Quality of Delivery Care in Kabul Maternity Hospitals

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By

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Declaration:
Where other people's work has been used (either from a printed source, internet or any other source) this has been carefully acknowledged and referenced in accordance with departmental requirement.
The thesis 'The Causes of Neonatal Mortality in Afghanistan' is my own work.

Signature: **Kawll**

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Abbreviations and Acronyms

AHS	Afghanistan Household Survey
AMICS	Afghanistan Multiple Indicator Survey
AMS	Afghanistan Mortality Survey
ANC	Antenatal Care
ANDS	Afghanistan National Development Strategy
BHC	Basic Health Center
BPHS	Basic Package of Health Services
CHC	Comprehensive Health Center
CHW	Community Health Worker
CSO	Central Statistics Office
DH	District Hospital
EPHS	Essential Package of Hospital Services
GDP	Gross Domestic Product
HMIS	Health Management Information System
HP	Health Post
IOS	International Organization for Standardization
IIHMR	Indian Institute Health Management Research
LAM	Lactation Amenorrehea Method
MDG	Millennium Development Goals
MICS	Multiple Indicator Cluster Survey
MMH	Malalai Maternity Hospital
MoPH	Ministry of Public Health
NHA	National Health Accounts
OB/GYN	Obstetrician/Gynecologist
PH	Provincial Hospital
QA	Quality Assurance
RBH	Rabie Balkhi Hospital
RH	Reproductive Health
SAI	Skilled Attendance Index
SBA	Skilled Birth Attendance
SHC	Sub Health Center
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
WHO	World Health Organization

Glossary

Quality of Care: All interventions for reproductive health should be made available with the highest standard of quality and safety, and services should be delivered according to evidence-based best practices. Addressing providers' needs and community views, particularly those of women, on the quality of service provision is key to ensuring improved quality and increased access and utilization (MoPH 2012b).

Continuum of Care: All women have a right to the best possible care before and during pregnancy, childbirth and the postpartum period at all levels of the health system, as appropriate for each woman and newborns needs. These levels range from the household to the first service level, and to the higher-level service site. Primary care should be strongly connected to a referral system in order to effectively manage life-threatening complications. This continuum of care encompasses the life-cycle of the woman, from adolescence to the birth of her own child (Ministry of Public Health 2012b).

A skilled attendant is an accredited health professional such as a midwife, doctor or nurse who has been educated and trained to proficiency in the skills needed to manage normal (uncomplicated) pregnancies, childbirth and the immediate postnatal period, and in the identification, management and referral of complications in women and newborns (MoPH 2012b).

EOC: is used to describe the elements of obstetric care needed for the management of normal and complicated pregnancy, labor, and childbirth care. EOC, whether basic or comprehensive, must be available 24 hours a day, seven days a week. All elements of comprehensive EOC should be available at district hospitals, while all elements of basic EOC should be available at basic and comprehensive health centres (MoH 2004).

Basic EOC: includes the management of normal pregnancy, labor, childbirth, and the postpartum period, including the parenteral administration of antibiotics, uterotonics, and anticonvulsants; manual removal of placenta; removal of retained products; and assisted vaginal childbirth (MoH 2004).

Comprehensive EOC: includes in addition to the elements of basic EOC blood transfusion, anesthesia, and surgical procedures such as cesarean section (MoH 2004).

EmOC: is a subset of EOC and refers to the management of complications such as hemorrhage and obstructed labor (MoH 2004).

Evidence-based: Healthcare is a science, not an art. Enormous efforts are invested worldwide to find the most accurate diagnostic processes and the most effective treatments. Healthcare providers must master what are already accepted as "best practices" and remain alert to improved practices as they are published. An approach sometimes referred to as quality assurance focuses on compliance with the evidence-based best practices that have been accepted by medical authorities (MoPH 2013d).

Data based: Quality improvement activities are judged on the basis of solid proof. A problem is solved only when the data conclusively document that it has been solved. It is not solved when someone "feels" it has been solved. It is not solved when a "promising" intervention has been implemented (MoPH 2013d).

Acknowledgment

Abstract

Background: Afghanistan has the highest maternal mortality in the Central Asia region. Sixty percent of deliveries still occur at home. Facility-based deliveries can contribute to a further reduction in maternal mortality, but care provided needs to be of adequate quality.

Objective: To assess health service-related factors that are affecting quality of care in two Kabul maternity hospitals, in order to assist the MoPH in improving quality of care at the tertiary hospital level.

Methods: The study used mixed methods consisting of a records review using the Skilled Attendants Index (SAI), a document and literature review and key informant interviews to assess quality of care. The study used Potter and Brough framework of capacity building.

Results: The result shows an overall adequate quality of delivery care with a SAI score indicating that on average, 74% of essential procedures were documented as having been implemented. Significant gaps were found in documenting patient history, postpartum care and discharge information. This could, in part, be attributed to the two hospitals working significantly over their infrastructural capacity (46 times and 13 times above capacity based on available data). QA processes were in place in both hospitals but they lacked structure, technical and financial support.

Conclusions: In order to improve quality of care, both maternity hospitals in Kabul need to be moved to larger buildings. A more extensive network of primary and secondary care facilities needs to be made available to provide normal delivery services. Quality assurance processes at the hospitals need technical and financial support.

Keywords:
Quality care, hospital, structure and system, staff and infrastructure, skill, tools

Words Count: 11,632 Words

Introduction

By profession, I am a medical doctor (Obstetrician and Gynecologist) born in Afghanistan but spent most of my life in Pakistan as a migrant due to the Russian war and internal conflict in the country. After graduation I was working in a refugee camp in Pakistan from 2001 to 2004. In 2005, I moved back to Afghanistan and due to shortage of female staff in public health sector and high maternal and child mortality I decided to shift my practice from curative medicine to public health field. The overall purpose was to improve the situation of maternal and child health at the national level. I started working with Reproductive Health Directorate as a family planning officer in Afghanistan in 2005. In most of my career I was involved in public health practices with MoPH and international NGOs. I worked with the MoPH for 5 years and I was responsible for family planning National training centre of Rabia e Balkhi Hospital (RBH). My main duty was to plan, coordinate, and conduct family planning training. The training was for different implementing NGOs from all 34 provinces to improve their knowledge, attitude, behavior and performances.

After finding that effective interpersonal communication and counseling (IPCC) positively influence health outcome. Later, my interast moved me to joined a USAID funded project in 2010 for IPCC for health. In a team we develop IPCC guideline for facilitators and participants for the first time in Afghanistan

My latest professional job with Jhpiego was as a reproductive health advisor. Jhpiego has applied different strategies to build the capaity of the stystem to decrease maternal and child mortality and provide quality health care specially in tertiery meternity hospitals.

The mission of the Ministry of Public Health was to peovide quality health care for all citizens, while the health system was able to offer services only to 39 percent ofdelivery cases across the country and just to limited number of cases at tertiary maternity hospitals. that was my main interest to study if the tertiary hospital of Malali and Rabia Balkhi can provide quality delivery care to mothers.

Finally, this course has enabled me to write my thesis on the quality of delivery care at Kabul materinity hospitals and assess all those enabling factors which influnce the performance of health workers in order to provied quality services. I hope my findings can help the Misnistry of Public Health of Afghanistan and the two maternity hospitals in Kabul to improve   their   quality   of   care.

1   Country Background

1.1 Geography

Afghanistan is located in central Asia and it connects south and east Asia with central and west Asia. Afghanistan has borders with Pakistan, Iran, Tajikistan, Uzbekistan, Turkmenistan, and China. Geographically, Afghanistan is a mountainous country with a total land area of 647,500 Sq Km. Almost 80% of the country is either mountainous or desert. The country has 34 provinces and 398 administrative districts. Figure 1 shows the map of Afghanistan.

Figure 1: Map of Afghanistan

Source: google.com

1.2 Demography

The Afghanistan population is estimated around 27 million of which 78% are living scattered in rural areas and 1.5 million are nomads.   The gender ratio is 51 male to 49 females. The country has the youngest age structure amongst the neighbouring countries. Around 48.4 percent of the population are under the age of 15 years while only 2.5 percent of the population is over the age of 65 years. There are different ethnic groups in the country. The major ethnic groups are Pashtoon, Tajik, Hazara, and Uzbak (Central Statistics Organization 2014). The life expectancy rate is 61 for men and 62 for women (Ministry of Public Health 2011).The adult male literacy rate is 45 percent for men and 17 percent for women (Central Statistics Organization 2014).

1.3 Political and Socio Economy

After three decades of war and internal conflict, in December 2001, a democratic government was established.

The new constitution was endorsed in 2004 and Afghanistan National Development Strategy (ANDS) was developed for reconstruction and developing of the country with special focus on security and stability as well as poverty reduction and economic growth (Sondorp 2004).

The economy of Afghanistan has developed in the past decade. The country was able to maintain the microeconomic stabilities, establish new reform systems, and build policies and strategic directions. However there are many challenges remaining. The country is heavily donor dependent and security is a major hindrance towards developing an economic stable country. As a result of insecurity, the GDP growth rate has decreased from 10% to 8% in the last three (Khan & Joya 2013).

