Determining factors and utilization pattern for normal delivery care in Nangarhar province of Afghanistan

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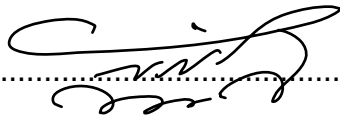
By

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Acronyms

AHS 2006	Afghanistan Health Survey 2006
ANC	Antenatal care
AMS	Afghanistan Mortality Survey
BHC	Basic Health Centre
BPHS	Basic package of Health Service
CHC	Comprehensive Health Centre
CHW	Church World Services
CHW	Community Health Worker
CSO	Central Statistic Organisation
DH	District Hospital
EPHS	Essential Package of Hospital Services
EU	European Union
FP	Family planning
HC	Health Cluster
HMIS	Health Management Information System
HP	Health Post
IIHMR	Indian Institute of Health Management and Research
IMF	International Monitory Fund
IMR	Infant Mortality Rate
IUD	Intrauterine Device
MMR	Maternal Mortality Rate
MoPH	Ministry of Public Health
NHA	National Health Account
NRVA	National Risk and Vulnerability Assessment (Survey)
OOP	Out of Pocket expenditure
OPD	Outpatient department
PH	Provincial Hospital
RH	Regional hospital
RH	Reproductive
SCO	Central Statistics Organization
SHC	Sub Health Centre
THE	total health expenditure
USAID	United State Agency for International Development
UTH	University Teaching Hospital
WB	World Bank

Abstract

Background: Skilled birth attendance in Afghanistan's Nangarhar Province is only 20%. Of these 20%, normal deliveries take predominantly place in hospitals rather than in lower level health care facilities.

Objectives and methods: To describe and analyse factors related to skilled birth attendance and to the pattern of services utilization regarding normal delivery care in the province. These factors were explored by a review of unpublished literature and HMIS data from Nangarhar, national surveys and experience from other counties.

Findings: Very low coverage of antenatal care (38.6%), health facilities without female staff (18% - 42%) and shortage of female doctors in 47% of health facilities. The quality of care is perceived as low. About 41% women believe that it is not important to deliver in health facilities. Deliveries cost 17.5 US$ and 31.7 US$ to the patient in health centres and hospitals respectively.
Of the 20% of skilled birth attendance, 14.6 % takes place in hospitals, 1.6% in lower level public health facilities and the rest in private facilities. There is no functional referral system in the province to filter patients and ensure access of care during emergency needs.

In conclusion, women in Nangarhar do not deliver in health facilities and, if they do, they prefer hospitals. Several factors play a key role and need to be addressed. This includes improving the knowledge of women about the importance of ANC, addressing the gaps in human resources, and developing health care financing models for delivery care. Furthermore there is a need for strong referral and "gate keeping", to keep the patient at the right level of care and avoid self referral, and to review hospital funding.

Key words:

'Determinants', 'normal delivery', 'quality', 'community mobilization', 'referral' , 'bypassing' , 'hospital delivery' , 'service utilization', 'demand and supply , 'balanced scorecard', 'inequalities' , health seeking behaviours'

Words count: 12,278

Introduction

By profession I am a medical doctor, stated working in public health sector in 2002 in Afghanistan. This was the time when Taliban regime was just ended. Taliban regime, with laxity towards health and long lasting war, devastated the health system in the country and deprived people from access to basic health care.

Afghanistan is passing through a state where short fall exist in human resources, supplies & drugs and basic infrastructures. At this moment, the government of Afghanistan with the support of development partners are struggling to rehabilitate and improve the health system of the country. Women and children are the most vulnerable groups and prone to high morbidity and mortality. Afghanistan's maternal mortality in 2002 reported to be one of the highest in the world.

In beginning of 2002, I started my carrier in public health with a national NGO tell end of 2005. In 2006, I joined HealthNet TPO - a Dutch NGO working in Afghanistan 1994 as the program Manager of the Health care Support Program in Nangarhar province.

While working and based for about three year in Nangarhar, I closely observed different aspects of services and its utilization pattern. For me the most interesting aspect was skilled birth attendance. Despite an existing national agenda with a specific focus on reproductive health, the number of deliveries in presence of skilled birth attendants remained very low. "We need to improve the uptake of skill birth attendance, improve utilization of rural health facilities for delivery care". This is what we, as a team always thought.   Other challenge was related to increase load of patients on hospitals for normal delivery care that could have been attended at lower level of Health Centres.

These two themes are the core idea behind my theses where I am exploring the underlying factor that relates to the low level of skilled attendance in the province and the factors which lead to low utilization of health facilities and high utilization of   hospitals for normal delivery care.
I hope that my recommendations will bring positive changes at individual, community and national (Ministry of Public Health) level to address these issues.

Chapter I: Background information of Afghanistan

1.1 Geography

Afghanistan has a strategic geo- political position in terms of its location in the junction of Central, South and West Asia, bordering with Pakistan in Southeast, with Iran in West, Tajikistan, Uzbekistan and Turkmenistan in North and China in Northeast. Geographically, Afghanistan is a mountainous land locked country, with a total land area of 647500 sq Km, out of which 80% land is mountainous or deserted (Kelly, 2003). The country has 34 provinces and 398 administrative districts

1.2 Demography

Last official census was carried out in 1974. Population figure is based on extrapolation with discrepancies. According to Word Bank total population is estimated about 34.4 million (World Bank, 2010), while Afghanistan central Statistics Organization gives the figure of 24.5 million (CSO, 2011). Life expectancy at birth for male and female is 42 years and 43 years respectively (WHO, 2008), with average family size of seven (APHI/MoPH et al, 2010). In country 60 % of boys and 42% of girls are not enrolled in schools while literacy rate for boys and girls between 15-24 years is 53% and 24 % respectively (Icon- Institute, 2008).

1.3 Economy

Conflicts and devastation for more than three decades has pushed Afghanistan to rank of 172 out of 187 member states according to human development index (UNDP, 2011) with per capita income of US$ 426 (MoPH, 2011a). Afghanistan is foreign aid dependent where country's 100% developmental budget and 45% of operating budget is contributed by external funding (MoF,2010). Export of the country is mainly dependent on agricultural products and carpets which accounts for 80% of the export.

In 2008-2009 total health expenditure (THE) was about 10% of the GDP, with an average of 42US$ per capita cost on health. Out of the total health expenditure, 76% is contributed by public out of pocket payments (OOP), 18% contributed by donor agencies (MoPH, 2011a).

1.4 Health Indicators

In 2002, country maternal mortality was reported to be 1600/100,000 live birth - the worst health indictor in the world (Bartlett et al, 2005). Infant Mortality Rate (IMR) of 111/1,000 live births and under 5 mortality rate is 161/ 1,000 live births in 2008 (Icon- Institute 2008) which is

decreased to IMR of 64/1000 live birth and under five Mortality rate of 83/1000 live birth in 2010 (APHI/MoPH et al, 2010). According to Afghanistan Mortality Survey, maternal mortality is 372/100,000 live births, four time higher in rural areas (417/100,000 live birth) compare to urban areas (95/100,000 live birth) (APHI/MoPH et al, 2010) Skilled birth attendance is 32% in the country. Seventy five percent of population has access to primary health care. Antenatal care coverage is 60%, while postnatal coverage remains low at 28%. About 92% of women are married by age 25, modern family planning methods are used by only 20% of married women, out of that only 9% of these methods are used by teenage women (APHI/MoPH et al, 2010).

1.5 Health system structure

After the fall of Taliban, the country has developed a national health policy and strategy for the country in 2002-2004. In 2003, a Basic Package of Health Services (BPHS) has been developed which is a minimum package of primary health care services for the country (MoPH 2009). After the establishment of the BPHS, the MOPH decided to develop a framework for the hospital elements of the health system. The Essential Package of Hospital Services (EPHS) was developed in 2005 which provides referral tertiary level care services for BPHS (MoPH, 2005).

Figure 1: Pyramid of health services BPHS and EPHS
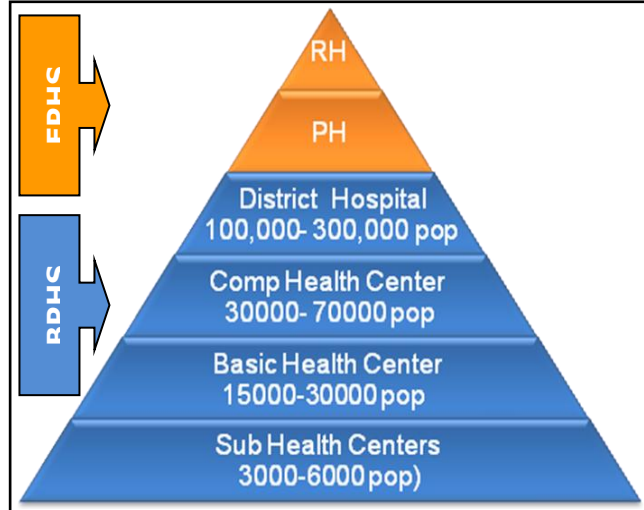
Health services in Afghanistan are provided through two services packages. BPHS; consists of community level health posts(HPs),Sub Heath Centres(SHCs), Basic Health centres(BHCs), Comprehensive Health Centre(CHCs) and District Hospitals (DHs). EPHS; consists of provincial Hospitals (PHs), Regional Hospitals (RHs).
At central level specialized hospitals are serving as teaching hospitals and referral centres for regional and provincial hospitals.

