Health Facility Assessment:
Quality of Maternal Newborn and Child Health Care
2014 -2015

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unicef

Myanmar Partners in Policy and Research

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Photo 1: A young mother taking twins to a health facility in Sintku

LIST OF ACRONYMS

AML	Active Management of Labour
AMW	Auxiliary Midwife
AN	Antenatal
ACT	Artemisinin-based Combination Therapy
ARI	Acute Respiratory Infection
BEmOC	Basic Emergency Obstetric Care
BHS	Basic Health Staff
BNA	Bottleneck Analysis
BP	Blood pressure
CHW	Community Health Worker
CME	Continuing Medical Education
CEmOC	Comprehensive Emergency Obstetric Care
EDD	Expected Date of Delivery
EPI	Expanded Program of Immunization
FGD	Focus Group Discussion
FP	Family Planning
GP	General Practitioner
HA	Health Assistant
HE	Health Education
HFA	Health Facility Assessment
HMIS	Health Management Information System
HC	Health center
HF	Health facility
HW	Health worker
IM	Intramuscular
IMNCI	Integrated Management of Newborn and Childhood Illnesses
ITN	Insecticide Treated Bed-Net
INGO	International Non-governmental Organization
IRC	International Rescue Committee
IUFD	Intrauterine fetal death
KMC	Kangaroo Mother Care
LHV	Lady Health Visitor
LMIS	Logistic Management Information System
MCH	Maternal and Child Health
MCHIP	Maternal and Child Health Integrated Program
MNCH	Maternal, Newborn, and Child Health
MDGs	Millennium Development Goals
MIS	Management Information System
MMR	Maternal Mortality Ratio
MOH	Ministry of Health

NB	Newborn
NGO	Non-governmental Organization
OPD	Out Patient Department
Ob/Gyn	Obstetric and Gynecological
ORS	Oral Rehydration Salt
PHS	Public Health Supervisor
PMCTC	Prevention of Mother to Child Transmission (HIV)
PN	Postnatal
QA	Quality Assurance
RH	Reproductive Health
RHC	Rural Health Center
R-HFA	Rapid Health Facility Assessment
SE	Socio-Economic
SH	Station Hospital
SMS	Short Message Service
STI	Sexually Transmitted Infection
Sub-RHC	Sub-Rural Health Center
TBA	Traditional Birth Attendant
TMO	Township Medical Officer
TOT	Training of Trainers
TT	Tetanus Toxoid
UNICEF	United Nations Children's Fund
UNFPA	United Nations Population Fund
USAID	United States Agency for International Development
U5	Under 5 years old
WCHD	Women and Child Health Development Project
WHO	World Health Organization

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EXECUTIVE SUMMARY

Project Summary

This report provides an analysis and evaluation of public health facilities in Myanmar with the focus on MNCH care. The country is committed to achieving the Millennium Development Goals. However, maternal and child mortality projections for 2015 indicate that MDG 4 and 5 targets are unlikely to be met. The under-five and infant mortality rate is high, UN interagency estimations indicating the under-five mortality rate (U5MR) at 62 per 1,000 live births and the infant mortality rate (IMR) at 48 per 1,000 live births.[1] The progress towards the goal of MDG4 is slow and is categorized as "insufficient progress".[2] In the effort to make further progress in the reduction in infant mortality, the Department of Health has been conducting a program for essential newborn care. In collaboration with UNICEF, nearly 200 townships have been supported for sick newborn management. However, additional information that guides program strategies and further strengthen the provision of basic health newborn and maternal care was urgently needed for the next 5-year strategic planning.

With the funding from UNICEF Myanmar and in collaboration with the Department of Health, Myanmar Partners in Policy and Research (MPPR) implemented this study. The study focused on MCH service provisions including newborn care, and explored the quality of services through facility checklists. It observed newborn deliveries and pediatric care in hospitals and primary care facilities. It also conducted interviews with caretakers of sick children and health staff, and facilitated barrier analysis at the township level through local participation. Domains of inquiry included accessibility of services, availability of infrastructures and supplies such as essential drugs and equipment, as well as human resource, and quality of services. Utilization included aspects of demand factors from patients' point of view. It also attempted to identify specific constraints including physical, economic, and social barriers hampering the utilization of health interventions in facilities.

The characteristics of this study also included its attention to facilities in rural areas. As 75-90% of rural women do not have "institutional delivery" and rely on Rural Health Centers (RHC) and sub-RHCs in their communities for newborn and MCH care, this study recognizes the importance of understanding the conditions under which these facilities operate. The study investigates how these RHCs/sub-RHCs are meeting the needs of pregnant women and newborn who require basic and emergency care, along with information on the utilization of services from the perspectives of women and caretakers.

Findings

Major findings included the following:

1. Availabilities of MNCH services were found uneven among different types of health facilities. For example, on average only 10% of all hospitals (State/Region, District, Township, Station) were ready to provide all 3 basic child care services while 70% of health centres (RHC, Sub-RHC, MCH) did. On the other hand, newborn care was more readily available in hospitals (70%) than health centres (34%). AN care was generally available across facilities.
2. There were mismatch between basic resource allocation and actual needs on the ground. For instance, basic newborn care supplies were found more in larger hospitals in cities than RHCs and sub-RHCs despite the fact that an overwhelming majority of newborn deliveries takes place in rural areas.

[1] UN Interagency Estimates 2011

[2] Countdown to 2015 MNCH Report

3. Facilities were often caught in the vicious cycle of under-utilization and insufficient upkeep for MNCH services both in material and skills.
4. Health centres were often found want of material inputs (hardware). RHCs/S-RHCs lacked about a half of the infrastructural requirements including patient beds, electricity, and clean latrine. Delivery rooms in these facilities were generally in poor conditions.
5. Hospitals were generally found requiring management-related improvements (software). Regular instructive communications, practical supportive supervisions, technical support, and systematic performance reviews from higher facilities for MNCH services were largely missing in township and station hospitals. Qualitative findings suggested that the variations in the quality of service among hospitals and health centers were largely due to local leadership/management factors that were available only on ad hoc basis such as a presence of a good TMO, rather than a function of the system.
6. The results of this study suggested that the performances of health staff were generally good, except the lack of practical experiences in MNCH-related emergency cases. MNCH-related deaths may be further reduced with improvements in the timing of patient arrival in emergency facilities.
7. The provision of normal delivery services was high with 90% of RHC & sub-RHC and 75% of MCH assisting deliveries with or without a delivery room out of necessity. The majority of mothers interviewed was found to first go to a facility accessible within 15-30 minutes on foot in time of need, health facilities in local communities are of paramount importance in providing swift care when mothers face a difficult labour.
8. Yet, emergency care services were only available in hospitals in cities, and essential procedures such as caesarean section, vacuum extraction, and forceps delivery were not readily available every day even in these hospitals.
9. Reasons for the lack of access by mothers seemed more complex than simple want of money and knowledge. Their explanations indicated several "push out" factors from facilities – hidden costs, unmet practical needs, and unpleasant experiences-, and "pull in" factors of home based care – easier access to licensed and unlicensed providers, emotional and practical support from providers, payment flexibility, and superior services from women's point of view.
10. While women were reluctant to use health services in facilities currently available to them, it did not mean that they did not want to use health facilities at all. Mothers expressed their wish for "modern" facilities for their delivery and newborn and child care needs if their practical and emotional needs were met in these facilities.

Recommendations

1. Strengthen the availability of quality MNCH services first and then implement demand promotion
    a. Correct the uneven availabilities of MNCH services among facilities by strengthening child care services in hospitals and newborn care services in RHC/S-RHC
    b. Upgrade RHC/S-RHC with improved infrastructure and supplies
    c. Increase the availability of EmOC in hospitals, especially caesarean section, vacuum extraction, and forceps delivery, any day of the week
2. Bring basic emergency obstetric care closer to communities
    a. Ensure the availability of BEmOC functions at every RHCs (some are already partially BEmOC with limited signal functions)
    b. Increase the availability of emergency care in local communities by ensuring CEmOC functions at every Station Hospitals

3. Meet mothers' practical and emotional needs to increase timely access
    a. Conduct research on delayed access and "quality care" from mothers' perspective
    b. Utilize results of research to pilot MNCH model facilities that incorporate quality of care from mothers' perspectives
    c. Provide management level training on improved patient-provider relations and communication
    d. Ensure that on-going MOH efforts to build new facilities in communities consider meeting the practical (e.g. space for family members and child care) and emotional (e.g. courteous and caring staff) needs of women and families
4. Develop a list of minimum MNCH essential items with WHO and the MOH to ensure that on-going government plan for infrastructural improvement will include currently unmet MNCH needs such as delivery room with audio and visual privacy, essential supplies and drugs such as vacuum extractor, baby wraps, antibiotics for newborn, tetanus toxoid for ANC, and housing for midwives
5. Strengthen management and monitoring to ensure the implementations of the above
    a. Support the establishment and maintenance of a performance management system with a set of core indicators, collected and monitored by states/regions and national level offices for improved quality and accountability in hospitals
    b. Initiate and enhance regular clinical audit (maternal, child, & perinatal death reviews), and build them into the performance management system. This will also help increase the level of accountability of service providers.
    c. Integrate a monitoring mechanism in the system to oversee progress at township level (e.g. use of score cards)
    d. Emphasize managerial skills, and provide leadership and management training at all levels including hospitals
6. Strengthen the CMSD capacities for procurement and distribution of essential MNCH medicines and commodities, including capacity building at township level to ensure supplies and commodities reach community level, and work towards the integration of other commodity security projects into one system

INTRODUCTION

During March – October 2014, the Department of Health and UNICEF in collaboration with Myanmar Partners in Policy and Research (MPPR) conducted a rapid health facility assessment (R-HFA) with the focus on maternal, newborn and child care among randomly chosen 134 public health facilities in 15 locations throughout Myanmar.

Purpose and Characteristics of the Study

The study undertook a health facility assessment (HFA) and assessed the readiness of care provision with special attentions to newborn delivery and MCH care in public facilities. Under the program for women and child health development, nearly 200 townships in the country have been supported by UNICEF Myanmar for basic newborn care and sick newborn management. Their activities included provisions of critical supplies and training for hospital and basic health staff and community health volunteers. Additional information that guided program strategies that further strengthen the provision of basic newborn in connection with maternal health care at the community was critically needed. While modest in scale, this study was envisioned to provide geographically balanced information necessary to strengthen newborn and maternal care provisions in the country, and to provide recommendations to the MOH for Newborn and Child Strategic Plan.

The study examined the current status of delivery and newborn care both in referral hospitals in state/region, district, and township hospitals including the observations f delivery practices and newborn care through 24 hour observations. In 2012-2013, WHO in collaboration with the MOH conducted the assessment of quality of care for children including newborn over 40 township and station hospitals in Ayeyarwardy, Bago, Magway, Mandalay, Mon, Sagaing, Shan, Thanintharyi, and Yangon. The current study has built on these existing studies, and provided further analysis of newborn care that examined availability, readiness, and quality of facilities, as well as linkages between primary health facilities and secondary and tertiary referral hospitals.

The characteristics of this study included its attention to facilities in rural areas. Since a vast majority of women deliver babies at home in rural areas[3], and rely on midwives and health centres in their communities for MNCH care, the study emphasized the importance of understanding conditions under which these facilities operated. It investigated how provisions of health care services in RHCs/sub-RHCs were meeting the needs of pregnant women and newborn who required basic and emergency care, along with information on the utilization of services from the perspectives of mothers and caretakers.

The study also aimed at narrowing the gap in information about **linkages between primary health care services and referral facilities.** The information regarding communication between primary health centres and hospital facilities with basic and comprehensive emergency obstetric care was scarcely available in the country. It attempted to provide information on referral both from supply and demand sides.

The general objective of this study was to:

- Determine the current status, utilization, and readiness for service provision for newborn in connection with maternal health care at primary and referral health facilities and linkages between them

[3] WHO Assessment of Essential Newborn Care in Ayeyarwardy and Magway in 2007 reported 91% of women surveyed delivered at home.

More specifically, the study aimed at providing information necessary for improved health by:

- assessing the availability of commodities, essential equipment and infrastructure, and human resources
- identifying the accessibility to services by overcoming physical, financial, socioeconomic barriers
- determining the quality of care through supervision, monitoring, and training
- determining principal barriers to effective and integrated provision and utilization for newborn and maternal care
- prioritizing strategies for improving availability, accessibility, utilization and quality of care of maternal and newborn care services

The specific domain of enquiry included the following:

➢ **Service availability:** What services are available to support newborn care and in connection with maternal care? What kind of emergency referral system and emergency care available? Are there 24/7 service available for obstetric and newborn care and what kinds of services are available?

➢ **Health Infrastructure:** Are there delivery rooms that are hygienic and in adequate condition? Are there facilities to provide care for preterm birth, birth asphyxia, and sepsis including pneumonia? What water/ sanitation systems are available? What is the availability of electricity in terms of available hour and source? What other systems are available to support quality of care? Are standard treatment protocols available and used?

➢ **Equipment / medical/ supplies:** Are health centres equipped with basic essential equipment, medicine, vaccines and supplies that are needed for MNCH care?

➢ **Documentation and information system:** How are routine service data such as the number and diagnoses of patients recorded and utilized? What is the quality and maintenance of health management information system - at that level?

➢ **Human resources:** Are there sufficient (number and scheduling) basic health staff? Are they sufficiently trained in the provision of services for newborn care? What are the levels of provider satisfaction?

➢ **Monitoring, supervision, and communication:** What systems are in place to monitor supportive supervision, referral, etc.?

➢ Specifically for **RHC and sub-RHC** with midwives, the quality of services included whether the facility:

- Do provide health care for sick children
- Is functioning
- Is available for services regularly
- Is not geographically too far away to be reached

➢ **Linkages between levels of the health systems:** What methods of communication are present between health centres and hospitals or between trained health volunteers and health facilities? Are there formal systems of referral? Is transportation available to facilitate referral?

➢ **Client perspectives of quality of care:** Are the needs of clients understood and met? What are levels of rapport that staff members establish with clients? Is culturally and socially appropriate mode of operation adopted?

In addition, the study also assessed facilities' ability to properly manage common newborn and childhood illnesses including acute respiratory tract infections/pneumonia, diarrhoea, fever/malaria, and malnutrition. The study recognized the importance of the continuum of care in ensuring the health of an under five child including newborn and took into account the quality of paediatric care. Examples of the type of information collected on facility elements required to support quality child health service provision were:

- The assessment, classification of the stage of diseases, treatment chosen, treatment given, counselling mothers and follow up care of children with the most common childhood illnesses
- Availability of essential equipment (e.g., weighing scales, sterilizer, refrigerator) in a usable and accessible condition
- Availability of essential materials (e.g., medical equipment, patient registers)
- Availability of essential drugs for the prevention and management of the most important causes of childhood morbidity and mortality
- Adequate number of staff to provide health services for children and to communicate with caretakers of the children
- The quality of management processes in facilities (e.g., training, supervision, record keeping, reporting)

METHODS

Study Design

This study implemented cross-sectional observations of health facilities in 15 townships across the nation. The data collection methods included direct observations of facilities and care of children, interview with basic health staff and hospital staff, exit interviews with caretakers of sick children who came to health facilities at the time of data collection. Qualitative information were also gathered through focus group discussions with caretakers/mothers and discussions on bottleneck for delivery of health care services and utilization of health care services by community with health personnel to further shed light on information gathered through quantitative surveys and to triangulate findings.

Direct observations

In each health facility, a trained surveyor with a medical degree along with other assistant surveyor observed facility environment, stocks, communication material, and client-provider interactions. The availability, conditions, and numbers of commodities and equipment such as oral antibiotic stocks, weighing scale, and resuscitation equipment were recorded. The physical environment of the clinics, availability of privacy, number of staff, and service provider-patient interactions were also observed. The study also noted facility operations and administrative procedures that were relevant to the quality of MNCH services. Data was gathered through checklists with a series of standard items and observational field notes to record the quality of care provided and the professional competence of the provider.

In facilities, survey teams conducted observations of clinical case management of 195 sick children (0-59 months with cases of fever, cough, or diarrhoea) and 31 delivery of child cases. Twenty-four hour observations of child birth in labor room and newborn care were conducted in 7 RHC, 9 sub-RHC, 1 MCH centre, as well as 14 hospitals. In addition to facility checks, standard procedures for delivery of child and early essential newborn care such as washing hands, use of clean utilities, thermal care were also observed.

Structured survey and exit interviews

Structured survey was administered to both service providers and clients. Data collected revealed aspects of quality services such as the number of providers trained and timing of the training, available guidelines and protocols, providers' performance, providers' work satisfaction levels, and their recommendations for enhancing delivery of services. Exit interviews with caretakers were also conducted to collect data on their knowledge and information received on prescribed medications and client satisfaction on service provided by health facility.

Focus group and discussions on bottlenecks

One focus group discussions with caretakers of newborn was held in each township. FGDs explored their perceptions about available care, unmet needs, barriers to access, and common practices of newborn and maternal care. In addition, their suggestions based on their daily experience and potential resources for improvement in local communities were explored.

The study also explored the constraint and bottlenecks in providing quality newborn and maternal care from provider point of view. It facilitated barrier analysis discussions at the township level aiming at gathering information on township level constraints hampering the delivery and utilization of MCH care in health facilities. In the discussions, TMOs and BHS were first presented with preliminary findings of the surveys, and then conducted detailed analysis of the findings, and attempted to identify specific constraints including physical, economic, social and cultural barriers hampering the delivery of critical health interventions in facilities.

Data collection tools

Questionnaires and checklists were used to collect quantitative data. The instruments were adapted from three existing tools and modified for Myanmar contexts. These tools are Rapid Health Facility Assessment (R-HFA) by MCHIP/MEASURE, Newborn Services Rapid Health Facility Assessment (NSRHFA) by Inter-agency Newborn Indicators Technical Working Group, and Maternal and Newborn Quality of Care (MNC QoC) by USAID, all made available to public as online resources. R-HFA was chosen for its relative rapidity for measuring a set of key indicators and its inclusion of information on quality of care. It had an advantage over other tools such as WHO-SARA that focus mostly on service availability and readiness and did not include assessment of quality of services or resources. In order to supplement newborn related indicators that were lacking in standard facility assessments, NSRHFA was used in conjunction with the R-HFA. The tool was designed to provide a focus on newborn care services with tracer indicators that assessed whether a facility was able to address three major causes of newborn deaths – birth asphyxia, preterm births, and infection. In addition, MNCQoC was referenced to further strengthen the data generation on newborn-related care in the continuum of care from ANC to delivery and to post- natal care. The instruments were first drafted in English, translated into Myanmar, pretested in the field and revised it to use for data collection.

Tools used for data collections were as follows:

1) Clinical observation checklist for sick children
2) 24-hr clinical observations checklist of delivery in labour room and newborn care
3) Exit interview guide for caretakers of sick children
4) Health worker interview guide
5) Health facility checklist
6) FGD guide with caretakers

7) Bottleneck discussion guide on service delivery with health staff

The study used the best practices described by WHO's Integrated Management of Newborn and Childhood Illnesses (IMNCI) clinical guidelines as a reference point for the quality of care received by sick children. The IMNCI has been used in Myanmar since 2004 and the newborn section was added in 2012. A seven-day course of Newborn Care and Childhood Illness Management training supported by UNICEF has been provided in 200 townships since 2001, in addition to trainings provided by WHO in over 30 townships. (http://whqlibdoc.who.int/publications/2008/9789241597289_eng.pdf)

Sampling:

Township selection

The study used stratified random sampling to ensure geographical diversity of sampling. The 14 states/regions in the country were first stratified into 9 domains according to their geographical similarity and socioeconomic conditions. The list of the domains are as follows:

Domain 1: Kachin, Kayah and Shan (N, E, S)
Domain 2: Kayin, Mon and Thanintharyi
Domain 3: Chin and Sagaing
Domain 4: Bago (E&W)
Domain 5: Yangon
Domain 6: Magway
Domain 7: Mandalay
Domain 8: Rakkhine
Domain 9: Ayeyarwardy

One township from each domain, a total of 9 townships were randomly selected from the domain. The selected townships were: Ywangan, Myawaddy, Ayardaw, Yaydarshey, Hlegu, Pwintphyu, Sintku, Pentanaw, and Myauk U.

In addition to the 9 townships, 6 state/regional and district level hospitals in 6 locations were purposefully selected. In selecting the 6 locations, first, the selected 9 townships were clustered into 3 regional areas according to their geographical characteristics: delta, hilly, and plain regions. Second, in each of the three geographical areas, one state/regional and one district hospital were purposefully sampled. The 15 selected locations are listed in the table below:

Table 1: Selected Townships

No.	State/Region	Township & linked hospital locations	No.	State/Region	Township & linked hospital locations
1	Southern Shan	Ywangan	**9**	Magway (hospitals)	Minbu
2	Southern Shan (hospitals)	Kalaw	**10**	Magway (hospitals)	Magway
3	Southern Shan (hospitals)	Taunggyi	**11**	Mandalay	Sintku
4	Kayin	Myawaddy	**12**	Rakkhine	Myauk U*
5	Sagaing	Ayardaw	**13**	Ayeyarwardy	Pantanaw
6	Eastern Bago	Yaydarshey	**14**	Ayeyarwardy (hospitals)	Ma-U-Bin
7	Yangon	Hlegu	**15**	Ayeyarwardy (hospitals)	Pathein
8	Magway	Pwint Phyu			

*The data collection team was unable to enter Rakkhine State for security reasons

Health facility selection

The study used a combination of stratified random sampling and purposive sampling to select health facilities in a township. The sampling frame of health facility lists - an updated list of all public facilities by type in selected townships - was obtained by requesting from the DOH(i.e. district, township, station hospital, RHC, sub-RHC). Since large differences in available services and qualities between referral level and primary health care level. Each category of facility was used as separate independent strata of facilities to be sampled from.

In each township, there was one facility that was assigned for comprehensive emergency obstetric care (CEmOC) (State/Region, District, Township Hospital or Station Hospital), and a few facilities for basic emergency obstetric care (BEmOC). Therefore, 1 CEmOC hospital and 2 station hospitals were purposefully selected in each township when available. In order to observe their readiness to function as referral hospitals for PHC level, district and state/region level hospitals that are linked to selected township hospitals were also selected. For instance, in the delta region, Ma-Ubin was linked to Pantanaw. In the hill region, the selected Ywangan Township was linked with Kalaw for its district level hospital, and Taunggyi for its state level Maternal and Child Health Hospital. In the plain region, the selected Pwint Phyu Township was linked to Minbu District Hospital and Magwe Regional level. For station hospitals, two facilities - furthest and nearest from the township hospital were selected in each township, except in townships that have only one station hospital.

In addition to these hospitals, Rural Health Centre (RHC) and Sub-RHC with a delivery room were stratified in each township and then randomly selected within a geographic strata linked to selected referral hospitals At least one MCH facility in each township was planned. (See appendix A for the list of sampled facilities.)

Table 2:

Facility Types	Universe	Planned	Actual
Hospitals (State/Region, District, & Township Hospitals)	14 state/region 73 district 243 township 572 station	3 state/region 3 district 9 township 18 station	3 state/region 3 district 8 township 13 station
Health Centers (RHC, sub-RHC & MCH)	348 MCH 1635 RHC 7581 sub-RHC	9 MCH 23 RHC 90 sub-RHC	8 MCH 20 RHC 79 sub-RHC

Note: the data collection team were unable to access 18 facilities in Mrauk-U for security reasons.

Table 3:	
Summary of Actual Sample Sizes	
# of facilities	134 (27 hospitals and 107 health centres)[4]
# of health workers interviewed	134
# of sick children observed	195 (in 35 hospitals and 160 health centres)[5]
# of caretakers interviewed	195

[4] Observations of 155 facilities and interviews with 155 health workers were originally planned. However, the data collection team were unable to access 18 facilities in Myauk-U for security reasons. In addition, 3 health centres were found not in operation in the field.

[5] Observations of 363 sick children were planned. However, due to lack of cases in the time of data collection, the planned number of sick children could not be found in these facilities within the time allowed for data collection.

# of delivery cases observed/case scenario	20 (15 hospitals, 5 health centres) [6]/ 12
# of mothers participated in FGD	68 (5-8 in 9 townships)
# of health personnel participated in bottleneck discussions	135 (3 townships)[7]

Training

Intensive trainings were provided to data collection teams for - MNCH care knowledge as well as qualitative and quantitative research skills by trainers and consultants who possessed maternal, newborn and child health care and research experience. The training included data collection methods, module on logistics, modules for observations and how to assess health providers' performance, and focus group discussion. Surveyors were familiarized with the intent and meaning of the questionnaires, given opportunities to role-play interview situations, and conduct actual interviews. The training also included communication and problem solving skills as well as motivational session to increase their moral and sense of ownership for the research. Though supervisors in the data collection teams were medical doctors, to ensure the knowledge of MNCH clinical care among all surveyors, the training curriculum further included basic knowledge of pediatric and delivery of child birth and newborn care in a hospital setting instructed by a qualified pediatrician and an obstetrician/gynecologist.

Data collection and analysis

Ten survey teams collected the data. Each team consisted of one supervisor who was a medical doctor and 2 experienced data collectors. Each team spent 10-20 days in a township collecting data. One team was specialized in assessing larger hospitals in 6 locations. Data gathered were entered into Epi Info for data management and analysis. A statistician and data managers who led the fieldwork and are familiar with the survey forms and the conditions on the ground performed data analysis.

Data analysis emphasized key indicators for essential MNCH care for evaluating quality of care and making programme decisions. Simple analysis of each variable was performed to obtain frequency distributions based on facility types deriving numerators and denominators from observations and sampled facilities and cases. Each type of facility was scored for essential services/goods available and color coded for red (0-33% of facilities), yellow (34-66% of facilities), and green (67-100% of facilities). When result indicators were available, the analysis team discussed the findings with local health care providers in 3 townships. Descriptive summary tables and charts based on frequencies from the database were prepared. Detailed findings on indicators were summarized in a table below. For qualitative data, the contents of FGDs with caretakers were transcribed, translated, and analyzed, continuously coding recurring issues across discussions, and finally clustered for themes to identify larger issues. Furthermore, data collection teams brought their findings to a data analysis workshop and compare and contrasted their findings to confirm thematic issues. In addition, field surveyors' experiences on the ground were captured in the form of oral interviews and notes to triangulate data.

[6] Observations of 35 delivery cases at facilities with a labour room were originally planned, but were reduced to 32due to reduce no of township in the study and unavailability of expected no of cases during the data collection period. One case was removed due to intrauterine fetal death (IUFD). No cases in 3 regional hospitals and MCH, 2 out of 8 planned cases in RHCs, and 3 out of 8 planned cases in sub-RHCs with a delivery room were observed. . Additional 12 case scenario were conducted to augment the missing cases.

[7] Due to time and resource constraints, 3 out of nine townships were conveniently selected.

Limitations

The study mainly gathered facility-based information based on health system building blocks such as service availability, infrastructure, supplies, drugs, human resource, performance, training, and information. It did not include a household survey, and demand side information was limited. Qualitative information was collected to augment this limitation and to triangulate findings. Furthermore, the study focused on the public sector, and health facilities in the private sector, though often utilized by women and children, were not examined in this study. For clinical observations, unavailability of sufficient number of cases in health facilities posed a major difficulty in finding cases for clinical observations in public facilities within a limited time, resulting in the smaller sample sizes of children (195) and delivery/newborn (20) than originally planned (363 and 35 respectively). In addition, the tools were adapted for the first time in Myanmar, and some medical practices on the ground in remote areas were variable and hard to capture.

Findings

This study gathered information on core indicators specified in the R-HFA tool that look at four areas of analysis: access, inputs, process, and outputs. The core indicators emphasized basic and essential information for demonstrating access and quality of services. The use of core indicators also allowed a focus on essential information that can be comparable between projects and other existing data, and be useful for monitoring, planning and priority setting. The results of the core indicators are shown in the table below.

Core Indicator Definition Table

Area of Analysis		Domain	Indicator	Result
1) ACCESS	1	Geographical Access to Services	% caretakers who took less than one hour to come to a public health facility	96%(188/195)
	2	Service Availability Child	% HF that offer 3 basic child health services (sick child care, vaccination, growth monitoring)	64%(86/134)
	3	Service Availability Newborn	% HF that offer 3 basic newborn care services (sick newborn care, vaccination, postnatal care)	39%(52/134)
	4	Service Availability Maternal Care	% HF that offer 4 maternal care services (AN care, normal delivery, Immediate postnatal care, postnatal care)	87%(116/134)
	5	Service Availability Delivery	% HF that offer normal delivery services available for 30 days in a month	91%(122/134)
2) INPUTS (Supplies)	6	Staffing	% sanctioned positions for which health staff were present on the day of survey	Avg 70%
	7	Infrastructure	% HF with all 7 (6) essential infrastructure on day of the survey (power, faucet water, functional latrine for clients, communication equipment, **emergency transport,** overnight beds, setting allowing **auditory and visual privacy)**	4%(6/134) Avg 4.5 items
	8	Supplies Child	% HF with all 3 essential supplies to support child health in HF on day of the survey (accessible and working scale for child, accessible and working scale for infant, timing device for diagnosis of pneumonia)	75%(100/134)
	9	Supplies Newborn	% HF All 5 essential supplies to support newborn health in HF on day of the survey (Neonatal resuscitation device (tube & mask), weighting scale, baby wraps, soap and water for hand washing, sterilized gloves)	19%(26/134)
	10	Supplies for ANC	% HF with all 3 essential supplies to support antenatal care on the day of the survey (blood pressure, Uristick for protein testing, haemoglobin reagents)	59%(79/134)
	11	Drugs for Child	% HF with all 5 first line medications for child health on the day of the survey (ORS, oral antibiotic for pneumonia, first line oral antibiotic for dysentery, first line anti-malarial, vitamin A)	58%(78/134) Avg 4.3 items

	12	Drugs for Newborn	% HF with all 2 first line medication for newborn sepsis and eye infection on the day of the survey	37%(50/134) Avg 1.2 items
	13	Drugs for ANC	% HF with all 3 essential ANC medications on the day of survey (tetanus toxoid, iron/folic acid and deworming tablets)	24%(32/134) Avg 2.07 items
	14	Drugs for L&D	% HF with all 3 essential delivery medications on the day of survey (oxytocin, magnesium sulphate, corticosteroids)	26%(30/114)
	15	Availability of guidelines	% HF with guidelines approved by the MOH for MNCH care available and accessible on the day of survey	51%(68/134)
	16	Infection Control	% HF with all 5 infection control supplies and equipment on the day of survey (bleaching powder, sterilized gloves, sharp objects container, disposable syringes/needles, and hand washing soap)	38%(51/134)
3) PROCESSES	17	Information related to Child health care	% HF that recorded age, diagnosis, treatment for sick children in last 7 days	66%(89/134)
	18	Information related to ANC	% HF that recorded information on anti-tetanus toxoid injection, blood pressure, expected date of delivery in last 7 days	42%(56/134)
	19	Information for L&D	% HF that maintained delivery register and had an entry within the last 30 days	82%(110/134)
	20	Training in Child Health	% HF which reported receiving in-service or pre-service training on all child care in last 12 months (vaccinations, ARI, diarrhoea, malaria prevention and case management, nutrition)	35%(39/110)
	21	Training in Neonatal Care	% HF which reported receiving in-service or pre-service training on all neonatal care in last 12 months (newborn resuscitation, infection, thermal care, KMC, sterile cord care, use of corticosteroids)	44%(48/110)
	22	Training in Delivery Care	% HF which reported receiving in-service or pre-service training in all delivery-related care in last 12 months (breastfeeding, postnatal care, antenatal care, infection prevention, AMTSL, referral protocols)	35%(38/110)
	23	Supervision	% HF that received supervision at least once in last 6 months on all of the activities (record check, supply delivery, observation of performance, feedback provision, praise, updates, problem discussion, drug supply check, newborn care)	34%(36/106)
	24	Facility Linkages	% HF that ever received administrative instructional letter or technical support related to MNCH from higher levels	34%(45/134)

Area of Analysis		Domain	Indicator	Result
4) OUTPTS (Utilization and Quality)	25	Utilization of Child Care Services	The median # of sick children seen in last 3 months	41 Range 0-510 (n=134 facilities)
	26	Utilization of ANC Services	The median # of pregnant women seen for ANC in last 3 months	46 Range 0-769 (n=134 facilities)
	27	Utilization of Neonatal Services	The median # of sick newborn seen in last 3 months	0 Range 0-362 (n=134 facilities)
	28	Utilization of Delivery Services	The median # of delivery performed in last 3 months	14 Range 0-777 (n=134 facilities)
	29	Health care providers' Performance (Assessment)	% HF in which four key assessment tasks are performed by health staff (check all danger signs -unable to drink or breastfed, , vomit everything, convulsions lethargic or unconscious- and inquired about malnutrition, vaccination status, anaemia)	32%
	30	– Health care providers' Performance (Treatment)	% clinical encounters in which treatment was appropriate for ARI/pneumonia, diarrhoea and malaria,	89%(171/193)
	31	–Health care providers' Performance (Counselling)	% clinical encounters in which caretaker whose child was prescribed an antibiotic, antimalarial, or ORS, could correctly describe how to administer **all** drugs	93%(119/128)
	32	Health care providers 'Performance (Counselling)	% clinical encounters where health staff counselled caretaker on continued feeding of sick child	18%(34/193)

Access

Child Care

The availability of basic services for sick child care was measured through 1) the availability of curative care for 30 days/month, 2) vaccination availability for 4 or more days in a month, and 3) growth monitoring available for 4 or more days in a month. Basic child care services were most readily available at sub-RHCs, followed by RHC and MCH centre, suggesting a close relation between utilization and service availability.

Photo 2: A midwife weighing a child in a sub-RHC in Pwint Phyu

Seventy percent of health centres provided all 3 basic child health services although MCH centres were available only on weekdays, and health centres were not always available for care due to a limited number of human resources attending multiple duties.

In general, child care services were not readily available at hospitals (average 15% of all hospitals). In particular, promotive and preventive child care services in hospitals were insufficiently available.

There were large variances within the same types of facilities in the numbers of children immunized in last three months. The numbers of growth monitoring conducted indicated the similar pattern. Growth monitoring was to be provided once a month for 1 year old, twice a year for 1-3 year old, and once a year for 3 to 5 year old. However, the service was completely unavailable in hospitals larger than township hospitals. The largest median number of children growth monitored in last three months was found in RHCs (117) and the lowest was station hospitals (57).

