



Afghanistan National Maternal and Newborn Health Quality of Care Assessment 2016

Key Findings Report

Jhpiego is an international, nonprofit health organization affiliated with Johns Hopkins University. For more than 40 years, Jhpiego has empowered frontline health workers by designing and implementing effective, low-cost, hands-on solutions to strengthen the delivery of health care services for women and their families. By putting evidence-based health innovations into everyday practice, Jhpiego works to break down barriers to high-quality health care for the world's most vulnerable populations.

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Abbreviations

AfDHS	Afghanistan Demographic and Health Survey
AMDD	Averting Maternal Death and Disability
AMTSL	active management of the third stage of labor
ANC	antenatal care
APHI	Afghan Public Health Institute
BEmONC	basic emergency obstetric and newborn care
BHC	Basic Health Center
BPHS	Basic Package of Health Services
CEmONC	comprehensive emergency obstetric and newborn care
CHC	Comprehensive Health Center
CSO	Central Statistics Organization
D&C	dilation and curettage
DHS	Demographic and Health Survey
EmONC	Emergency Obstetric and Newborn Care
EMRO	WHO Regional Office for the Eastern Mediterranean
EPHS	Essential Package of Hospital Services
FHH	Family Health House
HMIS	Health Management Information System
IHMR	Indian Institute of Health Management Research
LAM	lactational amenorrhea method
MCHIP	Maternal and Child Health Integrated Program
MgSO ₄	magnesium sulfate
MNH	maternal and newborn health
MoPH	Ministry of Public Health
MVA	manual vacuum aspiration
PE/E	pre-eclampsia and eclampsia
PNC	postnatal care
PPFP	postpartum family planning
PPH	postpartum hemorrhage
PPIUD	postpartum intrauterine device
SBA	skilled birth attendant
SHC	Sub-Health Center
SHDP	Social and Health Development Program
SPA	Service Provision Assessment
TT	tetanus toxoid
USAID	United States Agency for International Development
WHO	World Health Organization

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Executive Summary

The 2016 National Maternal and Newborn Health Quality of Care Assessment is the first large-scale study in Afghanistan to examine the quality of both routine and emergency maternal and newborn health services in terms of compliance with global clinical practice standards as well as the manner and environment in which care is provided. It was designed to generate information to guide efforts for reducing preventable maternal and newborn mortality and morbidity in Afghanistan.

The assessment is a cross-sectional national facility survey, using a mix of rigorous quantitative and qualitative methods to assess health facility readiness for routine and emergency maternal and newborn service provision, as well as the quality of antenatal care, labor and delivery care, early postnatal care (inpatient care before discharge from a facility after childbirth), and management of select obstetric and newborn complications. Data collection was conducted by a team of 32 skilled birth attendants (SBAs) between May 14, 2016, and January 5, 2017. Data collection teams visited 246 health facilities including five Specialized Hospitals, five Regional Hospitals, 27 Provincial Hospitals, 45 District Hospitals, 33 Comprehensive Health Centers, 60 Basic Health Centers, 42 Sub-Health Centers, 10 Family Health Houses, and 20 private hospitals or clinics. Data collection methods included health facility inventories and record reviews, interviews with SBAs, and observations of antenatal, intrapartum, and early postnatal care.

The Key Findings section of this report provides a summary of quantitative indicators of maternal and newborn health service readiness and quality of care at public facilities in Afghanistan. Detailed results are presented for public and private facilities in Appendix 2. Overall, the results show that while most facilities have the drugs and supplies needed for routine and emergency maternal and newborn care, and family planning, many women are receiving poor quality and disrespectful care. There are many concerning gaps in the provision of antenatal, intrapartum, and postnatal care for women and newborns. These gaps include a number of relatively simple practices that can substantially reduce the risk of mortality such as administration of a uterotonic immediately after delivery, skin-to-skin contact for newborns immediately after birth, support for women to breastfeed in the first hour after birth, and regular handwashing by health care providers. In addition to gaps in evidence-based practices, a number of unindicated and potentially harmful practices were documented during observations of labor and delivery. Finally, effective communication with women and their families was also a weak area; too few women received explanations of what their health care provider was doing during antenatal, intrapartum, and postpartum examinations.

Interviews with SBAs revealed substantial knowledge gaps related to prevention, detection, and management of obstetric and newborn complications. The marginal gap in knowledge and implementation of key evidence-based practices suggests that when SBAs know what needs to be done to address maternal and newborn complications, they are providing this care. This finding points to the need for targeted efforts to strengthen health worker capacity, with a focus on evidence-based practices for prevention, detection, and management of complications, as well as strengthened documentation, tracking, and accountability for a core set of indicators focused on client-centered care and high-impact interventions for maternal and newborn survival. Assumptions that all women receiving antenatal care or giving birth at a facility receive the same information and evidence-based interventions should be challenged, and facility staff should be supported to ensure a high standard of care for all clients that promotes respect for women's values, rights, and role in their own care.

Introduction

Addressing maternal and newborn mortality is among the highest priorities of the Ministry of Public Health (MoPH) of the Islamic Republic of Afghanistan.¹ In May 2015, at a *Call to Action* convened by the MoPH, UNICEF, USAID, Aga Khan University, and the Government of the Islamic Republic of Afghanistan signed the *Kabul Declaration for Maternal and Child Health*, recommitting their resources and support to reducing preventable maternal and child deaths by improving access to quality health services through the framework of the Basic Package of Health Services (BPHS) and Essential Package of Health Services (EPHS). MoPH leadership called on partners to work toward provision of universal health coverage to ensure equitable delivery of lifesaving maternal and child health interventions and to produce tangible results based on measurable indicators that incorporate attention to quality for all health programs.²

Although the rate of skilled care during childbirth in Afghanistan has increased from 34% in 2010 to 51% in 2015, almost exclusively as institutional deliveries, global evidence shows that giving birth in a facility with a skilled attendant is not sufficient to reduce maternal and newborn mortality and morbidity.^{3,4} For example, giving birth in a facility does not guarantee that appropriate interventions are correctly implemented at appropriate times. Gaps in the process of care at facilities can result in adverse obstetric and neonatal outcomes, and care of poor quality may lead to low demand for facility-based care in future births.⁵

Quality of care is a key component of the right to health, equity, and dignity for women and children. Recent strategies for addressing quality have taken a system-level view of the production of health services, acknowledging that care occurs as part of an interaction between a service provider and the client and community. Provider performance is affected and motivated by a range of factors in the provider's immediate environment, and the health system is responsible for providing inputs and processes that service providers need to deliver quality services, including infrastructure, supplies, supervision, and management.⁶ In this vein, assessing the quality of maternal and newborn health (MNH) services requires an understanding of the national programs and policies, facility readiness, health worker competencies, health worker-patient interactions, and the environment in which services are provided.

While there have been many assessments of facility readiness and health service capacity in Afghanistan—including a 2010 Emergency Obstetric and Newborn Care (EmONC) Needs Assessment at first-line referral facilities⁷ and annual third-party assessments of BPHS and EPHS facilities⁸—no large-scale facility assessments have assessed the quality of routine MNH service provision in terms of both compliance with global clinical practice standards and the manner and environment in which care is provided. This assessment was designed as a first step in addressing that gap, and providing data to guide efforts to ensure that every pregnant woman and newborn receives high-quality care throughout pregnancy, childbirth, and the postnatal period.

The assessment focuses primarily on clinical procedures for prevention, identification, and management of the most common causes of maternal and newborn mortality during childbirth. It examines readiness to provide care at a nationally representative sample of primary health care facilities, and provision of evidence-based practices for routine care and complications at hospitals where the majority of facility births occur.⁹ Provision of client-centered care, documentation of health services, and the environment in which care is provided are also examined, as these are critical factors in improving the quality, equity, and dignity of care for mothers and newborns in Afghanistan.

Objectives

The primary objective of the 2016 National Maternal and Newborn Health Quality of Care Assessment is to generate information to inform the Ministry of Public Health and development partner efforts to improve quality of health services to reduce preventable maternal and newborn mortality and morbidity in Afghanistan. Specific objectives are to:

- Assess readiness for routine and emergency MNH service provision at a nationally representative sample of primary health care facilities and hospitals.
- Assess quality of routine MNH services and management of selected obstetric and newborn complications at medium- and high-volume facilities.

Methodology

Study Design

This assessment is a cross-sectional national facility survey, using a mix of rigorous quantitative and qualitative methods to assess health facility readiness for routine and emergency maternal and newborn service provision, as well as the quality of antenatal care (ANC), labor and delivery care, early postnatal care (PNC) (inpatient care before discharge from a facility after childbirth), and management of select obstetric and newborn complications.

Data Collection Tools

A total of eight tools were used to gather data and conduct observations. These included:

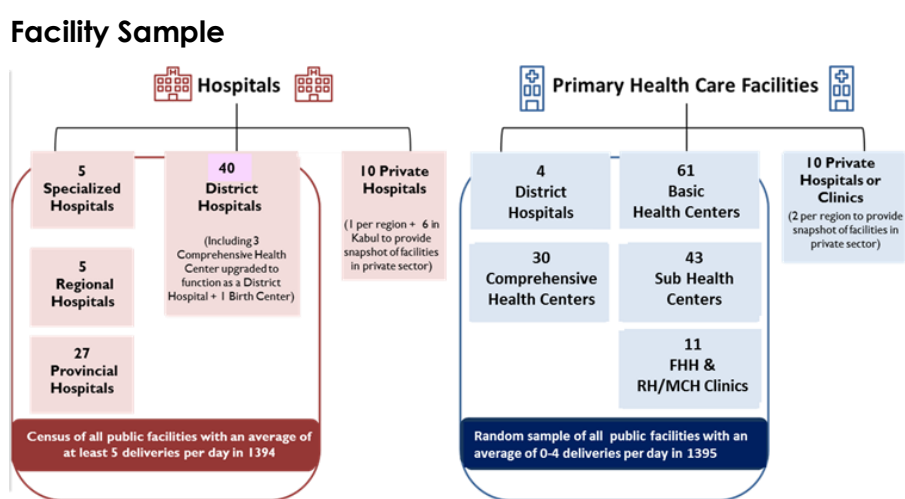
- A **facility inventory and record review** to verify availability and storage conditions of medications, supplies, and equipment, as well as available human resources, infrastructure, and systems for MNH service delivery. Facility records were also reviewed to document services provided, outcomes, and circumstances of maternal deaths in the year prior to the assessment (2015/1394).
- An **interview and knowledge test** to collect information on skilled birth attendant (SBA) knowledge, attitudes, practices, and constraints faced in service provision.
- **Structured clinical observation checklists** for ANC, intrapartum (labor and delivery) care, early inpatient postnatal care, as well as postpartum hemorrhage (PPH), pre-eclampsia/eclampsia, and birth asphyxia case management. The content of checklists is based on the World Health Organization (WHO) guidelines, and was adapted from tools used in conducting quality of care assessments in other countries, as well as the Demographic and Health Survey (DHS), Service Provision Assessment (SPA), and Emergency Obstetric and Newborn Care Assessments, supported by the Averting Maternal Death and Disability (AMDD) program.^{*10,11}

All tools were developed in English and translated to Dari and Pashto.

Sample

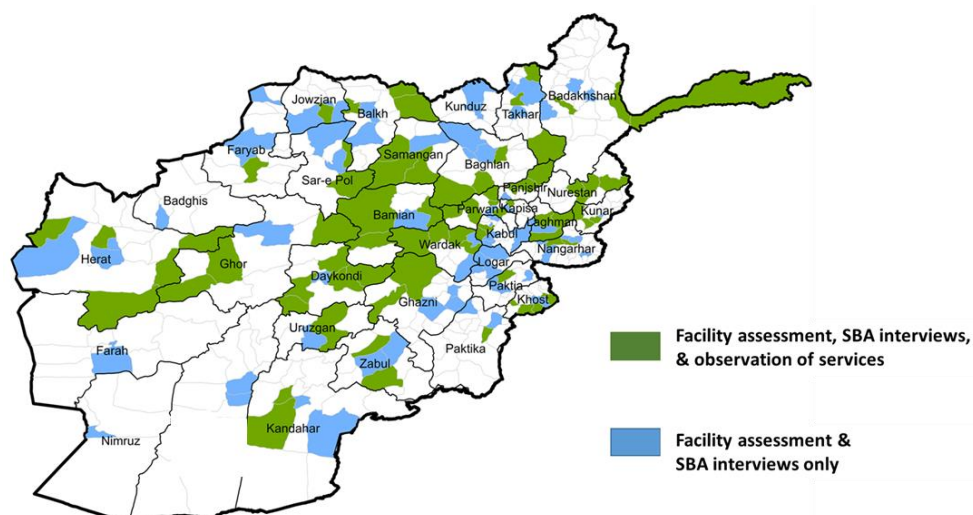
This study provides a nationally representative assessment of quality of care at public sector facilities. It includes a census of all accessible facilities with an average of five or more deliveries per day and a nationally representative sample

of facilities with an average of zero to four deliveries per day. Private sector facilities were purposively sampled to provide a snapshot of facilities in all regions of the country, and are not statistically representative of all private sector facilities.



* A series of maternal and newborn health facility assessments was conducted by the United States Agency for International Development (USAID)-funded Maternal and Child Health Integrated Program (MCHIP) from 2010 to 2012 in seven African countries, and subsequently in Pakistan through an MCHIP associate award, and in Kyrgyzstan in partnership with the World Bank.

Data Collection Locations



The sample size for primary health care facilities was calculated using probability proportional to size methods of cluster sampling to estimate results by facility type with $\pm 10\%$ precision, 95% confidence, design effect of 1.5 and 5% oversampling to account for inaccessibility. For the purpose of this assessment, facility types were defined as follows: 1) specialized, regional, and provincial hospitals; 2) district hospitals with an average of five or more deliveries per day reported in the national Health Management Information System (HMIS) in the year 1394 (2015); 3) district hospitals and comprehensive health centers with an average of less than five deliveries per day in 1394; and 4) basic health centers, sub-health centers, family health houses, and other primary health care facilities.

Data Collection Completed

- 246 facility assessments
- 806 interviews with SBAs
- 467 ANC observations
- 714 labor and delivery observations
- 206 cases of obstetric and/or newborn complications observed
- 436 immediate PNC observations

Data Collection Team and Procedures

The first phase of data collection, at high-volume hospitals, was directly managed by Jhpiego. Data collection teams were made up of 32 female SBAs (midwives and doctors) who successfully completed an 11-day training session in Kabul in May 2016. The training included a two-day technical update on the latest evidence-based MNH practices, followed by nine days of classroom- and hospital ward-based training on data collection tools, procedures, and data quality assurance.

Over a 10-week period between May 14, 2016 and August 3, 2016, data collection teams visited 77 of the 79 public facilities with an average of at least five deliveries per day in 1394, plus 10 purposively selected private facilities (six in Kabul, plus one in each region of Afghanistan). Data collectors worked in teams of three to complete data collection within two to three days per facility. The data collection teams were unable to visit two facilities, one district hospital, and one comprehensive health center due to insecurity in the area surrounding the health facilities.

The second phase of data collection, at primary health care facilities with an average of less than five deliveries per day, was managed by the Social and Health Development Program (SHDP), with technical support and oversight from the Jhpiego study team. SHDP is an experienced local nongovernmental organization selected through a competitive application process. In October 2016, a refresher training was conducted for 14 of the 32 data collectors involved in the first phase of fieldwork. During the second phase of data collection, from November 5, 2016 to January 5, 2017, these 14 data collectors visited 149 randomly selected public facilities and 10 purposively selected private facilities (two in each region of Afghanistan). Data collectors worked in teams of two to complete data collection in one day per facility. Over the course of

fieldwork, 39% of randomly selected health facilities were determined to be inaccessible due to geographic/seasonal constraints or insecurity; selected facilities were therefore replaced by alternative facilities of the same type, following the ethical review board approved replacement sampling protocols.

All data collection in both phases was conducted using CommCare software on Android tablet computers. Logic, skip, and consistency checks were built into the program, and data collectors were trained to review records for missing or inconsistent answers before submission. Depending on connectivity, the data from each handheld device were either uploaded directly to a central database at the end of each day, or as soon as the data collector was able to access Wi-Fi or data service. In facilities where data collection on tablet computers was considered a security risk for data collectors, paper data collection forms were used, and tablets were used to enter findings in CommCare software once data collectors were able to reach a secure location.

Data quality assurance activities conducted during both phases of fieldwork included direct supervision by Jhpiego or SHDP staff, real-time (or near real-time) monitoring of data collection, and post-event visits to verify data collection team reports with facility staff and local health authorities.

Data Processing and Analysis

At the end of the data collection period, all data files were linked and merged into a central database. After data cleaning, datasets were de-identified and converted to STATA and SPSS formats for analysis. Descriptive statistics were calculated for each item in data collection tools, and key indicators calculated. All analyses were conducted separately by two team members, then cross-checked, and any discrepancies addressed through joint review and re-analysis. Data from observation of obstetric and newborn complication case management and clinical observer field notes were analyzed using clinical case study and thematic qualitative analysis methods.

Ethical Considerations

The 2016 National Maternal and Newborn Health Quality of Care Assessment protocol was approved by the ethical review boards of the Afghanistan MoPH and Johns Hopkins Bloomberg School of Public Health in Baltimore, Maryland. Written permission for data collection was obtained from facility directors, and oral informed consent was obtained from all participating health care providers and clients (or a client's next of kin if women were too ill to provide informed consent directly).

Limitations

There were several important limitations that should be noted. First, although the study sample was national in scope, it should be considered representative of accessible health facilities only. Second, data collection at low- and high-volume facilities was not conducted concurrently, so it may not be possible to generalize influences of seasonal conditions and insecurity on health services. Third, although the assessment included 714 observations of women in labor and delivery, not all stages of labor and birth were observed for each individual case (the sample of cases for each stage of labor was smaller than the total number of cases observed). Finally, the data collected on the performance of signal functions at each facility in the three months preceding the assessment is based on facility management or health care worker verbal reports. Although this is a standard practice outlined in the AMDD assessment guide and used in the 2010 EmONC Assessment, reliability is limited, given that information is subject to recall and response error.^{7,11} This information was not verified using the facility records because performance of some signal functions is not recorded in standard facility registers and a review of all client charts for a three-month period is beyond the scope of this assessment.

