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Status of Rural Health Care: A Study of PHCs under Golagaon Block Primary Health Centre of Baksa District, Assam

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Abstract:

Indian rural health care system predominantly depends on the working of Primary Health Centre (PHC). A PHC is the first contact centre where the service of the medical officer is made available to the village community for curative, preventive, promotive and rehabilitative health care. Golagaon Block Primary Health Centre (BPHC) is one of the 6 Block Primary Health Centres (BPHCs) under Baksa district. The objective of this study is to assess the status of health care infrastructure of 5 PHCs in view of IPHS 2012 and the status of utilization of the health care services.

The cross section data have been collected from the field survey of the entire five PHCs of Golagaon BPHC of Baksa district during July to September, 2015. Secondary data has been collected from publications of central and state governments and office of the District Programme Manager, Baksa. It is observed that in case of manpower, regular appointed Medical Officers (Allopathic) are not available in 40% PHCs and laboratory technician in 20% PHC. 40% PHCs are run by Ayurvedic doctors only. 60% PHCs do not have modern IPHS 2012 layout or modern designated building. It is observed that the provision of drinking water facility is not present in any one the 5 PHCs. 20% PHC is not having any source of power supply and 60% PHCs do not have generator or inverter/solar energy backup facility. Inpatient care service with 4 beds is available in 20% of the PHCs.

This study suggests that physical infrastructure of the PHCs are required to be modernized as per recommendation of Indian Public Health Standard (IPHS). It is recommended that to upgrade some selective PHCs with more manpower, equipment and provision of advance diagnostic facilities to outreach all the health care seekers for essential as well as desirable health services because Community Health Centre is not available in the study area.

Keywords: Assam, health care facilities, Primary Health Centre, Indian Public Health Standards (IPHS), Utilization

1. Introduction

Health status is largely depending upon the accessibility and availability of healthcare facilities. Similarly, the status of health care system is reflected by accessibility and availability of health care facilities and utilization of health services. Therefore, the target of health care system is to provide affordable, accessible, available and effective health care facilities to all. The International Conference on Primary Health Care held in Alma-Ata in 1978, expressed the need for urgent action by all governments, all health and development workers, and the world community to protect and promote the health of all the people of the world. This is most important global effort to achieve an acceptable level of "health for all the people by 2000". The Bhore Committee put forward the concept of Primary Health Centre (PHC) in the year 1946 in India. Accordingly, primary health centres were setup in 1952 to provide integrated promotive, preventive, curative and rehabilitative services to entire rural population. Primary Health Centre has become the cornerstone of Indian rural health services. It is the first contact point between village community and the medical officer in health care delivery system for curative, preventive, promotive and rehabilitative health care. PHCs are established and maintained by the State governments under the Minimum Needs Programme (MNP)/ Basic Minimum Services (BMS) Programme. The National Rural Health Mission (NRHM) was launched in 2005 to provide health care service in 18 Empowered Action Group (EAG) states which includes Assam. The National Rural Health Mission seeks to provide effective healthcare to rural population of those 18 high focus states which have weak public health indicators and/or weak infrastructure. In order to provide optimal level of quality health care, a set of standards called Indian Public Health Standards (IPHS) were recommended for Primary Health Centre (PHC) as early as 2007 and it was revised in 2012.

1.1. Overview of Rural Health Care System as per IPHS, 2012

The health care delivery system in rural areas is consists of three tiers and is based on the following population norms as per Indian Public Health Standard (IPHS) 2012 shown in table 1:

Centre	Population Norms	
	Hilly/Tribal/Difficult Area	Plain Area
Sub Centre	3,000	5,000
Primary Health Centre	20,000	30,000
Community Health Centre	80,000	1,20,000

Table 1

1.2. Sub Centre (SC)

The Sub Centre is the most peripheral and first contact point between the primary health care system and the community. A Sub Centre covers 3,000 populations in Hilly/Tribal/Difficult areas and 5,000 in plain area. Sub Centres are assigned tasks relating to interpersonal communication in order to bring about behavioral change and provide services in relation to maternal and child health, family welfare, nutrition, immunization, diarrhea control and control of communicable diseases. Each Sub Centre is required to be manned by at least one auxiliary nurse midwife (ANM) / female health worker and one male health worker Under NRHM, there is a provision for one additional second ANM on contract basis. One lady health visitor (LHV) is entrusted with the task of supervision of six Sub Centres