Table 1: Availabilities of Basic Child Care Services

# of facilities with services	State/ Region Hospital	District Hospital	Township Hospital	Station hospital	Maternal and child health centre	Rural health centre	Rural health sub-centre	Overall %
	n=3	n=3	n=8	n=13	n=8	n=20	n=79	N=134
Care for Sick Child available for 30 days in a month	3(100%)	3(100%)	7(88%)	13(100%)	5(63%)	13(65%)	64(81%)	107 (80%)
Vaccination available for 4 or more days in a month	1(33%)	1(33%)	2(25%)	2(15%)	8(100%)	20(100%)	78(99%)	112 (84%)
Growth Monitoring available for 4 or more days in a month	0(0%)	0(0%)	4(50%)	7(54%)	8(100%)	19(95%)	77(98%)	115 (86%)
% that offer all 3 basic child health services	**0 (0%)**	**0(0%)**	**2(25%)**	**2(15%)**	**5(63%)**	**13(65%)**	**64(81%)**	**86(64%)**

Note: Red highlights less than 33% (priority), yellow 34-66% (longer term strengthening), and green 67%-100%

Graph 1: % of Facilities that Offer All 3 Basic Child Health Services

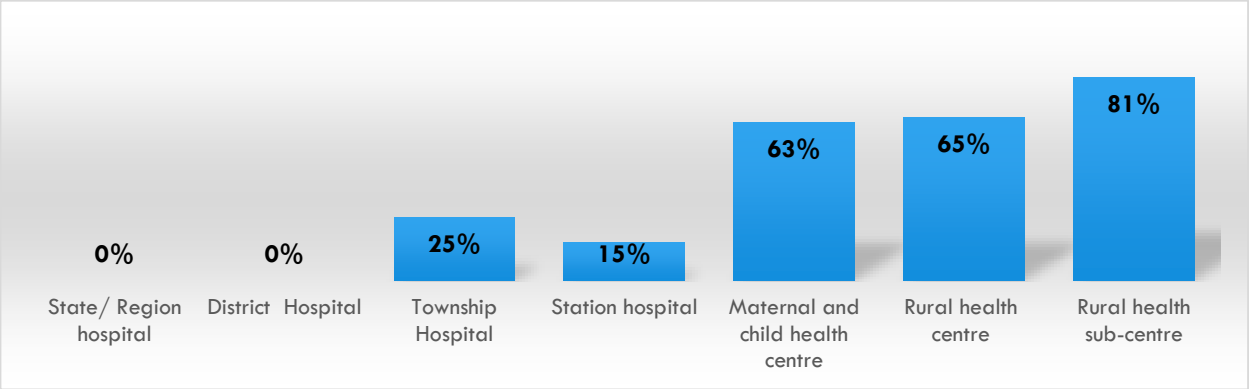


Table 2: Number of Children Immunized in Last 3 Months								
# of children immunized in last three months	**State/ Region hospital**	**District Hospital**	**Township Hospital**	**Station hospital**	**Maternal and child health centre**	**Rural health centre**	**Rural health sub-centre**	**Overall %**
	n=2	n=3	n=5	n=7	n=7	n=20	n=79	N=123
Mean number	285	0	46	55	150	157	85	98
Median number	285	0	0	17	117	100	65	65
Range	0-569	0	0-140	0-201	21-331	21-778	10-321	0-778

Table 3: Number of Children Growth-Monitored in last 3 Months								
# of children growth-monitored in last three months	**State/ Region hospital**	**District Hospital**	**Township Hospital**	**Station hospital**	**Maternal and child health centre**	**Rural health centre**	**Rural health sub-centre**	**Overall %**
	n=3	n=3	n=8	n=13	n=8	n=20	n=79	N=134
Mean number	0	0	75	65	169	117	115	108
Median number	0	0	79	57	117	90	86	86
Range	0	0	0-172	0-202	41-344	0-573	6-682	0-682

Photo 3: a Sub-RHC in Pwint Phyu

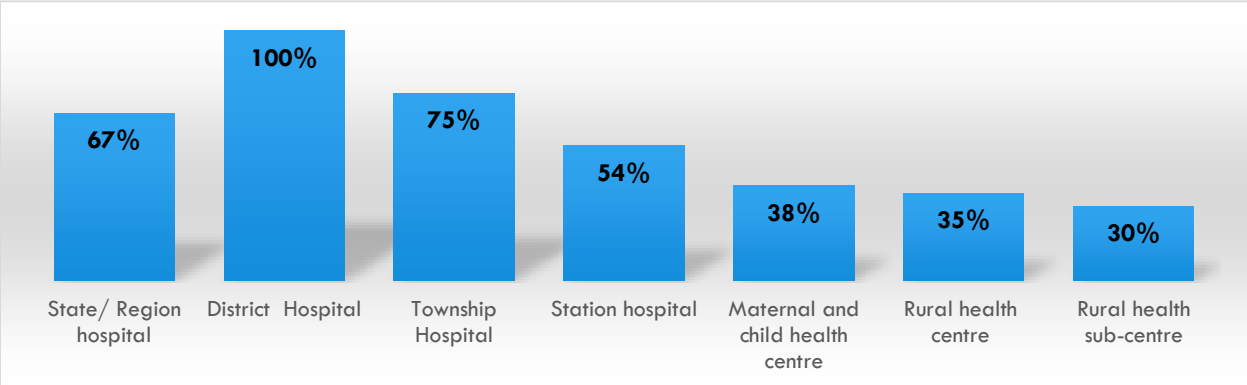
Newborn Care

Availabilities of basic newborn care services were measured with 3 indicators: 1) the availability of sick newborn care for 30 days in a month, 2) the availability of vaccination care for 4 days or more in a month, and 3) the availability of postnatal care for 30 days in a month (Table 4). In contrast to the availability pattern of sick child care, services for newborn care were not readily available at health centres (average 34 % of all health centres) while on average 74% of all hospitals provided all 3 basic services. The lower availability of vaccination for 4 days or more in a month in health centres (30-38%) reduced the overall score.

Table 4: Availabilities of Basic Newborn Care Services

	State/ Region hospital	District Hospital	Township Hospital	Station hospital	Maternal and child health centre	Rural health centre	Rural health sub-centre	Overall %
	n=3	n=3	n=8	n=13	n=8	n=20	n=79	N=134
Sick newborn care available for 30 days in a month	3(100%)	3(100%)	7(88%)	13(100%)	5(63%)	14(70%)	66(84%)	110 (82%)
Vaccination care service available for 4 days or more in a month	3(100%)	3(100%)	6(75%)	7(54%)	3(38%)	7(35%)	24(30%)	53 (40%)
Postnatal care service available for 30 days in a month	2(67%)	3(100%)	8(100%)	12(92%)	7(88%)	16(80%)	70(89%)	118 (88%)
% that offer all 3 basic newborn health services	**2 (67%)**	**3 (100%)**	**6 (75%)**	**7 (54%)**	**3 (38%)**	**7 (35%)**	**24 (30%)**	**52 (39%)**

Graph 2: % of Facilities that offer all 3 Basic Newborn Health Services



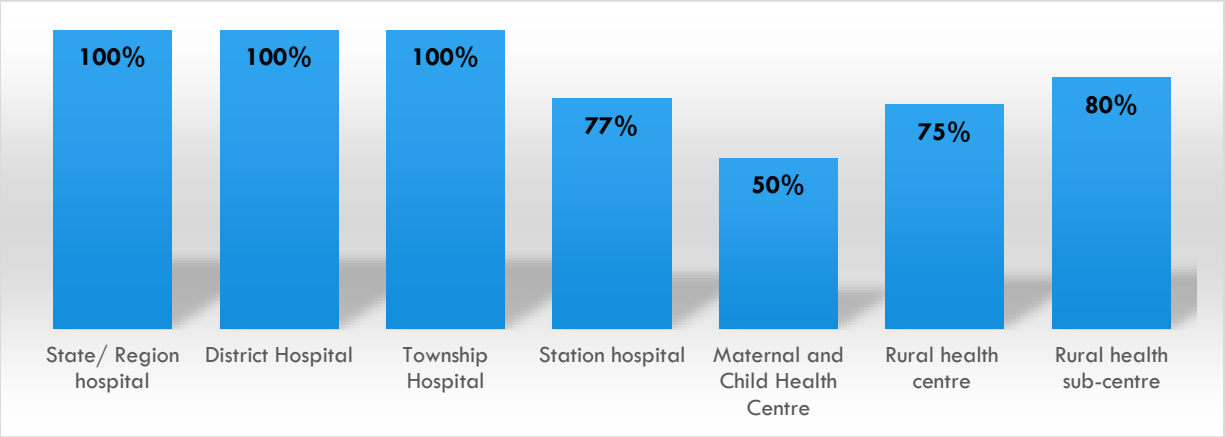
Provision of Kangaroo Mother Care (KMC)

The availabilities of Kangaroo Mother Care (KMC) for premature and low birth weight babies were examined. KMC was defined as "skin to skin contact with mother for low birth weight/premature babies" and no duration or body weight was specified. 82% of all facilities practiced KMC for low birth weight babies. The least performed was MCH centres (57%). While 100% of other hospitals performed the care, 23% of station hospitals did not. 75% and 84% of RHC and sub-RHC practiced KMC.

Table 5: Availabilities of Kangaroo Mother Care

	State/ Region hospital	District Hospital	Township Hospital	Station hospital	Maternal and child health centre	Rural health centre	Rural health sub-centre	Overall %
	n=3	n=3	n=8	n=13	n=8	n=20	n=79	N=134
Provide Kangaroo Mother Care	**(3)100%**	**(3)100%**	**(3)100%**	**(10)77%**	**(4)50%**	**(15)75%**	**(63)80%**	**(106)79%**

Graph 3: Availability of Kangaroo Mother Care



Maternal Care

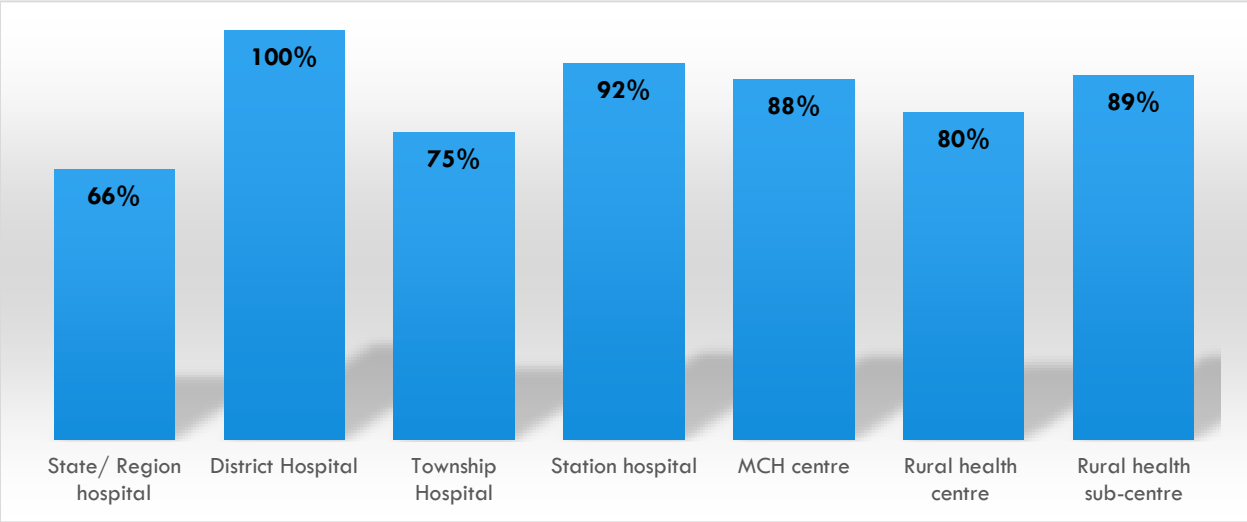
Antenatal and normal delivery services were generally available at all level of facilities (87%). One out of three state /region hospital did not make postnatal care for 30 days in a month and 2 township hospitals out of eight did not provide antenatal care services 4 or more days in a month.

Table 6: Availabilities of Maternal Care Services

Number of facilities with services	State/ Region Hospital	District Hospital	Township Hospital	Station hospital	Maternal and child health centre	Rural health centre	Rural health sub-centre	Overall %
	n=3	n=3	n=8	n=13	n=8	n=20	n=79	N=134
Antenatal care service 4 or more days in a month	3	3	6	12	8	20	78	130 (97%)
Normal delivery service available for 30 days in a month	3	3	8	13	7	17	71	122 (91%)

Immediate postnatal care service available for 30 days in a month	3	3	8	12	7	16	71	120 (90%)
Postnatal care service available for 30 days in a month	2	3	8	12	7	16	70	118 (88%)
% that offer all 4 basic maternal care services	2 (66%)	3 (100%)	6 (75%)	12 (92%)	7 (88%)	16 (80%)	70 (89%)	116 (87%)

Graph 4: % of Facilities that offer all 4 Basic Maternal Care Services



Delivery and Emergency Care

89% of all hospitals had the ability to provide all basic emergency obstetric care (BEmOC): 1) Parenteral administration of antibiotics (im), 2) Parenteral administration of oxytocin (im), 3) Parenteral administration of anticonvulsant for hypertensive disorder of pregnancy (im), 4) Assisted vaginal delivery, 5) Manual removal of placenta, 6) Removal of retained products, and 7) Neonatal resuscitation. 81% actually provided these services in the past three months.

However, **only 63% of the hospitals were able to provide caesarean section[8], 30% vacuum extraction, and 63% forceps delivery any day of the week.** Only 1 out of 3 district hospitals and 4 out of 8 township hospitals were providing caesarean section any day of the week.

Only **15% of RHCs and sub-RHCs had the ability to provide all basic emergency care** signal functions: 1) Parenteral administration of antibiotics (41%), 2) Parenteral administration of oxytocin (65%), 3) Parenteral administration of anticonvulsant for hypertensive disorder of pregnancy (15%), 4) Assisted vaginal delivery (95%), 5) Manual removal of placenta (25%), 6) Removal of retained products (25%), and 7) Neonatal

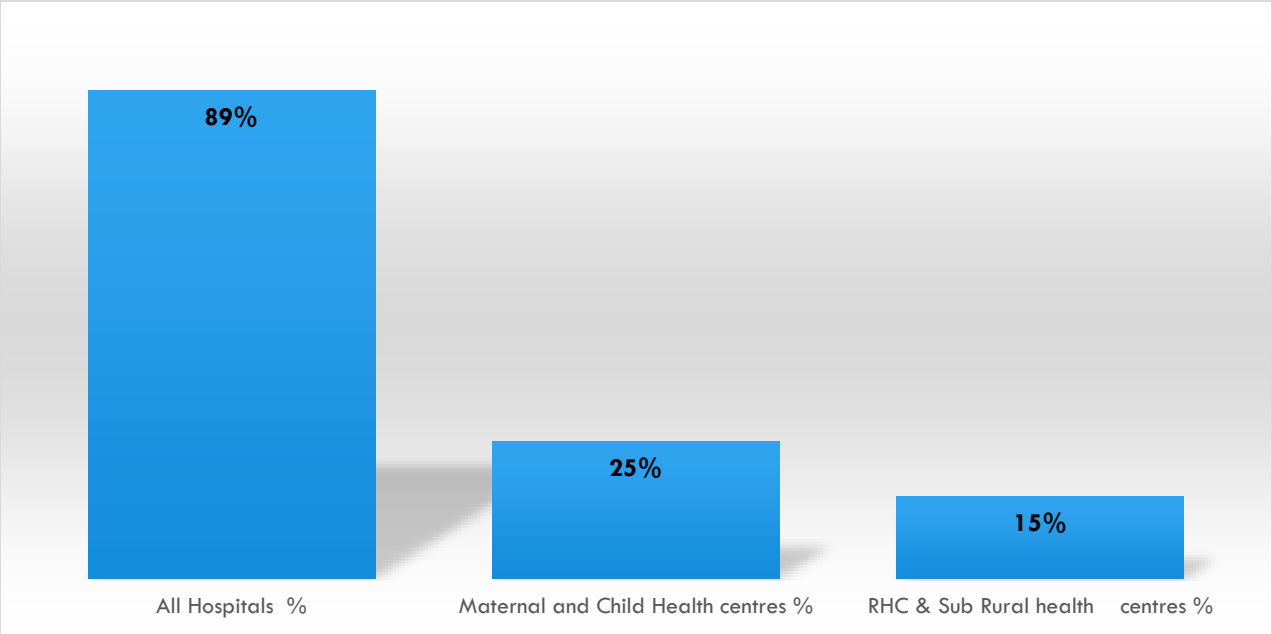
[8] One of two CEmOC functions, availability of blood transfusion, was not included in the R-HFA tool that focused on basic health services

resuscitation (73%). 25% of MCH centres provided all services. Health centres were officially designated to provide BEmOC services except assisted vaginal delivery and manual removal of retained placenta.

Table 7: Facilities Able to Provide Basic Emergency Obstetric Care

% of facilities able to provide care	All Hospitals	Maternal and Child Health centres	RHC & Sub Rural health centres	Overall
	n=27	n=8	n=99	N=134
Assisted vaginal delivery	27(100%)	7(88%)	93(94%) [9]	127(95%)
Parenteral administration of antibiotics (im)	24(89%)	3(38%)	32(32%)	59(44%)
Parenteral administration of oxytocin (im)	26(96%)	6(75%)	64(65%)	83(62%)
Parenteral administration of anticonvulsant for hypertensive disorder of pregnancy (im)	24(89%)	2(25%)	12(15%)	38(28%)
Manual removal of placenta	25(93%)	3(38%)	25(25%)	48(36%)
Removal of retained products	25(93%)	3(38%)	25(25%)	48(36%)
Neonatal resuscitation	25(93%)	6(75%)	57(58%)	88(66%)
Facilities that offer all 7 basic emergency obstetric care	**24(89%)**	**2(25%)**	**12(15%)**	**38(28%)**

Graph 5: Facilities that are able to Provide All 7 Basic Emergency Obstetric Care at least Once a Week



[9] There was a persistent confusion about the definition of "assisted vaginal delivery" among midwives in some places despite explanations given at the time of data collection. This number may have been inflated with the inclusion of "normal delivery". However, this does not affect the overall indictor: "Facilities that offer all 7 basic emergency obstetric care" as other functions had much lower availabilities.

Table 8: Facilities that Provided Basic Emergency Obstetric Care in Last 3 Months				
% of facilities that provided care	**All Hospitals**	**Maternal and Child Health centres**	**RHC & Sub Rural health centres**	**Overall**
	n=27	**n=8**	**n=99**	**N=134**
Assisted vaginal delivery	27(100%)	6(75%)	89(90%)*	122(91%)
Parenteral administration of antibiotics(im)	24(89%)	3(38%)	30(30%)	57(43%)
Parenteral administration of oxytocin(im)	26(96%)	5(63%)	55(56%)	86(64%)
Parenteral administration of anticonvulsant for hypertensive disorder of pregnancy (im)	23(85%)	0(0%)	7(7%)	30(22%)
Manual removal of placenta	24(89%)	3(38%)	20(20%)	47(35%)
Removal of retained products	24(89%)	3(38%)	20(20%)	47(35%)
Neonatal resuscitation	24(89%)	3(38%)	40(40%)	67(50%)
Facilities that provided all 7 basic emergency obstetric care	**23(85%)**	**0(0%)**	**7 (7%)**	**30(22%)**

* Please see footnote 7 above for an explanation.

Table 9: Availability of Emergency Services for Delivery Care in Hospitals					
Service at facility	**State/ Region Hospital**	**District Hospital**	**Township Hospital**	**Station hospital**	**Overall %**
	n=3	n=3	n=8	n=13	N=27
No caesarean section available	0	0	1	3	4 (15%)
Caesarean section available ONE TIME PER WEEK	0	0	2	1	3 (11%)
Caesarean section available WEEKDAYS ONLY	0	2	1	0	3 (11%)
Caesarean sections ANY DAY including weekends	3(100%)	1(33%)	4(50%)	9(69%)	17 (63%)
No vacuum extraction available	0	0	4	10	14 (52%)
Vacuum extraction ONE TIME PER WEEK	1	1	0	0	2 (7%)
Vacuum extraction WEEKDAYS ONLY	2	1	0	0	3 (11%)
Vacuum extraction ANY DAY including weekends	0(0%)	1(33%)	4(50%)	3(23%)	8 (30%)
No forceps delivery available	0	0	1	3	4 (15%)
Forceps delivery ONE TIME PER WEEK	3	3	0	0	6 (22%)
Forceps delivery WEEKDAYS ONLY	0	0	0	0	0 (0%)
Forceps delivery ANYDAY including weekends	0(0%)	0(0%)	7(88%)	10(77%)	17 (63%)

Chart 1: Availability of Caesarean Section

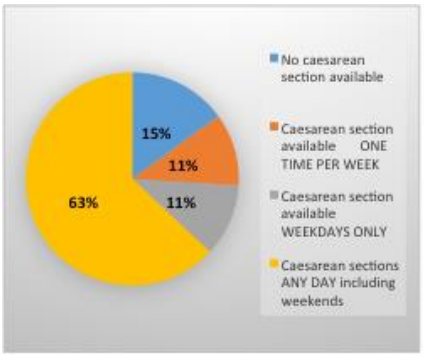


Chart 2: Availability of Vacuum Extraction

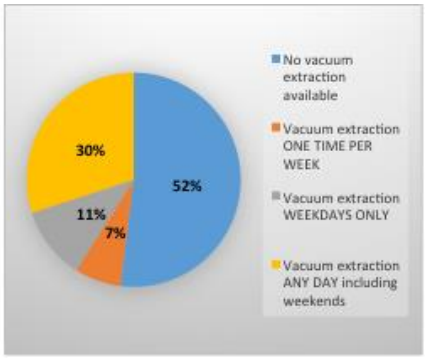
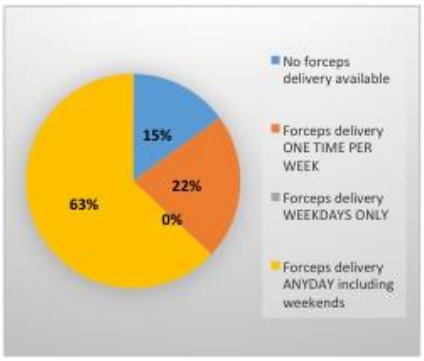


Chart 3: Availability of Forceps Delivery



Physical and Financial Accessibility

72% of caretakers of sick children interviewed took less than 15 minutes to access a public facility and another 21% took 16 to 30 minutes, meaning 93% of caretakers went to the nearest facilities reachable within 30 minutes. Only 5% took 46 minutes or more to reach township and state/region hospitals. 67% walked to facilities and 23% took motorcycle.

Only 5 caretakers of 195 sick children took the trouble of taking over 46 minutes to reach hospitals.

94 out of 195 patients (48%) were asked to pay for expenses out of pocket. Among them, 64% paid 100 – 6000 kyats for transportation, 27% paid 200 – 2500 kyats for medicine, and 10 % paid 200 – 3000 for a hospital registration book.

Table 10: Time Taken to Facilities

Time taken to this facility	State/Region Hospital	District Hospital	Township Hospital	RHC	Sub RHC	Overall %
	n (children) =9	n(children) =3	n(children) =23	n(children) =67	n(children) =93	N(children) =195
Below 15-minutes	2 (22%)	0(0%)	10(43%)	56(84%)	73 (78%)	141 (72%)
Between 16-30 minutes	2(22%)	3(100%)	12(52%)	6(9%)	18(19%)	41 (21%)
Between 31-45 minutes	1(11%)	0(0%)	0(0%)	2(3%)	2(2%)	5(2%)
Between 46-60 minutes	0(0%)	0(0%)	1(4%)	0(0%)	0(0%)	1(1%)
Above 61-minutes	4(44%)	0(0%)	0(0%)	3(5%)	0(0%)	7(4%)

Table 11: Mode of Transportation to Facilities						
Transportation used to this facility	**State/ Region Hospital**	**District Hospital**	**Township Hospital**	**RHC**	**Sub RHC**	**Overall %**
	n(children) =9	**n(children) =3**	**n(children) =23**	**n(children) = 67**	**n(children) =93**	**N(children) = 195**
On foot	0(0%)	2(67%)	7(30%)	45(67%)	77(83%)	131(67%)
By motorcycle	3(33%)	1(33%)	10(43%)	20(30%)	11(12%)	45(23%)
By tricycle	0(0%)	0(0%)	2(7%)	1(1%)	3(3%)	6(3%)
By car	3(33%)	0(0%)	3(13%)	0(0%)	0(0%)	6(3%)
Other	3(33%)	0(0%)	1(4%)	1(1%)	2(2%)	7(4%)

Chart 4: Mode of Transportation to Facilities

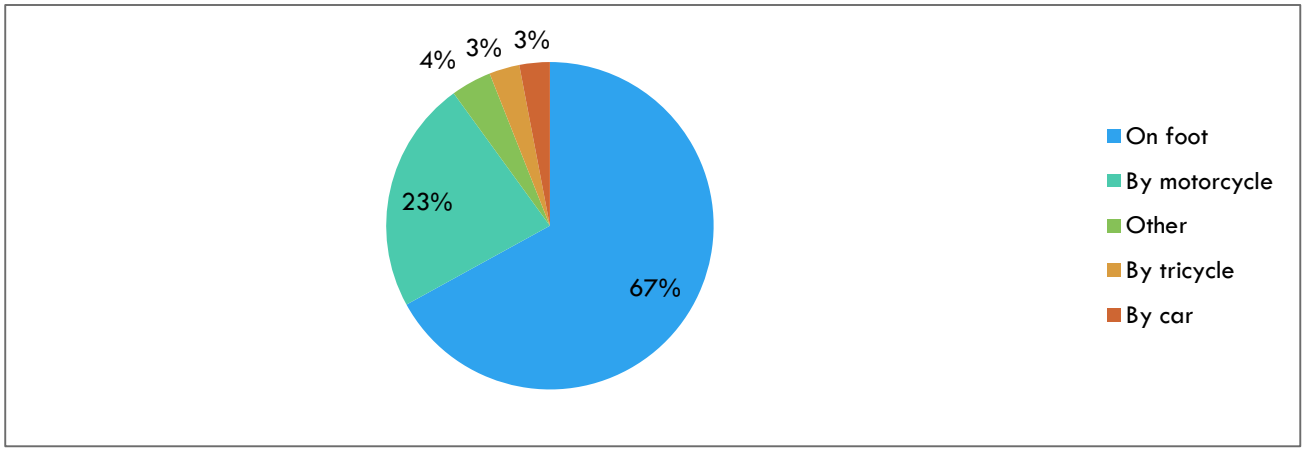


Table 12: Expenses for Facility Care					
Expense for	Number of patients who paid out of pocket (N=195)	Minimum (Kyats)	Mean (Kyats)	Median (Kyats)	Maximum (Kyats)
Transportation	60	100	1135	1000	6000
Medicine	25	200	950	1000	2500
Hospital registration fees	9	200	790	500	3000

Photo 5: A flooded road to a sub-RHC

Photo 4: A difficult road to a sub-RHC in Yaydershae

Inputs

Infrastructure

A total of 134 health facilities were observed for infrastructure items on day of the survey. The checked items were patient beds, communication equipment, emergency transport, electricity, functional latrine for clients, improved water source (tap water), and a clinical setting allowing auditory and visual privacy. Emergency transport was removed from the list for the observations of health centres.

Photo 6: A sub-RHC in Ywangan

Infrastructural needs were far greater in health centres (RHC/sub-RHC/MCH) than hospitals (State/Region, District, Township, and Station). On average, only 3.2 of 6 basic infrastructural items were present in health centres, and only 4% had all 6 items. While nearly all hospitals had electricity (100%), water (100%), usable latrine (96%), only about a half of health centres and MCH units had electricity (47%), water (48%), and latrine (54%).

All hospitals were equipped with patient beds. However, **only 13% of MCH, RHC and sub-RHC, mostly those with a labour room, had patient beds despite the fact that 89% of these facilities provide normal delivery services 30 days a month**.

Only 7 % of hospitals were equipped with all essential items including **ambulatory transport, consultation room allowing auditory and visual privacy**. However, average 5.7 items of 7 essential items were present in hospitals indicating that missing items were mostly ambulatory transport and a room with privacy.

Photo 7: A patient bed in a RHC

Auditory and visual privacy in client consultation room was one of the least available feature among all facilities (28%). Some staff were not even aware of the importance of auditory and visual privacy (see bottleneck discussions in Appendix B).

The availability of communication devices was as high as 97% on average due to recent increases in the availability of mobile phones.

Table 13: Essential Infrastructure								
Infrastructure Item	**State/ Region hospital**	**District Hospital**	**Township Hospital**	**Station hospital**	**Maternal and child health centre**	**Rural health centre**	**Rural health sub-centre**	**Overall %**
	n=3	n=3	n=8	n=13	n=8	n=20	n=79	N=134
Patient beds	3(100%)	3	8	11(	1	5	8	39 (29%)
HC has communication within 5 minute walk	3	3	8	13	8	20	75	130 (97%)
Ambulatory transport	3	1	4	0	0	0	0	8 (6%)
Electricity(current/generator/solar) on day of visit	3	3	8	12	7	13	30	76 (57%)
Useable client toilet/latrine on day of visit	3	3	7	12	5	13	39	82 (61%)
Water from faucet	3	3	8	13	5	13	33	78 (58%)
Client consultation area with auditory and visual privacy	1	0	1	3	3	5	24	37 (28%)
% facilities with all essential infrastructure	1 (33%)	0 (0%)	1 (13%)	0 (0%)	1 (11%)	5 (25%)	8 (10%)	16 (12%)
% and # of essential items present	6.3 items	5.3 items	5.4 items	4.9 items	3.6 items	3.4 items	2.6 items	**4.5** items
	90%	76%	78%	70%	60%	57%	44%	53%

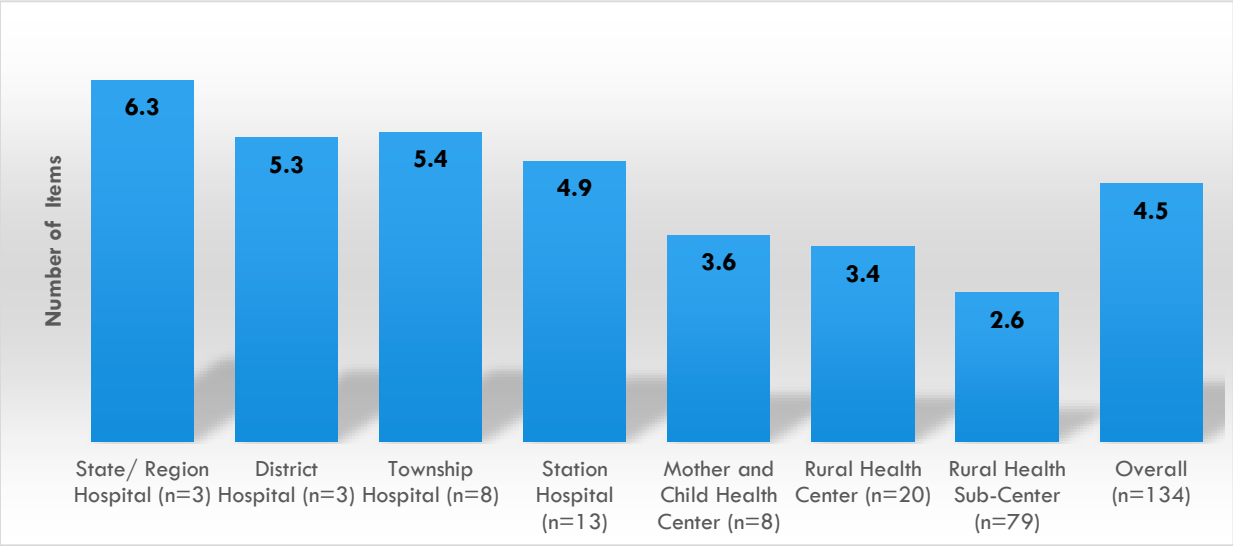
Note: Essential infrastructure

- Hospitals (7 items): patient beds, communication equipment, electricity, functional latrine for clients, safe water source, auditory and visual privacy, emergency transport
- Health centres (6 items) : above except emergency transport

Photo 8 A patient latrine in a Sub-RHC in Pantanaw

Photo 9: A rusted delivery bed in a RHC

Graph 6: The Average Number of Essential Infrastructure Items Available (Maximum: Hospitals -7 items; Health Centers -6 items)



Supply, Equipment, and Drugs

In general, supplies and drugs were more available in hospitals and less so in health centres in communities, despite the fact that women and children generally access health centres more frequently than hospitals.

While health centres lacked basic supplies and drugs particularly newborn and AN care related supplies and drugs, hospitals in general tended to have shortages in **preventive medicines and child care drugs.**

Table 14: Essential Supplies & Drugs (Summary)

% of facilities with all items	State/ Region hospital	District Hospital	Township Hospital	Station hospital	Maternal and child health centre	Rural health centre	Rural health sub-centre	Overall
Child care supplies (3) scales for infant and child, and watch	100%	100%	88%	54%	88%	75%	73%	**75%**
Child care drugs (5) Amoxicillin for pneumonia, Ciprofloxacin for dysentery, ORS, Vitamin A and Zinc	33%	0%	63%	54%	25%	50%	67%	**58%**
Newborn care supplies (5) resuscitation device (tube & mask or bag & mask), weighting scale,	67%	100%	50%	31%	38%	10%	10%	**19%**

Table 14: Essential Supplies & Drugs (Summary)								
% of facilities with all items	**State/ Region hospital**	**District Hospital**	**Township Hospital**	**Station hospital**	**Maternal and child health centre**	**Rural health centre**	**Rural health sub-centre**	**Overall**
baby wraps, soap and water for hand washing, and sterilized gloves								
Newborn care drugs (2) Antibiotics for newborn and eye infections	66%	33%	88%	69%	13%	25%	32%	**37%**
AN care supplies (3) Blood Pressure Machine , Haemoglobin reagents and Uristick for testing for protein	0% in ANC	0% in ANC	38%	54%	87%	70%	61%	**59%**

Childcare Supplies

Childcare supplies were generally available. Three essential supplies examined included 1) an accessible and working scale for child, 2) an accessible and functioning scale for infant, and 3) a respiratory timer. The two utensils for ORS administration (pitcher and cup) were removed from the essential list as the practice has changed, and health staff used readymade bottled purified water (1 litre) to administer ORS.

Average 76% of all facilities had the three essential supplies for examining children in paediatric care. Station hospitals (54%) were the only facilities that scored less than satisfactory, which was lower than sub-RHCs (75%) for these essential children care supplies.

In addition, the presence of sterilizer/autoclave in paediatric care and a cold box or refrigerator for storing vaccines were checked. The availability of sterilizer was low indicating a potential problem with sanitation practices. Only 24% of all facilities were equipped with sterilizer. None of the district hospitals and 18% of health centres had sterilizer in child ward. 42% of station hospitals, 66% of state/regional hospitals, and 75% of township hospitals had sterilizer on the day of observation. 82% of all facilities had a cold box, cold chain, or refrigerator for storing vaccine.