Key Findings

The Key Findings section of this report provides a summary of quantitative indicators of MNH service readiness and quality of care. Results presented in this section are representative of all public facility types. Results from assessment of facility readiness and quality at private sector facilities are presented in Appendix 2.

Key findings are organized by the following themes:

Routine Antenatal and Delivery Care

- Antenatal care (ANC)
- Labor and delivery care
- Essential newborn care
- Immediate postnatal care

Emergency Obstetric and Newborn Care (EmONC)

- EmoNC signal functions
- Prevention and management of postpartum hemorrhage (PPH)
- Detection and management of severe pre-eclampsia and eclampsia (PE/E)
- Detection and management of newborn complications
- Postabortion care
- Referral systems

Family Planning (FP)

- Postpartum family planning (PPFP)

Health Worker and Client Experiences

- Health worker experiences
- Client experiences
- Disrespect and abuse

Documentation of Health Services and Outcomes

- Documentation
- Record keeping
- Maternal and perinatal death surveillance and response

Note: Key findings are color-coded to reflect the data sources used for key indicators. Orange charts and figures present data captured in facility inventory and record reviews. Blue charts and figures present data collected through interviews with SBAs, and green charts and figures present data collected through direct observation of clinical services.

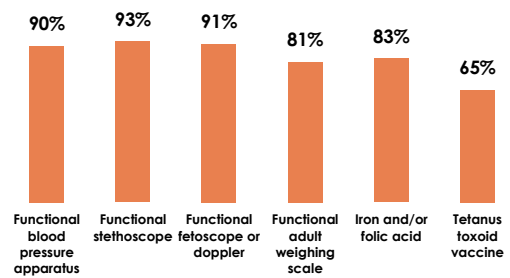
Routine Antenatal and Delivery Care

Antenatal Care (ANC)

ANC provides a platform for key health care functions such as health promotion, preventive care, birth planning, and early detection of obstetric and fetal complications. Assessment findings show that more than 80% of public facilities have essential supplies for ANC, with the exception of tetanus toxoid (TT) vaccine. Only 65% of public facilities had TT vaccine available at the time of the assessment and only one-third of ANC clients observed received vaccinations. Although 83% of public facilities had iron-folate available, only 71% of ANC clients received iron-folate for prevention of anemia.

When asked to describe the components of focused ANC, only 66% of SBAs interviewed listed counseling on danger signs of obstetric complications. In the 64% of ANC consultations where the client did receive counseling on danger signs, vaginal bleeding and severe abdominal pain were the most common mentioned. SBA knowledge and practices related to screening for pre-eclampsia, a key component of ANC, are described on page 22.

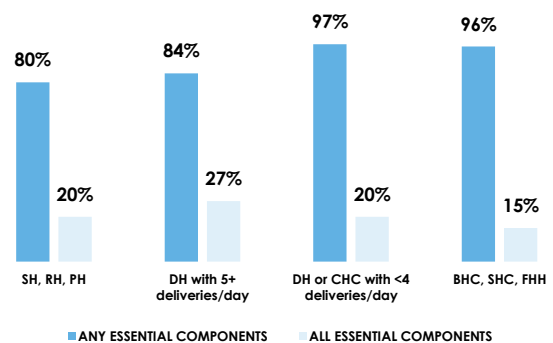
FACILITIES WITH ANC SUPPLIES AVAILABLE



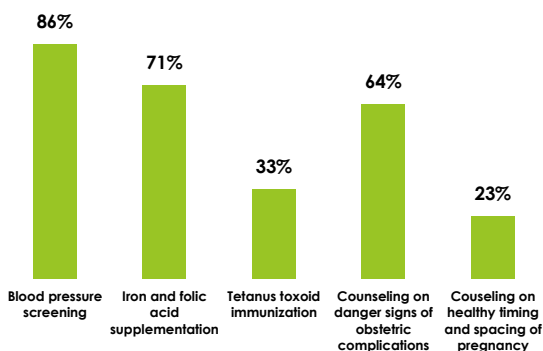
Key components of ANC include:

- *Preventive care
- *Health promotion
- *Birth planning
- *Early detection of complications
- *Counseling on danger signs
- *Breastfeeding promotion
- *Minimum of 4 visits

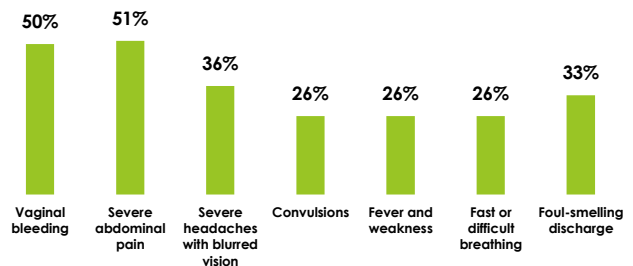
SBAS WHO CAN NAME COMPONENTS OF ANC



ANC CLIENTS RECEIVING ESSENTIAL SERVICES



ANC CLIENTS RECEIVING COUNSELING OR DANGER SIGNS OF OBSTETRIC COMPLICATIONS



	Facility Inventory and Record Review		Skilled Birth Attendant Interview		Direct Observation of Clinical Services
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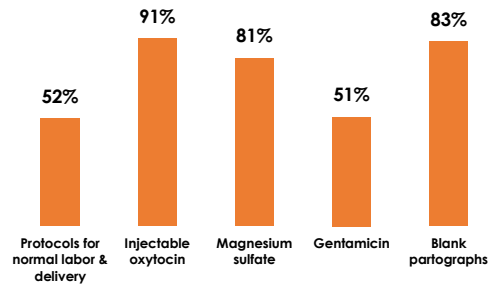
Labor and Delivery Care

The day of birth is the most dangerous for the mother and the baby. Only 30% of women observed during the first stage of labor were asked about danger signs of obstetric complications, which suggests that SBA are missing an important opportunity to identify women in need of immediate care and possible referral.

Routine observations of maternal and fetal wellbeing and labor progress are also critical for identifying women in need of further care. The vast majority of SBAs (86%) could name at least one reason to monitor labor, but only 64% of women observed during the first stage of labor had their blood pressure checked and 38% had fetal heart rate assessed. Absence of fetal heart recording on admission and during labor has implications for accurate reporting of perinatal outcomes. Just over half (54%) of women observed during labor were monitored with a partograph. Variation in care during the first, second, and third stages of labor across facility types was not statistically significant.

Prevention of PPH with active management of the third stage of labor (AMTSL) is considered a high-impact intervention for maternal mortality reduction. Only 57% of SBA interviewed could explain the three components of AMTSL: uterotonic administration (the most important component), controlled cord traction, and assessment of uterine tone – with massage if soft. SBA knowledge and practice related to AMTSL are described in more detail on page 21.

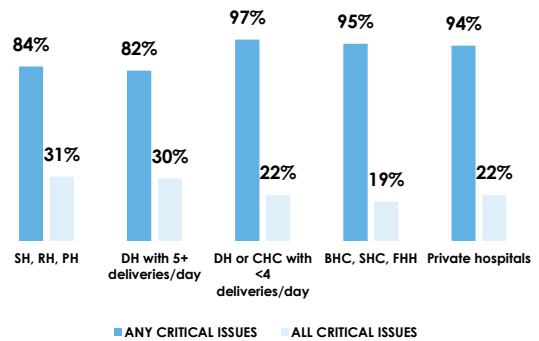
FACILITIES WITH PROTOCOLS, MEDICINES & SUPPLIES AVAILABLE IN THE DELIVERY ROOM



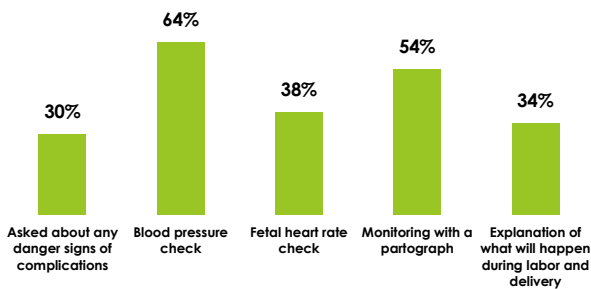
Issues to observe when monitoring labor progress include:

- *Fetal heartbeat
- *Color of amniotic fluid
- *Cervical dilation
- *Descent of the head
- *Maternal blood pressure
- *Maternal temperature
- *Maternal pulse
- *Maternal urine output

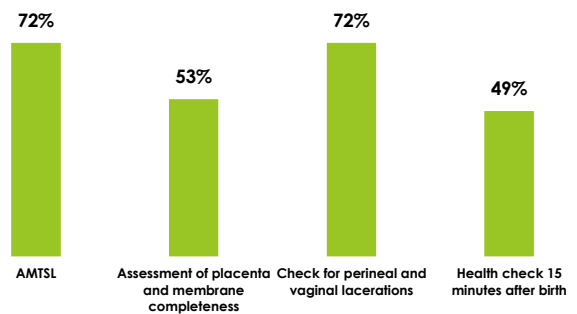
SBAS WHO KNOW WHAT TO MONITOR DURING LABOR



CLIENTS RECEIVING ESSENTIAL CARE DURING FIRST STAGE OF LABOR



CLIENTS RECEIVING ESSENTIAL CARE DURING SECOND AND THIRD STAGES OF LABOR



	Facility Inventory and Record Review		Skilled Birth Attendant Interview		Direct Observation of Clinical Services
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Essential Newborn Care

Immediate essential newborn care practices include keeping the baby warm, helping her/him breathe, keeping him/her clean, and helping him/her feed. Both SBA knowledge and implementation of these practices were lower than anticipated.

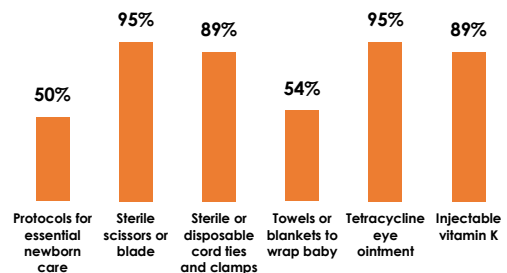
Only 62% of SBAs listed thermal protection as essential newborn care. Although 85% of newborns were immediately dried, only 52% were put in immediate skin-to-skin contact with their mothers. The relatively low adherence to the latter is a concern because hypothermia is a major factor contributing to newborn deaths especially among low-birthweight babies.

Cord clamping was delayed more than one minute in only 77% of births. This is a relatively new recommendation and it is not clear if the delay in cord clamping was a deliberate practice or not. Although nearly all facilities had a clean blade and sterile or disposable cord ties available in the delivery room, only 51% of SBAs identified clean cord care as a key component of essential newborn care.

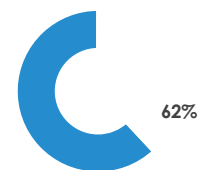
Only 57% of SBAs interviewed listed early initiation of breastfeeding as an important component of essential care for every baby, and only 41% of mothers observed during childbirth initiated breastfeeding within one hour of birth. Breastfeeding within one hour of birth is one of the highest impact interventions for newborn survival, and the global tracer indicator for essential newborn care.

It is particularly worrisome that only one-quarter of births were checked for danger signs of complications immediately after birth, given that this is a critical time for identifying babies in need of further care or immediate referral. Variation in newborn care practices across facility types was not statistically significant.

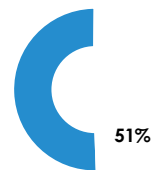
FACILITIES WITH ESSENTIAL NEWBORN CARE SUPPLIES AVAILABLE IN THE DELIVERY ROOM



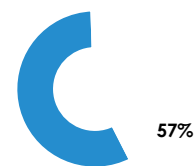
SBA WHO KNOW NEWBORNS NEED THERMAL PROTECTION



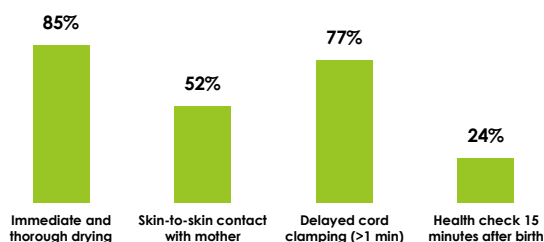
SBA WHO KNOW NEWBORNS NEED CLEAN CORD CARE



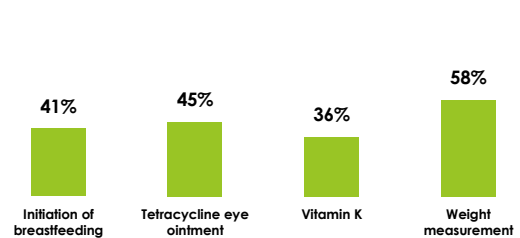
SBA WHO KNOW THAT NEWBORNS SHOULD START TO BREASTFEED WITHIN THE FIRST HOUR



BABIES RECEIVING ESSENTIAL NEWBORN CARE (IMMEDIATE)



BABIES RECEIVING ESSENTIAL NEWBORN CARE (1st HOUR)

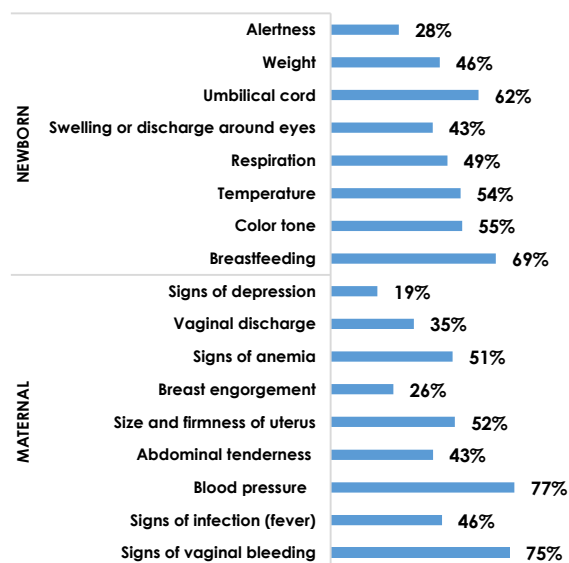


	Facility Inventory and Record Review		Skilled Birth Attendant Interview		Direct Observation of Clinical Services
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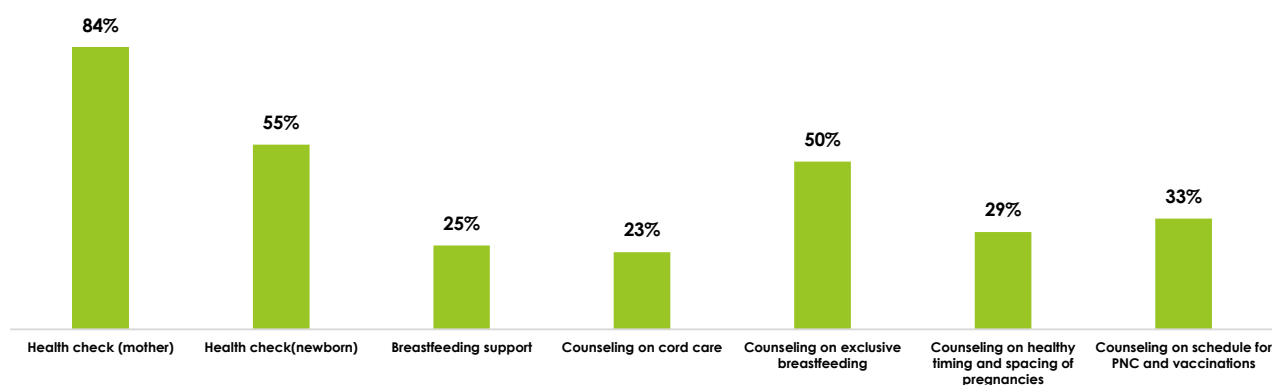
Early PNC (Inpatient after Childbirth)

In addition to a health check for signs of complications 15 minutes after birth, a full clinical examination should be done approximately one hour after birth, when the baby has had his/her first breastfeed and again before discharge from the facility. It is therefore concerning that only 24% of newborns were examined approximately 15 minutes after childbirth and only 55% of newborns were examined during postpartum ward rounds or consultations before discharge from the facility. Most inpatient postnatal consultations (84%) included a check for danger signs of maternal complications, but fewer included checks for danger signs of newborn complications. Counseling during these consultations was also limited. Only 50% of women received counseling on the importance of exclusive breastfeeding, 33% received counseling on when to return for PNC, and 23% of women received counseling on clean cord care.

SBA WHO KNOW WHAT TO CHECK DURING PNC



POSTNATAL CARE BEFORE DISCHARGE FROM FACILITY AFTER CHILDBIRTH



	Facility Inventory and Record Review		Skilled Birth Attendant Interview		Direct Observation of Clinical Services
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Prevention and Management of Obstetric and Newborn Complications

Availability of EmONC Signal Functions

“Signal functions” are key medical interventions that are used to treat direct obstetric and newborn complications. There are seven signal functions for basic emergency obstetric and newborn care (BEmONC) and an additional two signal functions for comprehensive emergency obstetric and newborn care (CEmONC). All CHCs and hospitals in Afghanistan are expected to provide BEmONC functions. Only 55% of the facilities visited reported providing all BEmONC signal functions in the three months before the study. The least common functions were removal of retained products of conception, a lifesaving intervention to prevent mortality and morbidity associated with abortion-related complications, and provision of parenteral anticonvulsants for treatment of severe pre-eclampsia and eclampsia. All hospitals are also expected to provide CEmONC. Only 57% of hospitals visited reported providing both cesarean surgeries and blood transfusions for obstetric clients, and 53% reported providing all BEmONC and CEmONC functions in the three months before the study. EmONC availability varied significantly across facility types, with low-volume district hospitals reporting provision of the fewest signal functions. It is possible that because there are fewer deliveries at these facilities, there are also fewer women with complications in need of EmONC so gaps in signal function availability may be a reflection of emergency care-seeking practices and capacity.

