Doctors with Africa CUAMM

Comprehensive Baseline Need Assessment on Maternal, Neonatal and Child Health Services Implantation in 12 Selected Health Centers

August, 2015

Woliso, Ethiopia

Acknowledgment

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List of Acronyms

ANC	Antenatal Care
BEmONC	Basic Emergency Obstetric and Neonatal Care
BOFED	Bureau of Finance and Economic Development
CEmONC	Comprehensive Emergency Obstetric and Neonatal Care
CHIS	Communit Based Health Information System
EDHS	Ethiopia Demographic and Health Survey
EPI	Expanded Programme of Immunization
HC	Health Center
HDA	Health Development Army
HEWs	Health Extension Workers
HF	Health Facility
HMIS	Health Management Information System
HP	Health Post
IMNCI	Integrated Management of Neonatal and Childhood Illnesses
MNCH	Maternal, Neonatal and Child Health Services
PMTCT	Prevention of Mother to Child Transmission
PNC	Post Natal Care
SAM	Severe Acute Malnutrition
SBA	Skilled Birth Attendant
SLCH	St. Luke Catholic Hospital
SWSZ	South West Shoa Zone
WorHO	Woreda Health Office

Executive Summary

Background: - Harmonized and Comprehensive health intervention is recommended strategic approach in setting when there are complicated health problems and limited resources**.** In Ethiopia even if there is good progress to MDG goals 4 and 5 till there are is major problem both on maternal and child health. According to the latest estimate of WHO, UNICEF, UNFPA and the World Bank maternal mortality ratio has declined to 420/100,000 live births in 2013 from that of 1400 in 1990, showing a 70 percent reduction. Still it very high compared to target goal which is 267 deaths per 100,000 births by 2015. Similarly based on 2013 UN estimate Ethiopian under five mortality rate was 68 per 1000 live births. Infant Mortality Rate also decreased from 97 deaths per 1,000 live births in the 2000 EDHS to 59 in the 2011 EDHS.

Methods: - The assessment was conducted in 12 health centers of Goro, Woliso Rural, Woliso Urban and Wonchi Woredas of SWSZ, Oromia region to assess the capacity and readiness of the health facilities to provide basic emergence obstetrics and neonatal health services.

Two standards data collection tools were used. The first tool is comprehensive health center assessment tool which is developed by ministry of health to assess facilities. To assess the implementation of BEmONC signal functions module 5 of EmONC needed assessment tool of Colombia University was used. Data about performance of the facility was collected retrospectively for the previous 6 months (January-June, 2015) from the facility registration book. The collected data were entered to the computer by using SPSS statistical software. Frequency, percentage and mean calculation was done during analyzing data.

Result: - The selected health facilities are located on mean distance of 20.5Km far (±13.7Km) from St. Luke hospital which is the referral centers for all of health centers. According to the central statistics agency population projection for the year 2015 under these 12 health center is 214990 populations. These 12 HCs account for 52.6% of the total population of the 4 districts. Concerning to road accessibility only 5(41.6%) of the HCs has all season road to referral to hospital. Only three (25%) of the HCs have electric power supply and only 4(33.3%) of the HCs have water supply. Four (33.3%) of HCs got water from non improved sources. More of 10(83.3%) of the HCs do not have alternative measure to manage power cuts (or lack of fuel) to properly store vaccines and drugs. Equipments are organized and well stored in 9(75%) of the assessed health facilities. Eleven of the assessed HCs have mother waiting area but in all cases it is part of the HC. Nine (75%) of the HC used boiling techniques to Sterilize medical equipments. A PMTCT service is available only in 4 HCs. Out of the 23 basic materials and equipments needed for maternal and newborn care the maximum number of items available at ach facility is 15(65.2%). The total number of BEmONC signal functions performed by all the HCs is 29 out of 84.

Conclusion and Recommendation: - According to this study there is a significant gap on the services provision process on maternal and newborn care in the selected health centers that need urgent interventional responses from all stakeholders including government authority, partners and the communit. .

1. Introduction

In Ethiopia maternal, newborn and child health is the major public health problem. The country has one of the highest maternal mortality ratio worldwide. As per EDHS-2011, maternal mortality ratio was estimated at 676 deaths per 100,000 live births. Though the progress of reducing MMR is too slow, there has been improvement over the years between 1990 and 2014. According to the latest estimate of WHO, UNICEF, UNFPA and the World Bank maternal mortality ratio has declined to 420/100,000 live births in 2013 from that of 1400 in 1990, showing a 70 percent reduction. Still it very high compared to target goal which is 267 deaths per 100,000 births by 2015.

Child mortality rate of Ethiopia is among the heights in Africa. Results from EDHS 2011 showed a decline in Under-5 Mortality Rate from 166 to 88 per 1,000 live births. However, according to 2013 UN estimate Ethiopia has achieved its under-five mortality rate which is 68/1000 live births three years ahead of 2015. Similarly marked decline was recorded in Infant Mortality Rate that decreased from 97 deaths per 1,000 live births in the 2000 EDHS to 59 in the 2011 EDHS. Even though Neonatal Mortality Rate decreased from 49 deaths per 1,000 live births in 2000 EDHS to 39 deaths per 1,000 live births in 2005 EDHS, it has remained stable at 37 deaths per 1,000 in 2011 EDHS.

The Government of Ethiopia is committed to achieve Millennium Development Goal 4 and 5 accordingly, the FMOH has applied multi-pronged approaches to bring about a reduction in maternal neonatal and child morbidity and mortality. In the last five year a significant result was obtained on the improvement maternal, neonatal and child health. Doctors with Africa CUAMM contribute within the project "Strengthening Maternal and Child Health Care Services at Communit, Health Center and Hospital Levels in Goro, Woliso and Wonchi Woreda of South West Shoa Zone", launched in 2012, with a strong partnership with the Federal Ministry of Health, Oromia regional health Bureau, South West Shoa Zone health office, Woreda health offices and St. Luke Hospital.

Doctors with Africa CUAMM is the largest Italian healthcare NGO, committed to the improvement and safeguard of health of African population. CUAMM projects are oriented to a long-term development perspective. The organization is actively engaged in capacity building, training, research, dissemination of scientific knowledge and ensuring fulfillment of the fundamental human right to health, and is currently present in seven African Countries (Angola, Ethiopia, Mozambique, Sierra Leon, South Sudan, Tanzania, Uganda), with a total of 80 health professionals deployed in the field and working in 33 major development cooperation projects. According to the maternal, newborn and child health project's final report the project contribute at large for the improvement of the health of mother and children at the implementation area. By the positive feedback from the project funder, government authority and CUAMM the project will be expanded to all other health facilities of the 4 project implementing Woredas. This assessment was done to have baseline information on newly add health facilities.

2. Purpose of the assessment

The purpose of this assessment is to understand the context, existing situation, identify existing gaps and best interventional solutions and to have baseline informations for M&E activities. The assessment result will guide managerial staff of the project during prioritization of identified problems, selection of appropriate intervention and to control the overall implementation of the project. The document will be one important tool for the project monitoring and evaluation process. Furthermore it will provide recommendations based on the finding of the assessment the for project, governmental authorities, to communit and other stakeholders for better utilization and improvement of the quality of maternal and child health services.

3. Objective

2.1 General Objective: - the general objective of this assessment was to assess the capacity of the health facilities to provide basic emergence obstetrics and neonatal health services to mother and their newborns in 12 selected health centers in Goro, Woliso Rural, Woliso Urban and Wonchi Woredas.

2.2 Specific Objective

1. To assess the availability of infrastructure (Water, Electric Power and Communication Means) in the health facility to provide BEmONC services.
2. To assess the process of infection prevention implementation in the health centers.
3. To assess the availability of health services in the facilities
4. To assess the composition and availability of human resources in the facilities.
5. To assess the availability of necessary supplies and equipments for the implementation of BEmONC.
6. To assess the implementation of BEmONC signal functions.

4. Methods

4.1 Study Design

Data was collected by using cross-sectional study design from 12 health centers to assess the capacity of the health facilities to provide basic emergence obstetrics and neonatal health services. Data were collected from twelve health centers from July, 2 to July 10, 2015 in Goro, Woliso Rural, Woliso Urban and Wonchi Woredas.

4.2 Study Setting

The assessment was conducted in 12 health centers in Goro, Woliso Rural, Woliso Urban and Wonchi Woredas of South West Shoa Zone, Oromia region. There are 20 health centers in the four Woredas. Among these 8 of them already are in the project catchment areas. Since the project will expand to all health centers in the four Woredas the remaining 12 health centers are included in this assessment. The projected population size for 2015/2007 E.C of the four Woredas is 408739 from these the selected 12 health centers accounts for 214990(52.2%). Since the health centers are the first level of the primary health care unit it expected from them to provide a more preventive healthcare services and basic curative and rehabilitative health services. Under the 12 health centers there are 41 Health posts. There is one referral hospital (St. Luke Catholic Hospital) for all the health centers.

4.3 Study Population

The study unities for this assessment are health centers. The result of this assessment reflects the finding that is obtained in these health facilities during data collection period.