Basic Package of Health Services:

In 2002, the Ministry of Public Health (MoPH) formed the Consultative Group on Health and Nutrition (CGHN), which consisting of key stakeholders, NGO, Donors UN agencies and line ministries. The BPHS was

developed to address high priority health services to be available for all Afghans. BPHS is revised in 2005 and 2009.

The BPHS represents the backbone of essential primary health care services in the health system of the country. The BPHS has seven core elements (Appendix 1). The types of different health facilities are explained in health pyramid (figure 1). In Appendix 2 you can find an overview of the ´Type and Number of Health Workers per type of health facility.

Essential package of hospital Services (EPHS)

The Ministry of Public health developed the Essential Package of Hospital Services in 2005. There are four levels of hospital in the country; at district level i.e. district hospital (part of BPHS); at provincial and regional level i.e. provincial and regional hospitals (part of EPHS). And a fourth group of specialized hospitals, which are affiliated with medical and other training institutes located in Kabul. Specialized hospitals serve as referral centres for provincial and regional hospitals in the country.

The package consists of a range of services, administrative structures and staffing (MoPH, 2005). Currently there are 29 provincial hospitals and 5 regional hospitals in the country, not-included are the specialized hospitals in the capital Kabul.

According to the constitution of Afghanistan, health is free for its citizens. However, the country's own economy is not enough to fulfil this commitment. There are three main donors supporting health systems. European Union (EU), United States Agency for International Development (USAID) and World Bank (WB). Vertical programs such as immunization and communicable diseases like TB and Malaria have separate funding mechanisms, and are funded by GAVI Alliance, UNICEF and Global fund.

Tertiary and specialized hospitals receive 26% of the total funds allocated to the MoPH from Government. This leaves most of the tertiary hospitals with poor facility infrastructure, an inadequate workforce, and lack of necessary supplies (MoPH, 2011b)

Health services in Afghanistan are mainly delivered by international and national Non Governmental Organizations (NGOs), where MoPH has the stewardship role to ensure that programs are implemented according to national policies and strategies. The "Strengthening Mechanism (SM)" and "Hospital Reform" Programs are directly implemented by MoPH (WHO, 2006). The SM program consists of BPHS implementation in three

provinces. The Hospital reform refers to ten hospitals (three regional hospitals and seven provincial hospitals).

1.6 Nangarhar Province

Nangarhar province is located in eastern region of Afghanistan, bordering Pakistan in the Southeast, Kunar province in Northeast, Laghman in North, and Paktya and Kabul in the West. The province population is 1,383,900 people, according to central Statistics Organization (CSO, 2011), with a population density of 175.8 people per square kilometres. Urban population is 15%, living in Jalalabad, the rest are all rural inhabitants. Nangarhar province is administratively subdivided in 22 districts. Ethnically Pashtoon constitutes 90.1%, Pashayee (3.6%), Arab 2.6%, Tajik 1.6% and others 2.1 %(MMRD, 2006). See Map of Nangarhar as Appendix 3

Health services in Nangarhar
Since 1995 HealthNet TPO is providing health care services in the province. After the introduction of BPHS in 2005, HealthNet TPO is contracted by EU/Ministry of Public Health to implement the Basic Package of Health Services (BPHS) in the province.

In March 2007, the EPHS was introduced in Nangarhar Public hospital and later the hospital was officially endorsed as Regional Hospital for the region. Currently Nangarhar, HealthNet TPO provide services through; 1 Regional Hospital, 3 District Hospitals (1 DH per health cluster), 17 Comprehensive Health Centres (CHC), 46 Basic Health Centres (BHC), 16 Sub Health Centres (SHC) and 676 Health Posts (HP). Jalalabad city also houses the University Teaching Hospital (UTH), which is managed by the Ministry of Higher Education.

HealthNet TPO implements BPHS in 21 out of the 22 districts of Nangarhar province. In one district (Surkhrud), Church World Services (CWS) – another NGO is responsible for the implementation of services.
For management reasons, HealthNet TPO organized the health structure in the province on a sub-district level called Health Clusters (HCs): the province was subdivided in three health clusters (Northern cluster, Khogiani cluster and Shinwar cluster), each containing between 5 and 10 districts.

Chapter II: Problem statement, justification, objectives and methodology

2.1 Problems statement

Skilled birth attendance (SBA) as determining factor for decreasing maternal mortality is a widely understood fact (Woods, 2008). Like many developing countries, use of SBA in Afghanistan is very low. Only 32% deliveries are conducted by skilled birth attendants (APHI/MoPH et al, 2010). According to Nangarhar KAP survey of 2007, SBA was 20.1% (Klinkenberg, 2007). Although recent trends show improvements, still SBA rate remains low. Therefore it is important to explore the underlying factors that influence the uptake of skilled deliveries

It is also of interest to understand where women do access for SBA. In Nangarhar, the programme's HMIS data suggests that women preferentially attend hospitals for delivery, over health centres.

This study is important in order to improve and balance the utilization of services. A better understanding of health seeking behaviours, beliefs and perceptions should result in an increase of skilled birth attendance on one hand, and on the other hand, bring balance in the use of the existing health system utilization at an appropriate level of the service delivery system

This study has two major aims,

1) It will identify and describe factors that determine the use of health facilities for deliveries by skilled birth attendants and

2) It will explore the trend and pattern of health services utilization for delivery care among the different levels of health facilities in BPHS and EPHS, and look for those factors which determine the choice for a certain level of health services.

2.2 Justification

Complication of delivery such as post partum haemorrhage (PPH)   is the leading cause of maternal death in Asia and Africa. (Khan et al, 2006). In Nepal, as result of deliveries attended at home, 72.8% ended up in hospitals with serious complication of excessive bleeding (Tuladhar et al. 2009). In Bangladesh more than 50% of women who had obstructed labour or mal position of baby lost their babies (Kusiako,Ronsmans and Van, 2000). In Afghanistan, three leading causes for maternal deaths are; haemorrhage (56%), Pre/Eclampcia (20%) and Prolong/obstructed labour (APHI/MoPH et al,2010). While Home based deliveries increases delivery related complications to mothers and newborns. The ratio of neonatal and maternal mortalities due to delivery complications in

developing countries are reported 5 stillbirth to one mother death respectively (McClure et al, 2007). Focus needs to be given in order to improve skilled birth attendance (SBA) by addressing those factors which hampers the use of SBA. Other aspect for delivery care is the use of right level of care for delivery services. Utilization of higher level of care results in unnecessary utilization of resources, money and leads to a distortion of the health services delivery systems.

Health Seeking Behaviour survey Nangarhar 2007 showed that 20.1 % women had SBA in Nangarhar, it is important to describe those factors which influence local people to opt for skilled deliveries so that evidence based interventions can be planned for improved skilled delivery.

Current trends and pattern of health system utilization in Nangarhar seems to contribute to the distortion of services delivery structure between BPHS and EPHS. Normal deliveries that take place in hospitals require more resources and costs compared to lower levels of BPHS health facilities. Health Seeking Behaviours survey 2007 in Nangarhar shows that the median total out of pocket cost for delivery services in BHCs and CHCs were 17.5 USD while in hospital is was 31.7 USD (Klinkenberg, 2007). Extra load of normal deliveries on resource-limited hospitals further compromises the quality of care. Study shows that quality of care domain for the hospitals is limited to lower quintile of performance in Afghanistan (Chang et al., 2010).

Normal deliveries that take pace in hospitals lead to more opportunity cost and further increases out of pocket payments (OOP). A survey conducted in Nangarhar shows that per capita OOP expenditure is 27.45 USD due to use of high level of services, drugs from markets and other related opportunity costs and this high costs lead to high proportion of income as health expenditure(14.9%), one among highest in the world.(Soeters, Gibson and Leerinks, 2005)

2.3   Objectives

Overall Objective
To analyse the determining factors and patterns of health system utilization of normal delivery care in Nangarhar province and to come up with recommendations for improved uptake of normal deliveries at the right place of the health system in the country.

Specific Objectives:

1. To describe socio-cultural factors, health seeking behaviours, knowledge and perception of the people in relation to the use of delivery care services in Nangarhar.

2. To describe factors affecting the utilization pattern of the existing integrated services packages of BPHS and EPHS in terms of delivery care and referrals care in Nangarhar.

3. To analyse how the services utilization pattern for delivery care are shaped in the context of Nangarhar.

4. To come up with policy recommendations for the Ministry of Public Health regarding normal deliveries to be carried out in the right level of existing health systems in the country.

