The Republic of the Union of Myanmar Ministry of Health Department of Public Health Child Health Division

Health Facility Assessment:

Quality of Maternal Newborn

and Child Health Care

December 2014





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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
АСТ	Artemisinin-based Combination Therapy
ARI	Acute Respiratory Infection
BEmOC	Basic Emergency Obstetric Care
BHS	Basic Health Staff
BNA	Bottleneck Analysis
ВР	Blood pressure
снw	Community Health Worker
СМЕ	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
на	Health Assistant
HE	Health Education
HFA	Health Facility Assessment
нміз	Health Management Information System
нс	Health center
HF	Health facility
нw	Health worker
ім	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
КМС	Kangaroo Mother Care
LHV	Lady Health Visitor
LMIS	Logistic Management Information System
МСН	Maternal and Child Health
МСНІР	Maternal and Child Health Integrated Program
MNCH	Maternal, Newborn, and Child Health
MDGs	Millennium Development Goals
MIS	Management Information System
MMR	Maternal Mortality Ratio
мон	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
РМСТС	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
ТВА	Traditional Birth Attendant
тмо	Township Medical Officer
тот	Training of Trainers
тт	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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MoH believed that the results of this assessment will significantly contribute to quality improvement of health care in order to effectively deliver MNCH services particularly newborn care in Myanmar.

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 technical and financial support 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 with emphasis on 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

¹UN Interagency Estimates 2011

²Countdown to 2015 MNCH Report

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.
- 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

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- 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 maternal 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 of 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 Ayeyarwaddy, 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 areas³, 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 andreferral 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

More specifically, the study provided information necessary for improvements 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?

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

➤ 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?

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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 observation 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. An exit interview with caretakers was 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 asphysia, 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 postnatal 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

Domain 5: Yangon

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 6:	Magway
Domain 2:	Kayin, Mon and Thanintharyi	Domain 7:	Mandalay
Domain 3:	Chin and Sagaing	Domain 8:	Rakkhine
Domain 4:	Bago (E&W)	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:

Tab	Table 1: Selected Townships							
No.	State/Region Township & linked hospital locations		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 Hospitalor 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 Centres (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				
# 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	135 (3 townships) ⁷				
bottleneck discussions	Real Reference Republication				

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

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

⁴Observations 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.

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 foetal 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.

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 paediatric 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.

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 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.

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Result	96%(188/195)	64%(86/134)	39%(52/134)	87%(116/134)	91%(122/134)	Avg 70%	4%(6/134) Avg 4.5 items	75%(100/134)	19%(26/134)	59%(79/134)	58%(78/134) Avg 4.3 items
Indicator	% caretakers who took less than one hour to come to a public health facility	% HF that offer 3 basic child health services (sick child care, vaccination, growth monitoring)	% HF that offer 3 basic newborn care services (sick newborn care, vaccination, postnatal care)	% HF that offer 4 maternal care services (AN care, normal delivery, Immediate postnatal care, postnatal care)	% HF that offer normal delivery services available for 30 days in a month	% sanctioned positions for which health staff were present on the day of survey	% 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)	% 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)	% 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)	% HF with all 3 essential supplies to support antenatal care on the day of the survey (blood pressure, Uristick for protein testing, haemoglobin reagents)	% 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)
Domain	Geographical Access to Services	Service Availability Child	Service Availability Newborn	Service Availability Maternal Care	Service Availability Delivery	Staffing	Infrastructure	Supplies Child	Supplies Newborn	Supplies for ANC	Drugs for Child
	-	7	m	4	Ś	9	~	œ	σ	10	11
Area of Analysis	1) ACCESS				(səi	lqqu2) 21	luqni (z			

37%(50/134) Avg 1.2 items	24%(32/134) Avg 2.07 items	26%(30/114)	51%(68/134)	38%(51/134)	66%(89/134)	42%(56/134)	82%(110/134)	35%(39/110)	44%(48/110)	35%(38/110)	34%(36/106)
% HF with all 2 first line medication for newborn sepsis and eye infection on the day of the survey	% HF with all 3 essential ANC medications on the day of survey (tetanus toxoid, iron/folic acid and deworming tablets)	% HF with all 3 essential delivery medications on the day of survey (oxytocin, magnesium sulphate, corticosteroids)	% HF with guidelines approved by the MOH for MNCH care available and accessible on the day of survey	% 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)	% HF that recorded age, diagnosis, treatment for sick children in last 7 days	% HF that recorded information on anti-tetanus toxoid injection, blood pressure, expected date of delivery in last 7 days	% HF that maintained delivery register and had an entry within the last 30 days	% 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)	% 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)	% 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)	% 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)
Drugs for Newborn	Drugs for ANC	Drugs for L&D	Availability of guidelines	Infection Control	Information related to Child health care	Information related to ANC	Information for L&D	Training in Child Health	Training in Neonatal Care	Training in Delivery Care	Supervision
12	13	14	15	16	17	18	19	20	21	22	23
							SESSE	РВОСІ	(٤		

34%(45/134)	Result	41 Range 0-510 (n=134 facilities)	46 Range 0-769 (n=134 facilities)	0 Range 0-362 (n=134 facilities)	14 Range 0-777 (n=134 facilities)	32%	89%(171/193)	93%(119/128)	18%(34/193)	
HF that ever received administrative instructional letter or technical support related to NCH from hinher levels	Indicator	The median # of sick children seen in last 3 months	The median # of pregnant women seen for ANC in last 3 months	The median # of sick newborn seen in last 3 months	The median # of delivery performed in last 3 months	% 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)	% clinical encounters in which treatment was appropriate for ARI/pneumonia, diarrhoea and malaria,	% clinical encounters in which caretaker whose child was prescribed an antibiotic, antimalarial, or ORS, could correctly describe how to administer all drugs	% clinical encounters where health staff counselled caretaker on continued feeding of sick child	
Facility Linkages %	Domain	Utilization of Child Care Services	Utilization of ANC Services	Utilization of Neonatal Services	Utilization of Delivery Services	Health care providers' Performance (Assessment)	 Health care providers' Performance (Treatment) 	-Health care providers'Performanc e (Counselling)	Health care providers'Performanc e (Counselling)	
24		25	26	27	28	29	30	31	32	
	Area of Analysis		(villeu) bne noitezilitU) 2T9TUO (4							

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.

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.



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

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: Availabil	ities of Ba	sic Child (Care Servic	es	<i>a</i>			
# 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	State/	District	Town-	Station	Maternal	Rural	Rural	Overall %			
immunized in last	Region	Hospi-	ship	hospital	and child	health	health				
three months	hospi- tal	tal	Hospital		health centre	centre	sub- centre				
	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-	0-778			
							321				

Table 3: Number of Children Growth-Monitored in last 3 Months												
# of children growth- monitored in last three months	State/ Region hospi- tal	District Hospital	Town- ship Hospi- tal	Sta- tion 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: Availabilit	Table 4: Availabilities of Basic Newborn Care Services											
	State/ Region hospital	District Hospital	Townshi p Hospital	Station hospital	Materna I 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 M	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 section⁸, 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 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.

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

Table 7: Facilities Able to Provid	e Basic Emergen	cy Obstetric C	are	
% of facilities able to provide care	All Hospitals All 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



⁹There 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 ANYDAY 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 ANYDAY 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 SectionChart 2: Availability of
Vacuum ExtractionChart 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	State/Region Hospital	State/RegionDistrictTownshipHospitalHospitalHospital		RHC	Sub RHC	Overall %			
this facility	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%)			

Chart 4: Mode of Transportation to Facilities



Table 11: Mode of Transportation to Facilities								
Transportation used to this facility	State/Region Hospital	Region District Township RHC pital Hospital 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%)		

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



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





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 PwintPhyu

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.

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).



Photo 7: A patient bed in a RHC

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 In	frastructu	re						
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/ge nerator/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%

* 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





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 Hospita I	Township Hospital	Station hospit al	Maternal and child health centre	Rural health centre	Rural health sub- centre	Overal I
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, baby wraps, soap and water for hand washing, and sterilized gloves	67%	100%	50%	31%	38%	10%	10%	19%
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	Table 15: Availability of Child Care Supplies								
Supply Item	State/ Region hospital	District Hospital	Townshi pHospita I	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								126	
functioning Infant scale	3	3	8	8	7	20	77	(94%)	
Accessible and working								127	
child/adult scale	3	3	8	12	8	17	76	(95%)	
Accessible and									
functioning timer/watch								108	
with the second hand	3	3	7	12	8	16	59	(81%)	
Sterilizer/autoclave								32	
	2	0	6	6	2	2	14	(24%)	
Cold box, cold chain									
equipment, or									
refrigerator for storing								110	
vaccines	1	0	7	10	5	16	71	(82%)	
Health Facilities with all									
essential supplies to									
support child health on	3	3	7	7	7	16	59	102	
day of survey*	(100%)	(100%)	(88%)	(54%)	(88%)	(80%)	(75%)	(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

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.