4.4 Data Collection and Statistical Analysis

Two standards questionnaires were used to collect data on the capacity of health facilities to provide BEmONC service. The first tool is comprehensive health center assessment tool which is developed by ministry of health to assess facilities. The tool has 6 main parts to collect data about background information, environmental health condition, availability of services, availability of personnel, supplies and equipment and HMIS implementation. To assess the implementation of BEmONC signal functions module 5 of EmONC needed assessment tool of Colombia University was used. The tool basically used to assess the implementation of EmONC signal functions and other essential services. Data about performance of the facility was collected retrospectively for the previous 6 months (January-June, 2015) from the facility registration book. Before the data collection orientation was given to data collectors and supervisors to create common understanding on the purpose of assessment, data collection

procedure and data collection tool. A team of three members (two data collectors and one supervisor) visited each health centers collecting data by interviewing head of the health center and observing the condition at each point of services delivery area.

To ensure the quality the collected data were checked by the supervisor immediately in filed and before entering to the computer. The entered data were checked by cross tabulation. The collected data was entered to the computer by using SPSS statistical software. Frequency and percentage calculation was done during analysis of data

5. Result

5.1 Background Information

5.1.1 Location

Data from 12 health centers were collected by interviewing of the in charge of health center and by observing of the situation. Five of the health centers were from Woliso Rural Woreda; four from Wonchi and the remaining two and one were from Goro and Woliso Urban respectively. Except one of the health center (Woliso No1) all others are type "B" health center. There is a plan to upgrade to type "A" health center in two health centers. Four of these health centers were constructed in 2011 and other three of them were constructed in 2010. The oldest health center (Woliso No1) was constructed before 53years ago (1962). The list included one health center which is constructed in 2014. The selected health facilities are located on mean distance of 20.5Km far (±13.7Km) from St. Luke hospital which is the referral centers for all of health centers. The farthest HC exists on 47km distance and the nearest one is on one km distances from the referral hospital. Concerning to the distance between health center and farthest village (Health Post), the mean distance is 13.5 Km (±7.5Km). The minimum and maximum distance of the farthest village is 1 and 30Km respectively. There are 41 health posts under this 12 health centers. The detail of the above information is presented on the following table.

Table 1 Description of 12 selected health centers in Goro, Woliso Rural, Woliso Urban and Wonchi Woredas, 2015.

S. no	Name of the HC	Woreda	Year of Construct-ion	Distance from Hospital (Km)	Distance to farthest village from HC(Km)	Number of Health Posts
1	Burka Bido	Goro	2010	16	15	5
2	Chirecha Wonberi	Woliso Rural	2013	6	8	4
3	Dariyan	Wonchi	2010	23	6	4
4	Dese Jebo	Woliso Rural	2014	23	19	3
5	Dire Duleti	Woliso Rural	2011	14	10	4
6	Haro Wonchi	Wonchi	2013	37	20	2
7	Karo Simela	Woliso Rural	2011	17	15	4
8	Lemen	Wonchi	2010	21	15	5
9	Selam Gatiro	Wonchi	2011	47	30	2
10	Tombe Anchebi	Woliso Rural	2011	6	11	4
11	Wayu	Goro	2012	35	12	4
12	Woliso No1	Woliso Urban	1962	1	1	
					Total	**41**

5.1.2 Population Size

According to the population projection based on 2007 GC population and housing census the expected total population under these 12 health center is 214990 for the year 2007EC/2015. These 12 health centers account for 52.6% of the total population of the 4 districts. From 14183 expected pregnancies in these four districts for the same year 7508 will be from the catchment area of the 12 Health centers. In the same year 6927 children are eligible for the routine immunization program. On the other way there are 6927 under one year children who needed a special health services. The population distributions with different age categories are presented on the following table.

Table 2 Population distribution of the selected health centers catchment area for the year 2015(2007 E.C)

Name of the HC	Total Catchment Population	Under one year Population	Under five year Population	Women in Reproductive age group	Expected number of Pregnancy
Burka Bido	12478	401	2046	2745	421
Chirecha Wonberi	17638	568	2893	3880	612
Dariyan	19785	637	3245	4353	687
Dese Jebo	14430	500	2367	3175	501
Dire Duleti	22473	724	3686	4944	784
Haro Wonchi	9115	293	1495	2005	316
Karo Simela	15754	507	2584	3466	547
Lemen	28285	911	4639	6223	981
Selam Gatiro	16707	538	2740	3676	580
Tombe Anchebi	22363	720	3668	4920	776
Wayu	11560	372	1896	2543	401
Woliso No1	24402	756	4002	5368	902
Total for 12 HC	**214990**	**6927**	**35258**	**47298**	**7508**
Total for 4 Woredas	**408739**	**13161**	**67156**	**90454**	**14183**

Only in 5 health centers there are other health facilities (Not include health Posts) within 10 Km radius distance. These health facilities include hospital, health center, and Private higher clinics. Three health centers can access hospital within 10 Km distances. There are also health centers and private clinics within 10 Km distances incase of 5 and 3 Health centers respectively.

5.2 Infrastructures

The availability and functionality of infrastructures like means of transportation and communication, water supply, electric power supply and working rooms were assessed and the following results were observed.

4.2.1 Means of Transportation and Communication: - Concerning to road accessibility only 5(41.6%) of the health centers have all season road to referral hospital. The remaining 7(58.4%) have only dry season road to refer patients to hospital. Information about the availability and means of transportation to refer patients were also collected. Based on this assessment there is at list one means of transportation in all health centers. For the type of means of transportation and the time of availability see table 3

Table 3 Means of transportation to refer patients to hospital from 12 health centers of Goro, Woliso Rural, Woliso Urban and Wonchi Woredas on July, 2015

S. No	Means of Transportation	Available only Day time	Available for 24 hr.
1	Ambulance from Town/Woreda	12	7
2	Ambulance from Hospital	12	12
3	Public transport	3	0
4	Private car	1	1
5	Motorcycle	1	1
6	Animal Draw	1	1
7	Stretcher (by people)	1	1

Based on the above data all health centers have at list two type of means of transportation to refer patients to the hospital on day time. But all has only one means of transportation during night time. In only one health center all type of transportation means is available. Ambulance from hospital and town are means of transportation which are available in all health centers. In seven health centers these are the only means of transportation. There are 4 ambulance (1from St. Luke hospital and 3 from the 3Woredas) in the 4 districts to give a 24 hr services and during day time there is one additional ambulances from Woliso Rural Woredas.

When we assess the availability of means transportation that belongs to the health centers, there are only 14 motorcycles in the 12 health centers. This means that the health centers have only one type of transportation means and the average distribution is 1.17 per facility. Among this only 10 of them were functional during the assessment. The remaining 4 have some maintenances problem.

We also assess the problem related to the transportation means that belongs to health centers. Accordingly shortage of means of transportation is the main problem identified as main source of the problem.

Table 4 Frequency of problem related to means of transportation that belongs to the health centers in 12 health centers of Goro, Woliso Rural, Woliso Urban and Wonchi Woredas in 2015

S. No	List of Problem identified	Frequency
1	Not enough/ need for more	9
2	Poor/no maintenance	6
3	No sufficient fuel	7
4	Limited/no budget to maintained/operate them	5

Regarding to means of communication all health centers has at list one functional means of communication. All health centers have mobile phone communication means but the means of communication does not belong to health centers instead of it is private phone. In most cases the health professional used their private mobile to call to ambulance and other conditions. Other type of available mean of communication is landline telephone. This type of communication means is available only in two health centers. Both means of communication are available for 24 hrs of day. The commonest type of problem related to means of communication is a problem related to network coverage. Other problems mentioned by head of the health centers are presented on following table

Table 5 Problem on means of communication in 12 selected health centers of Goro, Woliso Rural, Woliso Urban and Wonchi Woredas.

S. No	List of Communication Problem	Frequency
1	Not enough/ need for more	5
2	Poor/no maintenance	1
3	No network coverage	7
4	No enough budget to operate/maintain them	3

In all of the facility the delivery unit staffs use their private mobile phone to communicate during their duty time for all of the cases that they faced on duty. There is no other kind of means of communication in the delivery unit other than private mobile.

4.2.2 Electric Power Supply: - Only three (25%) of the health centers have electric power supply. The source of power in all case is grid line power supply. According to this assessment there is no adequate working light during night in 9(75%) of health centers. The problems related to power supply in those who have power supply include frequent power cut (in 3 health centers), poor/no maintenance (in 3 health centers) and no sufficient fuel. The main problem in those health centers which didn't have electric power supply is unavailability of electric power source (9health centers). Among those health centers that have electric power supply only one (Woliso No1 HC) of them has alternative power supply as backup source during power cut. They used generator as backup power supply.

Similarly there is enough light to performance tasks during the day in all health centers' delivery unit but only in three health centers there is enough light to perform tasks during night. During night they use hand torch solar light in the remaining 9 health cents. All the delivery unit have sufficient window for proper ventilation. There is no any alternative means during power cut or lack of fuel in all delivery units.

4.2.3 Water Supply: - The presences of running water in health centers was assessed and it was observed only in 4(33.3%) of health centers. In two health centers the water is distributed to different rooms of the health centers' but in the remaining two of the health centers the water is one point source. The health centers got water from different sources including spring (both protected and unprotected), river, pipeline and well. More than one third (33.5%) of the health centers got water from non-improved water source. The frequency is presented on the following pie chart.