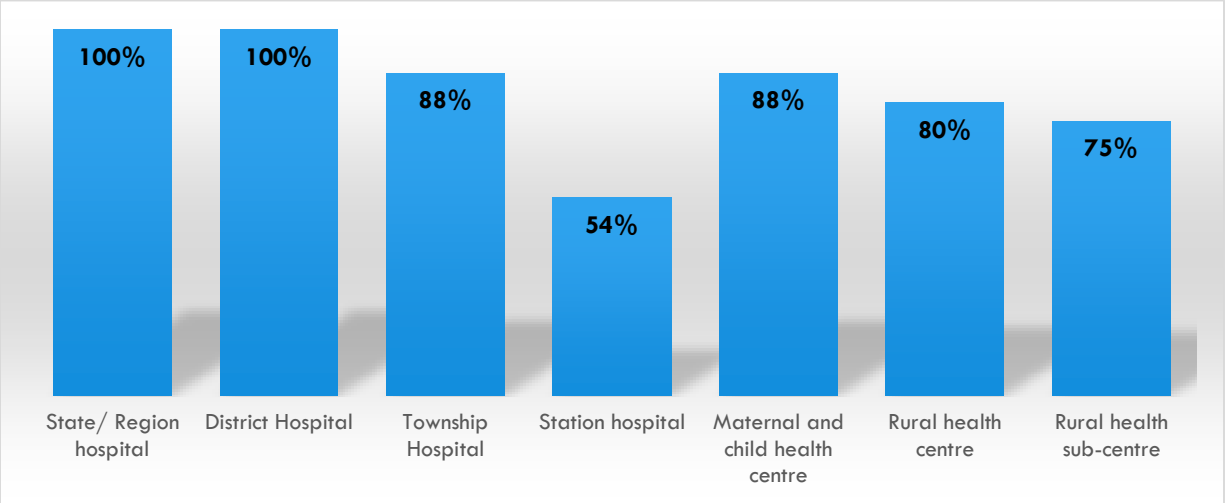
Other items were found in paediatric -ward with relative consistency: a timer (81%), a cold box (82%), an infant scale (94%), and a child/adult scale (95%).

Table 15: Availability of Child Care Supplies								
Supply Item	**State/ Region hospital**	**District Hospital**	**Township Hospital**	**Station hospital**	**Maternal and child health centre**	**Rural health centre**	**Rural health sub-centre**	**Overall %**
	n=3	**n=3**	**n=8**	**n=13**	**n=8**	**n=20**	**n=79**	**N=134**
Accessible and functioning Infant scale	3	3	8	8	7	20	77	126 (94%)

Accessible and working child/adult scale	3	3	8	12	8	17	76	127 (95%)
Accessible and functioning timer/watch with the second hand	3	3	7	12	8	16	59	108 (81%)
Sterilizer/autoclave	2	0	6	6	2	2	14	32 (24%)
Cold box, cold chain equipment, or refrigerator for storing vaccines	1	0	7	10	5	16	71	110 (82%)
Health Facilities with all essential supplies to support child health on day of survey*	3 (100%)	3 (100%)	7 (88%)	7 (54%)	7 (88%)	16 (80%)	59 (75%)	102 (76%)

*** 3** essential supplies = Accessible and working scale for infant, accessible and working scale for child, accessible and working timer/watch with second hand

Graph 7: Facilities with all Essential Supplies for Child Care



Child Care Drugs

Photo 10: A box of unused oral rehydration salt

The presence of five essential -medicines for children was examined including ORS packets, a first line oral drug for childhood pneumonia (Amoxicillin/ Co-trimaxazole), a first line oral drug for childhood dysentery (Ciprofloxacin for bloody diarrhoea), vitamin A, and zinc sulphate tablets. RHCs and sub-RHCs in communities were much more prepared for child care than hospitals in terms of the checked drugs in this survey. While 78% of RHCs and sub-RHCs had all five essential drugs for children available on the day of survey, 48% of hospitals had all. In particular, all except one hospital of state/region and district level facilities did not have all essential child drugs. Similarly, only 38% of MCH centres had all.

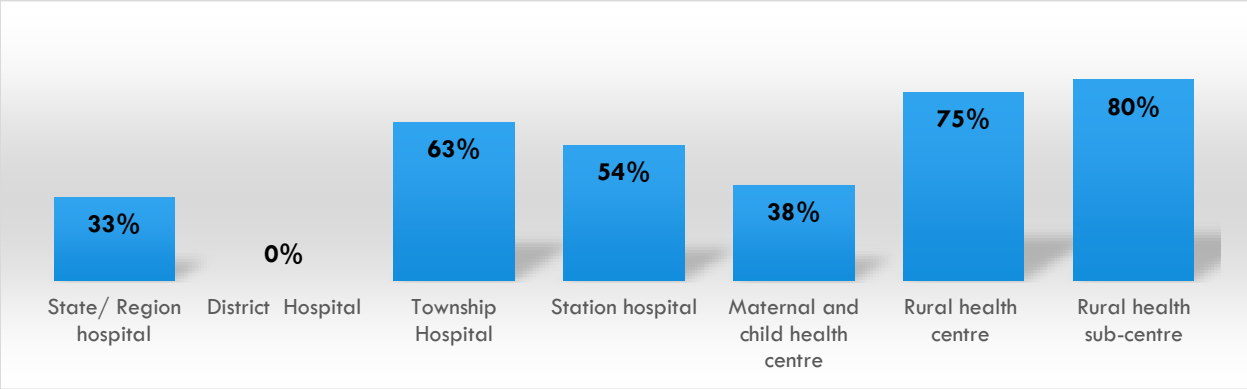
The most common missing drugs were vitamin A (75%) and zinc (81%). Average 3 - 4.5 items of the five essential drugs for children were found in facilities. District hospitals were the least equipped (3 items) and township hospitals and sub-RHC had most child care drug items (4.5 items). In addition to the five essential drugs, the availabilities of insecticide treated net and first line of oral anti-malarial drugs (ACT) were examined. 7% and 53% of all facilities respectively had these two items.

Table 16: Availability of Drugs for Child Care

Drug Item	State/ Region Hospital	District Hospital	Township Hospital	Station hospital	Maternal and child health centre	Rural health centre	Rural health sub-centre	Overall %
	n=3	n=3	n=8	n=13	n=8	n=20	n=79	N=134
ORS packets	3	3	8	13	5	17	71	120 (89%)
First line oral drug for childhood pneumonia (Amoxicillin/ Co-trimaxazole)	3	2	8	13	6	17	77	126 (94%)
First line oral drug for childhood dysentery/bloody diarrhoea (Ciprofloxacin)	2	2	7	13	6	17	76	123 (92%)
Vitamin A	2	0	7	7	7	15	63	101 (75%)
Zinc tablet	1	2	6	10	3	17	70	109 (81%)
Insecticide Treated Net (ITN)	0	0	1	0	1	1	6	9 (7%)
First line oral anti-malarial (ACT)	1	1	7	7	4	12	39	71 (53%)
Health facilities with all 5 essential child drug items available	33%	0%	63%	54%	38%	75%	80%	70%
Average % and # of five essential drug items found in facilities **	73% 3.75	60% 3	90% 4.5	86% 4.3	68% 3.4	83% 3.55	90% 4.5	86% 4.3

5 Essential Medicines for Children = ORS packets, First line oral drug for childhood pneumonia, First line oral drug for childhood dysentery (bloody diarrhoea), Vitamin A and Zinc sulphate tablet.

Graph8: % of Health Facilities with all 5 Essential Medicines for Children Available



Newborn Care Supplies

The availabilities of five essential supplies needed for proper newborn care were examined. Essential supplies included 1) neonatal resuscitation device (tube & mask or bag & mask), 2) weighting scale, 3) baby wraps such as towels and blankets, 4) soap and water for hand washing, and 5) sterilized gloves.

Photo 11: A weighing scale in a RHC in Pantanaw

In contrast to child care, newborn care supplies were found more in larger hospitals in cities than RHCs and sub-RHCs that were in rural areas. All but one facility among state/region and district level hospitals had all essential items, yet about a half of township and station hospitals and MCH, and only 10% of RHC and 24% of sub-RHC had all essential items.

The main essential item missing was found to be baby wraps (overall 31%). Only about 50% of township and station hospitals and MCH centres, and 21% **o**f RHCs and sub-RHC had a clean cloth such as towels and blankets to dry and wrap newborn babies for thermal care while all 6 station/region and district hospitals had them. Qualitative findings indicated the use of old garments and other material brought from home in hospitals and health centres. As an insufficient number of and sometimes unclean pieces of cloths were brought from home, newborn babies were sometimes not wrapped or wrapped with wet or insufficiently sanitary cloths immediately after birth potentially causing hypothermia and infections.

Photo 12: Unused newborn weighing scale

The availability of neonatal resuscitation equipment was the second lowest. 34% of all facilities did not have neonatal resuscitation equipment (tube & mask or bag & mask) including 3 out of 27 hospitals. The use of tubal suction and mouth to mouth resuscitation was not uncommon (see bottleneck discussions in Appendix B). In some cases, nurses and midwives used mouth to mouth resuscitation even when resuscitation equipment was available in the facility.

Similar to child care, infection control was in question. The lack of sterilizer was even more severe in newborn care than child (24%) and AN (24%) care, only 20% of all facilities having sterilizer in the room newborns were taken care of.

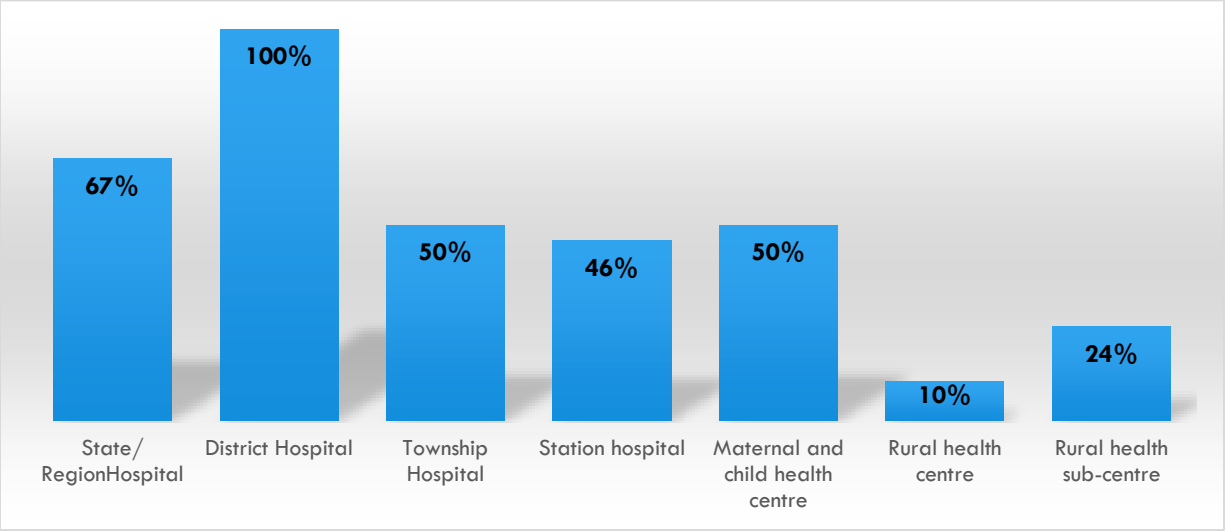
Other essential supplies were found with a relative consistency: weighting scale (80%), soap and water for hand washing (92%), and sterile gloves (98%).

Table 17: Availability of Newborn Care Supplies

Supply Item	State/ Regn Hsptl	Distrct Hsptl	Township Hospital	Station hospital	Maternal and child health centre	Rural health centre	Rural health sub-centre	Overall %
	n=3	n=3	n=8	n=13	n=8	n=20	n=79	N=134
Neonatal ressuscitation device (tube & mask)	2	3	8	11	7	13	45	89 (66%)
Weighing scale	3	3	7	9	6	18	61	107 (80%)
Baby wraps (e.g. blankets)	3	3	4	6	4	2	19	41 (31%)
Soap and water for hand washing	3	3	7	12	8	20	70	123 (92%)
Sterilized gloves	3	3	8	13	8	20	76	131 (98%)
Sterilizer/autoclave	1	1	3	6	2	2	12	27 (20%)
Vacuum extractor (for deliveries)	3	2	4	4	2	0	1	16(12%
Partograph	3	3	5	4	7	19	62	103 (77%)
Clean apron	3	3	6	13	8	18	68	119 (89%)
Clean delivery kit	1	1	4	8	8	18	76	116 (87%)
Health Facilities with all essential supplies to support newborn child health on day of survey*	2 (67%)	3 (100%)	4 (50%)	6 (46%)	4 (50%)	2 (10%)	19 (24%)	40 (30%)

*** 5** Essential newborn supplies = Neonatal resuscitation device (tube & mask), weighting scale, baby wraps, soap and water for hand washing and sterilized gloves.

Graph 9: % of Facilities with All 5 Essential Newborn Care Supplies



Essential Medicines for Newborn

The availabilities of 2 essential medicines for newborn - antibiotics for newborn sepsis and antibiotics for newborn eye infections - were assessed. Health facilities were less equipped with -medicines for newborn care than medicines for children. Only 40 % of all health facilities possessed the two essential medicines for newborn care.

The least equipped was MCH facilities (13%), followed by RHCs (30%) and sub-RHCs (33%). Township (88%) and station (77%) hospitals were most equipped with medicines for newborn care. 3 out of 6 state/region and district hospitals had both drugs. Antibiotics for newborn sepsis (Gentamycin) (43%) were less available than antibiotics for eye infections (78%).

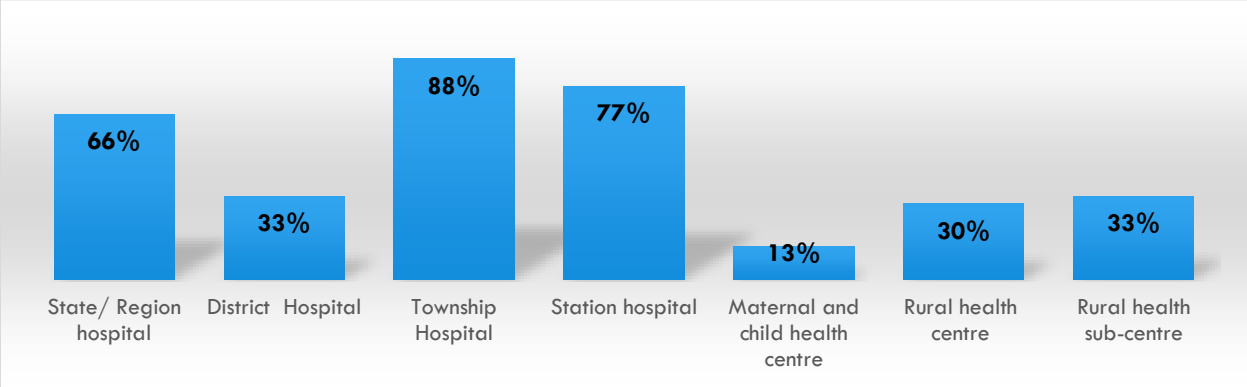
For other drugs, the availabilities of corticosteroids and oxytocin in hospitals, and misoprostol in MCH units, RHCs and sub-RHCs centres were assessed. Corticosteroids for prevention of premature labour (allowed only in hospital care) were available in 85% of the hospitals. Oxytocin for induction of labour were available in 81% of the hospitals. Misoprostol for 3rd stage labour management were found in 50% of MCH and health centres.

Photo 13: A newborn in Kalaw Township Hospital

Table 18: Availability of Essential Medicines for Newborn Care								
Drug Item	**State/ Region Hospital**	**District Hospital**	**Township Hospital**	**Station hospital**	**Maternal and child health centre**	**Rural health centre**	**Rural health sub-centre**	**Overall %**
	n=3	**n=3**	**n=8**	**n=13**	**n=8**	**n=20**	**n=79**	**N=134**
Antibiotics for newborn infections (non-specific)	2	2	8	10	4	6	26	58 (43%)
Antibiotics for newborn eye infections (non-specific)	2	1	7	12	1	17	64	104 (78%)
Oxytocin/Misoprostol*	2	3	7	9	4	12	38	75 (56%)
Corticosteroids*	2	2	8	11	-	-	-	22 (85%)
Magnesium sulphate	2	2	4	5	1	5	20	39 (29%)
Health facilities with 2 essential newborn drug items available	2 (66%)	1 (33%)	7 (88%)	10 (77%)	1 (13%)	6 (30%)	26 (33%)	53 (40%)
Average% of essential items found	67%	50%	94%	85%	31%	58%	57%	60%

*The availabilities of oxytocin and corticosteroids were assessed in State/Region, District, Township, Station hospitals. The availability of misoprostol was assessed in MCH centres, RHCs, and sub-RHCs.
**2 essential medicines for newborn care were antibiotics for newborn infections and newborn eye infections

Graph 10: % of Facilities with 2 Essential Medicines for Newborn Care



Antenatal Care Supplies

The availability of essential antenatal care supplies 1) Blood Pressure Machine, 2) Haemoglobin reagents for testing and 3) Uristick for protein testing were examined, and generally found available.

On average 72% of health centres had essential antenatal care supplies.
Larger hospitals did not have these testing kits in their AN care clinic. However, this does not necessary mean the absence of these supplies. Although this study could not verify, they could have been available in laboratories inside or outside of the facilities.

76% of facilities had Haemoglobin reagents while 69% had Uristick. For other testing kits, 85% of all facilities had malaria test kits, but only 29% had Syphilis kits.

Roughly a half of facilities below township hospital were missing cold chain for tetanus toxoid vaccines in AN care. Similar to child and newborn care, sterilizer/autoclave was not readily available in AN care (24%). Nearly all facilities had blood pressure cuffs (99%).

Table 19: Availability of Antenatal Care Supplies

Supply Item	State/ Region Hospital n=3	District Hospital n=3	Township Hospital n=8	Station hospital n=13	Maternal and child health centre n=8	Rural health centre n=20	Rural health sub-centre n=79	Overall % N=134
Blood Pressure Machine	3	3	8	13	8	19	79	133 (99%)
Haemoglobin reagents	(0) in ANC	(0)in ANC	7	11	7	19	58	102 (76%)
Uristick for testing for protein	(0) in ANC	(0) in ANC	3	8	8	14	59	92 (69%)
Sterilizer/autoclave	1	2	5	8	2	4	10	32 (24%)
Cold chain or refrigerator for storing tetanus toxoid vaccines	2	3	4	9	4	13	39	74 (55%)
Syphilis testing kit	(0) in ANC	(0) in ANC	5	8	3	7	16	39 (29%)
Malaria testing supplies	(1)	(0 in ANC)	5	12	5	18	73	114 (85%)
Health Facilities with all 3 essential supplies to support antenatal care on day of survey*	0 (0%)	0 (0%)	3 (38%)	8 (54%)	8 (87%)	14 (70%)	58 (73%)	91 (67%)

*** 3** Essential antenatal care supplies = Blood Pressure Machine, Haemoglobin reagents and Uristick for testing for protein

Antenatal and Delivery Care Drugs

The availability of antenatal care drugs were assessed. Three essential drug items considered included tetanus toxoid, iron/folic tablet, and deworming tablets. Only 24% of all facilities had the all 3 essential drug items

for antennal care on the day of the survey, but an average of 2.07 out of 3 essential items were found in all facilities.

90% of all facilities had iron/folic tablets and 91% had de-worming tablets. However, only 26% of all facilities had Tetanus Toxoid (TT) on the day of the survey: 62% of hospitals and 17% of health centres. The lack of TT in health centres may have been related to the fact that there was EPI implementation earlier in the month.

Table 20: Availability of Drugs for Antenatal Care

Drug Item	State/ Region Hospital	District Hospital	Township Hospital	Station hospital	Maternal and child health centre	Rural health centre	Rural health sub-centre	Overall %
	n=3	n=3	n=8	n=13	n=8	n=20	n=79	N=134
Tetanus toxoid	1	3	6	7	3	6	9	35 (26%)
Iron/folic tablet	2	2	7	12	5	18	74	120 (90%)
Deworming tablets	1	2	7	13	5	20	74	122 (91%)
Insecticide Treated Net (ITN)	0	0	1	0	1	1	7	10 (7%)
Health facilities with all 3 essential drug items for antenatal care available*	1 (33%)	2 (67%)	6 (75%)	7 (54%)	3 (38%)	6 (30%)	9 (11%)	32 (24%)
Average # of essential items found in facilities % of essential items available	1.32 44%	2.34 78%	2.49 83%	2.46 82%	1.62 54%	2.19 73%	1.98 66%	2.07 69%

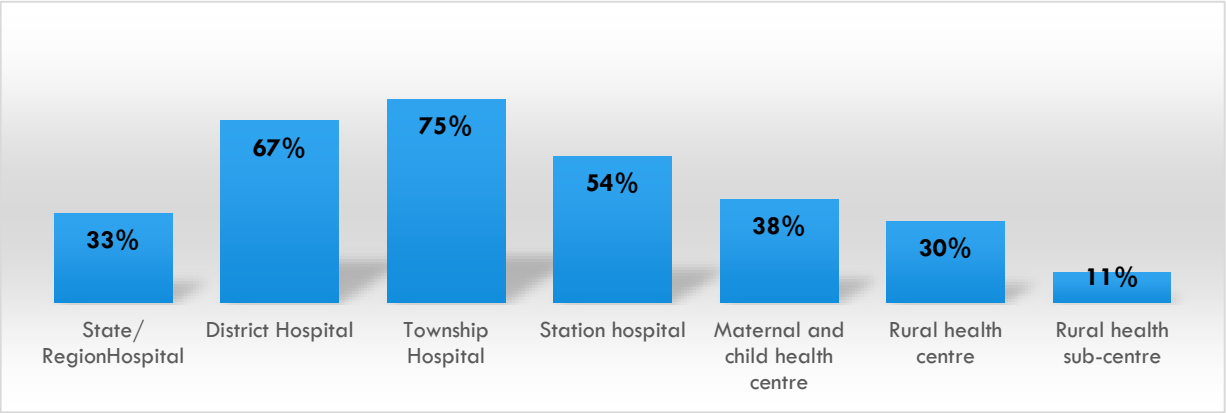
*3 essential drug items antenatal care are tetanus toxoid, iron/folic acid tablet and deworming tablets.

Infection Control Supplies and Equipment

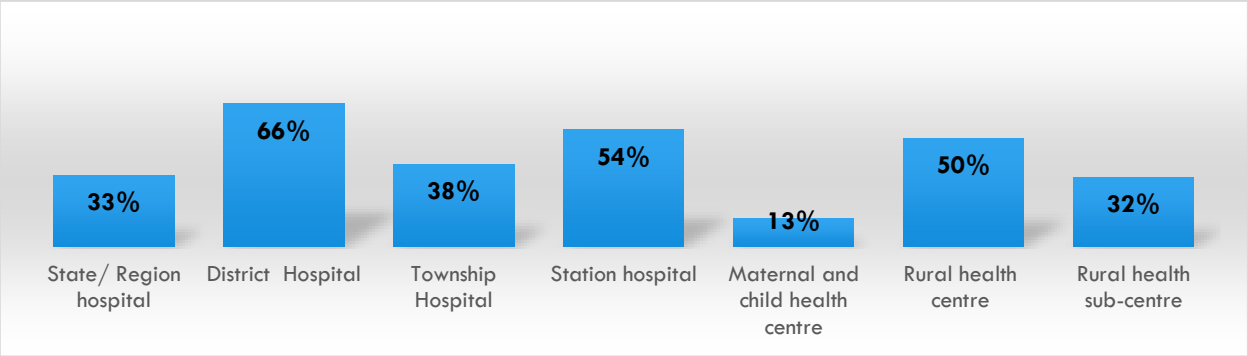
The availabilities of five essential infection control supplies were assessed in MNCH related clinical and surrounding areas: 1) bleaching powder, 2) sterilized gloves, 3) sharp objects container, 4) disposable syringes/needles (5-ml), and 5) Hand washing soap.

Only 55% of hospitals and 37% of health centres were found with all five infection control supplies readily available in visible and accessible places in MNCH related clinical and surrounding areas. Problems were found with the availability of bleaching powder/chlorine-based disinfectant and hand washing soap for infection control. 43% of hospitals and 67% of health centres surveyed did not have bleaching powder. 30% of hospitals and 62% health centres did not have hand washing soap in visible places.
Taken together with the lack of sanitizer (20-24%) discussed above, the findings suggest the low quality of sanitation and infection control practices both in hospitals and health facilities.

Graph 11: % of Facilities with All 3 Essential Antenatal Care Drugs



Graph 12: % of Facilities with all 5 Essential Infection Control Supplies



Most facilities had sterilized gloves (94%), sharp objects container (90%), and disposable syringes (92%). While only 46% had disposable needles, this may be due to newer disposable syringes that come with needles attached, making separate stocks of needles unnecessary.

Table 21: Infection Control Supplies and Equipment

Infection control supplies and equipment	State/ Region Hospital	District Hospital	Township Hospital	Station hospital	Maternal and child health centre	Rural health centre	Rural health sub-centre	Overall %
	n=3	n=3	n=8	n=13	n=8	n=20	n=79	N=134
Bleaching powder/ Chlorine-based disinfectant	2	2	5	7	1	10	25	52 (39%)
Clean and sterile gloves	3	3	8	12	8	20	72	126 (94%)
Sharp object disposal containers	2	3	7	11	7	16	74	120 (90%)
One 5-ml disposable syringes/needles in sterile packet	2	3	8	13	7	19	71	123 (92%)

Hand washing soap	1	2	6	10	5	10	26	60 (45%)
Health facilities with all 5 infection control supplies and equipment	1 (33%)	2 (66%)	5 (38%)	7 (54%)	1 (13%)	10 (50%)	25 (32%)	51 (38%)

Medical Waste Disposal

Health facilities' methods of medical waste disposal were assessed. The surveyed facilities generally did not have a well-developed waste disposal system. Specific disposal sites for sharp objects or infected waste were not found in 30-31% of all facilities. In 40% of facilities, both sharp and infected wastes were not protected and visible.

For sharp medical objects, the use of high temperature incinerator or one chamber incinerator (drum or brick) was as low as 13% and 8% respectively. The most common methods were "burn on ground or in pit but not bury" (31%) and "burn and bury (28%). Anecdotal evidence suggests cases of injuries from sharp medical waste in villages, particularly in places with water ways.

Improvements in the system for adequate and safe medical waste disposal are needed. In particular, infection control of medical wastes should be seriously considered with a plan for construction of incinerators in all health facilities.

Table 22: Methods of Medical Waste Disposal (Sharp Objects)

Reported Practice	State/ Region Hospital	District Hospital	Township Hospital	Station hospital	Maternal and child health centre	Rural health centre	Rural health sub-centre	Overall %
	n=3	n=3	n=8	n=13	n=8	n=20	n=79	N=134
Incinerator (high temp)	2	1	1	2	1	3	7	17 (13%)
Incinerator (one chamber, drum/brick)	0	0	2	3	1	0	5	11 (8%)
Burn and bury	0	0	1	3	0	8	26	38 (28%)
Bury but not burn	0	0	1	2	3	5	8	19 (14%)
Bury in covered pit	0	0	1	0	0	0	1	2 (1%)
Burn (on ground or in pit) but not bury	1	2	1	2	4	4	28	42 (31%)
Open Air (No burn or bury)	0	0	0	0	0	0	1	1 (0.8%)
Store and remove to offsite (May be burned prior to removal)	0	0	0	0	0	0	3	3 (2%)
Never had the items	0	0	1	0	0	0	0	1 (0.8%)

Staffing

The numbers of medical personnel present on the day of survey were assessed against sanctioned positions. The positions were generally found filled; however, hospitals had shortages of doctors and nurses. District hospitals were found with 42% short of doctors and 38% short of nurses. Township hospitals had 39% shortages of doctors, 40% of Public Health Supervisor (PHS) 1 and 83% of PHS 2. Station hospitals were also short of Public Health Supervisors 2 (71%). While MCH were sanctioned for doctors and nurses, none of physicians and only 12% of nurses' positions were found to be filled.

Photo 14: Nurses in a RHC

Table 23: Sanctioned Positions Filled

Type of staff	State/ Region Hospital	District Hospital	Township Hospital	Station hospital	Maternal and child health centre	Rural health centre	Rural health sub-centre	Overall %
	n=3	n=3	n=8	n=13	n=8	n=20	n=79	N=134
Doctors								
% Present/Sanctioned	77%	58%	61%	74%	0	-	-	67%
Nurses								
% Present/Sanctioned	70%	62%	71%	86%	12%	-	-	67%
Midwives								
% Present/Sanctioned	-	-	96%	100%	90%	90%	100%	96%
Lady Health Visitor								
% Present/Sanctioned	-	-	92%	100%	83%	100%	-	95%
Health Assistant								
% Present/Sanctioned	-	-	100%	100%	-	100%	-	100%
Public Health Supervisor (1)								
% Present/Sanctioned	-	-	60%	100%	60%	0%	-	62%
Public Health Supervisor (2)								
% Present/Sanctioned	-	-	17%	29%	80%	82%	65%	57%

Guidelines

There are a number of guidelines and manuals for basic health and hospital staff. In this study, the presence of the following 3 MNCH care guidelines were assessed.

1) Newborn and Child Health care and development Training Manual for Basic Health Staff by Women and Child Health Development Project (WCHD), the MOH and UNICEF (in Myanmar)
2) Treatment Guidelines (Handbill) for Newborn and Child Health Care and Development for BHS by the MOH and UNICEF (in Myanmar)
3) Pregnancy-Childbirth-Postnatal-Newborn Care (PCPNC) training guide for BHS by the MOH, WHO, UNFPA, and UNICEF (in Myanmar)

The photographs of the cover pages of these guidelines are as follows:

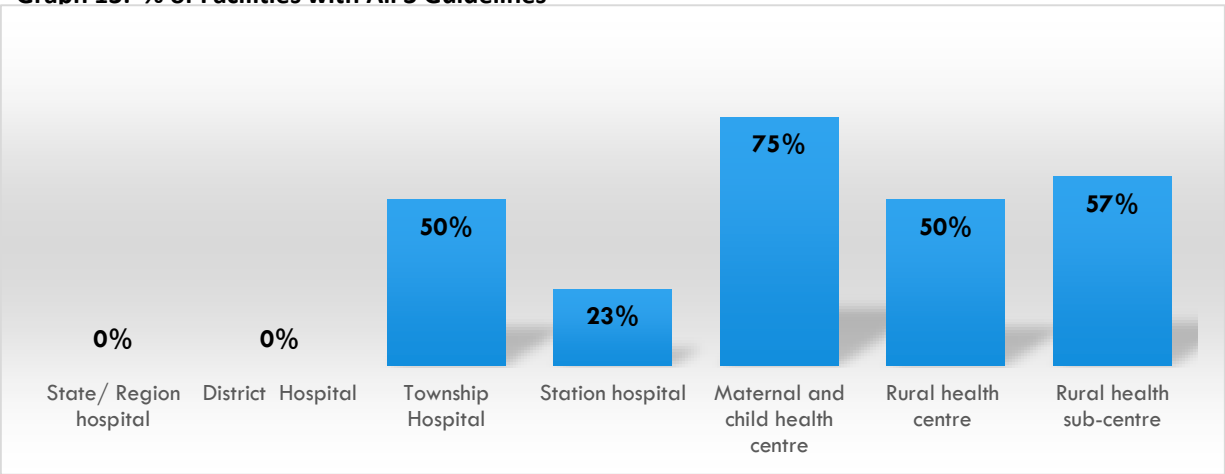
On average only 18% of hospitals had all three guidelines, whereas 61% of health centres had them. None of State/Region and District Hospitals had all three guidelines. While these facilities train BHS and distribute guidelines, the guidelines were not kept in the hospitals for references. 50% of township hospitals, 23% of station hospitals, 50% of RHC, and 57% of sub-RHC had all three guidelines. Interestingly, MCH centres tended to perform less than other facilities measured by various indicators in this study. Yet, the largest amount of guidelines were found in MCH centres (75%).

The guidelines were developed by the DOH with the collaborations of international agencies, and targeted for Basic Health Staff (BHS) especially midwives. The missing guidelines in these facilities could be partly due to the turnovers and transfers of midwives who may have taken the guidelines with them. Qualitative findings further suggested the lack of actual usage of these guidelines even when they were present, some obviously not being touched

Table 24: Availabilities of Guidelines

Facilities with guidelines	State/ Region Hospital	District Hospital	Township Hospital	Station hospital	Maternal and child health centre	Rural health centre	Rural health sub-centre	Overall %
	n=3	n=3	n=8	n=13	n=8	n=20	n=79	N=134
Delivery/AN Care/PN Care	0	1	5	3	6	13	55	83 (62%)
Sick child care/Immunization	0	1	5	5	8	17	56	92 (69%)
Newborn care	0	0	4	5	8	12	54	83 (62%)
Health facilities with all 3 guidelines	0 (0%)	0 (0%)	4 (50%)	2 (23%)	7 (75%)	10 (50%)	45 (57%)	68 (51%)

Graph 13: % of Facilities with All 3 Guidelines



Processes

Information and Communication

Register Entry

Although most health facilities (93-96%) had registers in paediatric, maternal and delivery care, information entered were not complete. For sick children, 34% of facilities did not include all the required information on age of sick children, symptoms and diagnosis and treatment, and had an entry in last 7 days. For ANC, only 42% of facilities had all the information on Expected Date of Delivery (EDD), TT injection status, and blood pressure, and had an entry in last 7 days. 82% of facilities had a delivery register and entered within last 30 days.

Qualitative data has suggested that some health staff did not enter the registries where clear diagnosis or treatment reflecting diagnosis were not given. Also, ANC registers were too heavy for midwives to be carried around and write information.

94% of all facilities sent copies of latest monthly service reports to a higher level facility in last 3 months, indicating that the reporting mechanism is in function. Given the fact that about a half of facilities did not have complete information on AN and paediatric care, the monitoring system is likely to have issues in quality of information rather than the data collection mechanism.

Table 25: Register for Sick Children

	State/Region Hospital	District Hospital	Township Hospital	Station hospital	Maternal and child health centre	Rural health centre	Rural health sub-centre	Overall %
	n=3	n=3	n=8	N=13	n=8	n=20	n=79	N=134
Register observed to be present	3	3	8	12	7	20	76	129 (96%)

Register includes information on age of sick children	3	3	7	12	7	19	73	124 (93%)
Register includes information on diagnosis or symptoms of sick children	3	3	5	11	4	20	71	117 (87%)
Register includes information on treatment of sick children	1	0	6	12	4	18	69	110 (82%)
Register entered within last 7 days	3	3	6	12	6	17	63	110 (82%)
Health facilities registering age, diagnosis and treatment for sick children in last 7 days	1 (33%)	0 (0%)	5 (63%)	11 (85%)	3 (38%)	15 (75%)	54 (68%)	89 (66%)

Use of Service Data

96% of facilities had an evidence of using data for a purpose: a) wall charts summarizing information (44%), b) graphs on the walls (48%), c) meetings to discuss data in (50%), d) other use of data (22%), and none of the above (6%). Other use of service data included keeping records in books, putting up posters on health promotion, and keeping pamphlets in the facility. Six percent of midwives did not have any evidence of information use. This may be partly due to the lack of space in the infrastructure or staying alone in sub-RHC.