Photo 10: A box of unused oral rehydration salt

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: Availab	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 childhooddysentery /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 itemsfound 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% of 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.

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 Sup	plies					
	State/Re gionHos pital	District Hospital	Townshi pHospit al	Station hospital	Maternal and child health centre	Rural health centre	Rural health sub- centre	Overall %
Supply Item	n=3	n=3	n=8	n=13	n=8	n=20	n=79	N=134
Neonatal resuscitation								
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%
								103
Partograph	3	3	5	4	7	19	62	(77%)
								119
Clean apron	3	3	6	13	8	18	68	(89%)
								116
Clean delivery kit	1	1	4	8	8	18	76	(87%)
Health Facilities with								
all essential supplies to								
support newborn child		3		6	4	2	19	
health on day of	2 (67%)	(100%)	4 (50%)	(46%)	(50%)	(10%)	(24%)	40 (30%)
survey*								

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





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.



Photo 12: A newborn in Kalaw Township Hospital

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.

Table 18: Availability of Essential Medicines for Newborn Care											
	State/ Region Hospital	District Hospital	Town- ship Hospital	Station hospital	Maternal and child health centre	Rural health centre	Rural health sub- centre	Overall %			
Drug Item	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/Misoprost ol*	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 carewere 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: Availabili	Table 19: Availability of Antenatal Care Supplies										
	State/ Region Hospital	District Hospital	Town- ship Hospital	Station hospital	Maternal and child health centre	Rural health centre	Rural health sub- centre	Overall %			
Supply Item	n=3	n=3	n=8	n=13	n=8	n=20	n=79	N=134			
Blood Pressure								133			
Machine	3	3	8	13	8	19	79	(99%)			
Haemoglobin		(0)in						102			
reagents	(0) in ANC	ANC	7	11	7	19	58	(76%)			
Uristick for testing		(0) in						92			
for protein	(0) in ANC	ANC	3	8	8	14	59	(69%)			
Sterilizer/autoclave								32			
	1	2	5	8	2	4	10	(24%)			
Cold chain or											
refrigerator for											
storing tetanus								74			
toxoid vaccines	2	3	4	9	4	13	39	(55%)			
Syphilis testing kit		(0) in						39			
	(0) in ANC	ANC	5	8	3	7	16	(29%)			
Malaria testing		(0 in						114			
supplies	(1)	ANC)	5	12	5	18	73	(85%)			
Health Facilities											
with all 3 essential											
supplies to											
supportantenatal											
care on day of				8		14	58	91			
survey*	0 (0%)	0 (0%)	3 (38%)	(54%)	8 (87%)	(70%)	(73%)	(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	Table 20: Availability of Drugs for Antenatal Care											
Drug Item	State/Re gionHos pital	District Hospital	Town- shipHosp ital	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 careare 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 C	ontrol Sup	plies and I	Equipment	:				
Infection control supplies and equipment	State/ Region Hospital	District Hospital	Town- ship 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



Photo 13: Nurses in a RHC

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.

Table 23: Sanctioned	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:



Quality of Maternal Newborn and Child Health Care 43

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: Availab	oilities of G	uidelines						
Facilities with guidelines	State/ Region Hospital	District Hospital	Township Hospital	nship pital 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								83
Care/PN Care	0	1	5	3	6	13	55	(62%)
Sick child								92
care/Immunization	0	1	5	5	8	17	56	(69%)
Newborn care								83
	0	0	4	5	8	12	54	(62%)
Health facilities								
with all 3				2		10	45	68
guidelines	0 (0%)	0 (0%)	4 (50%)	(23%)	7 (75%)	(50%)	(57%)	(51%)





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 fo	r Sick Child	dren						
	State/Re gionHos pital	DistrictH ospital	Town- shipHos pital	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	1 (2204)	0 (0%)	5 (62%)	11	2 (28%)	15	54	89

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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 Hospi- tal	District Hospi- tal	Town- ship Hosp- ital	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						
3	3	6	6	8	20	78	124 (93%)						
1	3	6	5	7	19	77	118 (88%)						
3	3	5	11	4	20	71	117 (87%)						
1	2	5	5	7	19	77	116 (87%)						
3	3	5	4	6	14	36	71 (53%)						
1	2	4(50%	4	2 (20%)	12	10	56						
	State/ Region Hospi- tal n=3 3 1 1 3 1 3 1 3	State/ Region Hospi- talDistrict Hospi- taln=3n=333133312331233	State/ Region Hospi- talDistrict Hospi- talTown- ship Hosp- italn=3n=3n=8336136335125335125335125335	State/ Region Hospi- talDistrict Hospi- talTown- ship Hosp- italStation hospitaln=3n=3n=8n=13336613653351112553354124(50% (37%)4	State/ Region Hospi- talDistrict Hospi- talTown- ship Hosp- italMaternal and child health centren=3n=3n=8n=13n=833668336573351141255733546	State/ Region Hospi- talDistrict 	State/ Region Hospi- talDistrict Hospi- talTown- ship Hosp- italStation hospitalMaternal and child health centreRural health centreRural health sub- centren=3n=3n=8n=13n=8n=20n=793366820781365719773351142071125571977335461436124(50% (67%)4 (31%)3 (38%)12 (60%)10 (38%)						

Table 27: Register for Delive	ry							
	State/ Region Hospit al	District Hospi- tal	Town- ship Hospi- tal	Station hosp- ital	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 Hospi- tal	District Hospital	Towns hip Hospi- tal	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 Hospi- tal	District Hospital	Towns hip Hospi- tal	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	б	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 decisionon 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: Sourc	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)							
НА	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 Newborns to/from other Facilities												
Communication between facilities during last year	State/ Region Hospi- tal	District Hospital	Township Hospital	Station hospi- tal	Matern al 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 pantograph knowledge.

Table 32: Instructions and Technical Support from Higher Facilities											
Communication between facilities during last year	State/ Region Hospi- tal	District Hospi- tal	Town- ship Hospi- tal	Station hospi- tal	Matern al 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								62			
regularly reviewed	2(67%)	2(67%)	5(63%)	5(38%)	6(75%)	13(60%)	29(37%)	(46%)			
Verbal autopsy of								78			
child death	3(100%)	2(67%)	5(63%)	7(54%)	4(50%)	13(60%)	44(56%)	(58%)			

Table 34: Participation in	Table 34: Participation in and replications of MNCH-related TOT											
	State/ Region Hospi- tal	District Hospi- tal	Town- ship Hospital	Station hospi- tal	Matern al 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	State/ Region Hos- pital	Dis- trict Hos- pital	Town- ship Hospi- tal	Station hospi- tal	Maternal and child health centre	Rural health centre	Rural health sub- centre	Overall %			
3 years	n=3	n=3	n=8	n=13	n=8	n=20	n=79	N=134			
								110			
Yes	2	1	7	9	7	17	67	(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	Town- ship Hospital	Station hospital	Mater- nal 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 ofITN)	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	0(0%)	0(0%)	1(14%)	1(11%)	3(43%)	6(35%)	28(25%)	<mark>39 (35%)</mark>			
mo											



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/re gion hospital	District hospital	Township Hospital	Station hospital	Materna I 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 th	nat Participa	ated in Tra	aining of Tra	ainers								
	State/ region hospital	District hospi- tal	Town- ship Hospital	Station hospi- tal	Mater- nal 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 Provide	Table 39: Facilities Provided with Supervisions in Last 6 months												
Supervision activity	State/ region hospital	District hospital	Town- ship 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	Table 40: Paediatric Cases with Appropriate Treatment												
Treatment by Illness	State/Region District Hospital Hospital		TownshipH ospital	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%)							
	9	2	21	56	83	171							
% paediatric cases in which treatment was appropriate to diagnosis (fever, cough, or diarrhoea)	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 Ta	sks Complete	ed	_	_	
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	4	0	11	44	42	101 (51%)
vomiting						
(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)=2 n(children) =22		n(children) =93	N(children) =193				
Clinical encounters	1	0	5	16	12	34				
where Health staff counseled caretaker to continue feeding sick child	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	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	6	2	12	35	64	119*				
antibiotic, ORS,antimalarial drugs can correctly describe how to administer all drugs	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**."