1.3. Primary Health Centre (PHC)

The PHC covers 20,000 populations in hilly/tribal/difficult area and 30,000 in plain area. It is occupying a place between a Sub-Centre at the most peripheral level and Community Health Centre at block level. It acts as a referral unit for 6 Sub Centres and has 4 - 6 beds for patients. The activities of PHC involve curative, preventive, promotive and family welfare services to the rural population. To ensure round the clock access to public health facilities, Primary Health Centres are expected to provide 24-hour service with basic Obstetric and Nursing facilities (IPHS, 2012). From Service delivery angle, PHCs may be of two types, depending upon the delivery case load – Type A and Type B. PHC with delivery load of less than 20 deliveries in a month is Type A PHC, PHC with delivery load of 20 or more deliveries in a month is considered as Type B PHC. The manpower that should be available in the PHC as per IPHS 2012 is shown in Table no. 2.

Staff	Type A		Type B	
	Essential	Desirable	Essential	Desirable
Medical Officer- MBBS	1		1	1 [#]
Medical Officer –AYUSH		1 [^]		1 [^]
Accountant cum Data Entry Operator	1		1	
Pharmacist	1		1	
Pharmacist AYUSH		1		1
Nurse-midwife (Staff-Nurse)	3	+1	4	+1
Health worker (Female)	1*		1*	
Health Assistant. (Male)	1		1	
Health Assistant. (Female)/Lady Health Visitor	1		1	
Health Educator		1		1
Laboratory Technician	1		1	
Cold Chain & Vaccine Logistic Assistant		1		1
Multi-skilled Group D worker	2		2	
Sanitary worker cum watchman	1		1	+1
Total	13	18	14	21

Table 2

Source: IPHS, 2012

* For Sub-Centre area of PHC.

If the delivery case load is 30 or more per month. One of the two medical officers (MBBS) should be female.

^ To provide choices to the people wherever an AYUSH public facility is not available in the near vicinity.

1.4. Community Health Centres (CHCs)

CHCs are being established and maintained by the State government under MNP/BMS programme. As per minimum norms, a CHC is required to be manned by four medical specialists i.e. surgeon, physician, gynecologist and pediatrician supported by 21 paramedical and other staff. It has 30 in-door beds with one OT, X-ray, labour room and laboratory facilities. It serves as a referral centre for 4 PHCs and also provides facilities for obstetric care and specialist consultations. (IPHS, 2012)

2. Review of Literature

Zaman and Laskar (2010), study reveals that all the PHCs were rendering the assured services of OPD, 24hrs general emergency service and referral services while 24-hour delivery services were being provided by 80% of the PHCs. Functional labor rooms were available only in 80% and 90% of the studied PHCs in Assam and Karnataka respectively. Basic laboratory facilities, for routine

blood, urine and stool examination were available in 80% of the studied PHCs in the non-EAG state of Karnataka while it was only in 20% of the studied PHCs of the EAG state of Assam.

In another study of Shah and others (2010), it was observed that post of medical officer was filled in 80% PHCs while in 20% PHCs the post was vacant, post of compounder and nurse were filled in 70% PHCs while post of ANM/FHW was filled in 88.7% PHCs. Further, it was observed that only 3 (30%) PHC had 6-7 indoor beds facilities, 3 (30%) health facilities had 3-5 beds while 2 (20%) health facilities had no indoor beds. It was interesting to note that at 30% PHCs, Medical Officers were utilizing the indoor facilities while at 70 % PHCs; they were not admitting the patients. Hemoglobin estimation and blood group facilities were available in 80% PHCs, Urine examination and Peripheral smear examination for MP was carried out in all PHCs. While sputum for AFB was done in only 20% PHCs. ESR facility is available in 2 PHC out of 10, but they were not doing the test. As regards the vehicle availability, 8 (80 %) of the PHCs had their own vehicle. Of these the vehicle was in working order in 7 (87.5%); fuel supply was adequate in 4 (50%); absence of a permanent driver in 100%.

In a study conducted by Nanjunda (2011) in selected tribal districts of Karnataka found problems with PHC that doctors are not available 45% of the time at PHCs. There is a high vacancy rate for medical personnel, especially for nurses (43%), pharmacists (52%), and lab technicians (23%) Patients have purchase drugs from outside of the PHCs 20% of the time even though they are entitled to get free medicines.