1.4 Health System Structure

The services are provided in three levels, primary, secondary and tertiary. Shortly after the fall of the Taliban in December 2001, the government developed a national health policy. The Ministry of Health focused on primary health care and soon in 2003 the BPHS was establish (Ministry of Public Health 2010). Currently, the BPHS services are provided in 31 provinces (out of 34) through a network of national and international NGOs using a contract-out modality. In addition, the MoPH provides the BPHS services through a contract-in modality called the MoPH-Strengthening Mechanism (MoPH-SM) in three provinces (Loevinsohn & Sayed 2008).

In 2005 the Essential Package of Hospital Services (EPHS) was developed to ensure the provision of secondary care services and a good referral mechanism (MoPH 2005). Currently, the EPHS services are provided through the NGOs and MoPH direct implementation.

In addition, at the tertiary level, services are offered to the population through a number of national and specialized hospitals (MoPH 2009b). They are mostly located in Kabul.

Figure 2: Health System Structure

(Pyramid diagram, top to bottom:)
- National Hospital
- Regional Hosptial
- Provincial hospital
- District hospital
- Comprehesive health center
- Mobil health team
- Basic Heath Centre
- Health Sub Centers
- Community-based program (Health post)

1.4.1 Basic Package of Health Services (BPHS)

The BPHS is working in the primary level and it consists of Health Post (HP), Sub Health Centre (SHC), Basic Health Centre, (BHC), Comprehensive Health Centre (CHC), Mobile Health Team (MHT) and District Hospital (DH). HP is staffed by two community health workers (CHW) who, beside other services, are responsible for family planning counselling and methods distribution at community level. HSC is working as a bridge to fill gaps between the HP and other health delivery points and provides care for antenatal care (ANC), postnatal care (PNC) and delivery. BHC provides outpatient services and basic emergency obstetric and neonatal care (BEmONC). CHC has a limited capacity for inpatient services and provides additional minor and essential surgery and provides BEmONC services. MHTs are located in remote areas where it is difficult to provide services through fixed centres. They provide basic RH services. The district hospital (DH) is functioning as a referral site. It has obstetricians and provides BEmONC and EmONC services (MoPH 2010).

1.4.2 Essential Package of Hospital Services (EPHS)

The Ministry of Public health developed the Essential Package of Hospital Services (EPHS) in 2005 (MoPH 2005). The EPHS describes the services provided by provincial hospitals (PHs) and regional hospitals (RHs). There are 29 provincial hospitals and 5 regional hospitals in the country. Four essential clinical functions are included in those hospitals: medicine,

essential clinical functions are included in those hospitals: medicine, surgery, paediatrics and obstetrics and gynaecology. Mental health and dental care services are locate in outpatient services department (MoPH 2009b).

1.4.3 National or Specialized Hospitals

These hospitals are located in the capital of the country and they serve as referral sides for district, provincial, and regional hospitals. Further, some of them are providing teaching services to medical students (MoPH 2009b).

Given less attention has been paid to tertiary care in the country, the quality of services is a major concern in these hospitals. Poor infrastructure, inadequate workforce, insufficient medicine and supply, and poor hospital management are some common challenges that majority of the hospitals are facing with in Kabul (MoPH 2009b).

1.4.4 Maternal Health

According to a survey in 2002, the maternal mortality ratio (MMR) was estimated around 1,600/100,000 live births (Bartlett et al. 2005). Given the situation, the majority of the health sector strategies, including the BPHS and EPHS, have been focusing on improving maternal health since 2002 (MoPH 2013c). In 2010, the Afghanistan Mortality Survey (AMS) showed a significant improvement in maternal health indicators. The MMR was estimated at 327/100,000 live births in 2010 (MoPH 2011). Further the AMS reported that the total fertility rate is 5.1 children per woman with a rate of 5.2 children per women in rural areas and 4.7 children per women in urban areas. Around 92 percent of married women know of at least one of the methods of contraception, while only 22 percent of married women use some method of family planning. Injection is the most common method used followed by pill and lactation amenorrhea method (LAM). ANC from a skilled birth attendant is 68 percent and medically assisted delivery is 42 percent (MoPH 2011).

In spite of a good improvement in maternal health in the past one decade, major gaps in maternal care continue to exist. According to AMS 2010, only 16 percent of women have at least four visits before delivery. Of 68 percent of women receiving ANC, less than 40 percent receive other elements of good ANC screening such as iron tablets and tetanus toxoid

vaccine. Two third of births take place at home due to low awareness, high cost, and distance to health facilities (MoPH 2011).

1.4.5 Health Care Financing

The Afghanistan health sector is heavily dependent on donor assistance. According to NHA report 2012, 75 percent of the health sector funds are contributed by international donors. Currently, four major donors (EU, USAID, World Bank and Global Fund) are funding the key health programs of the country including the BPHS, EPHS, and national programs (Malaria, TB, HIV/AIDS) (MoPH 2013a).

Based on a NHA report of 2012, the total health expenditure in the country is around 1.5 billion dollars. Private source or out-of-pocket expenditures is the main financing source of the health system (73%). The central government share is only 5.6% while donor contribution is 20.8% of the total health expenditure (MoPH 2013a).

The reproductive health expenditures accounts for 16.4 percent of the total health expenditure in the country. Total reproductive health expenditure is 44 USD per woman of reproductive age. 35 USD per woman of reproductive age is financed by the household (78.5 percent). The contribution of the government is limited to 3 percent while the international donors contribution is around 8 percent (MoPH 2013a).

The indicated level of expenditure on RH services seems similar to other developing countries such as Kenya and Tanzania. However, it is difficult to conclude that this benchmark is sufficient for Afghanistan (MoPH 2013a).

2 Study Approach

2.1 Problems statement

Afghanistan's National Health Policy 2011-2015 has set the vision of "Health for all Afghans' aiming to "improving the health and nutritional status of the people of Afghanistan in an equitable and sustainable manner through quality health services provision, advocating for the development of healthy environments and living conditions; and the promotion of healthy lifestyles."(MoPH 2013c)

The country has been able to improve several health indictors including maternal and child health since 2003. However, Afghanistan is placed among those countries with the worst health indicators at the globle level. High MMR (327/100,000 live births) shows that on average 1 in 50 Afghan women die in child birth (MoPH 2011). This indicates that the country has a long way to go to improve the situation.

One of the intervention areas, to improve the siutatoin, is paying attention to the quality of care of reproductive health services. In the past decade, donors have been trying to help the MoPH to bring positive changes in the quality of care. So far, various quality assurance and quality improvement tools have been introduced to the system. Although the efforts have been effective to some extent, due to wide fragmentation and poor coordination, the country could not enjoy the presence of a standardized national tool. In 2009, the MoPH established a unit inside the ministry to ensure effective coordination with stakeholders and promote harmonization and standardization in terms of improving quality of care at the level of BPHS and EPHS (MoPH 2009a).

At the national hospitals level, the efforts have been limited only to two hospitals namely Rabia Balkhi hospital (RBH) and Malalai Maternity hospital (MMH). These efforts include establishing of quality assurance committee, occupational committee, complication committees, and maternal mortality committee.

These hospitals are the only comprehensive canters for diagnosis and treatment of Gyn/Obs problems in the country. They are offering services to hundreds of patients (complicated and non complicated cases) on daily basis. Given the poor referral mechanism among the primary, secondary, and tertiary care; the hospitals are extensively dealing with normal delivery cases (MoPH 2013b).

2.2 Justification

To achieve a further reduction in maternal mortality in Afghanistan, it is vital to ensure that women receive high quality health services during their labour and delivery. Even in normal circumstances, women have the right to receive quality care services and ideally every woman should have access to a skilled attendant at delivery (Hussein et al. 2004).

Currently RBH and MMH are the only referral sites at the country level to offer services for labour, delivery and the post partum period and to attend the most complicated cases (MoPH 2012a). Given the important role of both hospitals, in terms as serving as a referral site, not only for Kabul but also of all provinces of Afghanistan, it is essential to ensure that those who receive care in these hospitals receive quality care.

This research is tackling an important aspect of the quality of care. This study was carried out through examining not just who offers the services at delivery, but also the quality of care that was given through using a Skilled Attendance Index (SAI) as well as the enabling environment which affects quality of care during and after the delivery. Indeed, skill birth attendants can increase the proportion of skilled delivery and reduce maternal and prenatal mortality and morbidity. Further, by strengthening overall quality of skilled care, the system can be able to provide efficient and effective reproductive care services.

This internal review can inform both health care personnel and management about where the gaps are in terms of quality of care. This study will help policy makers and the managers to address the shortfalls in the delivery of skilled care in both hospitals and can serve as a platform to assess the trend of quality of care improvement in the future.

2.3 Overall Objective

The main objective of this study is to asses health service-related factors that are affecting quality of care and to help the MoPH improve quality of care at the tertiary care level.

2.4 Specific Objectives

- To assess current quality of delivery care in Malalai and Rabia Balkhi maternity hospitals
- To identify and discuss existing strategies for quality improvement in maternity hospitals and the existing constraints
- To describe best practices in order to improve skilled delivery care in Kabul hospitals
- To make recommendations to health authorities and policy makers to improve quality hospital-based delivery services in Kabul.