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%)			

- Midwife in a village



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: Externa	Table 46: External Reasons for Child Deaths											
Reasons for child death	State/ Region Hospital	District Hospital	Town- ship Hospital	Station hospi- tal	Mater- nal 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 Hospi- tal	District Hospital	Town- ship Hospital	Station hospi-tal	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 14: An unused 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.

Table 48: Num	Table 48: Numbers of Patients in Last 3 months										
# of patients in last 3 months: Median	State/ Region hospital	District Hospital	strict Township spital Hospital		tation ospital Maternal and Child 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:	Table 49: First Place to Bring a Sick Child											
Location of	State/Region Hospital	District Hospital	Township Hospital	Rural health centre	Sub Rural health centre	Overall %						
Interviews	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%)						
НА	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





Photo 15: A sub-RHC in Yaydarshey

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 serivces while 70% of health centres (RHC, Sub-RHC, MCH) provided all 3 basic child health services. 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 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 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 health staff were generally good, except the lack of practical experiences in emergency cases, and that MNCH-realated deaths may be further 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 availablity of quality emergency care closer to home, and 3) an increased level of access to facilities.

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 care¹⁰mentioned earlier also found that almost a half of respondents went to health facilities due to the insistance of health staff and community health workers.

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 do to 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."

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



Photo 16: A RHC in Pwint Phyu

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 to strengthen 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.

Increasing Availablity of Quality Emergency Care Closer to Home

The provision of delivery services turned out to be much higher than expected, with 90% of RHC & sub-RHC and 75% of MCH assisting deliveries sometimes even 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 quite 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



Photo 17: Mothers sharing their experiences in a focus group discussion in Pwint Phyu

A study of emergency care in Myanmar¹¹ 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.

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 peformed low in the availability and quality of MNCH care. For some indicators such as the provisions of KMC(15%) and child care drugs (25%), MCH centres were found even less ready than sub-RHCs. The capacities of MCH centeres across the samples widely varied, some bearly providing baisc servies 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 functionarity are found quite unclear and varied. More strategic use of MCH centres would contibute to improvements in timely access to MNCH servies.

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 was more complex than simple lack of money and knowledge. Their explanations indicated several

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

"push out" factors from facilities - costs, inconvenience, and unpleasant experiences-, and "pull in" factors of home based care-easier access to licenced 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 particularly 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 and 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.¹²This could mean that women are treated kindly when conditions are serious, and/or respondents are less likely to express their critical opinions with surveyors. Eitherway, 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 patientprovider 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 underequipped 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.

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

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

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

have enough money either. If I deliver at home, TBA would help me even with house choirs and childcare."



Photo 18: 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 would like to deliver at modern clinic or hospital."

"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 deliver¹⁴. This is a critical point for us to remember. Mothers want to acess 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 proffesionals' perspectives.



Photo 19: A sub-RHC in Pwint Phyu

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

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

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

 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 onthe-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

- 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
- 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

- 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:
 - Decision making stage at home sources of concerns including financial factors, physical access, domestic needs, inconvenience, past negative experience

- 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
- 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 selfassessment, 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-sectoral 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

Tab	Table 1 :Number of Facilities Assessed											
		Hospitals				Comm	Community Health Centres					
	Location	State/Region	District	Township	Station	RHC	Sub RHC	мсн	TTL			
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			
Tota	al	3	3	8	13	20	79	8	134			

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

Tab	Table 2 :Number of Health Workers Interviewed											
		Hospitals				Comm	unity Health C	entres				
	Location	State/Region	District	Township	Station	RHC	Sub RHC	мсн	TTL			
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			
Tota	al	3	3	8	13	20	79	8	134			

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

Tab	Table 3:Number of Caretakers Interviewed (Exit Interview)										
		Hospitals			Comm	unity Health C	entres				
	Location	State/Region	District	Township	Station	RHC	Sub RHC	мсн	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
Tota	al	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)										
					Commun					
		Hospitals	5		Health Ce	Health Centres				
	Location	State/Re gion	District	Township	Station	RHC	Sub RHC	мсн	TTL	
		9		-	-	_	-	_		
1	Taunggyi	1	0						1	
2	Magway	1(cs)(11 UFD)	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	
Tota	al	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	мсн	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
Tota	al	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	мсн	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	- Some supplies especially oral antibiotic were not replenished	-Neonatal drugs not supplied to sub centers
	-Neonatal drug dose calculation is difficult	- Neonatal antibiotics not supplied to RHC	-Neonatal drug dose calculation is difficult
	 MW unable to use delivery and neonatal drugs 		- Unable to prescribe drugs according to disease
			- No guidelines to refer to
			- Busy with other activities
Process	 ANC register too big to carry to field visits 	- Some MW too busy due to many projects implemented	-Not in practice of immediate registration
(information)	- Forget to fill in information afterwards		-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	- no refresher training after one time training 1-2 years ago	No refresher training
	- Turnover of staff		- Staff turn over
	- Neonatal care- no hands-on training		
(supervision)	- Little time for supervisors to spend at HF	 Supervisors engage in other new projects 	-Trained VHW not interested
	- No hands on training during supervision	- No hands on training during supervision	-Need refresher training for all staff especially at CME
			-Little supervision
	- Little motivation for supervision as traveling cost not provided	- Little motivation for supervision as traveling cost not provided	-Little supportive supervision and positive feedback

- neonatal drugs were not supplied up to sub centers
- neonatal drug dose calculation is difficult
- lack of awareness about the use of proper baby wraps for newborn thermal care
- CDK provided did not contain baby wraps

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 facilitieswith 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 substandard. 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/R H	D/H	T/H	MCH	RHC	S/RHC	Total
Delivery observation	3	4	7	0	2	3	19

The observations of 20actual 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.

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

Table 2: Observations Observations

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.

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

Table 3: Observations of clean-up after birth

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) what 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 as 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.

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

Table5: Comments on Quality of Care

Only 37% of cases found that the situationswere 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

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

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

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	14	74
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	F	26
delivery) to detect cold extremities	5	20

Mothers and babies were observed for a day after delivery. Exclusive breast feeding was practiced in all cases, and 84% of cases breast feed 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/R H	D/H	T/H	МСН	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?

Pro	ocedures in Newborn Resuscitation	Number who mentic procedure (n=12)	of staff oned the
		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
б.	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

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

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

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. Measuresbaby'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 windowsand			
turning of the fan	2	17	
18. Initiates breastfeeding	11	92	

Appendix E: Data Collection Tools

MODULE 1: Clinical Observation of SIX SICK CHILDREN

Questic	(Office Us	e Only)				
Date: Township:						
State/R	egio	on				
Type of	Fac	ility:				
State/Re RHC =5	egic , Su	on Hospital =1, District Hospital =2, Township Hospital=3, 9 b-RHC =6	Station Hospital =4,			
Facility	Coc	le:				
Intervie	wer	Code:	L			
Child se	erial	number (1-6)	L			
Please	con	duct clinical observations of 3 most common child illness	es: cough, fever, and dia	rrhea.		
100.	Ree	cord the exact time that the Caretaker enters into the Exan	nination Room			
100A.	Wł	at 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.	Ag	e of child in completed months (1 – 59)	C			
102.	Rea	ason for visit (Should only be for cases with Fever / Malaria	, Cough / Rapid or difficul	t		
	Bre	eathing and/or diarrhea) (Tick in the box)				
	A. B	Ever / malaria				
	С.	Diarrhea				
103.	Dis	the health worker				
	Α.	Ask about the ability to feed or breastfeed?	Yes=1/No=2			
	Β.	Ask whether the child vomits everything?	Yes=1/No=2			
104	C. Do	Ask about the presence of convulsions? es the health worker check for	Yes=1/No=2			
101.	A.	Malnutrition by looking for wasting, oedema?	Yes=1/No=2			
	В.	Ask about immunization, check on health card?	Yes=1/No=2			
	C.	Look into palmer pallor for anaemia?	Yes=1/No=2			
105.	Wł	at provisional diagnoses did the health worker provide?				
	Α.	Fever/Sepsis?	Yes=1/No=2/NA=3			
	B.	Acute Respiratory Infection?	Yes=1/No=2/NA=3			
	D.	Diarrhea with blood?	Yes=1/No=2/ NA=3			