Availability of BEmONC

- 89%** of hospitals reported providing parenteral **uterotonics** for treatment of PPH
- 71%** of hospitals reported providing parenteral **anticonvulsants** for treatment of PE/E
- 85%** of hospitals reported providing parenteral **antibiotics** for treatment of peripartum infection
- 80%** of hospitals reported performing **manual removal of placenta**
- 66%** of hospitals reported performing removal of **retained products of conception**
- 86%** of hospitals reported performing **assisted (instrumental) delivery**
- 83%** of hospitals reported performing **neonatal resuscitation**

Availability of CEmONC

- 87%** of hospitals reported performing **cesarean sections**
- 86%** of hospitals reported providing **blood transfusions** for obstetric client

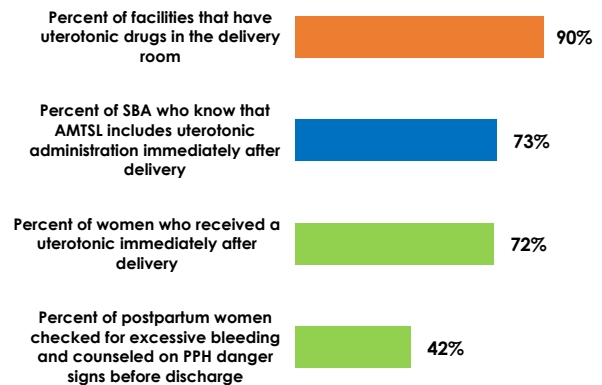


Facility Inventory and Record Review	Skilled Birth Attendant Interview	Direct Observation of Clinical Services
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Prevention and Management of PPH

PPH, defined as blood loss of 500 ml or more within 24 hours of birth, is the leading cause of maternal mortality in Afghanistan. Key causes of PPH include uterine atony, cervical and vaginal tears, retained placenta, inverted and ruptured uterus, and clotting disorders.

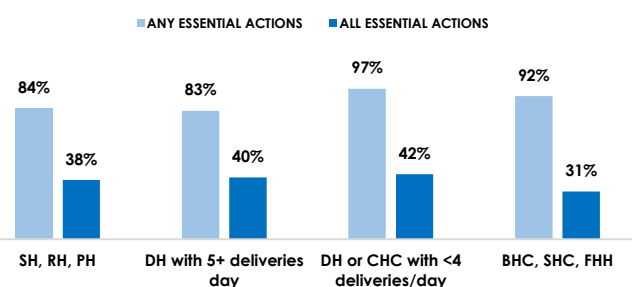
All women giving birth should receive a uterotonic during the third stage of labor for PPH prevention. Oxytocin is the preferred uterotonic drug recommended by WHO. If oxytocin is not available, ergometrine or misoprostol should be given. Nine of 10 facilities had a uterotonic drug available in the delivery room at the time of the assessment. Variation in uterotonic availability by facility type was not statistically significant. The incidence of PPH can be dramatically reduced by using a uterotonic immediately following birth. It is extremely concerning that only 73% of SBAs know that AMTSL includes uterotonic administration and only 72% of women observed during the third stage of labor received a uterotonic immediately after delivery. Administration of a uterotonic has been identified as the global indicator for tracking birth with a skilled attendant and the fact that more than one-quarter of women giving birth are not receiving this high-impact intervention for PPH prevention requires urgent attention.



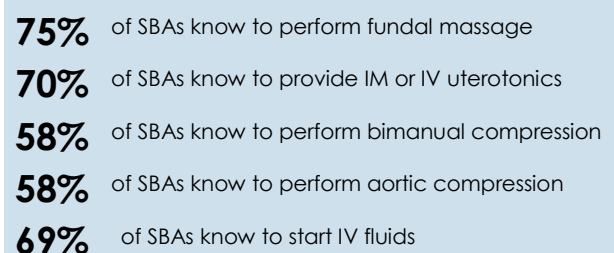
Even with an immediate postpartum uterotonic, 6% –16% of women will suffer from PPH and will require prompt treatment or temporizing measures. WHO recommends close postpartum monitoring for loss of uterine tone, elevated pulse, decreased blood pressure, and/or vaginal bleeding, with prompt treatment of PPH based on the underlying cause. Interventions for management of PPH due to uterine atony (the most common cause of PPH) include: uterine massage, administration of uterotonics, bimanual uterine compression, external aortic compression, intravenous fluid resuscitation, and uterine balloon tamponade. Although 86% of SBAs interviewed could list at least one of these key actions, only 38% were able to list the first five of these key actions (uterine balloon tamponade was only recently incorporated in national protocols and may not have been introduced at scale).

Only three out of four women (72%) were assessed for perineal and vaginal lacerations after delivery, indicating that there are missed opportunities for both prevention and early detection of trauma-related PPH. Even fewer women (42%) were checked for signs of PPH during postnatal examinations and counseled to seek care if experiencing heavy vaginal bleeding after discharge from the facility. Checking for signs of PPH and counseling on danger signs was slightly more common at district hospitals than at tertiary health facilities (48% vs 37%, $p=0.019$ and 50% vs 36%, $p=0.004$), albeit concerningly low at all levels of health facilities.

SBA WHO KNOW ACTIONS TO TAKE FOR A WOMAN WITH UTERINE ATONY



SBA Knowledge of PPH Management

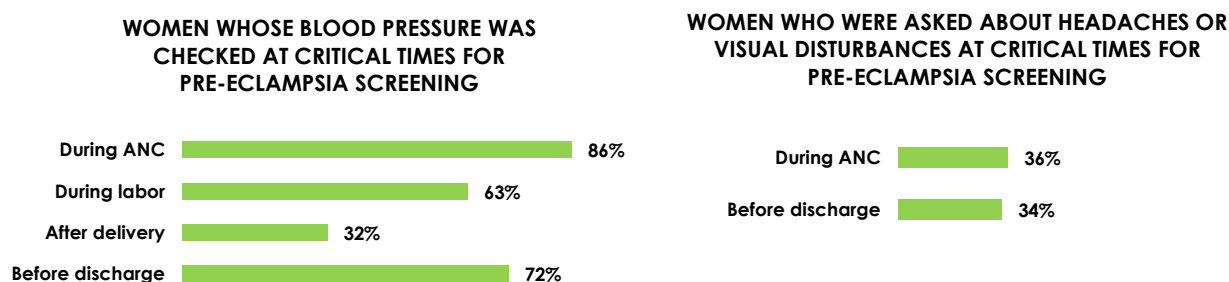


Facility Inventory and Record Review	Skilled Birth Attendant Interview	Direct Observation of Clinical Services
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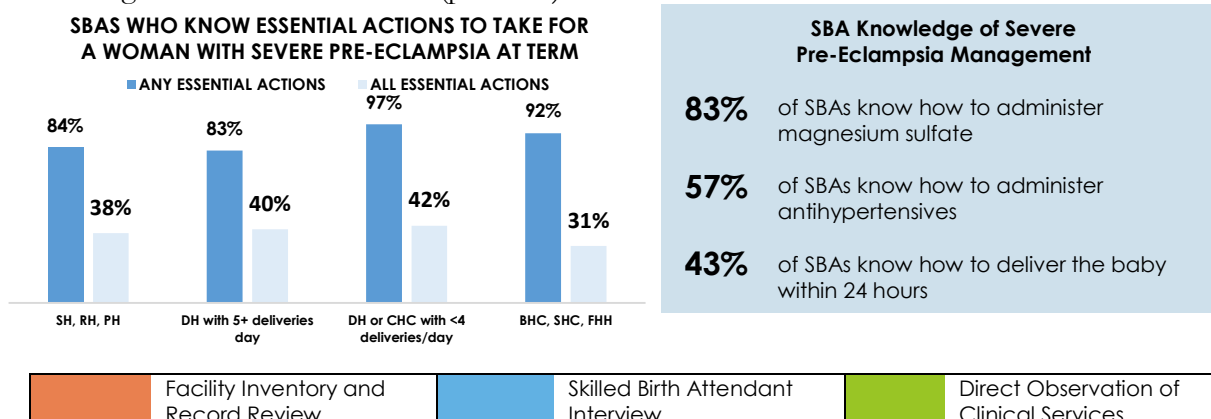
Prevention and Management of PE/E

The second most common cause of maternal mortality in Afghanistan is hypertensive disorders of pregnancy, such as PE/E. Pre-eclampsia occurs when a woman experiences a rapid elevation of blood pressure and protein in the urine after 20 weeks gestation. If untreated, it can progress to eclampsia, characterized by convulsions and other fatal complications for both the mother and fetus/baby.

PE/E can occur during pregnancy, labor, or the postpartum period. Diagnosing pre-eclampsia and managing it before it becomes severe pre-eclampsia or eclampsia is essential for improving maternal and newborn survival. Observations of antenatal, intrapartum, and postpartum care revealed a series of missed opportunities for prevention, detection, and/or early management of pre-eclampsia. During antenatal consultations observed, only 86% of women had their blood pressure checked and 36% were asked about headaches or visual disturbances, which are known symptoms of pre-eclampsia. Blood pressure monitoring was least common during antepartum care. Only 63% of women observed during the first stage of labor had their blood pressure checked during their initial assessment and only 32% observed during the second and third stages of labor had their blood pressure checked after birth. During postnatal examinations, nearly three of four women had their blood pressure checked before discharge (72%), but only 34% were screened for other signs of pre-eclampsia such as headache and blurred vision, and only 26% were counseled to seek care if experiencing any of these symptoms after discharge. Counseling on danger signs was more common at district hospitals than at tertiary facilities (35% vs 19%, $p=0.002$), albeit concerningly low at all sites.



Essential actions for management of severe pre-eclampsia include administration of an anticonvulsant drug, as well as an antihypertensive and delivery of the fetus if nonviable or at term. Magnesium sulfate (MgSO₄) is the standard, globally recommended anticonvulsant for managing severe pre-eclampsia and treating eclampsia. The vast majority of facilities visited (81%) had MgSO₄ available in the delivery room at the time of the assessment; variation in availability of MgSO₄ across public facility types was not statistically significant. Only 36% of SBAs interviewed could list all three essential actions to take for a woman experiencing severe pre-eclampsia at term; although 83% of SBAs know to administer MgSO₄ to prevent eclampsia, only 43% knew to deliver the baby within 24 hours. SBA knowledge of PE/E management actions varied significantly across public facility types, from 19% of SBAs at low-volume district hospitals and comprehensive health centers to 43% of SBAs at specialized, regional, and provincial hospitals knowing all three actions to take ($p<0.001$).

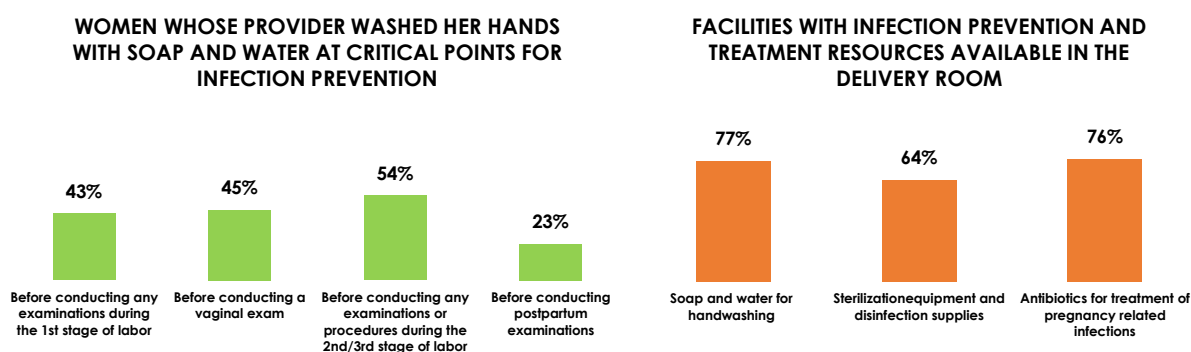


Prevention and Management of Peripartum Infection and Sepsis

Bacterial infections around the time of childbirth account for approximately 10% of maternal deaths globally, and contribute to severe morbidity and long-term disability.

Standard infection prevention and control measures, such as handwashing, are a cornerstone of peripartum infection prevention. Although 81% of facilities had soap and water for handwashing available in the delivery room, observers documented extremely poor hand hygiene practices. In at least 50% of births observed, health care providers did not wash their hands at critical points for infection prevention. There were no statistically significant differences in handwashing practices during labor and delivery across facility types. Handwashing before conducting a postpartum examination was more common at district hospitals than at tertiary facilities (29% vs 18%, $p=0.031$), but this low level was still a concern at all types of facilities.

Clinical monitoring, early detection, and prompt treatment of peripartum infection with an appropriate antibiotic regimen are essential for reducing death and morbidity. Overall, 78% of facilities had antibiotics for treatment of pregnancy-related infections available in the delivery room, and 80% of SBAs interviewed could correctly identify antibiotics to give a woman diagnosed with postpartum infection. Only 27% of women were counseled on signs and symptoms of peripartum infection before discharge after childbirth. Postpartum counseling on signs and symptoms of infections was more common at district hospitals than at tertiary facilities (36% vs 18%, $p<0.001$).



	Facility Inventory and Record Review		Skilled Birth Attendant Interview		Direct Observation of Clinical Services
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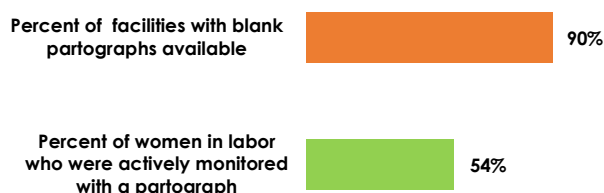
Defection and Management of Prolonged and Obstructed Labor

A partograph should be used to monitor active labor progress and help SBAs make better decisions for the diagnosis and management of prolonged and obstructed labor and other complications, including fetal distress. Only 54% of women observed during labor were actively monitored with a partograph. Partograph use was slightly more common at district hospitals than at tertiary hospitals (61% vs 48%, $p < 0.005$). Delay in the second stage of labor should be managed with instrumental delivery (vacuum or forceps) or by cesarean section if there is evidence of fetal compromise or signs of obstructed labor. The ability of SBAs to describe signs of dystocia (obstructed labor) was limited; 39% of SBAs could not correctly name any signs of dystocia.

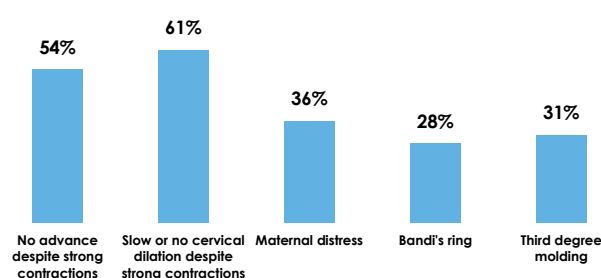
Only 3% of all births recorded at hospitals with an average of five or more deliveries per day were cesarean sections in 1394. Although WHO notes that efforts should be made to provide caesarean sections to women in need, rather than striving to achieve a specific rate, it is likely that 3% reflects an unmet need for cesarean sections in Afghanistan. Cesarean rates differed significantly by facility type, ranging from an average of 2% at high-volume district hospitals to 8% at provincial, regional, and specialized hospitals ($p < 0.001$).

Prolonged and obstructed labor account for approximately 3% of maternal deaths globally, and can contribute to other direct causes of death such as hemorrhage or sepsis, as well as fetal distress.

PARTOGRAPH AVAILABILITY AND USE



SBA WHO CAN DESCRIBE SIGNS OF OBSTRUCTED LABOR (DYSTOCIA)



	Facility Inventory and Record Review		Skilled Birth Attendant Interview		Direct Observation of Clinical Services
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Detection and Management of Newborn Complications

Globally, as many as two-thirds of all infant deaths occur during the neonatal period. The three main causes of newborn deaths are direct preterm complications, intrapartum-related complications, and severe infection. Most of the risk factors for these three main causes of death are preventable or treatable with cost-effective interventions that can be implemented in low-resource settings.

Because intrapartum complications cannot be predicted, all SBAs should be prepared to provide management of intrapartum complications, such as newborn breathing support. Supplies should be prepared and available before a delivery occurs so that safe and timely treatment can be given if the baby is born not breathing or in distress. Approximately three out of four SBAs interviewed (76%) know to start ventilation with a bag and mask if a baby is not breathing or crying at birth, but fewer could correctly describe how to prepare and position a newborn for effective resuscitation. Although all facilities where women give birth should have functional a functional bag and masks available for newborn resuscitation, only 63% of facilities visited had a functional ambu bag and two neonatal mask sizes (size 0 and size 1) available in the delivery room. Variation in availability of essential supplies for newborn resuscitation was not statistically significant.

Clean birth practices, including handwashing before, during, and after delivery, are critical for protecting the health of the mother and reducing the risk of congenital and newborn infections. Nearly four out of five facilities (78%) assessed had injectable antibiotics for treatment of severe newborn infection available in the delivery room, but SBAs demonstrated limited knowledge of sepsis signs and symptoms, suggesting weak capacity for early detection, treatment, and assessment of further support or referral needs. Although approximately three out of four SBAs could name at least one possible indication of newborn sepsis, knowledge of specific danger signs was very low. For example, less than half of SBAs interviewed (44%) recognized problems feeding as a danger sign and only 23% of SBAs listed severe chest in-drawing as a sign of possible infection.

Small babies, including those who are born preterm or small for their gestational age, are at much greater risk for death during the neonatal period and for long-term health problems and lifelong disabilities. Only SBAs who knew that thermal care and breastfeeding are components of essential newborn care identified these actions as critical for newborns weighing less than 2000g, while only 29% of SBAs interviewed knew to assess small babies for breathing difficulties, and only one out of four SBAs interviewed knew to closely monitor small babies for the first 24 hours. These gaps, combined with the fact that only three out of five babies born at public hospitals are weighed after birth, suggest that greater attention to care for small and sick babies will be essential for improving newborn survival.

