Exploring barriers to utilization of Basic Package of Health Services (BPHS) by mothers in Afghanistan

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Afghanistan

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A thesis submitted in partial fulfillment of the requirement for the degree of Master of Public Health

by

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Afghanistan

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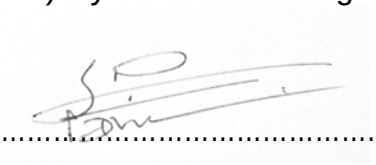

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Acronyms

AFN	Afghan Currency
AHS	Afghanistan Household Survey
AMS	Afghanistan Mortality Survey
ANC	Antenatal Care
ANDS	Afghanistan National Development Strategy
ANPHA	Afghan National Public Health Association
ARTF	Afghanistan Reconstruction Trust Fund
BEmOC	Basic Emergency Obstetric Care
BHC	Basic Health Center
BPHS	Basic Package of Health Services
BSC	Balanced Score Card
BT	Blood Transfusion
CBHI	Community-Based Health Insurance
CEmOC	Comprehensive Emergency Obstetric Care
CGHN	Consultative Group on Health and Nutrition
CHC	Comprehensive Health Center
CHW	Community Health Worker
CMW	Community Midwife
CoIA	Commission on Information and Accountability
CS	Caesarean Section
CSO	Central Statistics Organization
DH	District Hospital
EmOC	Emergency Obstetric Care
EPHS	Essential Package of Hospital Services
EU	European Union
FP	Family Planning
FR	Fertility Rate
GCMU	Grant & services Contract Management Unit
GDP	Gross Domestic Product
HEFD	Health Economics and Financing Directorate
HMIS	Health Management Information System
HNSS	Health and Nutrition Sector Strategy
HR	Human Resources
HSC	Health Sub Center
HSS	Health Systems Strengthening
IIHMR	Indian Institute of Health Management Research
IMR	Infant Mortality Rate

IRoA	Islamic Republic of Afghanistan
JHU	Johns Hopkins University
M&E	Monitoring and Evaluation
MD	Medical Doctor
MDGs	Millennium Development Goals
MHT	Mobile Health Team
MMR	Maternal Mortality Ratio
MOM	Mobile Obstetric Maternal Health Worker
MoPH	Ministry of Public Health
NGO	Non-Governmental Organization
NRVA	National Risk and Vulnerability Assessment
NSP	National Salary Policy
OOP	Out-Of-Pocket
PH	Provincial Hospital
PNC	Postnatal Care
PPA	Performance based Partnership Agreement
PSAP	Physician Shortage Area Program
RBF	Result Based Financing
RH	Regional Hospital
SBA	Skilled Birth Attendant
STI	Sexually Transmitted Infections
TB	Tuberculosis
TBA	Traditional Birth Attendance
THE	Total Health Expenditure
TT	Tetanus Toxoid
TV	Television
UNICEF	United Nations Children's Fund
UHC	Universal Health Coverage
UPHS	Universal Package of Health Services
USAID	United States Agency for International Development
USD	United States Dollar
WHO	World Health Organization
WB	The World Bank

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Abstract:

Background:

The maternal mortality ratio (MMR) in Afghanistan is high (400 per 100,000 live births) compared to the countries in the region and some of the developing countries. Women in Afghanistan die due to pregnancy-related complications because they cannot access to the maternal services entitled to them in their own area.

Objectives:

The objective of the study is to explore underlying factors influencing mothers' utilization of health services provided as part of the Basic Package of Health Services (BPHS) in Afghanistan from the demand and supply side perspectives. This is done to provide evidence informed practical solutions to tackling both types of barriers concurrently, leading to clear recommendations for improvement of the health system in Afghanistan.

Method: A descriptive study based on literature review.

Findings:

There is still a high maternal mortality in Afghanistan because of underlying factors that hinders the access of women to healthcare services. Most geographically hard to reach provinces have poorly functioning health services. There is still a huge gap in access to skilled birth attendance across the country. In addition, in some areas with insecurity, women cannot access health services. Despite the fact that health services are free, there is huge out-of-pocket expenditure for health care and inequitable distribution of services. The indirect cost, social norms, women's education, cultural and behavioral factors impede access to health services.

Conclusion:

Women of childbearing age remain vulnerable to disability and death (morbidity and mortality) due to lack of access to maternal health service particularly emergency obstetric care. The multi-faceted barriers can be removed if targeted policies, political will, balanced sectorial development and financial means are in place. The piloting of innovative approaches to service delivery can contribute to the longer-term strengthening of maternal health services.

Word counts: from chapter one up to end of chapter five **11,397** words

Introduction

My experience in public health began with new reforms in the health system of Afghanistan in the last decade. I gained experience in public health while working with international and national Non-governmental Organizations (NGO) in provinces and the capital Kabul. For the last five years I have been working at the Ministry of Public Health. As a senior grant consultant at the Ministry of Public Health (MoPH), I used to oversee the provision of health services under the Basic Package of Health Services (BPHS) and Essential Package of Hospital Services (EPHS) programs financed by the World Bank (WB) and European Commission (EU) in 18 provinces out of 34.

In 2010, as a professional in the health service provision, I was appointed to analyze the maternal and children health service utilization situation. In cooperation with a small team, we assessed the underlying barriers for the utilization of health services and found that majority of population particularly women have no access to health services. The assignment was small scale and not very insightful. This thesis will avail the opportunity to gain in-depth understanding on the issue and try to come up with useful recommendations for MoPH to improve access barriers to maternal health.

Worldwide, approximately 800 women die every day from preventable causes related to childbirth and pregnancy and about 99% of all those deaths occur in developing countries (1). More than 50% of all maternal mortality were in six countries; Afghanistan, Pakistan, India, Niger, Ethiopia, and Democratic Republic of the Congo in 2008 (2).

Women die because of complications related to pregnancy and childbirth. The most common complications that cause nearly 75% of deaths are severe bleeding mostly after childbirth, infections generally after childbirth, high blood pressure, pre eclampsia/eclampsia, obstructed labor and unsafe abortions (1).

In 2010, the maternal mortality ratio (MMR) was 400 per 100,000 live births (LB) in Afghanistan(3). However, Afghanistan has improved in maternal health in the last decade. Afghan women still face higher risks of death during pregnancy and delivery, compared to women in neighboring countries. For instance the Maternal Mortality Ratio (MMR) in Pakistan (2010) was 260/100,000 LB, in Bangladesh (2010) it was 240/100,000 LB, in India (2010) it was 200/100,000 LB and in Nepal (2010) it was 170/100,000 LB (4).

The leading causes of maternal death in Afghanistan are hemorrhage (56%), followed by pre eclampsia/ eclampsia (20%), prolonged obstructed labor (11%), sepsis (5%), indirect cause (5%) and other direct causes (3%). In Afghanistan, the data about abortion is underestimated because abortion is illegal and highly stigmatized by the society. Therefore, women could report induced abortion as spontaneous or stillbirth or could hide both conditions (5).

Considering these facts, I will explore more in-depth underlying factors influencing the utilization of the health services particularly maternal services in BPHS rural health facilities of Afghanistan from different angles of supply and demand sides perspectives. Aim is to formulate policy development and strategic decisions by MoPH towards achieving Millennium Development Goals (MDG4 and 5).

Chapter 1: Country background

Geography

Afghanistan is a mountainous and landlocked country located in central and south Asia. Nearly half of the country has an elevation of 2000 meters or more above sea level. Except in some north central and southern regions of the country most of the country is occupied by mountains (6). The Hindukush mountains divide the country into three different ecological zones, with different climate, altitude and natural resources (7).

The area is about 647,500 square kilometers. The political borders are about 2000 Kilometers in the north with Turkmenistan, Uzbekistan and Tajikistan, 2430 kilometers in the south and east with Pakistan, 936 kilometers in the west with Iran and about 76 kilometers in the Wakhan corridor in the northeast with China (6).

Administratively Afghanistan is divided into eight development regions, 34 provinces and 394 administrative districts. The districts are divided into smaller units called villages or municipalities (7). The official name of the country is Islamic Republic of Afghanistan (IRoA).

Demography

The estimated population of Afghanistan is 25.5 millions (8); the rural population is about 75%. Due to civil war, Afghanistan has the highest proportion of orphans and widows in the world, 1.6 million and 1 million respectively in 2005 (6). Afghanistan has one of the youngest populations in the world. 48% of the population is under 15 years of age and 16% of the population is under five years of age. The age distribution reflects high fertility and mortality in the population (6). The estimated birthrate was 45.8 per 1000 and death rate was about 19.6 per 1000. The population growth is 2.6% per year in 2008 (6). The average number of people in a household is 7.5 (9). Life expectancy at birth was 61 in 2012 (10)

Afghanistan is a multiethnic country; there are four dominant ethnic groups, Pashtun, Tajik, Hazara and Uzbeks. Dari is a common language spoken by around 79% of population and it is the main language among other ethnic groups such as Pashtun, Uzbek, Turkman, Pashai, Norstani, Baloch, Arab and Gujor. Dari and Pashtu are official languages of the government. Islam is the religion of around 99% of the population (11).

Figure 1: map of Afghanistan

Source: *http://www.mapsopensource.com/images/afghanistan-map-black-and-white.gif*

Socioeconomic and political context

Since 2002, after overthrowing the Taliban regime, a new democratic government was established. Substantial reforms are taking place with international support (6).

On paper, Afghanistan is committed to human rights. The conflict and fragile state of the country, and very conservative culture and religion, collide with human rights obligations. Since 2002 women are working outside the home and are involved in political activities. This is increasingly accepted. Over 80% of girls' marriage occurs through family arrangement (6).

Afghanistan is one of the poorest countries of the world (12). The national poverty rate is 35.8% (10). More than three decades of civil war heavily shattered the economy, especially the infrastructure. Current economy is largely

dependent on international aid and opium production (6). In 2013, the Gross Domestic Product (GDP) per capita was USD 678 (13). The GDP growth in 2013 was 4.2% (10).

Total Health Expenditure (THE) as percentage of GDP was 8% in 2012. (Table 1) The total government health expenditure as percentage of total government expenditure was 4.2% in 2012. The biggest share for THE is direct out-of-pocket (OOP) expenditure by households (73.3%) which is extremely inequitable for the poorest levels of society (14). (for further information see annex A)

Table 1: Total Health Expenditure

NHA Indicators	2008–2009	2011–2012
General		
Total population	25,011,400	27,000,000
THE per capita (USD)	41.73	55.59
THE as % of real GDP	10.0%	8.0%
Government health expenditure as % total government expenditure	4.0%	4.2%
Financing Source as a % of THE		
Central government	6.0%	5.6%
Private	76.0%	73.6%
Rest of the World	18.0%	20.8%
Household (HH) Spending		
Total HH (OOP) spending as % of THE	75.0%	73.3%
Total HH (OOP) spending per capita (USD)	31	41
Financing Agent Distribution as a % of THE		
Central government	11.0%	11.8%
Household	75.0%	73.3%
Non-governmental organizations	5.0%	0.3%
Rest of the World	8.0%	14.6%

Source: Afghanistan National Health Account 2012

The majority of the households are headed by males (97%), around 66% of these males are illiterate. Most women in Afghanistan (76%) have not been in school but the proportion varies between young and old age groups; more than 30% of young women (<20 years) in 2010 were attending school (5).