2.4   Methodology

The above objectives will be achieved through a literature review of both published and gray literature. Additionally, data from the Provincial Health Information System as well as a number of surveys conducted in Nangarhar was re-analysed to illustrate the local context whenever possible and appropriate. Organization and descriptions in every section of the findings will be based on literatures in the first part followed by Nangarhar survey and HMIS data and supported by other MoPH document, national surveys where ever needed.

2.4.1   Review of literature

There is no peer-reviewed literature on health seeking behaviour specific to Nangarhar province. Therefore, the key source of information consists of three Health Seeking behaviours surveys that were conducted in 2005, 2007, and 2009 in Nangarhar.

Review of peer-reviewed literature for other countries of similar context was done using different search engine such as PubMed, Science Direct and Google Scholar. Gray literature was primarily obtained from internal HealthNet TPO reports and internal documents published by the Government, national surveys such as National Risk and Vulnerability Assessment 2007/8, Afghanistan Health Survey 2006 and Afghanistan Mortality Survey 2010 are consulted.

Health Seeking Behaviours survey 2005 was conducted with technical support of a health economist and focused primarily on health seeking

behaviours and its relation to health expenditure. The sample size of the survey was small. In total 240 households were included from 16 districts of the province. The survey was conducted with the help of only male surveyors and therefore chances of bias in the outcome of reproductive health questions were high and large missing value recorded from survey.

Health Seeking Behaviours Survey 2007 conducted by experienced public health researcher. In comparison to 2005 survey, representative sample size of 600 households, covering 19 districts out of 22 were included. Male and female surveyors' were used in the survey. Errors in data were corrected on the spot, with very few missing values

The last health seeking behaviours survey was conducted in 2009. Survey data analysis and reporting was done with a gap of about one year. During the data analysis, mismatches in the two set of data entry were found and it appeared that data was missing. Several cultural sensitive questions were dropped by surveyors and respondents. It was difficult to trace back missing data due to time laps. Some questions were not very well defined according to international definition standards with different interpretations i.e. live birth and still birth.

As 2007 health Seeking Behaviours Survey is the most reliable, it will be used in different sections of this paper. However, in the case trends in the province is the interest, reference will be made to other local surveys.

2.4.2   *Conceptual framework*

The conceptual framework is adapted from Julia Hussein, conceptual framework for skilled attendance at delivery (Hussein et al, 2004). The inner circle" service delivery" has been revised to relate to Afghanistan's services delivery packages (BPHS and EPHS), referral between these two packages and quality of care. The next level, the "enabling environment" describes care seeking behaviours, linked to uptake of services such as knowledge, physical access, services acceptability and financial factors. The outer frame of the framework "community" describes those predisposing factors which influence health seeking behaviours such as social, cultural, political and institutional factors.

Figure 2: Conceptual framework is adapted from Hussain,J et al, 2004.
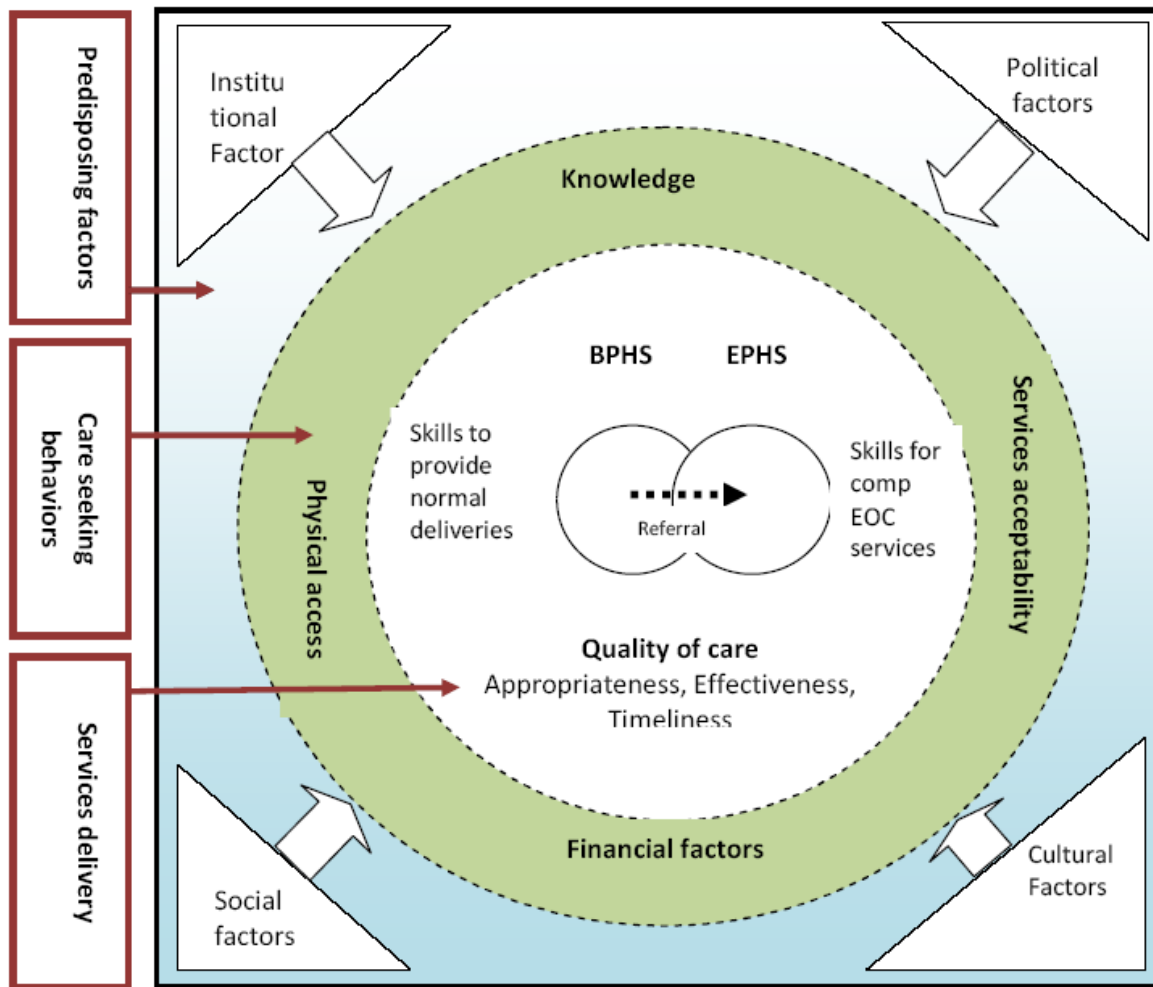
2.4.3 Limitation of study

Local data used in this study is mainly limited to the surveys carried out by the HealthNet TPO as no additional information related to the topic is available for Nangarhar. Surveys in Nangarhar have gaps in terms of in-depth qualitative aspects of perceptions about the pattern of services use for normal delivery. In addition factors around bypassing lower levels of care not clearly touched in all national surveys. Nangarhar surveys and national surveys can describe the inhibiting factors related to normal delivery care and its utilization; however perceptions about quality, patient's satisfaction and access may vary according to sex, socio economic status and level of education of the respondents. To overcome this issue of no defined indictors in terms of user perception, utilization of a particular service and is interpretation will be considered as proxy indicator for pattern of services use and quality of care.

Chapter III: Factors related to delivery care services utilization in Nangarhar province

In this chapter objective 1 of the study will be addressed, using the three levels of conceptual framework as a structure. The chapter discusses service utilization from a client perspective; therefore the results of the literature review are complemented by results of the Nangarhar surveys whenever appropriate.

3.1   Predisposing factors

3.1.1   Socio cultural factors

3.1.1.1   Marital age

Maternal age has important relation to health seeking practices. Older women seek more frequently maternal health care than younger women (Chakraborty, 2003). Older women are more confident and influential in decision making as compared to teenage mothers (15-19years). If older women at home have previous experience of delivery at home, they may influence the decision of young pregnant women for deliveries to be taken place at home, instead of health facilities (Magadi,Agawanda and Obare, 2007). International studies shows that teenage mothers have less power in decision making than adult mothers (Furuta and Salway, 2001).

According to Afghanistan mortality survey 2010, in age group 15-19 years, 12% has already stated childbearing (APHI/MoPH et al, 2010). Nangarhar Health Seeking Behaviours Survey 2007 survey shows that 33.3% of households had a teen mother. Based on the health clusters (HCs), teenage pregnancy is highest in Khogiani and Shinwar HCs (38.9.8%) and Northern HC (22.8%) (Klinkenberg, 2007).

Table 1: household with a child delivered in last 12 months, pregnant and teenage mothers (source Nangarhar Heath Seeking Behaviours survey 2007)

Health Cluster	N	HH child delivered last 12m	HH current with a pregnancy	HH with teenage mother*
Khogiani	150	62.0%	30.2%	38.0%
Northern	181	46.4%	26.7%	22.8%
Shinwar	268	61.2%	34.4%	38.9%
Overall	**599**	**56.9%**	**31.0%**	**33.3%**

Overall n=471, question not always filled

3.1.1.2   Marital status

There is correlation between marital status and access to health services. Women, who are divorced, widowed and those married to polygamous men with a favourite wife, will have low power, resource to access to health services.   Single women may be stigmatized because of being single or divorced (Duong, Binns and Lee, 2004).