SBA Knowledge of Newborn Resuscitation Procedures

- 46%** of SBAs knew to wrap or cover baby, except for face and upper part of chest
- 58%** of SBAs knew to position baby's head so slightly extended
- 76%** of SBAs knew to start ventilation with a bag and mask

SBA Knowledge of Signs and Symptoms of Newborn Sepsis

- 44%** of SBAs knew that not feeding well could be a sign of sepsis
- 23%** of SBAs knew that chest-in-drawing could be a sign of sepsis
- 57%** of SBAs knew that fever could be a sign of sepsis
- 35%** of SBAs knew that convulsions could be a sign of sepsis
- 41%** of SBAs knew that pus or redness around the umbilicus could be a sign of sepsis

SBA Knowledge of Care for Newborns Weighing Less Than 2000g

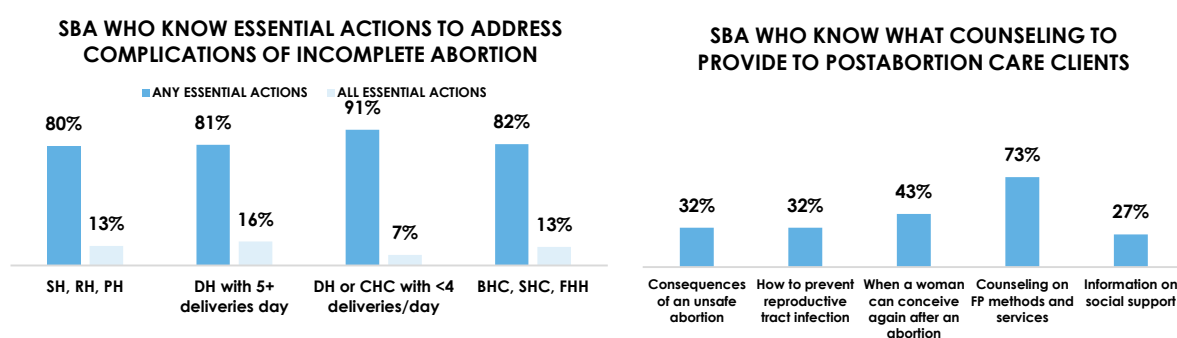
- 60%** of SBAs knew to ensure the baby is warm with continuous or intermittent skin-to-skin contact
- 50%** of SBAs knew to provide extra support for mother to initiate breastfeeding
- 19%** of SBAs knew to assess for jaundice
- 29%** of SBAs knew to assess for breathing difficulties and monitor for first 24 hours

	Facility Inventory and Record Review		Skilled Birth Attendant Interview		Direct Observation of Clinical Services
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Postabortion Care

Postabortion care, including management of complications, counseling, and provision of FP, is a critical intervention for reducing maternal morbidity and mortality and improving women's overall reproductive health.

Management of complications of incomplete abortion includes recognizing the complication, stabilizing the woman, and providing antibiotics and IV fluids, and uterine evacuation using manual vacuum aspiration (MVA) or with oral or sublingual misoprostol. Dilation and curettage (D&C) is more risky and painful for removal of retained products of conception that is no longer recommended by WHO. Nearly four-fifths (78%) of public facilities expected to provide BEmONC had MVA supplies available in the delivery room. However, a similar proportion also had D&C supplies available in the delivery room, suggesting that this outdated procedure may still be widely practiced in Afghanistan. Only 36% of SBAs asked to name essential actions to address complications of abortion mentioned MVA, suggesting that capacity to identify women in need of postabortion care and perform this signal function may be limited. Counseling is also an essential component of postabortion care, but was listed as such by less than one-quarter (24%) of SBAs interviewed. When asked what information should be given to postabortion care clients, 73% noted the need for counseling on family planning, while less than one-third listed information on social support, consequences of unsafe abortion, and infection prevention.



Referral Systems

Access to quality maternal and newborn health services requires an effective and efficient referral system. Although nearly all facilities assessed (95%) reported referring out clients with obstetric or newborn complications, availability of clear criteria for use of emergency transport varied significantly across facility types ($p < 0.001$). Only one out of four facilities reported having a functional ambulance with fuel on site.

The decision to refer a patient should be made as soon as a condition that cannot be treated in the health facility is diagnosed, once the required pre-referral treatment has been given. Although observation of pre-referral case management was beyond the scope of this assessment, the fact that only 41% of facilities visited had guidelines for pre-referral management of complications available suggests that this might be an area in need of improvement.

Approximately two-thirds of facilities reported that they sometimes or usually call ahead to inform the receiving facility that a patient is being referred out and 85% of facilities reported that they provide patients with a referral slip to carry with them to the higher-level facility. In an effective system, communication should be made with the referral site so that appropriate arrangements can be made to receive the patient. A complete handover should be given to the receiving health facility, and feedback on the condition of the patient should be sought periodically to improve care in both the referring and referral facility.

	Facility Inventory and Record Review		Skilled Birth Attendant Interview		Direct Observation of Clinical Services
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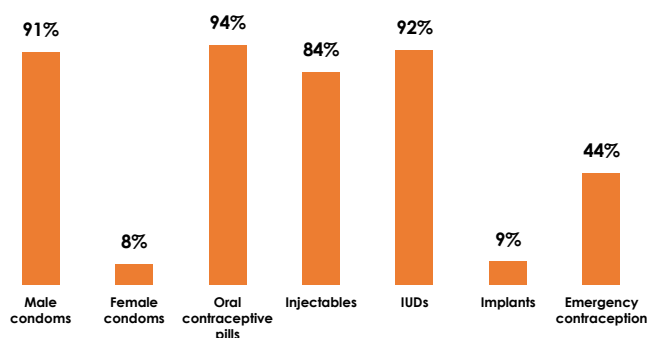
Family Planning

Postpartum Family Planning

The postpartum period is a critical time to address high unmet family planning need and to reduce the risk of closely spaced pregnancies. Integrating PFP services with antenatal care, labor and delivery, and postnatal care allows facilities to provide family planning counseling and services during the points at which women have the most frequent contact with the health care system, without substantial increases in staff or infrastructure. The vast majority of facilities visited had a mix of short- and long-term contraceptive methods available at the time of the assessment. More than 90% of facilities had male condoms, oral contraceptive pills, and intrauterine devices (IUDs) available. More than 80% of facilities also had injectables. Implants, which were only recently added to the MoPH Essential Medicines List, were only available in 9% of facilities.

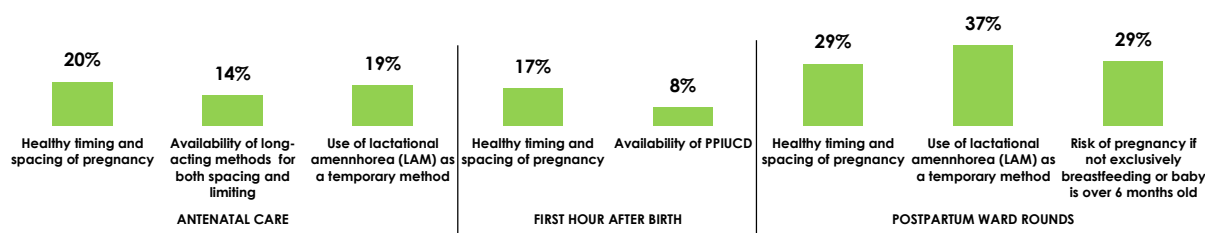
Birth spacing and family planning are two of the most effective and cost-effective public health interventions for reducing maternal and infant mortality. A gap of less than two years between successive births is associated with higher maternal and infant mortality rates, and higher rates of under-nutrition and morbidity among children.

FACILITIES WITH CONTRACEPTIVE METHODS AVAILABLE



Counseling on healthy timing and spacing of pregnancy was only provided in 20% of ANC consultations observed, 17% of clients observed during the first hour after childbirth, and 29% of postnatal consultations before women were discharged after childbirth. These are missed opportunities to improve uptake of FP, one of the highest impact interventions for reducing maternal and child mortality. Counseling on the lactational amenorrhea method (LAM) as a contraceptive strategy for the first 6 months after childbirth was more common during postnatal consultations than counseling on healthy timing and spacing of pregnancy, suggesting that providers may not be fully explaining the health benefits of PFP. Less than 15% of ANC clients and less than 10% of postpartum women were counseled on long-acting contraceptive methods, and less than 25% of women were asked about their intentions for future pregnancy during postnatal consultations before discharge after childbirth. Social norms and health care providers' personal beliefs may be a factor in the low levels of PFP counseling. More than one-third of SBAs interviewed (43%) reported believing that a woman should not choose a family planning method until she consults with her husband, and the vast majority of SBAs interviewed (86%) reported believing that a woman who has not had a boy child should not be encouraged to use family planning.

PREGNANT AND POSTPARTUM CLIENTS RECEIVING COUNSELING ON FAMILY PLANNING



	Facility Inventory and Record Review		Skilled Birth Attendant Interview		Direct Observation of Clinical Services
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Health Worker and Client Experiences

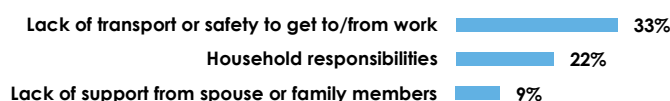
Respectful maternity care for women and newborns is a universal right, and is increasingly recognized as an essential component of quality care. Research on barriers to quality of care to date have not given due attention to the perspectives of both the health workers and clients.

Health Worker Experiences

Social, economic, and professional barriers, and their impact on the motivation of the female health worker, may hinder capacity to provide quality maternal and newborn health services. Although in-depth exploration of these issues is beyond the scope of this assessment, interviews with SBAs provided important insights into the challenges facing maternal and newborn health service providers inside and outside of the workplace.

Gender norms and increasing insecurity in Afghanistan may be factors underlying health worker performance. For example, 20% of SBAs interviewed reported feeling that childcare or household responsibilities interfered with work responsibilities, and 33% reported lack of transport or safety getting to and from work as affecting their ability to do their jobs. Nearly as many SBAs (28%) also reported having experienced verbal, physical, or sexual abuse at some point in their lives, which may have a lasting impact on physical and emotional well-being and/or ability to care for others.

FACTORS HINDERING WORK PERFORMANCE

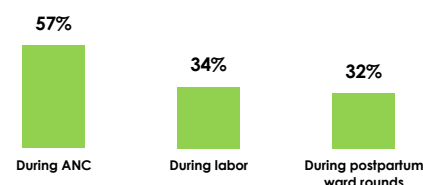





Client Experiences

Only 54% of facilities have visual and auditory privacy in ANC consultation rooms and 58% of facilities have visual and auditory privacy in the delivery room. Facility staff at all facility types report that on average, women spend 5 hours at a facility after a normal vaginal delivery. Approximately half (51%) of women observed during labor and delivery had a family member or support person present.

Effective communication with women and their families during all contacts with the health system can help them feel more involved in their care, avoid unnecessary anxiety, and make informed decisions about procedures. SBAs only explained what they were doing during examinations and asked clients if they had any questions during 57% of ANC consultations, 31% of births, and 30% of postpartum ward round consultations. Variation in communication practices during ANC and childbirth were not statistically significant across facility types. However, during postpartum ward rounds, explanation of examination procedures was more common at district hospitals than tertiary hospitals (37% vs 24%, $p=0.033$).

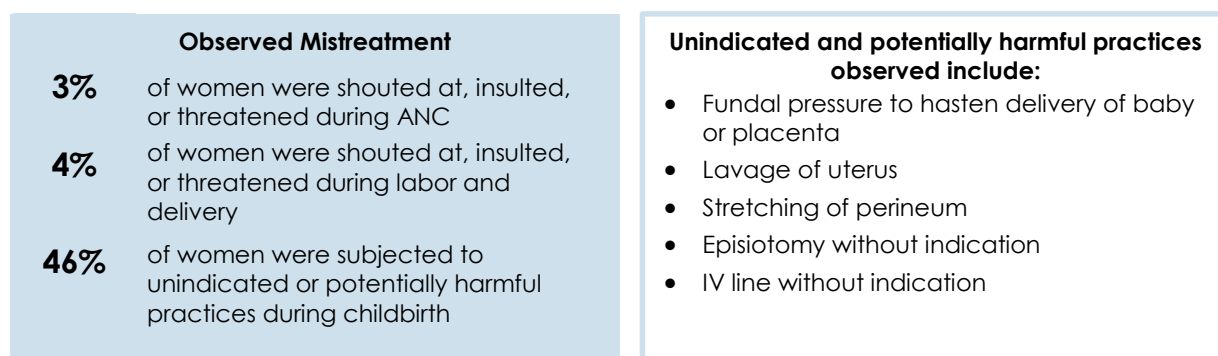
WOMEN WHOSE SBA EXPLAINED WHAT SHE IS DOING DURING EXAMINATIONS AND PROCEDURES



 Facility Inventory and Record Review	 Skilled Birth Attendant Interview	 Direct Observation of Clinical Services
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Mistreatment during Pregnancy and Childbirth

A number of unindicated and potentially harmful practices were documented during observations of labor and delivery. These included applying fundal pressure, nonindicated use of episiotomy, stretching of the perineum, and lavage of the uterus. The latter two practices were among the most common nonbeneficial and nonindicated practices documented in approximately 15% of observations, with no significant variation across facility types. Although abusive behavior was only documented in 3%–4% of observation checklists, qualitative field notes suggest that instances where women were shouted at, insulted, or threatened during consultations may be underreported due to normalization of these practices and/or courtesy bias. This is important not only because of the physical and emotional implications for affected clients, but because global evidence shows that fear of mistreatment in maternity care is a more powerful deterrent to use of skilled care than barriers such as cost or distance.



Facility Inventory and Record Review	Skilled Birth Attendant Interview	Direct Observation of Clinical Services
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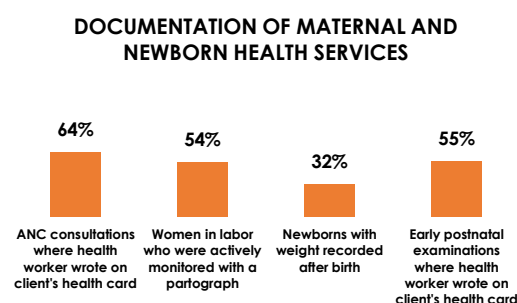
Documentation of Health Services and Outcomes

Data on health service provision and outcomes are critical for quality improvement. Accurate, timely, and reliable health information can be used to identify needs, set priorities, and review progress in improving care for every mother and newborn.

Documentation

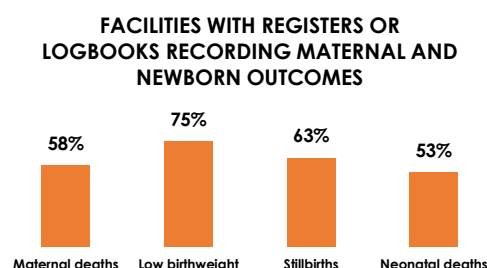
Every woman should have a complete and accurate standardized medical record documenting all care received through ANC, childbirth, and early PNC. This documentation is a key component of safe, effective caregiving and professional accountability. Reviews of facility records and observations of clinical care suggest that documentation may not be considered a critical component of maternal and newborn health service provision. Clinical observers saw health workers write on their client's health card in less than two-thirds of the antenatal and postnatal consultations observed (64% and 44%, respectively).

Only 55% of women observed during labor were actively monitored with a partograph. Partograph use was more common at district hospitals than at tertiary facilities (61% vs 48%, $p=0.005$), as was updating clients' health cards during postnatal examinations before discharge after childbirth (64% vs 48%, $p=0.011$). Newborn weight was only recorded in 32% of births observed.



Recordkeeping

Every facility should have a mechanism in place for performance data collection, analysis, and feedback. A notable percentage of facilities did not keep standard records of maternal and newborn health services and outcomes. In some cases, facilities reported that they did not have registers for key service areas, while in others, registers were not made available for review by assessment teams, or were available for review but lacked data. Consequently, information on health services and outcomes is not recorded in a standard manner, limiting the reliability of documentation for tracking service coverage and outcomes. Only 58% of facilities assessed had any data on maternal deaths in standard facility registers, and only 53% had any data recorded on newborn deaths.



Maternal and Perinatal Death Surveillance and Response

Accurate information about causes of death and morbidity is crucial to inform effective programmatic approaches to end preventable deaths. Any maternal death in a health facility should be communicated to the appropriate authorities within 24 hours and should trigger a review of the woman's medical record to determine the cause of death. Only 46% of facilities assessed reported having a maternal and perinatal death surveillance and response mechanism in place; such mechanisms were more commonly reported at hospitals than at primary health care facilities with a low delivery caseload. Although more than 70% of high-volume district hospitals and tertiary facilities reported having death surveillance and response mechanisms, the lack of data available for review during data collection raises questions about the functionality of these mechanisms. As noted above, only 58% of facilities had logbooks with reporting data on maternal deaths in 1394 and only 20% of facilities had patient charts from maternal deaths available to review during the assessment.

	Facility Inventory and Record Review		Skilled Birth Attendant Interview		Direct Observation of Clinical Services
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Implications for Policy and Practice

This National Maternal and Newborn Health Quality of Care Assessment provides an overall snapshot of MNH service quality in the second half of 2016. The findings of the assessment indicate that, despite a number of areas of strong performance, there are aspects of care in need of improvement at all levels of the health system. More than 200 key indicators detailed in the appendixes to this report provide information on resource availability, health worker knowledge, and evidence-based practices that can be used to guide efforts to improve MNH service coverage and quality. Further analysis will examine the relationship between facility readiness (in terms of supplies and equipment) and actual practice of evidence-based interventions needed to better identify where there are substantial disparities in performance and where further engagement with facility management, health service providers, and community members may be needed to develop strategies to address gaps.

Assessment findings indicate that most facilities have the essential medicines and supplies needed for routine and emergency obstetric and newborn care. However, there are some gaps in essential commodities that warrant attention. Only four out of six women received iron folate for prevention of anemia and two out of six received TT vaccine. Low immunization and supplement distribution rates may be due to limited supply availability, but there is also a possibility that women had already received these services during previous ANC visits. Similarly, all facilities should have both oxytocin and MgSO₄ available for every birth; nearly one in 10 facilities did not have oxytocin in the delivery room and nearly two in 10 did not have MgSO₄ in the delivery room at the time of the assessment. It is possible that these facilities do have oxytocin and MgSO₄ in stock, but unless these medicines are available in the delivery room, facilities are not ready to manage complications.