106.	Does the health worker prescribe?	
100.	boes the neutrin worker presenbe.	

	Α.	First line Fever/Sepsis? Injection Gentamycin	Yes=1/No=2	
	В.	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 he	ealth worker explain to caretaker how to give?		
	A.	First Line Antimalarial?	Yes=1/No=2	
	В.	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. In your opinion, 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 or Fever / First line Antimalarial: Yes -1/no-2/NA-3
- Pneumonia or difficult Breathing / First Line Antibiotic For Pneumonia: Yes -1/no-2/NA-3
- C. Diarrhea without blood / ORS but no Antibiotic: Yes -1/no-2/NA-3
- Diarrhea with blood / First Line Antibiotic For Dysentery: Yes -1/no-2/NA-3

INDICATOR #11 (numerator = all match)

Questic	onnaire l	D #:			(Office Use Only)					
Date:				Township:						
State/R	egion _									
Type of	Facility	: State/R	legion Hospital District Hospital Township Hospital Station Hospital RHC	=1 =2 =3 =4 =5						
Facility	Code		Sub-RHC	=6						
Intervie	ewer Coo	de:								
Child Se	erial (1-6	5)								
200.	What il	, Iness (es) did the health worker	tell you your child had?						
	1.	cough	/ breathing problem							
	2.	fever /	malaria							
	3.	diarrhe	a							
201.	Did the	e health v Yes=1,	worker give you or preso No=2	cribe any medicines today?						
202.	Can yo	u please	show me the medicatio	ons or prescriptions given to you by	the health worker?					
	ONLY	ASK AB	OUT THE MEDICATIONS	S FROM YOUR LIST						
	(I.E.,	ORS, F	irst line medicine for M	ALARIA, first line medicine for P	NEUMONIA, first line					
	medici	ne for D	YSENTERY)							
	Ask the	e mothe	r to show you each med	licine or prescription given to her.	Then write down the					
	name o	of each n	nedicine below under							
	"MEDIO	LINE 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									
	01	WRITE		1						
	01.	2	How much will you giv	/e each time? (amount/day)						
		a. b	How many times a day	(will you give it? (#times/day)						
		о. с	For how many days wi	Il you give it? (# days)						
	02	C. WRITE	NAME OF MEDICATION	2						
	02.	a	How much will you giv	/e each time? (amount/day)						
		b.	How many times a day	will you give it? (#times/day)						
		с.	For how many days wi	Il vou give it? (# days)						
	03.	WRITE	NAME OF MEDICATION	3						
		a.	How much will you ai	ve each time? (amount/day)						
		b.	How many times a day	/ will you give it? (#times/day)						
		c.	For how many days wi	ll you give it? (# days)						
For Su	oerviso	Only:								
Is the ca	aretaker	's descrij	otion of medication dos	e, frequency, and duration correct (Q.202)?					
		1. Co	rrect							

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

- 2. Not all correct
- Indicator #12 (HW performance counseling): (numerator = all match)

203.	Wł	hat else did the doctor/nurse/HA/midwife tell you for your child care apart f	from	
	giv	ing medicine? (Circle all that apply)		
	1. t	o continue feeding		
	2. t	o give plenty of water		
	3. t	o give cold bath if fever is high		
204	4.0	other (specify)		ا ما ام
204.	vvr	here is the first place you normally take your child to in your village/ward v	when your ch	
	SIC	K!		
	1. ว	CP		
	2.	Gr Health Assistant		
	۵. ۵	I HV		
	5	Midwife		
	6	AMW		
	7.	CHW		
	8.	CBNBC volunteer		
	0	Neighbor/relative/friends		
	9. 10	Other (specify)		
205	WH	or referred you to come to this health facility today?		
205.	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. H	ow o	lid you come to this health facility from your home?		
	1.	On foot		
	2.	By tricycle		
	3.	By motorcycle		
	4.	By car		
	5.	Others:		
207 H		nany minutes did it take to come from your home to this facility?		
207.11	0001	Minutes		
200				
208.		For the new system to spend to come to this facility?		
	1.	For transportation		
	2.	For medicine		
	э.	For other things		
Thank	you	for participating. We will use this information to help improve healt	h services in	this
area.				
Assess	nen	t Result:	film	
Form	com	pleted	1	
Partial	ly co	ompleted	2	
No res	pon	dent available / facility closed	3	
Refuse	ed		4	
Comm	ents	Note anything unusual or interesting qualitative findings:		

MOD	JLE 3 : HEALTH Facility Checklist (Infrast	tructure	e, Equip	ment,	Supplie	s and [Drugs) l	MCH/RF	IC/Sub	RHC
Quest	Questionnaire ID #:(Entered by Supervisor)									
	[First 3 letters of township-date (de	dmmyy)-	module #	- questi	onnaire #;	e.g. Ma	n-050614	4-4-1]		
Type o	of Facility (circle): Hospital (S/R, District, T	Fownsh	ip, Stat	ion),	MCH, RH	IC, Sul	o-RHC			
Facilit	y Code: Interviewe	r								
Obtai	n Informed Consent									
NO.	QUESTIONS	CODI	NG CLAS	SIFICA	TION					GO TO
A	sk the following questions to the person	in charg	e of the	e facilit	y (Town	ship H,	SH, MC	H.RHC,	Sub RH	IC
1	Does the facility offer normal delivery	Yes						1		
	and/or newborn care?	No						2 End	l Intervi	ew
Obser	ve to see if each of the following structure	es exists	in the f	facility.	If it doe	es exist,	ask to	be show	vn it so	уои
<u> </u>	an inspect it									
2	Please tell me if the facility is currently	(a)	ABLE TO)	()	o)EVER		(c) PF	ROVIDE	D
	able to provide any of the following		PROVID	E	PR	OVIDED) IN	IN	N PAST	3
	services; if any of the following				FA(CILITY		∧	IONTH	5
	services have ever been carried out by	YES	NO	DK	YES	NO	DK	YES	NO	DK
	providers as part of their work in this			2.11						
	intervention has been carried out at									
	least once during the past? months									
01	Parenteral Administration of	1	2	Q	1.0	2	Q	1	2	8
	ANTIBIOTICS(IM)		2	0		2	0	'	2	0
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	1	2	8	1 → C	2	8	1	2	8
	delivery									
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
_	Desethis facility are stice Key some	VEC								
3	Does this facility practice Kangaroo	YES	•••••	•••••	•••					
	Mother Care for low birthweight	NO			2 → Sk	to 3	301			
	Dables:									
	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.									
4	Is there a separate room or space for	YES,	Sep	arate	Roor	n		1		
	KMC or it Is integrated into another	YES,	Inte	grated				2		
	space (eg, postnatal ward)?									
301	Does this facility have overnight or	YES							1	
	inpatient beds?	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	Yes, observed onsite or within 5 minutes walk	1	
	or services	Yes, reported onsite or within 5 minutes walk	2	
	shortwave radio that is available at all	Pay Phone or HW Cell Phone	3	
	times client	No	4	
	are offered?			
	COUNT AS RESPONSE "3" IF HW Has a			
	cell phone that functions in the facility			
304	Does this facility have a functional	As this is RHC/subRHC setting, Q on ambulance		
	ambulance or	will not be asked		
	other vehicle on site for emergency	will not be usked		
	transport for			
	clients?			
305	Does this facility have electricity	Yes, Observed	1	
	functioning now?	No	2	
	Count As "YES, OBSERVED" If electricity			
	is obviously running or if you can turn			
	on an electrical switch and get			
	electricity.			
306	Does this facility have a back-up or	Yes observed functioning and with fuel	1	
	If Veg access if the concenter is	Yes reported functioning and but no fuel	2	
	functioning and fuel is available	Yes, reported functioning and with fuel	3 1	
	Accept reported response		4 5	
			5	
307	Is there a toilet or latrine that is	Yes	1	
	available for	No	2—	310
	clients' to use?			
	I his toilet or latrine must be for the use			
200	or clients, not just nearth facility staff.		-	
308	ASK to see the toilet or latrine and	Flush / Pour Flush:	1	
	Indicate the Type.	Cimple Dit Latrine	2	
	Circle the response that corresponds to	Composting Toilet	כ ∧	
	the Highest quality type. This is the	Open Pit		
	type with the Lowest number	Bucket	6	
		Hanging Toilet / Latrine	7	
		Other	8	
			-	
309	Is the toilet or latrine usable?	Yes	1	
	To be unusable, the latrine is not simply	No	2	
	dirty, but not in functioning condition	Unable To Observe	3	
	(That is, cannot be used)			
Ad1	Do you have water for hand washing	Yes	1	
	when comes out of the latrine?	No	2	