There is mixed finding in different studies in developing countries. studies carried out in Tanzania, Ghana and Burkina Faso shows no difference between monogamous and polygamous household, while studies in Ivory coast and Kenya show that women in monogamous households get more care than polygamous households (Gabrysch and Campbell, 2009).

In Nangarhar, in 2007 survey nearly 92% of households are monogamous. About 6.7% were polygamous. This survey does not capture difference in health seeking behaviours between monogamous or polygamous households.

3.1.1.3   Ethnicity and religion

Ideologies, norms and values of various religions and ethnicities may influence maternal health care. Different interpretations of religious norms may encourage negative attitudes toward reproductive health care and services utilization (Gyimah, Takyi and addai, 2006). Studies shows that utilization of skilled birth attendance among Muslims in Bangladesh was lower (33.6%) than among non-Muslims in that country (61.3%) (Anwar, 2008). In most societies ethnicity and religion are interlinked and these factors influences autonomy of women, freedom and power a woman has to decide about the access of health services according to her choice. (Fotso, Ezeh and Essendi, 2009).
 In Afghanistan, ethnicity alone cannot be linked to services utilization however, trend of services is seen different region of the country which as different ethnic identities for example in northern region with majority of Tajiks have ANC coverage is 71% as compared to 51% in eastern region Pashtoons (APHI/MoPH et all, 2010).

Nangarhar social set up consists of tribal and ethnic divisions but the majority are Pashtoons, rigidly bound to their culture and religion Islam. Men control the mobility of women.   Besides their social system is strongly based on the strong influential tribal set up where men are supposed to protect the chastity of women. Women would need a companion of close relative "Maharam" for accessing health care when going to male health worker.   Women are supposed to avoid the

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exposure of their face or part of body to male health services provider in the absence of female health worker while the availability of female health workers is a big challenge in rural the areas of the province.

3.1.1.4 Family composition

In communities were cultural norms result in the suppression of women's autonomy , extended families and big numbers of small children, limits access of women to skilled birth attendance(Fotso, Ezeh and Essendi, 2009).

According to AMS 2010, 96.7% families are headed by men and 3.3% by women. Men are the decisions maker in afghan society (APHI/MOPH et al, 2010). In Nangarhar Province, family composition consists of large extended families where several couples of different generations live together. In these large families where women live with their in-laws, permission is needed from a father or mother in law or other elder in the family to access appropriate health care. These characteristics of Nangarhar households limit the decision making possibilities and the autonomy of women

In Nangarhar, according to survey of 2007, the average family size was 11.4. The percentage of families with a child below 5 years was about 94.2%, while the percentage of families with a child below one year was 61.8% (Klinkenberg, 2007). Not only the delivery care but also the access to other reproductive health services is influenced by the lack of decision making power of women as indicated in this same survey; 18% of women reported don't attend ANC due to house hold decisions.

3.1.2 Institutional and political factors

The institutional and political factors are a crucial component of the conceptual framework, but are most closely related to Objective 2 for this paper. These factors will therefore be discussed in more detail in the following chapter, which focuses on the providers' perspective.

3.2 Care seeking behaviours

3.2.1 Mother education

The level of maternal education has a direct influence on all types of health seeking behaviours. Different studies have shown strong relation of maternal education with health behaviours such as utilization of skilled delivery (Govindasamy, 1997; Furuta and Salway, 2001) and its relation to maternal mortality (Karlsen et al, 2011). Educated and working women will have more access to health services for delivery care (Sharma,

Swangdee and Sirirassamee, 2007).Educated mothers will have broader knowledge and different information related to the types and availability of services and will have more access to financial resources; they will be in a position to influence husbands and other family members in terms of demand and decision making (Furuta and Salway, 2001).

In Afghanistan, 76% of women are illiterate in Afghanistan (APHI/MoPH et al, 2010). In Nangarhar 2007 survey, 97% of wives were reported illiterate while 2.3% had primary education (klinkenberg, 2007).

3.2.2   Husband education

The Husband's level of education has an influence on different health seeking behaviours such as preventive care for instance ANC (Simkhada et al, 2008). Educated husbands can also be more lenient in terms of allowing women to access resources, health care and permission of wives regarding their mobility to seek health care. Educated husband are more likely to discuss quality care with service provider and to negotiate and demand for proper care.

The Nangarhar 2007 survey indicated 61.3% of household heads were literate, 15.4% were primary educated, 12.5% were secondary educated and 11% were having higher education (klinkenberg, 2007).

3.2.3   Information availability and Health Knowledge

Literacy is directly linked to information access. Similarly information and health seeking knowledge improves health services utilization. Studies from South Asian developing countries shows that if demand side factors such as information, health services demand, attitude of care provider and education when addressed, it will increases information of individual access to health care (Jacobs, Landfors and Milson, 2012).

According to Afghanistan Mortality Survey, 32% of mothers appear to be informed about the danger signs of pregnancy during ANC visits (APHI/MoPH et al, 2010). Health seeking behaviours   surveys Nangarhar did not include questions related to knowledge and information about delivery complications. However information about family planning showed that mothers had knowledge about oral contraceptive methods (70.5%), injectables (63.5%0, IUD (12.3%) and tubal ligation(6%) (klinkenberg, 2007). Same survey shows that in 63% of the cases, this information had been delivered by health facilities. About 80% of the respondents said that family planning is important. Of the people who don't consider family planning important, 64% of them think so for religious reasons, 22.6% did not practice family planning because they

want complete their families and 6.9% appears to be afraid of side effects.

3.2.4   Physical access (Distance and transport)

Different studies carried out in different developing countries show that factors such as the lack of transportation and remoteness of health facilities is the main barrier to access delivery service (Ensor 2004). Barrier in seeking emergency obstetric care is the transportation cost, which is 25% of the total cost of the delivery care in Burkina Faso (Ensor 2004). Due to geographical barriers people have lower access to health care in rural areas. In Afghanistan 47% of women do not have access to health services due to long distances to health facilities and 36% due to lack of transportation (APHI/MoPH et al, 2010). In Nangarhar, 2007 survey results shows that lack of access due to long distance to health facilities were between 20%. Study in Herat Afghanistan shows the delay in departure for complicated deliveries is attributed to remoteness of health facility and lack of transportation (Hirose et al, 2011).

3.2.5   Financial accessibility

Financial accessibility explains the ability of a family to pay for the direct cost and indirect cost such as transportation cost and other opportunity costs for services. High cost of the services limiting the access to the health services in developing world High cost of delivery may limit decision to go to health facility if the family is not affording (Filippi et al, 2006).
The costs of services influence decision making for accessing services. Even if a family do know the importance of skilled delivery but if financial resources are not available, family may not decide to go the health facility. Studies in Afghanistan shows that skilled birth attendance has decreased in health facilities with user fee compared to free delivery health care facilities (Mayhew et al, 2008).

3.3   Clients perspectives on services delivery

Client perceptions about the needs and benefits of services determine the degree of services utilization. Demand side factors are about the judgments of services according to the client's desire and satisfaction. The way people value these services will vary between different socio economic groups and influenced by the level of knowledge and awareness.

3.3.1   Perception of safer pregnancy

The importance of having SBAs attend deliveries has already been described earlier. In most of rural setups, individuals perceive pregnancy

as a 'normal phenomenon'. This perception leads to the decision that it is not necessary to deliver in health facility with the help of skilled birth attendant. Even if a health facility is close by, still most deliveries are conducted at home. Nangarhar surveys 2007, shows that, 40.8% respondents believe that it is not necessary to deliver in health facility (Klinkenberg, 2007).

Families need to be well informed during 'birth planning' such as where and when to attended ANC visits and decide about the place of delivery. Pregnant women, caretakers, husbands and elders need to be convinced and well informed about the possible complications that may arise during and soon after birth. The degree of willingness of pregnant mother also has different meaning when she says that pregnancy is wanted or intended. To be pregnant, it may not be women's own willingness, influenced by husband, family and society pressure (Klerman, 2000). Unwilling pregnant women may have different attitude towards pregnancy than the willing mother.

When a woman is pregnant for the first time, both the family and the pregnant woman have the tendency to seek good care during child birth. But if the family-in-law has previous experience with having a first delivery at home, this will limit the access to health facilities for delivery care (Stephenson, 2002).