More importantly, assessment findings indicate that there are notable gaps in both knowledge of SBAs and implementation of relatively simple antenatal, intrapartum, and postnatal care practices that can substantially reduce risks of mortality. Gaps include: regular handwashing, screening for pre-eclampsia during antenatal care, labor, and after delivery; administering a uterotonic immediately after birth; placing babies skin to skin on their mother after birth; checking the health status of mothers and newborns 15 minutes after birth; and assisting mothers to breastfeed within the first hour. Care for women and their newborns after delivery is very poor, even neglected--at a time when both are vulnerable to serious complications.

There are also concerning gaps in SBA knowledge of evidence-based practices for management of obstetric and newborn complications. Gaps include key actions for management of PPH, PE/E, and resuscitation of babies who are not breathing at birth. Lack of awareness of complications of incomplete abortion and current protocols for postabortion care is also concerning. Continuing education of health care providers, increased attention to counseling on appropriate health care practices and danger signs of complications before and after childbirth, and improved documentation of births, deaths, and clinical practices will all be critical for increasing the coverage and quality of health care services.

When considering the extent to which quality of MNH services can explain trends in health service utilization, mortality, and morbidity, assessment results should be reviewed alongside findings from the 2015 Afghanistan Demographic and Health Survey (2015 AfDHS). The 2015 AfDHS found that slightly less than half of all births occur in a health facility (48%).¹² This key findings report provides insight into the quality of care provided to these women, and what others can expect when seeking care during pregnancy and childbirth. Assumptions that all women receiving ANC or giving birth at a facility receive the same information and evidence-based interventions should be challenged, and facility staff supported to ensure that a high standard of care is provided to all clients in a way that promotes respect for women's values, rights, and role in their own care.

Analysis of key indicators by facility type reveals little variation in facility readiness and quality of care at different levels of the health system, although the personal experiences of women providing and seeking care at hospitals and primary care facilities may vary substantially. Because the study was designed to provide a representative snapshot of the quality of services by facility type, it is possible that facility readiness and the quality of MNH service provision varies across and within provinces. Stakeholders should be encouraged to use these findings as a guide in identifying facility-specific quality improvement needs, and coordinate actions to implement effective, scalable, and sustainable improvements in quality of care at district, provincial, and national levels.

Recommendations

The following are recommendations to improve quality of MNH services in line with the Reproductive, Maternal, Newborn, Child, and Adolescent Health Strategy 2017–2021¹:

1. Prioritize a minimum set of indicators for monitoring MNH service quality at national, provincial, district, and facility levels. Indicators should be aligned with global indicators for quality of MNH services, focusing on client-centered care and high-impact interventions for maternal and newborn survival. Use this core set of indicators for monitoring and results-based performance management at all levels of the health system.
2. Identify health workforce and financing constraints that may be hindering health facility readiness and/or quality of MNH services. Pursue innovative strategies for addressing these constraints while advocating for systems-level reform, including modification of staffing structures and work schedules, task-shifting of responsibilities, and flexible funding mechanisms to support such changes when needed at specific facilities.
3. Invest in strengthening the implementation of the Harmonized Quality Improvement Package at BPHS facilities, and in promoting quality improvement initiatives focused on MNH at provincial, regional, specialized and private hospitals. Processes should prioritize considerations of client needs, values, and desires, as well as workplace culture and accountability for provision of evidence-based high-impact interventions.
4. Strengthen capacity for documentation and tracking of clinical practices and health outcomes at the facility, district, and national levels. Better health is unlikely without better quality of health care quality, and improving quality demands measurement that is accurate and usable.
5. Continue expansion and institutionalization of Maternal and Perinatal Death Surveillance and Response mechanisms, ensuring linkages with maternal and newborn health quality improvement initiatives.
6. Focus investments in health worker capacity-building on the introduction and scale-up of approaches that stress the importance of ongoing learning reinforcement to build a culture of quality. Formal in-service training is not the only solution. Individual or team-based mentorship, peer-to-peer learning, and workplace rotations are also effective strategies for learning and skills development. Capacity-building efforts should be strategic investments in health workforce development, aligned with both human resources and technical department strategies.

References

¹ MoPH of the Islamic Republic of Afghanistan. 2017. National Reproductive, Maternal, Newborn, Child, and Adolescent Health Strategy, 2017–2021. Ministry of Public Health.

² MoPH of the Islamic Republic of Afghanistan. 2015. *Call to Action 2015–2020*. Kabul, Afghanistan: MoPH. <http://calltoactionafghanistan.org/img/declaration.pdf>.

³ Afghan Public Health Institute (APHI), MoPH of the Islamic Republic of Afghanistan, Central Statistics Organization (CSO) [Afghanistan], ICF Macro, Indian Institute of Health Management Research (IIHMR) [India], and WHO Regional Office for the Eastern Mediterranean (EMRO) [Egypt]. 2011. *Afghanistan Mortality Survey 2010*. Calverton, Maryland, USA: APHI/MoPH, CSO, ICF Macro, IIHMR, and WHO/EMRO.

⁴ CSO, MoPH, and ICF. 2017. *Afghanistan Demographic and Health Survey 2015*. Kabul, Afghanistan: CSO.

⁵ WHO. 2016. *Standards for improving quality of maternal and newborn care in health facilities*. http://www.who.int/maternal_child_adolescent/documents/a91272/en/.

⁶ Tuncalp et al. 2015. Quality of care for pregnant women and newborns – the WHO vision. *BJOG: An International Journal of Obstetrics & Gynecology*. 122(5).

⁷ Kim YM, Zainullah P, Muniga J, Tappis H, Bartlett L, Zaka N. 2012. Availability and Quality of Emergency Obstetric and Neonatal Care Services in Afghanistan. *International Journal of Gynecology and Obstetrics*. 116.

⁸ <http://moph.gov.af/en/documents/category/bsc-reports>.

⁹ CSO, MoPH, and ICF. 2017. *Afghanistan Demographic and Health Survey 2015*. Kabul, Afghanistan: CSO.

¹⁰ WHO. *WHO Guidelines on Integrated Management of Pregnancy and Childbirth*. Available at: http://www.who.int/maternal_child_adolescent/documents/impac/en/.

¹¹ <https://www.mailman.columbia.edu/research/averting-maternal-death-and-disability-amdd/toolkit>.

¹² CSO, MoPH, and ICF. 2017. *Afghanistan Demographic and Health Survey 2015*. Kabul, Afghanistan: CSO.

Appendix 1. Data Collection Activities by Facility Type

Table A1.1 : Assessment Sample and Data Collection Activities Completed by Facility Type

Study Sample		All facility types	Provincial, Regional, and Specialty Hospitals	District Hospitals with 5 or more deliveries per day	District Hospitals and CHCs with 0–4 deliveries per day	BHCs, SHCs, and FHHs	Private Hospitals
1	Number of facilities included in assessment	246	37	40	37	112	20
2	Number of SBAs interviewed	806	334	235	69	104	64
3	Number of ANC consultations observed	467	204	217	—	—	46
4	Number of routine deliveries observed	714	400	276	—	—	38
5	Number of cases of obstetric and/or newborn complications observed	206	131	65	—	—	10
6	Number of immediate PNC consultations observed	436	216	190	—	—	30

* Note : This study provides a nationally representative assessment of quality of care at public sector facilities. It includes a census of all accessible facilities with an average of 5 or more deliveries per day and a nationally representative sample of facilities with an average of 0–4 deliveries per day. Private sector facilities were purposively sampled to provide a snapshot of facilities in all regions of the country, but are not statistically representative of all private sector facilities.

Facility Inventory and Record Review	Skilled Birth Attendant Interview	Direct Observation of Clinical Services
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Appendix 2. Key Indicators by Facility Type

Table A2.1 : Facility Infrastructure and Service Provision Indicators

Facility Infrastructure and Services		All relevant public facility types	Provincial, Regional, and Specialty Hospitals	District Hospitals with 5 or more deliveries per day	District Hospitals and CHCs with 0–4 deliveries per day	BHCs, SHCs, and FHHs	p-value	Private Hospitals
1	Percentage of facilities with an easily visible Charter of Patients' Rights on display	53%	62%	50%	54%	51%	0.789	65%
2	Percentage of facilities that report providing routine ANC services	95%	89%	93%	100%	96%	0.240	85%
3	Percentage of facilities with visual and auditory privacy in the ANC consultation area	88%	85%	70%	95%	92%	0.024	88%
4	Percentage of facilities that report providing delivery services	97%	100%	100%	100%	94%	0.289	100%
5	Percentage of facilities that report providing delivery services 24/7	66%	100%	100%	57%	44%	<0.001	90%
6	Percentage of facilities requiring formal payment for labor and delivery services	8%	11%	10%	5%	7%	0.719	30%
7	Percentage of facilities requiring women or their families to buy supplies for normal deliveries	8%	11%	10%	8%	7%	0.829	25%
8	Percentage of facilities requiring women to buy supplies for obstetric/gynecological emergencies	8%	8%	13%	8%	7%	0.449	30%
9	Percentage of facilities with visual and auditory privacy in the delivery room	90%	81%	90%	100%	91%	0.043	100%
10	Percentage of facilities that report providing cesarean surgeries	91%	97%	85%	—	—	0.061	65%
11	Percentage of facilities that report providing FP services	98%	97%	98%	100%	97%	0.723	85%
12	Percentage of facilities with visual and auditory privacy in the FP consultation room	87%	40%	74%	95%	81%	0.144	94%

Facility Inventory and Record Review	Skilled Birth Attendant Interview	Direct Observation of Clinical Services
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Table A2.2: Antenatal Care Indicators

Antenatal Care		All relevant public facility types	Provincial, Regional, and Specialty Hospitals	District Hospitals with 5 or more deliveries per day	District Hospitals and CHCs with 0–4 deliveries per day	BHCs, SHCs, and FHHs	p-value	Private Hospitals
1	Percentage of facilities that report providing ANC services	95%	89%	93%	100%	96%	0.240	85%
2	Percentage of facilities equipped with essential equipment and supplies for ANC							
	Functional blood pressure apparatus	90%	91%	92%	95%	88%	0.303	88%
	Functional stethoscope	93%	88%	97%	95%	92%	0.702	100%
	Functional fetoscope or doppler	91%	79%	97%	92%	93%	0.176	88%
	Functional adult weighing scale	81%	76%	87%	76%	82%	0.439	94%
	Iron and/or folic acid	83%	73%	73%	87%	88%	0.144	88%
	Tetanus toxoid vaccine	65%	58%	68%	57%	69%	0.120	53%
Mebendazole/Albendazole	47%	18%	35%	54%	57%	<0.001	53%	
3	Percentage of facilities with MNH providers trained in ANC in the past 3 years	44%	43%	39%	46%	55%	0.002	47%
4	Percentage of MNH providers who know essential aspects of focused ANC							
	Minimum of 4 consultations	65%	63%	62%	70%	77%	<0.001	75%
	Ensure woman has birth plan	65%	61%	66%	72%	68%	<0.001	53%
	Prevent illness and promote health (tetanus toxoid vaccine, iron tablets, etc.)	64%	57%	63%	84%	75%	<0.001	41%
	Detect existing illnesses and manage complications	52%	47%	54%	62%	52%	<0.001	50%
	Teach danger signs of pregnancy, childbirth, and the postpartum period	66%	60%	66%	78%	77%	<0.001	53%
Promote breastfeeding	32%	30%	36%	28%	31%	<0.001	16%	

	Facility Inventory and Record Review		Skilled Birth Attendant Interview		Direct Observation of Clinical Services
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Antenatal Care		All relevant public facility types	Provincial, Regional, and Specialty Hospitals	District Hospitals with 5 or more deliveries per day	District Hospitals and CHCs with 0–4 deliveries per day	BHCs, SHCs, and FHHs	p-value	Private Hospitals
5	Percentage of MNH providers who know indications a pregnant woman will require a special care plan							
	Prior cesarean	60%	62%	57%	64%	61%	<0.001	61%
	5 or more past deliveries	37%	37%	36%	33%	44%	<0.001	36%
	Previous stillbirth	44%	42%	44%	46%	45%	<0.001	47%
	Previous neonatal death	40%	40%	40%	33%	40%	<0.001	28%
	History of severe obstetric complications	64%	64%	60%	75%	66%	<0.001	11%
	Previous obstetric fistula repair	15%	15%	20%	7%	8%	<0.001	28%
6	Number of women counseled on major warning/danger signs of obstetric complications during ANC visits observed in QoC assessment							
	Vaginal bleeding	50%	49%	51%	—	—	0.334	24%
	Convulsions	26%	21%	31%	—	—	0.050	7%
	Severe headaches with blurred vision	36%	31%	42%	—	—	0.074	7%
	Fever and weakness	26%	24%	28%	—	—	0.119	9%
	Severe abdominal pain	51%	47%	55%	—	—	0.123	20%
	Fast or difficult breathing	26%	17%	34%	—	—	<0.001	0%
	Persistent cough for 2 weeks or more	17%	13%	21%	—	—	0.045	0%
	Foul-smelling discharge	33%	31%	34%	—	—	0.139	18%
7	Percentage of pregnant women with blood pressure measured for pre-eclampsia screening during ANC	86%	82%	90%	—	—	0.110	87%
8	Percentage of pregnant women prescribed or given iron, folic acid, or both during ANC	71%	66%	76%	—	—	0.088	56%
9	Percentage of pregnant women prescribed or given tetanus toxoid injection during ANC	33%	33%	33%	—	—	0.354	4%

Facility Inventory and Record Review

Skilled Birth Attendant Interview

Direct Observation of Clinical Services

Antenatal Care		All relevant public facility types	Provincial, Regional, and Specialty Hospitals	District Hospitals with 5 or more deliveries per day	District Hospitals and CHCs with 0–4 deliveries per day	BHCs, SHCs, and FHHs	p-value	Private Hospitals
10	Percentage of ANC clients counseled on healthy timing and spacing of pregnancy (benefits of longer inter-pregnancy intervals / risks of shorter intervals)	23%	20%	25%	—	—	0.521	2%
11	Percentage of facilities with hand hygiene facilities in the ANC service area							
	Soap for handwashing	68%	70%	65%	81%	65%	0.025	88%
	Water for handwashing	75%	82%	73%	89%	69%	0.118	88%

Facility Inventory and Record Review	Skilled Birth Attendant Interview	Direct Observation of Clinical Services
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Table A2.3 : Routine Labor and Delivery

Routine Labor and Delivery		All relevant public facility types	Provincial, Regional, and Specialty Hospitals	District Hospitals with 5 or more deliveries per day	District Hospitals and CHCs with 0–4 deliveries per day	BHCs, SHCs, and FHHs	p-value	Private Hospitals
1	Percentage of facilities with SBA present at the facility or on call 24 hours a day, including weekends, to provide delivery care	66%	100%	100%	57%	44%	<0.001	90%
2	Percentage of facilities with MNH providers trained on labor and delivery care in the past 3 years	42%	43%	40%	48%	40%	<0.001	42%
3	Percentage of facilities with hand hygiene facilities in the delivery room							
	Percentage of facilities with soap for handwashing in the delivery room	82%	95%	83%	76%	80%	0.160	100%
	Percentage of facilities with running water for handwashing in the delivery room	85%	100%	90%	76%	81%	0.165	100%
4	Percentage of facilities with essential lifesaving medicines for mothers and newborns available in the delivery room							
	Injectable oxytocin	91%	89%	90%	97%	90%	0.637	90%
	Magnesium sulfate	81%	89%	90%	76%	77%	0.370	90%
	Gentamicin	53%	62%	70%	49%	45%	0.019	65%
5	Percentage of facilities with guidelines or protocols for normal labor and delivery available	52%	49%	63%	60%	47%	0.458	40%
6	Percentage of MNH providers who know issues to observe when monitoring labor progress							
	Observe fetal heartbeat	77%	79%	71%	81%	82%	<0.001	81%
	Observe color of amniotic fluid	57%	59%	57%	49%	60%	<0.001	53%
	Observe cervical dilation	75%	74%	72%	86%	79%	<0.001	73%
	Observe descent of the head	59%	61%	58%	54%	61%	<0.001	59%

Facility Inventory and Record Review	Skilled Birth Attendant Interview	Direct Observation of Clinical Services
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Routine Labor and Delivery		All relevant public facility types	Provincial, Regional, and Specialty Hospitals	District Hospitals with 5 or more deliveries per day	District Hospitals and CHCs with 0–4 deliveries per day	BHCs, SHCs, and FHHs	p-value	Private Hospitals
	Observe maternal blood pressure	78%	75%	73%	93%	90%	<0.001	81%
	Observe maternal temperature	69%	67%	63%	86%	76%	<0.001	66%
	Observe maternal pulse	69%	67%	64%	86%	74%	<0.001	67%
	Observe urine output	37%	41%	34%	36%	31%	<0.001	33%
7	Percentage of MNH providers who know when it is and is not appropriate to artificially rupture membranes							
	Percentage of MNH providers who know that membranes can be artificially ruptured at start of second stage of labor	33%	38%	32%	30%	31%	<0.001	39%
	Percentage of MNH providers who know that membranes can be artificially ruptured immediately prior to delivery when there is bulging in vagina	40%	36%	36%	51%	51%	<0.001	44%
	Percentage of MNH providers who know that membranes can be artificially ruptured as part of augmentation of first stage of labor	21%	23%	23%	20%	13%	<0.001	17%
	Percentage of MNH providers who know that membranes can be artificially ruptured to check color of fluid when fetal distress is noted	25%	31%	24%	16%	14%	<0.001	19%
	Percentage of MNH providers who know NOT to rupture membranes as routine practice during active phase of labor	29%	30%	22%	30%	37%	<0.001	50%
	Percentage of MNH providers who know NOT to rupture membranes for all women upon admission	5%	5%	6%	6%	4%	<0.001	9%
8	Percentage of women in labor asked during initial evaluation whether they have experienced headaches or blurred vision	14%	11%	17%	—	—	0.099	29%