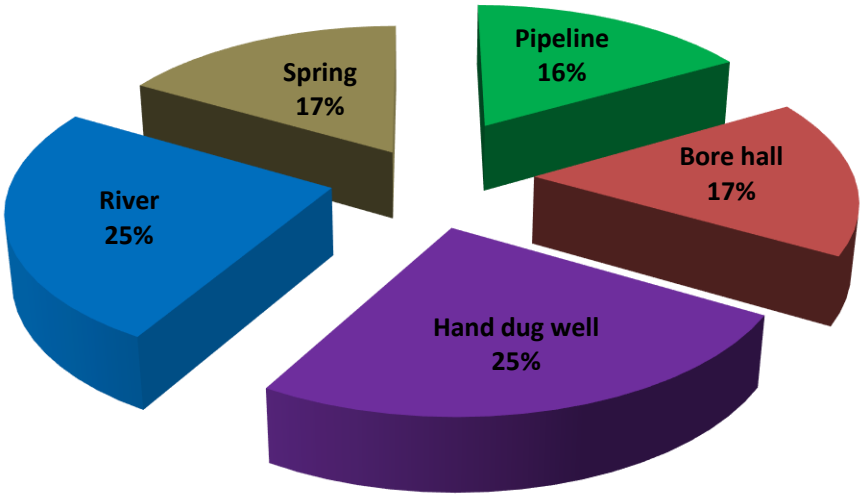

Figure 1 Source water used by 12 Health centers in Goro, Woliso Rural, Woliso Urban and Wonchi Woredas, 2015

Regarding to distances between the source of water and health center, six (50%) of the health centers got water at distances greater than 200m outside of their compound. In the remaining six health centers the sources of the water is their compound.

Even if water is available in four health centers, it is available only in one health center's delivery unit. The water system in this health center is also not functional. Therefore we can conclude that there is no running water in the entire delivery unit of the health centers. The main problems related to water supply in the delivery unit are unavailability of water supply (in 9 health centers), infrastructural problems (in 3 health centers) and other problems (2 health centers). To tackle this problem the health centers bring water from other source and store in the buckets in the delivery room. During the day of data collection 10 health centers' buckets were filled with water and in one health center the bucket was empty. To fill the buckets health professionals, cleaners and relative of the customers are involved.

4.2.4 Working rooms: - All health centers except one health center (Tombe Anchebi) have a functional fridge to keep the cold chain for vaccines and other drugs. The fridges are manufactured to operate with different power supply. The detail about the structural operation system and how they are actually operating are presented on the following barograph

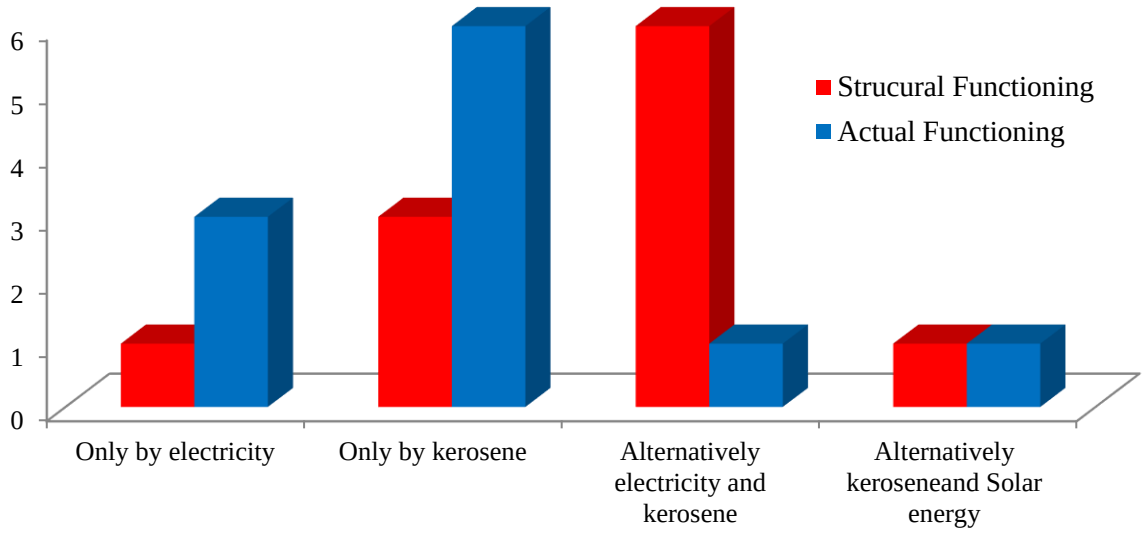

Figure 2 How can be the fridge set to work and how do they set the fridge/s to work in the selected health centers.

Almost all (9) of fridges are set in MCH unit and remaining two fridges are set in emergence room and laboratory. The health centers have different problems related to the utilization of the fridges. A minimum of two problems were mentioned by each health centers heads about utilization of fridges. Unavailability of sufficient fuel to use the fridge is the more frequent problem that the health centers encounter.

Table 6 Frequency distribution of problem related on utilization fridges in 12 selected health centers of Goro, Woliso Rural, Woliso Urban and Wonchi Woredas.

S. No	List of Problem	Frequency
1	Not enough /need for more	5
2	Poor/no maintenance	6
3	No sufficient fuel	10
4	Limited/no budget to maintained	1
5	Other	3

More of (10, 83.3%) the health centers do not have alternative measure to manage power cuts (or lack of fuel) to properly store vaccines and drugs. One of the health center use backup generator and other one use solar energy as backup source of energy for fridges. As solution the 10 health centers store the vaccine in cold box and transfer it to Woreda health office fridge.

All the selected health centers have delivery unit. In all of the health centers there are delivery and postnatal rooms. First stage labor room is available only in one health center. To give the delivery and postnatal health care services there are functional 19 delivery tables, 22 postnatal beds and 3 first stage beds. When we see the distribution of delivery tables there are two health centers which didn't have deliver table, whereas other two health centers have 3 delivery tables. The remaining 5 and 1 health center have 2 and 1 delivery table respectively. Regarding to postnatal bed at list one bed is available in all assessed facilities.

Regarding to the condition of delivery room, the condition of the majority (9, 75%) of health centers is satisfactory. This means that according to the observation there is no cracks on the wall and floors; not recently painted; but till acceptable enough space in 9 of the health centers' delivery unit. The delivery unit of 2 facilities' is recently painted, has no cracks on the wall and floor and has enough working space. Only one health centers delivery unit is unsatisfactory. It needs major rehabilitation works.

Equipments are organized and well stored in 9(75%) of the assessed health facilities. According to this assessment in 9 health centers delivery equipment were cleaned and ready for use. But in other 3 health centers equipments and material are not arranged, cleaned and not ready for use. In all of the 9 health centers equipment are organized and stored in delivery room. Regarding to the accessibility of equipment and material in case of 9 health centers material are easily accessible. This means that equipments are arranged and stored in the way that anyone can find in easy way. The main area for storing equipments and materials in accessible way is the delivery room of the health centers.

Eleven of the assessed health centers have mother waiting area to be used by term pregnant mother during last day of the pregnancy before giving birth. All are part of the health centers, in most of the cases it is attached to delivery unit. Regarding to the construction status of the room of all the mother waiting areas are finalized and ready for work. The floor is made of cement and the wall is made of bricks in the entire assessed mother waiting area. The availability of some facilities and materials in mother waiting area determine utilization of the services by the mothers. Based on this assessment, 10 of the health centers prepared kitchen for the mother waiting area. Water and electric light is available only in 3 health centers.

Table 7 Facilities and materials available in mother waiting area of 12 health centers of Goro, Woliso Rural Woliso Urban and Wonchi Woredas

S. No	List of Facilities and Material	No of HCs with the facilities and Materials for in waiting area
1	Kitchen	10
2	Toilets	4
3	Water	3
4	Bed	8
5	Mattresses	9
6	Blankets	9
7	Electricity	5
8	Food supply	9

The utilization and satisfaction of mothers about the mother waiting area facility were also assessed in these 11 health centers. In the last 6 month 133 mothers used the mother waiting area of the 11 health centers. On average 12 mothers at each facility used the facility in the last six month. On average the mother stay for 2(±1.18) days in mother waiting area.

Regarding to the satisfaction on the mother waiting area services data was collected both from mothers that used the services and from care providres in case when there were no mothers in the mother waiting area during data collection period. From the four mothers interviewed 3 of them were happy about services that they got in the mother waiting area. The main reason why one of the mothers was not happy on the services that she got is due to the distance: the facility was far from her village so she couldn't get information about her family and she couldn't get supporter from her families. She said that "I feel loneliness". Mothers also mentioned the reason why they are happy in the mother waiting services. They said that "It is better solution than searching for the transportation means during labor; we can get urgent health professional care if we are here; and it helps us to make ourselves ready for delivery by taking rest".

Among the seven health care providers interviewed about satisfaction of the mother 3 of them said that mothers were not happy on their stay in the mother waiting area. The reason why mothers were not happy mentioned by providers includes the coldness of the rooms; unavailability of all

necessary materials to prepare food; lack of person to give care to their family when they stay in the mother waiting area particularly for children; and they didn't get close support from their family. The remaining 4 care provider said that mothers were happy on their stay in the mother waiting area.

4.3 Infection Prevention

The general sanitation condition of the health centers was assessed by observing the health centers compound and rooms of services delivery area like Emergence room, Delivery, ANC OPD, EPI and laboratory rooms. Based on this, except in one health center, the compound of all health centers was clean but only the six health centers' rooms were clean and safe.

Almost all the health centers have functional toilet except one of the health center (Tombe Anchebi) that didn't have toilet. Concerning to the cleanness of the toilet, during the data collection period 6 out of 11 health centers' toilets was not clean. More than half (7, 58%) of the assessed health centers has incinerator for proper management of biological hazard sharp wastes. To proper disposal of placenta only 9(75%) of the assessed health centers has placenta disposal pit. Safe tank for Liquid waste disposal was constructed in 11 of the 12 health centers.