3 Methodology

3.1 Study Type

This study relied on mixed methods for data collection. A literature and document review was conducted of published articles, annual reports, quarterly reports and donor reviews, as well as the implementation of a survey to study the quality of skilled attendance at delivery. To fill the information gap, a small number of key interviews were carried out to further assess health service related factors that are affecting the quality of care at MMH and RBH hospitals.

3.2 Scope of Study

This study was aiming to find out the factors that are influencing the quality of SBI at delivery in two main maternity hospitals in Kabul and to study the factors that influence the quality of health services in those hospitals.

3.3 Sampling and Recruitment

Both RBH and MMH have an official recording system. The record was completed for each woman who was admitted to these hospitals. Every file showed biography, chief complaint, other parts of history and physical examinations as well as laboratory examinations, assessment, plan, progress and result of treatment for each patient. A random sample of patient records of women age 15-49 who delivered at these two hospitals during the last six months of 2013 was conducted and records were reviewed using an adopted version of the questionnaire for the Skilled Attendants Index (SAI).The quality of record keeping was used as a proxy for the measurement of overall quality of services provided.

A minimum sample size of 271 delivery records was required for the resulting estimate of the SAI to fall within 10 percentage points (absolute precision) of the true proportion, with 90 percent confidence. The sample size was rounded up to 300 delivery records, with 150 records examined in each hospital. This was done because it is the intent of this study to assess the overall quality of hospital-based maternity services in Kabul, and not to assess each hospital individually.

In MMH, the archives were organized according to patient number, and a random sample was selected taking every 125th patient file for the period July to December 2013. Files in RBH were not organized, but rather

collected in plastic bags and stacked in containers. At RBH an entirely random sample was selected by extracting two or three files from each plastic bag. Records of women who died during childbirth were excluded from the sampling.

The setting for the records review was in one of the offices in the archives of each hospital. This was to ensure that records would not be lost and were available to hospital staff if required.

3.3.1 Key informant interviews

Semi-structured key informant interviews were conducted with 4 to 8 individuals including staff working for the two hospitals and stakeholders from the Ministry of Public Health or organizations supporting the two hospitals. Informants were selected on the basis of their positions and qualifications, and therefore their ability to give authoritative information on specific gaps in information that was identified after completing the SAI and document reviews.

3.4 Data Collection Techniques

3.4.1 Patient record review

Two experienced data collectors from outside of hospitals were recruited to do the case extraction from the patient records. They were trained for two days to be familiarized with the EmONC and BmONC guidelines for delivery care at each hospital, prior starting the study. Few example case notes were used as a practical exercise during the training and 20 records were reviewed by each data collector in this two days training. Data was initially entered on paper forms, and later entered into an online computerized database that produced a spreadsheet for Microsoft Excel.

Key informant interviews: These interviews were conducted by telephone and Skype. The questions asked from each informant were identified on the basis of the results of the SAI scores and results of the document reviews.

All interviews were recorded. A table of questions was made for each of the interviews. Answers provided during the interviews were handwritten in this response table. Validity of written information was checked by listening to the recordings once more. No formal translation from Farsi to English was done for the interviews. Frequency of response analysis was done when required.

3.4.2 Search strategy for literature and documents

for the relevant documents. Annual reports, biannual and quarterly reports of both hospitals were obtained from the hospital administration and MoPH. Additional documents were supplied by some of the key informants as there was no central database for reports at MoPH or at the hospital level. Google was used as a search engine to obtain specific country background data.

For the internet-based literature review, the combination of the following keywords was used: quality delivery care OR quality care OR quality delivery) AND (Afghanistan or Afghan* or low income country) AND (infrastructure OR staff OR equipment OR electric power OR water OR waste management OR training OR patient file OR referral system OR partograph OR vital sign OR apgar score OR ultrasonography OR training plan OR best practices OR tools).

For all documents, only literature and documents published in the preceding 10 years were used. Documents and literature in English, Farsi and Pashto were included. Farsi and Pashto documents were translated to English by the author.

3.5 Data Processing and Analysis

3.5.1 Patient record review

Analysis of the data collected from the case extraction form has two objectives:

1. To determine the extent to which each of the variables for skilled attendance listed in the case extraction form were properly completed; and
2. To calculate a summary measure of the percentages of criteria met in each delivery record (the SAI).

Examination of the proportion of correctly completed responses for each variable in the data collection form will fulfil the first objective
To obtain the SAI, further analysis was conducted involving two steps: re-coding of each variable and computing a summary score. To recode, each variable was duplicated and recoded according to whether Skilled Attendance was observed for the corresponding criteria (coded '1') or a level of care falling short of Skilled Attendance (coded '0'). For example, if

the form indicates that a blood pressure measurement was taken at the start of labour and the value recorded was valid, then the variable corresponding to that criterion would be coded '1'. If there was no value recorded or it was invalid, then the variable would be coded '0'.

To make the scores more focused on the immediate clinical needs during a delivery, two subgroups of the criteria were selected to produce Skilled Attendance Indices indicating different levels of Skilled Attendance for normal and for complicated deliveries.

Once the levels of interest were determined, a variable was created equal to the sum of the codes for each record, resulting in a score that was used as a summary measure of the Skilled Attendance recorded for each delivery record reviewed. The score was reported as a percentage of the maximum possible score (i.e. if every required response was coded as '1' this would indicate that 100% Skilled Attendance was provided). This SAI was based on responses to most of the criteria in section A of the case extraction form for uncomplicated deliveries; and section (A) plus part of section (B) for complicated deliveries.

3.5.2 Document review

Documents were reviewed for answers to specific questions in relation to the conceptual framework used for this study. Answers were noted for each of the questions and later incorporated into the final document.

3.6 Ethical Considerations

Ethical approval of the study was taken from the Institutional Review Board of the MoPH. The research was approved by the Ethics Committee of the Royal Tropical Institute as will. The approval letters are attached in annex 1.

The purpose of the study was explained to both hospital directors, mentioning how the finding of the study will make us aware for better planning to improve the quality of care. The informed consent of each hospital, before collecting the data, was taken. Additionally, a separate data collection confidentiality agreement for the records review was signed by the data collectors. Copy of the form is attached in annex 2.

The informed consent form for the participants of the key informant interviews included information on the study such as the right to withdraw at any time they felt uncomfortable, duration of time, and how privacy and confidentiality of their information was ensured. Where interviews

were conducted by telephone/Skype, the consent form was read out and verbal consent was obtained. A copy of the form is attached in annex 3.

3.7 Data Quality Assurance

For the purposes of quality control for the records review, the author conducted a spot check in a sample of record review cases. The delivery records used were kept aside and marked to allow the author to compare completed case extraction forms with the records, or to follow up any queries if data collectors faced any difficulty. A technical team consisting of the author as well as key hospital staff was available to answer questions and clarify points throughout the data collection process.

3.8 Conceptual framework

In this study, the framework of capacity building for the quality of care, developed by Christopher Potter and Richard Brough (Potter & Brough 2004), was adopted. Figure 3 gives an overview of the framework. First, 'structure, system, and rules' are discussed such as the relevant policies governing the hospitals, referral system, and minimum standard of care. Second, the framework is concern about 'staff and infrastructure'. Third, the framework is about 'skill' which needs to explore the results of the records review and reflecting on the capacity of staff to fulfil their duties. Last, the framework discusses the tools used to provide quality care like partograph, apgar score, ultrasound, and patient file.
We adapted this useful framework to explore the causes which influence quality delivery and to guide the formulation of appropriate recommendations for improving the situation of delivery care in MMH and RBH.

Figure 3 : Christopher Potter and Richard Brough Framework
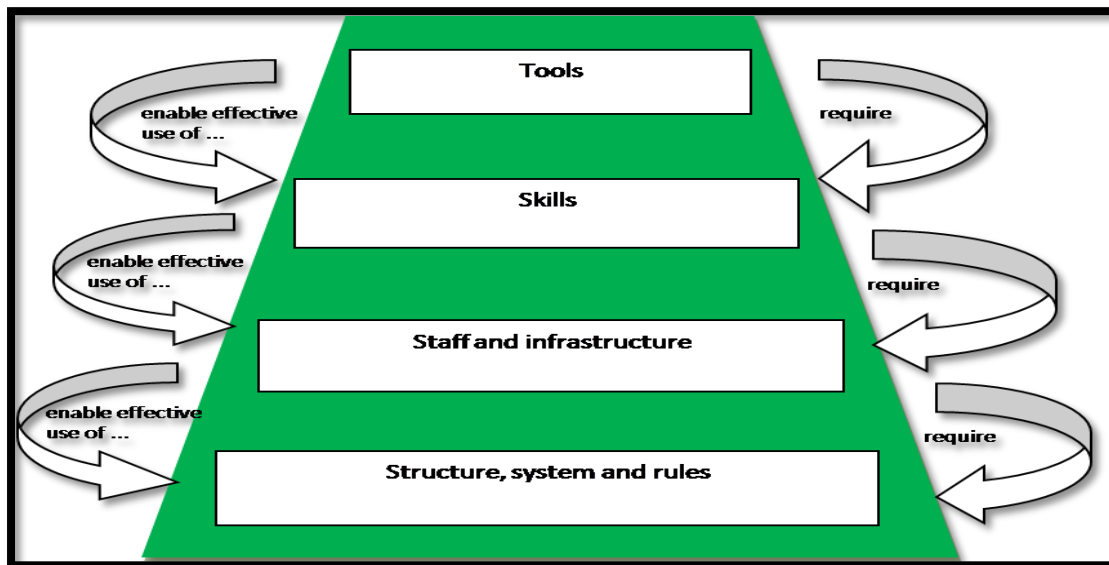
Source: (Potter & Brough 2004)

3.9 Limitation of study

We assessed quality from the health service perspective side and did not look at quality from a patient perspective, which gives only the supply-side view of the quality of care.