310	Does the health facility have water available today?						•••	1 2—	→ 312
311	11 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 Circlethe one response that corresponds to the MostCommonly used water source.			Piped Into Facility1Piped Onto Facility Grounds2Public Standpipe3Tube Well / Borehole On Grounds4Protected Dug Well On Grounds5Bottled Water6Rainwater, Surface Water, Or Tanker Truck7Other8					
312	Can you please show me of children are seen for treatment Inspect for auditory and visual priv Mark as "Both" if there is a doo can close Mark as "Visual" if there is a dra curtain	where vacy. r that ape or	Visu Visu Visu	ual And Audito Jal But Not A u Jal Nor Audito	ory Privacy uditory Priva ry Privacy	асу		1 2 3	
In the	child consultation area, check wh	ether e	ach c	of the items b	elow is eithe	r in the room w	vhere	the se	ervice is
given	or in an adjacent room. Items For Sick Child		(A) Av	ailability	(B) Funct	ioning	1		
515	Consultations	Observ	ved	Reported, Not Seen	Not Available	Don't Know	Yes	No	
01	Sterilizer (RHC setting)	1 —	►b	2 → b	3	9	1	2	
02	Cold Box for storing Vaccines	1 —	►b	2 → b	3	9	1	2	
03	Infant scale that is accessible	1 —	►b	2 → b	3	9	1	2	
04	Adult (standing) scale that is accessible	1 —	►b	2 → b	3	9	1	2	
05	Timer or watch with second hand	1-	· b	2 → b	3	9	1	2	
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.

viiere	the service is given or in an adjace		***	(D) Furrent	loning		
313	Items For Delivery And	(A) Availabilit	ty	(B) Funct	ioning		
NEO	Immediate Newborn Care	Observed	Reported,	Not	Don't	Yes	No
			Not Seen	Available	Know		
01	Sterilizer	1 → b	2 — ▶b	3	9		2
02	Neonatal resuscitation device (tube & mask)	1 → b	2 → b	3	9	1	2
04	Vacuum extractor (for deliveries) (not in RHC & below)	1 → b	2 → b	3	9	1	2
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, chec service Is given or in an adjacent ro	k whether ea	ach of the iten	ns below is eit	her in the ro	oom where	the
	Items For ANC Consultations	(A) Availabilit Observed	ty Reported,	(B) Funct Not	ioning Don't	Yes	No
			Not Seen	Available	Know		
01	Optional (for Infection Control): Sterilizer (for RHC level)	1 → b	2 → b	3	9	1	2
02	Refrigerator or cold box for storing tetanus toxoid vaccines	1 → b	2 → b	3	9	1	2
03	Blood Pressure Machine	1 → b	2 → b	3	9	1	2
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 obser	see the following drugs and supp ve it. If you are unable to see an it	olies. If the i tem, ask if it	item is locate is available o	ed in a differe and the expir	ent part of t ration dates	the facility s have not	, go t pass
214	Child Drugs And	1	(A) Availability			
214		1	(~	, , wanability			

314	Child Drugs And		(A) Availability					
	Treatment							
		Observed And Available			Not Observed			
		Available	Available	Available	Reported	Not Available	Never	
		All	At Least	But None	Available,	Today /	Avail-	
		Valid	One Valid	Valid	Not Seen	Don't Know	able	
01	ORS packets	1	2	3	4	5	6	

02	First line oral drug for child pneumonia	1	2	3	4	5	6	
03	First line oral drug for child dysentery (bloody diarrhea)	1	2	3	4	5	6	
04	First line oral anti malarial	1	2	3	4	5	6	
05	Vitamin A	1	2	3	4	5	6	
06	Insecticide Treated Net (ITN)	1	2	3	4	5	6	
Ad6	Zinc tablet	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	Newborn & Delivery Drugs And	(A) Availability					
NEO	Treatment	Observed And Available				Not Observed	
		Available	Available	Available	Reported	Not Available	Never
		All	At Least	But None	Available,	Today /	Avail-
		Valid	One Valid	Valid	Not Seen	Don't Know	able
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					
		Obser	Observed And Available			Not Observed		
		Available	Available	Available	Reported	Not Available	Never	
		All	At Least	But None	Available,	Today /	Avail-	
		Valid	One Valid	Valid	Not Seen	Don't Know	able	
01	Tetanus toxoid vaccines	1	2	3	4	5	б	
02	Iron/folic acid	1	2	3	4	5	б	
04	Insecticide Treated Net (ITN)	1	2	3	4	5	б	
Ad 8	Deworming tablets	1	2	3	4	5	6	
314A	Child Immunizations	Available	Available	Available	Reported	Not Available	Never	
		All	At Least	But None	Available,	Today /	Avail-	
		Valid	One Valid	Valid	Not Seen	Don't Know	able	
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	б	
04	Measles or MMR vaccine	1	2	3	4	5	6	

314B	Ask to see the following Guidelines	OBSERVED AND	REPORTED	۱ ۸۸	NOT /AILABLE	DON'T KNOW	
		IN PATIENT	NOT				
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	3	9	
314C	Items for Infection Control	(A) Availabilit	Ϋ́				
		Observed	Reported,	No	ot	Don't	
			Not Seen	Av	ailable	Know	
01	Chlorine-based disinfectant	1	2	3	3	9	
02	Latex gloves (clean or sterile)	1	2	3	3	9	
03	Sharps container	1	2	3	}	9	
04	At least one 5 ml syringe in	1	2	3	}	9	
05	At least one 19 or 21 gauge needle in sterile packet (may	1	2	3	3	9	
06	Hand washing soap (bar or	1	2	3	}	9	
314 D	Now I would like to ask you a few such as needles or blades, inclu bandages and intravenous tubes. Can you please tell me what is the waste?	w questions ab ding filled sha ne final disposa	out the waste disposal pr rps containers, and for ir I process for filled sharps	actices nfected boxes a	for sharp items waste, such as nd for infected		
			i SHARPS		ii. INF. WASTE		-
	Incinerator - High Temperature (2 Cha	mber)		1		1	Ē
	Incinerator - One Chamber, Drum Or E	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 Bu	rned Prior)		8		8	
	Never Have Items			9		9	
Opt 314E	Ask to see the place used to dispose of exposed waste or not. "Protected" Is defined as: Inside a Lock such that unauthorized persons cannot	Sharps and Infect ed fence or Room easily gain access	ious Waste. Indicate if the site or a Pit or Trash Bin with a Lie s	is protec d (e.g., Cc	ted and if there is wered Pit Latrine)		
			i. SHARPS		ii. INF. WASTE		Ē
	Yes, Protected And Waste Is Visible			1		1	
	Yes, Protected And No Waste Visible			2		2	ĺ
	No, Not Protected And Waste Visible			3		3	Ĩ
	No, Not Protected And No Waste Visib	ole		4		4	ĺ
	Site Not Observed			5		5	Ĺ
							ſ

MODULE 4 : HEALTH WORKER INTERVIEW & RECORD REVIEW							
Quest	ionnaire ID #:	(Entered by S	upervisor)				
Type of Facility (circle): Hospital (S/R, District, Township, Station), MCH, RHC, Sub-RHC							
Hospital/RHC code							
Healt	h Worker TMO (1), SMO (2), MO (3), HA (4), L	.HV (5), Midwife (6), Nurse (7)					
Other	s(identify)(At S	5/R hospital and district hospital those assigned	by MS)				
Speak	to the most experienced health worker	involved in management of maternal and ch	ild health				
lt is he	es. est to apply this form after patient sessions :	have finished.					
Obtai	n informed consent, if you have not already	/ done so.					
NO.	QUESTIONS	CODING CLASSIFICATION	GO TO				
401	For each of the following services, please	e tell me whether the service is offered by you	ır				
	facility, and if so, how many days per mont	h the service is provided either at the facility or a	IS				
	outreach services.	onth is aquivalant to four work wooks					
01	Consultation or curative services for sick	A = 0 A $A = 0$ A A A A A A A A A A A A A A A A A A					
01	children						
		B.# DAYS PER MONTH IN OUTREACH					
	IF NONE, WRITE "00"	LOCATIONS					
	IF ALL WEEKDAYS, WRITE "20"						
	IF ALL DAYS including weekends,						
	IF ONE TIME PER WEEK, WRITE "4"						
A1	Consultation or curative services for sick	A. # OF DAYS PER MONTH IN FACILITY	<u> </u>				
(401)	newborn						
		B.# DAYS PER MONTH IN OUTREACH					
	IF NONE, WRITE "00"	LOCATIONS					
	IF ALL WEEKDAYS, WRITE "20"						
	IF ALL DAYS including weekends,						
	IF ONE TIME PER WEEK, WRITE "4"						
02	Boutine immunizations for children		<u> </u>				
	IF NONE, WRITE "00"	B. # DAYS PER MONTH IN OUTREACH					
	IF ALL WEEKDAYS, WRITE "20"	LOCATIONS					
	IF ALL DAYS including weekends,						
	IF ONE TIME DER WEEK WRITE "4"						
<u>۸</u> ۵	Pouting immunizations for nouhown (c						
(401)	28 days) (HepB)						
		B. # DAYS PER MONTH IN OUTREACH	<u> </u>				
	IF NONE, WRITE "00"	LOCATIONS					
	IF ALL WEEKDAYS, WRITE "20"						
	IF ALL DAYS including weekends,						
	WRITE "30"						
	IF ONE HIME PER WEEK, WKITE 4						