A cross-sectional study was conducted in Ghayabari PHC by Ghosh and others (2013), signifies that there were two doctors, three nurses, ten beds for approx.16,800populations with 8.4 turnover rates. Indian Public Health Standard criteria are incompletely met regarding adequacy and health workforce distribution. 27.27% posts are vacant, 13% left jobs in last 3 years.

Ninama and others (2014) conducted a cross-sectional study on facilities available at primary health care in 14 PHCs according to IPHS guidelines. 50% PHCs was located within the village area and 28% was within 1 KM from village. Doctor, Nurse, lab-technician and Pharmacist is available in 92%, 57%, 100% and 100% PHCs respectively. Residential facility is available in 21% of PHCs. More than 85% of Doctors, staff nurses and health worker are trained for IMNCI and ANC services. All PHCs were providing all RCH services but none of the PHC was providing MTP services. 92% PHCs had RO system for drinking water. Locked suggestion and complain box was available in only 21% PHCs.

2.1. Area of Study

A Block Primary Health Centre is assigned with the responsibilities to look after the working of Public Health Centres under its jurisdiction. Golagaon Block Primary Health Centre (BPHC) is one of the 6 Block Primary Health Centres (BPHCs) under Baksa district of Assam. It is located at remote area near Indo-Bhutan border. The total population of the area is 59,128 covering 11,797 households from 69 villages as per Annual Census NVBDCP, Assam, 2015 and majority of the population belong to Bodo community. There are 1PHC, 2 Mini-PHCs and 2 Subsidiary Health Centres (SHC) and 14 Sub-Centres (SCs) under Golagaon Block PHC. There is no Community Health Centre (CHC) under this BPHC where the specialist doctors are supposed to be available. Therefore, the PHCs are only health centre in which the medical officers are available for health care services for the locality.

2.2. Statement of Problem

The government of India has launched and implemented a number of programmes on rural health services to provide health care facilities. It has been observed that after implementation of NRHM in Assam, the primary health care system has gone through a considerable transition benefitting many rural people. Moreover, The National Rural Health Mission (NRHM) has provided the opportunity to set Indian Public Health Standards (IPHS) for Health Centres functioning in rural areas. Still, there are lots of questions in reality with regard to the accessibility, quality of care, utilization etc. of public health care facilities in the study area. Therefore, this study is proposed to assess the accessibility and availability of facilities in PHCs of the study area. The findings of this study will necessarily focus the existing status of PHCs and may be helpful to upgrade the status of the same.

2.3. Significance of Study

As per Indian Public Health Standard (IPHS) 2012, there are norms about a PHC with regard to physical and human resources and health care facilities. These norms can provide conducive environment wherein health workers can discharge their duties and health care seekers can get curative, preventive, promotive and rehabilitative health care service. Hence, it is felt by researcher to assess the available infrastructure in terms of physical, manpower and delivery of health care services in the selected PHCs in compliance to IPHS 2012.

2.4. Objectives

The objective of this study is to assess the status of health care infrastructure of 5PHCs in view of IPHS 2012. To explore the various parameters of health care facilities viz- availability of health services, availability of manpower, and status of Physical infrastructure and utilization of health care services of these selected PHCs.

2.5. Data Source and Collection

The nomenclature of PHC varies from state to state. It is known by various names such as Block level PHCs/Additional PHC (APHC)/New PHC/ Mini-PHC. Further, there are other public health institutions named as Subsidiary Health Centre (SHC) and State Dispensary (SD) in Assam. These health institutions are also providing all kinds of health care services as PHC and Mini-PHC. The present area of study consists of 1PHC, 2 SHCs and 2 MPHs. For the purpose of this study, all these health centres are considered as

PHC. The cross section data has been collected from all 5 PHCs of Golagaon BPHC of Baksa district during July to September, 2015. Structured questionnaire has been developed based on Checklist for PHC as per IPHS 2012. Data about various health care facilities such as manpower availability physical infrastructure, service availability, drugs availability, utilization of health services has been collected. Primary data for the purpose of the study has been collected from the person in charge of the health care centre. Secondary data has been collected from the publications of central and state governments. Further, information regarding the service quality has been collected through observation of the PHCs at the time of visiting the health centres for data collection.

2.6. Limitation

The availability of drugs in different health centre could not be ascertained during the period of collection of data due to lack of time and cooperation from officials. Another limitation of this study is that it does not cover the beneficiaries of health care facilities.