The health centers use different decontamination agents. All (12) of the health centers use chlorine (bleach) as means of decontamination. In addition to bleach 5 and 3 health centers use clorexidine and other decontamination materials respectively. To sterilize instruments the health centers use different sterilizing techniques: the most common type of sterilizing means is boiling.

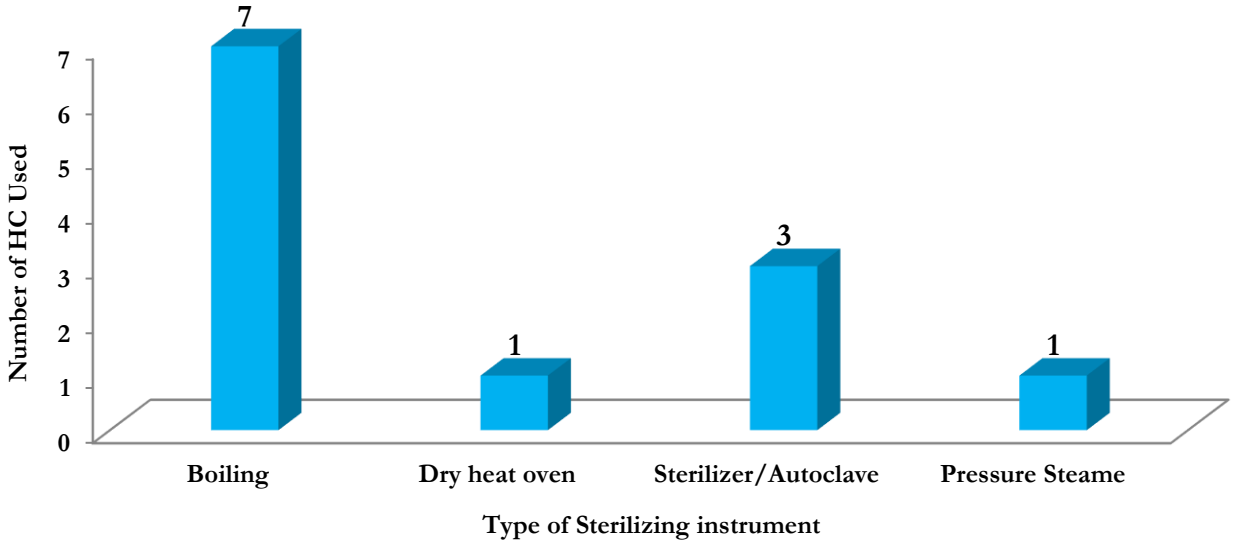

Figure 3 Types of Sterilizing techniques used by selected health centers of Goro, Woliso Rural, Woliso Urban and Wonchi Woredas, 2015.

In case of 10 health centers there is functional sterilizing instrument in the delivery unit. In most of them (8 HC) the sterilizing instrument in the delivery unit is boiler. There is heat oven in one health center and autoclave in other one health center. In the remaining health center delivery unit staff sterilize delivery equipments in Emergence room of the health center.
The delivery unit was clean in 8 of the12 health facilities which are included in this assessment. In all the remaining 4 health centers the delivery room was not clean and the postnatal room was not clean in three health centers. Liquid spills or trash in the floor was observed in 4 health centers' delivery rooms. The delivery table and postnatal bed was clean and ready for the next patients in 8 and 5 health centers respectively.

The health care providers in the delivery unit also were interviewed about the decontamination and cleaning process of equipments in delivery unit. All the health centers' delivery unit staffs decontaminate equipment by soaking in 5% chlorine solution for 10 minutes. They prepare the solution by mixing 1part of 5% chlorine (bleach) with 9 part of water. After that they rinsing under soap water, next rising under clean water and dry on air before sterilizing.

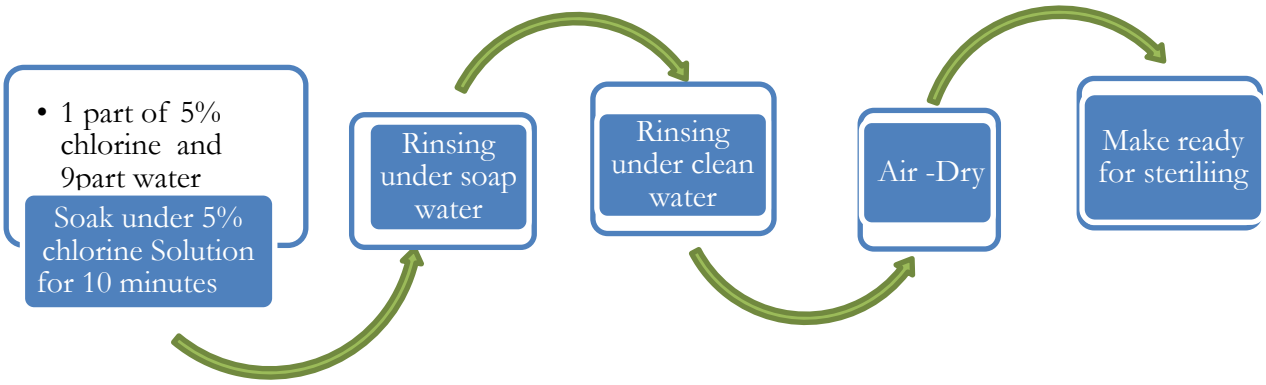

Figure 4 Equipment Decontamination and cleaning process in delivery unit of the assessed health centers

The sterilizing equipments are available in delivery unit, emergence room and EPI room on 6, 5 and 1 health centers respectively. The presences of basic infection prevention consumable material and supplies at each health centers were assessed by observing this material in the delivery unit. Regarding to the consumable materials the availability was checked for at list for the next one month. Accordingly 3 or 5% Chlorine Solution (bleach) and surgical glove were available in all health centers during the data collection period with adequate amount but Hand Brush and Sterile Tray were available in two and four health centers. Three or 5% Chlorine Solution (Bleach) is the most common (in 12 HCs) available disinfection and antiseptic material which is followed by Polyvidone Iodine (8HCs).

In the 11 health centers there were 3 prepared disinfection solutions on the day of visit but in one health centers the solution was not prepared. For the detail of infection prevention materials and consumables see table 8.

Table8 Availability of infection prevention consumable materials and supply in 12 health centers of Goro, Woliso Rural, Woliso Urban and Wonchi Woredas July, 2015

S. No	Infection Prevention Consumable Materials and Supplies	No of HC with Materials and Supplies
1	Soap	5
2	Hand brush	2
3	Chlorohexidine	4
4	Savlon	8
5	3 or 5% Chlorine Solution (Bleach)	12
6	Other	0
7	Prepared disinfectant solution in the delivery room	11
8	Heavy duty gloves	5
9	Sterile Gloves	12
10	Non-sterile Gloves	9
11	Non-sterile protective clothing	7
12	Decontamination containers	11
13	Regular trash bin	8
14	Covered contaminated waste bin	8
15	Puncture proof sharps containers	10
16	Mayo stand (or equivalent for establishing sterile tray/field)	4

4.4 Service availability

The availability of 16 types of main health services was assessed to determine the accessibility of different health services to the community at the near health facilities. All of the health centers provided Outpatient department (OPD) services, Antenatal care services, Delivery but only one health centers provide ART and youth and adolescent health services.

Table 9 Type of health care service provide by the health centers and availability of separate room for the services in 12 health centers of Goro, Woliso Rural, Woliso Urban and Wonchi Woredas, 2015.

S. No	Type of Health Services	Number of HCs Provide the Service	Service given in Separate room
1	General Outpatients health services (OPD)	12	12
2	Under – Five Clinic	12	12
3	EPI Daily Services	11	2
4	Family Planning Services	12	2
5	Antenatal Care(ANC) Services	12	6
6	Prevention of Maternal to Child Transmission of HIV(PMTCT) Services*	4	
8	Skilled Delivery Service	12	12
7	Postnatal Care (after discharge within 7days)	12	5
9	Laboratory Service	3	3
10	Voluntary Counseling &Testing (VCT)Service	6	2
11	Provider initiated HIV Testing and Counseling (PITC) Services	12	
12	Antiretroviral Therapy (ART)Services	1	1
13	Pharmacy Services	12	12
14	Post abortion Care /Safe abortion services	2	2
15	Youth and Adolescent Health Services	1	1
16	In-patients service	2	2

*includes the services both testing and providing prophylaxis or ART

In most of the case EPI, ANC and family planning services are given in a single room. This is due to shortage of rooms and to facilitate the integration of services given particularly Family planning and EPI services. In one health center (Tombe Anchebi) due to unavailability of functional fridge there is no daily EPI service. The service is given on weekly based program by supplementing vaccine from Woreda health office. In all other health centers they provide vaccination services

for BCG, Oral Polio vaccine, Rotavirus vaccine, DPT-HepB-Hib(Pentavalent Vaccine), Pneumococcal conjugated vaccine(PCV), Measles and Tetanus toxoide vaccine. All the health centers provide both short acting (Pills, injectable, condom and emergence pills) and long acting (implants and IUCD) temporary family planning methods. In most of the cases postnatal mothers and first stage laboring mothers are served in a single room.

Concerning to laboratory diagnostic test done in the health centers, from the 3 health centers that has the services all do Blood film, Blood Group, Urine analysis, HCG, VDRL and AFB tests. Two health centers are also doing Hemoglobin, Urine and stool parasitological test. Complete blood count, ESR and gram stain are test that available in only one health center.