Around 82% of households reported a less than two hours distance to a health facility from their households (9). 77% of households had cellphones from one of the mobile phone operators (9). 72% of households in urban and 60% of

households in rural areas had radio as very common possession in most of households (5).

Nationwide, two in five households had electricity in 2010. Urban areas (83%) are much more likely to have electricity than rural areas (32%). Clean water is critically important to family health. In 2010, over half of all households obtain drinking water from an improved water source, that is, piped water into the home, public taps, tube wells, or protected dug wells and springs. With disparity of around 10% between rural and urban, rural households have lesser access to drinking water. There is no improvement in basic sanitation till 2010. Only one in five households nationwide has access to improved toilets and latrines with more than 50% disparity between rural and urban households, worst in rural areas (5).

Health system

Afghanistan Public Health services operate in three levels (15). (See in table 2)

Table 2: Public Health Services in Afghanistan

Level	Public Health Services	Health Facility type
1	Primary Care	Health Post (HP), Health Sub-center (HSC), Basic Health Center (BHC), Mobile Health Team (MHT) and Comprehensive Health Center (CHC)
2	Secondary Care	Comprehensive Health Center at district and District Hospital (DH)
3	Tertiary Care	Provincial Hospital (PH), Regional Hospital (RH) and National Specialty Hospital (NSH)

Source: BPHS - 2010

In 2002, the health indicators of Afghanistan were among the worst in developing countries. After the Taliban regime in 2002, a comprehensive health system reform took place. Ministry of Public Health, with international supports, developed an interim National Health Policy and followed with effective strategies such as Basic Package of Health Services (BPHS) and Essential Package of Hospital Services (EPHS)(16).

The BPHS, in order to address the highest priority health problem in Afghanistan especially in remote areas, was proposed in Consultative Group on Health and Nutrition (CGHN) and was developed by MoPH (15). In terms of addressing the major burden of disease in the population and effective implementation of BPHS and EPHS, MoPH considered Performance-based Partnership Agreement (PPA) as an effective mechanism in implementation of BPHS. In addition, MoPH assigned a third party for regular health service monitoring and evaluation (17).

Aligned with strategy of contracting BPHS standard types of health facilities were introduced (15). (See in table 3)

BPHS covers seven service elements which consist of maternal care including emergency obstetric care and newborn care, child health and immunization, public nutrition, communicable disease treatment and control, mental health,

disability and physical rehabilitation services and regular supply of essential drugs (15). MoPH implements BPHS through contracting in (3 provinces) to provincial MoPH and contracting out (31 provinces) to NGOs with 82% population coverage of services (15)(18). There are around 2,150 health facilities of BPHS in the country (19). The project is financed by earmarked funds from three main donors; The World Bank, European Commission and United States Agency for International Development (USAID) (18). (See in table 3)

Table 3: BPHS facilities with maternal health services

Health Facility	Population	Required technical staff	Maternal and Child health services
Health post	1,000 – 1,500	2 Community Health Worker (female and male)	Family planning (FP), Antenatal care (ANC) and Postnatal care (PNC)
Health Sub-center	3,000 – 7,000	2 people (Male nurse and Community Midwife(CMW)	Family planning (FP), Antenatal care (ANC) Postnatal care (PNC) and Skilled Birth Attendance (SBA) Institutional Delivery
Mobile Health Team	-	3 people (male Medical doctor(MD), CMW and 1 vaccinator)	Family planning (FP), Antenatal care (ANC), Postnatal care (PNC), Skilled Birth Attendance (SBA) Delivery and referral services
Basic Health Center	15,000 – 30,000	5 people (1 community health supervisor, 2 vaccinator, 1 nurse, and 1 Community Midwife (CMW)	Family planning (FP), Antenatal care (ANC) Postnatal care (PNC) and Basic Emergency Obstetric Care
Comprehensive Health Center	30,000 – 60,000	11 people (BHC staff + 1 female nurse, 1 CMW, 2 medical doctor (male and female), 1 Lab technician and 1 pharmacist	Family planning (FP), Antenatal care (ANC) Postnatal care (PNC) and Basic Emergency Obstetric Care and referral services
District Hospital	100,000 – 300,000	34 people (CHC staff+ 8 nurse (male and female), 4 Midwife, 2 MD (male and female), 1 surgeon, 1 Anesthetist, 1 pediatrician, 1 Dentist, 1 pharmacist, 2 physiotherapist, 4 technicians (2 Lab, 1 x-ray, 1 dental)	Family planning (FP), Antenatal care (ANC) Postnatal care (PNC) and Comprehensive Emergency Obstetric Care and referral services

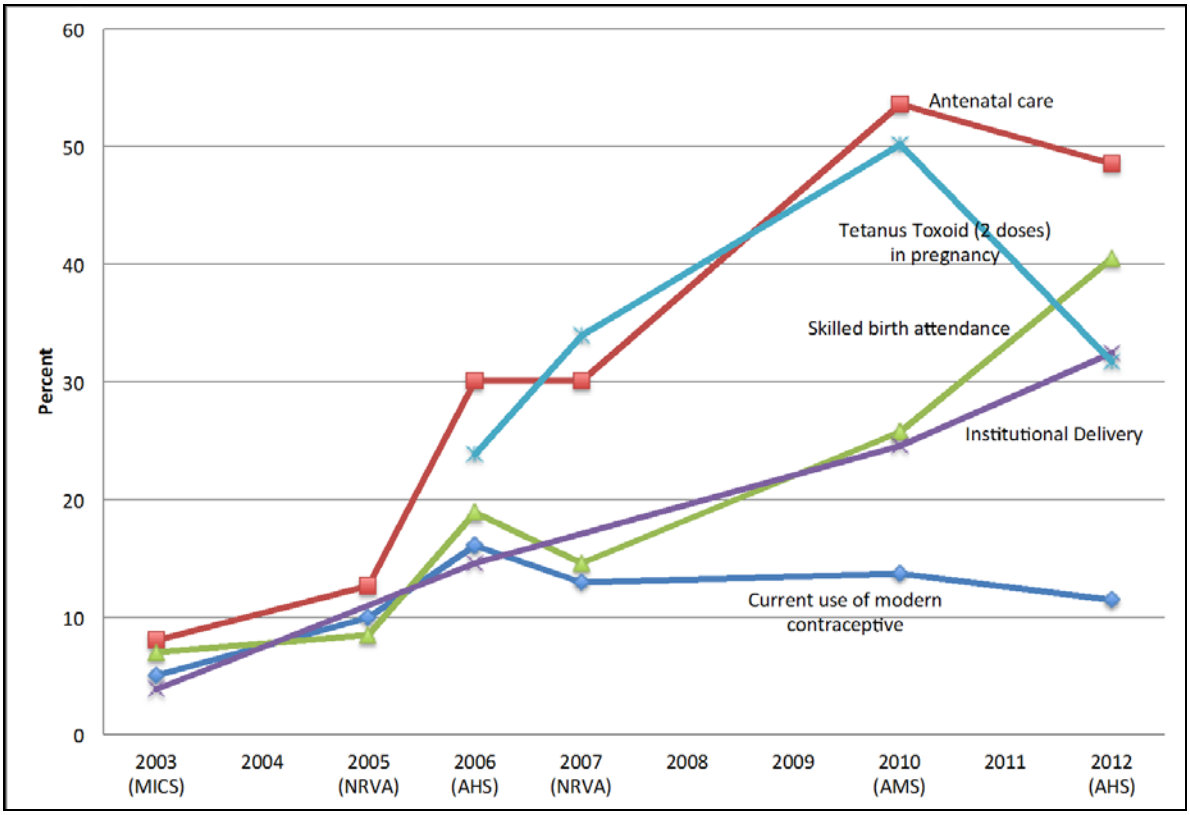
Source: BPHS - 2010

Maternal Health

The healthcare improved in the recent decade, but there is still a substantial gap in maternalcare. In 2012, around 49% of women had knowledge about modern contraceptives. In practice only 13.8% were using contraceptives (9). Women still have little access to skilled birth attendance (SBA) (5). Compared to studies in 2008 and 2010 the proportion of SBA increased from 24% (National Risk and Vulnerability Assessment (NRVA) 2007/8), 36% (Afghanistan Multiple Indicator Cluster Survey (AMICS) 2010) to 47% (Afghanistan Health Survey (AHS)2012) (9).

Around 33% of women, who had at least one live birth in the past two years, received Tetanus toxoid (TT) vaccination. Figure 2 shows overview of maternal health indicators in Afghanistan from 2003-2012.

Figure 2: Trends in the Coverage of Maternal Health Indicators in Rural Afghanistan