Graph 14: % of Facilities with Paediatric Register with Complete Information

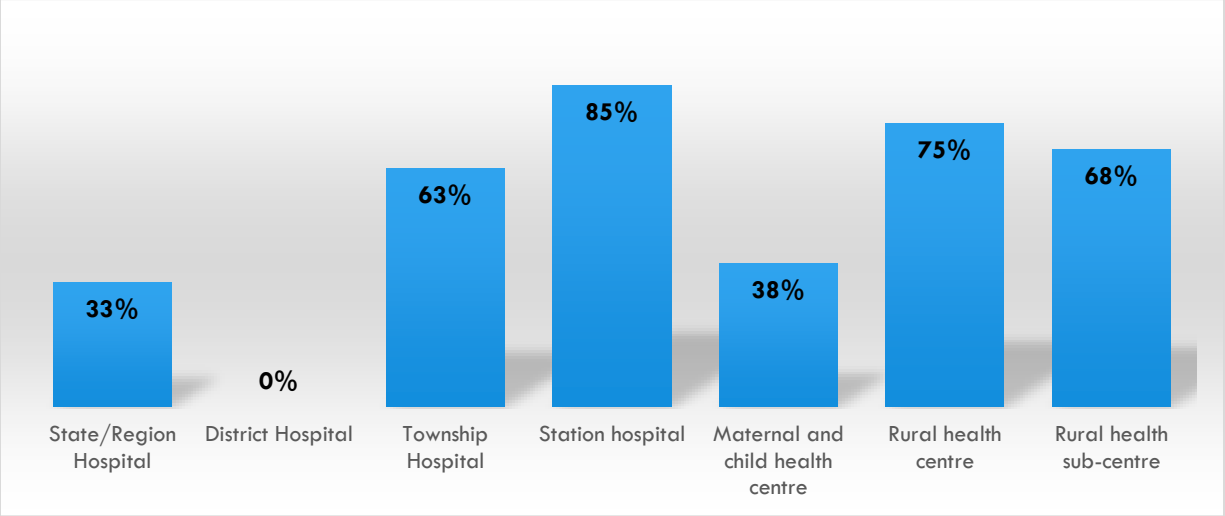


Table 26: Register for Antenatal Care								
	State/ Region Hospital	**District Hospital**	**Township Hospital**	**Station hospital**	**Maternal and child health centre**	**Rural health centre**	**Rural health sub-centre**	**Overall %**
	n=3	**n=3**	**n=8**	**n=13**	**n=8**	**n=20**	**n=79**	**N=134**
ANC Register observed to be present	3	3	6	6	8	20	78	124 (93%)
ANC Register includes information on Expected Date of Delivery (EDD)	1	3	6	5	7	19	77	118 (88%)
ANC Register includes information on anti-tetanus toxoid (TT) injection	3	3	5	11	4	20	71	117 (87%)
ANC Register includes information on Blood Pressure	1	2	5	5	7	19	77	116 (87%)
ANC Register entered within last 7 days	3	3	5	4	6	14	36	71 (53%)
Health facilities registering *EDD*,TT and blood pressure in ANC register in last 7 days	1 (33%)	2 (67%)	4(50%)	4 (31%)	3 (38%)	12 (60%)	10 (38%)	56 (42%)

Table 27: Register for Delivery								
	State/ Region Hospital	**District Hospital**	**Township Hospital**	**Station hospital**	**Maternal and child health centre**	**Rural health centre**	**Rural health sub-centre**	**Overall %**
	n=3	n=3	n=8	n=13	n=8	n=20	n=79	N=134
Delivery Register observed to be present	3	3	8	8	8	18	76	124 (93%)
Delivery Register *entered within last 30 days*	3	3	8	8	8	15	65	110 (82%)

Table 28: Monthly Reporting to a Higher Facility								
Monthly Report Sent to Upper Level Facility	**State/ Region Hospital**	**District Hospital**	**Township Hospital**	**Station hospital**	**Maternal and child health centre**	**Rural health centre**	**Rural health sub-centre**	**Overall %**
	n=3	n=3	n=8	n=13	n=8	n=20	n=79	N=134
Latest report observed and less than 3 months old	3	3	6	13	7	19	73	124 (94%)
Latest report observed and older than 3 months old	0	0	0	0	0	0	0	0 (0%)

Report said to be less than 3 months, but not observed	0	0	1	0	0	1	4	6 (4 %)
Report said to be more than 3 months, but not observed	0	0	1	0	1	0	0	2 (1%)
No report	0	0	0	0	0	0	2	2 (1%)

Table 29: Use of Service Data in Facilities

Information used in last 3 months	State/ Region Hospital	District Hospital	Township Hospital	Station hospital	Maternal and child health centre	Rural health centre	Rural health sub-centre	Overall %
	n=3	n=3	n=8	n=13	n=8	n=20	n=79	N=134
Wall chart summarizing data	2	1	2	4	6	14	31	60 (44%)
Graphs on the wall	1	1	4	4	5	14	35	64 (48%)
Meeting about data	0	1	6	10	5	10	35	67 (50%)
Other evidence of use of service data	1	0	0	2	0	5	21	29 (22%)
None of above	0	1	0	0	0	0	7	8 (6%)

Referrals

Sources of referrals were asked caretakers of sick children, and whether a sick newborn was ever referred to or from facilities was asked to health staff. Only 18% of caretakers interviewed in facilities were referred by health professionals. Eighty-two percent of caretakers interviewed made a decision on which facility to go and when to go by themselves or with friends and relatives. About 10% had midwives' referrals.

Hospitals were not capable of handling all sick newborn referrals as 93% of state/region, district and township hospitals have sent sick newborn babies to other facilities, presumably to facilities that were better prepared for newborn care. Only 1 out of 3 state/regional hospitals have ever received sick newborn referrals, and only about a half of RHC and sub-RHC have ever referred sick newborn to other facilities.

These results suggest room for much improvements in both making referrals in communities and being able to accept and handle all referred cases in hospitals for MNCH care.

Table 30: Source of Referrals

	State/ Region Hospital	District Hospital	Township Hospital	Station hospital	Maternal and child health centre	Rural health centre
	n (children) =9	n(children)=3	n(children)=23	n(children)= 67	n(children)=93	N(children)= 195
Self	8(89%)	2(67%)	12(52%)	45(67%)	60(65%)	127(65.1)
Relative/friends	0(0%)	0(0%)	5(22%)	9(13%)	19(20%)	33(16.9)
GP	1(11%)	1(33%)	2(9%)	1(1%)	0(0%)	5(2.6)

HA	0(0%)	0(0%)	1(4%)	4(6%)	0(0%)	5(2.6)
LHV	0(0%)	0(0%)	1(4%)	1(1%)	0(0%)	2(1)
Midwife	0(0%)	0(0%)	2(4%)	5(7%)	11(12%)	18(9.2)
Others	0(0%)	0(0%)	0(0%)	2(3%)	3(3%)	5(2.6)
Total	9	3	23	67	93	195

Chart 5: Who Referred You?

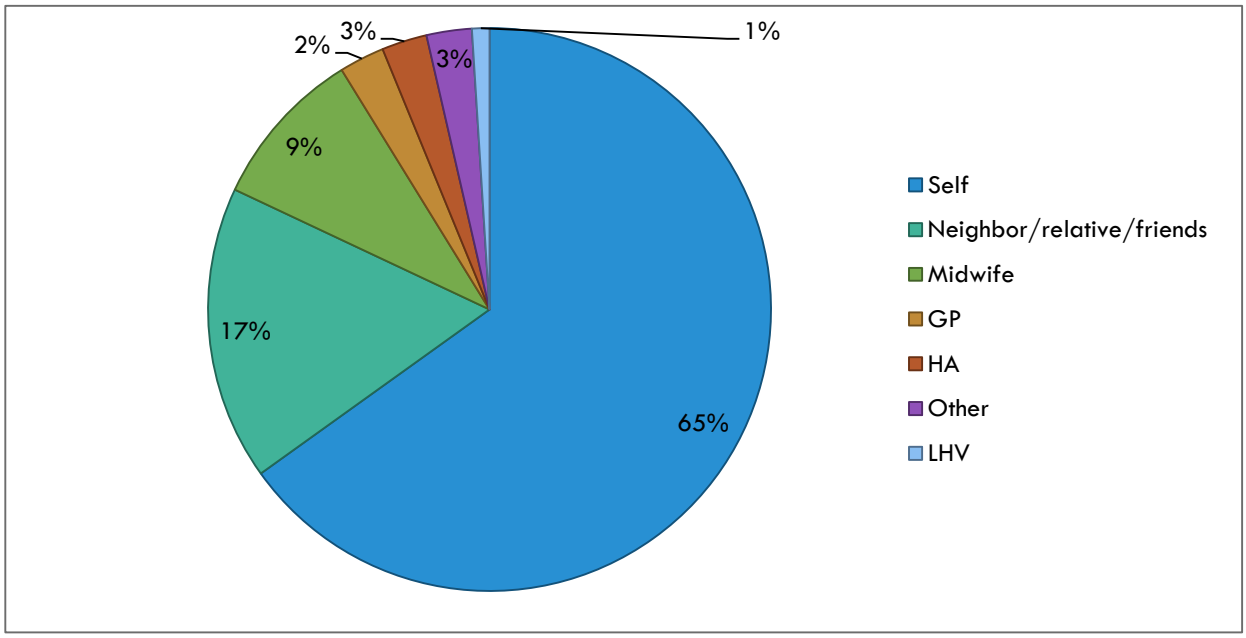


Table 31: Sick Newborn Referral to/from Other Facilities

Communication between facilities during last year	State/ Region Hospital	District Hospital	Township Hospital	Station hospital	Maternal and child health centre	Rural health centre	Rural health sub-centre	Overall %
	n=3	n=3	n=8	n=13	n=8	n=20	n=79	N=134
Referral of sick newborn **to other** facilities	2(67%)	3(100%)	8(100%)	8(62%)	7(88%)	9(45%)	41(52%)	78 (58%)
Referral of sick newborn **from other** facilities	1(33%)	3(100%)	8(100%)	10(77%)	0(0%)	2(10%)	3(4%)	29 (22%)

Oversight Communication

In order to assess the levels of linkages between facilities, the study examined whether facilities had received instructional administrative letters from a higher level facility that contain policy and technical information related to ANC, delivery and newborn care during the last year. In addition, whether technical support and hands-on training related ANC, delivery and newborn were provided by a higher level health facility within a year were asked.

On average, only 29% of facilities below district level hospitals ever received either instructive communication **or** technical support from a higher facility. All state/regional and district hospitals have received communication or support from a higher level, but were less likely to replicate them to the township and below. An average only 46% of facilities had a regular MNCH service review and 58% conducted verbal autopsy for maternal and child deaths. Qualitative data including bottleneck discussions (see Appendix B) also indicated that supervisors sometimes did not have full grasp of on-the-ground situations and practices such as the lack of proper baby wraps and partograph knowledge.

Table 32: Instructions and Technical Support from Higher Facilities

Communication between facilities during last year	State/ Region Hospital	District Hospital	Township Hospital	Station hospital	Maternal and child health centre	Rural health centre	Rural health sub-centre	Overall %
	n=3	n=3	n=8	n=13	n=8	n=20	n=79	N=134
Ever received MNCH-related instructive **letters** from higher facilities	3(100%)	2(67%)	3(38%)	2(15%)	4(50%)	7(35%)	23(29%)	**44 (33%)**
Ever received MNCH-related external **technical support** from higher facilities	1(33%)	3(100%)	1(13%)	2(15)	4(50%)	1(5%)	20(25%)	**32 (24%)**
HF that ever received administrative instructional letter or technical support related to MNCH from higher facilities	3(100%)	3(100%)	3(38%)	2(15%)	4(50%)	7(35%)	23(29%)	45(34%)

Graph 15: % of Facilities Ever Received Instructive Correspondence or Technical Support from a Higher Facility

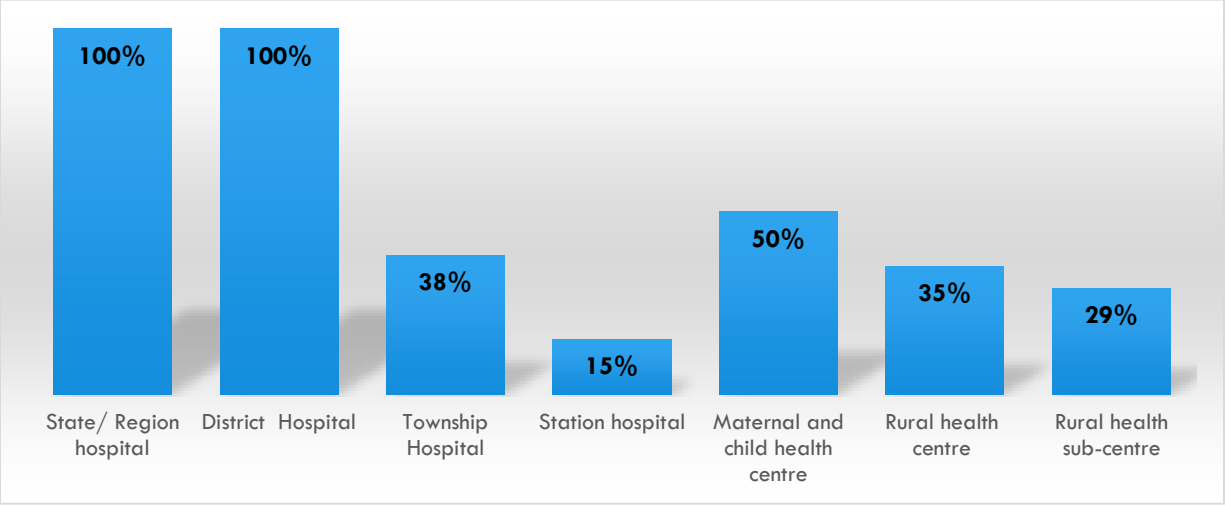


Table 33: Service Review and Verbal Autopsy								
No. and % of facilities	**State/ Region Hospital**	**District Hospital**	**Township Hospital**	**Station hospital**	**Maternal and child health centre**	**Rural health centre**	**Rural health sub-centre**	**Overall %**
	n=3	n=3	n=8	n=13	n=8	n=20	n=79	N=134
MNCH services regularly reviewed	2(67%)	2(67%)	5(63%)	5(38%)	6(75%)	13(60%)	29(37%)	62 (46%)
Verbal autopsy of child death	3(100%)	2(67%)	5(63%)	7(54%)	4(50%)	13(60%)	44(56%)	78 (58%)

Table 34: Participation in and replications of MNCH-related TOT								
	State/ Region Hospital	**District Hospital**	**Township Hospital**	**Station hospital**	**Maternal and child health centre**	**Rural health centre**	**Rural health sub-centre**	**Overall %**
	n=2	**n=1**	**n=7**	**n=9**	**n=7**	**n=17**	**n=67**	**N=110/23**
Participation in TOT for MNCH	1(50%)	1(100%)	3(43%)	2(22%)	4(57%)	3(18%)	9(13%)	23 (21%)
Replicated the training to junior staff	1(50%)	1(100%)	3(43%)	2(22%)	4(57%)	3(18%)	8(12%)	22 (96%)

Training and Supervision

The study examined the training statuses of health staff in facilities. On average 82% of all types of facilities received MNCH training in last 3 years. However, only 35% of facilities received MNCH care trainings **in last 12 months,** indicating a need for regular consistent refresher training, particularly for new recruits.

As Table 38 shows, though training of trainers (TOT) was not very common (21% of all facilities), the replications rates were high (96%) among those who had received the training. For hospitals, while only 37% of all hospitals received TOT in MNCH care, all replicated the training to junior staff. For health centres, just 18% received TOT training in MNCH, but 96% replicated the training to junior staff. These high rates of replications suggest the potential usefulness of TOT.

While 66% of facilities received technical supervision within 3 months (66%) [4-6 mo (13%), 7-12 mo (5%), over 12 mo (4%), none (12%)], **the type of supervision was mostly administrative and not actual performance of work or hands-on training.** Qualitative findings also suggested the need for delivery and newborn care training for nurses in hospitals, particularly on hands-on on-site training particularly pertaining to **emergency situations.** Only about 40% have received positive feedbacks.

Table 35: Training of MNCH Care in Last 3 years								
Training on MNCH Care in Last 3 years	State/ Region Hospital	District Hospital	Township Hospital	Station hospital	Maternal and child health centre	Rural health centre	Rural health sub-centre	Overall %
	n=3	n=3	n=8	n=13	n=8	n=20	n=79	N=134
Yes	2	1	7	9	7	17	67	110 (82%)
No	1	2	1	4	1	3	12	24 (18%)

Chart 6: MNCH Training within Last 3 Years

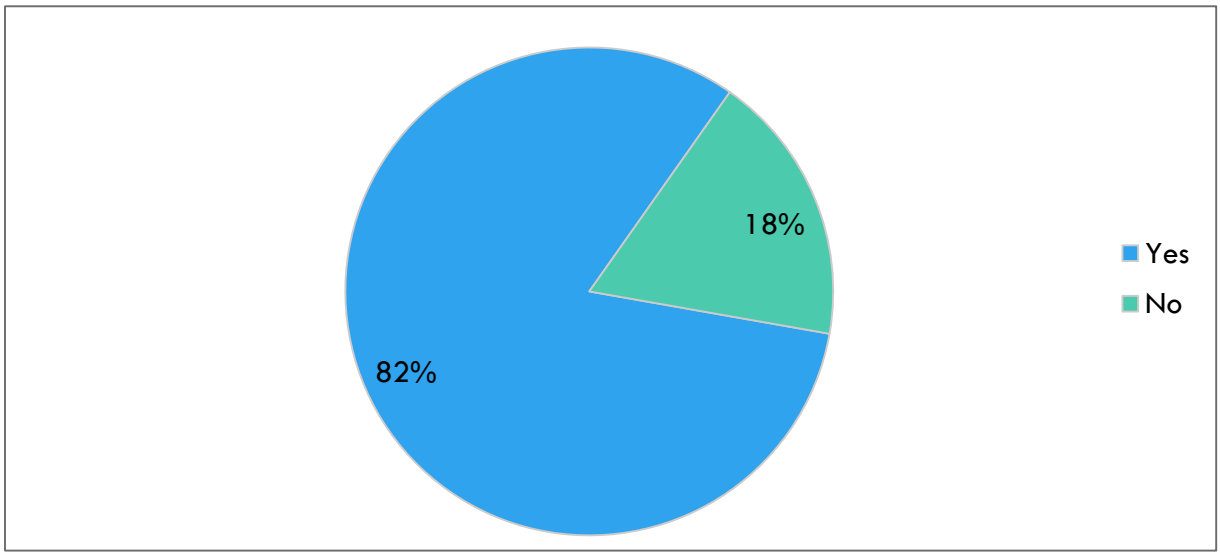


Table 36: % of Facilities that Received Child Care Training in the Last 12 months								
Received training on the topics in last 12 months	State/ Region Hospital	District Hospital	Township Hospital	Station hospital	Maternal and child health centre	Rural health centre	Rural health sub-centre	Overall %
	n=2	n=1	n=7	n=9	n=7	n=17	n=67	N=110
1.Vaccinations	1	0	3	1	3	6	28	41 (37%)
2.ARI/pneumonia treatment	0	1	2	3	3	7	37	53 (48%)
3.Diarrhea case management	0	1	1	3	4	8	38	55 (50%)
4.Child malaria case management	0	1	3	4	6	9	35	58 (53%)
5.Prevention of malaria (use of ITN)	0	1	2	4	6	7	30	50 (45%)
6.Nutrition (complementary feeding)	0	1	1	4	5	8	39	58 (53%)
Health facilities with all child care training available in last 12 mo	**0(0%)**	**0(0%)**	**1(14%)**	**1(11%)**	**3(43%)**	**6(35%)**	**28(25%)**	**39 (35%)**

Graph 16: % of Facilities with all Essential Child Care Training in last 12 months

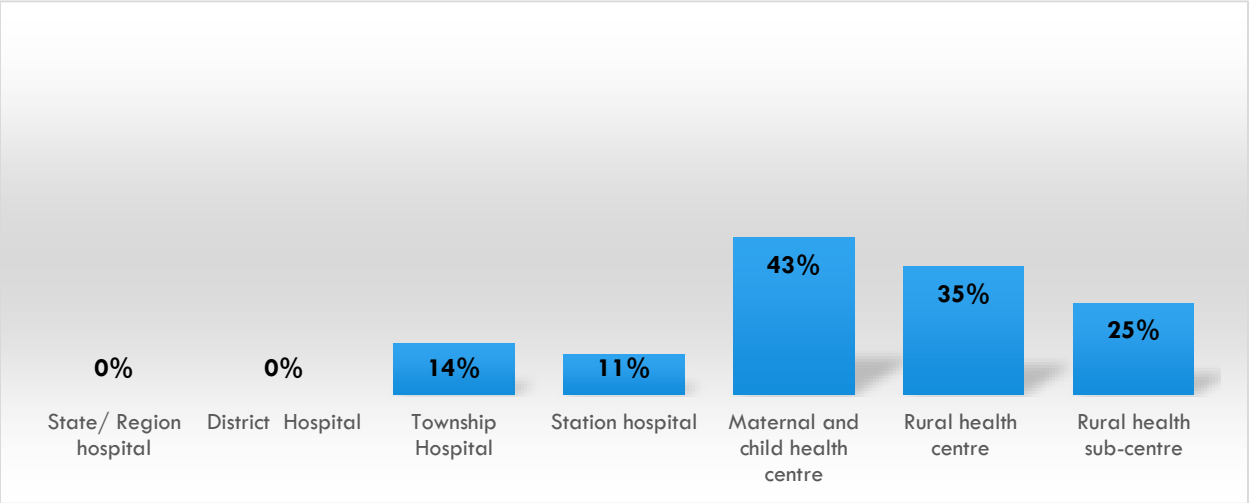


Table 37: Facilities that Received Maternal and Newborn Care Training in Last 12 months								
Received training on the topics in the last 12 months	**State/region hospital**	**District hospital**	**Township Hospital**	**Station hospital**	**Maternal and Child Health centre**	**Rural health centre**	**Sub Rural health centre**	**Overall %**
	n=2	**n=1**	**n=7**	**n=9**	**n=7**	**n=17**	**n=67**	**N=110**
Breastfeeding	0(0%)	1(100%)	1(14%)	4(44%)	5(71%)	6(35%)	36(54%)	53 (48%)
Newborn care (NB Resuscitation, NB Infection, Thermal Care, Kangaroo Mother Care, Sterile cord care, Use of corticosteroids)	1(50%)	1(100%)	2(29%)	4(44%)	3(43%)	4(24%)	33(49%)	48 (44%)
Postnatal care for mothers	1(50%)	1(100%)	3(43%)	3(33%)	2(29%)	4(24%)	36(54%)	50 (45%)
Antenatal care topics (like STI prevention and Control, nutrition in pregnancy)	1(50%)	1(100%)	2(29%)	3(33%)	3(43%)	4(24%)	36(54%)	50 (45%)
Infection prevention and control	2(100%)	1(100%)	1(14%)	2(22%)	3(43%)	4(24%)	32(48%)	45 (41%)
Active management of the third stage of labour (AML)	1(50%)	1(100%)	2(29%)	2(22%)	2(29%)	2(12%)	32(48%)	42 (38%)
Referral protocols for obstetric and newborn emergencies	0(0%)	0(0%)	3(43%)	3(33%)	2(29%)	8(47%)	31(46%)	47 (43%)
Health facilities with all MN care training available in last 12 mo	**0(0%)**	**0(0%)**	**1(14%)**	**2(22%)**	**2(29%)**	**2(12%)**	**31(46%)**	**38 (35%)**

Graph 17: % of Facilities with all MN Care Training in last 12 months

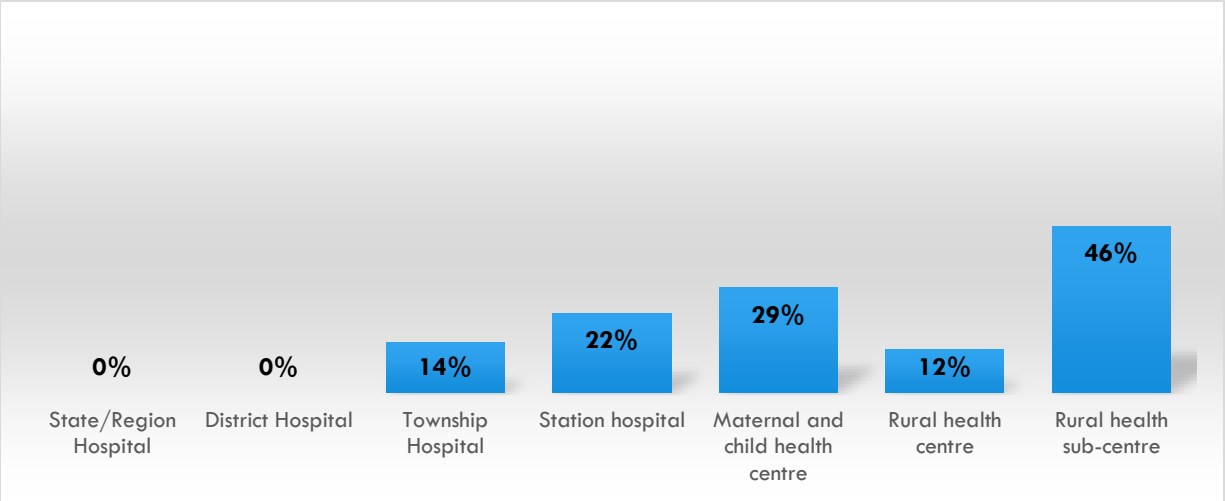


Table 38: Facilities that Participated in Training of Trainers

	State/ region hospital	District hospital	Township Hospital	Station hospital	Maternal and Child Health centre	Rural health centre	Sub Rural health centre	Overall %
	n=2	n=1	n=7	n=9	n=7	n=17	n=67	N=110
Participation in TOT for MNCH	1(50%)	1(100%)	3(43%)	2(22%)	4(57%)	3(18%)	9(13%)	23 (21%)
Replicated the training to junior staff	1(50%)	1(100%)	3(43%)	2(22%)	4(57%)	3(18%)	8(12%)	22 (96%)

Chart 7: Participation in TOT

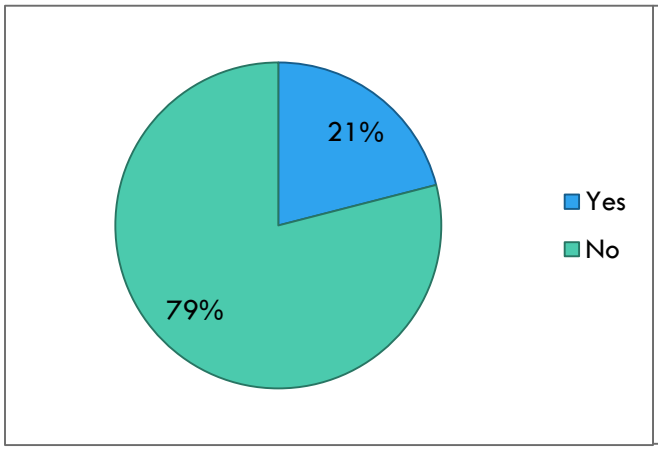


Chart 8: Replicated the Training to Junior Staff

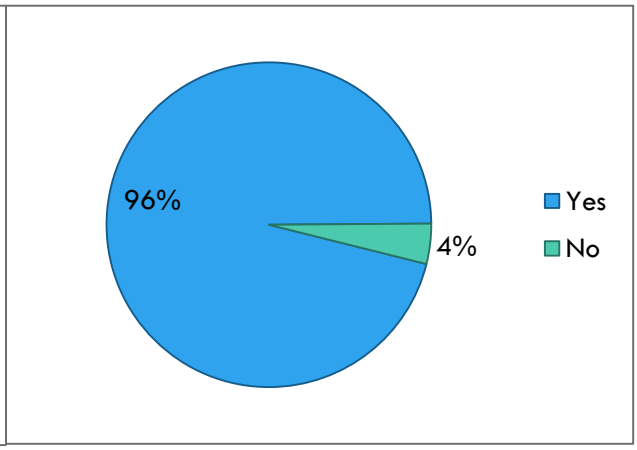
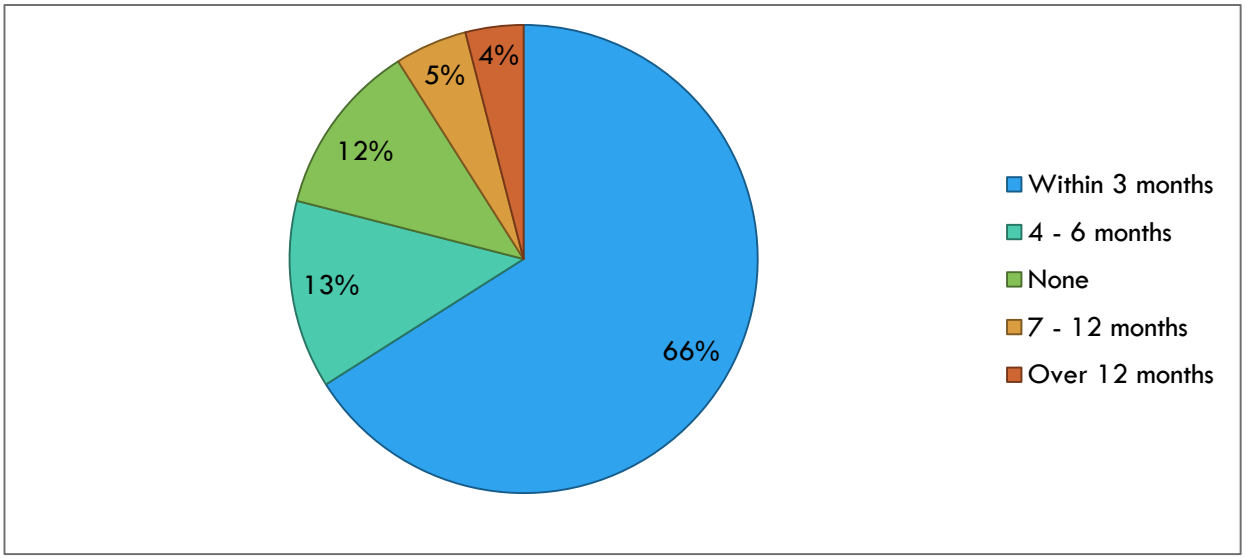


Table 39: Facilities Provided with Supervisions in Last 6 months								
Supervision activity	**State/ region hospital**	**District hospital**	**Township Hospital**	**Station hospital**	**Maternal and Child Health centre**	**Rural health centre**	**Sub Rural health centre**	**Overall %**
	-	n=1	n=6	n=10	n=5	n=18	n=66	N=106
Deliver supplies	-	0(0%)	3(50%)	7(70%)	3(60%)	12 (67%)	53(80%)	78 (74%)
Check your records or reports	-	0(0%)	4(67%)	8(80%)	5(100%)	14(78%)	63(95%)	94 (89%)
Provide any feedback (either positive or negative)on your performance	-	1(100%)	5(83%)	8(80%)	5(100%)	14(78%)	58(88%)	91 (86%)
Give praise that you were doing your work well	-	1(100%)	2(33%)	4(40%)	2(40%)	7(39%)	30(45%)	46 (43%)
Provide updates on administrative or technical issues related to your work	-	1(100%)	4(67%)	6(60%)	5(100%)	8(44%)	47(71%)	71 (67%)
Discuss problems you have encountered	-	1(100%)	5(83%)	7(70%)	5(100%)	13(72%)	57(86%)	88 (83%)
Checked drug supply	-	0(0%)	5(83%)	8(80%)	4(80%)	13(72%)	57(86%)	87 (82%)
Observe your work	-	1(100%)	3(50%)	6(60%)	5(100%)	7(39%)	36(55%)	58 (55%)
Supervise your newborn care service	-	1(100%)	3(50%)	5(50%)	1(20%)	5(28%)	24(36%)	39 (37%)
HF that received supervision on all above activities		**0 (0%)**	**2 (33%)**	**4 (40%)**	**1 (20%)**	**5 (28%)**	**24 (36%)**	**36(34%)**

Chart 9: Last Technical Supervision



Outputs

Health Staff Performance

Sick Child Treatment (ARI/pneumonia, diarrhoea, malaria)

The study examined the performances of common childhood illnesses such as ARI/pneumonia, diarrhoea and malaria at the out-patient department of health facilities. In state/region and district hospitals, sick child care was normally given by paediatricians, in township hospitals by TMO or medical doctors, in RHCs by Health Assistant, and in sub-RHCs by midwives. The majority of cases observed were diagnosed as having fever and/or acute respiratory infections. There were fewer cases of diarrhoea with or without blood.

Generally, facilities properly treated sick children and gave instructions on medications to caretakers, except for fever/malaria cases (55%) and for ACT (41%). The proportions of clinical encounters in which treatment was appropriate for diagnosis by facilities were found to be 100% at state/regional and district hospitals, 95% at township hospitals, 84% at RHCs and 89% at sub-RHCs.

Assessment, classification, treatment chosen, treatment giving and Counselling, and Communication

In contrast to the performance in management of childhood illnesses, health staff did not take enough time to thoroughly inquire and assess the health statuses of children missing some critical medical enquiries in paediatric care. Only 15% of 195 child patients were checked for all 6 key enquiries of sick child care: such as unable to drink or breastfed,, convulsion, vomit everything, lethargic or unconsciousness presence of cough or difficult breathing, presence of diarrhoea or dysentery, fever, ear infection, nutritional status, feeding practice and vaccination status,. Health staff often asked about danger signs; feeding difficulties (77%) and vomiting (51%) but less often for fits (27%) to caretakers. But fewer providers checked malnutrition (44%), anaemia (37%), and immunization status (19%). On average, hospitals (9%) performed poorer than health centres (17%) in thoroughly assessing sick children, possibly reflecting heavier workload in hospitals.

There were other indications for insufficient provider-patient communication that could affect quality of care. The low level of counselling (18%) to caretakers on the importance of continued feeding was found suggesting sufficient time was not taken to communicate with patients. Similar insufficient counselling and communication were observed in delivery care: 18 out of 19 (95%) mothers in delivery were not informed of procedures, and 15 out of 19 (74%) mothers or families were not instructed to check for hypothermia after delivery (see appendix B).