The patient records were selected from those deliveries which occurred during the second half of the year. During the first half of the year, records might not have been complete, given that it represented the start of the training period of the new midwives and new doctors starting their OB/GYN specialization.

4 Findings

This chapter is mainly focusing on the quality of skilled attendance at delivery and exploring basic factors that affected quality in MMH and RBH hospitals in Kabul. In order to describe health service related factors that affect quality of care, the capacity building pyramid is used to reflect on the skills of birth attendants during delivery, and the environment in which they work including staff and infrastructure, structure, system and rules.

4.1 Structure, System, and Rules

4.1.1 Organizational Structure

Both hospitals have organograms or a hierarchic of accountability. This hierarchical structure is comparable in both hospitals. The hospital director is responsible for the overall performance of the hospital such as the day to day management, quality of care, operation, human resources, financial management and procurement. The hospital director is reporting to the director of Kabul hospitals in MoPH. The head of medical affairs, administrator, heads of clinical wards, head of nursing and head of training programs are reporting to the hospital director. Each clinical ward has one head who reports to the hospital director. The pharmacy section, quality assurance unit and diagnostics unit report to the head of medical affairs. The finance and accounting, human resources, medical records and procurement subunits are reporting to the hospital administrator. The head of nursing supervises the Nursing Department, Operation Theatre and Central Sterilization Unit. Figure 3 shows the organizational structure of both hospitals.

Figure 4 : Organisation chart for Malalai and Rabie Balkhi Hospitals

4.1.2 Medical Record and Health Management Information System (HMIS)

Medical Record is responsible for the patient's medical records. The records are often stored in a centralized location. As part of the quality improvement process, hospitals are required to ensure that medical records, such as full systematic documentation of a patient's medical history and care over time, are well-documented. Nevertheless, the personnel are not fully attentive to this important activity and sometimes the records are incomplete.

In the past year, the hospital, with the support of the central HMIS department, has been able to set up a HMIS reporting mechanism. Currently, both hospitals are reporting to the HMIS department on a monthly basis on several defined indicators such as number of admissions, number of CS cases, number of still birth, number of normal deliveries, average length of stay, bed occupancy rate, etc.

4.1.3 Monitoring and Evaluation

The Monitoring and Evaluation (M&E) Directorate of MoPH sometimes pays visits to both hospitals to monitor the performance of the hospitals. However, according to the staff, they were not sure about the regularity of monitoring visits to both hospitals. They did not find the monitoring visits structured and effective.

The staff reported that in the past the hospitals had been several times evaluated as part of the national health facility survey of MoPH. Nevertheless, the hospital does not have an internal evaluation mechanism in place and the external evaluations are not regularly occurring.

4.1.4 Referral System

MMH and RBH are the referral sites for all provincial and regional hospitals for OB/GYN care. At present, both hospitals have standard referral procedures in place. However, there is no sufficient clarity at all levels of service provision to help understand who should be referred to which level and how the feedback mechanism should work between the RBH and MHH hospitals and other levels of care.
According to the HMIS data 1392 (2013-2014), MMH has attended 60 cases of referrals from the EPHS and BPHS health facilities which accounts for only 0.15 percent of the total number of admission in MMH in 1392.

Similarly, RBH had received 396 cases of referrals from other health facilities. This stands for only 1.05 percent of the total number of admission in RBH in 1392. According to my finding the referral from patient file review out of 307 patient file, 87% of cases are self referral cases to the hospital just 1.95% cases are referrals from the primary and secondary level and 12.7% cases are not recorded. The hospitals cover the 88% of all cases and their referral cases to the other facilities is 0.32% and 11% of cases are not properly recorded.

4.1.5 Minimum Standards of Care

Over the last 12 years, MMH and RBH have adopted a number of minimum standards of care (MoPH 2012b). Based on the needs of both hospitals, the MoPH Reproductive Health Directorate in coordination with other stakeholders developed and adapted a standardized recording system (Ministry of Public Health 2012b). This consists of a number of different maternity hospital medical records which include patient file for obstetrics, gynaecology, and newborn as well as registers for emergency, Operation Theatre and for the other services at the hospital.

Many guidelines such as ANC, PNC, delivery, CS and family planning were also developed, adopted and translated for implementation. Key informants reported that these guidelines are not well implemented and there are not enough copies available for the health staff.
MMH was supported by University Research Company (URC) in 2010 to 2012. The company established a quality assurance system in the hospital which is now runned by quality assurance unit of the hospital.
The United States Centres for Disease Control (CDC) was providing technical support to RBH during 2003 and 2010 to help the hospital meet the minimum standards of care. In spite of receiving a long term support from the CDC, at the moment, the hospital is struggling to meet quality standards (Interview).

4.1.6 Complaint Procedures

The hospital has main decision making committees (Hospital Community Board) which discusses the problems and issues related to hospital. The hospitals have maternal mortality, complication, occupation and complain committees to address problems on the various aspects of service delivery.
Responses from the interviews conducted with hospital quality assurance members indicate that the complaint procedures are not working well

because most of the female patients and their relatives are illiterate and cannot read and write. Besides, the necessary trust between the patients and the management of hospitals has not been built yet to give assurance to patients that their complains will be addressed accordingly.

4.1.7 Human Resources management

4.1.7.1   Recruitment

The Public Administration Reform (PAR) is in charge of the existing recruitment policy for the health system which was developed in 2002. The PAR is a unit under the Independent Administrative Reform and Civil Service Commission (IARCSC). Both hospitals were reformed, based on the policy developed by PAR and the staff requirements for efficient performance were developed.

The hospitals make a request to MoPH for recruitment of staff for a vacant position. The MoPH then makes a request to the Public Administration Reform (PAR) unit which is the unit that makes announcement of the recruitment in their website for 2-3 weeks. A group made up of representatives from MoPH, PAR, Hospital Director and administrative staff of the hospital shortlist the applicants for written examination. Next, the best performing candidates are shortlisted for interview. The interview is based on their job description and skills. If nobody fulfils the criteria the position will be announced again for the second round. In a situation where it becomes difficult to find a qualified candidate, the group can make changes in the criteria somehow to find someone to fill the position and then the hospital will conduct in service training for the candidate. The process is long to hire a staff and the work load may increase for months for the available staff.

4.1.7.2   Retention and motivation

Given that staff of both hospitals consists of civil servants, the job security is in place. The hospitals have no strategy for retention and motivation of health workforce but these issues are recognized by the MoPH in the National Work Force plan 2012 (MoPH 2012c).

4.1.7.3   Job Description

Job description is one of the most important parts of all activities that a health worker needs to understand. Both hospitals have job descriptions for all level of staff. The available information in the job description

contains the title and grade of the available position, the purpose of the job, location of the job, line of hierarchy, responsibilities of main activities of the position and requirement of the job. The staffs in both hospitals are accountable based on their job description. All hospital staff has a copy of their job description (Interview).

The key informants reported that the hospital staff are not appraised based on their performance and there is no system in place for recognition of good performance. Job decryptions are sometimes used only in the process of recruitment while some of the staff can hardly spell out the full description of their job. Sometimes there is an overlap in the performance of staff and it is difficult to hold the staff accountable for what they are doing.

4.2 Staff and infrastructure

4.2.1 Hospital capacity and structure

4.2.1.1 Service delivery requirements

Both hospitals provide basic and emergency obstetric and neonatal care services. They should therefore have the capacity to offer the following services:

- Normal delivery care
  - Management of normal pregnancy
  - Labor
  - Childbirth
  - Postpartum period (antibiotics, uterotonics, anticonvulsants; manual removal of placenta; removal of retained products and assisted vaginal childbirth)

- Care for the healthy newborn
  - Cleanliness
  - Thermal protection
  - Breast-feeding
  - Resuscitation
  - Eye care
  - Immunization
  - Vitamin K
  - Complication readiness and scheduling return visit
- Care for complicated deliveries
  - vacuum and forceps extraction
  - Anaesthesia, and surgical procedures such as caesarean section

- o blood transfusion
- o Management of complications (haemorrhage and obstructed labour)

- Paediatric care services for newborns with medical complications

- Identification of neonatal danger signs

- Quality emergency care of the sick baby

- Severe neonatal infection

- Neonatal tetanus

- Neonatal asphyxia

- Neonatal jaundice

- Birth defects

- Severe bleeding in the neonate

According to HMIS 2013, both hospitals attended totally 53842 cases of which 7929 cases were gone under Cesaraen Section (CS). Total rates of CS at RBH and MMH are 13.1 percent and 12.2 percent, respectively. The average rate of CS in both hospitals is 12.6 percent. Total number of the two hospital deaths were etimated 0.6 percent (370 cases) (MoPH 2013b).