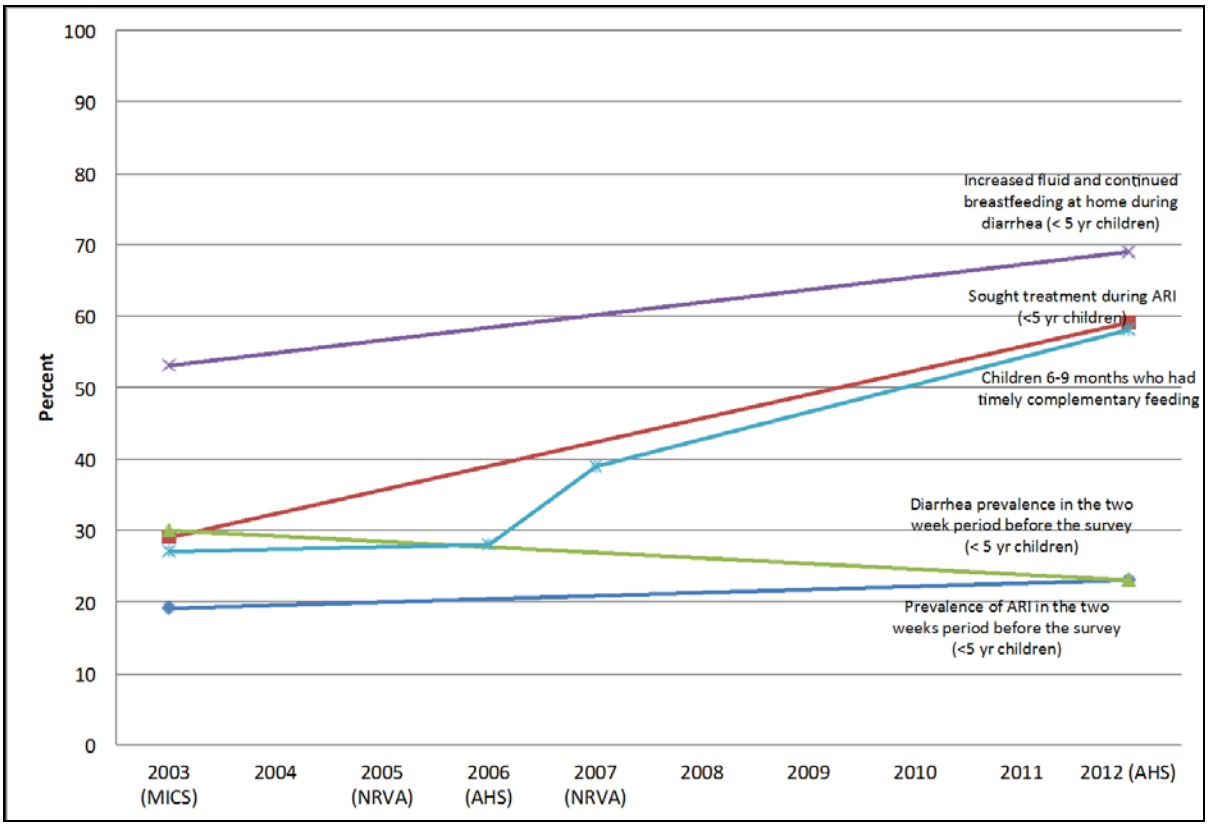


Source: Afghanistan Health Survey 2012

Child health

There is strong association between maternal and child health. Mothers who did not receive care during pregnancy and delivery, are most likely to lose their children (5). The under five-child mortality is high in Afghanistan. In addition there is a high prevalence of malnutrition among children under five which contributes to high mortality. The under five mortality is 97 deaths per 1000 live birth (LB) and infant mortality rate (IMR) is 77 per 1000 LB. This means one in 10 under five children die in Afghanistan. Despite the improvement in child health in the last decade, the under five mortality in Afghanistan is still higher compared to neighboring countries (5). In 2010, the leading cause of death among children under five was acute respiratory infection 23%, other serious infections 20% and Perinatal-related disorders 15%(20). Following figure shows an overview of child health in Afghanistan.

Figure 3: Child health indicators



Source: Afghanistan Health survey 2012

Chapter 2: Problem statement, Justification, Objectives and Methodology

Problem statement

Globally, 289,000 women died during and after delivery in 2013 (21). One third of these deaths occurred in south Asia (21). In terms of numbers, south Asia is the major contributor of maternal death (2). In Afghanistan one mother dies from pregnancy related causes every two hours (5).

There is a large disparity among women dying from pregnancy related causes in high income countries and those in low income countries, and also within the urban and rural setting in low income countries. More deaths occur in poor communities and rural areas (21). Poor women in remote areas are less likely to get required and adequate health care services during pregnancy in south Asia. Only 46% of women in low income countries benefit from skilled health care during childbirth and one third of all pregnant women receive the recommended 4 antenatal care visits (21). Skilled Birth Attendance (SBA) increased from 55% to 65% in low and middle income countries between 1990 and 2009 (22). In the same period SBA improved in south Asia from 32% to 50% but it is not enough to respond to the need (22).

Through BPHS healthcare services, improved in the recent decade in Afghanistan, 60% women now receive at least one ANC visit during pregnancy. One-third of women received SBA services nationwide in 2010, while over one quarter of women received services in the postnatal (PNC) period (5). Despite the mentioned improvements there is still a substantial gap in maternal care. The percentage of those who accessed the minimum required four visits of ANC remained lower than 16%. Less than 40% of women who had ANC visits received care that met minimum quality standards. Only 38% of women received iron tablets during pregnancy. Tetanus toxoid (TT) vaccine coverage varies significantly from area to area. Half of women did not receive two TT vaccines during their last pregnancy (5).

The fertility rate (FR) is high in Afghanistan. Married women in rural areas are less likely to use modern contraceptive methods than women in urban areas, 17% versus 31% respectively (5). Table 4 shows the comparisons of the fertility rate in the region.

In 2010, 34% of deliveries benefitted from skilled care during pregnancy, but nationwide two in three births are still taking place at home, putting both mother

and baby at risk. The disparities of Skilled Birth Attendance (SBA) are wider in rural and urban respectively at 26% and 71% (5).

Table 4: comparisons of SBA and Fertility rate in the region

Indicators	Afghanistan	Pakistan	India	Bangladesh	Nepal
Fertility rate	5.1	4.1	2.7	2.7	2.6
SBA	34%	39%	47%	27%	36%

Source: Afghanistan Mortality Survey (AMS) 2010

Access to care remains a big challenge to rural pregnant women. Poor women with no education are less likely to receive care in comparison to wealthy women with secondary education. Women within the highest wealth quintile are six times more likely to deliver in a health facility (5).

Seven in ten women, who had delivery experiences in the past five years, mentioned access problems to any healthcare due to lack of money and distance to the health facility. Around 35% of women who delivered at home believed it is not necessary to deliver at a health facility (5). In summary, many factors prevent pregnant women to access and receive quality care in Afghanistan, such as poverty, distance, lack of information, inadequate services, cultural practices, etc (World Health Organization 2014b).

Justification

It is a well known fact that most of maternal deaths are preventable. All pregnant women need antenatal care before delivery, skilled delivery care, and postnatal care and support in the weeks after delivery. Life of mothers and babies can be saved by skilled care before, during and after delivery (1).

Global attention focused on maternal mortality, when the maternal mortality reduction was included as Millennium Development Goal (MDG) 5 (2). Maternal health is included in the MDGs because it contributes to human development, poverty reduction and targets are achievable (23). Improving maternal health is one of the priorities for World Health Organization (WHO) and state members to reduce the maternal mortality worldwide (21).

Afghanistan's Ministry of Public Health focused on maternal health through BPHS. MoPH states over 80% of the population was contractually covered by the BPHS services (18). The maternal health indicators provided earlier indicate a low performance of the health system in Afghanistan. However, some studies such as (Afghanistan Mortality Survey (AMS) 2010), AHS (2012) and NRVA (2012) tackled also the access to health services, for instance NRVA (2012) shows around 80% of population has access to the nearest health facility within two hours distance (12). The questions remain what is effective utilization rate by women, how a health facility within two hours distance is effective for a pregnant woman, by which transportation mode they are away from health facility, what other factors influence the seeking health care by women and what is the gap between supply and demand sides in maternal health care services. This study will explore underlying factors such as socioeconomic, cultural and beliefs, social and gender norms and health system influencing the utilization of maternal health care by women in rural areas from supply and demand sides perspectives.

MoPH and stakeholders will be benefit from findings and recommendations of this study in formulating policies and decision making for choice and innovative interventions to improve utilization of health services to women in rural areas.

Objective

The main objective of the study is to explore underlying factors influencing the utilization of the health services by mothers in the health facilities of BPHS in Afghanistan from demand and supply sides perspective. This paper will provide evidence informed practical solutions to tackle the demand and supply sides existing access barriers concurrently in order to provide clear recommendations for improvement of the health system in Afghanistan.

Specific objectives:

1. Explore the demand side determinants of access to the maternal health during implementation of Basic Package of Health Services (BPHS) at individual, households and community levels.

2. Explore the supply side determinants of access to the maternal health during implementation of Basic Package of Health Services (BPHS) at individual, households and community levels.

3. Identify international evidence-based best practices on overcoming access barriers to health services in similar socioeconomic contexts which are applicable in the Afghanistan context

4. Provide policy recommendations to address the demand side and supply side existing barriers to the maternal health services through BPHS.

Method

A descriptive study conducted based on literature review.

This study is a literature review of recent data related to the topic from journal articles, WHO, UNICEF, Afghanistan MoPH publications. Unpublished studies, reports, guidelines and policies for the context and the data from context with similar socioeconomic condition in English language are used.

Search strategy

Search engines used were Google scholar, Scopus and Pubmed to find published and peer review literatures by using key words relevant to maternal health care accessibility. The key words were used either single or in combination to reflect the conceptual framework requirements. Geographical indicators such as

Afghanistan, south Asia, developing countries were also used. Grey literature was obtained from MoPH.

Key words: access barrier, demand side, supply side, health services utilization, rural communities, maternal health, security, education, waiting time, opportunity cost, self-esteem, private-public dual practice and stigma.

Conceptual framework

The combinations of the conceptual frameworks for assessing barriers along with four dimensions of access by Peters et al. (2008) and the framework of demand side and supply side barriers by Ensor and Cooper (2004) with few changes adapted in this study(25). (See table 5)

The framework classifies the access barriers in four dimensions; geographical accessibility, availability, affordability and acceptability. All dimensions are considered from demand side and supply side perspectives (25).

Table 5: Access barriers conceptual framework

Supply-side barriers	Demand-side barriers
Geographical accessibility	
Security condition Service location	Security condition Service location Means of transport
Availability	
Drugs and other consumables Availability of staff Motivation of staff Waiting time Referral system	Information on health care services/ providers
Affordability	

Costs and prices of services, including informal payments Private-public dual practices	Opportunity cost Household resources and willingness to pay Cash flow within society Indirect costs to household (transport)
Acceptability	
Staff interpersonal skills, including trust	Education Lack of health awareness Mismatch between households' expectations and health services provision in Low self-esteem and little assertiveness Community believes and cultural preferences Stigma

Source: Adapted and integrated from Peters et al. (2008) and Ensor and Cooper (2004) and other published papers Bart Jacobs et al (2011)

Chapter 3: Study Result

This chapter is mainly focused on the underlying access barriers in BPHS health services in Afghanistan. Each main underlying access barrier is described separately. The modified access barrier conceptual framework by Peter et al. is used and slightly adapted for the Afghanistan context.

Geographic accessibility

Supply side

Security condition

Establishment, expansion and maintenance of health facilities are difficult in insecure areas. Continuous insecurity is reported in some districts with the border of Pakistan. South and southeast regions are known as highly insecure and under threat of Taliban (26)(27). In addition, Afghanistan, with a mountainous geography, has limited number of easy access and secured roads (28). Most part of the country will not be accessible during the winter due to snowfall and flood. Especially women in labour will find it difficult to travel, particularly at night. Most households submit themselves to destiny (27).