All health centers provide HIV testing and counseling services to all community members including pregnant women in ANC and laboring mothers on delivery table. But the option B^+ treatment to prevent mother to child transmission is available in only 4 health centers. Provider initiative HIV testing and counseling (PICT) services is given by integrating with OPD services, MNCH services and Emergence OPD.

In all health centers all under year five children will pay for medication except some program drugs. But they get card without any cost. Pregnant women get a free service during ANC and delivery visit but they may be asked to pay for drug for a treatment of disease that is not related to the pregnancy.

4.5 Human resources

The composition of technical and supportive staff and availability of professionals at night, weekend and public holiday was assessed and the following information were obtained. In generally at list one health officer is recruited and give service in all health centers. On average 2 diploma midwives are on duty for 24 hour services. Even if a pharmacy service is available in all health centers only in 9 health centers are recruited pharmacy technician/pharmacist. In the other health centers the services is provided by diploma holder clinical nurses. There are 2 assigned laboratory technicians in two health centers which have incomplete laboratory services. All services are not available due to lack of power supply to make laboratory equipments functional and there is lack of equipments like microscope. The technicians perform some test like blood group and HCG test which don't need electric light and other equipment. Only 3 health information technicians who are responsible for management of the health information system are available in the 12 health centers.

Table 10 The composition of health professional and availability of them on not working hours in 12 health Centers of Goro, Woliso Rural, Woliso urban and Wonchi Woredas, 2015.

S. No	Composition of Health Professionals	No of Health Professional on Duty	No professional available on not Working time	No of HCs Having the Professionals
1	Health Officer	20	10	12
2	Clinical Nurse(Diploma)	57	57	12
3	Nurse B.Sc	7	7	6
4	Public Health Nurse	8	4	7
5	Midwife, Diploma	24	24	12
6	Laboratory Technologist	2	2	1
7	Laboratory Technician	6	4	5
8	Sanitarian/Environmental Health	2	0	2
9	Druggist(Pharmacy Technician)	9	5	8
10	Pharmacist	2	1	2
11	Trained VCT Counselor	2	0	2
12	Health information Technician	3	0	3
	Total	**142**	**114**	

To support and facilitate the technical work 82 supportive staffs are on duty in these 12 health centers. In all health centers there are a total of 23 accountants and 23 cleaners. Twenty-four workers are assigned on position of Gardner and Guard of the 12 health centers. In only one health center there is one Secretary and one Data clerk. To manage the medical recording unit in 6 health centers there are 6 card room workers. Four human resource officers are also among the supportive staffs of these 12 health centers.

The following pie chart present information at what distance the health staffs who are on call are living: the majority (8, 67%) are on walking distance of less than 10minute.

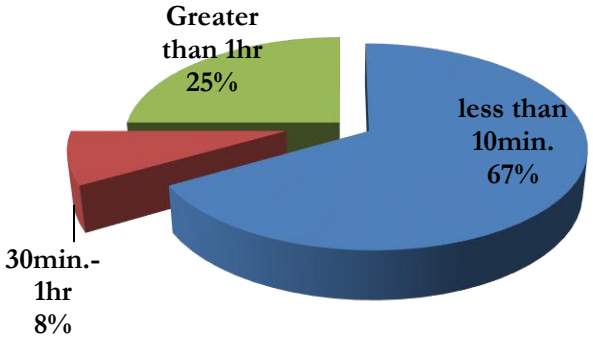

Figure 5 The distance between HC and on call staff residence by walking distance of 12 HC

Most of the health centers' (9, 75%) employed midwives assigned in Delivery unit, ANC clinic and Family Planning department. On the remaining 3 health centers they are assigned only at delivery unit and ANC clinics. In all of the health centers midwives are regularly assigned to delivery unit. Concerning to ANC clinic midwives are assigned regularly in 9 health centers whereas midwives and nurses who are on duty are assigned in ANC clinic in the remaining three health centers.

To improve the skills and knowledge of health professionals On-job training is one way of filling the existing gap. To assess the ability of the health professionals on providing some special health care services data about number of health professional that got specified On-job training was collected. Based on this there are health professionals in all health centers which are trained on Basic BEmONC training. From the 18 trained professionals 15 are midwives. Accordingly there are 9 midwives which are not trained on BEmONC training. Only 14 of trained health professionals got BEmONC refreshment training. On average there are 2 Basic IMNCI trained health professionals in all health centers but only 3 of these health professionals got refreshment training. From the 8 health centers 2 B.Sc and 7 Diploma clinical nurses have got sever acute malnutrition management training but none of them were updated after the training. Only 47.3 %(71) of the eligible workers for HMIS training got the training and none of them got refreshment training.

Table 11 Number of health center staffs that got different training and are one duty in 12 health centers of Goro, Woliso Rural, Woliso Urban and Wonchi Woredas, 2015

S. No	Type of Training	No of HC staffs trained	No of HC from which the staffs are Trained
1	Basic BEmONC Training	18	12
2	Refreshment BEmONC Training	14	8
3	Basic Integrated Management of Neonatal and Childhood Illnesses (IMNCI)Training	23	11
4	Refreshment IMNCI Training	3	3
5	Basic Sever Acute Malnutrition Management Training	9	8
6	Basic Health Management Information System Training	71	12

4.6 Equipment, Material and Supply

The availability of functional and adequate amount of necessary equipments, materials and supplies to give antenatal care, delivery, postnatal and under five clinic services was assessed on five main components. The study includes assessment on availability of basic equipment and materials in ANC, delivery and under five Clinic; IV Antibiotics; Anticonvulsants (Injectable); Uterotonic drugs; Newborn supplies.

A. Basic Materials

Materials like Fetal stethoscope, trolley, examination table, delivery set and adult weight scale are available in all assessed health centers services delivery areas. In 8 HCs' store there was Adult ventilator bag and mask but it was available only in 5 HCs delivery unit. This means that there are items which were stored in the store but the items were not available in services delivery area. Mouth gags and Filled oxygen cylinders were not available in any of the HCs

Table 12 Availability of Basic Materials, Supplies and Equipment for ANC, Delivery and PNC health services in 12 assessed health facilities

S. No	List of Material and Equipment	Number of HCs with the Equipments and Materials in Services Delivery area	Number of HCs with Equipments and Materials in the Store
1	Blood Pressure cuff	9	5
2	Stethoscope	11	3
3	Fetal stethoscope	12	4
4	Clinical Thermometer	4	2
5	Instruments tray	7	5
6	Instruments trolley	12	3
7	Kidney dish	8	7
8	Forceps	8	3
9	Gauze Scissors	4	3
10	Measuring tape	3	3
11	Wall clock	3	0
12	Patient transport	7	4
13	Adult ventilator bag and mask	5	8
14	Filled oxygen cylinder	0	1
15	Mouth gag	0	1
16	Examination table	12	1
17	Labor/Delivery table	10	2
18	Delivery Set	12	3
19	Adult weighing scale	12	2
20	HIV rapid test	10	2
21	Option B^+ Drugs For PMTCT	3	3
22	Vacuum Extractors	2	0
23	Manual vacuum aspiration Set	3	1

To assess the arrangement and readiness of ANC clinic the availability of important focus ANC service materials, equipment and drugs were checked.

Table 13 Availability of necessary materials, equipments and supplies in ANC clinic of the assessed health facilities

S. No	Equipments, materials and drugs	Frequency
1	Table and chair	12
2	Examination bed in ANC	12
3	Fetal stethoscope	12
4	Tape meter	6
5	HIV Screening kite	9
6	Iron sulphate	10
7	Mebendazole	1
8	Focus ANC poster	7
9	PMTCT Guideline	3
10	PMTCT drugs(TDF+3TC+EFV and Neverapine syrup	3

Except in two health centers there is no means of tracing mechanism of pregnant women to complete ANC follow up and to give birth at health centers.

Regarding to the necessary materials in under five clinic there is major shortage on Otoscope(no in any HC), baby scale(available in 2 HCs) and height/length measurement instrument(available in 3HCs).

Table 14 Availability of necessary materials, equipments and supplies for under five year clinic of the assessed health facilities

S. No	List of Material and Equipment	Number of HCs with the Equipments and Materials in Under 5 Clinic
1	Thermometer	8
2	Stethoscope	8
3	Tongue depressor	6
4	Otoscope	0
5	Baby Scale	2
6	Equipment to measure height/length	3
7	Supplies to mix ORS, cups and spoon	7

In all assessed health centers except one of the health center outpatient therapeutic programme (OTP) is available. Concerning to the availability of standard equipment necessary to OTP most of the materials were not available during this assessment. Among these materials registration was available in 8 of the health centers whereas Salter scale was available in only one HC.

Table 15 Availability of standard necessary materials, equipments and supplies for OTP in assessed health facilities

S. No	List of Material and Equipment	Number of HCs with the Equipments and Materials for OTP
1	Drinking water	3
2	Plastic cups	5
3	Plumpy'nut	6
4	Salter Scale and pants	1
5	MUAC	7
6	Amoxacillin (tabs or syrup)/Mebendazole/Vitamin A	4
7	Registers	8

B. Intravenous Antibiotics

The presences of parenteral antibiotics drugs which are used to prevent and treat infection during labor and postpartum period was checked in all the assessed health facilities. Ampicillin is the most common available antibiotics drugs in delivery unit and in the store of the health centers. Cephtraxone is available in only one health center. According to this assessment some of the drugs are available in the store but not in service delivery area. This indicate as poor readiness for emergences situation

Table 16 The availability of parenteral Antibiotics for delivery and related complication in delivery unit and health centers store

S. No	Antibiotics	In Delivery Unit	In store
1	Ampicillin	7	8
2	Gentamicin	6	8
3	Metronidazol	2	6
4	Cephtraxone	1	1

In only in two health centers there were 3 types of Antibiotic groups (Penicillin, Aminoglycoside, and Clindamycin group). The majority (4, 25%) of the health centers didn't have any type of antibiotics in the delivery unit. The number of health centers that had one and 2 types of antibiotics were equals.