3. Results

After collection of data through the questionnaire, the available information is compiled, tabulated and analyzed to develop the profile of the health care facilities and utilization of the study area. MS Excel software is used to enter and present the collected data.

3.1. Manpower Availability

The following Table no.3 reveals the availability of manpower in the Primary Health Centres (PHCs) of the study. It is found that all PHCs are posted with Medical Officers and pharmacist. However, Laboratory technicians are available in 4 PHCs. Laboratory technician post is lying vacant in Jalagaon MPHC for last one year. Ophthalmic Assistant is available in only Golagaon PHC. Nursing staff, that is, GNM/ANM are available in 4 PHCs in this present study. It is found that Nurse is not available in the Jalagaon MPHC. Further, Health Educator, who can play an important role in the health of rural people, is available in Betbari PHCs i.e. 20% only. All PHCs are having drivers for providing ambulance service.

Other office staffs that include clerk/Accountant/Data Entry operator are available in 80% of the PHCs under study.

Manpower	Golagaon PHC	Koklabari SHC	Betbari SHC	Anchali MPHC	Jalagaon MPHC
Medical Officer(Allopathic)	1	1*+1 [#]	1	1	1 [#]
Medical Officer(AYUSH)	1	1 [^]	0	1	1
Pharmacist	4	1	1	1	1
Lab Technician	1	2	1	1	0
GNM	2	1	0	1	0
ANM	1	2	2	1	0
Health Educator	0	0	0	1	0
Accountant/ data Entry Operator/Clerk	1	2	1	0	1
Driver	1	1	1	1	1
Sweeper	1	1	1	0	0
Class IV	2	3	3	1	1
Total	14	14	11	9	6
No. of ASHA in each health care centre for assisting Health workers					
ASHA	16	23	5	4	2

Table 3: Currently available manpower of the studied health care centres

Source: Field Survey.

* On deputation, # One-year Rural posting for junior doctors and ^ On Study leave

3.2. Physical Infrastructural Facilities

Four PHCs are functioning from own govt. building. However, M. C. Brahma (Koklabari) SHC has been functioning from the donated building, which is the oldest health centre established in 1950 in the present study area. The size of building is inadequate in proportion to visitors in two PHCs viz-Koklabari SHC, Betbari SHC. The dilapidated condition of the building at Golagaon PHC is not in state to provide quality health care service; therefore, it requires atleast immediate renovation for providing quality service. Compound wall with entrance gate is available in 80%PHCs. All PHCs have OPD room with adequate windows for light and air. Registration counters are available in all PHCs. However, waiting area for outpatient with adequate sitting arrangement is not sufficient in 80% PHCs.

It is found that there is only one PHC with inpatient ward facility having 4 beds only. Labour room is available in all PHCs. However, in practice, the number of functional labour room for regular deliveries is available in 80% PHCs only. Separate Family Welfare Clinic is not available in any one of the 5 PHCs. PHCs in the study area does not have Operation Theatre (OT). Moreover, the Emergency/Casualty room is also not availability in the study area.

Residential accommodation for Medical Officers is available in all PHCs. But the occupancy percentage by them is 60%. Similarly, residential for nursing staff i.e. GNM/ANM is available in all PHCs and occupancy rate is 100%. However, for paramedical and other staff, functional residential facilities are not available in any one of the study area.

3.3. Basic Facilities

The main source of water supply is deep tube well/hand pump in all PHCs. None of these PHCs have piped/running water supply facility. Only two PHCs out of five PHCs are having flush toilet facility. Further, only two PHCs have separate toilet for ladies and gents.

Electricity with generator backup is available in two PHCs, whereas one PHC, i.e. Betbari PHC does not have any source of power facility. All PHCs have functional ambulance service which is required for providing referral service. Telephone connection is not available in any one of the studied PHCs.

3.4. Assured Medical Services

Table No. 3 reveals that the Out Patient services are available in all PHCs. However, regular services of OPD throughout the year are available in only in 80% PHCs. In Betbari SHC, outpatient service is irregular due to either irregular posting of medical officer or absenteeism of the same. Only 20% PHC is providing 24 hours Emergency service, which is one of the important services required for the community. Of course, the referral service to the higher health care institution is available in 100% PHCs.