Facility Inventory and Record Review	Skilled Birth Attendant Interview	Direct Observation of Clinical Services
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Routine Labor and Delivery		All relevant public facility types	Provincial, Regional, and Specialty Hospitals	District Hospitals with 5 or more deliveries per day	District Hospitals and CHCs with 0–4 deliveries per day	BHCs, SHCs, and FHHs	p-value	Private Hospitals
9	Percentage of women in labor asked during initial evaluation whether they have experienced vaginal bleeding	31%	27%	37%	—	—	0.037	42%
10	Percentage of women in labor with pulse taken during initial evaluation	33%	34%	31%	—	—	0.867	33%
11	Percentage of women in labor with blood pressure taken during initial evaluation	64%	63%	66%	—	—	0.705	79%
12	Percentage of women in labor with fetal heart rate taken during initial examination	38%	39%	35%	—	—	0.065	46%
13	Percentage of women told during the first stage of labor what will happen during labor and delivery	34%	33%	35%	—	—	0.616	42%
14	Percentage of women monitored with a partograph during first stage of labor	54%	48%	61%	—	—	0.005	48%
15	Percentage of MNH providers who know 3 key steps required for AMTSL							
	Administration of a uterotonic within 1 minute of delivery	73%	73%	73%	68%	79%	<0.001	73%
	Controlled cord traction	74%	73%	70%	78%	83%	<0.001	67%
	Check uterine tone and massage if soft	70%	69%	69%	72%	72%	<0.001	77%
16	Percentage of women giving birth (at a facility) who received a uterotonic after delivery	72%	71%	73%	—	—	0.211	73%
17	Percentage of women giving birth whose placenta and membranes are assessed for completeness after delivery	53%	55%	50%	—	—	0.524	52%
18	Percentage of women giving birth who are assessed for perineal and vaginal lacerations after delivery	72%	75%	69%	—	—	0.039	76%
19	Percentage of women receiving a health check 15 minutes after birth	49%	47%	52%	—	—	0.424	39%

Facility Inventory and Record Review	Skilled Birth Attendant Interview	Direct Observation of Clinical Services
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Routine Labor and Delivery		All relevant public facility types	Provincial, Regional, and Specialty Hospitals	District Hospitals with 5 or more deliveries per day	District Hospitals and CHCs with 0–4 deliveries per day	BHCs, SHCs, and FHHs	p-value	Private Hospitals
20	Percentage of women subjected to unindicated or potentially harmful practices during labor and delivery				—	—		
	Use of enema	3%	1%	5%	—	—	0.002	13%
	Fundal pressure to hasten delivery of baby or placenta	7%	7%	7%	—	—	0.714	18%
	Lavage of uterus after delivery	14%	16%	12%	—	—	0.165	29%
	Stretching of perineum	15%	16%	14%	—	—	0.719	26%
	Bathing of newborn within first hour after birth	0%	0%	0%	—	—	0.406	0%
	Restricting food and fluids in labor without indication	6%	5%	7%	—	—	0.399	21%
	Manual exploration of uterus after delivery without indication	11%	14%	7%	—	—	0.002	18%
	Use of episiotomy without indication	5%	6%	3%	—	—	0.034	16%
	Aspiration of newborn mouth and nose at birth without indication	14%	15%	13%	—	—	0.591	18%
IV line started without indication	15%	15%	16%	—	—	0.907	42%	

Facility Inventory and Record Review	Skilled Birth Attendant Interview	Direct Observation of Clinical Services
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Table A2.4: Essential Newborn Care

Essential Newborn Care		All relevant public facility types	Provincial, Regional, and Specialty Hospitals	District Hospitals with 5 or more deliveries per day	District Hospitals and CHCs with 0–4 deliveries per day	BHCs, SHCs, and FHHs	p-value	Private Hospitals
1	Percentage of MNH providers trained in essential newborn care in the past 3 years	30%	30%	25%	39%	34%	0.124	27%
2	Percentage of MNH providers who know the essential elements of care needed immediately after birth and in the first hour							
	Ensure baby is breathing/crying	56%	55%	54%	54%	62%	<0.001	49%
	Provide thermal protection (skin to skin)	62%	57%	58%	87%	72%	<0.001	63%
3	Ensure mother initiates breastfeeding within 1 hour	57%	57%	57%	67%	52%	<0.001	48%
	Percentage of MNH providers who know basic equipment and supplies needed to ensure any baby receives appropriate immediate care after birth							
	Dry warm towels or cloths	72%	70%	71%	84%	74%	<0.001	67%
	Sterile blade or scissors	63%	59%	64%	71%	70%	<0.001	61%
	Sterile or disposable cord ties/clamps	69%	68%	64%	86%	80%	<0.001	72%
	Cap for baby	31%	26%	34%	33%	39%	<0.001	22%
	Source of warmth: heating lamp or incubator	45%	53%	44%	33%	30%	<0.001	52%
	Self-inflating ventilation bag	60%	55%	57%	68%	73%	<0.001	50%
	Newborn face mask size 1	63%	60%	61%	65%	76%	<0.001	53%
	Newborn face mask size 0	61%	57%	61%	65%	72%	<0.001	59%
Mucus extractor/suction/bulb syringe	73%	71%	72%	80%	76%	0.001	73%	
Clock or watch with second hand	29%	26%	32%	22%	32%	<0.001	39%	

Facility Inventory and Record Review	Skilled Birth Attendant Interview	Direct Observation of Clinical Services
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Essential Newborn Care		All relevant public facility types	Provincial, Regional, and Specialty Hospitals	District Hospitals with 5 or more deliveries per day	District Hospitals and CHCs with 0–4 deliveries per day	BHCs, SHCs, and FHHs	p-value	Private Hospitals
4	Percentage of facilities with supplies and equipment for essential newborn care available in the delivery room							
	Sterile scissors or blade	95%	100%	88%	97%	96%	0.024	100%
	Sterile disposable cord ties or clamps	89%	81%	75%	89%	89%	0.069	100%
	Towels or blankets to wrap babies	54%	51%	48%	57%	57%	0.973	65%
5	Percentage of facilities with guidelines or protocols for essential newborn care available	50%	49%	63%	60%	47%	0.458	40%
6	Percentage of newborns receiving essential newborn care							
	Percentage of newborns immediately and thoroughly dried after birth	85%	84%	86%	—	—	0.200	94%
	Percentage of newborns placed in immediate skin-to-skin contact with mother	52%	53%	51%	—	—	0.225	52%
	Percentage of newborns with cord clamping delayed at least one minute after birth	77%	79%	75%	—	—	0.313	82%
	Percentage of newborns who were breastfed within the 1st hour of birth	41%	37%	46%	—	—	0.103	33%
	Percentage of newborns weighed after birth	58%	59%	55%	—	—	0.408	58%
7	Percentage of facilities with chlorhexidine gel available in the delivery room	37%	43%	45%	24%	37%	0.154	15%
8	Percentage of newborns who had chlorhexidine applied to their umbilical cord after birth	14%	14%	14%	—	—	0.650	3%
9	Percentage of facilities with tetracycline eye ointment available in the delivery room	82%	78%	88%	81%	82%	0.321	80%
10	Percentage of newborns receiving tetracycline eye ointment after birth	45%	41%	51%	—	—	0.033	39%
Facility Inventory and Record Review		Skilled Birth Attendant Interview			Direct Observation of Clinical Services			

Essential Newborn Care		All relevant public facility types	Provincial, Regional, and Specialty Hospitals	District Hospitals with 5 or more deliveries per day	District Hospitals and CHCs with 0–4 deliveries per day	BHCs, SHCs, and FHHs	p-value	Private Hospitals
11	Percentage of facilities with injectable vitamin K available in the delivery room	64%	68%	73%	62%	61%	0.070	80%
12	Percentage of newborns receiving vitamin K after birth	36%	33%	40%	—	—	0.093	39%
13	Percentage of newborns receiving a health/temperature check 15 minutes after birth	24%	25%	23%	—	—	0.849	21%
14	Percentage of newborns weighed after birth	58%	59%	55%	—	—	0.408	58%

Facility Inventory and Record Review	Skilled Birth Attendant Interview	Direct Observation of Clinical Services
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Table A2.5 : Early Postnatal Care (inpatient) Indicators

Early PNC (Inpatient)		All relevant public facility types	Provincial, Regional, and Specialty Hospitals	District Hospitals with 5 or more deliveries per day	District Hospitals and CHCs with 0–4 deliveries per day	Basic Health Centers, Sub-Health Centers, and Family Health Houses	p-value	Private Hospitals
1	Percentage of MNH providers who know what to check during a postnatal check of the mother							
	Percentage of MNH providers who know to check mother for vaginal bleeding	75%	72%	72%	74%	88%	<0.001	86%
	Percentage of MNH providers who know to check mother for signs of infection (fever)	46%	42%	48%	51%	54%	<0.001	34%
	Percentage of MNH providers who know to check blood pressure of mother	77%	72%	75%	88%	87%	<0.001	81%
	Percentage of MNH providers who know to check abdominal tenderness of mother	43%	39%	46%	45%	46%	<0.001	33%
	Percentage of MNH providers who know to check size and firmness of uterus	52%	49%	55%	49%	55%	<0.001	56%
	Percentage of MNH providers who know to check deep vein thrombosis	17%	16%	21%	12%	16%	<0.001	8%
	Percentage of MNH providers who know to check for breast engorgement	26%	23%	31%	20%	29%	<0.001	22%
	Percentage of MNH providers who know to check for signs of anemia	51%	50%	51%	46%	56%	<0.001	42%
	Percentage of MNH providers who know to check for vaginal discharge	35%	33%	37%	39%	32%	<0.001	28%
	Percentage of MNH providers who know to check for signs of depression	19%	17%	25%	17%	17%	<0.001	11%
Percentage of MNH providers who know to check for cough or breathing difficulties	28%	25%	34%	22%	31%	<0.001	27%	

Facility Inventory and Record Review	Skilled Birth Attendant Interview	Direct Observation of Clinical Services
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Early PNC (Inpatient)		All relevant public facility types	Provincial, Regional, and Specialty Hospitals	District Hospitals with 5 or more deliveries per day	District Hospitals and CHCs with 0–4 deliveries per day	Basic Health Centers, Sub-Health Centers, and Family Health Houses	p-value	Private Hospitals
2	Percentage of MNH providers who know to check for any issues during a postnatal check of the newborn							
	Percentage of MNH providers who know to check if baby breastfeeding well	69%	68%	70%	64%	72%	<0.001	63%
	Percentage of MNH providers who know to check proper positioning for breastfeeding	60%	59%	62%	57%	63%	<0.001	64%
	Percentage of MNH providers who know to check color tone of baby	55%	53%	53%	57%	64%	<0.001	58%
	Percentage of MNH providers who know to check temperature of baby	54%	51%	54%	55%	63%	<0.001	59%
	Percentage of MNH providers who know to check baby's breathing	49%	43%	51%	49%	60%	<0.001	59%
	Percentage of MNH providers who know to check eyes of baby for swelling or discharge	43%	37%	46%	48%	49%	<0.001	28%
	Percentage of MNH providers who know to check umbilical cord	62%	56%	62%	71%	73%	<0.001	63%
	Percentage of MNH providers who know to check baby's weight	46%	45%	44%	43%	50%	<0.001	47%
Percentage of MNH providers who know to check alertness of baby	28%	29%	29%	23%	27%	<0.001	23%	

Early PNC (Inpatient)		All relevant public facility types	Provincial, Regional, and Specialty Hospitals	District Hospitals with 5 or more deliveries per day	District Hospitals and CHCs with 0–4 deliveries per day	Basic Health Centers, Sub-Health Centers, and Family Health Houses	p-value	Private Hospitals
3	Percentage of postpartum women checked for danger signs before discharge							
	Percentage of postpartum women checked for convulsions/loss of consciousness	20%	18%	22%	—	—	0.699	17%
	Percentage of postpartum women checked for difficulty breathing	18%	15%	21%	—	—	0.445	10%
	Percentage of postpartum women checked for excessive vaginal bleeding	42%	37%	48%	—	—	0.019	43%
	Percentage of postpartum women checked for fever or chills	25%	20%	31%	—	—	0.062	17%
	Percentage of postpartum women checked for visual disturbance	14%	11%	19%	—	—	0.135	13%
	Percentage of postpartum women checked for severe headache	29%	24%	35%	—	—	0.029	10%
	Percentage of postpartum women with pulse checked before discharge	35%	27%	43%	—	—	0.002	53%
	Percentage of postpartum women with blood pressure checked before discharge	72%	70%	75%	—	—	0.065	77%
	Percentage of postpartum women with temperature checked before discharge	29%	27%	32%	—	—	0.043	33%
Percentage of postpartum women with abdomen examined before discharge	57%	52%	62%	—	—	0.018	63%	
Percentage of postpartum women with fundus checked before discharge (and massaged if soft)	58%	49%	69%	—	—	<0.001	70%	

Facility Inventory and Record Review	Skilled Birth Attendant Interview	Direct Observation of Clinical Services
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	Early PNC (Inpatient)	All relevant public facility types	Provincial, Regional, and Specialty Hospitals	District Hospitals with 5 or more deliveries per day	District Hospitals and CHCs with 0–4 deliveries per day	Basic Health Centers, Sub-Health Centers, and Family Health Houses	p-value	Private Hospitals
4	Percentage of postpartum women counseled on maternal danger signs before discharge							
	Percentage of postpartum women counseled to seek care if experiencing a fever	36%	28%	46%	—	—	0.001	30%
	Percentage of postpartum women counseled to seek care if experiencing foul-smelling, green, or excessive vaginal discharge	27%	18%	36%	—	—	<0.001	17%
	Percentage of postpartum women counseled to seek care if experiencing difficulty breathing	19%	14%	24%	—	—	0.015	17%
	Percentage of postpartum women counseled to seek care if experiencing heavy vaginal bleeding	42%	36%	50%	—	—	0.004	30%
	Percentage of postpartum women counseled to seek care if experiencing severe lower abdominal pains	36%	27%	46%	—	—	<0.001	20%
	Percentage of postpartum women counseled to seek care if experiencing severe headaches/blurred vision	26%	19%	35%	—	—	0.002	10%
	Percentage of postpartum women counseled to seek care if experiencing dizziness / loss of consciousness	17%	15%	18%	—	—	0.052	20%
	Percentage of postpartum women counseled to seek care if experiencing convulsions	11%	10%	13%	—	—	0.550	10%
Percentage of postpartum women counseled to seek care if experiencing incontinence of urine or stool	9%	6%	13%	—	—	0.043	7%	

Facility Inventory and Record Review

Skilled Birth Attendant Interview

Direct Observation of Clinical Services

	Early PNC (Inpatient)	All relevant public facility types	Provincial, Regional, and Specialty Hospitals	District Hospitals with 5 or more deliveries per day	District Hospitals and CHCs with 0–4 deliveries per day	Basic Health Centers, Sub-Health Centers, and Family Health Houses	p-value	Private Hospitals
	Percentage of postpartum women counseled to seek care if experiencing low mood (feelings of anxiety, hallucinations, sadness)	14%	13%	14%	—	—	0.763	10%
5	Percentage of newborns checked for danger signs before discharge							
	Percentage of postpartum women asked if baby is not able to feed	33%	32%	35%	—	—	0.883	20%
	Percentage of postpartum women asked if baby is experiencing convulsions	5%	3%	7%	—	—	0.294	0%
	Percentage of postpartum women asked if baby has fast breathing	17%	16%	17%	—	—	0.914	7%
	Percentage of postpartum women asked if baby has severe chest in-drawing	12%	12%	12%	—	—	0.768	13%
	Percentage of postpartum women asked if baby has no spontaneous movement	16%	15%	17%	—	—	0.786	7%
	Percentage of postpartum women asked if baby has fever	19%	16%	23%	—	—	0.262	7%
	Percentage of postpartum women asked if baby has low body temperature	13%	14%	13%	—	—	0.955	10%
	Percentage of postpartum women asked if baby has any yellow coloring	12%	10%	15%	—	—	0.323	10%
	Percentage of babies with auxiliary temperature taken before discharge	18%	19%	17%	—	—	0.424	17%
	Percentage of babies with breathing checked/counted before discharge	23%	22%	23%	—	—	0.849	30%
	Percentage of babies with eyes checked before discharge	42%	38%	45%	—	—	0.282	33%
Percentage of babies with mouth checked before discharge	33%	31%	36%	—	—	0.730	30%	

Facility Inventory and Record Review	Skilled Birth Attendant Interview	Direct Observation of Clinical Services
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Early PNC (Inpatient)		All relevant public facility types	Provincial, Regional, and Specialty Hospitals	District Hospitals with 5 or more deliveries per day	District Hospitals and CHCs with 0–4 deliveries per day	Basic Health Centers, Sub-Health Centers, and Family Health Houses	p-value	Private Hospitals
	Percentage of babies with cord checked before discharge	44%	40%	48%	—	—	0.270	30%
	Percentage of babies checked to confirm passing stool before discharge	25%	23%	26%	—	—	0.582	23%
6	Percentage of postpartum women asked if they are breastfeeding and provided assistance in feeding if necessary	25%	24%	27%	—	—	0.083	27%
7	Percentage of postpartum women counseled on the importance of exclusive breastfeeding for 6 months	50%	39%	62%	—	—	<0.001	43%
8	Percentage of postpartum women counseled on schedule for follow-up PNC visits and vaccination	33%	25%	41%	—	—	0.005	17%
9	Percentage of postpartum women counseled on cord care	23%	20%	26%	—	—	0.364	10%
10	Percentage of postpartum women counseled on healthy timing and spacing of pregnancy during postpartum pre-discharge ward rounds							
	Counseled on use of LAM as a temporary method	37%	28%	47%	—	—	<0.001	73%
	Counseled on health benefits of 2-year interpregnancy intervals	29%	22%	36%	—	—	0.026	10%
	Counseled on risk of pregnancy if not exclusively breastfeeding or baby is 6 months or older	30%	22%	39%	—	—	0.002	23%
11	Percentage of postpartum women asked about intention for future pregnancy during postpartum pre-discharge ward rounds	22%	14%	31%	—	—	0.001	13%
12	Average number of hours women generally stay in the facility following a normal delivery	5	5	6	5	5	0.596	6

Facility Inventory and Record Review	Skilled Birth Attendant Interview	Direct Observation of Clinical Services
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Table A2.6: Emergency Obstetric and Newborn Care Indicators