3.3.2   Complication of deliveries

Previous experience with complications during delivery will make the family aware of the importance to access the right level of health facility for delivery care. Similarly, the health worker will encourage the mother to access health facilities based on her previous history of complications. Once a complication occurs, barriers such as distance and cost are easily overruled. It appears that many women end up in health facilities only as the result of complicated deliveries (Afsana and Rashid, 2001). Teenage pregnancy increases the risks of pre-term birth, low birth weight and neonatal mortality.(Chen et al, 2007), while in late age pregnancy almost double the perinatal mortality. Perinatal mortality in young women found 0.5% as compared to 1.4% among women of 45 years and more (Jacobsson,Ladfors and Milsom, 2004). According to the Nangarhar 2007 survey, in total 4.7% of the deliveries had complications which are lower than internationally accepted range of 15 %(UNFPA, 2004).

3.3.3   Referral

Referral is an important aspect in terms of timely and quality service provision in maternal health. The quality of a referral system depends of the individual level of understanding, the quality of services that are part

of the system and the existence of functional referral mechanisms to higher levels of health facilities.

At individual level, one of the key concerns in Nangarhar is the fact that people bypass lower levels of care and reach out immediately to higher levels of care. This so called 'self referral' has many dimensions such as perceived quality of care, trust in specific facility staff and influences coming from others such as elders and friends. And in some cases referral options are not used, as a result of the fact that information about the referral system is not well communicated with clients and communities. The determining factors for self referral will be discussed from provider perspective in chapter4.

3.3.4   Quality of services:

From a patient's prospective, there are two broad dimensions of quality of care; one is access and the other is effectiveness. Effectiveness mainly addresses two areas; do people get the desired delivery care and are they satisfied about services and interpersonal care during health facility visit (Campbell, Roland and Beutow, 2000). Issues related to the access of care have been described under section 3.2. The next sub-chapter will focus mainly on the client's perception of the quality of care.

3.3.4.1   Perceived quality of care:

Clients perceive quality of care often on the bases of services provider interaction only. Other aspects of quality, such as hygiene of the facility, availability of drugs, equipments, services and staff capacity are not often consider by clients (Hansen et al, 2008).

Quality care need to address to address other dimensions such as clients perception about waiting time, staff friendliness, availability of qualified personal, supplies etc. Perceived quality overlaps medical quality of care which will be explained in chapter: IV.

In Nangarhar 2007 Health Seeking Behaviours survey measured and found that 60% respondents considered government [implemented by NGO] health facilities having good quality of care compared to 34.4% of private (Klinkenberg, 2007) . Other aspects such as good reception is attributed to government health facilities more than private while quick response of service provider for services delivery was more attributed to private than government health facilities.(see table 2).

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Table 2: Reason for preferring government or private HFs if distance and money would not be a restriction (Source: Health Seeking Behaviours Survey Nangarhar 2007)

	Good quality	Good reception	Know the HF	Rapid assistance
Government	59.4%	15.8%	3.4%	21.4%
Private	34.4%	7.5%	0.0%	58.1%
Overall	**49.1%**	**12.4%**	**2.0%**	**36.5%**

3.3.4.2 Balanced Score Card (BSC) Nangarhar

In Afghanistan, each year, Balanced Scorecard BSC) survey is carried out to look at the performance of BPHS, quality of care and measure the efficiency In 6 predetermined domains. One domain is particularly addressing patient and community perception about the quality of care.

BSC Survey report 2010/11 for Nangarhar shows that clients overall satisfaction and perception of quality of care in 2007-2008 was below lower benchmark and from 2009 onwards it is between upper and lower benchmark. It shows that people's satisfaction and perception about the quality of services in Nangarhar is not high. For details see Appendix 4

Chapter IV: Delivery pattern and use of services in Nangarhar province

In this chapter, objective 2 of the study will be addressed. This chapter will describe pattern of services utilization and its relation to factors at different levels, using three main domain of conceptual framework as an analytical framework.

4.1 Utilization pattern for delivery services

4.1.1 Trend in hospitals and health facilities use for delivery care

HMIS data of year 2011 for 4 hospitals is derived from National HMIS database summarized in table below. The target set for institutional deliveries is based on the expected numbers of pregnant women (4% of catchment population) for every hospital or health facility. Performance is measured based on this estimate for delivery care services. Data shows that hospitals more utilized for normal delivery care. In the three district hospitals (DHs), utilization ranges from 72% to 174%. Similarly Regional Hospital (RH) covers 235% of the expected deliveries.

Table 3: Nangarhar HMIS data for normal delivery care in hospitals year 2011

No	Hospitals	Services package	Target	Performance	% of Target achieved
1	Shinwar DH	BPHS	2837	4923	174%
2	Kama DH	BPHS	2102	1523	72%
3	Khogiani DH	BPHS	2723	2603	96%
4	Jalalabad Regional Hospital	EPHS	8016	18817	235%
	Total for all hospitals		15678	27866	178%

Source: Nangarhar HMIS data extracted from national HMIS database

HMIS data of year 2011 shows that BPHS health facilities (excluding district hospitals), have significantly low coverage of normal delivery care. BHCs covers only 12%, CHCs 48% and SHCs just meet 4% of the deliveries of their given catchment areas.

Table 4: Nangarhar HMIS data for normal delivery care in BPHS health facilities (excluding district hospitals) for year 2011

HF population CSO	Type of health facility	No of HF	FMD	MW	F- Nurse	Total Female staff	Target	Perform ance	% of target Achievemen ts
482407	BHCs	40	0	33	0	28	19296	2237	12%
331735	CHCs	17	9	29	9	47	13269	6384	48%
63932	SHCs	12	0	7	0	7	2557	111	4%

Source: Nangarhar HMIS data extracted from national HMIS database

When reviewing the breakdown of institutional deliveries in Nangarhar during year 2011, it is seen that 51% of the total deliveries are conducted in EPHS(Regional Hospital), 25% in Districts Hospitals, 18% in CHCs, 6% in BHCs and 0.3% in SHCs. Similar trend in terms of breakdown of institutional deliveries in Afghanistan is seen for the year 2011 which is explained in below in the figure 3.

Figure 3: Breakdown of institutional deliveries according to health facilities in Afghanistan and Nangarhar 2011: (Source MoPH HMIS database)
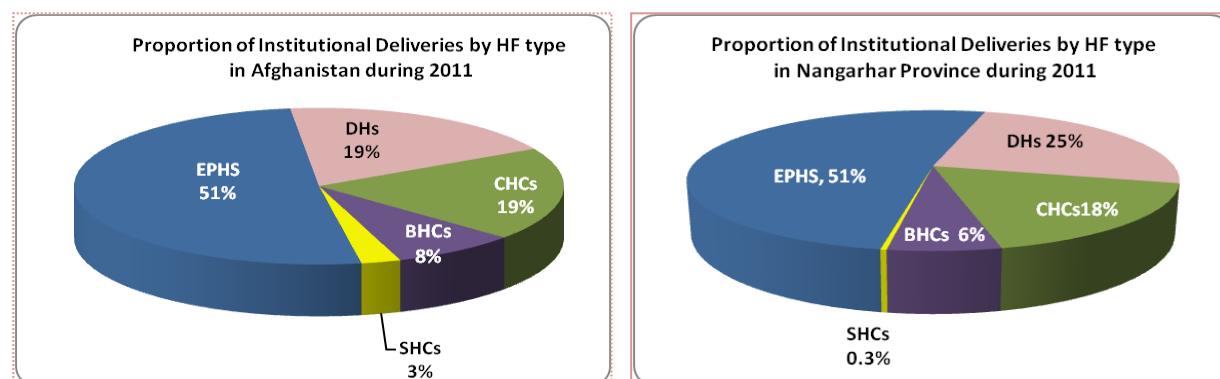
4.1.2 Uptake of normal deliveries in province according to Health Seeking Behaviours Survey Nangarhar 2007

The Health Seeking Behaviours Survey of 2007 in Nangarhar reported 20.3% of skilled birth attendance. Trends in numbers of hospitals deliveries show an increase from 2007 to 2009 (Vink, 2011). Table 5 shows the breakdown of deliveries in hospitals and health facilities.

Table 5 Place of delivery for children born in the last 12 month in year 2007

	N	At home	BHC/CHC	Hospital	Private clinic
Khogiani	99	80.8%	1.0%	15.2%	3.0%
Northern	94	80.9%	2.1%	16.0%	1.1%
Shinwar	190	78.9%	1.6%	13.7%	5.8%
Overall	**383**	**79.9%**	**1.6%**	**14.6%**	**3.9%**

Source: Health Seeking Behaviours Survey Nangarhar 2007

4.2   Predisposing factors

4.2.1   Socio cultural factors determining pattern of health services use

For health services organization, consideration of individual level factors related to health seeking is important. If health system is designed in such a way when individual level factors are not considered, patient will not seek care or go to the level of his or her choice. Bypassing one level of care in reaching out to another level of care is often observed in many developing countries. In Tanzania, a study shows that about 48% of women bypass nearby health facilities due to factors such as low quality of care, 40% about competence and quality of staff and factors such as availability of drugs. In this study other factor such as young age of the mother and level of education were the reasons for by passing near health facility(Kruk et al, 2009). In Nepal similar factors determine the choice to deliver home or in hospitals (Wagle, Sabroe and Nelson, 2004).