From the field study, inpatient service is available in only Golagaon PHC which represents 20% availability of inpatient services. However, from secondary data on OPD-IPD Performance of health institutions in district wise, it is seen that the utilization of inpatient service in 80% PHCs. In fact, whether inpatient service is practically available in these PHCs or not will be a questionable for future study. Laboratory services are available in only 4 PHCs i.e. 80%. In this present study, it is found that the laboratory service is not available in Jalagaon Mini PHC due to non-appointment of laboratory technician.

Service Availability	No. of Health Centre (n=5)	Percentage of Health Centre with service
OPD services	5	100%
24 hrs. Emergency services	1	20%
Referral services	5	100%
Inpatient services	1	20%
Laboratory Services	4	80%

Table 3
Source: Field Survey

3.5. Reproductive and Child Health Care Service

Ante-natal and Post-natal care is available in all PHCs. But, 24 hours' normal delivery service is available in only 2 PHCs namely- Koklabari SHC, and Golagaon PHC. Medical Termination of Pregnancy is available in Golagaon PHC only. Family planning services viz- tubectomy, vasectomy and IUD are available in only one PHC while 3PHCs provide condom and contraceptive pills. All immunization and vaccine programmes undertaken by the Central and State govt. time to time are available in all PHCs.

3.6. Laboratory and Diagnostic Services

The following graph shows the laboratory and diagnostic services available in the PHCs of study area. Blood grouping and Rh typing facilities are available in 3 PHCs. Routine blood, Urine and stool test are done in only 1 PHC out of 5 PHCs. Urine and blood smear examination for Malaria Parasite is presently done in 4 PHCs. While gram staining test for TB is available in only 1 PHC.

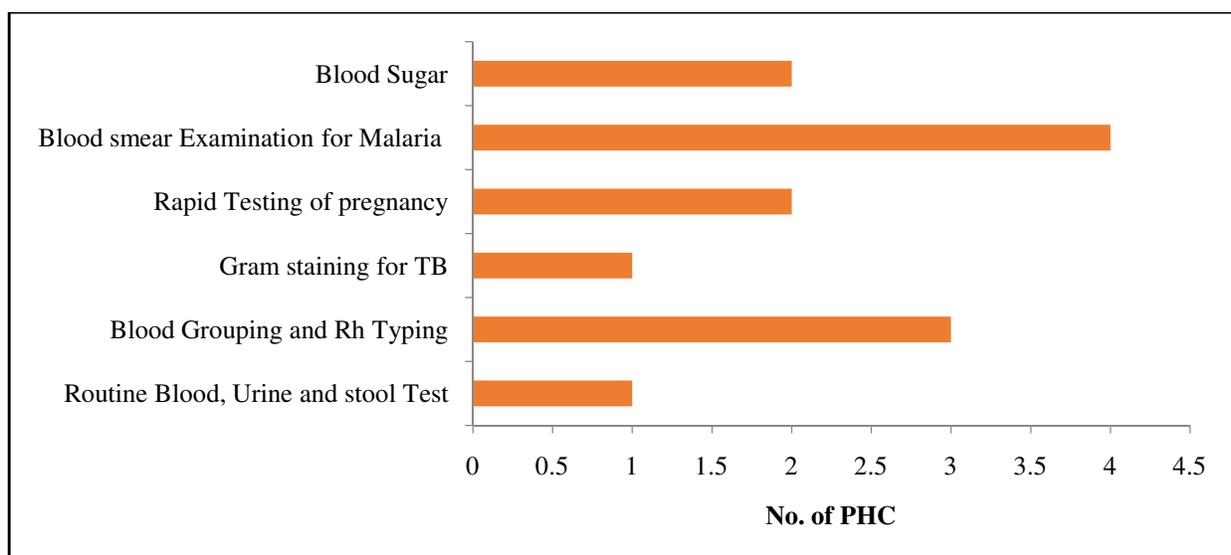


Figure 1: Availability of Laboratory Services in PHC

3.7. Other specific services

Primary management of wounds, fracture, draining of abscess and burns are available in all PHCs. However, management of poisoning, snake bite and dog bite are not available which is a part of emergency service.