4.2.1.2   Available infrastructure

Both hospitals are located in public buildings owned by MoPH. The hospital buildings require renovation, and face considerable organizational and structural problems (MoPH 2013b).

MMH was established in 1946 with the capacity of 150 beds. Later on, the hospital was upgraded to 200 beds. The hospital departments are divided in to nine groups: clinical wards, diagnostic center (laboratory, X-Rays, ultrasonograpy, etc.), pharmacy, medical record, family planning, quality improvement, training center, blood bank, and administration. The clinical wards consist of gynaecology, obstetrics, neonatology, fistula, and emergency. Totally, 88 beds are allocated to obstetric ward, 64 beds for gynaecology, 20 beds for neonatology, 22 beds for obstetric fistula, and 6 beds for emergency patients. Based on 2011-2012 estimates the bed occupancy rate in MMH was 75 percent (M0PH 2012a).

According to the administrative unit of the hospital a total off 12 rooms belong to Gye/ Obs department including antenatal room, high risk antenatal room, Post natal room, infected postnatal or, caesarean section C/S room, dilatation and curettage (D&C) room, evacuation and curettage (E&C) and two labour room. The total number of bathrooms are 27 and 15 of those are for the patient and 12 of them are for staff.

The RBH building was designed to be a polyclinic but has evolved into a complex hospital in 1991 to cover only female patients. According to the annual report the hospital has 174 beds and six wards (obstetrics, gynaecology, internal medicine, general surgery, neonatology and emergency). The hospital has non-clinical sections: blood bank, family planning, training center, pharmacy, medical record, quality improvement, and administration. Further, the hospital has a diagnostics section which includes laboratory, ultrasonograpy, CTG, electro-cardiography, x-rays, and colonoscopy. Totally, 69 beds are allocated for obstetrics cases, 53 beds for gynaecology, 24 beds for internal medicine, 19 beds for surgery, 5 beds for neonatology, and 4 beds for emergency patients. According to 2011-2012 report, the occupancy rate was estimated at 71 percent.

4.2.2 Staff

Totally, there were 437 and 365 staff working at MMH and RBH, respectively. Both hospitals have 257 doctors, 116 midwives, 58 nurses, 15 anaesthesiologists, 13 pharmacists, 46 administrative staff and 210 other staff including technicians, cleaners, guards, drivers, and cooks. Figure 4 shows the breakdown of category of staff at MMH and RBH (MoPH 2012a).

Figure 5 : Staff by Function
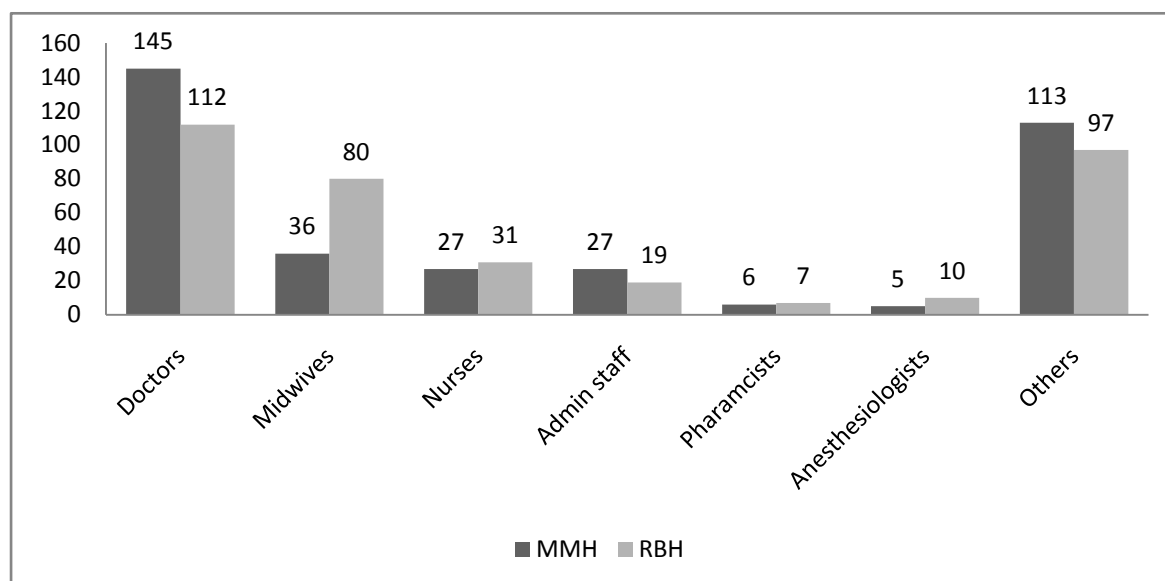
Source: (Ministry of Public Health 2012a)

Though there is no written policy on the proportion of the standard number of nurses and doctors, according to the General Directorate of Curative Medicine of MoPH, on average, national hospitals should have one doctor to every two nurses, yet MMH and RBH have eight and 7.2 doctors, respectively, to every two nurses. The MoPH also recommends that national hospitals should have an average of one doctor per four beds; while in MMH and RBH there are more 2.9 and 2.6 doctors per four beds, respectively. Likewise, while the MoPH recommends one nurse per two beds, MMH and RBH have less 0.4 per two beds (MOPH 2012a). The MoPH had not even set an unwritten policy on the proportion of number of midwives versus number of doctors and beds. Table 1 shows the MMH and RBH staffing pattern.

Table 1 : MMH and RBH Staffing Ratios

Category	MMH Ratio	RBH Ratio	MoPH Recommended Ratio
Doctor to Nurse	8 : 2	7.2 : 2	1 : 2
Doctor to Bed	2.9 : 4	2.6 : 4	1 : 4
Nurse to Bed	0.4 : 2	0.4 : 2	1 : 2

Source: (MoPH 2012a)

4.2.3 Equipment

Hospitals send monthly reports on all available equipment and the number how many of them are working and how many of them are not working, to the administration directorate of MoPH, However, there was not an institutionalized routine working system to respond regularly (Annual report, 2013).

At present there are 3 fully equipped delivery rooms with 10 deliveries in RBH, while MMH has 3 fully equipped delivery rooms with four beds. The examination tables in both hospitals have mattresses and linen.
The operation theatres in both hospitals are fully equipped for caesarean sections, including surgical beds, lights, trolleys, etc. All equipment is in working order at present. Autoclaves for the sterilization of packs of surgical equipment as well as sterile sets of materials for vacuum extraction and forceps deliveries are in place and functional.
In both hospitals the laundry facilities are available for the services and they have tailors as well.

4.2.4 Electricity and Water

The presence of electricity and water are essential in quality delivery care and much important in CS for the safety of patient and health staff. The electric power grid is available in both maternal hospitals with generator facilities and chlorinated water is available in both hospitals (Quarterly report, 2013). Based on interview, some key management staff of hospital mentioned that the underground water is contaminated; therefore the wells are chlorinated to make sure the activities such as washing the equipment and laundry are not disrupted. A separate water pipe is connected to both hospitals to let the hospitals enjoy the city potable water.

4.2.5 Waste Management system

The department of quality assurance reported that wastes were collected based on quality assurance standards in three categories, sharp waste, infection waste, and non infection waste. However, waste management was not performed in line with the standards at RBH. Some of the respondents reported that the incinerator at RBH is out of order and the wastes were mixed up and left to the municipality to collect it. Though based on quality assurance standards the municipality staff receive on-job

trainings on how to collect and dispose the waste, it is unclear how they handle it (interview).

The waste system of MMH is functional and follows the quality assurance standards. The wastes were collected in three different categories. The sharp and infected wastes were burned in the incinerator and the non-infected waste and placentas were regularly disposed by the municipality staff (Interview).

The safe disposal of waste water was also important. In both hospitals, the waste water produced by laundry, kitchen, washbasins, showers, sinks and all toilets went to a septic tank and is vacated timely (Interview).

4.2.6 Training unit

According to annual reports of both hospitals, they are teaching hospitals and they have a training unit which is responsible for the capacity building of residents at hospitals. Those training centres are responsible for theoretical and clinical competency trainings usually need more area for the demonstration and working on module which is a too limited area for the competency based training centre.

RBH training unit is staffed by five personnel – the training chief, two technical assistants, one administrative and one cleaner as well as a number of master trainers who are responsible for the family planning national training centre – effective teaching skills (ETS) training, post partum family planning and implant training and hospital management training courses (interview).

MMH training unit is staffed with seven personnel, the training chief, two technical assistants, one administrative one cleaner and master trainer who are responsible for the family planning national training centre. Training on effective teaching skills, post partum family planning, implant, BmONC, CmONC, newborn care, infection prevention, hospital management, and obstetric fistula are provided to the staff.

