<sup>(4)</sup> found that Overall 55% of the SCs had designated government buildings, 12.5% of SCs were running in the rented building and 32.5% of SCs had no buildings, all the Sub-Centres (100%) were located within the village locality. Study by Angmo R et al<sup>(5)</sup> found that all SCs of one block were located within the villages and 30% were in designated governments building, On the other hand 80% of SCs of second block were present in

designated government building. Study by Nair V et al<sup>(6)</sup> found that half of the sub-centres (50%) evaluated had buildings of their own. In our study 10(76.9%) sub-centres had boundary wall with gate, Roy P M et al<sup>(7)</sup> found boundary wall with gate in 68.8% of sub centres.

Sub-centre should have, about 4 to 5 rooms with facilities of Waiting Room, One Labour Room with one labour table and New born corner, One room with two to four beds (in case no. of deliveries at the Sub-centre are 20 or more, four beds should be provided) One room for store, One room for clinic/office One Toilet facility each in labour room, ward room and in waiting area<sup>(10)</sup>. In our study clinic room were available in 13 (100%) sub centres, labour room and examination room were available in 11(84.6%) sub centres, whereas toilet facility as per IPHS were available in only 1(7.7%) sub-centre, in most of other sub centres only 1 toilet was available which was used by both staff and patients. Biswas D et al<sup>(1)</sup> found none of the (0%) sub centre had separate clinic room, examination room, labour room, toilet facility. Study by Patil K S et al<sup>(4)</sup> found labour room in 48% sub centres, A report by Advent Healthcare Group<sup>(2)</sup> showed that 91.4 percent had a clinic room, examination room was available in only 1.7 percent of the centres, whereas labour room which is an important facility in the sub centre building was available in only 12.0 percent of centres Facility of uninterrupted power supply, adequate water supply for patient and staff, landline telephone facility, proper waste disposal facility as per guidelines, should be provided at sub centre<sup>(10)</sup>. In our study all 13 (100%) had facility of electricity in all parts, water supply, and mobile phone ,12 (92.3%) sub centres had the facility for waste disposal, overhead tank, pump and residential facility for staff. None of the sub centre (0%) had landline telephone. Reddy N B et al<sup>(3)</sup> found 17.6% of sub centre do not have a source of water supply, in 85.3% sub-centres biomedical waste management method was improper. 79.4% of sub-centres had regular electric supply. Study by Biswas D et al<sup>(1)</sup> found none of the sub centres had their own communication system, residential facilities for staff,

regular electricity, waste disposal facility, bore well ,piped water supply facility with overhead tank. Study by Roy P M et al<sup>(7)</sup> found that Electricity was present only in 18.8% of the SCs. Water supply was found in 56.2% SCs but nowhere piped water supply was available, Residence for ANM was available in 37.5% of the SCs, but nowhere ANM was residing in that residential facility

### Limitations

1. In the present study selection of district was done purposefully.
2. There are 13 blocks in the selected district. one sub centre was selected from each PHC area randomly. Some of Sub-centres in the selected district were identified as IPHS sub-centres by state government. However while randomly selecting 1 SC from each block this criteria was not considered, hence some of the selected SCs were IPHS SCs while some were Non IPHS SCs. Hence findings of present study may not be generalised to all the SCs of central Indi

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