EmONC Availability		All relevant public facility types	Provincial, Regional, and Specialty Hospitals	District Hospitals with 5 or more deliveries per day	District Hospitals and CHCs with 0–4 deliveries per day	BHCs, SHCs, and FHHs	p-value	Private Facilities
1	Percentage of facilities that reported providing delivery services	97%	100%	100%	100%	94%	0.289	100%
2	Percentage of facilities with human resources for EmONC provision available 24/7							
	Percentage of facilities with an SBA on duty or on call 24/7	66%	100%	100%	57%	44%	<0.001	90%
	Percentage of facilities with an obstetrician/gynecologist on duty or on call	32%	65%	33%	—	—	0.005	45%
	Percentage of facilities with a general surgeon on duty or on call	65%	70%	60%	—	—	<0.001	27%
	Percentage of facilities with an anesthetist on duty or on call	82%	89%	75%	—	—	0.107	33%
3	Percentage of facilities with guidelines for EmONC available	47%	42%	48%	54%	45%	0.527	35%
4	Percentage of facilities that reported providing all BEmONC functions							
	Reported provision of parenteral antibiotics for treatment of peripartum sepsis in past 3 months	85%	100%	93%	62%	—	<0.001	95%
	Reported provision of parenteral uterotonics for treatment of PPH in past 3 months	89%	95%	98%	73%	—	0.016	80%
	Reported provision of parenteral anticonvulsants for treatment of severe PE/E in past 3 months	71%	95%	75%	43%	—	<0.001	65%
	Reported performing manual removal of placenta in past 3 months	80%	92%	98%	49%	—	<0.001	55%
	Reported performing removal of retained products of conception in past 3 months	66%	100%	95%	49%	—	<0.001	95%

Facility Inventory and Record Review	Skilled Birth Attendant Interview	Direct Observation of Clinical Services
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EmONC Availability		All relevant public facility types	Provincial, Regional, and Specialty Hospitals	District Hospitals with 5 or more deliveries per day	District Hospitals and CHCs with 0–4 deliveries per day	BHCs, SHCs, and FHHs	p-value	Private Facilities
	Reported performing instrumental delivery in past 3 months	66%	95%	85%	16%	—	<0.001	55%
	Reported performing neonatal resuscitation in past 3 months	83%	100%	100%	49%	—	<0.001	80%
5	Percentage of facilities that reported providing all CEmONC functions				—	—		
	Reported performing cesarean surgery in past 3 months	87%	97%	78%	—	—	0.033	50%
	Reported performing blood transfusion in past 3 months	86%	97%	75%	—	—	0.019	50%

Table A2.7 : PPH Indicators

Prevention and Management of PPH		All relevant public facility types	Provincial, Regional, and Specialty Hospitals	District Hospitals with 5 or more deliveries per day	District Hospitals and CHCs with 0–4 deliveries per day	BHCs, SHCs, and FHHs	p-value	Private Hospitals
1	Percentage of pregnant women prescribed or given iron, folic acid or both during ANC	71%	66%	76%	---	---	0.088	56%
2	Percentage of facilities with uterotonics available in the delivery room	90%	92%	95%	97%	85%	0.083	90%
3	Percentage of SBAs who know that active management of the third stage of labor includes administration of a uterotonic drug within 1 minute of delivery	73%	73%	73%	68%	79%	<0.001	73%
4	Percentage of women giving birth at facilities who receive a uterotonic after delivery	72%	71%	73%	—	—	0.211	73%
5	Percentage of women giving birth at facilities whose placenta and membranes are assessed for completeness after delivery	53%	55%	50%	—	—	0.524	52%
6	Percentage of women giving birth at facilities who are assessed for perineal and vaginal lacerations after delivery	72%	75%	69%	—	—	0.039	76%
7	Percentage of postpartum women checked for excessive vaginal bleeding before discharge from facility after delivery	42%	37%	48%	—	—	0.019	43%
8	Percentage of postpartum women counseled before discharge from facility after delivery and advised to seek care if experiencing heavy vaginal bleeding	42%	36%	50%	—	—	0.004	30%
9	Percentage of facilities reporting management of PPH cases in last 3 months	89%	95%	98%	73%	—	0.016	80%

	Facility Inventory and Record Review		Skilled Birth Attendant Interview		Direct Observation of Clinical Services
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Prevention and Management of PPH		All relevant public facility types	Provincial, Regional, and Specialty Hospitals	District Hospitals with 5 or more deliveries per day	District Hospitals and CHCs with 0–4 deliveries per day	BHCs, SHCs, and FHHs	p-value	Private Hospitals
10	Percentage of SBAs who know essential actions to take for a women who develops postpartum bleeding from atonic/uncontracted uterus.							
	Massage the fundus	75%	73%	71%	87%	80%	<0.001	72%
	Give IM or IV uterotonics	70%	68%	66%	84%	75%	<0.001	61%
	Perform bimanual compression of the uterus	58%	57%	59%	59%	56%	<0.001	42%
	Start abdominal compression of aorta	58%	58%	57%	64%	56%	<0.001	44%
Start IV fluids	69%	73%	69%	68%	61%	<0.001	61%	

Facility Inventory and Record Review	Skilled Birth Attendant Interview	Direct Observation of Clinical Services
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Table A2.8: Pre-Eclampsia and Eclampsia Indicators

Prevention and Management of Severe Pre-eclampsia and Eclampsia		All relevant public facility types	Provincial, Regional, and Specialty Hospitals	District Hospitals with 5 or more deliveries per day	District Hospitals and CHCs with 0–4 deliveries per day	BHCs, SHCs, and FHHs	p-value	Private Hospitals
1	Percentage of women asked about severe headaches and/or blurred vision during ANC	36%	31%	42%	—	—	0.074	7%
2	Percentage of pregnant women with blood pressure measured during ANC	86%	82%	90%	—	—	0.110	87%
3	Percentage of women with blood pressure taken at least once during labor	63%	60%	67%	—	—	0.117	87%
4	Percentage of women with vital signs checked after delivery	32%	29%	36%	—	—	0.115	33%
5	Percentage of postpartum women checked for headache or visual disturbance before discharge from facility after delivery	34%	26%	45%	—	—	0.029	20%
6	Percentage of postpartum women with blood pressure checked before discharge from facility after delivery	72%	70%	75%	—	—	0.065	77%
7	Percentage of postpartum women counseled before discharge from facility after delivery and advised to seek care if experiencing headaches, blurred vision, or difficulty breathing	26%	19%	35%	—	—	0.002	10%
8	Percentage of facilities reporting administration of parenteral anticonvulsants for management of severe pre-eclampsia or eclampsia in last 3 months	71%	95%	75%	43%	—	<0.001	65%
9	Percentage of facilities with magnesium sulfate (MgSO4) in the delivery room	81%	89%	90%	76%	77%	0.370	90%

	Facility Inventory and Record Review		Skilled Birth Attendant Interview		Direct Observation of Clinical Services
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Prevention and Management of Severe Pre-eclampsia and Eclampsia		All relevant public facility types	Provincial, Regional, and Specialty Hospitals	District Hospitals with 5 or more deliveries per day	District Hospitals and CHCs with 0–4 deliveries per day	BHCs, SHCs, and FHHs	p-value	Private Hospitals
10	Percentage of SBAs who know essential actions to take in management of a women with severe pre-eclampsia at term							
	Administer magnesium sulfate (MgSO4)	83%	82%	77%	96%	88%	<0.001	88%
	Administer antihypertensives	57%	62%	58%	48%	45%	<0.001	53%
	Prepare to deliver within 24 hours	43%	50%	46%	20%	30%	<0.001	42%

Facility Inventory and Record Review	Skilled Birth Attendant Interview	Direct Observation of Clinical Services
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Table A2.9: Peripartum Infection and Sepsis Indicators

Prevention and Management of Peripartum Infection		All relevant public facility types	Provincial, Regional, and Specialty Hospitals	District Hospitals with 5 or more deliveries per day	District Hospitals and CHCs with 0–4 deliveries per day	BHCs, SHCs, and FHHs	p-value	Private Hospitals
1	Percentage of facilities with soap and water for handwashing in the delivery room	77%	95%	83%	68%	71%	0.013	100%
2	Percentage of women in labor whose health care provider washed hands with soap and water or used an alcohol hand rub at critical points for infection prevention							
	Before conducting any examinations during the first stage of labor	43%	42%	44%	—	—	0.136	25%
	Before conducting a vaginal exam	45%	45%	45%	—	—	0.386	23%
	Before conducting any examinations or procedures during the second and third stages of labor	54%	53%	56%	—	—	0.914	30%
	Before conducting postpartum examinations	23%	18%	29%	—	—	0.031	27%
3	Percentage of facilities with supplies and equipment for disinfecting/sterilizing/disposing contaminated equipment in the delivery room	64%	68%	63%	70%	62%	0.764	75%
4	Percentage of postpartum women with temperature checked before discharge from facility after delivery	29%	27%	32%	—	—	0.043	33%
5	Percentage of postpartum women counseled before discharge from facility after delivery and advised to seek care if experiencing a fever or foul-smelling, green, or excessive vaginal discharge	27%	18%	36%	—	—	<0.001	17%
6	Percentage of facilities that reported providing parenteral antibiotics for treatment of possible pregnancy related infections in the past 3 months	85%	100%	93%	62%	—	<0.001	95%

	Facility Inventory and Record Review		Skilled Birth Attendant Interview		Direct Observation of Clinical Services
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7	Percentage of facilities with antibiotics for treatment of pregnancy-related infections available in the delivery room	78%	81%	85%	76%	75%	0.564	85%
8	Percentage of SBAs who can correctly identify antibiotics to give a woman who is diagnosed with postpartum endometritis following a vaginal delivery	80%	74%	77%	99%	89%	<0.001	83%

Facility Inventory and Record Review	Skilled Birth Attendant Interview	Direct Observation of Clinical Services
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Table A2.10: Prolonged and Obstructed Labor Indicators

Detection and Management of Prolonged or Obstructed Labor		All relevant public facility types	Provincial, Regional, and Specialty Hospitals	District Hospitals with 5 or more deliveries per day	District Hospitals and CHCs with 0–4 deliveries per day	BHCs, SHCs, and FHHs	p-value	Private Hospitals
1	Percentage of facilities with blank partographs available	90%	87%	95%	84%	91%	0.540	85%
2	Percentage of women in labor who were actively monitored with a partograph	54%	48%	61%	—	—	0.005	48%
3	Percentage of women encouraged to take oral fluids and food during labor	48%	48%	48%	—	—	0.910	48%
4	Percentage of women encouraged to ambulate and assume different positions during labor	37%	34%	41%	—	—	0.186	29%
5	Percentage of SBAs who can describe the signs of obstructed labor/dystocia							
	No advance despite strong contractions	54%	63%	51%	61%	57%	<0.001	52%
	Slow or no dilation of cervix despite strong uterine contractions	61%	61%	60%	67%	63%	<0.001	67%
	Maternal distress	36%	38%	35%	35%	34%	<0.001	31%
	Bandi's ring	28%	29%	34%	13%	25%	<0.001	23%
Third degree molding	31%	34%	35%	19%	22%	<0.001	23%	
6	Percentage of facilities that reported performing assisted deliveries in the past 3 months	73%	95%	88%	35%	—	<0.001	60%
7	Percentage of facilities that reported performing cesarean surgeries in the past 3 months	87%	97%	78%	—	—	0.033	50%
8	Average cesarean rate based on register review	3%	8%	2%	—	—	<0.001	8%

	Facility Inventory and Record Review		Skilled Birth Attendant Interview		Direct Observation of Clinical Services
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Table A2.11: Small and Sick Newborn Indicators

Detection and Management of Newborn Complications		All relevant public facility types	Provincial, Regional, and Specialty Hospitals	District Hospitals with 5 or more deliveries per day	District Hospitals and CHCs with 0–4 deliveries per day	BHCs, SHCs, and FHHs	p-value	Private Hospitals
1	Percentage of facilities with functional ambu bag and two neonatal mask sizes in the delivery room	63%	76%	68%	65%	57%	0.203	75%
2	Percentage of SBAs who know the correct procedure for performing neonatal resuscitation on a baby who is not breathing and for whom back rubbing does not help							
	Wrap or cover baby, except for face and upper part of chest	46%	41%	50%	43%	53%	<0.001	38%
	Position baby's head so slightly extended	58%	55%	60%	52%	68%	<0.001	61%
	Start ventilation using bag and mask	76%	72%	75%	86%	86%	<0.001	81%
3	Percentage of facilities that reported performing neonatal resuscitation in the past 3 months	83%	100%	100%	49%	—	<0.001	80%
4	Percentage of newborns receiving essential newborn care							
	Percentage of newborns immediately and thoroughly dried after birth	85%	84%	86%	—	—	0.020	94%
	Percentage of newborns placed in immediate skin-to-skin contact with mother	52%	53%	51%	—	—	0.225	52%
	Percentage of newborns with cord clamping delayed at least one minute after birth	77%	79%	75%	—	—	0.313	82%
	Percentage of newborns who were breastfed within the 1st hour of birth	41%	37%	46%	—	—	0.103	33%
	Percentage of newborns weighed after birth	58%	59%	55%	—	—	0.408	58%

Facility Inventory and Record Review	Skilled Birth Attendant Interview	Direct Observation of Clinical Services
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Detection and Management of Newborn Complications		All relevant public facility types	Provincial, Regional, and Specialty Hospitals	District Hospitals with 5 or more deliveries per day	District Hospitals and CHCs with 0–4 deliveries per day	BHCs, SHCs, and FHHs	p-value	Private Hospitals
5	Percentage of SBAs who can correctly describe care needed for a newborn weighing less than 2000g							
	Ensure the baby is warm with continuous or intermittent skin-to-skin contact	60%	53%	57%	71%	81%	<0.001	52%
	Provide extra support for mother to establish breastfeeding	50%	48%	50%	52%	54%	<0.001	34%
	Assess for jaundice	19%	18%	28%	10%	12%	<0.001	16%
	Assess for breathing difficulties	29%	27%	36%	20%	24%	<0.001	28%
	Monitor for first 24 hours	25%	27%	33%	10%	13%	<0.001	31%
6	Percentage of facilities that report providing injectable antibiotics for treatment of severe newborn infection in the past 3 months	64%	92%	83%	16%	—	<0.001	55%
7	Percentage of facilities with injectable antibiotics for treatment of severe newborn infection available in the delivery room	78%	81%	85%	76%	75%	0.564	85%
8	Percentage of SBAs who can correctly describe signs and symptoms of neonatal sepsis							
	Not able to feed/stopped feeding well	44%	44%	47%	32%	43%	<0.001	36%
	Chest in-drawing	23%	22%	25%	19%	20%	<0.001	17%
	Temperature	57%	54%	55%	72%	57%	<0.001	55%
	Convulsions or fits	35%	35%	37%	33%	36%	<0.001	27%
	Pus/redness around umbilicus	41%	34%	50%	42%	44%	<0.001	39%
	Skin pustules	23%	20%	27%	20%	24%	<0.001	17%

Facility Inventory and Record Review	Skilled Birth Attendant Interview	Direct Observation of Clinical Services
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Table A2.12: Postabortion Care Indicators

	Postabortion Care	All relevant public facility types	Provincial, Regional, and Specialty Hospitals	District Hospitals with 5 or more deliveries per day	District Hospitals and CHCs with 0–4 deliveries per day	BHCs, SHCs, and FHHs	p-value	Private Hospitals
1	Percentage of MNH providers who know how to address complications from incomplete abortion							
	Assess vaginal bleeding	56%	58%	54%	57%	56%	<0.001	66%
	Assess vital signs	54%	54%	52%	51%	58%	<0.001	63%
	Begin IV fluids	72%	73%	71%	74%	67%	<0.001	75%
	Begin antibiotics	37%	37%	41%	36%	32%	<0.001	74%
	Do manual/electric vacuum aspiration	36%	31%	40%	42%	37%	<0.001	22%
	Provide counseling	24%	23%	29%	16%	22%	<0.001	16%
Refer	18%	11%	18%	26%	33%	<0.001	9%	
2	Percentage of MNH providers who know information to give clients treated for incomplete abortion							
	Information on how to prevent reproductive tract infection	32%	31%	31%	35%	37%	<0.001	34%
	When a woman can conceive again	43%	44%	47%	28%	45%	<0.001	45%
	Counseling on FP methods and services	73%	72%	70%	84%	78%	<0.001	69%
	Referral for FP methods	54%	53%	56%	49%	60%	<0.001	55%
	Information on social support	27%	26%	29%	28%	22%	<0.001	16%
Information on consequences of an unsafe abortion	32%	35%	36%	20%	21%	<0.001	33%	
3	Percentage of facilities reporting use of MVA in the past 3 months	55%	76%	78%	11%	—	<0.001	60%
4	Percentage of facilities reporting use of D&C or evacuation and curettage in past 3 months	65%	97%	80%	16%	—	<0.001	75%
5	Percentage of facilities with misoprostol available in the delivery room	26%	57%	53%	14%	—	<0.001	60%

Facility Inventory and Record Review	Skilled Birth Attendant Interview	Direct Observation of Clinical Services
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Postabortion Care		All relevant public facility types	Provincial, Regional, and Specialty Hospitals	District Hospitals with 5 or more deliveries per day	District Hospitals and CHCs with 0–4 deliveries per day	BHCs, SHCs, and FHHs	p-value	Private Hospitals
6	Percentage of facilities with MVA and cannula available in the delivery room	78%	81%	85%	68%	—	0.107	80%
7	Percentage of facilities with D&C available in the delivery room	79%	89%	85%	62%	—	0.006	85%

Facility Inventory and Record Review	Skilled Birth Attendant Interview	Direct Observation of Clinical Services
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Table A2.13: Referral System Indicators