In Nangarhar, a similar trend is observed in the health seeking behaviours 2009 Health Seeking Behaviours survey when data related to the place of delivery and respondent location was further analysed. It was found that out of total 107 delivery which took place in health facilities, about 37% deliveries did not take place in the nearest available health facility. The distance between respondent's homes and health facilities nearest to their homes were between half to seven Kilometres.

4.2.2   Institutional factors

Institutionalization of the services broadly addresses several dimensions such as policies and strategies, health care delivery, monitoring, financing, autonomy of public institutions, services contracting and establishing results-based management in the public health system.

4.2.2.1 Health system

Health systems experienced changes in the past decades. Before Russian invasion of Afghanistan, health system was mainly hospital care centred system, lacking important primary care services. Russians, after their invasion in 1979, introduced similar to Russian model of care system, by

supporting urban hospitals and secondly introducing midlevel health workers in areas of their control

After Russian withdrawal, health services become totally dependent on NGO, where capital had no control on provincial level health care and NGOs were providing services in different packages. Later for Taliban health was not a priority. Civil servants were laid off by 30% to 60%, where females' removals were done more deliberately (Pain and Goodhand, 2002).

After Taliban, the government and international partner put there effort to establish a health system based on primary health care, where focus was no longer on hospitals or specialist-based care. On other hand people had a past decade of experiences with different health system from hospital bases focused to more fragment care. With rapid introduction and roll-out of a strong primary health care focused health system. The population was in essence expected to make a radical change in their understanding of how a health system worked, a factor that certainly affects the services utilization.

Resources are also not always equally distributed. In Nangarhar, university teaching hospital which is run by ministry of higher education is not getting funding for health services delivery in the same way and amounts that the ministry of public health receives the funds. This inter-ministerial issue has resulted in an under-resourced teaching hospital and a huge over burden on regional hospital.

Contracting out in Afghanistan clearly define the role of NGO for services delivery as well as MOPH. NGO holds the overall responsibility of management while MOPH plays a stewardship role. However at provincial levels , in particularly in provincial and regional hospitals levels, the role of provincial Health Director in term of coordination within partners and line ministries is important for services mainstreaming and bringing efficiency. This scenario does not always work, and also fails in the context of Nangarhar. As stated in external evaluation of Nangarhar EPHS report," *there is clear dualism in the approach of MoPH, from one hand NGO are contracted out for overall management of the service. On other hand MoPH provincial health directorate does not provide conducive environment for contacted NGO to bring reform in the hospital*" (Dussejee, 2008), which results in inefficiency of the health system.

4.2.2.2 Policies and strategies

Ministry of public health policy and strategies well addresses the needs and importance of reproductive health. MoPH policy and strategy for

reproductive health, addresses the rights and access of women to heath care (MOPH, 2011). The Ministry of Public Health has succeeded in bring the maternal mortality down but still many challenges such female staff availability, quality of care and access of women to health care services are being faced.

It is known that poor populations benefit less from public spending. Health policies and interventions need to focus both on supply and demand side factors. Strategies should not only to focus on the quality aspect, staff skills, supply of drugs and materials bud demand side factors are equally important for improved services uptake and utilization. (Ensor, 2004).

Before 2007 when user fee was still allowed, In Nangarhar BPHS and EPHS, revenue was used to hire additional staff based on the justification and patients load. Incentives to midwife and other staff to motivate, were contributed by user fee, butt after user fee ban this is no more provided to the staff. Although user fee international level has concerns that it limits the services utilization, in Afghanistan the lack of this extra revenue also has a negative impact on quality and availability of services.

4.2.2.3 Minimum standards of care

Ministry of Public Health put in place several approaches for BPHS and EPHS, defining quality services through tools such as the Balanced Scorecard (BSC), Standard based Management (SBM) and performance based Quality Improvement (PQI) in order to achieve minimum defined quality of care. However some of these standards are not implemented throughout the country.

There are challenges in meeting these standards. In Nangarhar at BPHS level, some individual health facilities in Jalalabad city in the suburb are funded by non BPHS grants. Out of the total 125 different health facilities in the province, 82 are run by HealthNet TPO (Provincial Health Directorate, 2012). Quality of services in the remaining 42 health facilities need to be assessed in terms of their performance according to MOPH standards, which will give good insight about the pattern of services utilization in these health facilities.

4.2.2.4 Financing

According to National Health Account (NHA) of Afghanistan, donors contribute 75% of the national budget. Individuals contribute 76% as out of pocket payment (OOP) of 42 US$ per capita health expenditure (MoPH, 2011a). Individuals of high wealth quintile and low wealth quintile spend 430 AFs to 242.5 AFs in Hospital, 490 AFs to 354AFs in private clinics and 500AFs to 630AFs in private pharmacies respectively on health services (Steinhardt, 2007).

In developing countries the basic health services package is being provided for 3US$-6US$ per capita per year, while WHO estimated the cost to be 34$ per capita per year (Sabri, Siddiqi and Perrot,2012). According to HealthNet TPO(Services implementing NGO in Nangarhar), per capita cost for BPHS is about 4.4 US$ while for EPHS per bed cost is about 6800 US$ per year (HealthNet TPO, 2011). This is equivalent to the financing provided by the donors to run these services in the country.

Funding availability is not equitable, which affects utilization pattern. At the hospital level, University Teaching Hospital (UTH) which has no external funding for running the services, lead to increase patient load on regional hospital where regional hospital itself demand more resources to tackle the load of more patients. Funding of programs is based on CSO population. There are controversies in the population, where it seems that more population exist, as indicated background section 1.2

4.2.3 Political factors

4.2.3.1 Political context

Afghanistan, despite all challenges such as conflicts, one of the low development index, yet committed to millennium development goals (MDGs). In 2004 government developed MDG frame work and deadline by 5 year to 2020. And the progress of the Afghanistan is referred as "encouraging" in the given circumstances.(Hill, Mansoor and Claudio, 2010) MDG has been integrated to national planning process such as Afghanistan National Development Strategy (ANDS), reintegrate this in "Afghanistan Compact", partnership of donor, multilateral organization and government.. In ANDS, Health and Nutrition is one of its 8 pillars (Islamic Repubic of Afghanistan, 2008). Success towards MDG 4 & 5 will only be possible if commitments of donors and government toward investments in these two MDGs are focused in terms of prioritization and resource allocation.

In the meantime country democratic environment got flourished where new democratic parliament came in to being. Newborn parliamentary system in the country after decades has its own challenges and

implication on health system and services. Increase demands of politicians with scarce resource, influence key decision makers and government institutions to bypass the policies and systems. For example demands for more health facilities in their areas of control are frequently made by politicians irrespective to the policies and implementation plans that NGOs have committed under their contracts with government. Irrational services expansion brings inequity in the provision of services and can lead to its underutilization.

4.2.3.2 Women's rights

After the fall of Taliban regime, women's involvements in the political process and their rights have been on the main agenda for the rebuilding of Afghanistan. Addressing the rights of women and redefining their role according to modernized standards in the tribal and male dominant society of Pashtoons in Nangarhar province appears to be a challenge. Women are victims of domestic violence in Afghanistan and deprived of their rights . It is believed that democracy can be only achieved when women can fully participate in the field of politics, when they can assume their rights, when they have economic and decision making power and when their physical security is assured (Huma, 2006). However, a recent 'code of conduct' endorsed by president Hamid Karzai, limiting women going alone outside home, mingling in public gathering places such as markets and school, further deprive women to access their right and freedom (Associated Press, 2012). Political reconciliation with Taliban may end up with situation where women access to all opportunities will be affected, which will likely ever further limit their decision-making ability with respect to seeking health care.

4.2.3.3 Insecurity

Insecurity has been one the major challenge in health services delivery in particular women to access health services in rural insecure areas. Due to deteriorating security concerns, 300,000 people lost access to primary health care (Acerra, 2009) and availability of female worker is very low in insecure areas of the country (Belay, 2010).

4.3 Care seeking behaviours

4.3.1 Services acceptability

Utilization pattern of services depends on behaviours related to previous deliveries. If the service delivery meets the expectations of mothers, Probability of delivery to be taken in a place where previous delivery is taken is more likely (Stephenson et al, 2006). If the previous delivery ended up with satisfaction and without any complication, family and mother would prefer to use the same place again (Duong et al, 2004).

Such beliefs and history of service utilization determine the pattern of health system use.

History of establishment of health facility also seems to have effect on pattern of services. Historically Jalalabad Regional hospital was the first and only functional hospital for some decades followed by the establishment of Shinwar DH, Khogiani DH since 2004 and Kama DH established in 2008. As noted previously, before the1980s, health services were mainly delivered through hospitals. After 2003, BPHS was introduced. The history and culture of using hospitals for all kind of services and to visit a specialist medical doctor for each problem is a mind-set observed both in the province and nationwide.