02	Crowth manitaring & promotion		
03	Growth monitoring & promotion -	A. # OF DAYS PER MONTH IN FACILITY	
	where a healthy child is fournery		
	chart, feeding advice given	LOCATIONS	
	IF NONE, WRITE "00"		
	IF ALL WEEKDAYS, WRITE "20"		
	IF ALL DAYS including weekends.		
	WRITE "30"		
	IF ONE TIME PER WEEK, WRITE "4"		
04	Antenatal care		
		A. # OF DAYS PER MONTH IN FACILITY	
	IF NONE, WRITE "00"		
	IF ALL WEEKDAYS, WRITE "20"	B. # DAYS PER MONTH IN OUTREACH	
	IF ALL DAYS including weekends,	LOCATIONS	
	WRITE "30"		
	IF ONE TIME PER WEEK, WRITE "4"		
05	Normal delivery services	A. # OF DAYS PER MONTH IN FACILITY	
	IF NONE, WRITE "00"	B. # DAYS PER MONTH IN OUTREACH	
	IF ALL WEEKDAYS, WRITE "20"	LOCATIONS	
	IF ALL DAYS including weekends,		
	WRITE "30"		
	IF ONE TIME PER WEEK, WRITE "4"		
A3	Newborn care services	A. # OF DAYS PER MONTH IN FACILITY	
(401)			
	IF NONE, WRITE "00"	B. # DAYS PER MONTH IN OUTREACH	
	IF ALL WEEKDAYS, WRITE "20"	LOCATIONS	
	IF ALL DAYS including weekends,		
	Posterial Conservation		
A4	Postnatal Care services	A. # OF DAYS PER MONTH IN FACILITY	
(401)	IE NONE WRITE "00"		
	IF NONE, WRITE 00	LOCATIONS	
	IF ALL DAYS including weekends	LOCATIONS	
	WRITE "30"		
	IF ONE TIME PER WEEK, WRITE "4"		
Δ5	On average days for Caesarean Sections		
(401)	provided per month (in hospital settings)		
(101)	IF NONE, WRITE "00"		
	Davs for the last month		
10	On average dave for Versure Extra tion		
A6 (401)	on average days for Vacuum Extraction		
(401)	IF NONE WRITE "00"		
	Days for the last month		
L			
A7	On average days for Forceps delivery		
(401)	provided per month (in hospital settings)		
	Dave for the last month		
	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 SANCTION- ED	B. # WORKERS WHO ARE			
		TO WORK IN THIS FACILITY	PRESENT TODAY			
		(FULL OR PART-TIME)				
01.	DOCTOR	,				
02.	REGISTERED / CERTIFIED NURSE					
03.	REGISTERED / CERTIFIED MIDWIFE					
04.	OTHER CLINICAL CARE STAFF (CLINICAL OFFICER, Paramedics, ETC.)					
05.	PHARMACIST					
06. 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 NO	1 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	Y YES IN E PAST 2-3 S Years I	NO TRAINING WITHIN PAST 3 YEARS			
	recent training? READ THE LIST	N P A S T				
		1 2 M O				
		N T H				
01	Immunizations	1 2	3			
02	Treatment of pneumonia or Acute Respiratory Infections	1 2	3			

1	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	Have you ever participated in the	Yes	1		lf no,
(404)	Training of Trainers for MNCH before?	No	2		go to
		Not applicable	99		405
A13 (404)	Have you ever replicated the training to	Yes	1		
(404)	community volunteers before?	No	2		
		Not applicable	99		
NO	QUESTIONS	CODING CLASSIFICATIO	N		GO TO
NO 405	QUESTIONS Now I would like to ask you some	CODING CLASSIFICATIO YES, IN THE PAST 3 MONT	N "HS	1	GO TO
NO 405	QUESTIONS Now I would like to ask you some question about supervision from a	CODING CLASSIFICATIO YES, IN THE PAST 3 MONT YES, IN THE PAST 4-6 MON	N NTHS	1 2	GO TO
NO 405	QUESTIONS Now I would like to ask you some question about supervision from a supervisor outside the facility	CODING CLASSIFICATIO YES, IN THE PAST 3 MONT YES, IN THE PAST 4-6 MON YES, IN THE PAST 7-12 MC	N HS NTHS DNTHS	1 2 3	GO TO 407 407
NO 405	QUESTIONS Now I would like to ask you some question about supervision from a supervisor outside the facility a. Do you receive technical support or	CODING CLASSIFICATIO YES, IN THE PAST 3 MONT YES, IN THE PAST 4-6 MON YES, IN THE PAST 7-12 MC YES, MORE THAN 12 MON	N THS NTHS DNTHS ITHS AGO	1 2 3 4	GO TO 407 407 407
NO 405	QUESTIONS 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?	CODING CLASSIFICATIO YES, IN THE PAST 3 MONT YES, IN THE PAST 4-6 MON YES, IN THE PAST 7-12 MC YES, MORE THAN 12 MON NO SUPERVISION	N HS NTHS NTHS ITHS AGO	1 2 3 4	GO TO 407 407 407
NO 405	QUESTIONS 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	CODING CLASSIFICATIO YES, IN THE PAST 3 MONT YES, IN THE PAST 4-6 MON YES, IN THE PAST 7-12 MON YES, MORE THAN 12 MON NO SUPERVISION	N HS NTHS DNTHS ITHS AGO	1 2 3 4 5	GO TO 407 407 407
NO 405	QUESTIONS 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?	CODING CLASSIFICATIO YES, IN THE PAST 3 MONT YES, IN THE PAST 4-6 MON YES, IN THE PAST 7-12 MC YES, MORE THAN 12 MON NO SUPERVISION	N HS NTHS NTHS NTHS AGO 	1 2 3 4 5	GO TO 407 407 407
NO 405 406	QUESTIONS 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? The last time you were personally	CODING CLASSIFICATIO YES, IN THE PAST 3 MONT YES, IN THE PAST 4-6 MON YES, IN THE PAST 7-12 MON YES, MORE THAN 12 MON NO SUPERVISION	N HS NTHS DNTHS ITHS AGO	1 2 3 4 5	GO TO 407 407 407
NO 405 406	QUESTIONS 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? The last time you were personally supervised, did your supervisor do any of	CODING CLASSIFICATIO YES, IN THE PAST 3 MONT YES, IN THE PAST 4-6 MON YES, IN THE PAST 7-12 MON YES, MORE THAN 12 MON NO SUPERVISION	N HS NTHS DNTHS ITHS AGO	1 2 3 4 5	GO TO 407 407 407 DON'T
NO 405 406	QUESTIONS 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? The last time you were personally supervised, did your supervisor do any of the following? READ THE LIST:	CODING CLASSIFICATIO YES, IN THE PAST 3 MONT YES, IN THE PAST 4-6 MON YES, IN THE PAST 7-12 MON YES, MORE THAN 12 MON NO SUPERVISION	N HS NTHS DNTHS ITHS AGO	1 2 3 4 5	GO TO 407 407 407 DON'T KNOW
NO 405 406 01	QUESTIONS 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? The last time you were personally supervised, did your supervisor do any of the following? READ THE LIST: Deliver supplies	CODING CLASSIFICATIO YES, IN THE PAST 3 MONT YES, IN THE PAST 4-6 MON YES, IN THE PAST 7-12 MON YES, MORE THAN 12 MON NO SUPERVISION	N HS NTHS NTHS ITHS AGO YES 1	1 2 3 4 5 NO 2	GO TO 407 407 407 DON'T KNOW 9
NO 405 406 01 02	QUESTIONS 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? The last time you were personally supervised, did your supervisor do any of the following? READ THE LIST: Deliver supplies Check your records or reports	CODING CLASSIFICATIO YES, IN THE PAST 3 MONT YES, IN THE PAST 4-6 MON YES, IN THE PAST 7-12 MON YES, MORE THAN 12 MON NO SUPERVISION DELIVERED SUPPLIES CHECKED RECORD	N HS NTHS DNTHS ITHS AGO YES 1 1	1 2 3 4 5 NO 2	GO TO 407 407 407 DON'T KNOW 9 9
NO 405 406 01 02	QUESTIONSNow I would like to ask you some question about supervision from a supervisor outside the facilitya. Do you receive technical support or supervision in your work?b. IF YES, ASK: When was the most recent time?The last time you were personally supervised, did your supervisor do any of the following? READ THE LIST: Deliver suppliesCheck your records or reports	CODING CLASSIFICATIO YES, IN THE PAST 3 MONT YES, IN THE PAST 4-6 MON YES, IN THE PAST 7-12 MON YES, MORE THAN 12 MON NO SUPERVISION	N HS NTHS DNTHS ITHS AGO YES 1 1	1 2 3 4 5 NO 2 2	GO TO 407 407 407 DON'T KNOW 9 9
NO 405 406 01 02 03	QUESTIONSNow I would like to ask you some question about supervision from a supervisor outside the facilitya. Do you receive technical support or supervision in your work?b. IF YES, ASK: When was the most recent time?The last time you were personally supervised, did your supervisor do any of the following? READ THE LIST: Deliver suppliesCheck your records or reportsObserve your work	CODING CLASSIFICATIO YES, IN THE PAST 3 MONT YES, IN THE PAST 4-6 MON YES, IN THE PAST 7-12 MON YES, MORE THAN 12 MON NO SUPERVISION DELIVERED SUPPLIES CHECKED RECORD OBSERVED	N 'HS NTHS DNTHS ITHS AGO YES 1 1 1	1 2 3 4 5 NO 2 2 2	GO TO 407 407 407 9 9 9 9
NO 405 406 01 02 03 04	QUESTIONSNow I would like to ask you some question about supervision from a supervisor outside the facilitya. Do you receive technical support or supervision in your work?b. IF YES, ASK: When was the most recent time?The last time you were personally supervised, did your supervisor do any of the following? READ THE LIST: Deliver suppliesCheck your records or reportsObserve your workProvide any feedback (either positive or negative)on your performance	CODING CLASSIFICATIO YES, IN THE PAST 3 MONT YES, IN THE PAST 4-6 MON YES, IN THE PAST 7-12 MON YES, MORE THAN 12 MON NO SUPERVISION DELIVERED SUPPLIES CHECKED RECORD OBSERVED GAVE FEEDBACK	YES 1 1 1 1	1 2 3 4 5 NO 2 2 2 2 2	GO TO 407 407 407 9 9 9 9 9 9 9
NO 405 406 01 02 03 04 05	QUESTIONSNow I would like to ask you some question about supervision from a supervisor outside the facilitya. Do you receive technical support or supervision in your work? b. IF YES, ASK: When was the most recent time?The last time you were personally supervised, did your supervisor do any of the following? READ THE LIST: Deliver suppliesCheck your records or reportsObserve your workProvide any feedback (either positive or negative)on your performanceProvide any comment that you were doing your work well	CODING CLASSIFICATIO YES, IN THE PAST 3 MONT YES, IN THE PAST 4-6 MON YES, IN THE PAST 7-12 MON YES, MORE THAN 12 MON NO SUPERVISION DELIVERED SUPPLIES CHECKED RECORD OBSERVED GAVE FEEDBACK GAVE PRAISE	N 'HS NTHS DNTHS ITHS AGO YES 1 1 1 1 1 1 1 1 1 1	1 2 3 4 5 NO 2 2 2 2 2 2 2	GO TO 407 407 407 9 9 9 9 9 9 9 9 9 9