4.3 Skills

It is recognized that gaps in skills and knowledge exist among Afghan medical staff providing obstetric care. According to the EmONC need assessment; there were gaps in knowledge and skill among MNH staff (UNICEF 2010) at both hospitals.

4.3.1 Performance

Given that these tertiary hospitals are the teaching hospitals for the country and have an excess of qualified staff, a high level of skilled care should be expected. The performance of the staff present at delivery was assessed indirectly through the review of a random selection of files from 305 patients seen at RBH and MMH during the latter half of 2013. Particular shortcomings in reporting were related to history taking at admission, postpartum care, record-keeping for complicated deliveries and discharge records.

4.3.2 History taking

History taking is an important part of the quality performance for the mother and child health. It is a crucial element of quality to evaluate the patient's condition at labour, delivery and post delivery. Patient history is just taken by a health professional and the patient file is a guide for the health professional to follow and treat the patient in the best of her or his knowledge based on the available information in the file. The history taking of the patient easily demonstrates the skill and performance of health care providers. Based on the quality of history taking we can evaluate the outcome of the work. Through examining the patient files, 96 percent of files were found incomplete. The review of those file show low competency of history taking which is necessary for the follow up of the patients.

4.3.3 Postpartum care

We noted that the vital signs were frequently recorded before the delivery than after the delivery of the baby (see Table 2).

Table 2: Frequency of temperature recording before and after delivery based the hospitals standards

No	Vital sign	Before delivery	After delivery
1	Temperature	81%	25%
2	Pulse	79%	55%
3	Blood Pressure	81%	61%

Post partum information on the general condition of the mother and the baby was frequently not recorded. The date of discharge was recorded just in 21 percent of the files while the files had the diagnosis during

discharge only in 41 percent cases. Given that most of maternal and infant deaths occur in 24 hours of the birth of baby, post delivery guideline is strongly insisting on close follow up of baby and mother after delivery up to two days of delivery. Therefore, it is a crucial transitional time from child birth to the post partum for mother and baby. Respectively, strong monitoring of the baby and the mother is needed to control the rising complications from the childbirth.

Our findings show that in 80 percent of cases the time of delivery was not recorded. Likewise, in 27 percent of patient files the condition of baby at discharge was not recorded. In spite of all shortfalls, the Quality Assurance Directorate of MoPH reported that the postpartum care had been improved in the last one year and there was no postnatal deaths reported.

4.3.4 Discharge records

The study shows that though in 63 percent of cases the health condition of mothers were recorded, in 79 and 41 percent of cases, the discharge data and diagnosis of mother was not recorded, respectively. Mainly the health workers focused on the discharge card which was given to the patient for further follow up.

4.3.5 Complicated deliveries

The records indicated that in 3 percent of cases the senior staff were not informed about the cases upon recognition of complications, in 28 percent of cases the senior staff were informed on time, while in 69 percent of complicated cases, no single information was recorded in the files about who was contacted to address the complication.

Importantly, 88 percent of patient records had indication about the procedures which might belong to the capacity of health providers or other enabling factors. In 75 percent of cases the procedures were not recorded for monitoring of post procedure complications and dates were not recorded, while in 65 percent of cases the time of procedure were not recorded.

4.3.6 Training plan

The training centre had two kinds of plans for implementation; the first plan was for the residents under training at the hospital. It was a one year plan for a different department.

The first plan is for the staff of the hospitals and their training plans based on their training curricula. The second plan was for the short trainings programs which belong to national family planning training centre. National and international NGOs coordinate their trainings with the Reproductive Health Directorate of MoPH and they shift the training to one of those centres based on the time availability of the training centres.

4.4 Tools

4.4.1 Patient file

Patient file is a tool which is the requirement of health care providers and it exists for every individual patient and it always compiles and is maintained by health care providers. The patient files are helping the process of treatment and monitoring of the patient based on available information in the file. The information of patient file should have privacy and no one without health professionality should have access to it.

The obstetric patient file includes the necessary information that belong to mother and infant for instance patient history, Gyn/Oby history, physical history, lab investigation form, place for doctor consultations, guidance for labour, sheet for chief call, on call, and second call. Progress note, latent phase, partograph, obstetric and new born information, post delivery counseling, discharge information.

The review of the patient files in both hospitals shows that there are considerable reporting gaps. The calculation of the Skilled Attendants Index indicated that on average, 73 percent of the required information was correctly entered on the patient charts. If one takes a cut-off point of 80 percent, permitting 20 percent of the information on a patient chart to be missing /incomplete, only 23 percent of the reviewed records would meet this criterion. No single patient file was found to have recorded the essential information correctly.

4.4.1.1   Partograph

Partograph is a vital tool to provide information or monitor the progress of labour to make a decision on time to save the lives of mother and child. Partograph was an implant part of the patient file. Totally, 44 percent of partographs were fully completed, while 50 percent of partographs were partially completed and 6 percent were recorded without information at all.

4.4.1.2   Apgar score

The Apgar score is a screening tool to assess the infant health in one minute and five minutes after birth. The Apgar score is also part of the patient file. We found out that in 84 percent of patient files the Apgar score in the first minute of birth was recorded.

4.4.2 Quality Assurance tools

Quality assurance approach has been introduced at RBH and MMH hospitals since 2004 and 2010, respectively. Quality assurance approaches in both hospitals are focusing to assess and support the health provider to achieve their targets. Quality assurance assessing tools assess the competency and skill of the health provider for effective provision of health services. Although it is assessing the quality of the health providers' performance in ANC, PNC, normal delivery care, complicated delivery care, CS and management of complications during pregnancy.

Our findings show that these tools were used on daily bases to evaluate the improvement and find the gap in the health services and management services. The hospitals shared their findings with the quality assurance members and the hospital management team for further processes.

5 Good practices

5.1 Quality assurance in RBH and MMH

Quality assurance approaches improve the performance and quality of health services.

In both hospitals quality assurance committees were in place. The quality assurance tool used was adapted from the JHPIEGO standard based management tools (SBM-R). It consists of four easy steps (USAID 2011):

1. Set standards/targets,
2. Implement standards,
3. Measure the progress through quality assurance tool, and
4. Reward for achieving set targets.

Accordign to the annual report of MMH, the quality assurance program started the implementation at MMHin April 2010. As a result, the infant breast feeding counseling was improved from 10 percent to 80 percent of patients in ten months of the implementation. This was achieved by improving the capacity of health workers through conducting refresher trainings programs on post delivery counseling.

The quality assurance department of RBH reported that the hospital adopted the quality assurance program in 2004. One of the findings, and points addressed through their program, was that the decision making time of the patient family for S/C was too long. To improve it, they attached the consent form to every patient file. As a result of this change, where initially only 3 percent of patients were able to make a decision in less than 30 minutes, the decision making process was increased to 20.3 of all CS cases.

In both hospitals, the importance of the quality assurance processes persuaded the hospital management teams to include quality assurance units in the structure of their hospitals.

5.2 Structure, system and rules

Organization capacity building is one of the most important contributors for the efficient change in health system. One study adapted the WHO conceptual framework for social determinant of health (Niyi 2013) and found health services provision consisted of an integrated structure that needed to be build by technical and financial support of all health institutions. The responsibility of health service organization is to ensure

the health of their citizens is optimized, i.e. ensuring the gaps for the poor and elderly through suitable funding mechanism. The provision of safe and quality hospital services is another example. Quality health services provision effectively requires good coordination, prioritizing population need, responsiveness, equity, good staffing and resource management of the available funding of the organization. A health system's main aim is to achieve desirable health outcomes by continuously seeking toimprove performance and clear processes for monitoring and supervision (Niyi 2013).

5.2.1 International quality accreditation and certification

There are two mechanisms of external assessment for improving safety and quality that can serve as targets for quality assurance, and once obtained, they can be considered a mark of achievement. One mechanism is hospital accreditation through an independent third party mechanism, and another is International Standardisation Organisation (ISO) 9001 certification. Both mechanisms have shown to have merit in improving a hospital's quality standards in comparison to hospitals that have no accreditation or ISO certification (Shaw C et al. 2010).

Accreditation is a process of internal assessment and external peer-review through which, for example, a "Global Gold Seal of Approval" is issued if an institution meets the established standards. One internationally recognized accreditation body for health care is the Joint Commission International that has accredited hospitals in 60 countries worldwide, including India and Pakistan. The organization sets rigorous standards that must be met by hospitals before an accreditation certificate is issued. Both accreditation and certification are valid for only a limited period, and re-accreditation processes must be undertaken regularly after the initial certificate has been issued.

Another mechanism to ensure quality of service provision is the International Organisation of Standards (ISO) which was formed in 1997. The organisation is entrusted with ensuring quality of care by setting guide lines and standards in all segments of the service provision sector, including the health sector. ISO does not perform the certifications itself. Instead, independent certification bodies perform the certifications using ISO standards (Nurre et al. 2000). Jointly with its 163 partners, ISO assesses and certifies organizations and institutions to see whether they can meet international quality standards. They also provide a certified training, equipment and managerial systems according to international

guide lines and standards. Not only that, ultimately they make sure that the patients get the required quality of care at the right time (Nurre et al. 2000). Organizations and hospitals can choose to work towards ISO certification as a mark of recognition for the quality of services they provide. It is a measure that is most commonly used in European hospitals, but certification is increasingly being offered in developing countries. Afghanistan has been a correspondent member of ISO since 2005 (ISO 2014).