Table 40: Paediatric Cases with Appropriate Treatment						
Treatment by Illness	**State/Region Hospital**	**District Hospital**	**Township Hospital**	**Rural health centre**	**Sub Rural health centre**	**Overall %**
	n(children) =9	**n(children) =2**	**n(children) = 22**	**n(children) = 67**	**n(children) = 93**	**N(children)= 193**
Number of ARI/Pneumonia cases*	**4**	**0**	**10**	**24**	**49**	**87 (45%)**
ARI/pneumonia treated correctly	**4 (100%)**	**0**	**9 (90%)**	**22 (92%)**	**46(94%)**	**81 (93%)**
No: of non-bloody diarrhoea cases*	**3**	**2**	**4**	**14**	**10**	**33 (17%)**
Non-bloody diarrhoea treated correctly	**3 (100%)**	**2(100%)**	**4 (100%)**	**13 (93%)**	**8 (80%)**	**30 (91%)**
No: of bloody diarrhoea cases*	**0**	**0**	**1**	**0**	**1**	**2 (1%)**
Bloody diarrhoea treated correctly	-	-	***1 (100%)***	-	***1 (100%)***	***2 (100%)***
Number of fever/malaria cases*	**2**	**0**	**8**	**32**	**35**	**77 (40%)**
Fever/malaria treated correctly	**2 (100%)**	**0**	**4 (50%)**	**19 (59%)**	**17(49%)**	**42 (55%)**
% paediatric cases in which treatment was appropriate to diagnosis (fever, cough, or diarrhoea)	**9**	**2**	**21**	**56**	**83**	**171**
	100% (9/9)*	***100% (2/2) *****	***95% (21/22) *****	***84% (56/67**)***	***89% (83/93**)***	***89% (171/193) *****

Note *: Cases of fever/malaria, ARI/pneumonia and non-bloody diarrhoea (or) bloody diarrhoea were NOT mutually exclusive as some children had more than one illness, thus the summations of some illness cases were greater than the total number of children observed.

Note **: Numerator of these indicators is the number of children appropriately diagnosed and the denominator is the number of total children observed at the facility(s). The denominator is not the sum of cases for each single illness.

Graph 18: Paediatric Cases with Appropriate Treatment

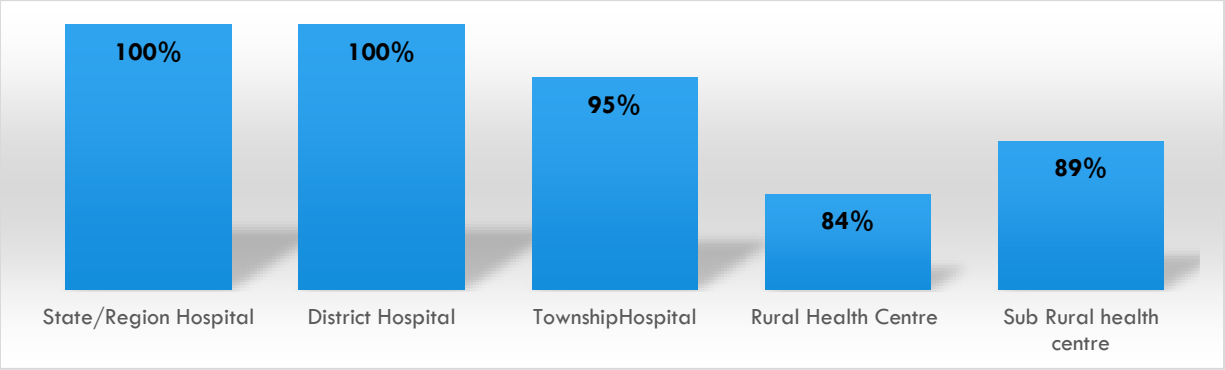


Table 41: Sick Child Assessment Tasks Completed						
Assessment Step	**State/Region Hospital**	**District Hospital**	**Township Hospital**	**Rural health centre**	**Sub Rural health centre**	**Overall %**
	n (children) =9	**n(children)=3**	**n(children)=23**	**n(children)= 67**	**n(children)=93**	**N(children)= 195**
(General danger sign 1) Inquired about child feeding	4	3	19	50	74	150 (77%)
(General danger sign 2) Inquired about vomiting	4	0	11	44	42	101 (51%)
(General danger sign 3) Inquired about convulsions	2	1	6	27	17	53 (27%)
Inquired about all 3 danger signs	**2**	**0**	**6**	**27**	**17**	
Checked nutrition status	0	2	12	36	36	86 (44%)
Checked anaemia	0	2	12	26	32	72 (37%)
Checked vaccination status	7	0	7	17	7	38 (19%)
Assessment Performance Score: Max 100 [all 3 danger signs + any items checked/(n x 4)]	**25 (9/36)**	**33 (4/12)**	**40 (37/92)**	**40 (106/268)**	**25 (92/372)**	**32 (248/780)**

Table 42: Counselling on Continued Feeding for Sick Child						
	State/Region Hospital	**District Hospital**	**Township Hospital**	**Rural health centre**	**Sub Rural health centre**	**Overall %**
	n(children)=9	**n(children)=2**	**n(children) =22**	**n(children) =67**	**n(children) =93**	**N(children) =193**
Clinical encounters where Health staff counseled caretaker to continue feeding sick child	1	0	5	16	12	34
	11%	0%	23%	24%	13%	18%

Note: 2 (1%) sick children were not classified with fever, ARI nor diarrhea and excluded from this analysis.

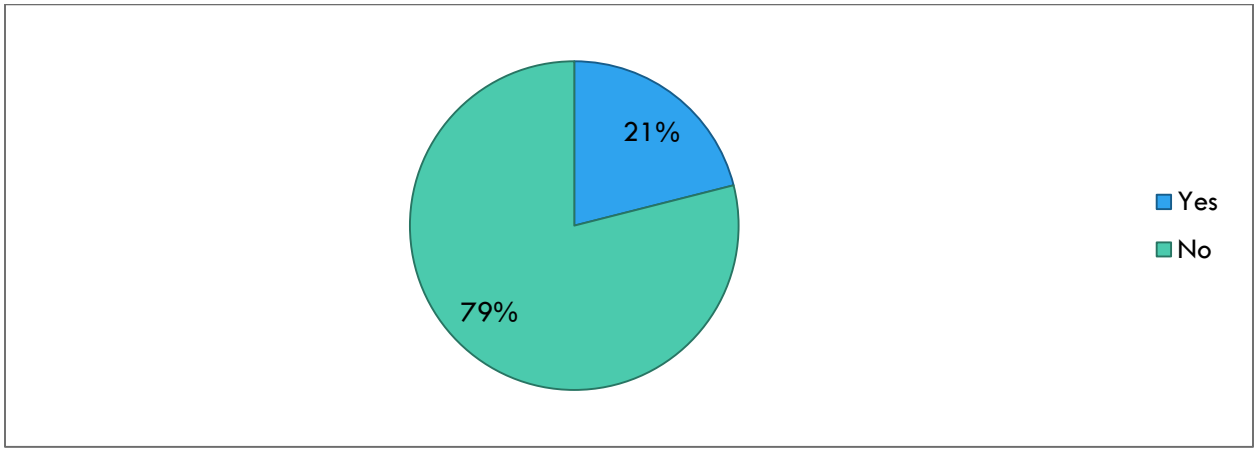
Potentially Harmful Practices in Delivery and Newborn Care

During the observations of delivery of child care, 4 out of 19 cases (21%) were found with one or more potentially harmful practices. These practices included 1) fundal pressure to hasten delivery, 2) slapping of newborn, 3) milking newborn, 4) stretching of the perineum, and 5) shouting, insulting, or threatening of woman in labour.

Table 43: Potentially Harmful Practices Found in Delivery and Newborn Care

Number of cases observed =19	Number of cases	%
Use of enema	0	0
Pubic shaving	0	0
Apply fundal pressure to hasten delivery of baby or placenta	1	5
Lavage of uterus after delivery	0	0
Slap newborn	2	11
Hold newborn upside down	0	0
Milk on newborn babies' chest	1	5
Stretching of the perineum	3	16
Shout, insult or threaten the woman during labour or after	1	5
Slap, hit or pinch the woman during labour or after	0	0
None of the above	15	79

Chart 10: Delivery cases with Potentially Harmful Practices



Caretaker knowledge of drug administration

The level of health staff performance was also assessed through caretakers' knowledge on prescription administration (anti-malarial, antibiotic, or ORS only) via exist interviews. Results were found to be excellent as large proportions of caretakers (88-100%) from each facility explained correctly how to administer all medications given.

Table 44: Caretaker Knowledge on Prescribed Medicine						
	State/Region Hospital	District Hospital	Township Hospital	Rural health centre	Sub Rural health centre	Overall %
	n(children) =6	n(children)=2	n(children)= 12	n(children)= 35	n(children)= 64	N(children)= 128
% clinical encounters in which the caretaker whose child was prescribed an antibiotic, ORS, antimalarial drugs can correctly describe how to administer all drugs	6	2	12	35	64	119*
	100%	**100%**	**92%**	**88%**	**96%**	**93%**

Note: Two (1%) sick children were seen for reasons other than fever and excluded; 67 sick children were not given medications for fever, ARI or diarrhoea and excluded from this analysis.

Health staff Satisfaction

The level of satisfaction among health staff towards current provisions of MNCH services were enquired. 89% of health staff interviewed were very or somewhat satisfied with the way they provide services. However, qualitative data suggested the overloading of nurses and midwives, and frustrations due to lack of systematic material support and benefits to support their work among midwives.

"I am too busy to be talking to you. Why do you ask questions?"

- An interaction of a nurse with a patient in a township hospital

"I have to cover so many villages walking all day. I am too fat and old for that."

- Midwife in a village during a facility observation

"If you want us to do growth monitoring, there should be supplemental food given to malnourished children when we find them. **Health education is not enough**." - Midwife in a village

Table 45: Satisfaction of Health Workers towards MNCH Service Provision								
	State/ Region Hospital	District Hospital	Township Hospital	Station hospital	Maternal and child health centre	Rural health centre	Rural health sub-centre	Overall %
Satisfaction	N=3	N=3	N=8	N=13	N=8	N=20	N=79	N=134
Very satisfied	2(67%)	2(67%)	5(63%)	7(54%)	5(63%)	9(45%)	32(41%)	62 (46%)
Somewhat satisfied	0(0%)	1(33%)	3(38%)	6(46%)	2(25%)	7(35%)	38(48%)	57 (43%
Somewhat dissatisfied	1(33%)	0(0%)	0(0%)	0(0%)	1(13%)	3(15%)	7(9%)	12 (9%)
Dissatisfied	0(0%)	0(0%)	0(0%)	0(0%)	0(0%)	1(5%)	1(1.26)	2 (1%)

External Reasons for Child Deaths

Non-clinical reasons for child mortalities at facilities were asked to 134 facilities. 50% of facilities mentioned delayed arrival at the facility as a common cause of child deaths showing the importance of timely recognition

of danger signs and follow up. 24% of facilities said that the reason for child death was lack of knowledge in communities. 8% mentioned lack of trained personnel, 7% lack of transportation, 4% lack of supplies and medicines, and 1% delayed decisions by health staff as causes of deaths.

Table 46: External Causes for Child Deaths

Reasons for child death	State/ Region Hospital	District Hospital	Township Hospital	Station hospital	Maternal and child health centre	Rural health centre	Rural health sub-centre	Overall %
	n=3	n=3	n=8	n=13	n=8	n=20	n=79	N=134
Delayed arrival at the facility	2(67%)	2(67%)	6(75%)	9(69%)	2(25%)	11(55%)	42(53%)	74 (50%)
Lack of knowledge within communities	1(33%)	0(0%)	2(25%)	3(23%)	6(75%)	17(85%)	3(4%)	32 (24%)
Severity of illness	2(67%)	2(67%)	2(25%)	5(38%)	0(0%)	3(15%)	13(16%)	27 (20%)
Lack of financial means	1(33%)	0(0%)	0(0%)	2(15%)	3(38%)	5(25%)	1(1%)	12 (9%)
Lack of trained personnel	0(0%)	1(33%)	1(13%)	1(8%)	0(0%)	3(15%)	5(6%)	11 (8%)
Lack of transportation	0(0%)	0(0%)	0(0%)	0(0%)	3(38%)	6(30%)	0(0%)	9 (7%)
Malpractice by untrained practitioners such as quacks	0(0%)	0(0%)	0(0%)	0(0%)	1(13%)	6(30%)	1(1%)	8 (6%)
Lack of supplies & medicines	0(0%)	0(0%)	0(0%)	1(8%)	0(0%)	1(5%)	4(5%)	6 (4%)
Congenital abnormalities	0(0%)	0(0%)	1(13%)	0(0%)	0(0%)	0(0%)	1(1%)	2 (1%)
Delayed decisions by health staff	0(0%)	0(0%)	1(13%)	0(0%)	0(0%)	1(5%)	0(0%)	2 (1%)

Note: Includes multiple answers

Suggestions were made by health staff for the improvement of newborn care. The suggested items included: 1) On-the-job and refresher training, 2) Transportation fee subsidies for referral cases, 3) Sufficient supplies and equipment, 4) Health education and awareness raising program to mothers in the community, 5) Increased number of human resources, and 6) Increased supervision and guidance.

Table 47: Suggestions for improved newborn care by health staff								
Suggestions for the improvement of new born care	**State/ Region Hospital**	**District Hospital**	**Township Hospital**	**Station hospital**	**Maternal and child health centre**	**Rural health centre**	**Rural health sub-centre**	**Overall %**
	n=3	n=3	n=8	n=13	n=8	n=20	n=79	N=134
Provide more on-the-job training	0	0	3	5	3	9	20	40 (30%)
Provide more human resources	0	1	3	3	4	5	14	30 (22%)
Provide sufficient equipment/supplies	0	0	2	5	2	7	25	41 (31%)
Provide more supervision and guidance	0	0	2	0	1	4	5	12 (9%)
Others • Transportation subsidy for referral cases • Health education to mothers • Refresher training	3	2	6	9	5	14	47	86 (64%)

Note: Includes multiple answers

Utilization of Services

Photo 15: Unused bran new weighing scale in a sub-RHC

The level of utilization of MNCH services was lower than expected (the planned numbers of clinical observations were in total 365 sick children and 35 delivery cases). The study found and observed only 195 paediatric cases in 134 facilities (1.45 case/facility) and 20 delivery cases in the 10-20 day data collection period. Looking at registries, the averaged median number of patients for MNCH services in 134 facilities in last 3 months was only 18 (sick newborn 0, sick children 41, deliveries 14).

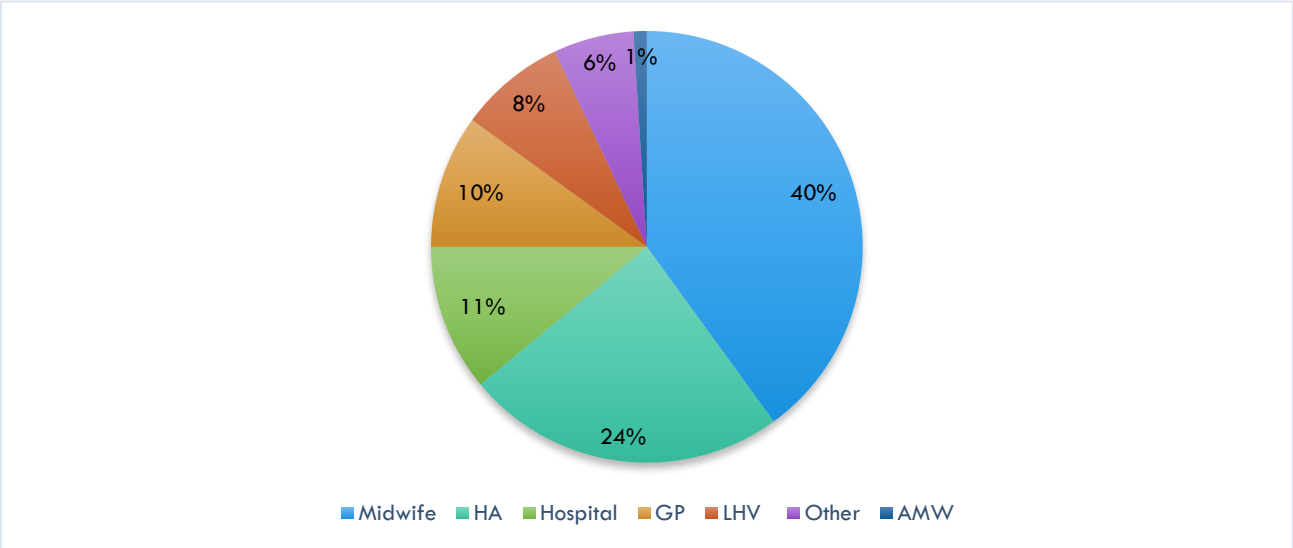
Asked about where to take a sick child first, 64% of caretakers mentioned midwives or Health Assistant in their communities as the first point of contact. An average 83% of hospital users on the day of survey first brought their sick children to a hospital or GP for initial care anyway, and not because of referrals. Similarly, 82% of caretakers were deciding by themselves or with friends and families where to go and when to go to facilities rather than due to referrals.

Photo 16: Sub-RHC in Yeydershae

Table 48: Numbers of Patients in Last 3 months								
# of patients in last 3 months: Median	State/ Region hospital	District Hospital	Township Hospital	Station hospital	Maternal and Child Health centre	Rural health centre	Sub Rural health centre	Overall
	n=3	n=3	n=8	n=13	n=8	n=20	n=79	N=134
Sick newborn	24	12	10	1	0	0	0	0
Sick children	78	93	108	51	40	47	31	41
Deliveries	548	211	123	33	25	17	9	14

Table 49: First Place to Bring a Sick Child						
Location of Interviews	**State/Region Hospital**	**District Hospital**	**Township Hospital**	**Rural health centre**	**Sub Rural health centre**	**Overall %**
	n(children)=9	**n(children)=3**	**(children)=23**	**n(children)= 67**	**n(children)=93**	**N(children)= 195**
Hospital	4(44%)	2(67%)	10(43%)	0 (0%)	7(7.52%)	23(11%)
GP	3(33%)	1(33%)	7(30%)	5 (7%)	5(5.37%)	21(10%)
HA	0(0%)	0(0%)	2(9%)	42(63%)	2(2%)	46(24%)
LHV	0(0%)	0(0%)	0(0%)	10(15%)	5(5%)	15(8%)
Midwife	2(22%)	0(0%)	4(17%)	7(10%)	64(68%)	77(40%)
AMW	0(0%)	0(0%)	0(0%)	0(0%)	1(1%)	1(1%)
Other	0(0%)	0(0%)	0(0%)	3(4%)	9(10%)	12(6%)

Chart 11: First Place to Bring a Sick Child



DISCUSSIONS

Service Availability and Quality

Availabilities of MNCH services were found uneven among different types of health facilities. For example, on average only 10% of all hospitals (State/Region, District, Township, Station) were ready to provide all 3 basic child care services while 70% of health centres (RHC, Sub-RHC, MCH) did. On the other hand, only 34% of health centres were ready for newborn care while 74% of all hospitals provided all 3 basic services. It is likely that their readiness to serve is closely related to the current level of access: hospitals are receiving newborn emergency referrals while health centres at primary health care level receive sick children more frequently. The importance of increasing access is further discussed below, but here the numbers illustrate the close relation between the readiness to provide care and the level of access to services. The numbers of patients in table 48 show that sub-RHCs receive almost half the number of children that state/region hospitals receive despite vast differences in the numbers of areas and population they service. Despite disparities in size and resources, RHCs and sub-RHCs had better readiness to service sick children than hospitals but they were less able to provide newborn care. The findings point to the need for strengthening every aspect of MNCH service delivery.

Antenatal and normal delivery services were generally available at all level of facilities. However, 2 township hospitals out of 8 did not provide antenatal care services 4 or more days in a month, one providing no maternal care at all including delivery.

Similarly, facilities were often caught in the vicious cycle of under-utilization and insufficient upkeep for MNCH services both in materials and skills. For example, from Table 48, the average number of sick newborn patient in hospitals could be calculated as 0.58 per month in hospitals and 0 in health centres. The average number of sick children per month in hospital was 4 and 1 in health centres (table 48). The lack of access to newborn and paediatric care leads to inadequate stock of paediatric drugs and needed experience in these facilities, causing even less access to the facilities.

Quality of care also varied widely across facilities even among the same type of facilities. Hospitals were generally found requiring management-related improvements (software). Regular instructive communication, practical supportive supervisions, technical support, and systematic performance reviews from higher facilities for MNCH services were largely missing in township and station hospitals. Qualitative findings suggested that the variations in the quality of service among hospitals and health centres were largely due to local leadership/management factors that were available only on ad hoc basis such as a presence of a good TMO. This findings suggest the need for strengthening management system at the higher level facilities.

Incongruity between Resource Needs and Availability

Health centres were often found requiring more material related inputs (hardware). For infrastructure needs, there were mismatch between basic resource allocation and the realities of health service provisions on the ground. For instance, basic newborn care supplies were found more in larger hospitals in cities than RHCs and sub-RHCs despite the fact that an overwhelming majority of newborn deliveries takes place in rural areas. Newborn care in hospitals, particularly for abnormal and emergency cases, is essential and has a critical role. However, since a large number of delivery occurs at home and the survival of babies often depends of the

availability of immediate care, ensuring the availabilities of basic newborn care supplies and drugs in communities seems to be essential. This points to a gap between allocations of newborn care supplies and actual needs in communities, and as discussed above and bottleneck discussions (Appendix B), a need for improved supervisions on supply chain management. Midwives play a central role in delivery care in rural areas, and providing necessary drugs and supplies such as antibiotics, baby wraps, and neonatal resuscitation equipment to them seems to be a priority.

Another example of the mismatch is patient beds. Only 13% of all MCH, RHC and sub-RHC were equipped with a patient bed on the assumption that RHC and sub-RHC do not take in in-patients. Therefore, only health centres with a labour room tended to have a patient bed. However, the study found that 91% of these health centres provide some level of delivery services 30 days in a month out of necessity even without adequate infrastructure, equipment, and supply. This study also confirmed that RHC and sub-RHC provide a level of emergency care making patient beds an obvious need. .

The following qualitative data further illustrates a consequence of the gap on the experience of patience receiving services, which in turn affect their decisions for future utilization and timing of access.

> "The delivery room was not really a delivery room. I could tell that it had not been used for a long time. There were a desk and plastic things scattered around just like any other room. The room was dusty and not really equipped for anything. When a woman with a difficult labor suddenly came, they had to clean the room and haul out the desk. They brought in a wooden bed that was in the clinic because no other bed was available. After the mother delivered the baby, she stayed on the hard bed without a mattress. There was no electricity in the patient room, so she stayed in the dark room with a candle, even though the staff quarter next to it had electricity from the solar system. There was no clean toilet for patient use either. She left quickly early in the morning."
>
> - Field surveyor observing RHC

Increasing Timely Access

The results of this study suggested that the performances of healthstaff were generally good, except the lack of practical experiences in emregency cases, and that MNCH-realated deaths may be reduced with improvements in the timing of patient arrival in emergency facilities. From this, some keys to improvements may be deduced as 1) early recognition of danger signs and follow ups 2) improved availability of quality emergency care closer to home, and 3) an increased level of access to facilities.

1) Early Recognition of Danger Signs: Important Role of Midwives in Communities

Asked about where to take a sick child first, 64% of caretakers mentioned midwives or Health Assistant in their communities as the first point of contact. An overwhelming majority of people in this study first went to the nearest facility on foot or motorcycle taking less than 15 or 30 minutes, underlining the importance of health centres and midwives in communities for timely access to facilities. The study of emergency obstetric care[10] mentioned earlier also found that almost a half of respondents went to health facilities due to the insistence of health staff and community health workers.

[10] Report on Assessment of Emergency Obstetric Care in Myanmar, February 2010, by the MOH and UNICEF

However, midwives were often found overloaded or short resourced unable to reach and follow up on patients in a timely manner. One midwife in a village in her 50s reported:

> "I found the pregnant woman in the village. I told her to deliver in the township hospital because of hypertension. I saw her at her home during the 2nd and 3rd trimesters. She looked fine then. But one day, I was called by her relative. She did not listen to my warning and decide to deliver at home with a TBA. **I really thought that she would go to the hospital, but couldn't make sure of that as I was busy. I have to cover 10 villages walking one village to another**. When I went to her home, she was bleeding a lot and in convulsion, and I could not stop the bleeding. There was a car owned by a villager that people used for emergencies. So I asked them to take this woman to the township hospital. I accompanied with her to go to hospital, but she died shortly after. She should have listened to me. I feel guilty."

The statement above illustrates the paramount importance of strengthening support to midwives to ensure timely follow-ups and birth attendance. Empowering midwives in communities with material support including infrastructure, equipment, supplies, housing, transportation as well as means to effectively communicate with mothers such as educational IEC is a priority. It would also enable them towards the integration of AMWs and other health workers in communities into the health service delivery system to support them for early recognition of danger sings and early arrival to higher level.

Photo 17: A RHC in Pwint Phyu

2) Increasing Availablity of Quality Emergency Care Closer to Home

The provision of delivery services was much higher than expected, with 90% of RHC & sub-RHC and 75% of MCH assisting deliveries with or without a delivery room. Given the fact that the majority of mothers first go to a facility that is accessible within 15-30 minutes on foot in time of need, health facilities in local communities are of paramount importance in providing swift care when mothers face a difficult labour.

However, many health facilities were found not well prepared for emergencies. Only **15% of health centres were able to provide all basic emergency care functions,** major shortages being parenteral administration of anticonvulsant for pregnancy induced hypertension (15%), and manual removal of placenta and retained products (25%), followed by parenteral administration of antibiotics (41%). While health centres were not officially designated for all 7 signal functions of BEmOC care, these facilities in communities provide emergency care out of necessity despite some basic procedures such as parenteral injections by midwives have not been officially approved.

At the hospital level, only 1 out of 3 district hospitals and 4 out of 8 township hospitals were providing caesarean section every day. While all 3 state/region hospitals had caesarean section available any day of the week, none had vacuum extraction and forceps delivery available any day of the week. The unpreparedness

of some facilities were reflected in qualitative observations and interviews from differing points of view. Some medical personnel were insufficiently experienced in emergency care. A doctor in a hospital lamented.

> "My nurses do not have enough skills to help me. When I have to perform Caesarean and the resuscitation of the baby at the same time, they cannot use the resuscitation equipment properly. I am afraid to let them do it. I need to train them but I don't have time."
>
> - A senior medical officer at a hospital

Field observations by researchers also pointed to the similar experience. They found 12 out of 19 newborn deliveries (64%) were chaotic and not calm.

> "The hospital was not well-prepared for emergencies. There was no warmer to prevent hypothermia. The baby was not breathing, blue lips, blue baby. They were shouting 'where is the bag and mask, bag and mask!' They could not find the bag and mask, 'the bag and mask is in the other room!' the other shouted. She finally resuscitated the baby with mouth to mouth. Thankfully the baby began breathing ok."
>
> - Field surveyor observing a child delivery in a hospital

A mother's account of her experience losing her baby in a hospital suggests a similar point.

> "I went to the township hospital because I had a difficulty and could not naturally deliver my baby. In the hospital, they forcefully tried to pull out the baby, and I lost consciousness. My husband was told to bring me to another hospital without anybody accompanying me or even a referral. In the central hospital, they managed to save me but could not save the baby. I will never go back to the township hospital again."
>
> - Mother of 3 children in her 40s

A study of emergency care in Myanmar[11] conducted in 2010 also concluded that "the need for EmOC is not being met in most areas of the country". It reported a large proportion of unmet need (40%) for emergency obstetric care, as well as the lack of consistency in service availability among facilities. This study supports the findings and underscores the need for improving the availability and quality of emergency obstetric services particularly in facilities closer to communities.

Photo 18: Mothers sharing their experiences in a focus group discussion in Pwint Phyu

This leads us to consider the roles of station hospitals and MCH centres in MNCH care. These facilities generally performed poorly in MNCH service deliveries despite their great potential in providing critical and timely care due to their proximity in communities. For example, out of 13 station hospitals, only 2 (15%) had all basic child care, 7 (54%) provided all basic newborn care services, and only about a half of station hospitals had all essential supplies and drugs for MNCH care.

MCH centres, that are supposed to be the guardians of maternal and child health, consistently performed low in the availability and quality of MNCH care. For some indicators such as the provisions of KMC(15%) and

[11] Report on Assessment of Emergency Obstetric Care in Myanmar, February 2010, by the MOH and UNICEF

child care drugs (25%), MCH centres were found even less ready than sub-RHCs. The capacities of MCH centers across the samples widely varied, some barely providing basic services while others meeting basic emergency needs (25%). The role and intended functions of MCH centers seem to have shifted over time, and now their purpose and functionality are found quite unclear and varied. More strategic use of MCH centres would contribute to improvements in timely access to MNCH services.

3) Increasing Access to Health Facilities

The level of utilization of MNCH services by mothers was found surprisingly lower than expected, evidenced by the numbers of observations in paediatric and delivery care and the numbers of patients in registries. Based on the registries examined, the averaged median number of patients for MNCH services in 134 facilities in last 3 months was only 18 (sick newborn 0, sick children 41, deliveries 14), or average 6 patients per month. The study found and observed only 195 paediatric cases in 134 facilities (1.45 case/facility) in a 10-20 day data collection period. Similarly, the field surveyors were able to find and observe only 20 delivery cases among 31 facilities with a labour room they visited within the same period.

As to why mothers do not utilize health facilities for MNCH care, women's lack of money and education are two oft-mentioned reasons. Yet, the insistence of some mothers on avoiding hospitals in this study, even when financial concerns were hypothetically eliminated, indicated that the reasons for the lack of access were more complex than simple lack of money and knowledge. Their explanations indicated several "push out" factors from facilities - costs, inconvenience, and unpleasant experiences-, and "pull in" factors of home based care – easier access to licensed and unlicensed providers, familiarity, flexibility, and superior services from women's point of view.

Women often explained in discussions that they were "scared" to go to health facilities, especially larger hospitals. One factor was hidden costs at facilities. In this study, only 17% of patients in paediatric care paid some kind of expenses: the mean average for medicine was 950 kyats and for hospital registration fee was 790 kyats. The rest (83%) received MNCH care free of charge. However, the Assessment of EmOC in Myanmar (2010) conducted by DOH and UNICEF indicated that only 12% received emergency obstetric care free of charge. And the qualitative findings in this study indicated that women were scared of hidden cost that they were unexpectedly made to pay.

> "The nurses were very rude to me, and made my husband buy medicines and a plastic bed cover. But she did not use the medicine and took it away without my permission. I had another difficult pregnancy again but I did not go to the hospital. I was scared of having to pay for something again."

> "In the hospital, I was told to go and buy fever syrup from the store, but I didn't have enough money. My husband had the money but went away to work. The nurse yelled at me saying, 'why didn't you bring money for medicine!' She was telling the doctor that this medicine could not be obtained from the pharmaceutical company free.

Qualitative data suggests that patients are sometimes having to pay out of pocket for child/infant formula. In the case above, a nurse mentioned to her that pharmaceutical companies do not donate child formulas. Unknown factors such as this frighten patients with little financial resources. Another push out factor that made women "scared" to go to the hospital was the lack of courteous and friendly services partiularly in

hospitals. The statements of women above convey the tension and discomfort created by the way health staff interacted with the patients. A field note from a surveyors also expressed the similar point:

> "The staff in the hospital shouted at the patients. 'Come here! What is your name! Why are you here!' She pointed a finger and yelled at one patient who asked about his turn after waiting for 2 hours: 'if you are in a hurry, go somewhere else. All others are waiting. Why do you ask questions?' The patient looked uncomfortable and scared."

Patient-provider communication is an integral part of health care provision. However, qualitative findings revealed lack of respectful sand warm interactions in some facilities. Issues such as courtesy or satisfaction levels tend not to be salient in quantitative surveys in Myanmar, sometimes even presenting contradictory information to qualitative data. For example, 95% of women in an emergency care study stated that communication and manner of providers were friendly and warm.[12] This could mean that women are treated kindly when conditions are serious, and/or respondents are less likely to express their critical opinions with surveyors. Either way, the lack of courtesy is likely to be an important factor in low access to facilities.

Observations in this study suggested that there are room for improvement in patient-provider relations. In addition to women's testimonies illustrated above, 4 out of 19 mothers (21%) in delivery care were found not "treated with respect and care", and one mother was "yelled, insulted or threatened" during labor even under the surveillance of researchers. A study of newborn care in 40 townships (2013) also pointed out the similar issue, and stated that "there is a necessity to build skill on interpersonal relationship by health staff."[13] These findings suggest that there might be a routine pattern of interaction with patients, organizational culture, in health facilities that rural women find uncomfortable or intimidating, and discourge their access to these facilities.

To be sure, the issue of courtesy in hospitals are often deeply rooted in structural (e.g. insufficient number of staff, low salary, long work hours, etc.) and organizational cultural issues (e.g. long standing attitudes of leadership) that could be beyond individuals' willingness to change. Addressing the issue is likely to take a comprehensive and long term approach by hospital managements.

In addition to the uncertain costs of care and the attitudes of staff, women are discouraged by a series of inconvenient factors that going to the hospitals would entail. This could be lack of transportation and childcare, or having to stay in under-equipped or understaffed facilities where family members have to take leaves from work, and feed and care for patients with vertually no space for them to stay. The photograph below shows family members of a woman staying under a tree as there was no place for them to be inside the facility.

[12] Report on Assessment of Emergency Obstetric Care in Myanmar, February 2010, by the MOH and UNICEF

[13] Assessment of Quality of Care of Newborn and Children in 40 Selected Township and Station Hospitals, 2013, by WHO and the Department of Health

In contrast to the inconvenience of health facilities, home-based care – delivery with a midwife or TBA, seeing a quack doctor or obtaining medicine from unlicensed local vendor in neighborhood – offers affordable and convenient alternatives to accessing health facilities. Sometimes their services are much superior to hospital care from women's perspectives. One woman stated:

> "I prefer delivery at home because I can take care of my children. It is inconvenient to go to the facility, and I do not have enough money either. If I deliver at home, TBA would help me even with house choirs and childcare."

Photo 19: Family members of a delivering mother sleeping outdoor due to lack of space

An important point here is that home-based care meets **the day-to-day needs of women**. Other women pointed to the familiarity of midwives and being able to negotiate payment terms.

> "I know the midwife. She would let me pay little by little every month."

Findings from this study suggested that women trust and rely on midwives in their communities for basic health care. 40% of caretakers, the largest category of response, in the survey stated that they would take a sick child to midwives first. Women in FGDs also often stated that they rely on midwives for newborn care.

> "Midwife. We come to her if anything comes up. We always take instruction from her like taking medicine, injection, etc."

> "We don't need to be afraid of some serious problems since midwives take care of everything. We feel safe and trust their work."

Overall, discussions with mothers reveal that it is the package of whole experience in finding and receiving care that makes them choose where to go and when to go. A past unpleasant experience with a health facility or inconvenience in utilizing service would make a mother delay her access to a facility as late as possible, particularly when pleasant and convenient alternatives of a midwife, TBA, medicine vendor or even a quack doctor pull them to home based care. The key to a higher rate of access then is relating to mothers' practical and emotional needs, seeing health services from mothers' perspectives.

This study reveals a further point. While women were reluctant to use health services in facilities currently available to them, it did not mean that they did not want to use health facilities at all. Mothers very much wanted to use "modern" facilities for their delivery and newborn and child care needs **if their practical and emotional needs were met in these facilities**.