07	Discuss problems you have encountered	DISCUSSED PROBLEMS	1 2	
08	Checked drug supply	CHECKED DRUG SUPPLY	1 2	
A14 (406)	Supervise your new born care service		1 2	
ASK T NOT II	HE HEALTH WORKER TO IDENTIFY PATIEN	IT CONSULTATION REGISTER F SISTER TO ANSWER THE QUEST	FOR THE HEALTH FACI TIONS BELOW.	_ITY. DO
407	Is there a sick child consultation	REGISTER		1
	register?	REPORTED, NOT SEEN		412ANC
	IF YES, ASK TO SEE THE REGISTER	NO REGISTER		412ANC
408	Does the register contain complete			
	information on AGE, DIAGNOSIS,	AGE information complete		1
	TREATMENT for every case listed in	DIAGNOSIS OR SYMPTOM in	formation	2
	last 3 months?	complete		
	CIRCLE ALL THAT APPLY.	TREATMENT INFORMATION	complete	3
	For instance for an age to be counted	NONE OF ABOVE completed	••••••	4
	as complete every patient must have			
	their age written. The sample applies			
	for diagnosis and treatment.			
409	How recent is the date of most recent	WITHIN THE PAST 7 DAYS		1
	entry?	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 c	hild register (Only the entries for children U5 if adult and U5	
	DIFFICULT BREATHING AND	ALL THE CASES OF FEVER/MALARIA, PNEUMONIA/FAST OR	
	THAT INCLUDE ANY OF THES	SE THREE.	
	REVIEW ALL CASES FROM	THE FIRST TO THE LAST DAY OF THE LAST COMPLETED	
	CALENDAR MONTH		
411	REVIEW OF SICK CHILD		
01	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 A2.NO. PANEUMONIA CASES IN REGISTER CASES TREATED OF CHILDREN U5 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	
	combined, of the last comple	ewdorn register (Only the entries for newdorn in US registers eted 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	416 ▶ 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 information1COMPLETE1TT Inormation COMPLETE OR HAS2LIFE TIME IMMUNITY1Blood Pressure INFORMATION3COMPLETE4NONE OF ABOVE COMPLETE4	
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	NUMBER	
	CALENDAR MONTHS		
415 NEO	Is there a delivery register?	OBSERVED REGISTER 1 REPORTED, NOT SEEN 2— NO REGISTER 3—	► 416 ► 416
415.1 NEO	HOW RECENT IS THE DATE OF THE MOST RECENT ENTRY?	WITHIN THE PAST 30 DAYS 1 MORE THAN30 DAYS OLD 2	

415.2 NEO	RECORD THE NUMBER OF DELIVERIES PERFORMED DURING THE PAST THREE COMPLETE CALENDAR MONTHS	NUMBER
416	Can you please show me a copy of the latest monthly	LATEST REPORT SEEN AND LESS THAN
	to the District Health Office?	3 MONTHS OLD
		3 MONTHS,NOT OBSERVED
		3 MONTHS, NOT OBSERVED
		NO 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 C LAST 3 MO. OTHER: SPECIFY D NONE OF THE ABOVE E
417A opt	ASK TO SEE THE IMMUNIZATION REGISTER. RECORD THE NUMBER OF CHILDREN IMMUNIZEDIN THE LAST THREE MONTHS	
417D	IF NONE, WRITE "00"	DON'T KNOW
opt	IMMUNIZATION REGISTER. RECORD THE NUMBER OF CHILDREN SEEN FOR	NUMBER
	GROWTH MONITORING IN THE LAST 3 MONTHS IF NONE, WRITE "00"	DON'T KNOW

Facility Linkage and Quality of Service Questions

No.	Questions	Coding classification	Go to
A17	Now I would like to ask some	Yes1	If No or
	questions about linkages	No2	N/A
	between your facilities and		
	other facilities.	No record9	A21
		Not applicable	
	Have you ever received an		
	"administrative letter" from		
	other 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 Healt State/Regional Healt State/Regional Hosp District Hospital Township Hospital . Station Hospital Rural Health Center. No record	1 2 3 4 5 6 7			
A20	Can I have a look at these administrative letters and copy one example?	Торіс	Date	From where	-	
A21	Have you ever received external supportive supervision/hands on training in the past 12 months?	Yes1 No2 Don't know/Can't remember9 Not applicable9				
A22	When was the most recent external supportive supervision/hands on training you have received?	Yes, in the past month1Yes, in the past 3 months2Yes, in the past 3 months3Yes, in the past 4-6 months3Yes, in the past 7-12 months4Yes, in the past 12 months5Don't know/Can't remember9				
A23	From whom did you receive the most recent external supportive supervision/hands on training?	Department of Healt State/Regional Healt State/Regional Hosp District Hospital Township Hospital Station Hospital Rural Health Center. Others/specify Don't know/Can't ren Not applicable	h h Department ital member	1 2 3 4 		