Our findings show that none of the study hospitals have gone neither through accreditation nor ISO certification. The hospitals do not have good understandings of both processes and there is no plan in place for the future to make the hospitals good candidates for the accreditation and/or ISO certification.

5.3 Staff and infrastructure

Adequate staffing is an important factor in achieving quality of care. A study conducted in Uganda shows that most of the participants in a FGD believed shortage of staff was one of the impediments to improve quality of care (Bateganya et al. 2009). They also mentioned congestion due to limited infrastructure as another factor that affects the quality of care (Bateganya et al. 2009). Good salary, rewards, and recognition were some of the factors that were essential in staff recruitment and retention, but also motivated staff toward a better performance (Lambrou et al. 2010).

In many delivery facilities a gross shortage of delivery beds and delivery tables ultimately affects the quality of care. According to WHO standards, 30 to 32 beds are needed per 1000 deliveries per year, with a minimum of 6 to 8 delivery tables (UNICEF 2010). The number of delivery beds and tables were much lower in thses maternity hospitals than in the other lower-level health facilities (UNICEF 2010).

5.4 Skills & Capacity building

The World Health Organization recommends a quality approach to enhance the capacity of available staff in addition to improving the availability, competence, responsiveness and productivity of health staff. A lifelong training plan should be in place for the staff to update their knowledge and improve their performance. Supportive supervision to assist in knowledge and skill-building is another instrument to improving

the performance of staff, especially when they have clear job descriptions in place (WHO 2006).

The ability of an individual to effectively execute his duties based on his knowledge and skills is known as competency. The ability of a healthcare worker to perform their duties competently has a lot of significance in improving the quality of care and in determining the outcome of the delivery. The competency of the birth attendance, is reflected by a health worker's possession of the required knowledge and skills to be able to conduct delivery without undesirable outcomes. In 1995 Rwanda had a very high maternal mortality ratio of about 2,318 per 100,000 live births (Boucar et al. 2004). But they developed programs to improve the competency of the birth attendants in order to reduce the maternal mortality. To support this process, they developed four dimensional checklists. The dimensions of the checklist were as follows:

- It should measure the competence of the birth attendant.
- The checklist should be easy to apply and evaluate.
- The checklist should be applied in a day to save time of health workers and patients.
- The checklist should be applicable and affordable in low resource setting.

Apart from the checklist, oral and written exams were also conducted to check staff competency.

The study showed that in order to achieve competence of the birth attendants, an enabling environment is essential. Even though the birth attendants were competent, a conducive working environment, effective supportive supervision, regular training, and good quality equipment are required . An enabling environment provides the necessary motivation staff need in performing their duties (Boucar et al. 2004).

5.5 Quality assurance tools

Ecuador applies quality assurance interventions and made a difference in technical quality of care. It shows by increasing the quality services that perceived by the clients the demand increase. They developed the quality checklist based on their national norms of ministry of health. They achieved 100 percent of technical quality and 80 percent standard process was achieved just in two months. This intervention is different from the other quality assurance process because they include an element for the client's satisfaction (Hermidah & Robiliano 2002).

Based on Quality Assurance Directorate reports, finding show that this is a new approch in both hospitals but still the hospitals have good achevements in technical and proces standeards and RBH don't have any post Partum death during lase one year and and MMH increse the infant breast feeding counling from 10 to80 percent.

5.6 Refferal system

Referral system is one of the most important components of every health system in developing countries and it is an important part for primary health care emergencies. The evidence shows that if women with pregnancy complications have easy access to quality obstetric care, they can improve the maternal health, but many factor affecting mothers to receive quality services in urban and rural setting. The evidence shows that referral should be based on diversity of culture and it could be deferent at each setting because of rapid changes in health care issues, staffing, new technology, challenges and opportunities for reaching to health facility for quality care (Murray & Pearson 2006).

A study in India indicated that filter of patient through near besic health facilites decrease the overload of hospital and improving the effective of delevery care in the present setting (RamaRao S et al. 2001).

A study in Zambia showed that a competent midwife decresed the overload on the referral hospital by running a satellite clinic network and reduce number of deliveries from 24,000 in 1982 to 10,500 in 1998 (Murry S et al. 2001).

6 Discussion

6.1 Structure, system and rules

In terms of structure, system and rules that are in place to support quality of care in RBH and MMH in Kabul, this section will seek to highlight the key strengths and limitations of this level of intervention, focusing on the existing QA processes as well as the referral system.

According to the AfghanistanNationalHealthPolicy the mission of the MoPH is to provide quality health services to all people of Afghanistan..Quality assurance (QA) is one of the most important structure and systemsapproaches to ensuring thisquality of services.Started in 2004 in RBH and in 2010 in MMH, QA has become anintegral part of the hospital structure. The design of the QA program is in line with the lines of responsibility and accountability ofthe system. The QA departments can claimsome visible achievements in improving quality of care, as for instance RBH improved the infant breast feeding counselling prevalence from 10% to 80% of inpatients, and MMH improved the proportion of cases able to make emergency decisions in less than 30 minutes from 3% to 20,3%.

Research indicated that the coordination and reporting systems of anorganization areimportant in achieving itsgoals and function, and thatcapacity building programs should address quality of care both at organizational and individual level. Ideally, the organizational culture should be based on hard work and good performance of the health workers. Also, an internal and external quality evaluation program should be in place for improving the quality health services. Although both RBH and MMH have quality assurance programs in place, this study showed that there were still gaps in service provision quality, for example in postpartum and discharge care. At the same time there is no link between the training programs at the two hospitals and the QA processes when they are being implemented. In Afghanistan, because tertiary hospitals are not the priority of the MoPH's monitoring and evaluation department, the existing QA departments at RBH and MMH are solely responsible for internal monitoring and evaluation to improve the quality of hospital care. However, at present thehospitals' QA programs need more attention to manage the requirement of quality assurance health services. Since the withdrawal of support in the previous years, the hospitals have limited resources for their QA programs, andare in need of technical and financial support to ensure the continuity of the QA processes and their day-to-day operations.

Active referral systems are known to decrease the number of normal cases delivering at specialist hospitals and improve the quality of hospital services. For RBH and MMH, the referral structure is in place and outlined in supporting documents like the BPHS and EPHS, but it is not working properly as women prefer delivering at hospitals over BPHS facilities. The main reasons for thisarethe limited working hours of the primary health facilities and shortage of the female staff. The workinghours of most primary health facilities directly affects the referral system because they extend only from 8 AM to 4 PM. Travelling a considerable distance to deliver at a facility that may not be open at the time that delivery happens will make families choose facilities that offer services 24 hours per day. If BPHS facilities are reached, when patients do not deliver up to 4 PM the facilities may refer them to a nearby hospital.This provides the initiative for self referral to reach the highest available services. The shortage of female staff in the primary level is another cause of unnecessary referral toGyne/ Obs hospitals. The records review showed that both hospitals receive only 2% referred cases, meaning that most patients are self-referred. The hospital's referral to the other facilities is also low, at 0.3%.Passive referral systems and unnecessary self referral contribute to the overload of the hospital and affects the quality of care services provided as hospitals are, as a result, required to work above their capacity.

6.2 Infrastructure

The quality of available health care services is facilitated by adequate hospital infrastructure. The physical buildings of MMH and RBH are not designed to serve at tertiary hospital and they are also not large enough for the number of patients seeking care. Although both hospitals over time added a lot of additional necessary rooms to provide quality delivery care, they remain overloaded and the spaces not sufficient to accommodate the number of patients, and as a result, provide quality of care. Overcrowding of patients in the rooms, as well as a lack of physical space, includingoffice space, for the staff to work in, will affect the quality and performance of the health workers. In 2013, 30,753 normal deliveries occur in MMH while they have only 3 delivery rooms with 4 delivery beds. According to the WHO standards (WHO 1999), for every 1000 deliveries per year, 6-8 delivery beds are required. According to WHO standards, with four delivery beds, MMH has the capacity for only 667 deliveries per year, while in reality they are attending to 46 times more deliveries than their 'official' capacity. RBH saw 23,089 normal deliveries in the year 2013. The hospital has just on delivery room with 10 delivery beds and based the above standards; the actual capacity is therefore1, 667

deliveries per year. For 2013, the hospital was therefore working at 13 times above its capacity if it were to meet quality standards. In both hospitals the number of delivery beds should be increased to improve quality of care and the performance of health providers, as well as more privacy to the patients, but the main issue is the lack of space. Both hospitals are located in the center of the city and there is no space to expand further. Although RBH is planning to shift to a new building, it is unclear whether this new building will also be able to meet the infrastructure standards for providing adequate quality of care, in terms of both working space for the staff and privacy and accommodation for the patients.

The remaining infrastructural requirements such as water, electricity supply, waiting areas, parking areas, and equipment such as examination beds, delivery beds, and desks and chairs for staff to work at are all below the requirements for proper service delivery as a result of the lack of space in both hospital buildings.