According to Balance Score Card (BSC) 2013, there is no much effect of insecurity on performances at province level. Provinces with an insecurity background are spread out at all ranges of ranks while provinces with geographical difficulties are much concentrated in lower ranks of performance (29). (See the annex C)

Service location

Although over 80% of population is contractually covered by BPHS health services, access to health services remains an issue for the health system of Afghanistan (18). According to NRVA 2012 100% of the population in urban areas and 83% of population in rural areas can reach the nearest health facility within two hours distance but this is not ideal for pregnant women. 14% of population still can reach the health facility between 2-6 hours and 3% of population cannot reach the nearest health facility even within 6 hours (12). (See table 6)

Table 6: Rural access to public health facilities

	Within 2 hours	2-6 hours	More than 6 hours
Rural access to public health facilities	83%	14%	3%

Source: NRVA, 2012

Moreover, due to non-technical decisions on distribution of health facilities, current health facilities are not efficient. According to the Health Management Information System (HMIS) report 2013 6 % of Health Sub Center (HSC) are underutilized (19). There is also around 20% uncovered population by BPHS (15). Although, 77% of the population has access to mobile phone, as the more common mean of communication; it is not used systematically to improve the access of health services (9). There is an association between distance to the health facility and cost of travel. Distance and higher cost count as an important barrier particularly for the poor (30).

Demand side

Security condition

Women cannot go to the health facility when there is any concern about security, especially if her male companion is under any threat. According to the National Risk and Vulnerability Assessment (NRVA) in 2012, overall 15% of households experienced insecurity during the year preceding the survey; it is slightly increased in 2012. Around 13% of households live in an insecure area. 78% of male and female respondents said their district is secure or moderately secure. Security status of urban and rural households is 94% and 74% respectively (28). Although the majority of households were optimistic about security. In terms of politics, security and economy Afghanistan is still in fragile state.

Service location

Particularly, from the women's perspective, service locations are at a long distance.

According to the Afghanistan Health Survey (AHS) in 2012, 29% of households, who did not seek health care outside the house, perceived that the health facility is too far away (9).

Means of transport available

The most common mode of transports are traveling by foot, donkey, motor bike, rickshaw and car (27). Poor condition of the roads, especially during winter, confronts households, particularly women, with difficulties to access health care. Sometimes in emergencies they walk long distances to neighboring villages to rent a car, which might be very expensive (27). The common mean of transport is walking by foot in poorest communities, if labour occurs at night; it is particularly hard and impossible for woman to walk long distances. For women in poor and isolated communities this is very hard. (30).

Availability

Supply-side barriers

Drugs and other consumables

There is a certain number of medicine, consumables and essential equipment in BPHS (15). Shortage and frequent stock-out of the required medicine, particularly related to pregnancy, causes failure of services. In addition, if the delivery room remains cold during winter, due to any reason (shortage of winterization supply or hidden stock for personal use), it hinders mothers to deliver at the health facility (author's observation). Negative experience of the services by women deters them to access the health service. Moreover, it may reduce the interest of the health worker to work in the health facility because they cannot perform the job as required. It affects quality of services at the health facility. Poor quality impedes access to health services (30). A study in Tanzania shows that, the poorest communities suffer more from worst shortage of staff, medicine and equipment in their nearby health facilities (30).

However, the latest data from BSC in 2012 shows much improvement in drug and equipment supply at the time of survey (29). There is doubt in regular availability of drug and supply at health facilities.

Availability of staff

Midwives are key in maternal health of health system in Afghanistan, particularly in rural areas (31). According to Community Midwifery Education (CME) policy, local female applicants are encouraged to be enrolled in the CME program (31). Sadly few eligible candidates are available due to the high illiteracy rate at communities particularly in remote areas. The seats in CME programs are often filled with educated females from the cities. After graduation they are less likely to work in remote areas or they work in conditions with higher salaries with long vocations. It is noted 74% trained midwives had been deployed (31).

However, community midwives were trained from 467 in 2002 to 2954 in 2010 across the country(31). Newbrander analyzed it in a study in 2011, the ratio of midwives (MW) was 0.82 MW per 10,000 population in 2011 (32). There is still a huge gap to employ midwives/community midwives in the health facilities; this gap remains as an important human resource (HR) challenge in BPHS implementation (31). Joanna Busza et al (2014) found shortage and absenteeism of health workers a key factor in existing access barriers to health services (33).

Lack of health workers, particularly female health workers, lack of training and lack of technical supervisions reduce access to quality health services. A study about BPHS shows that 74% of BPHS and EPHS facilities had at least one female health worker in 2011 (32). However, the BSC showed BPHS health facilities were seriously lacking the required staff (29). (See table 7).

Table 7: Percentage of BPHS Health facilities with minimum required staff

Type of Health facility	%	Minimum required staff
Health Sub-center	53.8%	Nurse (male/female), community midwife)
Basic Health Center	8.1%	Nurse (male/female), community midwife (male/female), community health supervisor (male/female), vaccinators (male/female) and physician (male or female)
Comprehensive Health Center	18.2%	Nurse (male/female), community midwife(male/female), community health supervisor(male/female), vaccinators (male/female), physician (male or female), lab technician and pharmacy technician

Source: BSC, 2012

Motivation of staff

Motivation and satisfaction have impact on performance and retention of health workers (34). Financial factors such as low salaries, no night duty and late payment of salary affects the degree of willingness of health workers to perform the job in line with the organizational goal (35). Non-financial factors also have an impact on the health workers motivation and satisfaction. A study in Tanzania found impact of financial and non financial motivation on quality of services (36). Motivation is crucial in providing quality and accessible health care to dwellers particularly in rural areas. Evidence from Zambia (2013) shows there was significant association between motivation and female gender. The women were more motivated by community values and job security while men were more motivated by prestigious job and higher wages (37). However, MoPH through National Salary Policy (NSP) guided some aspect of financial motivation in BPHS implementation. (See the annex B) The non-financial motivation was neglected in policies.

In Afghanistan, the BSC (2013) some results for satisfaction index and motivation index are highly contradictory and doubtful. For instance, 90.3 % of health workers said their job allows them to use all their skills in the field of work while 79.2% of them said that sometimes they feel their job is meaningless. In another example 93.2% of health workers said they know what is expected from them in this job while 73.8% said the job assignment are not fully explained, and 62.4% of health workers said their supervisor never gave them any feedback about how well the job is done while 83% of health workers said when they do a good job they receive a recognition from their supervisor (29). These answers brings the BSC result under question because it shows the questions might not be understandable for respondents or interviewers were not clear about these questions or they could not communicate well with respondents. Overall these answers cannot validly reflect satisfaction and motivation aspects of health workers in BPHS facilities. (For more examples see annex D&E)

Waiting time

Waiting time from supply side barrier perspective could result from maldistribution of resources or shortage of them particularly the absence of female health workers at the health facility (25). A study in Zimbabwe (2014) shows poor management, bureaucratic procedures and staff absenteeism reduces access to health care (33). Johns Hopkins University (JHU) and Indian Institute of Health Management Research (IIHMR) (2013) found that 34.1 % of clients at BPHS health facilities were not satisfied with the waiting time to receive treatment (29) long waiting time refers to inadequate staffing at the health facility which is unfavorable for the clients.

Referral system

Maternal mortality can be reduced if the family members and communities are informed about danger signs and access to an effective referral system. An effective referral system should be in place to manage the high risk cases in time such as obstructed labor and other complications (38).

According to HMIS data in 2013, overall availability of ambulances are shown in table 8. The CHCs as referral sites should have ambulance service (15) but the HMIS data (2013) shows around 34,3% of them do not have required ambulances (19). Lack of ambulances, particularly in CHCs, are a big challenge for timely referring of cases particularly obstructed cases to the nearest Emergency Obstetric Center (EmOC) centers (District hospital) (18).

Table 8: availability of ambulances at BPHS facilities

	District hospital	Comprehensive Health Center
Availability of ambulances at BPHS facilities	100%	65.7%

Source: HMIS, 2013

The figure 4 shows the trend of served referrals by BPHS and EPHS. This referral also includes private transportation. There is a drop in referral activity in autumn and winter seasons.

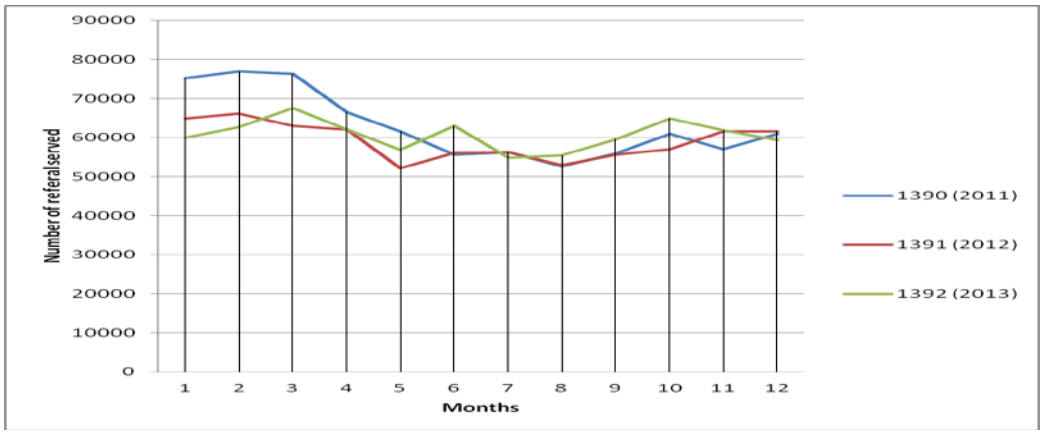


Figure 4: No. of Referrals served by EPHS and BPHS

Demand-side barriers

Information on health care services/providers

Information about health, health care and health service provider is important. A quantitative study (2005) on maternal deaths in Gambia shows low level of awareness and knowledge of women strongly contributes in high maternal mortality (39). Another study in Bangladesh found 59.5% of respondents do not know about emergency problems and 39.3% of them do not know about availability of specific services at the facility (40).

Data from the Afghanistan Health Survey (AHS) showed nearly 80% of women were not aware of community health workers (CHWs) in their living areas. In addition, 80% of women who felt sick preceding two weeks from the survey were not aware of community health workers in their living areas. However, over 80% of women who were aware of CHWs in their living area agreed that CHWs are doing useful job (9).

Affordability

Supply-side barriers

Costs and prices of services, including informal payments

Cost of services alone can play a role in access barrier to health care services. Krishna (2006) analyzed in India, during illnesses around 85% cost of services lead cases undergo to impoverishment (41). Study shows (2012) every year 78 million people will fall below the poverty line due to out-of-pocket expenditure in Asia (25).

According to NHA-2012 the out-of-pocket expenditure was 73.3% in Afghanistan (14). The high level of OOP discourages individuals, particularly the poor, to access the health care. Even though user fees were abolished in 2008 (42) there is still a high out-of-pocket expense. The private health expenditure depends entirely on out-of-pocket (43) Informal payment is a routine practice through-out the country (43).