"We would like to deliver at modern clinic or hospital."

"If something went wrong, there would be many health staff around in a hospital. They could give injections in case of difficult labor. We could also go under surgical operation to deliver."

"We could easily obtain blood if needed. Blood is ready at clinic or hospital but not here."

Similarly, 78% of women asked in another survey thought that hospitals were the best place to deliver[14]. This is a critical point for us to remember. Mothers want to access health facilities if the facilities meet their needs. The basic demands for facility based services seem to be already there. Again, these findings underscores an important point: The quality of care must be understood from mother's point of view as well as medical professionals' perspectives.

Photo 20: A sub-RHC in Pwint Phyu

Success Story from the Field

Community Best Practice: Collaboration in Community

"Recently, a baby was born safely from a HIV positive woman without transmission assisted by the midwife. She has a very good reputation not only in her village but in neighboring villages too. People come to see her from surrounding villages. She created a very nice sub-center with 5 in-patient beds so women can stay there before and after delivery. She and other health workers work together in the sub-center. This way, all delivery come to the midwife and she wouldn't let other untrained people like TBA work alone. So all deliveries will be facility delivery or home delivery with a skilled birth attendant. The midwife trained them, improved their skills. So they can handle some complication in the village too. The midwife has an excellent reputation – everybody comes to her because she is kind. People pay her whenever they can, so she can contribute money to build up the sub-center."

- A field researcher in a township

[14] WHO & DOH, Assessment of Essential Newborn Care in Ayeyarwardy and Magway (2007).

CASE IN POINT: DEATH OF A BABY IN HOSPITAL

Mothers' lack of knowledge is often blamed for MNCH-related deaths. However, close examinations of cases often reveal other critical factors as well. The following case documented by a field surveyor reveals at least 3 important issues: **insufficient patient-provider communication, limited availability of AN care, and reliance on untrained TBA as an alternative.**

> "While I was in a hospital, there was a case of still birth. A pregnant woman, her husband, and a neighbor came to the emergency department around midnight, complaining that something was wrong with the baby in her womb. It took over one hour for them to come to the hospital by car and tri-motorcycle. The doctor who examined her said to the nurse 'this baby is not moving. Something is wrong.' He immediately took her to the delivery room, but when the baby came out without caesarian section, the umbilical code was around the baby's neck. It was already dead. The doctor was obviously upset and shouted at her 'this baby is dead! What did you do to it before coming to here!'
>
> "She replied 'the baby was moving during the day, but the TBA came and tried to fix the positon of the baby!' A few weeks before, as she was not feeling very well, she went to a nearby doctor's clinic who took an x-ray of her baby. The baby was alive, but the doctor detected some abnormality. He did not explained to her what was exactly wrong. So she didn't know about the nature of the problem (Myoma), but was just told to go to the hospital. **She went straight to the regional hospital on the same day, but the outpatient for AN care was closed. It was only available once a week.** So she went back home without seeing an Ob/Gyn doctor.
>
> "Since she could not see a doctor in the hospital, she consulted a TBA that she knew. **The TBA wrongly assumed that the baby was up-side down,** and tried to fix it without knowing she actually had Myoma. The baby became tangled with the umbilical code and died. The doctor reprimanded the mother saying, 'why did you go to the TBA? Why did you believe her? You should have come to the hospital. If the OPD was closed, you should have gone to the emergency.' The women could only say, '**I didn't know that I needed an immediate attention.**'

The doctor blamed the TBA for the still born baby. However, the following compounded issues contributed to the death of the baby.

1. Insufficient explanation by the doctor about the fact that she had Myoma
2. Insufficient availability of AN care services at the hospital (only 1 or 2 days/week, 3 hours in the morning 9-12am)
3. Reliance on unskilled and untrained TBA as an alternative care

RECOMMENDATIONS

Service Delivery – General

1. Improve the uneven MNCH services among facilities by strengthening child care services in hospitals, and basic emergency obstetric care and newborn care services in RHCs
2. Prioritize the gaps in essential supplies and equipment identified in this study such as vitamin A, Zinc, tetanus toxoid, baby wraps, vacuum extractor, antibiotics for newborn
3. Ensure actual usages of neonatal resuscitation equipment in addition to the availability of the device (1/3 of facilities were still missing the equipment)
4. Increase the level of infection control by ensuring the availabilities of soap, sterilizer, bleaching powder both hospitals and health centres
5. Make basic preventive medicines for child and maternal care available at all levels

Service Delivery - Hospitals (State/Regional, District, Township, Station)

1. Ensure the availability of EmOC in hospitals, especially caesarean section, vacuum extraction, and forceps delivery, **any day of the week**
2. **Bring emergency obstetric care closer to communities** by ensuring:
    a. CEmOC functions at every Station Hospitals
    b. BEmOC functions at every RHCs (some already partially BEmOC with limited signal functions)
3. **Station hospitals** consistently performed poorer than other hospitals despite their proximity to communities, and should be strengthened and upgraded for MNCH care
4. Ensure sanctioned numbers of doctors and nurses with appropriate MNCH related trainings and skills are appointed and available (e.g. caesarean section)
5. Five essential child care drugs checked in this study were less readily available in hospitals than health centres, and should be made available in all hospitals including **child and infant formula. therapeutic milk for management of severe malnutrition**
6. Improve supply chain management in larger hospitals to make sure that MNCH supplies and drugs particularly for newborn care reach midwives and health centres

Service Delivery - Health Centres (RHC/sub-RHC/MCH)

1. Focus on infrastructural improvements on health centres and ensure the availabilities of essential items such as clean beds, electricity, latrine and faucet water
2. Health centres are less prepared for newborn and delivery care than hospitals despite their proximity to home delivery settings: Ensure the availabilities of essential delivery and newborn supplies and drugs

3. Upgrade all RHCs for basic emergency obstetric care
4. Strengthen material support to midwives' outreach in communities (i.e. IEC for mothers, transportation for midwives etc.) to aid early danger detection and timely follow-ups and attendance
5. Empower midwives in communities with material support (infrastructure, equipment, supplies, housing) first, and then guide them to strengthen the integration of health cadres such as AMWs into health service delivery for their support on the ground
6. MCH centres in communities possess potentials for more strategic use, and should be upgraded and strengthen for full MNCH care services

Information and Register

1. About a half of facilities did not fill in complete information in their registers. It is indicative of the need for supervisions on information recording on the ground that needs to be strengthened to support national level monitoring systems such as Health Management Information System and Logistics Management Information Systems. It is critical to ensure the availability of quality disaggregated data from townships for supply and demand-side information such as commodities, human resources, utilization coverage, and quality assurance.
2. Midwives were found unable to carry around their registers, and should be provided with an improved registry tracking system for early danger detection and follow up
3. Consider use of innovations such as mobile technology in programme monitoring and forecasting of supplies and commodities for MNCH services for better coverage and quality of information

Referrals

1. Both referrals from health centres and the capacities to treat all referral cases in hospitals require improvements
2. Early recognition of danger signs, referral procedures, and follow up at the point of first contact in communities should be strengthened
3. For above, ensure material support to midwives and AMWs including IEC for distribution, tools to identify severity of conditions, and transportation arrangements for referrals
4. Also ensure that all hospitals have the capacities to accept MNCH referrals with sufficient supply &equipment, skilled human resources, and proper management, particularly for emergency care any day of the week.

Training

1. Include patient-provider communication skills in management training in hospital. The emphasis is on management as leadership plays an important role in shifting long standing organizational culture.
2. Provide periodic "hands-on" refresher training regularly at least once a year, particularly on newborn care
3. Focus on changing behaviours and institutionalized practices, rather than knowledge provision, with mentoring and coaching through on-the-job training
4. Create a sustained system of periodic TOT/CME on MNCH (e.g. TOT teams)
5. Improve the treatment and counselling skills related to malaria

Supportive Supervision

1. The findings indicate that supervisory interactions often focus on administrative communication, and supervisors were not always aware of day-to-day practices on the ground. Bottleneck discussions (see Appendix B) highlighted the usefulness of communication between supervisors and health staff in which supportive and corrective actions instantly took place on the issues on the ground that TMOs were not aware of. Ensure regular periodic supportive supervisions on actual care practices at all levels including hospitals in addition to administrative monitoring.
2. Provide regular mentoring and supportive supervision of health staff (both hospitals and health centres) on skills and attitudes necessary to ensure complete assessment of all danger signs and nutritional and vaccination statuses
3. Eliminate potentially harmful practices in delivery and newborn care with increased on-site supportive supervisions

Management

1. Quantitative and qualitative findings including bottleneck discussions suggest that many of the gaps found in the availability and quality of services and goods can be addressed with improved communication and corrective actions at the management level. Emphasize managerial skills, and provide leadership and management training at all levels including hospitals.
2. Support the establishment and maintenance of a **performance management system** with a set of core indicators, collected and monitored by states/regions and national level offices for improved quality and accountability in hospitals

3. Ensuring the quality of services requires understanding of lessons learnt and how to improve services. Initiate and enhance regular clinical audit (maternal, child, & perinatal death reviews), and build them into the performance management system. This will also help increase the level of accountability of service providers.
4. Integrate in the system a monitoring mechanism to oversee progress at township level (e.g. use of score cards)
5. Ensure consistent follow up on corrective actions in the clinical audit and feedback mechanism of the review
6. Make gathered data from the system available to the public
7. Data including bottleneck discussions suggest that some supply and equipment have not been replenished creating gaps. Improve supply chain management at all levels – forecasting, procurement, warehousing, distribution, record register.
8. Use of SMS/innovation to program monitoring, forecasting of supplies and commodities for MNCH services, and effective case management

Service utilization

The study highlighted that MNCH services in some facilities are caught in the vicious cycle of non-access and insufficient upkeep. It is revealing to note that 50% of health facilities in this study listed delayed access as the major cause of maternal and child deaths in their facilities. These points highlight the need for more efforts specifically aimed at increasing mothers' timely access to health facilities.

A. Facilities
    1. Ensure that on-going MOH efforts to build new facilities in communities consider meeting the practical (e.g. space for family members and child care) and emotional (e.g. courteous and caring staff) needs of women and families
    2. Conduct research suggested below and utilize information to **pilot MNCH model facilities that incorporate quality of care from mothers' perspectives**
B. Management
    1. Provide management level training on improved patient-provider relations and communication particularly at hospitals

Research, Monitoring, and Use of Data

1. Conduct a mixed method study with in-depth qualitative analysis to further understand causes of delayed access and ways to overcome them. The study should aim to define the meanings of "quality of care" from mother's perspectives, and further explore what would hinder and motivate their early access. The investigation can be grounded in 3 points of delay:

1) Decision making stage at home – sources of concerns including financial factors, physical access, domestic needs, inconvenience, past negative experience
2) Transporting stage – distance, means and costs of transportation, proportion of mothers with problems at this stage who might benefit from assistance
3) Service delivery stage – time taken to receive care, causes of delay related to service provisions in facilities

2. Establish a system of regular monitoring, measuring improvements in MNCH services among health facilities. Simplify the R-HFA tool used in this study by selecting most important 10 -15 indicators for self-assessment, or adapt WHO Quality of Care Assessment Tool for Myanmar.
3. Review gathered data through the monitoring system suggested above with the participation of township level BHS on annual basis. Resulting recommendations from discussions should be prioritized and integrated into the next cycle of planning and implementation.

Policies

1. Issues surrounding quality of MNCH services are often cross cutting with other sectors, and should be addressed with multi-sector approach including nutrition, water & sanitation, disease control, PMCTC, immunization, and RH
2. Currently MNCH supplies are procured through the CMSD system. Strengthen the CMSD capacities for procurement of essential medicines and commodities for mother, newborn and children and distribution including capacity building at township level to ensure supplies and commodities reach community level, and work towards the integration of other commodity security projects into one system.
3. **Develop a list of minimum MNCH essential items with WHO and the MOH** to ensure that on-going government plan for infrastructural improvement will include currently unmet MNCH needs such as delivery room with audio and visual privacy, essential supplies and drugs such as vacuum extractor, baby wraps, antibiotics for newborn, tetanus toxoid for ANC, and housing for midwives (see below for more specifications).
4. Revitalize efforts to create more permissive MNCH-related policy environment for community care such as formal authorizations of injectable antibiotics and the use of antenatal corticosteroids by midwives and oral antibiotics by CHV (de facto practices in some

communities). This has been recommended by other assessments in the past and should be implemented.[15]

5. Only 67% of sanctioned positions for doctors and nurses in hospitals were currently filled in surveyed facilities. Ensure that on-going efforts by the government such as HRH (Human Resources for Health) include MNCH perspectives such as inclusions of physicians with paediatric and CEmOC experiences.
6. Ensure a balanced availability and skill mix of human resources such as PHS 2 to reduce the workload of midwives in communities through task shifting

[15] For example, UNICEF, MOH, "Assessment of Newborn Health in Myanmar" (2013)

APPENDIX

Appendix A: Numbers of Facilities and Clinical Cases Assessed by Township

Table 1 :Number of Facilities Assessed

	Location	Hospitals				Community Health Centres			TTL
		State/Region	District	Township	Station	RHC	Sub RHC	MCH	
1	Taunggyi	1	0	-	-	-	-	-	1
2	Magway	1	0	-	-	-	-	-	1
3	Pathein	1	0	-	-	-	-	-	1
4	Kalaw	0	1	-	-	-	-	-	1
5	Minbu	0	1	-	-	-	-	-	1
6	MaUBin	0	1	-	-	-	-	-	1
7	Ywangan	N/A	N/A	1	1	2	7	1	12
8	Myawaddy	N/A	N/A	1	1	2	7	1	12
9	Ayardaw	N/A	N/A	1	2	2	9	1	15
10	Yaydarshey	N/A	N/A	1	2	3	12	1	19
11	Hlegu	N/A	N/A	1	2	4	13	1	21
12	PwintPhyu	N/A	N/A	1	1	2	10	1	15
13	Sintku	N/A	N/A	1	2	2	7	1	13
14	Pantanaw	N/A	N/A	1	2	3	14	1	21
15	Myauk U	N/A	N/A	0	0	0	0	0	0
Total		3	3	8	13	**20**	**79**	8	134

Note: The research team was not permitted to survey in Myauk U due to security reasons.

Table 2 :Number of Health Workers Interviewed

	Location	Hospitals				Community Health Centres			TTL
		State/Region	District	Township	Station	RHC	Sub RHC	MCH	
1	Taunggyi	1	0	-	-	-	-	-	1
2	Magway	1	0	-	-	-	-	-	1

3	Pathein	1	0	-	-	-	-	-	1
4	Kalaw	0	1	-	-	-	-	-	1
5	Minbu	0	1	-	-	-	-	-	1
6	MaUBin	0	1	-	-	-	-	-	1
7	Ywangan	N/A	N/A	1	1	2	7	1	12
8	Myawaddy	N/A	N/A	1	1	2	7	1	12
9	Ayardaw	N/A	N/A	1	2	2	9	1	15
10	Yaydarshey	N/A	N/A	1	2	3	12	1	19
11	Hlegu	N/A	N/A	1	2	4	13	1	21
12	PwintPhyu	N/A	N/A	1	1	2	10	1	15
13	Sintku	N/A	N/A	1	2	2	7	1	13
14	Pantanaw	N/A	N/A	1	2	3	14	1	21
15	Myauk U	N/A	N/A	0	0	0	0	0	0
Total		3	3	8	13	**20**	**79**	8	134

Note: The research team was not permitted to survey in Myauk U due to security reasons.

Table 3:Number of Caretakers Interviewed (Exit Interview)

		Hospitals				Community Health Centres			
	Location	**State/Region**	**District**	**Township**	**Station**	**RHC**	**Sub RHC**	**MCH**	**TTL**
1	Taunggyi	5	0	-	-	-	-	-	5
2	Magway	1	0	-	-	-	-	-	1
3	Pathein	3	0	-	-	-	-	-	3
4	Kalaw	0	0	-	-	-	-	-	0
5	Minbu	0	0	-	-	-	-	-	0
6	MaUBin	0	3	-	-	-	-	-	3
7	Ywangan	N/A	N/A	5	0	4	15	0	24
8	Myawaddy	N/A	N/A	6	0	12	9	0	27
9	Ayardaw	N/A	N/A	0	0	6	9	0	15
10	Yaydarshey	N/A	N/A	2	0	7	13	0	22

11	Hlegu	N/A	N/A	3	0	9	15	0	27
12	PwintPhyu	N/A	N/A	1	0	0	2	0	3
13	Sintku	N/A	N/A	3	0	11	15	0	29
14	Pantanaw	N/A	N/A	3	0	18	15	0	36
15	Myauk U	N/A	N/A	0	0	0	0	0	0
Total		9	3	23	0	**67**	**93**	0	195

Note: The research team was not permitted to survey in Myauk U due to security reasons.

Table 4 :Number of Delivery Cases/Case Scenario (cs)

		Hospitals			Community Health Centres				
	Location	**State/ Region**	**District**	**Township**	**Station**	**RHC**	**Sub RHC**	**MCH**	**TTL**
1	Taunggyi	1	0	-	-	-	-	-	1
2	Magway	1(cs) (1IUFD)	0	-	-	-	-	-	1
3	Pathein	1	0	-	-	-	-	-	1
4	Kalaw	0	2	-	-	-	-	-	2
5	Minbu	0	1	-	-	-	-	-	1
6	MaUBin	0	1	-	-	-	-	-	1
7	Ywangan	N/A	N/A	1	0	1	1(cs)	0	3
8	Myawaddy	N/A	N/A	1	0	1(cs)	1(cs)	0	3
9	Ayardaw	N/A	N/A	1	0	1	1(cs)	0	3
10	Yaydarshey	N/A	N/A	1	0	1(cs)	1	0	3
11	Hlegu	N/A	N/A	0	0	1(cs)	1	1(cs)	3
12	PwintPhyu	N/A	N/A	1	0	1	1(cs)	0	3
13	Sintku	N/A	N/A	1	0	1(cs)	1	0	3
14	Pantanaw	N/A	N/A	1	0	0	2(cs)	0	3
15	Myauk U	N/A	N/A	0	0	0	0	0	0
Total		3/1cs	4	7	0	3/4 cs	3/6 cs	0/1 cs	20 /12 cs

Note: While 35 cases of delivery observations at facilities with a labour room was originally planned, the data collection team was not allowed to enter Rakkhine State for security reasons, and the total number was reduced to 32.

However, data collection teams were able to find and observe only 20 cases. One case was intrauterine fetal death (IUFD) and removed from the analysis. Out of 8 township hospitals, only seven cases were observed as Hlegu township hospital was not accepting labour cases and referring to Insein and North Okkalapa hospitals in Yangon. Cases could not be found in MCH and were replaced with case scenario. Similarly, only 2 out of 8 planned cases were found in RHCs with a delivery room, and 5 case scenario were conducted. These shortages suggest that although a delivery room was available in these RHCs, they were not frequently utilized for newborn delivery. To supplement the missing cases, one additional observation was conducted in a sub-RHC. In sub-RHCs, only three delivery cases were found, and 6 case scenarios were conducted, similarly indicating less than optimal usages of labour room in sub-RHCs.

Table 5 :Number of Sick Children Cases Observed

		Hospitals				Community Health Centres			
	Location	**State/Region**	**District**	**Township**	**Station**	**RHC**	**Sub RHC**	**MCH**	**TTL**
1	Taunggyi	5	0	-	-	-	-	-	5
2	Magway	1	0	-	-	-	-	-	1
3	Pathein	3	0	-	-	-	-	-	3
4	Kalaw	0	0	-	-	-	-	-	0
5	Minbu	0	0	-	-	-	-	-	0
6	MaUBin	0	3	-	-	-	-	-	3
7	Ywangan	N/A	N/A	5	0	4	15	0	24
8	Myawaddy	N/A	N/A	6	0	12	9	0	27
9	Ayardaw	N/A	N/A	0	0	6	9	0	15
10	Yaydarshey	N/A	N/A	2	0	7	13	0	22
11	Hlegu	N/A	N/A	3	0	9	15	0	27
12	PwintPhyu	N/A	N/A	1	0	0	2	0	3
13	Sintku	N/A	N/A	3	0	11	15	0	29
14	Pantanaw	N/A	N/A	3	0	18	15	0	36
15	Myauk U	N/A	N/A	0	0	0	0	0	0
Total		9	3	23	0	**67**	**93**	0	195

Note: The research team was not permitted to survey in Myauk U due to security reasons.

Table 6: Number of FGD (F) & Bottleneck Discussions (B) Conducted									
		Hospitals				Community Health Centres			
	Location	**State/Region**	**District**	**Township**	**Station**	**RHC**	**Sub RHC**	**MCH**	**TTL**
1	Taunggyi	0	0	-	-	-	-	-	0
2	Magway	0	0	-	-	-	-	-	0
3	Pathein	0	0	-	-	-	-	-	0
4	Kalaw	0	0	-	-	-	-	-	0
5	Minbu	0	0	-	-	-	-	-	0
6	MaUBin	0	0	-	-	-	-	-	0
7	Ywangan	N/A	N/A	0	0	F(8)	0	0	1F
8	Myawaddy	N/A	N/A	0	0	F(9)	0	0	1F
9	Ayardaw	N/A	N/A	0	0	F(8)	0	0	1F
10	Yaydarshey	N/A	N/A	B(30)	F(8)	0	0	0	1F,1B
11	Hlegu	N/A	N/A	B(25)	F(7)	0	0	0	1F,1B
12	PwintPhyu	N/A	N/A	0	0	0	F(11)	0	1F
13	Sintku	N/A	N/A	0	0	0	F(9)	0	1F
14	Pantanaw	N/A	N/A	B (80)	0	0	F(8)	0	1F,1B
15	Myauk U	N/A	N/A	0	0	0	0	0	0
Total		0	0	3B(135)	2F(15)	3F(25)	3F (28)	0	8F(68) 3B (135)

Appendix B: Results of Bottleneck Analysis

A group of researchers met with TMOs and BHS in August 2015 for the discussions of bottlenecks related MNCH service delivery. The sessions took place for a half day examining the HFA survey results using R-HFA data analysis templates. Participants were first presented with the preliminary results on access, inputs, and process indicators in their townships. After reviewing the analyzed data, participants were then divided into groups and asked to discuss and identify bottlenecks for poorly performed indicators, rank the severity of the bottlenecks into three groups: key, moderate or minimal. They then tried to identify underlying reasons for the bottlenecks. The summary of the bottleneck discussions are presented in the table below. After the exercise, TMOs and teams were given group work results for follow up actions to improve on the discussed indicators.

	Pantanaw	Hlegu	Yaydarshey
Access (Supply side)	- Routine care has become mundane and less interesting, and needs some motivation for both supply and demand sides -Immunization still have problems, not able to reach hard-to-reach population and mobile population		- Vacancy of health staff - MW : village ratio is too high - Did not find sick children during mobile clinic
(Demand side)	- Demand side problems include facilities being far away, and patients afraid of costs of care and travel	- In some areas, clients stay far from clinics, often due to migration	-Mothers working outside of town and cannot bring sick children -Poor, low socio economic status -Transportation difficulty -Lack of health knowledge in community
Inputs	- Lack of funding to improve sanitary latrine, not much budget for replenishment - Patients lack of interest in audiovisual privacy	- Some MW attend Nursing training (without replacements) - Lack of knowledge of audiovisual privacy in community	-Some sub-RHC have no infrastructure built for mw. thus no latrine - Sub-RHC has no separate room for child care
(supply & equipment)	- Some supply and equipment not replenished - Some are not functioning -Tube and mask were not supplied - Use tubal suction and mouth to mouth resuscitation -Partograph not understood -Baby wraps brought by client being used -Thermal care was not thought important for newborn	-some of the supply and equipment were not replenished - Tube and mask were not supplied - Some neglected the use of partograph - The use of old garments brought by patients for baby wraps, insufficient pieces of cloth, the lack of proper hygienic baby wraps for newborn thermal care was noted.	- Little antibiotics provided for newborn - CDK provided did not contain baby wraps -Tube and mask were not supplied to all midwives - Have sufficient BP cuff& Hb color scale and some urine test kit were expired. Yet they could still use boiling urine in test tube.

(drugs)	-Neonatal drugs were not supplied to sub centers -Neonatal drug dose calculation is difficult - MW unable to use delivery and neonatal drugs	- Some supplies especially oral antibiotic were not replenished - Neonatal antibiotics not supplied to RHC	-Neonatal drugs not supplied to sub centers -Neonatal drug dose calculation is difficult - Unable to prescribe drugs according to disease - No guidelines to refer to - Busy with other activities
Process (information)	- ANC register too big to carry to field visits - Forget to fill in information afterwards	- Some MW too busy due to many projects implemented	-Not in practice of immediate registration -Not knowing diagnosis at the time of examination - Difficulties in fill up information immediately after history taking and examining of mother - Hard to carry register books in the field -Forget to copy in register
(training)	- No refresher training considered after one time training 3-4 years ago - Turnover of staff - Neonatal care- no hands-on training	- no refresher training after one time training 1-2 years ago	--No refresher training - Staff turn over
(supervision)	- Little time for supervisors to spend at HF - No hands on training during supervision - Little motivation for supervision as traveling cost not provided	- Supervisors engage in other new projects - No hands on training during supervision - Little motivation for supervision as traveling cost not provided	-Trained VHW not interested -Need refresher training for all staff especially at CME -Little supervision -Little supportive supervision and positive feedback

Discussions in Pantanaw:

Each indicator was shown and discussions were held with the facilitator and the BHS to verify their own data and the possibilities of place for improvement. As for the result of the domain Infrastructure 33% was mainly due to the absence of auditory and visual privacy in clinical examination rooms. BHS were not even aware of the importance of auditory and visual privacy for patients. There was not much space in the RHC and sub RHC and people were used to not having privacy. It took a long discussion to emphasize the importance of auditory and visual privacy, but BHS finally agreed to make a screen (visual privacy) at least if they did not have space for a separate room for auditory privacy.

Also the availability of electricity and client's latrine was low and this is the area in need of strengthening in infrastructure. During the workshop electricity ran out and the township had to use generator for out power point presentation. This a major infrastructural problem.

MNC indicator for supplies also was very low (5%). There were Partograph at some health facilities, but only two midwives out of many actually used the partograph. The importance of partograph usage was not well understood and the TMO was surprised about this fact.

Another area that required improvement was the availability of baby wraps at the health facility. All midwives said even if they have a labour room, they used a piece of cloth brought from home by mothers for wiping newborn babies. Mothers usually bring only one piece of cloth, and not enough for both wiping and wrapping a baby. They have to discard the used wet cloth after thorough cleansing of newborn, as a result not having a piece of cloth for wrapping the newborn for thermal care. Without another dry wrap in place, they often could not wrap the newborn immediately after birth. After some discussions the TMO has announce that facilities with a delivery room should prepare towels for wrapping babies for thermal control after birth. **This incidence provided a good example of how discussions and supportive supervisions on the ground could improve the quality of care.**

Neonatal resuscitation equipment (tube and mask) was also not present in many health facilities of Pantanaw Township (48%). Asked about the method being used for neonatal resuscitation, midwives said they used tubal suction and did mouth to mouth resuscitation. TMO who was attending the session with BHS pointed out the importance of tube and mask, and promised to obtain one set for each health facility.

As regards to drugs for neonates, there were very few centers having drugs for neonatal sepsis and pneumonia (19%). This was pointed out to be one of the gaps to be filled in.

The process indicator on the completeness of sick child register was found to be satisfactory. Seventy-six % entered complete information with age, diagnosis and treatment for the past three months and over 90% for the past 7 days.

However, the percentage of facilities with complete and updated ANC register information on Due Date, TT injection, and BP & Delivery was only 24% in the township. The midwives provide ANC during their field visits and most of them did not bring the ANC register with them which is quite big and heavy. The data in their notes was not transferred into the ANC register. This was the main reason that the data was not complete.

Discussions in Hlegu:

The low score of the service availability indicator (29%) was mainly due to the low knowledge and awareness of BHS on auditory and visual privacy during clinical examination of a sick child. They also complained about the old buildings with sub-standard. Only a half of clients' latrines were in function. Regarding the supplies for MNC (10%), it was found that some of the midwives did not keep partograph.

Fifty seven percent of all health facilities in the township were also found without neonatal resuscitation equipment (tube and mask). Almost all centers (95%) had the drugs for neonatal sepsis, pneumonia, ORS and dysentery drugs.

The process indicator on information assessed the completeness of sick child register on administering age, diagnosis and treatment for the past three months. We found that over 86% had entered sick child register with complete information. It was rather surprising to find the registers up to date.

However % HF in which ANC register information on -EDD, TT injection, and BP measurement was complete and up to date, and the delivery register was present and up to date was only 67%. Another process indicator was supervision in last three months. We found that only 62% of the facilities had managerial updates and suggestions during the last supervisory visit, and there was no positive feedback during last supervision.

After a coffee break the participant were divided into 3 groups randomly, and all BHS actively participated. In each group HA were assigned as group leader and member of research team acted as the group facilitator. The three indicators (Access, Input and Process) were discussed and provided the reasons and solution for the gap as the thinking process

in each group. During the presentation of each group, TMO admitted to plan for proper use of the baby wrap and partograph in future.

Although 95% of health facilities have protective water source, some of the BHS demand to TMO to solve the problem iron contamination of some shallow well water in RHC and Sub-RHC of Hlegu Township.

Discussions in Yeydershae:

The 11% of facilities only had essential infrastructure including electricity, client's latrine, protected water source and audiovisual privacy in clinical examination of sick child. It was mentioned by the BHS that some infrastructure being a hired place and had only one room that audio visual privacy would be difficult. Even at the RHC examination room did not have curtains and with further discussion, visual privacy could be made possible by using curtains and audio privacy could be conducted by talking softly to client and care taker.

Indicator for essential supplies for child was (0%) and it was due to not having jar/pitcher and cup and spoon for making ORS solution. Everybody is using purified water bottle for ORS solution and this had made the percent zero.

Indicator for essential supplies for MNS was also (0%) and the main reason was lack of neonatal resuscitation equipment in the hands of midwives. Neonatal resuscitation equipment (tube and mask) was present in 47% health facilities and midwives are still using mouth to mouth resuscitation in case of asphyxia in newborn. Here midwives did not have much problem with baby wraps as they said they had asked the mothers to bring more than three pieces of baby wrap (usually pasoe (sarong) of father torn into pieces) when come for delivery. As being a RH project township, majority of midwives are able to use and using partograph (68%).

Essential supplies for ANC including blood pressure machine, tetanus toxoid vaccine, hemoglobin reagents, syphilis testing kit, and albustix for protein was 21% previously but with discussion, no health facilities had syphilis test kit for many years thus when delete that indicator it was found to increase to 65%.

As regards Drugs for child, it was 11% at first and while showing the audience the essential drug items, BHS decided anti-malaria was not commonly present as Yaydarshey has no malaria cases in children. With consensus when delete anti-malaria the indicator for essential drugs-child had increased to 63%. This was a kind of participatory exercise working on excel sheet together with BHS showing them and validating data with them.

Essential drugs for neonates also decided to include antibiotics for neonatal eye infection and neonatal sepsis and it was found in 40% of facilities.

Iron folate was found in 89% of facilities and midwives explained the 11% was depleted at the time of survey.
The process indicator on information, it was assessing the completeness of sick child register on administering age, diagnosis and treatment for the past three months and found to be complete in 37% of facilities.

Also % HF in which ANC register information on Due Date, TT injection, and BP is complete and up to date & Delivery register is present and up to date was 11% in Yaydarshey Township. The midwives used to provide ANC during field visits and most of them did not bring the ANC register with them which is quite big and heavy. This is the reason why the data from their diary was not put into the ANC register and the data was not complete.

For training, BHS received PCPNC training (Pregnancy, Child birth, postnatal care and newborn care) and IMCI training in 2013. Another process indicator was supervision in last three months and found to have managerial updates and suggestion in last supervision only in 42% of the facilities.

Appendix C: Results of Newborn Care Observations

	S/RH	D/H	T/H	MCH	RHC	S/RHC	Total
Delivery observation	3	4	7	0	2	3	19

The observations of 20 actual delivery cases (1 intrauterine fetal death) were conducted. The summary of results are as follows:

Table 1. Observations during Immediate Care

Number of cases observed =19	Number of cases in which action was taken	%
Announces time of birth	15	79
Puts the baby on mother's abdomen for skin to skin contact	5	26
Immediately dries baby with warm dry linen, drying baby eyes with the angle of cloth	17	90
Discards the wet linen	18	95
Wraps with warm dry linen	18	95
Checks whether the baby breathing or crying	19	100
The baby was breathing or crying	18	95
When not kept in skin-to-skin contact, wraps baby in dry towel	16	84
Ties or clamps cord when pulsations stop, or by 2-3 minutes after birth, 2cm and 5cm from baby's abdomen (not immediately after birth)	18	95
Changes the gloves before cutting cord	2	11
Cuts cord with sterile blade or sterile scissors between the two ties	18	95
Checks baby's temperature 15 minutes after birth	8	42
A support person (companion) for mother present	12	63

During newborn care immediately after birth, most health staff dried the baby with warm dry linen including the baby's eyes with the angle of cloth, discarded the wet linen, wrapped the baby with another warm linen, and checked whether baby was breathing or crying (90-100%).

However, keeping the baby on mother's abdomen was found to be rarely done (26%), neglecting the important practice of getting warmth through skin to skin contact with mother. This method of care should be emphasized in training as previously babies were placed next to mothers for cord clamping and cutting. 84% were found to be still following the old instruction.

95% of the staff followed proper cord clamping and cutting procedures, however, only **11% changed their gloves** before doing so. This can be another area of emphasis in training as changing of gloves is often practiced only in big hospitals. Sometimes midwives may know the procedure but unable to follow due to lack of spare gloves. Furthermore, only 42% of health staff were found to check the **temperature of the baby 15 minutes after birth.**

Only 12 mothers out of 19 (63%) were accompanied by a significant other during delivery as big hospitals often do not allow others to enter into the labor room.

Table 2: Observations during the First Hour

Number of cases observed =19	Number of cases in which action was taken	%
Mother and newborn kept in same room after delivery (rooming-in)	18	95
Baby kept skin to skin with mother for the first hour after birth	9	47
Breastfeeding initiated within the first hour after birth	16	84
Provides tetracycline eye ointment 1% prophylaxis	0	0
Administers vitamin k to newborn (only at hospital setting, given by doctor or trained nurse)	10	53
The mother is HIV positive (observer: listen and record answer; circle don't know if status is unknown or is not discussed)	0	0
Administers ARV to newborn (not available in some facilities)	0	0
Measures baby's weight and record	18	95
Stays with the mother and baby for at least one hour	13	68

Although newborn were kept with mother in the same room they were **not kept skin to skin contact with mothers (47%)** and this practice needs to be strengthen to get warmth from mother and to initiate breastfeeding in the first hour after birth which was (84%). It was noted in the observer's note that some mother's breast milk was not able to express in first one hour. **Providing 1% tetracycline eye ointment** as prophylaxis was found not to be conducted may be due to not practicing regularly or not having TEO at health facility. Observing 19 mothers delivering were found to be no case of HIV positive. 18 out of 19 health staff weighed the baby's birth weight and recorded but staffs were found not able to stay near the mother and child for at least one hour.