6.3 Skills and Tools

Overall, the results of the records review indicated that the quality of services provided at RBH and MMH are adequate. Within the sampling frame, no cases of maternal deaths were included, but the case fatality rate (CFR) at the hospitals is very low and this would not have biased results.

The records review indicated that the essential tools for providing quality of delivery care, such as the partograph but also the patient charts themselves, are in place and are being used for nearly all deliveries. The skills of the staff in terms of providing basic services such as taking vital signs and using important tools such as the partograph during delivery appeared to be adequate. On the other hand, a few shortcomings were also identified during the review. The main gaps were found to be related to history taking, and the delivery of postpartum care and delivery care. This applied to both complicated cases and normal deliveries. It is possible that, due to the fact that the majority of cases that are seen in both hospitals are normal deliveries, staff has become a bit lazy and is assuming that these elements of care are not really important, because the deliveries are 'normal'. On the other hand, it can also reflect a lack of skills and understanding by the staff about the relative importance of these elements of quality care.

Because both RBH and MMH are training hospitals, the training unit at the hospital plays an important role in determining the health provider's

performance. In RBH and MMH, Responsible for the residence capacity building and training, the training units at both hospitals. Have sufficient staff. Their first responsibility is to conduct quality capacity building trainings for both trainees and staff. There is limited coordination between QA and training unit to build the capacity of the existing health workers based on the need for improved quality of services. Although the training unit is responsible for improving knowledge and skills of all health providers for quality performance, their focus at the moment is primarily on the needs of the trainees. The need to provide (additional) training to current staff and trainees on topics related to the outcomes of the quality assurance processes is not met, partially because the coordination between the QA and the training departments is weak.

7 Conclusion

The quality of delivery care in MMH and RBH hospitals in Kabul, Afghanistan, appear to be improving since the fall of the Taliban regime in 2001. Although overall quality levels appear to be adequate, there is still need for further improvement.

The lack of training and infrastructure that affect the quality of care at RBH and MMH need to be addressed systematically, and requires improvements at leadership and policy level if they are to be addressed. Although the BPHS and EPHS guidelines are in place to help guide service delivery for primary, secondary and tertiary care, service delivery in specialist hospitals are not captured and guided by these documents. As such, specialist hospitals do not have a framework which outlines standardized support from the government and donors. This seriously limits the capacity of the hospitals to address key shortcomings in their overall work and quality of care.

This is evident in the QA processes at the hospitals. Although both hospitals have QA committees and procedures in place to monitor and address quality issues, the committees lack the means to implement their work, and are thus having very little impact at the moment. Further strengthening is needed, but the QA departments lack financial and technical resources to enhance their performance. Financial support from the MoPH is essential, and should ideally be added to the hospitals' autonomy budget, earmarked for the quality assurance program.

The main issue related to quality of care appears to be capacity. The hospitals are both hugely overloaded. Although staff numbers appear to be sufficient, there is insufficient physical space for patients to wait and to deliver comfortably, and just as important, for health staff to properly perform their duties. The capacity for the provision of delivery services in Kabul needs to be addressed urgently as facilities are being used at over ten times their intended capacity. This can be done either by construction and equipping of new hospital buildings for both RBH and MMH, or the opening of new delivery hospitals or facilities. This does, however, need to be supported by improvements in the capacity to provide normal delivery care at both BPHS and EPHS facilities, followed by the more consistent reinforcement of the existing referral policy.

Although capacity restrictions are partially related to the shortage of physical space, The demand for services also plays a role. A huge

proportion of normal deliveries are occurring in facilities that should focus primarily on specialist services. This can be attributed to the fact that the referral structure is not working properly, particularly due to the fact that the delivery care facilities provided through the BPHS cannot provide 24-hour services due to lack of staff and limited working hours.

In terms of improving the skill levels of the staff in line with QA needs, there is a need for coordination between the quality assurance and the training department of both hospitals. Planning and implementation of training courses that address gaps in quality of services is essential to enhance the effective and efficient use of available resources. The findings of this assessment can be used as a starting point for discussion.

8 Recommendation

Overall, quality of delivery care is an important health issue in Afghanistan. Policy changes alone cannot be able to ensure quality health care in the short and long term. Without extra internal and external support.

Policy level

- MoPH needs to explore ways through which specialist hospitals such as RBH and MMH are included in the main service delivery approaches such as EPHS, in order to ensure that a platform is available through which technical and financial support to these hospitals can be facilitated.
- MoPH needs to advocate with the Ministry of Finance and international donors to address the urgent need for additional hospital space for the provision of 24-hour delivery services in Kabul and the surrounding provinces.
- MoPH needs to clearly earmark financial support for the quality assurance departments at the hospitals and provide this through the hospital autonomy budget.

RBH and MMH hospital level

- Annual QA assurance assessments need to be implemented and action plans drawn up in accordance with the findings, in order to address the gaps identified
- Coordination and collaboration needs to be improved between the QA department and the training department of the hospitals by sharing their activity plans, conducting meetings and streamlining internal reporting system.

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10 Annex

10.1 Annex 1: MoPH Institutional Review Board Approval

Islamic Republic of Afghanistan
Ministry of Public Health
Afghanistan National Public Health Institute
Institutional Review Board

Date: 08/June/2014

No. 479644

To: Dr Kawsar Salehi
ICHD Student
Royal Tropical Institute, International Course in Health Development

Subject: Approval for proposal entitled, **"Quality of Clinical Care in Malalai and Rabia Balkhi Maternity Hospitals"**.

Dear Madam,

Institutional Review Board, Ministry of Public Health has examined and reviewed your proposal entitled, **"Quality of Clinical Care in Malalai and Rabia Balkhi Maternity Hospitals"**.

We are pleased to note satisfactory response therefore, your study is approved. However, we reserve the rights to monitor and audit your study and any violation of ethical norms during the course of study shall lead to withdrawal of given approval.

The duration of approval for a study to begin the research project is valid for six months and the exact date of research project implementation (start and end) should be informed to IRB secretary.

You are bound to share the result of your study with MoPH prior any dissemination plan.

Sincerely,

Bashir Noormal MD, MPH
Director General
Afghanistan National Public Health Institute (ANPHI) &
Chairman, Institutional Review Board (IRB)
Ministry of Public Health

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10.2 Annex 2: Data Collection Confidentiality Agreement

Data Collection Confidentiality Agreement

For Records Review

I, _____, agree to protect private and confidential

data secured during the data collection and patient record review for the quality care.

Further, I,

a) Agree to protect private and confidential data and release individually identifiable data only to those authorized to see it;

b) Fully agree to conduct myself at all times in a manner that will obtain the respect and confidence of all hospital staff and I will not betray by divulging information obtained to anyone other than authorized representatives of the research team and research Department of Health.

c) Agree to collected patient record information for the purpose of providing quality improvement information to the hospitals.

and

e) Understand that failure to comply with the terms of this agreement will be considered a breach of applicable state and federal laws governing health data, and penalties for state employees who commit a wilful violation of the research department of MoPH Data Practices Act may include suspension without pay,

_____

Data Collector/ signature Date

10.3 Annex 3: Expert Interview Participant Information Sheet
Study title: "Quality assessment of Clinical Care in Malalai and Rabia Balkhi Maternity Hospitals"

Expert Interview Participant Information Sheet

Study approved by the ethics committees of the Royal Tropical Institute (Amsterdam) and the Institutional Review Board of the Ministry of Public Health of Afghanistan. This sheet provides information on a study which you have been asked to participate in.

We are undertaking a study on the quality of clinical care in two hospitals in Kabul. The study is part of a Masters of Public Health Thesis at the Royal Tropical Institute in Amsterdam, the Natherlands. The aim of the study is to explore the quality of care provided at Malalai and Rabia Balkhi hospitals in Kabul through a review of patient charts.

The research for this study also involves conducting a small number of interviews with experts on service provision for deliveries in Afghanistan. You were selected to participate in this interview because of your expertise in this field. The interview could take approximately 20 minutes, and it will cover topics that have arisen as a result of the findings of the assessment of quality of record-keeping for deliveries in the two selected hospitals.

Participation in this interview is completely voluntary so you should feel completely free to refuse to participate, to stop participating even during the interview, or to not answer questions you do not feel comfortable with. The study does not give any benefits for you. However, our findings may help to inform the provision of reproductive health services in the long-term future.

The interview will take place in a private space and will be confidential. The conversation will be recorded. The recording will be securely stored by the interviewer and no one else will be able to listen to it. The interviewer will listen to it only once to verify the accuracy of the quotes she has taken during the original interview. The results will then be further analysed and a final thesis will be produced. No names will be used in the recording. Quotes from the conversation may be used in the report. Any quotes used in the reports will be cited using the participant's status (e.g. "a hospital worker noted…") or will be completely anonymous

(e.g. "one participant noted…"). None of the quotes will have a participant's name attached and so complete confidentiality will be maintained.

If you have any questions on this study please feel free to ask them before and during the interview. If you have any questions on the study in the future you can contact us on the details at the top of this sheet.