According to NRVA data health expenditure for in-patients is much higher than out-patients (28) and generally poor spend more in health care than rich (29). However urban population spends more than rural population. Maybe they have access to better services with better-off status (28).

Private–public dual practices

Dual practice refers to combination of public health practice with the private sector (44). There is widespread agreement about negative impact of dual practice in health care (45). It is an engagement of an individual to a dual job to raise opportunity to increase their income through private practice (44). In low income countries the evidence shows the health workers switch to dual practice because of low salaries in public sector. Other evidence from Bangladesh confirms the main reason 54% for dual practice is low salary in public sector (44). JAN et al. (2005) argue that dual practioners purposefully keep public sector with low quality to pursuit the patients to use the private sector. It is known as a form of demand inducement (46). However, NSP is developed based on actual need by MoPH; there is still limited data about dual practice in Afghanistan.

Demand-side barriers

Opportunity costs

Opportunity cost as demand side barrier is important for the households. Women and their companion will lose their income while seeking healthcare. Newbrander (2014) in an assessment asserted that one of the main reasons why households prefer CHW services was preventing opportunity cost. Women were saying they do not have to carry any Mahram (male family member as companion to the health facility) while visiting the CHWs because they are part of our community and we know each other. Particularly during collection of harvest the male family member is outside the village for a few weeks. In addition, long waiting time in the health facility, great distance to the health facility and high cost of transport increases the opportunity cost and are the reason for preference of CHWs services if available in the community (27).

Household resources and willingness to pay

There are many factors influencing a women's decision, upon their health problem, in making a choice for seeking health care. For instance, availability of cash, cost for treatment, presence of a male family member at home, transport means in the community, distance from health facility, communication facility, security conditions, season, severity of illness, perceived better quality of treatment, fear of informal payment, fear from hospitalization, fear from distress financing, Other problems including health in the household (other priority), information about health problems and options. From gender perspective the position of women in the household and who else has control over the household resources, are key factors influencing willingness of the household, particularly women, to seek health care (40)(27)(9).

Newbrander (2014) in a qualitative study in Afghanistan it was found out that when a woman develops a health problem; there are different options to be tried stepwise. Self-medication or home remedies are always first choice for treatment. Next, they will try the Mullah (religious spiritual person), or traditional healer or traditional birth attendance (TBA), or CHW and then health facility. Self medication is important because mostly advised by older female member of the family it is cheap and easy to access from local shops (27).

The study (2013) shows individuals who didn't seek health care outside the house in intervention arm said the services and transportation are too expensive while in the control arm said, that they are not seeking health care because it will

go away by itself (47). (See table 9). In terms of wealth status, there is also some disparities in maternal health indicators (47). (See table 10) Consider to median total expenditure individuals in poorer quintile spend more than individuals in wealthier quintile in health care (47). (See table 11)

Table 9: reasons for why households didn't seeking health care outside

	Transportation cost is very high	Health facility is too far
Households who didn't seek health care said:	34%	29%

Source: AHS, 2012

Table 10: Maternal health indicators versus wealth status

	Women from wealthiest quintile	Women from poorest quintile
Use modern contraceptive methods	13%	6.8%
Use of SBA	49.4%	25.2%
ANC visit from skilled ANC provider	68.7%	53.%%
Delivery at HF	46.2%	23.8%
PNC visit from skilled PNC provider	45.8%	26.8%

Source: Household survey, RBF, 2013

Table 11: Median total expenditure versus wealth status of individuals

	Individuals in highest wealth quintile	Individuals in poorest quintile
Median total expenditure	AFN 4000	AFN 7750

Source: Household survey, RBF, 2013

Cash flow within society

In terms of health care availability of cash, during health care seeking, is crucial. A study (2009) in Pakistan shows the treatment cost among poor influences other basic needs. It reduces food consumptions, sale of major assets, withdrawal of children from school and putting children to work. (48).

In Afghanistan there is no risk protection mechanism in place to control the out-of-pocket expenditure during illness (43). And over 40% of the population, particularly in rural area, depends on agriculture and live stock (28). The peak of economy is after harvest time (40). The favourite time for cash availability is after harvest. Any illness particularly during harvest is devastating for poor families that make access to health services difficult.

Indirect costs to household (transport)

In addition to the cost of health services in demand side, more households live in inaccessible areas where they suffer cost of transport, food, time, loss of income and distress financing (43). If transport is available in insecure areas, the cost is much higher. In addition studies in low income countries show service and indirect cost hinder preventive measures in early stages and lead to complications with higher cost (30).

Afghanistan health survey showed that one of three major reasons for not seeking health care outside of the home, was that the health facility was too far from their home 29% (9). The cost of transport for the poor, particularly in non-urban populations, is weighing on their households.

The means of one-way travel cost by private transport to the nearest public health facility in rural area is shown in table 12. The means cost usually twice as high as median cost. It means that for half of the population the cost is extremely high. Bearing in mind, the travel cost is double or triple for women because they have to be accompanied by a Mahram (the male member of family) (28).

Table 12: Private transport to the nearest health facility in rural areas

	Mean of one-way travel cost to nearest public health facility in rural area	Mean of one-way travel cost to nearest district or provincial hospital in rural area	Mean of one-way travel cost to nearest private clinic in rural area
Private transport to the nearest health facility in rural area	AFN 320 = $ 6.4	AFN 447 = $ 8.9	AFN 353 = $ 7

Source: NRVA, 2012

Acceptability

Supply-side barriers

Staff interpersonal skills, including trust

Health workers, particularly women from poor socioeconomic and minorities, have low positions in the work place. In a study in India, some female health workers suffer from low social status in a workplace with poor working conditions. Disrespectful behaviors demotivate the health workers to perform their job well. A study in Pakistan shows the dominant values in the society encourages the nepotism in the organizational culture, junior staff particularly female health workers can be suppressed in working environment by nepotistic behavior (49)

However, the BSC, 2013 shows a 94.3% good working relationship among health workers (29). It does not give a sense to judge the real working relationship among health workers because generally the women health workers place is separate from the men health workers (author's observation). This figure does not reflect the relationship among female health workers, female and male or supervisor and supervisee.

Demand-side barriers

Education

Illiteracy rate is high in Afghanistan particularly among women. More illiterate women die due to pregnancy related causes then literate women (50). The health indicators are different between women with school background and women without education (28). (see table 16) illiterate women cannot assimilate health choices and negotiate access to appropriate providers (51). However, husband education also has positive synergy on getting benefit from healthcare services to women (30) There is a link between illiteracy and quality of health care and maternal death; The overall picture of literacy versus location and sex are given in table 13 & 14. It is remarkable that literacy rate in school age is improved in recent years. (See table 15)

Table 13: Literacy rate at urban, rural and nomad level

	urban	rural	Nomad
Literacy rate	54%	25%	7%

Source: NRVA, 2012

Table 14: Literacy rate between men and women

	Men	Women
Literacy rate between men and women	45%	17%

Source: NRVA, 2012

Table 15: Literacy rate in school age

	Boys	Girls
Literacy rate at school age	65%	45%

Source: NRVA, 2012

Table 16: Maternal health indicators versus education level

	Women with schooling background	women with no education
use skilled birth attendance	55.5%	30.8%
Knowledge about at least one modern contraceptive method	76.2%	65.6%
skilled ANC provider	74.3%	58.3%
institutional delivery	52.6%	26.2%
skilled PNC provider	49.8%	30.4%

Source: HH RBF, 2012

Lack of health awareness

Lack of awareness about benefit of maternal health services and different perception about maternal health impedes access to health services. Ahmed (2006) analyzed that there is an association of lack of awareness and reaching health services (52).

JHU and IIHMR in Afghanistan household survey (AHS) found some different perceptions between men and women in reasons not seeking health care. For instance most men said the illness will recover by itself while the women said the transport is too expensive (9). The reason among households in the poorest quintile, for not seeking health care, was recovering the illness by itself 36% (9) moreover another study also shows that 47.1% thought not going for health care because the households said the illness will go away by itself (47).

Mismatch between perceived quality of care and medical quality of care

Patients, particularly women, are expecting respectful behavior, enough and good quality medicine, comprehensive observation, clear explanation about disease, medicine and treatment, waiting time, privacy, opening hours, presence of experienced health workers particularly female health workers and cost-effective services (30)(27).

Thomas and Janet (1995) found in a study that health workers did not inform the patients, who came to health facility for their health problem, about preventive and follow up remarks. Parents who were informed by the health worker about vaccination of their children, were two times more likely to complete the vaccination schedule of their children (53). Another study in Gambia (2008) found around 70.5% of women, who came for an ANC visit, spend around 3 minutes with a health worker, while according to the ANC model, they should have spent about 30-40 minutes to deliver required services in the first ANC. Also only 12.8% of women asked a question from the health worker during an ANC visit (54).

However, the BSC 2013 shows a high degree of satisfaction of clients from BPHS health services (29). (See table 17) It reflects only views of clients who came to the health facility; the views of women who needed to come but did not come to the health facility are not reflected in this data. In addition, culturally there is always positive answer to questions. The BSC, as a quantitative study, will not allow probing questions to touch the real answers. Newbrander in a qualitative research found BPHS services were not first and second option for health seeking care (27).

Table 17: Client satisfaction from BPHS facilities

Satisfaction from	%
privacy	85.5%
health worker explanation about illness	73.2%
health worker explanation about treatment	74.5%
Cost of services	77.5%
Availability of medicine	72.4%
Toilet	63.3%
Shurai-shehie (village council) was supportive to health facility activities	73.6%

Source: BSC, 2012

Low self-esteem and little assertiveness

Low self-esteem and lack of assertiveness among poor, minorities, widows and families with violence experience could impede the seeking of health care from health facilities. Paphassarang et al. (2002) analyzed this point among poor in a study in Laos. Patients with poor socioeconomic conditions could have specific disadvantages to access the health care. Lack of knowledge about their own rights and the bad attitude of health workers leaves them with low self-esteem and lack of assertiveness (55). In addition, language problems, very conservative families and shyness around male health workers decrease the assertiveness of individuals and households in seeking health care from health facilities (56)(57)(40).

Afghanistan is a multinational country with different ethnicities and different languages. Though the majority speaks Dari (79%), Pashtu (51%) and Uzbeki (9%) still there are dwellers who cannot speak these common languages, particularly women in rural areas (11).

Community believes and cultural preferences

There are cultural factors influencing ability to use health services at individual, households and community levels. Misperceptions, believes, malpractice about maternal health problems have roots in religion, ethnicity and social status of communities. Religion and ethnicity are a marker of cultural background in most societies (30). For instance in some cultural groups in Africa they believe the birth is a test for endurance and health seeking is a sign of weakness (30).