Table 3: Observations of clean-up after birth

Number of cases observed =19	Number of cases in which action was taken	%
Disposes of all sharps in a puncture-proof container immediately after use	18	95
Decontaminates all reusable instruments in 0.5% chlorine solution	17	90
Sterilizes or uses high-level disinfection for all reusable instruments	16	84
Disposes of all contaminated waste in leak-proof containers	17	90
Removes apron and wipe with soap and warm water (if cdk-dispose off)	17	90
Washes his/her hands with soap and water or uses alcohol hand rub	17	90
Newborn resuscitation required	1	5
Disposes of disposable suction catheters and mucus extractors in a leak-proof container or plastic bag	-	-
Takes the bag and mask apart and inspects for cracks and tears (hospital setting)	-	-
Decontaminates the bag and mask or tube and mask in soap and water and air dry	-	-

Sterilizes or uses high-level disinfection for bag, valve and mask	1	100
Decontaminates reusable suction devices in soap and water	1	100
Sterilizes reusable suction devices	1	100
Washes his/her hands with soap and water or uses alcohol hand rub	1	100
Record time neonatal care observation ended	1	100

Disposals of sharp instruments into a safe container and cleaning of used instruments after delivery were observed satisfactory. However, 2 cases out of 19 did not wash hands with soap and water or alcohol rub.
In 1 resuscitated case, tube and mask were not used, however, the reusable suction devices used were properly decontaminated.

Table 4. Observation of Newborn Resuscitation

Number of cases observed =1	
Record time resuscitation started	Yes
Clears the airway by suctioning the mouth first and then the nose	Yes
The newborn starts to breathe or cry spontaneously	No
Call for help	Yes
Ties of clamps cord immediately	yes
Cuts cord with sterile blade or sterile scissors	yes
Places the newborn on his/her back on a clean, warm surface or tow	yes
Places the head in a slightly extended position to open the airway	yes
Tells the woman and the support person what is going to be done	no
Clears airway, mouth first, and then nose for secretions	yes
Baby starts to breathe	yes
Records time that resuscitation actions ended	yes
The resuscitation was successful	yes
Arranges transfer to special care either in facility or to outside facility	yes
Explains to the mother (and her support person if available) wha happened	yes
Listens to mother and responds attentively to her questions and concerns	no
Observer calls for help or intervene during the resuscitation to save the life of newborn	no

There was only one case (Ywangan Township Hospital) out of 19 deliveries where newborn resuscitation was performed. It was found that the newborn was successfully resuscitated. Health staff did follow the steps of resuscitation and when removed the secretions from mouth first and nose the baby cried loudly and did not need to put over the tube and mask. Baby started to breathe with suction and resuscitation was successful.

The observation highlighted the issue of patient-provider communication that the study found in other sections. Health staff did not tell the mother and support person what was going to be done to the newborn. Perhaps in this case, a reason being that the case was uncomplicated. It was also noted that the **health staff failed to listen to the mother, respond to her questions or concerns**. As seen in table 5 below, 95% of the cases observed also found mothers were not informed of procedures.

By giving quick resuscitation response to the newborn that it was a success and the observer did not need to intervene or call for help. The baby was transferred to the special nursery care unit in the same facility.

Table 5: Comments on Quality of Care

Number of cases observed =19	Number of cases in which action was taken	%
Mother was treated with respect and care	15	79
Mother was informed of procedures	1	5
Situation was calm	7	37
There were some major delays in needed treatment	0	0

Only 37% of cases found that the situations were calm, and 79% of mothers were treated with respect and care. In hospitals, mothers deliver babies with the assistance of one doctor and one nurse while in RHCs and sub-RHCs it is usually only with a midwife or LHV alone. In some sub-RHCs, it was found that female PHS2 helped out midwives in delivery. This is likely to be due to the fact that both midwives and PHS2 are posted sub-RHCs, and if the latter happens to be female, she would help the midwife even though PHS2's curriculum does not contain the subject.

Outcome & review of documentation

Table 6: Conditions of Mothers & Infants at the End of the First Hour after Birth

Number of cases observed =19	Number of cases in which action was taken	%
Outcome for the mother		
Goes to recuperation ward	19	100
Referred to specialist, same facility	0	0
Goes to surgery, same facility	0	0
Referred, other facility	0	0
Death of mother	0	0
Outcome for the newborn or fetus		
Goes to normal nursery	1	5
Referred to specialist, same facility	0	0
Referred, other facility	0	0
Goes to ward with mother	18	95
Newborn death	0	0
Fresh stillbirth	0	0
Macerated stillbirth	0	0

It is important to keep mother and newborn baby together after delivery. All mothers were sent to post-natal ward after delivery, and all babies except one went with their mothers. For the one case, the newborn was sent to normal nursery for special care without the mother. In a RHC, the mother was sent to an adjacent room where she could stay together with her baby. In other case in which there was only one room, the mother was kept on a bed at the corner of the room with the baby.

Table 7: Potentially Harmful Practices

Number of cases observed =19	Number of cases in which action was taken	%
Use of enema	0	0
Pubic shaving	0	0
Apply fundal pressure to hasten delivery of baby or placenta	1	5
Lavage of uterus after delivery	0	0
Slap newborn	2	11
Hold newborn upside down	0	0
Put milk on the baby's chest	1	5
Stretch the perineum	3	16
Shout, insult or threaten the woman during labor or after	1	5
Slap, hit or pinch the woman during labor or after	0	0
None of the above	15	79

Table 8: Inappropriate Practices

Number of cases observed =19	Number of cases in which action was taken	%
Manual exploration of the uterus after delivery	0	0
Use of episiotomy	5	26
Aspiration of newborn mouth and nose as soon as head is born	0	0
Restrict food and fluids in labor	0	0
None of the above	14	74

During the observations, 4 out of 19 cases (21%) were found with potentially harmful practices. One health staff applied fundal pressure to hasten delivery of baby or placenta, and another put milk on the newborn's chest. Stretching of perineum was also seen in three cases. 5 out of 19 cases (26%) were found with episiotomy which is considered inappropriate.

One staff was found to "shout, insult or threaten" a mother in labor. As 21% of the mothers were not treated with care and respect even under observation, this is likely to be related with the issue of how health staff communicate and interact with patients especially in hospitals.

Some staff seemed to automatically engage in these practices without thoughts as they had been doing them for some time. **This indicates the need for hands-on refresher training that aims to change actual practices on the ground rather than for knowledge acquisition, as well as need for frequent supervisions of delivery and newborn care procedures by well-trained supervisors.**

Table 9: Post Delivery Care

Number of cases observed =19	Number of cases in which action was taken	%
Mother breast feeds the baby within one hour after birth while placing the baby on her chest for skin to skin contact	14	74
Other drinks or water is offered to the baby	0	0
Breast milk is given to the baby on demand (when baby cries)	16	84
Mother is offered a help for breastfeeding by a health staff if needed	14	74
Health staff (or midwife) knows positioning and attachment for breastfeeding	14	74
A remedy to the umbilical cord is applied	2	11
Health staff removes vernix caseosa	3	16
Provides skin to skin contact with mother as much as possible	9	47
Wraps the baby with too much cloths	6	32
Health staff instructs a family member to check hands and feet every 3- 4 hours (for normal delivery) to detect cold extremities	5	26

Mothers and babies were observed for a day after delivery. Exclusive breast feeding was practiced in all cases, and 84% of cases breast fed babies when they cried and demanded. 74% of mothers were offered a help in breast feeding their babies to get correct positioning and attachment for proper feeding. 2 out of 19 cases (11%) applied a remedy (Betidine) to the newborn's umbilicus, and both cases were in big hospitals. In 3 cases (16%), vernix caseosa from the babies were removed by health workers.

Wrapping of babies with too much cloths continue to be a problem as 6 out of 19 (32%) were found with the problem. Only 5 cases (26%) were instructed by health workers to check the hands and feet of their babies every 3-4 hours to detect cold extremities. Newborn babies are supposed to be never left alone and kept with the mother during post natal period, and concerns for warmth tended to be secondary for health staff. Training should be strengthened on these dos and don'ts for health staff who can in turn appropriately instruct mothers and families.

Appendix D: Results of Newborn Resuscitation Case Scenario

	S/RH	D/H	T/H	MCH	RHC	S/RHC	Total
Case scenario	0	0	0	1	5	6	12

In health centers (MCH/RHC/sub-RHC) where delivery cases were not found, midwives (n=12) were asked to describe procedures of newborn resuscitation based on the scenario below. The procedures in the tables were not read out to the midwives, and the steps described were not necessarily in the order.

The results illustrated the need for strengthening midwives knowledge on the details of proper resuscitation procedures, and the importance of skin to skin contact with mother, temperature control, and warming of the postnatal room. 42% of the midwives failed to mention five procedures: 1) check whether baby breathes or cries spontaneously, 2) place the newborn on his/her back on a clean warm towel, 3) place the head in a slightly extended position to open the airway, and if possible put a towel under the shoulder, 4) ventilates two times and observing the rise of the chest, and 5) check whether baby is cold. 75% failed to mention measuring baby's temperature, and 83% avoiding wind by closing windows and turning off the fan. In general, the care required to control temperature tended to be forgotten perhaps due to the country's warm climate.

Scenario: Ma Khin Myo came to the clinic to give birth. The fetal heart rate was 160/minute. While examining per vagina, cervix was opened, and the baby's head was descended. After delivery, the baby seemed to have a normal birth weight but it did not cry at birth.

Question 1: What procedures would you take?

Procedures in Newborn Resuscitation	**Number of staff who mentioned the procedure (n=12)**	
	No.	**%**
1. Immediately dries the baby with warm dry linen starting from head to whole body	12	100
2. Inspects the presence of secretions in mouth and nose and clear the airway by suctioning the mouth first, and then the nose	10	83
3. Checks whether baby breathes or cries spontaneously	7	58
4. Ties or clamps cord immediately	10	83
5. Cuts cord with sterile blade or sterile scissors	9	75
6. Places the newborn on his/her back on a clean warm towel	7	58
7. Places the head in a slightly extended position to open the airway, if possible put a towel under the shoulder	7	58
8. Clears airway, mouth first ,and then nose for secretions	9	75
9. If not cry even with suction, puts face mask over the baby's nose and chin, and check the seal	8	67
10. Ventilates two times and observing the rise of the chest	7	58

Question 2: If the child cries and breathe normally, what would you do?

Procedures in Newborn Resuscitation	**Number of staff who mentioned the procedure (n=12)**	
	No.	**%**
11. Skin to skin contact	10	83
12. Warps baby in dry towel	9	75
13. Initiates breastfeeding	10	83

Question 3: When checking the newborn in 2 hours after birth, you found the baby and the mother sleeping apart, and the baby was not covered by a baby wrap. What would you do?

Procedures in Newborn Resuscitation	**Number of staff who mentioned the procedures (n=12)**	
	No.	**%**
14. Checks whether body is cold	7	58
15. Measures baby's temperature	3	25
16. If not placed skin to skin, warps the baby in dry towel or puts into incubator if available	10	83
17. Ensures no wind is blowing on the baby by closing windows and turning of the fan	2	17
18. Initiates breastfeeding	11	92

Appendix E: Data Collection Tools

MODULE 1: Clinical Observation of SIX CONSECUTIVE SICK CHILDREN

Questionnaire ID #: _____ (Office Use Only)

Date: _____ Township: _____

State/Region _____

Type of Facility:

State/Region Hospital	=1
District Hospital	=2
Township Hospital	=3
Station Hospital	=4
RHC	=5
Sub-RHC	=6

Facility Code: ☐☐☐

Interviewer Code: ☐☐

Child serial number (1-6) ☐☐

100. Record the exact time that the Caretaker enters into the Examination Room ☐☐☐☐

100A. what type of Health Worker examined the child? ☐

1. Pediatrician
2. Township Medical Officer
3. Assistant Surgeon
4. Health Assistant
5. Lady Health Visitor
6. Midwife

101. Age of child in completed months (1 – 59) ☐☐

102. Reason for visit (Should only be for cases with Fever / Malaria, Cough / Rapid or difficult Breathing and/or diarrhea) (Tick in the box)

A. Cough / breathing problem ☐
B. Fever ☐
C. Diarrhea ☐

103. Does the health worker

A. Ask about the ability to feed or breastfeed? Yes=1/No=2 ☐
B. Ask whether the child vomits everything? Yes=1/No=2 ☐
C. Ask about the presence of convulsions? Yes=1/No=2 ☐

104. Does the health worker check for

A. Malnutrition by looking for wasting, edema? Yes=1/No=2 ☐

B. Ask about immunization, check on health card? Yes=1/No=2 ☐

C. Look into palmer pallor for anaemia? Yes=1/No=2 ☐

105. Does the health worker classify the child as having

A. Malaria? Yes=1/No=2 ☐

B. Pneumonia or Fast/ Difficult Breathing? Yes=1/No=2 ☐

C. Diarrhea without blood? Yes=1/No=2 ☐

D. Diarrhea with blood? Yes=1/No=2 ☐

106. Does the health worker prescribe?

A. First line Anti malarial-ARtimisinin-Based Combination Therapy (ACT)? Yes=1 No=2 ☐

B. First line Antibiotic For Pneumonia-Cotrimoxazole/Amoxil? Yes=1/No=2 ☐

C. ORS & ZnSO4(or IV fluids - only in case of severe dehydration)?Yes=1/No=2 ☐

D. First Line Antibiotic for Diarrhea with blood-Ciprofloxacin? Yes=1/No=2 ☐

E. Other Antibiotic Yes=1/No=2 ☐

Specify----------

107. Does health worker explain to caretaker how to give?

A. First Line Antimalarial? Yes=1/No=2 ☐

B. First Line Antibiotic for Pneumonia? Yes=1/No=2 ☐

C. ORS (or IV fluids - only in case of severe dehydration)? Yes=1/No=2 ☐

D. First Line Antibiotic for Diarrhea with blood? Yes=1/No=2 ☐

E. Other Antibiotic? Specify---------- Yes=1/No=2 ☐

108. Record the exact time that the consultation ends. ☐☐☐☐

109. What do you think how did health worker explain diagnoses to caretaker?

1. Explained well ☐

2. Somewhat mentioned

3. Did not explain

4. Not applicable

Supervisor Recode for Indicator #11 (HW performance - treatment):

Does classification (Q.105) match the medication prescribed (Q.106)?

A. Malaria / First line Antimalarial
B. Pneumonia or difficult Breathing / First Line Antibiotic For Pneumonia
C. Diarrhea without blood / ORS but no Antibiotic
D. Diarrhea with blood / First Line Antibiotic For Dysentery

INDICATOR #11 (numerator = all match)

MODULE 2: EXIT INTERVIEW (CARETAKERS OF SIX OBSERVED SICK CHILDREN)

Questionnaire ID #: _____ (Office Use Only)
Date: _____ Township: _____
State/Region _____
Type of Facility: State/Region Hospital =1
District Hospital =2
Township Hospital =3
Station Hospital =4
RHC =5
Sub-RHC =6

Facility Code:
Interviewer Code:
Child Serial (1-6)

200. What illness (es) did the health worker tell you your child had?
1. cough / breathing problem
2. fever / malaria
3. diarrhea

201. Did the health worker give you or prescribe any medicines today?
Yes=1, No=2

202. Can you please show me the medications or prescriptions given to you by the health work

ONLY ASK ABOUT THE MEDICATIONS FROM YOUR LIST
(I.E., ORS, First line medicine for MALARIA, first line medicine for PNEUMONIA, first line medicine for DYSENTERY)
Ask the mother to show you each medicine or prescription given to her. Then write down the name of each medicine below under
"MEDICINE 1 " "MED. 2," "MEDICINE 3"
Ask her about the amount to be given each time, the number of times a day to give it and the number of days it is to be given

01. WRITE NAME OF MEDICATION 1 ----------
a. How much will you give each time? (amount/day)----------
b. How many times a day will you give it? (#times/day)----------
c. For how many days will you give it? (# days) ----------
02. WRITE NAME OF MEDICATION 2 ----------
a. How much will you give each time? (amount/day)----------
b. How many times a day will you give it? (#times/day)----------
c. For how many days will you give it? (# days) ----------
03. WRITE NAME OF MEDICATION 3
a. How much will you give each time? (amount/day)----------
b. How many times a day will you give it? (#times/day)----------
c. For how many days will you give it? (# days) ----------

For Supervisor Only:
Is the caretaker's description of medication dose, frequency, and duration correct (Q.202)?
1. Correct
2. Not all correct

- Indicator #12 (HW performance - counseling): (numerator = all match)

203. What else did the doctor/nurse/HA/midwife tell you for your child care apart from

giving medicine? (Circle all that apply)
1. to continue feeding
2. to give plenty of water
3. to give cold bath if fever is high
4. other (specify)----------

204. Where is the first place you normally take your child to in your village/ward when your child is sick?
1. Hospital
2. GP
3. Health Assistant
4. LHV
5. Midwife
6. AMW
7. CHW
8. CBNBC volunteer
9. Neighbor/relative/friends
10. Other (specify) _____

205. Who referred you to come to this health facility today?
1. Self
2. Neighbor/relative/friends
3. Hospital (specify: _____)
4. GP
5. Health Assistant
6. LHV
7. Midwife
8. AMW
9. CHW
10. CBNBC volunteer
11. Others _____

206. How did you come to this health facility from your home?
1. On foot
2. By tricycle
3. By motorcycle
4. By car
5. Others: _____

207. How many minutes did it take to come from your home to this facility?

_____ Minutes

208. How much did you have to spend to come to this facility?
1. For transportation----------
2. For medicine ----------
3. For other things ----------

Thank you for participating. We will use this information to help improve health services in this area.

Assessment Result:

Form completed ……	1
Partially completed ……..…….	2
No respondent available / facility closed……	3
Refused……..	4

Comments: Note anything unusual or interesting qualitative findings:

MODULE 3 : HEALTH Facility Checklist (Infrastructure, Equipment, Supplies and Drugs) MCH/RHC/Sub RHC

Questionnaire ID #: _____ (Entered by Supervisor)

[First 3 letters of township-date (ddmmyy)-module #- questionnaire #; e.g. Man-050614-4-1]

Type of Facility (circle): Hospital (S/R, District, Township, Station), MCH, RHC, Sub-RHC

Facility Code: Int

Obtain Informed Consent

NO.	QUESTIONS	CODING CLASSIFICATION									GO TO
	Ask the following questions to the person in charge of the facility (Township H, SH, MCH.RHC, Sub RHC										
1	Does the facility offer normal delivery and/or newborn care?	Yes----------						1			
		No-------- ----------						2			End Interview
	Observe to see if each of the following structures exists in the facility. If it does exist, ask to be shown it so you can inspect it										
2	Please tell me if the facility is currently able to provide any of the following services; if any of the following services have ever been carried out by providers as part of their work in this facility; and, if ever done, whether the intervention has been carried out at least once during the past3 months	(a)ABLETO PROVIDE			(b)EVER PROVIDEDIN FACILITY			(c) PROVIDED IN PAST3 MONTHS			
		YES	NO	DK	YES	NO	DK	YES	NO	DK	
01	Parenteral Administration of ANTIBIOTICS(IM)	1	2	8	1→c	2	8	1	2	8	
02	Parenteral Administration of OXYTOCIC(IM)	1	2	8	1→c	2	8	1	2	8	
03	Parenteral Administration of ANTICONVULTANT for Hypertensive Disorder of pregnancy (IM)	1	2	8	1→c	2	8	1	2	8	
04	Assisted Vaginal Delivery	1	2	8	1→c	2	8	1	2	8	
05	Manual Removal of Placenta	1	2	8	1→c	2	8	1	2	8	
06	Removal of Retained Products after delivery	1	2	8	1→c	2	8	1	2	8	
07	Neonatal resuscitation	1	2	8	1→c	2	8	1	2	8	
08	Corticosteroids for pre-term labor	1	2	8	1→c	2	8	1	2	8	
3	Does this facility practice Kangaroo Mother Care for low birth weight babies? [Kangaroo Mother Care is the early, prolonged, and continuous skin-to-skin contact between them other (or substitute) and her baby with support for positioning, feeding (ideally exclusive breast feeding), and prevention and management of infections and breathing difficulties.]	YES……..1 NO…….2→Skipto301									
4	Is there a separate room or space for KMC or it Is integrated into another space (eg, postnatal ward)?	YES, Separate Room……..1 YES,Integrated…….2									
301	Does this facility have overnight or inpatient beds?	YES ……☐…1 …… NO …… ……						2			

302	Is there 24-hour staff coverage? If Yes, ask to see a Duty Roster for overnight staffing. If staff lives on site, mark "1."	Yes, 24-hour duty roster, staff lives onsite …… No duty roster nor staff lives onsite…….....	1 2	
NO.	**QUESTIONS**	**CODING CLASSIFICATION**		**GO TO**
303	Does this facility have a working phone or services shortwave radio that is available at all times client are offered? COUNT AS RESPONSE "3" IF HW Has a cell phone that functions in the facility	Yes, observed onsite or within 5 minutes walk Yes, reported onsite or within 5 minutes walk Pay Phone or HW Cell Phone ……..…… No …….……	1 2 3 4	
304	Does this facility have a **functional** ambulance or other vehicle on site for emergency transport for clients?	As this is RHC/subRHC setting, Q on ambulance will not be asked		
305	Does this facility have electricity functioning now? Count As "YES, OBSERVED" If electricity is obviously running or if you can turn on an electrical switch and get electricity.	Yes, Observed …….. No ……	1 2	
306	Does this facility have a back-up or standby generator for electricity? If Yes, assess if the generator is functioning and fuel is available. Accept reported response.	Yes observed functioning and with fuel …… Yes observed functioning and but no fuel……. Yes, reported functioning and with fuel…….. Yes, reported functioning but no fuel…….. No ……	1 2 3 4 5	
307	Is there a toilet or latrine that is available for clients' to use? This toilet or latrine must be for the use of clients, not just health facility staff.	Yes …….. No ……	1 2	→310
308	Ask to see the toilet or latrine and indicate the Type. If there are multiple toilet facilities, Circle the response that corresponds to the **Highest** quality type. This is the type with the **Lowest** number.	Flush / Pour Flush: Ventilated Improved Pit Latrine (Vip)…… Simple Pit Latrine …….. Composting Toilet …….. Open Pit …….. Bucket ……..	1 2 3 4 5 6 7 8	

		Hanging Toilet / Latrine …… Other _____ ……..		
309	Is the toilet or latrine usable? To be unusable, the latrine is not simply dirty, but not in functioning condition (That is, cannot be used)	Yes …….. No …… Unable To Observe	1 2 3	
Ad1	Do you have water for hand washing when comes out of the latrine?	Yes …….. No ……	1 2	
310	Does the health facility have water available today?	Yes …….. No ……	1 2	~~→312~~
311	Could you please tell me where the health facility is getting water for hand washing today. WATER CAN BE EITHER ON SITE OR WITHIN 500m OF THE SITE If there are Multiple Water Sources, Please Circle the one response that corresponds to the **Most** **Commonly** used water source.	Piped Into Facility …….. Piped Onto Facility Grounds ……. Public Standpipe …… Tube Well / Borehole On Grounds…….. Protected Dug Well On Grounds ……. Bottled Water …… Rainwater, Surface Water, Or Tanker Truck……. Other _____ …….	1 2 3 4 5 6 7 8	
312	Can you please show me where children are seen for treatment Inspect for auditory and visual privacy. Mark as "Both" if there is a door that can close	Visual And Auditory Privacy …… **Visual But Not Auditory** Privacy…… Visual Nor Auditory Privacy ……	1 2 3	

	Mark as "Visual" if there is a drape or curtain									
In the child consultation area, check whether each of the items below is either in the room where the service is given or in an adjacent room.										
313	Items For Sick Child Consultations	(A) Availability							(B)	
		Functioning Observed		Reported, Not Seen		Not Available	Don't Know		Yes	No	Don't Know
01	Sterilizer (RHC setting)	1 → b		2 → b		3	9	1	2		9
02	Cold Box for storing Vaccines	1 → b		2 → b		3	9	1	2		9
03	Infant scale that is accessible	1 → b		2 → b		3	9	1	2		9
04	Adult (standing) scale that is accessible	1 → b		2 → b		3	9	1	2		9
05	Timer or watch with second hand	1 → b		2 → b		3	9	1	2		9
06	Jar or pitcher for oral rehydration solution (ORS)	1		2		3	9				
07	Cup and spoon for oral rehydration	1		2		3	9				
In the Delivery Room/Nursery Consultation Area, check whether each of the items below is either in the room where the service is given or in an adjacent room.										
313 NEO	Items For Delivery And Immediate Newborn Care	(A) Availability							(B)	
		Functioning Observed		Reported, Not Seen		Not Available	Don't Know		Yes	No	Don't Know
01	Sterilizer	1 → b		2 → b		3	9	1	2		9
02	Neonatal ressuscitation device (tube & mask)	1 → b		2 → b		3	9	1	2		9
04	Vacuum extractor (for deliveries) (not in RHC & below)	1 → b		2 → b		3	9	1	2		9
05	Baby wraps (e.g. blankets)	1		2		3	9				
06	Partograph (at least one blank one)	1		2		3	9				
Ad2	Soap or Hand Disinfectant	1		2		3	9				
Ad3	Clean apron	1		2		3	9				
Ad4	Sterile gloves	1		2		3	9				
Ad5	CDK (at RHC/subRHC)	1		2		3	9				

313 ANC	*In the ANC consultation area, check whether each of the items below is either in the room where the service Is given or in an adjacent room.*								
	Items For ANC Consultations	(A) Availability					(B)		
		Functioning Observed	Reported, Not Seen	Not Available	Don't Know		Yes	No	Don't Know
01	Optional (for Infection Control): Sterilizer (for RHC level)	1 → b	2 → b	3	9	1	2		9
02	Refrigerator or cold box for storing tetanus toxoid vaccines	1 → b	2 → b	3	9	1	2		9
03	Blood Pressure Machine	1 → b	2 → b	3	9	1	2		9
04	Hemoglobin reagents	1 → b	2 → b	3	9				
05	Syphilis testing kit	1	2	3	9				
06	Malaria testing supplies	1	2	3	9				
07	Uristick for testing for protein	1	2	3	9				

Ask to see the following drugs and supplies. If the item is located in a different part of the facility, go there to observe it. If you are unable to see an item, ask if it is available and the expiration dates have not passed. For Each Item, Circle The Appropriate Code.

314	Child Drugs And Treatment	(A) Availability					
		Observed And Available			Not Observed		
		Available Never All Available Valid	Available At Least One Valid	Available But None Valid	Reported Available, Not Seen	Not Available Today / Don't Know	
01	ORS packets	1 6	2	3	4	5	
02	First line oral drug for child pneumonia	1 6	2	3	4	5	
03	First line oral drug for child dysentery (bloody diarrhea)	1 6	2	3	4	5	
04	First line oral anti malarial	1 6	2	3	4	5	
05	Vitamin A	1 6	2	3	4	5	
06	Insecticide Treated Net (ITN)	1 6	2	3	4	5	
Ad6	Zinc tablet	1 6	2	3	4	5	

Ask to see the following drugs and supplies. If the item is located in a different part of the facility, go there to observe it. If you are unable to see an item, ask if it is available. For Each Item, Circle The Appropriate Code

314 NEO	Newborn & Delivery Drugs And Treatment	(A) Availability	
		Observed And Available	Not Observed

		Available All Available Valid	Available Never Available At Least One Valid	Available But None Valid	Reported Not Available, Not Seen	Not Available Today / Don't Know	
01	Antibiotics for newborn infections (except eye) Injection Gentamycin	1	2	3	4	5	6
02	Antibiotics for newborn eye infections	1	2	3		4	5 6
03	Oxytocin/Misoprostol tablet	1	2	3		4	5 6
Ad 7	Magnesium Sulphate	1	2	3		4	5 6

Ask to see the following Drugs and Supplies. If the item is located in a different part of the facility, go there to observe it. If you are unable to see an item, Ask if it Is available. For each item, circle the appropriate code.

314 ANC	ANC Drugs & Treatment	(A) Availability					
		Observed And Available			Not Observed		
		Available All Available Valid	Available Never Available At Least One Valid	Available But None Valid	Reported Not Avaiable, Not Seen	Not Avaiable Today / Don't Know	
01	Tetanus toxoid vaccines	1	2	3		4	5 6
02	Iron/folic acid	1	2	3		4	5 6
04	Insecticide Treated Net (ITN)	1	2	3		4	5 6
Ad 8	Deworming tablets	1	2	3	4	5	6

314 A	Child Immunizations	Available All Available Valid	Available Never Available At Least One Valid	Available But None Valid	Reported Not Available, Not Seen	Not Available Today / Don't Know	
01	BCG vaccine	1	2	3	4	5	6
02	OPV (Polio) vaccine	1	2	3	4	5	6
03	DPT or Pentavalent vaccine	1	2	3	4	5	6
04	Measles or MMR vaccine	1	2	3	4	5	6

314B	Ask to see the following Guidelines	OBSERVED AND IN PATIENT AREA	REPORTED, NOT SEEN	NOT AVAILABLE	DON'T KNOW
01	Sick child care	1	2	3	9
02	Immunization	1	2	3	9
03	Delivery	1	2	3	9
04	Antenatal Care	1	2	3	9
05	Postnatal care for new mothers	1	2	3	9
06	Newborn Care	1	2	3	9
07	Other: P-MTCT	1	2	3	9

314 C	Items for Infection Control	(A) Availability			
		Observed	Reported, Not		Don't

		Not Seen	Available	Know
01	Chlorine-based disinfectant	1	2	3	9
02	Latex gloves (clean or sterile)	1	2	3	9
03	Sharps container	1	2	3	9
04	At least one 5 ml syringe in sterile packet	1	2	3	9
05	At least one 19 or 21 gauge needle in sterile packet (may be with syringe)	1	2	3	9
06	Hand washing soap (bar or liquid)	1	2	3	9

314 D Now I would like to ask you a few questions about the waste disposal practices for sharp items such as needles or blades, including filled sharps containers, and for infected waste, such as bandages and intravenous tubes.

Can you please tell me what is the final disposal process for filled sharps boxes and for infected waste?

	i. SHARPS		ii. INF. WASTE	
Incinerator - High Temperature (2 Chamber)	.....	1	.....	1
Incinerator - One Chamber, Drum Or Brick	.....	2	.....	2
Burn And Bury	.....	3	.....	3
Bury But Not Burn	.....	4	.....	4
Put In Covered Pit (May Be Latrine)	.....	5	.....	5
Burn (In Ground Or Pit), But Not Bury	.....	6	.....	6
Open To Air (No Burn Or Bury)	.....	7	.....	7
Store And Remove Offsite (May Be Burned Prior)	.....	8	.....	8
Never Have Items	.....	9	.....	9

Opt 314E Ask to see the place used to dispose of Sharps and Infectious Waste. Indicate if the site is protected and if there is exposed waste or not.
"Protected" Is defined as: Inside a Locked fence or Room or a Pit or Trash Bin with a Lid (e.g., Covered Pit Latrine) such that unauthorized persons cannot easily gain access

	i. SHARPS		ii. INF. WASTE	
Yes, Protected And Waste Is Visible	.....	1	.....	1
Yes, Protected And No Waste Visible	.....	2	.....	2
No, Not Protected And Waste Visible	.....	3	.....	3
No, Not Protected And No Waste Visible	.....	4	.....	4
Site Not Observed	.....	5	.....	5

MODULE 4 : HEALTH WORKER INTERVIEW & RECORD REVIEW

Questionnaire ID #: _____ (Entered by Supervisor)
[First 3 letters of township-date (ddmmyy)-module #- questionnaire #; e.g. Man-050614-4-1]
Type of Facility (circle): Hospital (S/R, District, Township, Station), MCH, RHC, Sub-RHC

Hospital/RHC code | | | | ***Interviewer Code*** | | | |

Health Worker TMO (1), SMO (2), MO (3), HA (4), LHV (5), Midwife (6), Nurse (7)
Others(identify)----------(At S/R hospital and district hospital those assigned by MS)

Speak to the most experienced health worker involved in management of maternal and child health services.
It is best to apply this form after patient sessions have finished.
Obtain informed consent, if you have not already done so.