3.8. Utilization of Health care services:

All health centres are located within locality and accessible by all-weather roads. Distance to PHC from the furthest village in coverage area is approximately 7 kms. All PHC are having sub-centres. Koklabari SHC and Anchali MPHC have 4 SC each, Golagaon, Betbari and Jolagaon has 3, 2 and 1 respectively. The secondary data collected on the Performance of OPD and IPD for the year 2013-14 shows that Koklabari SHC has highest number of Outpatient and inpatient i.e. 46% and 47% respectively and Betbari SHC has lowest outpatient i.e. 6% only. Anchali Mini-PHC which is posted with two Medical Officers has only 11% outpatient and inpatient is nil. The average daily outpatient load for Koklabari SHC is 42 approximately and 6 (approx.) for Betbari SHC. At Anchali Mini PHC, Golagaon and Jolagaon daily outpatient consultation is 10, 21 and 13 respectively.

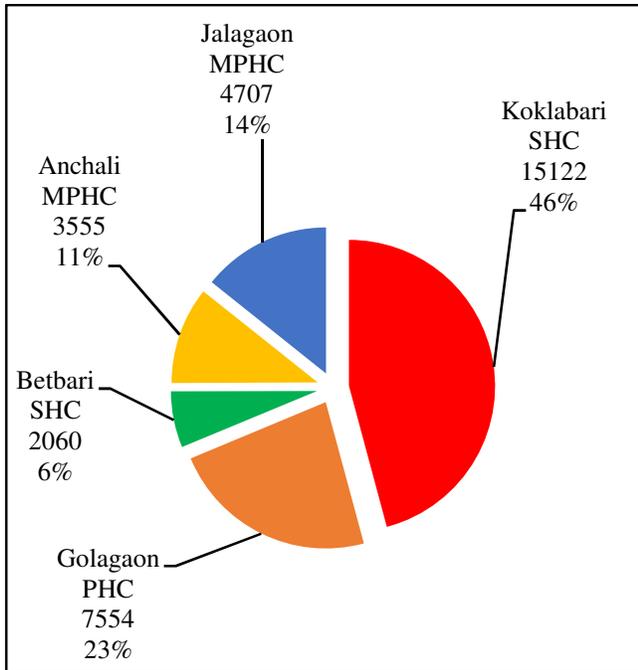


Figure 2: Out Patient Service Utilization in 2013-14

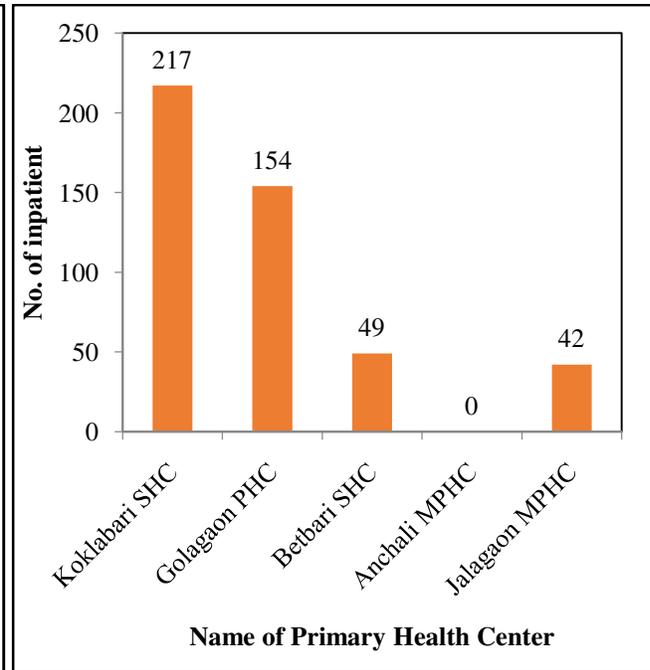


Figure 3: Inpatient Service Utilization 2013-14

In Figure 4 represents the delivery case load of the PHCs in 2014-15. Thus, delivery case load is also maximum at Koklabari SHC which is 233. Golagaon PHC has 100 cases. Betbari and Jolagaon has very low delivery case load of 29 and 10 respectively. It is seen that Anchali Mini- PHC has no delivery case load during the year.