In Afghanistan, some social norms affect the women's access to health care. For instance, restricted mobility of women and the approval of their husband for going outside, impedes their ability to seek health care (51). In a survey, one in three women in Afghanistan was denied to seek health care because of their gender (58). When they go to HFs their male family member should escort them to HF (59). In case of health care seeking, they believe, it is a shame to meet a strange male health worker who is not a family member and to tell their problem (27). The choice to visit the male health worker depends on male approval and is largely not acceptable (51).

The household perception about health services, such as presence of female health workers, privacy, placental disposal, perception of community and neighbors about health services, evil eye are factors that significantly influence the women health seeking behavior outside (30). Lack of community participation and ignorance of cultural factors reduce acceptability and use of health services (25). Cultural practices play role in poor health services utilization by women (51).

Stigma

Patients, particularly women, because of fear of disclosures of their health problems such as Tuberculosis (TB), fistula, Sexual Transmitted Infection (STI)/(Syphilis), illegal pregnancy and fear of prosecution from illegal abortion will not be able to seek health care at the health facilities. Stigma reduces uptake of voluntary counseling, testing and treatment. Stigmatized persons do not access the health services in fear of being seen by people (60)(61). Stigma has gender dimension (60). It is usually followed by discrimination and isolation. Stigma has negative impact on prevention and treatment process (60)(61).

In Afghanistan, for instance, TB is a common stigmatized disease. The incidence rate is 231 TB cases per 100,000 populations and the prevalence is much higher among women than men. 64% of TB cases are women (World Health Organization 2014c). Moreover, TB affects women in childbearing age (51).

Chapter 4: Discussion

The former chapter has systematically and critically described the dimensions of access barriers to BPHS facilities, particularly in relation to maternal health; in this chapter some of the priority problems will be shortly discussed in relation to best practices for each particular problem and their respective feasibility in the context of Afghanistan.

This chapter will tackle the main problems such as the distance to health facility particularly EmOC, Shortage of female health worker particularly midwives, indirect and opportunity cost, perceived quality of care and cultural beliefs and behavior.

Geographical access

The findings show that provinces with difficult geographically access have a poor performance in BPHS implementation (19). Distance barriers will get much stronger when associated with transport difficulties and bad road conditions. However, even in convenient distance the health facility may remain underutilized due to poor quality of services (30).

Distance to health services covers other aspects of remoteness such as maldistribution of health workers (63), poor communication between communities, lack of information, poor road infrastructure, strong traditional cultural values, poverty and other disadvantages all of which are difficult to measure quantitatively (63). There is enough evidence on distance as a determinant in delivering at the health facility, in particularly if the labour happens at night in the absence of transport (30).

Two cost-effectiveness analysis of maternal and neonatal care shows that a close-to-client care for normal and complicated cases were cost-effective interventions (64) (65). Adam et al. (2005) studied a cost-effective analysis of maternal and neonatal care in two regions for countries with high maternal and child mortality in East Africa and South East Asia. The interventions were primary care level such as tetanus toxoid, screening for STIs and screening for pre-eclampsia and newborn care. Others are skilled maternal and newborn care and community level intervention for newborns. (66)

In order to address maldistribution of health workers, a strategy was deployed to select students with rural backgrounds, minorities and low-income families. These increased retention of health workers at relevant communities, particularly

in mountainous regions. Experience in Iran shows that establishing a network of rural health houses and staffing from local communities with sufficient training is very successful and cost-effective. This strategy reduced disparities of health indicators between urban and rural areas. For instance, maternal mortality reduced from 120 to 24 per 100,000 live births in urban and from 370 to 55 per 100,000 live births in rural in 1990s. Attention to community based services could have great impact on health outcomes (63).

Jefferson medical college implemented a program Physician Shortage Area Program (PSAP). This program was focused on special education with selection criteria for students from rural, underserved minorities and low-income families. The strategy was successful. The number of family physicians in rural Pennsylvania, particularly in underserved areas, increased. An evaluation, after 5-10 years shows that 94% of them remain in that particular areas (63).

‘‘Mobile Obstetric Maternal Health Worker’’ (MOM) is a community based, flexible, multitiered and mobile network health service providers. The aim is to increase appropriate and timely access to basic and emergency obstetric care to the people in need at their residential areas between Thailand and Burma border. The project focuses in five of the six components of basic obstetric care plus blood transfusion. This experience is context-specific with narrowly defined facility-based intrapartum care model in a multi-ethnic region with conflict and hard to access areas (67).

However, the cost-effectiveness is arguable. The MOM provides services directly to vulnerable women at their homes and potentially fills the critical need. An interim evaluation revealed that this intervention provided malaria screening and treatment during pregnancy, attendance at delivery by capacity of emergency obstetric care, bed-net, iron/folate supplementation, and access to preventive misoprostol. The result shows 70% success rate from baseline zero. The study shows the strong network between project personnel and community members (TBA/Community leaders). It empowered the ownership and decision making for both sides. Teela et al (2009) argue, even though this intervention was designed for a specific setting, it can be adapted in a similar topographical, human capacity, resource constrains and other non conflict settings as well (67).

Lack of communication and lack of effective transport goes hand in hand in complicated cases to increase the risk of deaths (68). An effective strategy for EmOC requires information, education and communication to raise family awareness on danger signs and instituting birth preparedness. Another study also shows that communication is effective in reducing delay in identifying the danger signs (64).

In addition, use of new technology is highly recommended in training. The advancement in information technology and globalization of communication made this possible. Thailand greatly achieved steps forward in this regard, they have connected 19 hospitals to all the smaller health facilities all over the country through telemedicine technology (63).

The health workers, as core element of health care services, are widely discussed in best practices. However, around 20% of the population has no coverage of BPHS services. There is still a shortfall of health workers. The BPHS can only recruit the eligible candidates in their health facilities. In Afghanistan training of health workers, particularly physicians depends on the ministry of higher education but the Ministry of Public health can consider the views of best practices in training of midlevel health workers (author's observation). The PSAP program is popular and evident for cadre production in rural and underserved setting. Hence this advice can be coordinated with the ministry of higher education.

In order to technically formulate the establishment of a new health facility or upgrade an existing one the, MoPH can develop a technical guidance to consider geographical hardship, seasonal roadblocks, resource availability and effective coverage within suitable distance of dwellers from health facility. This can be done through indicating mean and median distance from surrounding villages. For instance, there is an agreement for equitable distribution of EmOC the minimum coverage for a population of 500,000 there should be one Comprehensive Emergency Obstetric Care (CEmOC) and four Basic Emergency Obstetric Care (BEmOC) (69). For an assessment to establish a new health facility see the annex F for a modified MoPH tool.

The safety of pregnancy depends on an effective strategy such as improving access to emergency obstetric care and a referral system for maternal health. (70). Mobilizing local transport with a communication facility is cost-effective in referring emergency obstetric care in Nigeria (65). According to findings there is a referral system in BPHS but most of BHCs and CHCs still lack an effective referral system. The referral system can be improved by community involvement and policy enforcement.

Family planning program can be promoted more during spring in mountainous areas with road blockage risk, to prevent deliveries in winter. This plan can be incorporated in counseling messages to women. In addition, couples will be encouraged to take the advantage of this program through minimizing the risk of death in wintertime.

Availability

Despite the availability of 34 midwifery schools in 34 provinces, there is still a gap in filling the vacant positions of midwives in health facilities. Most health facilities lacking positions in female staff particularly midwives (32)(31). A full capacity health system will not be able to fill of required staff in the next few years.

Obstetric complications are unpredictable and most of them occur around the time of delivery. Therefore, it is important to make sure every pregnant woman has access to a skilled birth attendant. At least there is need for someone who has midwifery skills to timely manage normal delivery and recognize complications to refer the mother to a facility with Emergency obstetric care. It has been advocated that skilled birth attendants is the "single most important factor in preventing maternal death" said Sabine Gabrysch and Oona MR Campbell. Proportions of deliveries attended by a skilled health worker is one of the indicators for MDG5 (69). Moreover, access to skilled birth attendants prevents stillbirth and improves child survival.

There is no single intervention to address the multi dimension causes of maternal mortality. For instance, primary postpartum hemorrhage, accounts as less than a quarter of all causes of maternal deaths, and requires combination of interventions such as application of oxytoxic , manual removal of placenta, blood transfusion and hysterectomy (64).

A skilled attendant at home is an evident strategy adopted in Malaysia and the Netherlands. This strategy covers normal delivery, preventive measures and some first aid measures for emergencies. A skilled birth attendant can provide delivery services at home. There is an argument that this strategy can increase coverage of skilled birth deliveries in remote areas. Following women's demands it will be more acceptable for them as a home-based delivery. The disadvantage of this strategy could be a dependency of skilled birth attendants to family members during delivery rather than professional staff from a health facility, It is also known as an inefficient strategy, in terms of a skilled birth attendant's time and ability to manage the emergencies. The midwife should be ready with some arrangement of first aid for any unpredicted complication. The referral system must be standby and ready to use in case of need. In addition, lack of links with emergency obstetric care reduce its effectiveness in emergencies (64). Other

factors such as high population density, access to a good referral system and communications may contribute to success in The Netherlands and Malaysia.

Emergency obstetric care strategy is essential to significant reduction of maternal mortality. Through that we ensure that the required services are available when needed at the health facilities (Basic emergency obstetric care) and referral hospitals (comprehensive emergency obstetric care). The strategy emphasizes on effective service coverage for women with fatal intrapartum complications in the right time (64). The antenatal care, postnatal care, family planning and safe abortion are known as complementary strategy for intrapartum-care. However, the intrapartum-care strategy was known as priority focused on reduction of maternal mortality but the complementary strategies are also known as important to this goal (64).

Community health workers can be effective as a complementary strategy in maternal health care particularly to take care of a newborn baby and mother after birth at home in link with the health center. It is also a useful contributor of preventive measures during pregnancy. However, the involvement of community health workers at delivery is highly argued in the studies. Disadvantages are mentioned that delivery will be an inefficient strategy because comprehensive training, supervision and logistics are needed and sustainability is in doubt. Moreover they are multipurpose people in the community (64).

MoPH can address the midwifery gap through more resource mobilization to fill extensively with the selection criteria discussed under accessibility. The ‘‘Mobile Obstetric Maternal Health Worker’’ (MOM) strategy can be adapted in Afghanistan where the women cannot reach the health center due to difficult roads particularly in winter. BPHS implementers have flexibility in shaping the health facilities based on need. The MOM can be fixed within the certain geographical area with enough logistics and supplies for the winter.

MoPH needs to focus on community-based services. CHWs can be effective in ANC, PNC and referring the pregnant women to SBA. CHWs have limited role in delivery and SBA. Moreover, Findings show there is lack of CHWs in some places particularly in remote areas. Provincial CHW mapping will be useful to recruit required CHWs and community management programs.