NO.	QUESTIONS	CODING CLASSIFICATION	GO TO
401	For each of the following services, please tell me whether the service is offered by your facility, and if so, how many days per month the service is provided either at the facility or as outreach services. For the PURPOSES OF THIS QUESTION, a month is equivalent to four work weeks.		
01	Consultation or curative services for sick children IF NONE, WRITE "00" IF ALL **WEEKDAYS**, WRITE "20" IF **ALL DAYS including weekends**, WRITE "30" IF ONE TIME PER WEEK, WRITE "4"	A. # OF DAYS PER MONTH IN FACILITY B.# DAYS PER MONTH IN OUTREACH LOCATIONS	
A1 (401)	Consultation or curative services for **sick newborn** IF NONE, WRITE "00" IF ALL **WEEKDAYS**, WRITE "20" IF **ALL DAYS including weekends**, WRITE "30" IF ONE TIME PER WEEK, WRITE "4"	A. # OF DAYS PER MONTH IN FACILITY B.# DAYS PER MONTH IN OUTREACH LOCATIONS	
02	Routine immunizations for children IF NONE, WRITE "00" IF ALL **WEEKDAYS**, WRITE "20" IF **ALL DAYS including weekends**, WRITE "30" IF ONE TIME PER WEEK, WRITE "4"	A. # OF DAYS PER MONTH IN FACILITY B. # DAYS PER MONTH IN OUTREACH LOCATIONS	
A2 (401)	Routine immunizations for **newborn** (< 28 days) **(HepB)** IF NONE, WRITE "00" IF ALL **WEEKDAYS**, WRITE "20" IF **ALL DAYS including weekends**, WRITE "30" IF ONE TIME PER WEEK, WRITE "4"	A. # OF DAYS PER MONTH IN FACILITY B. # DAYS PER MONTH IN OUTREACH LOCATIONS	
03	Growth monitoring & promotion - where a healthy child is routinely weighed, has weight charted on growth chart, feeding advice given IF NONE, WRITE "00"	A. # OF DAYS PER MONTH IN FACILITY B. # DAYS PER MONTH IN OUTREACH LOCATIONS	

	IF ALL **WEEKDAY**S, WRITE "20" IF **ALL DAYS including weekends**, WRITE "30" IF ONE TIME PER WEEK, WRITE "4"		
04	Antenatal care IF NONE, WRITE "00" IF ALL **WEEKDAYS**, WRITE "20" IF **ALL DAYS including weekends**, WRITE "30" IF ONE TIME PER WEEK, WRITE "4"	A. # OF DAYS PER MONTH IN FACILITY B. # DAYS PER MONTH IN OUTREACH LOCATIONS	
05	Normal delivery services IF NONE, WRITE "00" IF ALL **WEEKDAYS**, WRITE "20" IF **ALL DAYS including weekends**, WRITE "30" IF ONE TIME PER WEEK, WRITE "4"	A. # OF DAYS PER MONTH IN FACILITY B. # DAYS PER MONTH IN OUTREACH LOCATIONS	
A3 (401)	Newborn care services IF NONE, WRITE "00" IF ALL **WEEKDAYS**, WRITE "20" IF **ALL DAYS including weekends**, WRITE "30" IF ONE TIME PER WEEK, WRITE "4"	A. # OF DAYS PER MONTH IN FACILITY B. # DAYS PER MONTH IN OUTREACH LOCATIONS	
A4 (401)	Postnatal Care services IF NONE, WRITE "00" IF ALL **WEEKDAYS**, WRITE "20" IF **ALL DAYS including weekends**, WRITE "30" IF ONE TIME PER WEEK, WRITE "4"	A. # OF DAYS PER MONTH IN FACILITY B. # DAYS PER MONTH IN OUTREACH LOCATIONS	
A5 (401)	On average days for Caesarean Sections provided per month (in hospital settings) IF NONE, WRITE "00" Days for the last month		
A6 (401)	On average days for Vacuum Extraction provided per month (in hospital settings) IF NONE, WRITE "00" Days for the last month		
A7 (401)	On average days for Forceps delivery provided per month (in hospital settings) IF NONE, WRITE "00" Days for the last month		
402	***Now I would like to ask you about the health personnel that work in this facility. I will read the type of health worker and for each one.*** ***I would like you to tell me the number sanctioned by the Ministry of Health to work in this facility and the ones who are here today.***		

JOB OF HEALTH WORKER	A. # WORKERS SANCTIONED	B. # WORKERS WHO ARE	

		TO WORK IN THIS FACILITY (FULL OR PART-TIME)	**PRESENT TODAY**	
01.	DOCTOR			
02.	REGISTERED / CERTIFIED NURSE			
03.	REGISTERED / CERTIFIED MIDWIFE			
04.	OTHER CLINICAL CARE STAFF (CLINICAL OFFICER, Paramedics, ETC.)			
05.	PHARMACIST			
06.	LABORATORY TECHNICIAN			
07.	ALL OTHER ASSIGNED STAFF (for instance, clerical staff, cleaning staff, etc.)			
A8(402)	Lady Health Visitor (LHV)			
A9(402)	Health Assistant (HA)			
A10(402)	Public Health Supervisor (1)			
A11(402)	Public Health Supervisor (2)			

403.	During the past three years have you received any training on subjects related to maternal, child, or newborn health or illness?	YES ..... 1 NO 2	405

404	Did you receive the training in any topic related to the following topics that I will read? IF YES, THEN ASK: When was your most recent training? READ THE LIST	YES IN PAST 12 MONTHS	YES IN PAST 2-3 Years	NO TRAINING WITHIN PAST 3 YEARS
01	Immunizations	1	2	3
02	Treatment of pneumonia or Acute Respiratory Infections	1	2	3
03	Diarrhea treatment	1	2	3
04	Malaria treatment for children	1	2	3
05	Malaria prevention / Use of ITNs	1	2	3

07	Nutrition (for instance, complementary feeding, micronutrients)	1 2 3	
08	Breastfeeding	1 2 3	
09	Integrated Management of Newborn & Childhood Illness (IMCI)	1 2 3	
10	Newborn care(NB Resuscitation, BF, NBI, Thermal Care, KMC, Sterile cord care, use of corticosteroids)	1 2 3	
11	Postnatal care for new mothers	1 2 3	
12	Antenatal care topics (like STI Control, nutrition in pregnancy)	1 2 3	
13	Infection prevention and control	1 2 3	
14	Active management of the third stage of labor (AMTSL)	1 2 3	
15	Referral protocols for obstetric and newborn emergencies	1 2 3	
A12 (404)	Have you ever participated in the Training of Trainers for MNCH before?	Yes ----------1 No ----------2 Not applicable ----------99	**If no, go to 405**
A13 (404)	Have you ever replicated the training to junior personnel, basic health staff or community volunteers before?	Yes ----------1 No ----------2 Not applicable ----------99	

NO	**QUESTIONS**	**CODING CLASSIFICATION**	**GO TO**
405	Now I would like to ask you some question about supervision from a supervisor outside the facility a. Do you receive technical support or supervision in your work? b. IF YES, ASK: When was the most recent time?	YES, IN THE PAST 3 MONTHS ..... 1 YES, IN THE PAST 4-6 MONTHS ..... 2 YES, IN THE PAST 7-12 MONTHS..... 3 YES, MORE THAN 12 MONTHS AGO..... 4 NO SUPERVISION 5	407 407 407

406	The last time you were personally supervised, did your supervisor do any of the following? READ THE LIST:		YES	NO	DON'T KNOW
01	Deliver supplies	DELIVERED SUPPLIES	1	2	9
02	Check your records or reports	CHECKED RECORD	1	2	9
03	Observe your work	OBSERVED	1	2	9
04	Provide any feedback (either positive or negative)on your performance	GAVE FEEDBACK	1	2	9
05	Provide any comment that you were **doing your work well**	GAVE PRAISE	1	2	9
06	Provide updates on administrative or technical issues related to your work	GAVE UPDATES	1	2	9

07	Discuss problems you have encountered	DISCUSSED PROBLEMS 1 2		9
08	Checked drug supply	CHECKED DRUG SUPPLY 1 2		9
A14 (406)	Supervise your new born care service	1 2		9
ASK THE HEALTH WORKER TO IDENTIFY PATIENT CONSULTATION REGISTER FOR THE HEALTH FACILITY. DO NOT INCLUDEINPATIENT RECORDS. USE THE REGISTER TO ANSWER THE QUESTIONS BELOW.				
407	Is there a sick child consultation register? IF YES, ASK TO SEE THE REGISTER	REGISTER ……..…… 1 . 412ANC REPORTED, NOT SEEN 412 ANC NO REGISTER…….. 3→		
408	Does the register contain complete information on AGE, DIAGNOSIS, TREATMENT for every case listed in last 3 months? CIRCLE ALL THAT APPLY. For instance for an age to be counted as complete every patient must have their age written. The sample applies for diagnosis and treatment.	AGE information complete …… 1 DIAGNOSIS OR SYMPTOM information……. 2 complete TREATMENT INFORMATION complete …… 3 NONE OF ABOVE completed …….. 4		
409	How recent is the date of most recent entry?	WITHIN THE PAST 7 DAYS 1 ……..…..…… MORE THAN 7 DAYS OLD 2 ……..…..……		

NO	QUESTIONS	CODING CLASSIFICATION	GO TO
410	RECORD THE NUMBER OF **SICK CHILDREN**	NUMBER CHILDREN (0 - 59 months old) ☐ IF NONE, THEN WRITE "00" IN THE BOX →	412ANC
A15 (410)	RECORD THE NUMBER OF **SICK NEWBORN**	NUMBER NEWBORN ☐ IF NONE, THEN WRITE "00" IN THE BOX →	412ANC
	Review entries in the sick child register (Only the entries for children U5 if adult and U5 registers combined,)NOTE ALL THE CASES OF FEVER/MALARIA, PNEUMONIA/FAST OR DIFFICULT BREATHING, AND DIARRHEAOR CASES WITH A COMBINATION OF DIAGNOSES THAT INCLUDE ANY OF THESE THREE. REVIEW ALL CASES FROM THE FIRST TO THE LAST DAY OF THE **LAST COMPLETED CALENDAR MONTH**		
411 01	REVIEW OF SICK CHILD REGISTER…… MALARIA OR FEVER	A1. NO. OF MALARIA CASES IN REGISTER OF CHILDREN U5 ☐ A2.NO. MALARIA CASES TREATED WITH ACT ☐	

02	PNEUMONIA / RAPID OR DIFFICULT BREATHING	B1. NO. OF PANEUMONIA CASES IN REGISTER OF CHILDREN U5 ☐ A2.NO. PANEUMONIA CASES TREATED WITH AMoxil/Cotrimoxazole ☐	
03	DIARRHEA WITHOUT BLOOD	C1. NO. OF DIARRHEA CASES IN REGISTER OF CHILDREN U5 ☐ C2.NO. DIARRHEA CASES TREATED WITH ORS &**NO ANTIBOTIC** ☐	
	Review entries in the sick newborn register (Only the entries for newborn in U5 registers combined, of the last completed month- first to last day)		
A16 (411)	Newborn illnesses in register	Disease/illness | Numbers | Treatment	
412 ANC	Is there an ANC consultation register?	OBSERVED REGISTER ……..…… 1 REPORTED, NOT SEEN 2 → 416 NO REGISTER…… 3 →	416
413 ANC	Does the register contain complete information on date of delivery/confinement, TT, and Blood Pressure for pregnant women listed in the last 3 months? CIRCLE **ALL** THAT APPLY TO BE COUNTED AS COMPLETE, THERE CAN BE NOBLANKS FOR THAT COLUMN	Date of delivery information…….. 1 COMPLETE TT Inormation COMPLETE OR HAS …….. 2 LIFE TIME IMMUNITY Blood Pressure INFORMATION …….. 3 COMPLETE NONE OF ABOVE COMPLETE…….. 4	
NO	**QUESTIONS**	**CODING CLASSIFICATION**	**GO TO**
414 ANC	HOW RECENT IS THE DATE OF THE MOST RECENT ENTRY?	WITHIN THE PAST *7* DAYS 1 ……..…..…… MORE THAN *7* DAYS OLD 2 ……..…..……	
415 ANC	RECORD THE NUMBER OF PREGNANT WOMEN WHO RECEIVEDCONSULTATION SERVICES DURING THE **PAST THREE COMPLETE CALENDAR MONTHS**	NUMBER …… ☐ IF NONE, THEN WRITE "00" IN THE BOX	
415 NEO	Is there a delivery register?	OBSERVED REGISTER ……..…… 1 REPORTED, NOT SEEN 2 → 416 NO REGISTER…… 3 →	416
415.1 NEO	HOW RECENT IS THE DATE OF THE MOST RECENT ENTRY?	WITHIN THE PAST **30** DAYS 1 ……..…..……	

		MORE THAN**30** DAYS OLD 2 ……..…..……	
415.2 NEO	RECORD THE **NUMBER** OF DELIVERIES PERFORMED DURING THE **PAST THREE COMPLETE CALENDAR MONTHS**	NUMBER …… ☐ IF NONE, THEN WRITE "00" IN THE BOX	
416	Can you please show me a copy of the latest monthly service report that you sent to the District Health Office? EXAMINE THE REPORT	LATEST REPORT SEEN AND **LESS THAN**…… 1 **3 MONTHS** OLD LATEST REPORT SEEN AND **OLDER THAN**…… 2 **3 MONTHS** OLD REPORT SAID TO BE LESS THAN …… 3 3 MONTHS,NOT OBSERVED REPORT SAID TO BE MORE THAN …… 4 3 MONTHS, NOT OBSERVED NO 5 REPORT…… …..	
417	LOOK FOR EVIDENCE OF USE OF SERVICE DATA Can you tell me if you have a wall chart or graphs or have had a meeting among the health facility staff to discuss the monthly service report **(MSR)** data within the last 3 months? CIRCLE ALL THAT APPLY	WALL CHART SUMMARIZING MSR DATA …… A GRAPH SUMMARIZING MSR DATA …… B MEETING TO DISCUSS MSR DATA IN IN LAST 3 MO. …… C OTHER: SPECIFY _____ …… D NONE OF THE ABOVE …… E	
417A opt	ASK TO SEE THE IMMUNIZATION REGISTER. RECORD THE NUMBER OF **CHILDREN IMMUNIZED**IN THE LAST THREE MONTHS IF NONE, WRITE "00"	NUMBER …….. ☐ DON'T KNOW ……..999	
417B opt	ASK TO SEE THE IMMUNIZATION REGISTER. RECORD THE NUMBER OF CHILDREN SEEN FOR **GROWTH MONITORING** IN THE LAST 3 MONTHS IF NONE, WRITE "00"	NUMBER …… ☐ DON'T KNOW ……..999	

Facility Linkage and Quality of Service Questions

No.	Questions	Coding classification	Go to
A17	***Now I would like to ask some questions about linkages between your facilities and other facilities.*** Have you ever received an "administrative letter" from other	Yes……1 No……2 No record ……9 Not applicable ……99	If No or N/A A21

	public health facilities during the past year? (e.g. regarding patient, treatment, training etc.)		
A18	When was the most recent time?	Yes, in the past month……..1 Yes, in the past 3 months……..2 Yes, in the past 4-6 months……3 Yes, in the past 7-12 months……4 Yes, in the past 12 months……5 No record ……9	
A19	From which facility did you receive the most recent administrative letter?	Department of Health----------1 State/Regional Health Department----------2 State/Regional Hospital…….. 3 District Hospital…….….4 Township Hospital……....5 Station Hospital……6 Rural Health Center……..7 No record ……9	
A20	Can I have a look at these administrative letters and copy one example?	Topic / Date / From where	
A21	Have you ever received external supportive supervision/hands on training in the past 12 months?	Yes……1 No……2 Don't know/Can't remember ……9 Not applicable ……99	A24
A22	When was the most recent external supportive supervision/hands on training you have received?	Yes, in the past month……..1 Yes, in the past 3 months……..2 Yes, in the past 4-6 months……3 Yes, in the past 7-12 months……4 Yes, in the past 12 months……5 Don't know/Can't remember ……9	
A23	From whom did you receive the most recent external supportive supervision/hands on training?	Department of Health……1 State/Regional Health Department----------2 State/Regional Hospital……3 District Hospital……4 Township Hospital……..5 Station Hospital……6 Rural Health Center……7 Others/specify……8 Don't know/Can't remember ……9 Not applicable ……99	

A24	Have you ever referred a sick newborn to other facilities?	Yes……1 No……2- Don't know/No record ……9 Not applicable ……99	A28
A25	When was the most recent newborn referral to other facility?	Yes, in the past month……..1 Yes, in the past 3 months……..2 Yes, in the past 4-6 months……3 Yes, in the past 7-12 months……4 Yes, in the past 12 months……5 Don't know/No record ……9	
A26	To which facility did you send the most recent referral for a sick newborn?	State/Regional Hospital……1 District Hospital……2 Township Hospital……..3 Station Hospital……4 Rural Health Center……5 Don't know/No record ……9	
A27	The total number of referred newborns in the last 12 months?	☐	
A28	Have you ever received a referred sick newborn from other facilities?	Yes……1 No……2 Don't know/No record ……9	A31
A29	When was the most recent referral you received for a sick newborn?	Yes, in the past month……..1 Yes, in the past 3 months……..2 Yes, in the past 4-6 months……3 Yes, in the past 7-12 months……4 Yes, in the past 12 months……5 Don't know/No record ……9	
A30	From which facility did you receive the most recent referral for a sick newborn?	District Hospital……2 Township Hospital……..3 Station Hospital……4 Rural Health Center……5 Sub-rural Health Center……..6 Community health workers, auxiliary midwife, community volunteers……7 Others (specify)----------8 Don't know/No record ……9	
A31	***Now I would like to ask about MNCH services that you are providing.***	Yes, regularly ……..……..1 Yes, sometimes……..……..2 No……..……3 Don't know……..……9	

	Do you have a regular meeting for review of MNCH services with your staff?	Not applicable …….99	
A32	For child and newborn deaths, do you usually record a verbal autopsy?	YES……..……1 NO……..……..……2 Don't know……..……9 Not applicable …….99	
A33	What is the most common reason for curable child and newborn sicknesses leading to death in your clinic?	Severity of illness…….……..……1 Delayed arrival at the clinic……..2 Lack of supplies & medicines ……3 Lack of trained personnel…..…….…..…4 Others (specify) ----------5 Don't know ……..…. 9 Not applicable …….. 99	
A34	What are major challenges you face in newborn care service provision? (Circle all that apply)	Lack of hands on training…….……..…1 Insufficient # of staff…….….2 Lack of equipment …… …..3 Lack of medicine…….…… 4 Lack of supervision……..……..…..5 Others (specify) ……6 Don't know ……..…. 9 Not applicable …….. 99	
A35	What do you suggest for the improvement of new born care [***Do not read aloud the response options.***]	Provide more on the job training……..1 Provide more human resources……..……..2 Provide better equipment/supplies…..……..3 Provide more supervision and guidance……..4 Others (specify) ……..……5 Don't know ……..…. 9 Not applicable …….. 99	
A36	What is the level of your satisfaction towards the current provision of MNCH services?	Very satisfied ……..1 Somewhat satisfied ……..……..2 Somewhat dissatisfied……3 Dissatisfied ……4 Don't know ……..….9	

Please note any unusual or interesting observations here.

Health Facility Assessment
Module 5: Newborn Care Observation Check List

SECTION A: Immediate Newborn Care

Question	Yes	No	DK	Go to
400: Was this section observed?	1	0		No → case scenario

Was this section observed? If delivery section is not observed, please ask the health provider using case scenario. Record whether the provider carried out the following steps and/or examinations: (SOME OF THE FOLLOWING STEPS MAY BE PERFORMED SIMULTANEOUSLY OR BY MORE THAN ONE PROVIDER)

IMMEDIATE CARE				
401. Announce birth time	1	0	8	
402: Put the baby on mother's abdomen for skin to skin contact	1	0	8	
403: Immediately dries baby with warm dry linen: drying baby eyes with angle of cloth	1	0	8	
404: Discards the wet linen	1	0	8	
405: Wraps with warm dry linen	1	0	8	
406: Check whether the baby breathing or crying?	1	0	8	No → 500
IF BABY IS NOT BREATHING OR CRYING, GO TO RESUSCITATION CHECKLIST (SECTION B)				
407: If not placed skin to skin, wraps baby in dry towel	1	0	8	
408: Ties or clamps cord when pulsations stop, or by 2-3 minutes after birth, 2cm and 5cm from baby's abdomen (not immediately after birth)	1	0	8	
409. Change the gloves before cutting cord				
410: Cuts cord with sterile blade or sterile scissors between the two ties	1	0	8	
411: Observer: Is a support person (companion) for mother present?	1	0	8	
412: Checks baby's temperature 15 minutes after birth	1	0	8	
FIRST HOUR AFTER BIRTH				
413: Mother and newborn kept in same room after delivery (rooming-in)	1	0	8	
414: Baby kept skin to skin with mother for the first hour after birth	1	0	8	
415: Observe breastfeeding initiated within the first hour after birth	1	0	8	
416: Provides tetracycline eye ointment 1% prophylaxis				
417: Administers Vitamin K to newborn (only at hospital setting, given by doctor or trained nurse)	1	0	8	
418: Is the mother HIV positive? (observer: listen and record answer; circle Don't Know if status is unknown or is not discussed)	1	0	8	
419: Administers ARVs to newborn (not possible in all hospital/RHC/SRHC)	1	0	8	
420: Measures baby's weight and record	1	0	8	
421. Staff has to stay beside the mother and baby for at least one hour	1	0	8	
CLEAN-UP AFTER BIRTH *Record whether the provider carried out the following steps and/or examinations: (SOME OF THE FOLLOWING STEPS MAY BE PERFORMED SIMULTANEOUSLY OR BY MORE THAN ONE PROVIDER AT Hospital)*				
422: Disposes of all sharps in a puncture-proof container immediately after use	1	0	8	
423: Decontaminates all reusable instruments in 0.5% chlorine solution	1	0	8	
424: Sterilizes or uses high-level disinfection for all reusable instruments	1	0	8	
425: Disposes of all contaminated waste in leak-proof containers	1	0	8	
426: Removes apron and wipe with soap and warm water (If CDK-dispose off)	1	0	8	
427: Washes his/her hands with soap and water or uses alcohol hand rub	1	0	8	
428: Was there a newborn resuscitation?	1	0	8	No → Q 436
429: Disposes of disposable suction catheters and mucus extractors in a leak-proof container or plastic bag	1	0	8	

430: Takes the bag and mask apart and inspects for cracks and tears (hospital setting)	1	0	8	
431: Decontaminates the bag and mask/ tube and mask in soap and water and air dry	1	0	8	
432: Sterilizes or uses high-level disinfection for bag, valve and mask 1 0	1	0	8	
433: Decontaminates reusable suction devices in soap and water	1	0	8	
434: Sterilizes reusable suction devices	1	0	8	
435: Washes his/her hands with soap and water or uses alcohol hand rub	1	0	8	
436: Record time neonatal care observation ended				
REMEMBER TO THANK CLIENT AND PROVIDER FOR THEIR PARTICIPATION IN THE STUDY				
END OF SECTION A– GO TO SECTION B				

SECTION B: Checklist For Newborn Resuscitation				
Question	**Yes**	**No**	**DK**	**Go to**
500: Was this section observed?	1	0		No → case scenario
Was this section observed? If section not observed, please ask the health provider using case scenario. Record whether the provider carried out the following steps and/or examinations: (SOME OF THE FOLLOWING STEPS MAY BE PERFORMED SIMULTANEOUSLY OR BY MORE THAN ONE PROVIDER)				
501: Record time resuscitation started				
502: Clears the airway by suctioning the mouth first and then the nose	1	0	8	
503: OBSERVER: does newborn starts to breathe or cry spontaneously?	1	0		Yes→ 529
504: Calls for help	1	0	8	
505: Ties or clamps cord immediately	1	0	8	
506: Cuts cord with sterile blade or sterile scissors	1	0	8	
507: Places the newborn on his/her back on a clean, warm surface or towel	1	0	8	
508: Places the head in a slightly extended position to open the airway	1	0	8	
509: Tells the woman (and her support person) what is going to be done	1	0	8	
510: Clear airway, mouth first, and then nose for secretions	1	0	8	
Baby starts to breathe?	1	0	8	
511: Places the correct-sized mask on the newborn's face so that it covers the chin, mouth and nose (but not eyes)	1	0	8	
512: Checks the seal by ventilating two times and observing the rise of the chest	1	0	8	
513: ***OBSERVER:*** is newborn's chest rising in response to ventilation?	1	0	8	Yes → 522
514: Checks the position of the newborn's head to make sure that the neck is in a slightly extended position (not blocking the airway)	1	0	8	
515: Checks mouth and nose for secretions, and clears if necessary	1	0	8	
516: Checks the seal by ventilating two times and observing the rise of the chest	1	0	8	
517: ***OBSERVER:*** is newborn's chest rising in response to ventilation?	1	0		Yes → 522
518: Checks the position of the newborn's head again to make sure that the neck is in slightly extended position	1	0	8	
519: Repeats suction of mouth and nose to clear secretions, if necessary	1	0	8	
520: Checks the seal by ventilating two times and observing the rise of the chest	1	0	8	
521: ***OBSERVER:*** is newborn's chest rising in response to ventilation?	1	0		
IF NEWBORN'S CHEST IS NOT RISING AFTER TWO ATTEMPTS TO READJUST, OBSERVER SHOULD CALL FOR SUPERVISOR TO INTERVENE. IF A HEALTH WORKER COMPETENT IN RESUSCITATION IS NOT AVAILABLE, OBSERVER MAY CHOOSE TO INTERVENE.				
522: Ventilates at a rate of 40 to 60 breaths/minute	1	0	8	

523: Conducts assessment of newborn breathing after 1 minute of ventilation	1	0		No → Q 525
524: Condition of newborn at assessment Respiration rate 40-60 breaths/minute and no chest in drawing Respiration rate <40 breaths/minute with severe in drawing No spontaneous breathing	**Code** 1 2 3			→ Q 529
Question	**Yes**	**No**	**DK**	**Go to**
525: Continues Ventilation	1	0		No → Q 529
526: Conducts assessment of newborn breathing after prolonged ventilation (20 minutes)	1	0		No → Q 528
527: Condition of newborn at assessment Respiration rate 30-50 breaths/minute and no chest in drawing Respiration rate <30 breaths/minute with severe in drawing No spontaneous breathing	**Code** 1 2 3			→ Q 529
	Yes	**No**	**DK**	**Go to**
528: Continues Ventilation	1	0		No → Q 529
529: Record time that resuscitation actions ended (or time of death if baby died)				
530: Was the resuscitation successful? (observer: circle No if newborn died)	1	0		
531: Arranges transfer to special care either in facility or to outside facility	1	0	8	
532: Explains to the mother (and her support person if available) what happened	1	0	8	
533: Listens to mother and responds attentively to her questions and concerns	1	0	8	
534: Observer: Did you call for help or intervene during the resuscitation to save the life of newborn?	1	0		
Please comment on Quality of Care provided after observing the whole section				
535.Was the mother treated with respect and care?				
536. Was the mother informed of procedures to her baby?				
537. Was the situation chaotic or calm?				
538. Were there any major delays in needed treatment?				
539. If so, for what drugs/procedures and why?				
540. Were multiple health workers involved?				
541. Who?				
542. If newborn did not survive, describe the circumstances.				
543. Was the mother counseled about the death of newborn?				
END OF SECTION B				

SECTION C: Outcome & Review of Documentation	
Question	**Code**
Complete this section for all clients	
Condition of mother & newborn at end of observation	
Record the status of mother and newborn at the end of first hour after birth.	
601 : Record outcome for the mother	

Goes to recuperation ward	1
Referred to specialist, same facility	2
Goes to surgery, same facility	3
Referred, other facility	4
Death of mother	5
Don't know	8
602: Record outcome for the newborn or fetus	
Goes to normal nursery	1
Referred to specialist, same facility	2
Referred, other facility	3
Goes to ward with mother	4
Newborn death	5
Fresh stillbirth	6
Macerated stillbirth	7
Don't know	8
Potentially Harmful Practices	
603: Did you see any of the following harmful or inappropriate practices by health workers that are never indicated (CIRCLE ALL THAT APPLY)	
Use of enema	A
Public shaving	B
Apply fundal pressure to hasten delivery of baby or placenta	C
Lavage of uterus after delivery	D
Slap newborn	E
Hold newborn upside down	F
Milking the newborn's chest	G
Stretching of the perineum	H
Shout, insult or threaten the woman during labor or after	I
Slap, hit or pinch the woman during labor or after	J
None of the above	Y
604 : Did you see any of the following practices done without an appropriate indication (CIRCLE ALL THAT APPLY)	
Manual exploration of the uterus after delivery	A
Use of episiotomy	B
Aspiration of newborn mouth and nose as soon as head is born	C
Restrict food and fluids in labor	D
None of the above	Y

SECTION D: POST DELIVERY CARE				
Question	**Yes**	**No**		
Breast Feeding *Observation from one hour after birth to 3 hour after birth*				
701: Mother breast feed the baby within one hour after birth with while placing the baby on her chest to get skin to skin contact	1	0		
702: Were other drinks or water offered?	1	0	8	
703: Was breast milk given to the baby on demand? (when baby cries)	1	0	8	
704: The number of times the baby is breastfed by the mother (while observing by the observer for ----------hours.) _____ times				

705: On average, how long is each breastfeeding session? _____ minutes				
706: Was the mother offered help for breastfeeding if needed by health worker?	1	0	8	
707: Does the health worker (or midwife) know positioning and attachment for breastfeeding?	1	0	8	
Other Type of Care				
708: What was applied to the umbilical cord? (seen or not?)	1	0	8	
709: Time after birth baby gets a bath or cleaned by warm water _____				
710: Did the health worker remove vernix caseosa?	1	0	8	
711: Was skin to skin contact with mother provided as much as possible?	1	0	8	
712: Was the baby wrapped with too much clothing and wraps?	1	0	8	
713: Did the health worker instruct a family member to check hands and feet (every 3- 4 hrs for a normal baby) to detect cold extremities	1	0	8	
END OF SECTION D				

FGD Guide

Discussions with Caretakers on MNCH Care

Pregnancy, Obstetric Emergency, and Newborn Care

1. Place of delivery – current practices and ideal

1.1 Where do women in your village deliver a baby?

1.2 Where did *you* deliver your youngest child? At home, RHC, or hospital?

1.3 Whom did you deliver with? With your mother? Mid wife? Traditional birth attendant?

1.4 How did you decide to deliver there?

(Probe: Was the decision made by you, your husband, parents, mother-in-law, or friends? Why?)

1.5 If you delivered at a facility (hospital, MCH clinic, RHC), why?

1.6 If you delivery at home, why?

1.7 Are you happy about the location you delivered the baby? Why? Why not?

(*Probe: Which do you prefer, home or hospital? Why? What are your concerns? Safety? Costs? Comfort?)*

1.8 If you had lots of money, where would you choose to deliver a baby? Why?

2. Knowledge of abnormal pregnancy, newborn care, and source of information

2.1 I would like to ask about your perceptions and knowledge about pregnancy, delivery, and newborn care. Do you feel that giving birth and caring for a newborn require special knowledge? Or do you feel that this is normal part of every woman's life, and does not require any special medical knowledge?

2.2 Do you feel that having a mid-wife (MW), auxiliary mid-wife (AMW), or traditional birth attendant (TBA) is enough to ensure safe delivery of babies? Why? Why not?

(Probe: Are pregnant women in your village worried about difficult labor and complications? Why? Why not?)

What kind of experiences do you have with abnormal pregnancies?

2.3 Do you feel like you can identify complications in pregnancy and delivery?

*(Probe: What do you know about how to identify **complications** in pregnancy and delivering?)*

(The participants may talk about, breech, hemorrhage, early rupture of membrane, toxemia of pregnancy, prolonged labour, umbilical cord around the neck.)

2.4 Who told you that?

*(Probe: Do MW or TBA tell you anything about **complications** in delivering babies? What? Do MW and TBA provide same or contradicting information?)*

2.5 Do you think you can identify abnormalities in a newborn child? Why? Why not?

(Probe: What are the abnormalities of new born child? (Examples: blue baby, asphyxia, cleft lip, cleft palate.)

2.6 Have you recently heard about a newborn not breathing immediately after delivery? Please tell me more about it. How did you hear about it?

2.7 What did health staff and community health workers tell you about how to take care a newborn?
(Example: wiping out a baby with a dry cloth and keep warm, cutting umbilical cord, putting the baby on the mother's chest for skin-to-skin contact, breast feeding within one hour)

2.8 In your village, whose advices about newborn care are followed the most? Why?

2.9 Have you ever taught others how to take of a newborn? Or taught by other mothers? What did you teach/learn?

2.10 In your village, is there a health volunteer especially assigned for newborn care? Have you been taken care of by that volunteer? Please tell us your experience.

2.11 How do people in your community care for a newborn during 'meedwin'7-days? Is there any traditional practice? What is the rationale for the practice?

(Probe: Do they keep new born warmly?)

2.12 Do you bathe a newborn? If yes, how many times per day? If no, why?

(Probe: If a MW says do not bathe newborn babies; do mothers tend to follow the instruction? Why? Why not?)

2.13 In your village, what material do people put into umbilical stump? Why?

(Probe: If it is wet, red or has pus, what kind of materials do they put into it?)

2.14 When do you start breastfeeding after your baby is born? Why?

(Probe: Did you start within one hour? If not, why? Did you feed any other fluid?)

2.15 Do you have a concern with regards to newborn care practices in your village? What?

(Probe: Do you know anyone whose newborn died within a week? Do you know why?)

3 Responses to abnormality and emergency

3.1 Where do women in your village go first when there is abnormal pregnancy or a sick newborn? Why?
(Examples: Private clinic, HA/LHV/ MW/ CHW/ Hospital)

3.2 Where are other places women could go for difficult delivery or obstetric emergency?

(Probe: Why don't they go there first?)

3.3 Can you describe the usual process in which a pregnant woman with complication or a sick newborn in your village is sent to an emergency hospital?

Probe:

1) *What do women without money do?*
2) *What do women without transportation do?*
3) *What do women without someone to accompany with do?*

3.4 In your village, is there any mechanism to help send a pregnant woman or sick neonate to the hospital? How?

3.5 Do health volunteers and basic health staff help? How?

3.6 Do you feel that midwives explain well about complications and emergencies? If not well, how do they explain? Can you give me an example?

3.7 These days, mobile phones are available in many places. Do you think an access to a mobile phone can make a difference in helping delivering mothers and babies?

Probe: Have you ever tried to reach a midwife before? Can you describe the experience? Was she hard to reach?

4 Referral

4.1 Does any of health personnel in your village tell women to go to another medical facility (hospital)for abnormal delivery or obstetric emergency? Can you tell me an example?

(Probe: Who is sent to which facility? Why?)

4.2 How do they refer you (letter, telephone call, or accompany?)

(Probe: Do they give a referral note to take to a hospital or inform to hospital by phone?)

4.3 Do they accompany women with complications or emergency to a hospital?

4.4 When a MW refers a woman with problems such as bleeding, pregnancy poisoning or serious newborn illnesses to hospital, does that woman tend to follow the instruction and go to hospital? If not, why?

II. Service Availability, Utilization, Quality

5. Utilization of services

5.1 Do pregnant women in your village receive antenatal care or see any health care personnel for pregnancy?

5.2 From whom do you want to receive antenatal care during pregnancy? Why?

5.3 What kind of concerns would you like to address with a health worker during pregnancy?

5.4 How often do women normally use health facilities during pregnancy? Typically how many visits?

5.5 What are reasons for which a woman avoid going to health facilities?

5.6 What would encourage a woman to use facilities for obstetric and neonatal care?

Probe:

- *Any suggestion for overcoming financial barrier?*
- *Any suggestion for overcoming transportation/distance barrier?*
- *Any suggestion for meeting the need for someone to accompany?*

5.7 What kind of arrangement do MWs or health personnel make for women to go to referred facilities? Do they give any advice?

6. Quality of services in hospitals

6.1 How do you feel about the quality of services provide at your township hospitals? What do women in your community say about it?

6.2 Do you think there are enough equipment, medicines, blood and necessary things in the hospital for delivery and newborn care? Why? Why not?

6.3 Do you think doctors and nurses in the hospital have enough skills to treat emergency cases? Why? Why not?

(Probe: Do you feel that they can deal with whatever diseases to help you? Why? Why not?)

6.4 Do you feel comfortable talking to doctors and nurses in the hospital? Why?

6.5 Do you understand their explanations of illnesses? Why?

6.6 Please tell me about the services given by doctors and nurses. Are you satisfied with the service? Do you expect more? What kinds of advices do you want?

6.7 Any suggestions for improving hospitals?

7. Availability of services at RHC/ sub-RHC

7.1 What do women in your community say about RHC & sub-RHC?

7.2 Is it easy to reach a mid-wife in your village?

7.3 Are Basic Health Staff (HA, LHV, MW) in your area available in their assigned locations? Why? Why not?

(Probe: Where do they live?)

7.4 Do they have more medicines and supplies than they use to now a days? Or is it the same level?

7.5 If Basic Health Staff are found at their duty stations with sufficient supplies, would you go and see them? Why not?

7.6 Can you suggest reasons why a woman may be hesitant to go to health centers?

7.7 Any suggestions for improving RHC/sub-RHC?