A24	Have you ever referred a sick newborn to other facilities?	Yes1 No2	A28
		Don't know/No record9 Not applicable99	
A25	When was the most recent newborn referral to other facility?	Yes, in the past month1 Yes, in the past 3 months2 Yes, in the past 4-6 months3 Yes, in the past 7-12 months4 Yes, in the past 12 months5 Don't know/No record9	
A26	To which facility did you send the most recent referral for a sick newborn?	State/Regional Hospital	
A27	The total number of referred newborns in the last 12 months?		
A28	Have you ever received a referred sick newborn from other facilities?	Yes1 No2 Don't know/No record9	A31
A29	When was the most recent referral you received for a sick newborn?	Yes, in the past month	
A30	From which facility did you receive the most recent referral for a sick newborn?	District Hospital	
A31	Now I would like to ask about MNCH services that you are providing.	Yes, regularly	

	Do you have a regular meeting	Don't know9
	for review of MNCH services	Not applicable
	with your staff?	
A32	For child and newborn deaths,	YES1
	do you usually record a verbal	NO2
	autopsy?	
		Don't know9
		Not applicable
A33	What is the most common	Severity of illness1
	reason for curable child and	Delayed arrival at the clinic2
	newborn sicknesses leading to	Lack of supplies & medicines3
	death in your clinic?	Lack of trained personnel4
		Others (specify)5
		Don't know9
		Not applicable
A34	What are major challenges you	Lack of hands on training 1
7.54	face in newborn care service	Insufficient # of staff
	provision?	Lack of equipment 3
	(Circle all that apply)	Lack of medicine A
	(Circle an that apply)	Lack of supervision 5
		Others (specify) 6
		others (speeny)
		Den't know
		Don't know
		Not applicable
A35	What do you suggest for the	Provide more on the job training1
	improvement of new born care	Provide more human resources2
		Provide better equipment/supplies3
	[Do not read aloud the	Provide more supervision and guidance4
	response options.]	Others (specify)5
		Don't know9
		Not applicable
Δ36	What is the level of your	Very satisfied 1
730	satisfaction towards the	Somewhat satisfied 2
	current provision of MNCH	Somewhat dissatisfied 3
	services?	Dissatisfied
		Don't know9
Please	e note any unusual or interesting o	bservations 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 he	alth p	rovider	using	case scenario.	
Record whether the provider carried out the following steps and/or examination	tions: (SOME	OF TH	E FOLLOWING	
STEPS MAY BE PERFORMED SIMULTANEOUSLY OR BY MORE THAN ONE PROVI	DER)				
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	(SECT	ON 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	1	0	8		
birth, 2cm and 5cm from baby's abdomen (not immediately after birth)					
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?		0	8		
412:Checks baby's temperature 15 minutes after birth	1	0	8		
FIRST HOUR AFTER BIRTH		0			
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 breastreeding initiated within the first hour after birth	1	0	8		
416:Provides tetracycline eye ointment 1% prophylaxis	1	0	0		
doctor or trained purse)	'	0	°		
418: Is the mother HIV positive? (observer: listen and record answer:	1	0	8		
circle Don't Know if status is unknown or is not discussed)	'	Ŭ			
419: Administers ARVs to newborn (not possible in all	1	0	8		
420: Measures haby's weight and record	1	0	8		
420. Measures baby s weight and record	1	0	8		
CI FANLID AFTER BIRTH		0	0		
Record whether the provider carried out the following steps and/or examination	tions: (SOME	OF TH		
STEPS MAY BE PERFORMED SIMULTANEOUSLY OR BY MORE THAN ONE PROVIDER AT Hospital)					
422:Disposes of all sharps in a puncture-proof container immediately	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		
		-	- 1		

428: Was there a newborn resuscitation?	1	0	8	No →Q 436	
429: Disposes of disposable suction catheters and mucus extractors in	1	0	8		
a leak-proof container or plastic bag					
430: Takes the bag and mask apart and inspects for cracks and tears	1	0	8		
(hospital setting)					
431: Decontaminates the bag and mask/ tube and mask in soap and	1	0	8		
water and air dry					
432:Sterilizes or uses high-level disinfection for bag, valve and mask 1 0		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		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 examir	nations:	(SOM	E OF TH	HE FOLLOWING		
STEPS MAY BE PERFORMED SIMULTANEOUSLY OR BY MORE THAN ONE PRO	VIDER)					
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	1	0	8			
done						
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	1	0	8			
covers						
the chin, mouth and nose (but not eyes)						
512: Checks the seal by ventilating two times and observing the rise of	1	0	8			
the chest						
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	1	0	8			
neck						
is in a slightly extended position (not blocking the airway)						
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	1	0	8			
the						
chest						
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	1	0	8			
that the neck is in slightly extended position	1		0			
519: Repeats suction of mouth and nose to clear secretions, if		0	8			
necessary						

520: Checks the seal by ventilating two times and observing the chest	g the rise of	1	0	8	
521: OBSERVER: is newborn's chest rising in response to ventilation?			0		
IF NEWBORN'S CHEST IS NOT RISING AFTER TWO ATTEM	IPTS TO REA	DJUST,	OBSE	RVER	SHOULD CALL
FOR SUPERVISOR TO INTERVENE. IF A HEALTH WORK AVAILABLE, OBSERVER MAY CHOOSE TO INTERVENE.	CER COMPET	ENT II	N RES	USCITA	ATION IS NOT
522: Ventilates at a rate of 40 to 60 breaths/minute		1	0	8	
523: Conducts assessment of newborn breathing after 1	minute of	1	0		No → Q 525
524: Condition of newborn at assessment		Code			
Respiration rate 40-60 breaths/minute and no chest in draw	vina	1			→0 529
Respiration rate <40 breaths/minute with severe in drawing	n	2			, Q 525
No spontaneous breathing		3			
Question		Yes	No	DK	Go to
525: Continues Ventilation		1	0		No → O 529
526: Conducts assessment of newborn breathing after prolo	onged	1	0		No \rightarrow 0 528
ventilation (20 minutes)	ligea		Ŭ		110 7 Q 520
527: Condition of newborn at assessment		Code			
Respiration rate 30-50 breaths/minute and no chest in draw	vina	1			→ 529
Respiration rate <30 breaths/minute with severe in drawing	1 I	2			-Q 525
No spontaneous breathing	, 	3			
		Yes	No	DK	Goto
528: Continues Ventilation		1	0		No →0 529
529: Becord time that resuscitation actions ended (or time	of death if	•	•		110 PQ 525
baby died)					
530: Was the resuscitation successful? (observer: circle No if newborn died)			0		
531: Arranges transfer to special care either in facility or to outside facility			0	8	
532: Explains to the mother (and her support person if availa happened	able) what	1	0	8	
533: Listens to mother and responds attentively to her ques concerns	stions and	1	0	8	
534: Observer: Did you call for help or intervene d	during the	1	0		
resuscitation					
to save the life of newborn?					
Please comment on Quality of Care provided after obser	rving the wh	ole sec	tion		
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 snaving	В				
Apply fundal pressure to hasten delivery of baby or placenta					
Lavage of uterus after delivery					
Siap newborn					
Hold newborn upside down					
Milking the newborn's chest	G				
Stretching of the perineum	н				
Shout, insuit or threaten the woman during labor or after	1				
Siap, nit or pinch the woman during labor or after	J				
None of the above	Ŷ				
604 : Did you see any of the following practices done without an					
Appropriate indication (CIRCLE ALL THAT APPLY)	٨				
Manual exploration of the uterus after delivery	A D				
Association of newborn mouth and ness as seen as head is here	C				
Aspiration of newborn mouth and nose as soon as nead is born Postrict food and fluids in labor					
None of the above	v				
Note of the above	•				

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	1	0		
placing the baby on her chest to get skin to skin contact				
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 forhours.) times				
705: On average, how long is each breastfeeding session?				
minutes				
706: Was the mother offered help for breastfeeding if needed by health	1	0	8	
worker?				
707: Does the health worker (or midwife) know positioning and	1	0	8	
attachment for breastfeeding?				
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	1	0	8	
possible?				
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	1	0	8	
and feet (every 3- 4 hrs for a normal baby) to detect cold extremities				
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'7days? 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?



Health Facility Assessment: Quality of Maternal Newborn and Child Health Care