Referral Systems		All relevant public facility types	Provincial, Regional, and Specialty Hospitals	District Hospitals with 5 or more deliveries per day	District Hospitals and CHCs with 0–4 deliveries per day	BHCs, SHCs, and FHHs	p-value	Private Hospitals
1	Percentage of facilities that report ever referring women or newborns to higher levels of care for obstetric/newborn complications	95%	100%	92%	94%	95%	0.105	90%
2	Percentage of facilities that report calling ahead to inform the receiving facility that a patient is coming (likert scale responses: sometimes, usually)	67%	82%	65%	63%	41%	0.060	50%
3	Percentage of facilities that have a functional ambulance with fuel on-site for emergency transport of clients	27%	57%	45%	14%	—	<0.001	20%
4	Percentage of facilities with clear criteria for use of emergency transport	25%	57%	40%	14%	13%	<0.001	15%
5	Percentage of facilities with guidelines or protocols for pre-referral management of complications available	41%	32%	33%	54%	43%	0.394	50%
6	Percentage of facilities that provide patients with a referral slip when referring out to a higher-level facility	85%	95%	95%	76%	81%	0.081	80%
7	Percentage of facilities sending a health worker to accompany the patient being referred	42%	68%	73%	27%	29%	<0.001	50%
8	Percentage of facilities with an obstetric or general referral register	71%	62%	78%	62%	75%	0.211	50%
9	Percentage of facilities with a functional mechanism for recording and sharing outcomes of cases referred in and out	71%	89%	70%	65%	67%	0.077	65%

Facility Inventory and Record Review	Skilled Birth Attendant Interview	Direct Observation of Clinical Services
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Table A2.14: Postpartum Family Planning Indicators

PPFP		All relevant public facility types	Provincial, Regional, and Specialty Hospitals	District Hospitals with 5 or more deliveries per day	District Hospitals and CHCs with 0–4 deliveries per day	BHCs, SHCs, and FHHs	p-value	Private Hospitals
1	Percentage of facilities with MNH providers trained on PPFP in the last 3 years	39%	35%	40%	49%	48%	<0.001	39%
2	Percentage of facilities with MNH providers trained on PPIUD and/or PP implant insertion and/or removal in the last 3 years	30%	24%	29%	49%	37%	<0.001	28%
3	Percentage of facilities offering IUD/PPIUD	88%	86%	92%	78%	91%	0.570	82%
4	Percentage of facilities with a mix of short- and long-term contraceptive methods available at time of assessment							
	Male condoms	91%	92%	97%	89%	90%	0.660	82%
	Female condoms	8%	11%	10%	5%	7%	0.744	6%
	Oral contraceptive pills	94%	94%	100%	95%	92%	0.665	77%
	Injectables	84%	89%	97%	84%	77%	0.081	77%
	IUDs	92%	89%	97%	95%	91%	0.394	88%
	Implants	9%	17%	18%	8%	4%	0.007	24%
Emergency contraception	44%	58%	44%	38%	41%	0.299	41%	
5	Percentage of facilities reporting a stock-out of any contraceptives in last 3 months	40%	36%	26%	43%	46%	0.048	18%
6	Percentage of ANC clients counseled on healthy timing and spacing of pregnancy (benefits of longer inter-pregnancy intervals / risks of shorter intervals)	20%	17%	24%	—	—	0.404	4%
7	Percentage of antenatal clients counseled on long-acting contraceptive methods that can be used for both spacing and limiting	14%	12%	16%	—	—	0.566	0%
8	Percentage of ANC clients counseled on use of LAM as a temporary method	19%	13%	24%	—	—	0.021	0%
9	Percentage of women counseled on postpartum family planning during first hour after birth	17%	14%	21%	—	—	0.082	6%

Facility Inventory and Record Review	Skilled Birth Attendant Interview	Direct Observation of Clinical Services
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PPFP		All relevant public facility types	Provincial, Regional, and Specialty Hospitals	District Hospitals with 5 or more deliveries per day	District Hospitals and CHCs with 0–4 deliveries per day	BHCs, SHCs, and FHHs	p-value	Private Hospitals
10	Percentage of women counseled on PPIUCD during first hour after birth	8%	6%	12%	—	—	0.030	0%
11	Percentage of postpartum women counseled on healthy timing and spacing of pregnancy during postpartum pre-discharge ward rounds							
	Counseled on use of LAM as a temporary method	37%	28%	47%	—	—	<0.001	73%
	Counseled on health benefits of 2 year interpregnancy intervals	29%	22%	36%	—	—	0.026	10%
	Counseled on risk of pregnancy if not exclusively breastfeeding or baby is 6 months or older	30%	22%	39%	—	—	0.002	23%
12	Percentage of postpartum women asked about intention for future pregnancy during postpartum pre-discharge ward rounds	22%	14%	31%	—	—	0.001	13%
13	Percentage of MNH providers interviewed who feel a woman should not choose a FP method until she consults with her husband	43%	42%	48%	35%	42%	<0.001	45%
14	Percentage of MNH providers interviewed who feel a woman who has not had a boy child should not be encouraged to use FP	86%	83%	82%	100%	97%	<0.001	55%

Table A2.15: Respectful Maternity Care Indicators

Respectful maternity care		All relevant public facility types	Provincial, Regional, and Specialty Hospitals	District Hospitals with 5 or more deliveries per day	District Hospitals and CHCs with 0–4 deliveries per day	BHCs, SHCs, and FHHs	p-value	Private Hospitals
1	Percentage of facilities with an easily visible Charter of Patients' Rights on display	53%	62%	50%	54%	51%	0.789	65%
2	Percentage of MNH providers trained on respectful maternity care in the last 3 years	18%	20%	17%	13%	16%	0.224	20%
3	Percentage of facilities with MNH providers reporting the facility is equipped for birth companions/family members to be present at delivery							
	Percentage of facilities where all MNH providers interviewed reported the facility is equipped for birth companions/family members to be present at delivery	55%	32%	30%	72%	66%	<0.001	42%
	Percentage of facilities where at least one MNH provider interviewed reported the facility is equipped for birth companions/family members to be present at delivery	79%	89%	93%	83%	69%	0.027	89%
4	Percentage of MNH providers who perceive disrespect between health workers in the facility to be an issue	10%	14%	10%	6%	2%	<0.001	6%
5	Percentage of ANC clients asked if they want a family member or companion to participate in the consultation	28%	27%	30%	—	—	0.804	22%
6	Percentage of ANC consultations where provider explains to the client what she is doing during the examination, and asks if she has any questions							
	Explains to the client what she is doing during the examination	57%	53%	60%	—	—	0.212	44%
	Asks the client if she has any questions during the examination	31%	35%	27%	—	—	0.054	24%

Facility Inventory and Record Review	Skilled Birth Attendant Interview	Direct Observation of Clinical Services
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Respectful maternity care		All relevant public facility types	Provincial, Regional, and Specialty Hospitals	District Hospitals with 5 or more deliveries per day	District Hospitals and CHCs with 0–4 deliveries per day	BHCs, SHCs, and FHHs	p-value	Private Hospitals
7	Percentage of ANC consultations where the health worker informs the client about progress of the pregnancy	66%	68%	64%	—	—	0.599	56%
8	Percentage of ANC consultations where a health worker shouted, insulted, or threatened the woman or her family members at any time							
	Health worker shouted at, insulted or threatened the client	3%	2%	3%	—	—	0.334	4%
	Health worker shouted at, insulted or threatened the client's family members or companions	3%	3%	3%	—	—	0.573	2%
9	Percentage of women told during the first stage of labor what will happen during labor and delivery	34%	33%	35%	—	—	0.616	42%
10	Percentage of women who were encouraged to ambulate and assume different positions during labor	37%	34%	41%	—	—	0.186	29%
11	Percentage of women with companion or support person present during labor and childbirth	51%	43%	62%	—	—	<0.001	45%

Facility Inventory and Record Review

Skilled Birth Attendant Interview

Direct Observation of Clinical Services

Respectful maternity care		All relevant public facility types	Provincial, Regional, and Specialty Hospitals	District Hospitals with 5 or more deliveries per day	District Hospitals and CHCs with 0–4 deliveries per day	BHCs, SHCs, and FHHs	p-value	Private Hospitals
12	Percentage of women subjected to unindicated or potentially harmful practices during labor and delivery							
	Use of enema	3%	1%	5%	—	—	0.002	13%
	Fundal pressure to hasten delivery of baby or placenta	7%	7%	7%	—	—	0.714	18%
	Lavage of uterus after delivery	14%	16%	12%	—	—	0.165	29%
	Stretching of perineum	15%	16%	14%	—	—	0.719	26%
	Bathing of newborn within first hour after birth	0%	0%	0%	—	—	0.406	0%
	Restricting food and fluids in labor without indication	6%	5%	7%	—	—	0.399	21%
	Manual exploration of uterus after delivery without indication	11%	14%	7%	—	—	0.002	18%
	Use of episiotomy without indication	5%	6%	3%	—	—	0.034	16%
	Aspiration of newborn mouth and nose at birth without indication	14%	15%	13%	—	—	0.591	18%
IV line started without indication	15%	15%	16%	—	—	0.907	42%	
13	Percentage of deliveries where a health worker shouted, insulted, or threatened the woman or newborn at any time							
	Slapped, hit, or pinched the woman during labor or after	1%	1%	0%	—	—	0.518	0%
	Slapped the newborn	2%	2%	2%	—	—	0.514	0%
	Held the newborn upside down	4%	3%	5%	—	—	0.176	8%
	Shouted, insulted, or threatened the woman at any time	4%	4%	5%	—	—	0.506	8%

Respectful maternity care		All relevant public facility types	Provincial, Regional, and Specialty Hospitals	District Hospitals with 5 or more deliveries per day	District Hospitals and CHCs with 0–4 deliveries per day	BHCs, SHCs, and FHHs	p-value	Private Hospitals
14	Percentage of inpatient PNC consultations where provider explains to the client what she is doing during the examination, and asks if she has any questions							
	Explains to the client what she is doing during the examination	30%	24%	37%	—	—	0.033	27%
	Asks the client if she has any questions during the examination	22%	19%	28%	—	—	0.017	20%

Table A2.16: Health worker Experiences and Perspectives

Health Worker Experiences and Perspectives		All relevant public facility types	Provincial, Regional, and Specialty Hospitals	District Hospitals with 5 or more deliveries per day	District Hospitals and CHCs with 0–4 deliveries per day	BHCs, SHCs, and FHHs	p-value	Private Hospitals
1	Percentage of MNH providers reporting not being able to attend trainings they wanted to over the last 3 years	43%	47%	42%	41%	38%	0.023	42%
2	Percentage of MNH providers reporting having had technical support or supervision visits in the last 3 months	66%	15%	64%	84%	67%	<0.001	28%
3	Percentage of MNH providers who report being treated respectfully by their supervisors	68%	66%	63%	74%	81%	<0.001	70%
4	Percentage of MNH providers who have a written job description for their position	83%	80%	79%	93%	93%	<0.001	67%
5	Percentage of MNH providers who perceive disrespect between health workers in the facility to be an issue	10%	14%	10%	6%	2%	<0.001	6%
6	Percentage of MNH providers reporting having experienced verbal, physical, or sexual abuse	28%	31%	24%	26%	26%	0.245	13%
7	Percentage of facilities with a functional employee complaint reporting mechanism	30%	57%	45%	14%	21%	<0.001	45%
8	Percentage of MNH providers who feel childcare or household responsibilities interfere with their ability to do their job	20%	24%	19%	12%	16%	0.073	3%
9	Percentage of MNH providers who feel lack of support from their spouse or family members interferes with their ability to do their job	9%	10%	11%	6%	6%	0.350	2%
10	Percentage of MNH providers who feel lack of transport or safety in getting to/from work interferes with their ability to do their job	33%	28%	34%	42%	41%	0.016	28%

	Facility Inventory and Record Review		Skilled Birth Attendant Interview		Direct Observation of Clinical Services
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Table A2.17: Gender Sensitive Service Indicators

Gender-Sensitive Services		All relevant public facility types	Provincial, Regional, and Specialty Hospitals	District Hospitals with 5 or more deliveries per day	District Hospitals and CHCs with 0–4 deliveries per day	BHCs, SHCs, and FHHs	p-value	Private Hospitals
1	Percentage of facilities with SBA present at the facility or on call 24 hours a day, including weekends, to provide delivery care	66%	100%	100%	57%	44%	<0.001	90%
2	Percentage of facilities with MNH providers trained on gender and human rights in the last 3 years	14%	13%	14%	20%	18%	0.304	6%
3	Percentage of facilities with MNH providers trained on respectful maternity care in the last 3 years	18%	20%	17%	13%	16%	0.224	20%
4	Percentage of facilities with visual and auditory privacy in the ANC examination area	54%	52%	32%	59%	61%	0.024	53%
5	Percentage of facilities with visual and auditory privacy in the delivery room	58%	41%	43%	70%	65%	0.043	60%
6	Percentage of MNH providers who know actions to take when a woman presents as a survivor of rape							
	Encourage her to report to police	4%	0%	0%	17%	17%	<0.001	17%
	Facilitate filling out a police report	19%	20%	23%	13%	11%	<0.001	14%
	Counsel about HIV testing	16%	18%	19%	9%	7%	<0.001	9%
	Counsel about pregnancy prevention	18%	18%	23%	14%	11%	<0.001	5%
	Provide emergency contraception	19%	19%	20%	14%	19%	<0.001	11%
Provide post-exposure prophylaxis for HIV	14%	15%	17%	10%	5%	<0.001	3%	
Request that she do urine, vaginal smear/swab, and/or blood exams	13%	15%	17%	6%	7%	<0.001	34%	
7	Percentage of facilities with client complaint/feedback mechanism	45%	86%	73%	14%	31%	<0.001	70%

Facility Inventory and Record Review	Skilled Birth Attendant Interview	Direct Observation of Clinical Services
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Gender-Sensitive Services		All relevant public facility types	Provincial, Regional, and Specialty Hospitals	District Hospitals with 5 or more deliveries per day	District Hospitals and CHCs with 0–4 deliveries per day	BHCs, SHCs, and FHHs	p-value	Private Hospitals
8	Percentage of MNH providers who perceive having equal treatment and opportunities as colleagues of the opposite sex							
	Report having equal treatment in terms of training	53%	52%	51%	57%	55%	<0.001	66%
	Report having equal treatment in terms of professional advancement	37%	37%	31%	43%	48%	<0.001	41%
	Report having equal treatment in terms of time off	51%	46%	50%	54%	64%	<0.001	63%
	Report having equal treatment in terms of work schedule	54%	50%	53%	62%	64%	<0.001	61%
	Report having equal treatment in terms of work load	52%	47%	52%	58%	62%	<0.001	55%
9	Percentage of MNH providers interviewed who feel a woman should not choose a FP method until she consults with her husband	73%	71%	72%	88%	75%	<0.001	78%
10	Percentage of MNH providers interviewed who feel a woman who has not had a boy child should not be encouraged to use FP	86%	83%	82%	100%	97%	<0.001	55%

Facility Inventory and Record Review	Skilled Birth Attendant Interview	Direct Observation of Clinical Services
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Table A2.18: Documentation of Health Services

Documentation of MNH Services		All relevant public facility types	Provincial, Regional, and Specialty Hospitals	District Hospitals with 5 or more deliveries per day	District Hospitals and CHCs with 0–4 deliveries per day	BHCs, SHCs, and FHHs	p-value	Private Hospitals
1	Percentage of ANC consultations where health worker wrote on client's health card	64%	61%	66%	—	—	0.703	20%
2	Percentage of facilities with logbooks for recording ANC data	90%	84%	98%	84%	91%	0.282	60%
3	Percentage of women in labor who were actively monitored with a partograph	54%	48%	61%	—	—	0.005	48%
4	Percentage of examinations before discharge after childbirth where health worker wrote on client's health card	55%	48%	64%			0.011	37%
5	Percentage of facilities with logbooks for recording labor and delivery data	77%	92%	98%	68%	67%	<0.001	90%
6	Percentage of facilities with logbooks for recording obstetric referral data	50%	49%	58%	46%	48%	0.502	40%
7	Percentage of facilities with logbooks for recording FP data	90%	92%	95%	92%	88%	0.180	60%
8	Percentage of facilities with up to date data related to maternal health services displayed in tables or charts	70%	57%	55%	78%	78%	0.063	50%
9	Percentage of facilities with up to date data related to newborn health services displayed in tables or charts	64%	41%	55%	73%	72%	0.010	45%
10	Percentage of facilities with up to date data related to FP services displayed in tables or charts	72%	54%	58%	78%	80%	0.016	45%
11	Percentage of facilities that report regularly preparing reports containing health services information	96%	95%	98%	95%	96%	0.124	75%
12	Percentage of facilities that report receiving feedback on reports from implementing NGO or MoPH authorities	61%	49%	63%	70%	62%	0.018	40%

Facility Inventory and Record Review	Skilled Birth Attendant Interview	Direct Observation of Clinical Services
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Table A2.19: Documentation of Health Outcomes

Documentation of Maternal and Newborn Outcomes		All relevant public facility types	Provincial, Regional, and Specialty Hospitals	District Hospitals with 5 or more deliveries per day	District Hospitals and CHCs with 0–4 deliveries per day	BHCs, SHCs, and FHHs	p-value	Private Hospitals
1	Percentage of facilities with 1394 logbooks recording maternal deaths	58%	68%	75%	46%	54%	0.008	60%
2	Percentage of facilities with patient charts from maternal deaths available for review	20%	78%	40%	3%	0%	<0.001	5%
3	Percentage of facilities with 1394 logbooks recording low birthweight	75%	81%	75%	70%	74%	<0.001	75%
4	Percentage of newborns with weight recorded after birth	32%	32%	31%	—	—	0.654	32%
5	Percentage of facilities with 1394 logbooks recording stillbirths	28%	76%	68%	46%	57%	<0.001	70%
6	Percentage of facilities with 1394 logbooks recording neonatal deaths	53%	70%	53%	41%	52%	0.006	50%
7	Percentage of facilities with a separate mortality/death register	28%	51%	50%	19%	16%	<0.001	10%
8	Percentage of facilities reporting existence of a functional Maternal and Perinatal Death Surveillance Response mechanism	46%	76%	73%	35%	30%	<0.001	45%

	Facility Inventory and Record Review		Skilled Birth Attendant Interview		Direct Observation of Clinical Services
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