Quality ANC will bridge the relation between the mother and health facility and staff. However, ANC services acceptability is not a guarantee for mothers to choose to deliver at the facility. Study from Tanzania shows that despite up to 99. 8% ANC coverage, only 47.6% had skill birth attendants (Mpembeni et al, 2007), a study from Nigeria shows that the despite 60.3% ANC, 43.5 % mothers had opted for skilled birth attendance (Babalola and Fatusi, 2009). In Nangarhar Health Seeking Behaviours 2007 Survey shows ANC coverage of 38.6% (Klinkenberg, 2007). The proportion of skilled birth attendance with ANC care is similar to Tanzania.

Community participation has an important role in the success of services delivery and its results. It is felt low level of health education and information increases the distance between patient and health services while community participation could bridge this gap. An international study shows impact of different community involvement trials. Study shows that in Pakistan where lady health workers performed home visits for health education and maternal and child health services, skilled birth attendance increased from 18% to 30% before and after intervention. In Bangladesh where community health workers visit homes, mobilize communities and provide health education, newborn mortalities decreased by 34% in intervention locations (Rosato et al, 2008).

In Nangarhar, an outreach reproductive health pilot study has been carried out in one district. Midwifes of health facilities visited the population living in the different catchment areas on a regular base and provided reproductive health services and while preparing women for birth in health facilities. The skilled birth attendance in health facilities increased from the baseline of 6% to 38%, ANC from 47% to146%(indicating multiple visits); PNC from 18% to 27% and family planning from 5% to 13% during one year (Nam, 2008)

Figure 4 Reproductive health consultations in Kuzkunar District from fixed and outreach activities – Comparison before and after the outreach activities for one year after the start of pilot (Feb2007- Jan 2008)
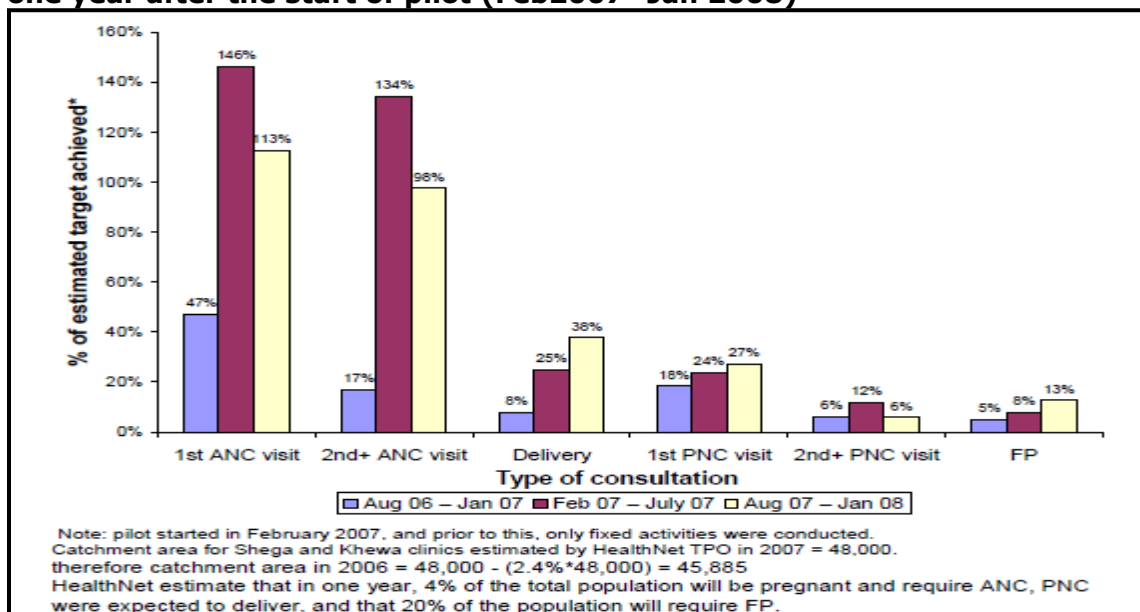
Source: External evaluation report, outreach RH pilot Nangarhar, 2008

4.3.2   Affordability

Skill birth attendance is an important determinant for reducing maternal mortality (Woods, 2008). Financial barriers bring inequity in accessing delivery care. Study from Bangladesh and Nepal show that skill birth attendance is less than 5% among the poorest 40% of women (WHO, 2007). Higher cost of hospital services has financial consequences for the patients. Income influence on access to high level of care is indicated in the results of the   National Survey 2006, which shows that 2.2 % of lowest wealth quintile people access hospital as compared to 24.1% of high wealth quintile (JHU and IIHMR, 2006). Similarly economic status will influence skilled birth attendance; 42% of high wealth quintile has skilled delivery as compared to low wealth quintile of 6% (Mayhew et al. 2008).

According to Nangarhar survey 2007, out of 382 deliveries, median cost per delivery at different level of care was as follows: home delivery (n=306) with no costs, BHC/CHC (n=6) with a median cost of 17.5US$, Hospitals (n=55) median cost of 31.7US$ and private (n=15) median cost of 25US$ (Klinkenberg, 2007). The overall median cost for delivery is 3.3 US$. These numbers show that hospital and private services are more costly than lower levels of delivery, which is mainly attributed to drugs and transportation. According to the Nangarhar survey of 2005, out of 30 admission in hospitals, the average cost per admission was 58.47US$,

while for those patients who went to neighbouring Pakistan, the average cost per admission was 151.48US$. This survey found that average per capita annual income was 183.8 US$,(103$ in poor – 321$ in wealth quintile) (Soeters,Gibson and Leerinks 2005). It must be noted that cost recovery at level of BHC/CHC has been abolished since the date of the 2007 survey, but delivery in hospital even today would require investing a considerable proportion of a family's annual income.

4.3.3 Quality of care

Quality of care is depends how the services are organized in terms of staffing, physical access, drugs and supplies, complication management.

International evidence is that supply side aspects of quality such as staffing, equipment, infrastructure, physical accessibility and access to information are important factors for health care seeking (Gabrysch, 2009). Studies from developing countries shows that if quality and standard measure are applied in hospitals, 83% of adverse events can be prevented which 30% of these events resulted in the death of the patients (Wilson et al, 2012).

Balanced Scorecard BPHS 2010 /11 mention that, supply side quality factors such as equipment functionality, drugs availability, Health worker satisfaction and motivation index and minimum staffing indexes were reported above upper benchmark in Nangarhar. Nevertheless, quality aspects in terms service provider satisfaction; salary payment and training were below upper benchmark (JHU and IIHMR, 2011a). See details in Appendix 4.

According hospitals Balanced Scorecard survey 2010/11 Nangarhar, doctors and nurses number were optimal. Hospitals management, bed occupancy rate, surgery per month, deliveries per midwife and hospital admissions was above the median. Caesarean section rate was low. Areas with medium performance and gaps were Human Resources, Physical Capacity Quality of Service Provision, and Ethics and Values (JHU and IIHMR, 2011b), summary of EPHS BSC Nangarhar is given in Appendix 5

4.3.3.1 Human resources and services availability

Human resources are the basis towards functionality and availability of services. Study from Eastern Mediterranean Region shows that there is disparities in human resource and where the density of health workers in more, mortalities are low in those countries (El-Jardali et al, 2007)

A study in Afghanistan shows that out of the women who delivered at home, 52% had BHCs, 41% CHCs and 7% DHs in their catchment areas. 67% of health facilities had no female health worker and only 33% had one or more female health worker (Mayhew et al, 2008). National survey indicates that in rural health facilities, only 38% of health facilities have female doctor, 48% female nurses and 60% midwifes (Icon-Institute, 2008). The situation has improved to some extent since these surveys, but finding qualified female staff is still a challenge, especially in rural areas. In Nangarhar, HMIS data shows that 18% of BHCs, 42% of SHCs has no female staff (midwife), 47% of CHCs lacking female doctors.

In Afghanistan, at BPHS level, BHCs and CHCs are working from 8 am to 2 pm even for midwifes. BHCs and SHCs have no duty roaster after 2 pm. CHCs have night duty system where one male and one female staff have to perform duty from 2 pm onwards tell next morning. Due to shortage of female staffs, hardly one female is available in most of the health facilities in rural areas. One female staff cannot perform night duty throughout the week. Secondly most of the these female staff working in rural areas, coming from urban set up and on daily bases they travel to rural health facilities due to un favourable condition of living in rural areas. These factors lead to the gaps in services availability of female staff in rural health facilities.

4.3.3.2 Functionality of referral system and self referrals

This section refers to functionality of referral within health system and self referral. Each effect the services utilization in different ways

A functioning referral system is important for keeping right level of patient in the point where services can be provided. It depends on referral design, strong communication between health facilities and community and monitoring.

Ideally, patients initially access lower levels of care and are referred to higher levels within the system as required. However, s study from Namibia shows that 48%-73% of patients in hospitals OPD were self referred, 36% of patients self referred to nearby health facility due to quality of care while 79% self referral to regional hospital was due to perception of good quality of care (Low et al, 2001). This can partially be explained by the weakness of the referral system itself. Study shows that due to failure in referral system, complicated cases will not be referred to higher level, a phenomenon that has been observed in many developing countries (Murray & Pearson, 2006).