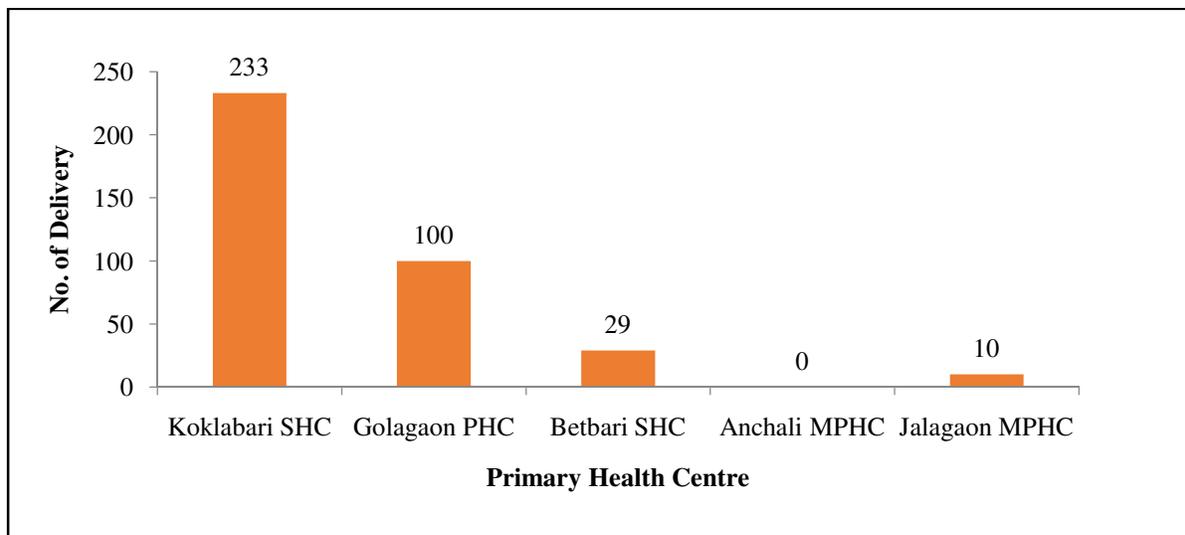


Figure 4: Delivery Cases in 2014-15

4. Conclusion and Recommendations

It is observed from the result that the PHCs of the study area are not fully complied with the IPHS, 2012. In case of manpower, regular appointed Medical Officers (Allopathic) are not available in 40% PHCs. Though, junior doctors who have completed MBBS temporarily posted on compulsory one-year rural service, but it is discontinuous in nature itself for providing health care service. As per IPHS 2012, the appointment of Allopathic doctor in a PHC is must and AYUSH doctor is desirable. But, here in the study area, 40% PHCs are run by Ayurvedic doctors and they are providing the health care services. So, people who need health care services are facing the problems of utilizing health services of PHCs. Post of staff nurse and laboratory technician are lying vacant in 20% PHC. In case of building infrastructure, except two PHCs namely Anchali MPHC and Jalagaon MPHC, three PHCs do not have modern IPHS 2012 layout or modern designated building. The existing buildings are not in good condition and availability of space of the building is insufficient to accommodate the health service users. Further, it observed in field study that sub-centre (SC) building is constructed inside PHC compound in three PHCs out of five PHCs namely Koklabari SHC, Betbari SHC and Jalagaon Mini PHC, which is violating the norms of IPHS, 2012. It is observed that the provision of safe drinking water facility is not present in any one the 5 PHCs. 20% PHC is not having any source of power supply and 60% PHCs do not have generator or inverter/solar energy backup facility. As per IPHS 2012, PHCs are to be accommodated with 4 or 6 beds for inpatient care services. But it is seen that except Golagaon PHC, other PHCs e. I. 80% do not have these bed services. So, this is a major issue in providing inpatient health services during the breakout of epidemic/endemic disease.

Therefore, this present study put forward the followings recommendation:

Firstly, it is recommended that regular Allopathic doctors, staff nurse and laboratory technician should be made available for the larger benefit of the community and maximum utilization of the available health care services. *Secondly*, PHCs with insufficient space and dilapidated building infrastructure are to be modernized as per IPHS (2012) guidelines. This can improve the delivery of various health care services and to change the outlook of the people about public health care system. *Thirdly*, it is also recommended that drinking water facility should be provided in the PHCs. *Fourthly*, to install alternative power backup source like, solar/inverter/generator for convenience and better health care delivery service. *Fifthly*, provision of beds is to be made available to these PHCs to provide inpatient care service. *Lastly*, since CHC is not available to provide higher level of health care facilities under this Block PHC, it is recommended that to upgrade some PHCs with more manpower, equipment and provision of advance diagnostic facilities to outreach all the health care seekers for essential as well as desirable health services effectively.

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