C. Intravenous Anticonvulsants

These lists of drugs are among one the BEmONC signal function drugs. To make the facility BEmONC signal functionality complete the availability of these drugs is crucial. Hydralazine was the commonest available drug among the list. In this case the availability of single drugs cannot give sense because in most of the case the administration of one drug is depend on availability of other drugs. All the drugs are much more available in the store than in service delivery areas.

Table 17 The availability of injectable Anticonvulsants drugs for delivery and related complication in delivery unit and health centers store

S. No	Anticonvulsants	In Delivery Unit	In store
1	Magnesium Sulfate	6	7
2	Calcium Gluconate	1	1
3	Diazepam (Valium)	0	4
4	Hydralazine	7	11

D. Uterotonic Drugs

These are also other important drugs for obstetrics care. The drugs are used to prevent excessive bleeding during delivery and for proper management of third stage of labor. Oxytocin was the more frequently available uterotonic drug which is followed by Ergometrine and Misoprostol. It is advisable to have all type of drugs. The following figure explains the presence of the 3 type of drugs in the selected health facilities.

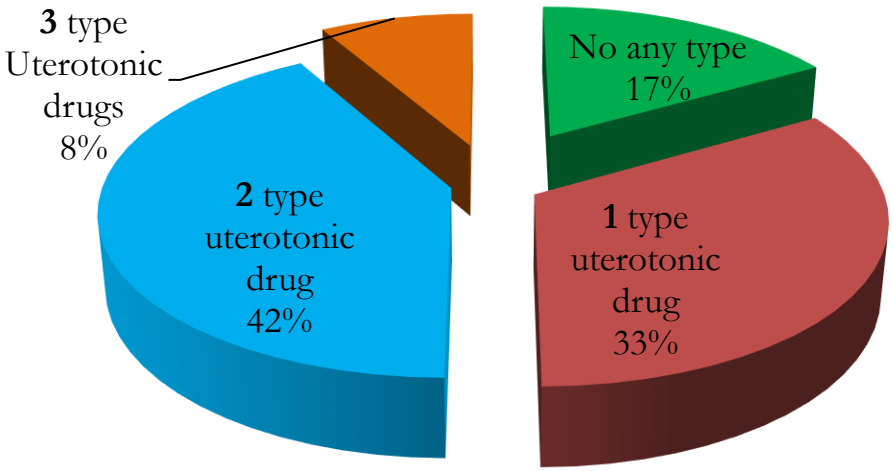

Figure 6 The number of type of uterotonic drugs available in the assessed health facilities

Regarding to the detail distribution of uterotonic drugs, oxytocin was available in all health centers delivery room but was in only one of the health centers store. In all type of uterotonic drugs there was shortage on backup store.

Table 18 The availability of uterotonic drugs in delivery unit and health centers store

S. No	Uterotonic Drugs	In Delivery Unit	In store
1	Oxytocin	8	1
2	Ergometrine	6	1
3	Misoprostol Tablet	3	3

E. Newborn Supplies and Equipments

The availability of functional equipments and supplies that are necessary for newborn care was assessed by observing the materials in delivery unit and store of the health centers. There is a significant gap on the presences of these items. Particularly neonatal resuscitation table is available in only one health center. There is also deficiency on the drugs like tetracycline eye ointment and vitamin K. Clean bulb syringe was available in all health centers except 2 health centers.

Table 19 Availability of newborn Supplies, Equipments and drugs for neonatal care services in 12 assessed health facilities

S. No	List of Material and Equipment	Number of HCs with the Equipments and Materials in Services Delivery area	Number of HCs with Equipments and Materials in Store
1	Neonatal resuscitation table(Radiant warmer)	1	1
2	Table lamp	2	2
3	Sitich Scissors	2	3
4	Episiotomie Scissors	1	3
5	Clean bulb syringe	10	4
6	Ambu Bag and face mask (size 0,1,2)	9	3
7	Blankets for cold weather	1	0
8	Infant weighing scale	8	2
9	Tetracycline eye ointment	8	7
10	Vitamin K	5	6

The number of list of material, equipment and supplies available for each health centers were calculated and summarized by the average, maximum and minimum number of items present in all health centers. In all case the average value

is less than the median value that reflects as the presences of significant shortage of materials and equipments in the assessed health centers.

Table 20 Number of items of materials, equipment and supplies presented in each assessed health centers and summary data of whole health centers.

S. No	Name of the HC	Basic Materials and Equipments (N=23)	Intravenous Antibiotics (N=4)	Anti-convulsants (N=4)	Uterotonic drugs (N=3)	Newborn supplies (N=10)
1	Burka Bido	12	3	2	0	4
2	Chirecha Wonberi	15	2	2	2	5
3	Dariyan	12	1	0	1	2
4	Dese Jebo	11	0	1	2	2
5	Dire Duleti	13	2	3	2	7
6	Haro Wonchi	13	1	0	1	0
7	Karo Simela	13	0	2	2	4
8	Lemen	11	0	0	1	4
9	Selam Gatiro	11	1	0	1	3
10	Tombe Anchebi	11	0	0	2	4
11	Wayu	12	3	2	0	4
12	WolisoNo1	13	2	2	3	6
Sample (N)		**23**	**4**	**4**	**3**	**10**
Maximum		**15**	**3**	**3**	**3**	**7**
Minimum		**11**	**0**	**0**	**0**	**0**
Average		**12**	**1**	**1**	**1**	**4**

4.7 Implementation of BEmONC signal functions

By using module 5 of Averting Maternal Disability Program the implementation of the seven BEmONC signal functions was investigated. Medical record review and interview of health care providers were source of information. The result of this assessment presents the implementation of BEmONC signal functions in the last 3 three month (April 1-June 30, 2015) and in the last one year. None of the health centers qualified for BEmONC. The total number of signal functions performed by all the health centers is 29 which is much lower than the expected aggregated number (84). All the health centers were not performing intravenous administration of anticonvulsants, removal of retained products and assisted vaginal delivery in the last 3 month. Newborn resuscitation, manual removal of placenta and parental administration of oxytocics are commonly performed BEmONC signal functions that are performed in 12, 8 and 7 health centers respectively. Seven health centers performed 3 signal functions; the remaining 3 and 2 health centers performed 2 and one signal functions respectively: for the detail see the table on page 26

Table 21 Number of signal functions performed and health centers that performed the signal functions in the past 3 months (April-June, 2015)

S. No	Name of the Health Center	Antibiotics administered parenterally	Oxytocics administered parenterally	Anticonvulsants administered parenterally	Manual removal of placenta	Removal of retained products	Assisted vaginal delivery	Neonatal resuscitation	No. of signal functions performed by each HCs
1	Burka Bido	No	Yes	No	Yes	No	No	Yes	**3**
2	Chirecha Wonberi	No	Yes	No	No	No	No	No	**1**
3	Dariyan	No	Yes	No	No	No	No	Yes	**2**
4	Dese Jebo	No	Yes	No	No	No	No	No	**1**
5	Dire Duleti	Yes	Yes	No	Yes	No	No	No	**3**
6	Haro Wonchi	No	Yes	No	Yes	No	No	Yes	**3**
7	Karo Simela	Yes	Yes	No	Yes	No	No	No	**3**
8	Lemen HC	No	Yes	No	Yes	No	No	Yes	**3**
9	Selam Gatiro	No	Yes	No	Yes	No	No	Yes	**3**
10	Tombe Anchebi	No	Yes	No	Yes	No	No	Yes	**3**
11	Wayu	No	Yes	No	No	No	No	Yes	**2**
12	Woliso No 1	No	Yes	No	Yes	No	No	No	**2**
No of HCs Performed signal function		**2**	**12**	**0**	**8**	**0**	**0**	**7**	**29**
% of HC Performed signal function		**17%**	**100%**	**0%**	**67%**	**0%**	**0%**	**58%**	**35%**

The reason why the health centers are not performing BEmONC signal function was assessed. The most commonly mentioned reason for not performing BEmOC signal functions was lack of an indication which was followed by shortage and unavailability of supplies, materials and equipments. From the 12 health centers which didn't do removal of retained products, 9 of the health centers mentioned training issue as reason. Similarly from 12 health centers those didn't perform assisted vaginal delivery 9 of them mentioned supplies and material unavailability as reason. Unavailability of cases (No indication) was the common reason for not performing of administration of parenterally antibiotics, administration of Anticonvulsants parenterally, manual removal of placenta and newborn resuscitation.