Affordability

The findings show there is association of indirect cost with, distance and opportunity cost. Financial capacity of family and cost of health services including transportation and other indirect cost are crucial in the health system. The cost of seeking care mostly includes supplies, medicine, transportation, formal and informal fees and opportunity costs of travel and waiting time that is lost from productivity activities. As long as women cannot travel alone, the transportation, accommodation and opportunity costs can be counted double even triple. The indirect cost is associated with distance from health facility (30).

Smith and Sulzbach (2008) studied the membership of Community-based health insurance (CBHI) and access to maternal health in public institutions and the relationship in between in Senegal, Ghana and Mali. The evidence suggests CBHI is one of potential demand-side mechanism which increases the access to maternal health care (71).

The CBHI is a voluntary scheme and nonprofit which is managed at community level. It is based on risk pooling principals and involves the small payment to reduce the indirect cost at point of services. The CBHI viewed to increase access to health care and protect catastrophic expenditures of health care (72). CBHI scheme facilitates reducing direct payment for health care by timely use of it. The CBHI aims to reduce out-of-pocket expenditure for health services (73).

According to Jacobs et al (2008), CBHI is a promising mechanism for the places where there is no formal payment to meet their financial need during health care (74). Government and community support for CBHI in Sub-Saharan Africa resulted in proliferation of this initiative in the region. In West Africa the number of schemes increased from 76 in 1997 to over 600 in 2004. Countries such as Ghana, Senegal, Benin, Tanzania and Rwanda incorporated the scheme into their national health financing strategies (71).

Afghanistan, with a high poverty rate and high OOP expenditure in health, is highly struggling with inequitable financing in health care. The BPHS as primary health care model is still not accessible to the large population. The travel cost and lost wages remain a challenge to population particularly for the poor people in remote areas (27).

However, Afghanistan experienced the pilot project of the community based health insurance scheme in 2005 in five provinces; the result was unsuccessful because of limited membership particularly by rich people. In addition non-poor

households were exempted but lack of awareness about this strategy, high premiums and low quality of services caused failure of the scheme (43).

Currently there is no Community based health insurance and only a few private health insurance companies established but their role is limited and there is no activity on a health insurance product. According to health financing policy MoPH would like to establish National Health Fund (NHF) as an autonomous legal entity to pool all financial resources from government, donors and others to purchase services from public and private providers. It will finally switch to social health insurance (75). MoPH also would like to take initiative of Universal Package of Health Services (UPHS) to cover prioritized service for the population (75).

Acceptability

Perceived quality of care

Perceived quality of care, which is mostly interpersonal quality, sometimes conflicts with technical medical quality particularly in communities with low level of awareness and knowledge about health issues. Hence, it hinders access to health services. For instance, women insist receiving more medicines and pain killers during delivery while health worker cannot honor these requests. Women can be educated about the disadvantages (30).

'The question should not be why do women not accept the service we offer, but why do we not offer a service that women will accept.' said Mahmoud Fathalla, 1998 Egypt (69).

Four strategic pillars of maternal health are family planning (FP), skilled care (including skilled birth attendance, emergency obstetric care for maternal and neonatal complications) during pregnancy and delivery and postnatal care. Quality of care refers to all these pillars. A skilled attendance is core for a quality outcomes in regard to mothers and babies. To uphold the basic principles of reproductive health approach, the quality of care is essential (69).

Skilled is a crucial word and refers to trained or professionals, one of the key proxy indicator in MDG5 is the percentage of assisted deliveries by skilled birth attendance. In terms of accessibility and acceptability the service must be with high quality care and it should be ensured that the system is accountable for women who seek health care. The evidence based practices highlighted the need for equitable, effectiveness and cost-effectiveness interventions (69).

One of the comprehensive assessments recommended important multi-faceted approaches. It is concentrated to the need and context specific approaches. The audit and feedback strategy is aiming to prevent maternal and newborn deaths through collecting, reviewing, and action upon information while upholding a continuous quality improvement strategy in maternal health care. The studies show that audit and feedback strategies have a great impact in quality of care particularly in perceived quality of care by women in comparison with other improvement strategies. The two relevant strategies particularly to maternal health are death audit and criterion-based audit or standards (69).

Maternal death audit:

This audit is an in-depth investigation about causes and factors (family, personal, community) contributed to maternal death. This audit can be conducted in facility and community levels. It can be used to strategy informed decisions at facility, district, province and national levels. This successful strategy with a confidential enquiry system has been used in several developing as well as developed countries. The findings are used in a continuous quality improvement process to bring changes in care and create standard in services (69).

Criterion-based audit or standard

Standard is set with specific objectives, process, structure and outcome criteria. The current progress is compared and measured with the standards. Changes are brought upon recommendations and reevaluated continuously. Studies show the effectiveness and feasibility of the strategy in poor settings for improvements in desired quality of maternal health care (69).

In Afghanistan, both mechanisms are applicable in BPHS facilities. The maternal deaths audit can be applied particularly in district hospitals. It helps managers to understand the factors, which contribute to maternal death in the facility and community levels. However, the standards mechanism for health care introduced by USAID funded project in MoPH, remains does not work because of poor coordination and support by management.

Cultural beliefs and behavior

In many societies, culture and beliefs are known as hindering factors in seeking health care. For instance, going outside after giving birth during seclusion is highly prohibited in many cultures or the way of treating the placenta in institutional delivery is important for some communities (30)(27).

According to behavioral theory, factors which influence one behavior are often different from those factors influencing other behavior. For instance determinants of condom use with regular partner differs from determinants of condom use with casual partner (30).

It is evident that low community involvement in health services, low education level of women, lack of knowledge about danger signs in pregnancy, lack of community support programs are factors contributing to poor maternal health indices (76). Therefore community involvement and awareness enhancement

strategies increase maternal health outcomes, the emergency obstetric care will be utilized, health seeking behavior and decision making will be improved (76).

Community sensitization on obstetric emergency has positive association in community involvement in emergency obstetric management. In addition, when the community members were educated by health workers they were less likely to involve in emergency obstetric management in comparison to mobilization of community members by their own local leaders (76). It is context specific even in same context it varies from rural to urban areas.

Community mobilization is important for planning to support women in decision making and reaching the emergency obstetric centers. In a study in Uganda (2012) the undertaken intervention, prior developing obstetric emergencies, were planning for supporting the women, sensitizing communities and identifying means of transport to use. The study shows that the main activity, before developing any obstetric emergencies, was transport mobilization and community sensitization. While the intervention after developing obstetric emergencies were awareness raising and transport mobilization for taking the women to a health facility (76).

Direct health education by skilled birth attendance increases knowledge about childbirth. A study in Mali (2009) shows mothers, who attend to ANC and received information about danger signs, are more likely to deliver at health facilities. Another study in Zambia (2009) shows women with knowledge about danger signs are more likely to deliver at health facilities (30).

When raising awareness, modern media technology is helpful. Women's knowledge can be influenced with availability of services and delivery risks. Some studies show the influence of radio and TV on family planning and health facility utilizations (30).

WHO promotes eHealth/mHealth in maternal and child health, according to the Commission on Information and Accountability (CoIA) 27 countries adopted eHealth/mHealth with regard to women and child health in their national strategy. For instance, Bangladesh through eHealth/mHealth project delivers message on pregnancy care by mobile phone with significant progress (77).

However, Afghanistan BPHS has community based elements such as health posts and community health committees; there is still gap in involvement of the community with full capacity in maternal health. After a decade of experience in BPHS implementation, it is advisable to investigate the underlying factors which

influence the community involvement in maternal health in BPHS implementation.

The Ministry of public health should explore and develop eHealth/mHealth strategy for maternal health and reinforce it for implementation. The study shows around a 70% coverage of mobile phones in Afghanistan, Mobile phones can connect skilled birth attendance with CHWs and women with a pregnancy condition at home. In addition, it can be used widely in ANC visits and follow up for pregnancies.

All provinces have local radio station; the study shows radio use in rural area particularly by women. It is an opportunity for designing of effective programs.

Chapter 5: Conclusion and Recommendations

Finally, this chapter aims to give home messages about access barriers to maternal health and conclude this study with few paragraphs and recommendations.

Conclusion

BPHS as a core strategy for primary health care in Afghanistan is still not available to the entire population, with 82% of the population under contractual coverage. On the other hand, this study shows that difficult geographical access remains a big challenge to delivery of health services to women in hard to reach areas. Generally, long distances to health facilities, road blockages during winter, difficulties in transport arrangement due to unavailability or high cost, and lost income remain potential barriers to access to health care for women. Insecurity is another obstacle in access to health services in some areas. Although the BPHS contracts encourage implementers to explore innovative approaches to improving access, the effective coverage remains low.

Best practices to address geographical access include MOM, improving selection criteria for medical students coming from rural, minority and low income families, employing and training CHWs in areas where they are not present to improve community based ANC, PNC and referral mechanisms, telemedicine, counseling through mobile phones and community sensitization for transport mobilization. A possible innovation is the promotion of family planning during spring in hard to reach areas, to avoid the need for delivery care during wintertime when travel is not possible. This program can be piloted initially in mountainous areas.

A huge shortfall in the availability of female health workers, particularly skilled birth attendants, is another important finding in this study. The current training capacity of the health system in Afghanistan is unable to fill this gap in the coming years.

The Out-of-Pocket expenditure for health care of over 70% is very crucial in the Afghanistan context. It refers to inequitable health services across the country. The national health financing policy of Afghanistan recommends the Universal Health Coverage (UHC) as one of the best options to address the inequity. To support UHC, MoPH has a plan for a feasibility study on insurance in Afghanistan to find the best practical mechanism of insurance in Afghanistan.

Overall, Afghanistan has made tremendous progress in improving maternal health indicators in recent years, but there is still a long way to go to meet the MDGs. The social norms, cultural beliefs and the low level of women's education hinder women to properly access health care. Some best practices such as maternal death audits at the health facility and community level, and standards for maternal health care, can be considered good options for the improvement of quality of health care in maternal health.

Recommendations

In order to improve demand and supply side access barriers to the maternal health services through BPHS facilities, MoPH and key stakeholders could consider the following recommendations:

Strengthen the existing system

- The MoPH needs to integrate BPHS and UHC and develop policy aiming to increase effective and equitable coverage of health services to the poorest women in remote areas.

- More resources should be mobilized to accelerate the graduation of community midwives for remote areas in order to fill the need for female health workers. In addition, in line with best practices, the rural, low income family and minority backgrounds should be considered preferred applicants in the selection criteria. MoPH needs to revise relevant human resources policies in light of best practices.