Table 22 Reasons for not performing of BEmONC signal function in the last 3 months by BEmONC signal function

S. No	Reasons for not Performing	Antibiotics administered parenterally	Anticonvulsants administered parenterally	Manual removal of placenta	Removal of retained products	Assisted vaginal delivery	Neonatal resuscitation	% of Each reason Mentioned in all cases
1	Training Issue	1	2	1	9	7	1	38%
2	Supply, Equipments and Material issue	7	7	1	8	9	2	62%
3	No indication	9	11	4	2	7	5	69%
No of HCs not Performing the signal Functions		10	12	4	12	12	5	

4.8 Data recording and reporting Process and performance of the Health centers

The federal ministry of health introduce a new health information system called as health management information system (HMIS) since 2008. Accordingly all governmental and private health care facilities are expected to record data, report data and use information according to this system. It is helpful to have systems that facilitate consistent, relevant and quality data collection and analysis of data and continuous use of information at each level. We include the assessment of this system on this comprehensive assessment to identify the existing major gaps on the implementation of HMIS at the selected health centers. In all of the heath centers there is separate medical recoding unit (MRU). In all the facilities the size of the unit is not enough as stated on the HMIS standards. On the observation and inventory done in MRU about HMIS tools, the maximum number of health centers that have the specific tool is 6 out of the 12 health centers. Tracer card is the less available HMIS tool in the MRU of the selected health centers. It was available only in one of the health center.

Table 23 Availability of HMIS tools in the MRU of assessed health centers

S. No	HMIS Tools	No of HCs with the tool in MRU
1	Adequate standard Shelves	5
2	MPI box	3
3	Functional computer	2
4	Individual folders	5
5	Integrated RH card	5
6	Women card	5
7	Patient card	6
8	Individual ID card	2
9	Masters patent index card	4
10	Tracer card	1
11	Appointment card	4

The proper usage of MPI box, tracer card and proper storage of individual folder in MRU was observed. None of the health centers use the tracer card and MPI box properly. There is no any means to trace cards in MRU. Similarly there is no any type of fast tracking means of individual folder in the 11 health centers but there is computer based fast tracking mechanisms in one health centers. In three health centers' MRU individual folders are stored on a standard shelves properly. But in the remaining 9 health centers patients' cards and individual folders are not stored according to the HMIS standard in MRU. The presences of most recent (March, 2014) updated selected HMIS registration books and tally sheet was also checked. Accordingly most of the selected registration books were available in all the health centers except OPD tally sheet which is available in all 6 health centers.

Table 24 Availability of HMIS registration books and tally Sheet in the assessed health centers

S. No	HMIS Registration Books and Tally Sheet	No of HCs with the tool
1	Family Planning	12
2	ANC	12
3	Delivery	12
4	EPI/GM	10
5	EPI tally sheet	9
6	OPD Abstract	9
7	OPD tally sheet	6

Performance of the health centers on the selected health indictors:- To assess the health centers performance data about some selected indictors were collected and coverage was calculated and it was also compared with the target of Woreda based plan of the South west Shoa Zone. Four maternal health indicators and five child health indictors were selected and analysis was done. Accordingly the following result was obtained.

A. Maternal Health:- in all indictors except first ANC visit the health centers has low coverage compared to Health sector development program (HSDP) IV target. Concerning to the ANC first there may be a double counting of cases because this service is provided at health centers, health post and hospital therefore one mother may be counted twice and that make the report high.

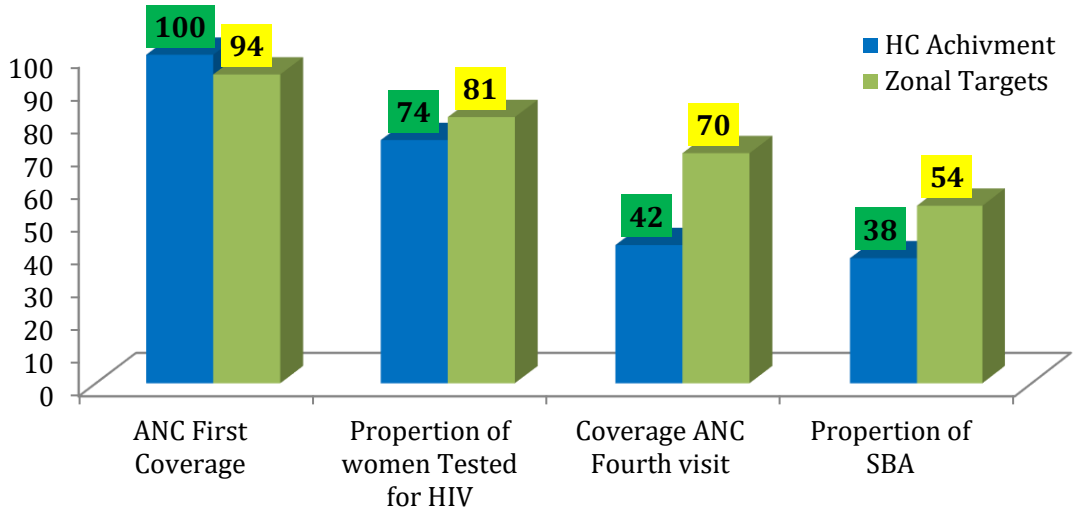

Figure 7 Compassion of coverage of maternal health indictors of the health centers with HSDP IV target of SWSZ

B. Child Health: - on six selected indictors the performance on child health was assessed

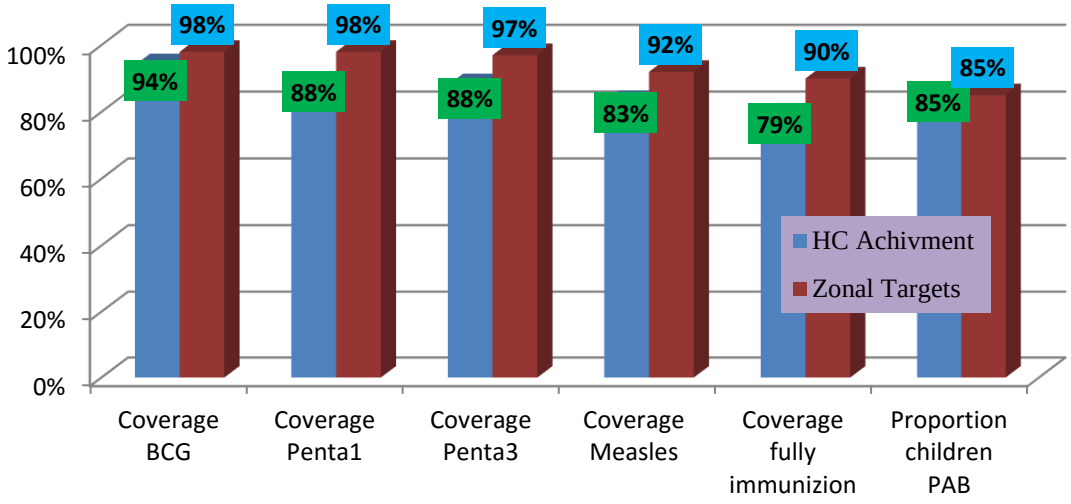

Figure 8 Compassion of coverage on child health indictor of the health centers with HSDP IV target of SWSZ

6. Discussion

This comprehensive need assessment was conducted in 12 selected health centers in Goro, Wolisso rural, Woliso urban and Wonchi Woredas, to assesses the capacity of the facilities to deliver basic maternal, neonatal and child health services. The assessment helps to identify the existing main gap on the implementation of MNCH services in the studied health facilities which needs the collaborative intervention from all stakeholders. In addition the finding of this assessment shows the one shout picture of the facility.

Like other part of Ethiopia in the study area there is high population size. In the 12 health centers' catchment area there are 214, 990 total residences, 6927 infants and 7508 pregnant women. These figures indicate the presences of high population in the study area that needs special health care services. Most of the health facilities are on long distance from their referral center. The mean distance between the health centers and St. Luke hospital is 20.5Km (±13.7Km). According to GIS study conducted in February 2015 by Doctors with Africa CUAMM in a similar study area more than 4hr, 3hr and 1hr needed to cover the distance on foot, by ridding horse and 4WD car respectively. In addition there is no another health facility within 10 Km radius in 60% of study facilities. This situation becomes more complicated due to poor all season road accessibility and shortage of means of transportation and communication. Only 5(41.1%) health facilities have all season road to refer patients to hospital and in all health centers there is only one type means of transportation for 24 hr service. Any of the health centers didn't arrange means of communication during emergencies situation. Therefore the facilities are at distance which is difficult to access during emergence obstetrics complications.

The health centers also have major problem on availability of electric light power and water supplies. These two infrastructures are the key determinant of the quality and availability of health care services particularly for MNCH services. On simple situation without adequate water supply it very difficult to assure the standards of infection prevention. It is also difficult to provide delivery services during night and to conduct the necessary laboratory test without continues electric power supply. Only three (25%) of the health centers have electric power supply and only in 4(33.3%) of the health centers there is running water. To tackle this problem the health centers bring water from other source from distances more than 200m and store it in the buckets. Among these 33.3 % of the health centers get water from non-improved water source like rivers and unprotected sprigs.

Proper management of the cold chain of vaccine plays a greater role on effectiveness of vaccines. When we keep the cold chain we also increase the probability of preventing children from morbidity and mortality related to vaccine prevented disease. Unavailability of sufficient fuel (10, 83.3HCs), backup power supplies (10HCs, 83.3) and poor maintenance of fridges (6, 50%HCs) are the main problem encountered by the health centers to keep the cold chain for vaccines according to this study.