- MoPH needs to improve CHW networks through increasing their numbers in uncovered areas, and actively advocate for use of their services through media, health facilities and complementary activities at provincial and national level.

Implement new evidence-based approaches

- The MoPH should improve the quality of maternal care through incorporating “maternal death audit” and “standards” strategies in BPHS health facilities.

- The MoPH should develop and implement an eHealth/mHealth policy and strategy in order to increase access of women to maternal health messages.

Pilot new innovations

- After a feasibility study, MoPH can implement the most suitable social health insurance scheme / Community-based health insurance (CBHI) strategies to address the huge out-of-pocket expenditures and prevent impoverishment.

- The ‘‘Mobile Obstetric Maternal Health Worker’’ (MOM) strategy can be adapted and piloted in the Afghanistan context in order to explore its efficacy in improving access to delivery care in hard to reach areas, particularly during winter.

- One way to reduce maternal mortality in areas with blockage due to snowfall could be to introduce a ‘seasonal’ family planning program, promoted through health facilities and CHWs, that could lower the number of deliveries occurring during the winter season. A pilot project can be conducted in hard to reach areas to measure the uptake and the outcomes in terms of a reduction in the number of deaths due to pregnancy complications in those areas.

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Annexes:

Annex A: Total Health Expenditure

NHA Indicators	2008–2009	2011–2012
General		
Total population	25,011,400	27,000,000
Total real GDP (USD)	10,843,340,000	18,952,000,000
Average exchange rate (USD: Afs)	1:50	1:47
Total government health expenditure (USD)	63,892,239	84,148,093
Total health expenditure (THE)	1,043,820,810	1,500,975,945
THE per capita (USD)	41.73	55.59
THE as % of real GDP	10.0%	8.0%
Government health expenditure as % total government expenditure	4.0%	4.2%
Financing Source as a % of THE		
Central government	6.0%	5.6%
Private	76.0%	73.6%
Rest of the World	18.0%	20.8%
Household (HH) Spending		
Total HH (OOP) spending as % of THE	75.0%	73.3%
Total HH (OOP) spending per capita (USD)	31	41
Financing Agent Distribution as a % of THE		
Central government	11.0%	11.8%
Household	75.0%	73.3%
Non-governmental organizations	5.0%	0.3%
Rest of the World	8.0%	14.6%

Source: Afghanistan National Health Account 2012

Annex B: Health Facility Criteria for Salary and Hardship Adjustment at HF level

No	Facility Criteria Definitions	Level	Points	Actual
1	Distance to nearest provincial centre (hours), using available transportation.	less than 1	0	
		1 – 2	3	
		More than 2 to 5	6	
		more than 5	9	
2	Distance to nearest district centre (hours), using available transportation.	less than 1	0	
		1 – 2	3	
		More than 2 to 5	6	
		more than 5	9	
3	Distance (minutes) students must walk from the clinic to a primary school where female students are enrolled.	less than 15	0	
		15 – 30	3	
		31- 60	6	
		More than 60 or no School	9	
4	Living amenities: points allocated for lack of basic amenities		0	
		No safe water source available next to housing	10	
5	Population located in the immediate community, in thousands. Population that can reach facility in less than 30 minutes walk	more than 20	0	
		11-20	3	
		3-10	6	
		less than 3	9	
6	Distance to the nearest functioning hospital (hours), using available transportation	less than 1	0	
		1 – 3	3	
		More than 3 – 8	6	
		More than 8	9	
7	Days that the health facility is inaccessible due to road blockages as a result of inclement weather	0	0	
		1 – 15	3	
		16 – 45	6	
		More than 45	9	
	TOTAL		64	

Source: National Salary Policy, 2011

Annex C: Rank Order of Provinces between 2011/12 and 2012/13 Based on the overall Mean Score

Province	Donors	Overall Mean Scores		Rank Order		Rank Order Change*
		2011/12	2012/13	2011/12	2012/13	2012/13 minus 2011/12
WARDAK	WB	59.2	69.2	8	1	7
KUNAR	EU	72.7	67.7	1	2	-1
NANGARHAR	EU	69.1	67.2	2	3	-1
NURISTAN	EU		66.9		4	
LAGHMAN	EU	62.3	65.9	3	5	-2
BAGHLAN	USAID	51.8	65	26	6	20
KUNDUZ	EU	59.2	63.2	7	7	0
LOGAR	EU	60.7	62.3	6	8	-2
HERAT	USAID	53.7	62.1	20	9	11
KANDAHAR	USAID	62.1	60.9	4	10	-6
FARAH	WB	57.1	60.3	13	11	2
NIMROZ	WB	58.8	57.3	10	12	-2
FARYAB	USAID	58.6	57.3	11	13	-2
PANJSHER	WB	55	57	17	14	3
TAKHAR	USAID	50.7	57	29	15	14
PAKTIKA	USAID	52.2	56.6	25	16	9
KAPISA	WB	57.8	56.1	12	17	-5
ZABUL	EU	44	56	33	18	15
GHAZNI	USAID	52.8	55.8	24	19	5
BADAKHSHAN	USAID	51.8	55.6	27	20	7
JAWZJAN	USAID	56.8	54.8	14	21	-7
SARIPUL	WB	54.1	54.8	19	22	-3
BADGHIS	WB	52.8	54.4	22	23	-1
BALKH	WB	61.1	53.7	5	24	-19
PARWAN	WB	55.5	53.5	15	25	-10
URUZGAN	EU	52.5	53.4	23	26	-3
PAKTYA	USAID	54.7	53.3	18	27	-9
HELMAND	WB	55.3	53.1	16	28	-12
KABUL	WB	48.2	52.1	32	29	3
DAYKUNDI	EU	50.7	50.8	28	30	-2
BAMYAN	USAID	50.4	49.8	30	31	-1
KHOST	USAID	53.2	49.4	21	32	-11
SAMANGAN	WB	58.9	49.1	9	33	-24
GHOR	EU	48.8	48	31	34	-3

Source: BSC, 2013

Red for rank: poor performance
Green for rank: good performance

Red for province: insecure + more geographical difficulties
Blue for province: more mountainous
Yellow for province: insecure

Annex D: some example question and result on health worker satisfaction index

Indicator	Health worker satisfaction index	%
SI # 1	I know what is expected of me in this job – WORK CONTENT	**93.2**
SI # 2	This job allows me to use all my skills – WORK CONTENT	**90.3**
SI # 3	I understand my daily duties at this job – WORK CONTENT	**93.9**
SI # 4	In this job management rarely interferes in my work – AUTONOMY	**36.1**
SI # 5	This job allows me to use my personal judgment in carrying out the work – AUTONOMY	**73.4**
SI # 6	There are unnecessary procedures in this job that take time away from my actual work – WORK DEMANDS	**69.7**
SI # 7	I am often asked to do things that are not my duties –WORK DEMANDS	**70.0**
SI # 9	This job provides me with adequate opportunities to learn new skills – GROWTH & DEVELOPMENT	**77.1**
SI # 10	This job provides me with adequate opportunities to participate in training programs – GROWTH & DEVELOPMENT	**76.2**
SI # 11	I know how much I will get paid at the end of each month in this job – FINANCIAL REWARDS	**82.4**
SI # 13	The benefits we receive are as good as most other jobs offer in Afghanistan –FINANCIAL REWARDS	**40.5**
SI # 14	I understand the types of benefits that I am supposed to receive in this job – FINANCIAL REWARDS	**73.2**
SI # 15	There are few rewards for those who work here – FINANCIAL REWARDS	**32.7**
SI # 16	There is really too little chance for promotion in this job –PROMOTION	**43.2**
SI # 17	Those who do well on the job stand a fair chance of being promoted – PROMOTION	**50.3**
SI # 18	People get ahead as fast here as they do in other organizations – PROMOTION	**71.1**
SI # 19	I can get help from my supervisor when I need it –SUPERVISION & COMMUNICATION	**66.8**
SI # 20	When I do a good job, I receive the recognition from my supervisor – SUPERVISION & COMMUNICATION	**83.3**
SI # 21	My supervisor never gives me any feedback about how well I am doing in my job - -SUPERVISION & COMMUNICATION	**62.4**
SI # 22	In this job work assignments are not fully explained –SUPERVISION & COMMUNICATION	**73.8**

Source: BSC, 2013

Annex E: Health worker motivation index questions and result

Indicator 4	Health worker motivation Index	%
SI # 1	I sometimes feel my work here is meaningless	**79.2**
SI # 2	It is hard for me to care very much about whether or not the work gets done right	**82.2**
SI # 3	I frequently think of quitting this job	**70.6**
SI # 4	I work here because of opportunities for promotion	**76.8**
SI # 5	I work here because it provides long term security for me	**74.9**
SI # 6	I only work here so that I get paid at the end of the month	**61.4**
SI # 7	I work here because of good benefits I receive (Note: all benefits, think overall)	**35.6**
SI # 8	I work here because it is located in a safe area	**64.9**
SI # 9	Since I've heard about opportunities to receive performance-based payments I've been working harder than before	**60.9**
SI # 10	I work in this facility/hospital because it has sufficient resources I need to do my job (medicine, equipment, infrastructure)	**61.9**
SI # 11	I do this job because it gives me respect in the community	**69.2**
SI # 12	I do this job because my family would be disappointed if I quit	**58.2**
SI # 13	I feel a very high degree of personal responsibility for the work I do on this job	**91.9**
SI # 14	I feel I should personally take the credit or blame for the results of my work on this job	**84.0**
SI # 15	I am glad that I work in this facility/hospital rather than other facilities/hospitals in the country	**87.9**
SI # 16	I work in this job because it is part of the way in which I have chosen to live my life	**88.8**
SI # 17	I work in this job because it allows me to decide how my work is organized	**79.6**
SI # 18	I work in this job because it allows me to use my skills	**82.2**
SI # 19	I work in this job because I can accomplish something worthwhile in this job	**89.8**

Source: BSC, 2013

Annex F: Assessment tool for establishment of new health facility

Geographical access barrier			Access in winter				Road condition				common transportation mode				Distance from nearest health facility in hours				distance from nearest health facility by KM				Means of distance from villages to proposed health facility in KM			Median of distance from villages to proposed health facility in KM			Presence of health worker in the area				Catchment population for new health facility				Average population per health facility in this district				Communication mode			Total
flat	Hills	montinuous	Open	block for few days	block for 3 months	block for 6 months	highway	secondary	Primary	no vehcle road	car	rickshaw	animal	foot	>1	1-2	2-6	6>	<5	5-10	10-15	>15	>5	5-10	>10	>5	5-10	>10	SBA	CHW	TBA	None	>3000	3000-7000	7000-14000	>14000	>5000	5000-10000	10000-15000	>15000	mobile phone	by person	none	
1	2	3	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	1	2	3	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	44

Source: MoPH tool modified