Regarding to the construction condition of delivery room, in majority (9, 75%) of health centers' delivery rooms there is no cracks on the wall and floors and have acceptable enough space but not recently painted. According to this observation we classify the condition as satisfactory condition. This may be due to most of the health center are new. Eight of the HCs were constructed after 2010. The delivery unit of 2 facilities' is recently painted, has no cracks on the wall and floor and has enough working space. Only one health centers delivery unit is unsatisfactory. It needs major rehabilitation works. Based on this assessment there are 10 health centers that need rehabilitation works to give services on well constructed and attractive working environment. In general the health centers couldn't provide two deliveries on delivery table at one time, because the average number of functional delivery table is 1.5 for the assessed health centers. All the selected health centers have delivery unit but in only one health center there is first stage labor room. This may be due to shortage of rooms and beds and low client flow in health facilities.
To assess the preparedness of the delivery unit, the organization and accessibility of equipments and supplies were observed. According to this assessment in 9(75%) health centers available delivery equipments were cleaned and ready for use. In the others 3 health centers, equipments and materials were not arranged, cleaned and not ready for use. This may be due to shortage of water to clean equipments and not functionality of the sterilizing instrument at the day of visit. In addition to this usually they use boiling techniques to sterilized equipments so they may not have fuel to boil equipment and high work during the visit.

All of the eleven mothers waiting areas are part of the health centers. It shares the room of other services. Since it is a new initiative the MWA was not included on the original plan of the health centers during construction. Sharing the other services rooms' by MWA compromise the quality and efficiency of the other services: it doesn't give comfort to the mother because she may feel as sick client and it may expose her to infections. To solve this and other related problems it is recommend having MWA separated from the health centers part. The availability of some facilities and materials in mother waiting area determine the utilization of the services by the mothers. Based on this assessment, 10 of the health centers prepared kitchen for the MWA. Water and electric light was available only in 3 health centers. According to this study the majorities of the MWA are not better than the mothers own home on the availability of the necessary facilities. This was supported by the finding of this study during the assessment of satisfaction of the mothers by MWA.

Based on this study finding sanitary facility like toilet, incinerator and placenta disposal pits are available at the majority of the assessed health centers. Functional toilet, incinerator and placenta pit was available in 11, 7 and 9 health centers respectively. In case of utilization of toilet in all cases the clients, mother in MWA and staff of the health centers used the same facility. This may have impact on the cleanness of the toilet. This may be the reason for unsanitary condition of the toilet. According to our observation only 6(50%) of the health centers' toilets were cleaned during data collection period.

Out of 16 types of infection prevention(IP) materials and supplies included in this assessment the maximum number of item available in each health centers is 11(68.75%). On average there are 9 types of IP materials and supplies in each health centers. Since the items are elementary and basic materials it is expected to be available in all services delivery areas. The majority of facilities (7, 58%) used boiling sterilizing techniques. Most of the processing steps of this technique are manipulated manually. So it is difficult to keep the standards that are required to clean the materials from disease causing infectious agents.

All health centers catchment community have an access to health services like OPD, under five clinics care, EPI, Family planning, ANC, delivery, postnatal care, HIV test and pharmacy at their catchment health center. But the majority of the health center catchment population should travel to other health centers to get laboratory, prophylaxis and treatment of PMTCT, post abortion care/safe abortion and ART services.

Giving different services in single room is common practices in these facilities. In most of the cases EPI, ANC and family planning services are given in a single room plus postnatal mothers and first stage laboring mother are served in a single room. This is due to shortage of rooms and with aim of integration of services particularly Family planning and EPI services. But this is not appropriate when we assess the confidentiality. When we serve more than one client at one room it is difficult to give appropriate counseling services because counseling by its self needs private room. Therefore it is difficult to give services like ANC, Family Planning and PMTCT in a single room by combination with other services. The focus ANC service given by the health centers is not complete because some important laboratory tests are not available in the majority of health centers facilities. The reason why the laboratory service is not functional in most of the health centers includes inaccessibility of infrastructures like electric power supply and lack of laboratory equipments like microscope and centrifuge. Human resource is also another issue for the functionality of laboratory services.

HIV testing service is available in all health centers by PITC program and 6 Health centers by VCT services. The problem is that test positive clients should go to other health facilities to got rehabilitative health care service which is not in line with test and treat strategy of PMTCT services. Particular for the pregnant women it is not the recommended strategy by ministry of health and regional health bureau to refer HIV positive pregnant women to other facility at health center level for prophylaxis and ART. She should get the services at the facility that she tested for HIV.

Most of the services given for under five years children, pregnant women and laboring mothers are free. Mother who has a medical case which is not related or as result of complication of pregnancy will pay for medication and children who are diagnosed with non programme supported disease also will pay for medication. From this situation we can learn that all services given at MNCH unit are not free. Till some services are not affordable by the poor's even it need more study.

In general the composition of staffs in the facilities is good and it goes on line with standards stated by federal ministry of health human resources directorate. The main problem on human resource related issue is that: due to lack of house for the residences of staffs 25% of on call health centers staffs' lives at distances greater than one hr walking distance. This condition has effect on all over services of health centers. The staffs will be not on time always at their working area because of the far distances and unavailability of transportation means.

According to this assessment there is no significant gap on skill improving basic trainings related to BEmONC, IMNCI, SAM management and HMIS, there is at least one trained staff. But there is significant gap on refreshment training for instance: there is no staff in the 12 health centers trained on refreshment training of SAM management and HMIS. There is only 3 staffs trained on IMNCI refreshment training. This is an indication for the absences of staff in health centers that have recent updated knowledge/ information and skill.

The study found that presences of gap on availability of supplies, equipments, and materials in the health centers. The lack of equipment, supplies and drugs for obstetrics and newborn care can compromise the quality of care rendered. Out of the 23 basic materials and equipments need for maternal and newborn car the maximum number of item available is 15(65.2%). This is also only in one health centers. In 4 and other 4 the number of items is 11 and 13. In four health centers there is no any intravenous antibiotic in the delivery unit for emergences obstetrics complication. Similarly in five and two health centers there is no anticonvulsants and uterotonic drugs respectively. There is a need to be addressed on the issue of equipment, supplies and drugs within the health centers. In addition we can learn from this study the presences of poor emergence readiness in the health centers' delivery unit for emergence obstetrics complications.

This study has highlighted low performance in selected maternal and newborn indictors when compared to HSDP-IV target of the South West Shoa Zone. Regarding to referral system, to find information about referrals received by the health centers and referred by the health centers was the main challenge during this assessment. This can be the reflection for the poor referral system in the health centers. The referral systems lack feedback and two way communication. Patients referred from HCs are expected to arrange their own means of transportation and are not accompanied by health professionals. This gap may be arise because the HMIS monthly report didn't capture this information therefore the health professional are not committed to record this data. The health information system also affected mainly with shortage of HMIS tool and few number of trained staff at the facilities. In all MRU basic tools the maximum number of health facilities that has the tools is 6(50%). When we remember the MRU is the main unit for the system, if the MRU has such kind of problem it easy to understand the overall system status.

7. Conclusion and Recommendations

This comprehensive need assessment was conducted in 12 health of Goro, Woliso rural, Woliso urban and Wonchi Woredas to identify the existing gap on provision of MNCH services for the purpose of gap filling intervention. According to this study there is a significant gap on the services provision process on maternal and newborn care in the selected health centers that needs interventional responses from all stakeholders including government authority, partners and the community. The health centers faced major problems related to infrastructure like unavailability of water and electric power supplies. The health centers were poorly equipped with necessary equipments and supplies. There is also high need regarding to capacitating of the human resources with necessary knowledge and skill. In line with the findings of this study, the following recommendations can be made:

1. Strength the ambulances services both for the Hospital and Woreda ambulances to improve the transportation means accessibility to transport obstetrics complications from the health centers to hospital and from the village to health centers. Particularly during the night time the means of transportation is limited therefore strengthening ambulance services can be a solution for the overall improvement of accessibility of means of transportation for 24hr.
2. Work should be done to ensure the availability of means of communication at facility level to facilitate communication process at health center level. If there is means of communication health workers can arrange means of transportation for referrals, can frequently communicate with health extension workers and share information from their supervisors. These will also contribute for the improvement of referral system.
3. Giving response for the existing gaps of lack of water and electric power supply should be urgent. This intervention will also help to improve the quality and availability of health services provided to the community. The presence of adequate water is the basic element for health care workers occupational safety and infection provisions protocol.
4. Increase the availability of trained human man power to give basic maternal and newborn health care at health center level. This will involve training of staff to perform BEmONC signal functions and child health related services. Upgrading of the provider knowledge and skill on BEmONC, IMNCI, EPI and management of severe acute malnutrition cases helps the provider to be competent to give MNCH services. The training should be continues and supported on site supervision and mentorship to meet the expected goal.

5. There is need to ensure availability of basic equipment, supplies and drugs necessary for emergency obstetric and newborn care according to the national guidelines and to ensure availability of appropriate and regular maintenances of health centers equipments.
6. Community mobilization and awareness creation activity should be done intensively to increase utilization of MNCH services at the health centers level. Besides provision of materials equipments; ensuring availability of infrastructure and training and capacitating of staffs intervention should be done to change the health seeking behavior of the community. This intervention should focus on the indentified cultural barriers that influence the community not to utilize health services.
7. The health centers monitoring and evaluation system (HMIS) should be improved by provision of all necessary tools and capacitating of the staffs to practices the system though supportive supervision and training.
8. There is need to have a regular and strong supportive supervision and mentorship to give regularly professional counsel and support from senior counterparts. This create opportunity to have a continues evaluation and directing the works of the health professional. This is particularly important for staffs working at health centers who serve very few clients and hence face the risk of losing their previously acquired skills.

Reference