In brief, although policies and protocols for referral exist for the BPHS and EPHS (see Figure 5), practically this model is not implemented and patients in Afghanistan generally bypass lower level of care.

Figure 5: Referral systems linking BPHS and EPHS (source EPHS 2005)
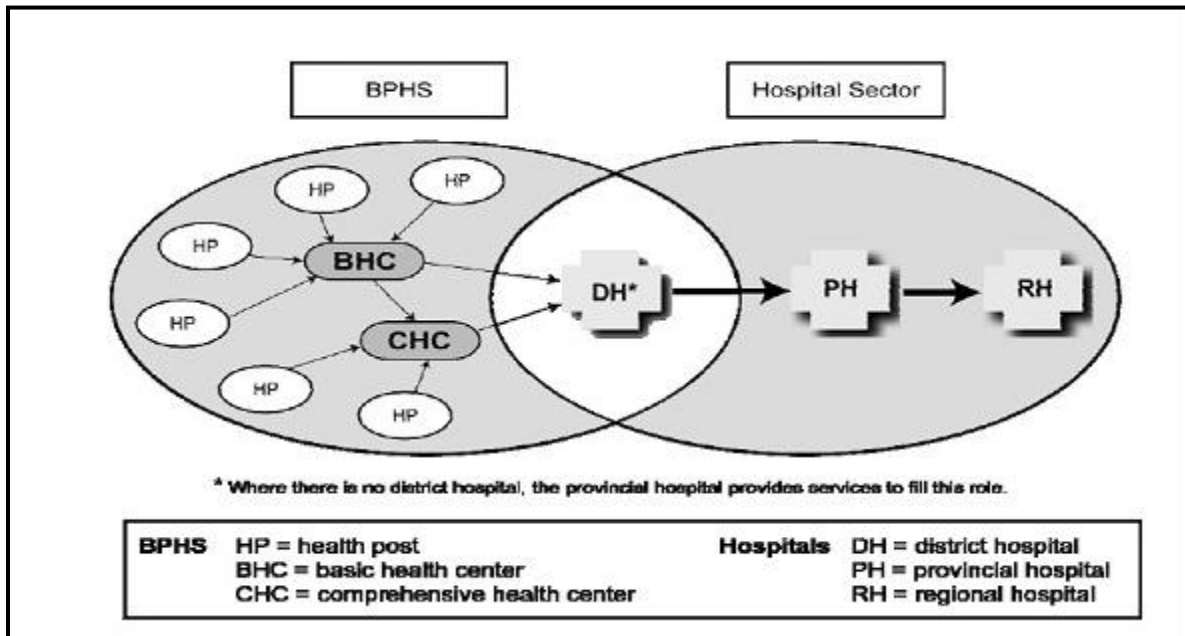
Chapter V: Discussion

In this chapter, the findings of chapter 3 and 4 will be further explored and analysed in line with objective 3 of this study.

The conceptual framework used in this study was helpful in addressing different level of factors which influence uptake of skilled birth attendance from client perspective. However there were challenges in its application on the factors which determine pattern of service use from provider perspective. To conclude, the framework is not optimal for evaluating provider-side factors for the pattern of delivery services utilisation.

1. Pre disposing factors

Socio cultural factors: In Nangarhar, it is found that socio cultural factors have a direct influence on the utilization of skilled birth attendance from client perspective. Illiteracy among women and men is a barrier towards information and health related knowledge. Women have restricted mobility for seeking health care, which is influenced by her place in society. Women's right to choose when to have a child and to make decisions about her pregnancy are hampered by her lack of autonomy and decision making power, often as a result of cultural and tribal norms.

This lack of autonomy is especially crucial for teenage mothers, who are at higher risk of complicated deliveries. A teenage pregnancy imposes risks to mother and child. In Nangarhar as well as countrywide, it is not the decision of women when to marry or have a child. The decision to access care for the delivery of teenage pregnant mothers are always taken by the mother in law or the husband. In a joint family decision, the mother-in-law's own past experience of delivery at home will influence the decision of teenage pregnant women to deliver at home. Although studies have indicated that women who are pregnant for the first time have the tendency to go to higher levels of care, this decision also depends on the level of knowledge and freedom of choice of the woman in question. These factors may deprive women to have a choice of their own and in many cases the delivery takes place where elders of the family want it to happen, which, in the case of Nangarhar, is often at home.

2. Care seeking behaviors

The level of education of parents; in particular that of the mother, is one of the most important determinants for skilled birth attendance. Studies have shown that education results in more information and increased interest to seek health knowledge. Educated people have access to resources and information about appropriate care and knowledge about its importance. The level of education is linked with the financial status of the individual. In Nangarhar few women get the opportunity to go to school and get educated. Low access to services and education is linked to cultural norms where women are supposed to stay at home. False interpretations of religion are restricting women to benefit from the same opportunities as men. The fact that women can only be examined by female health workers and the reluctance of women to expose themselves in front of male service providers, limit access of women to appropriate health care. Polygamy also plays a role. Men who have more than one wife will prioritize their favorite wife while the other one(s) will not get access to appropriate services

Access to information and health knowledge; is a key demand side factor for accessing health services. Low knowledge about birth preparedness such as ANC, danger signs of pregnancy and awareness about the complications of delivery is directly related to the low number of deliveries in the presence of skilled health workers. In Nangarhar, lack of information and understanding of the importance of skilled birth attendance is related to women's position in the family. For most of the people sources to get health information are health facilities but as a result of the barriers such as lack of transport or permission to attend services, women continue to attach low importance to skilled birth attendance and prefer to stay home while giving birth.

Quality; From service provision side, It is seen that the quality of ANC, PNC, family planning, and good communication and connectedness with the community and patient are important factors. Once these services are available and meet minimum quality standards, it improves the trust of the patients in seeking health care and in the health system itself. Different studies show that the proportion of skilled birth attendance in relation to ANC coverage remains the same, so the higher ANC coverage, the higher skilled birth attendance. In order to improve skilled birth attendance, ANC coverage needs to be improved. However, to do so, the quality of ANC services needs to be addressed first. Nangarhar Health seeking behaviour survey shows low uptake of ANC, even when available. Trust and connectedness between patients and services providers are preconditions for success of ANC. The pilot study in Nangarhar indicated

that home visits by Health facility midwives to pregnant women living in their catchment areas for ANC, PNC, FP and preparing women for skilled birth attendance, resulted in significant increase in the number of deliveries in health facilities, and rolling out this approach to the whole province is recommended..

Financial factors; In Afghanistan, public health services at BPHS level are *[claimed to be]* free. But in reality about 78% of the total 42 US$ per capita health expenditure is made through out of pocket expenditure. A particular contributing factor for this high out of pocket expenditure is the patient preference for hospital-level services, where patients are asked to purchase drugs and supplies from the local market since the public hospitals lack resources due to being over-utilized and under resourced. Per capita income both in the country as in Nangarhar is very low, and the enormous private expenditures on health put individuals and families at financial risk.

In Nangarhar, like the rest of the country, the available amount of public expenditure per capita is about 4.4 US$, while WHO recommend 34 US$ per capita (Sabri, Siddiqi and Perrot,2012). Within this given situation, responding to the client's demands regarding the quality and comprehensiveness of care while providing patient centred care is a challenge. As Public health services do not always meet these prerequisites, clients will consult private health practitioners, even if this has severe financial consequences for the individual and family. This process leads to the underutilization of health services at lower levels and push the family into more financial constraints and poverty.

At health system level, financial factors lead to inequity between rich and poor. Literature reviews show that poor people have less access and a lower utilization rate compared to wealthy people. The same trend is observed regarding access to skilled birth attendance among the poor and wealthy. In rural areas, government health facilities are considered to be there for the poor. If the perceived quality of care is low, people will approach higher levels of care. Even poor people will not access health facilities if they think they are of poor quality. These factors lead to an underutilization of services from a health system organizations perspective and will distort the overall system of service delivery as high levels of care will be used to deliver basic health services.

Physical barrier; studies show that long travel distance to health facilities is one of the key factors which limit women's access to delivery care in developing countries. Access to delivery care services in remote rural

areas and lack of transportation is one of the big challenges in accessing health facilities in Nangarhar. Twenty four hours services availability due lack of female staff, security issues and restriction in movement for women are growing challenges which contribute to barriers in accessing delivery care services in Nangarhar.

These findings are consistent with a study in south East Asian countries, which shows that more than 50% of inequality in skilled birth attendance is related to socio economic status of women, 19-25% inequalities are related to health systems factors, 6-10% are related to intermediary (care seeking) factors (WHO, 2007).

3.   Client perspective on services delivery

Perception about pregnancy: Individuals have different attitudes towards accessing skilled birth attendance. One aspect is related to women's belief that pregnancy is a natural phenomenon and therefore it is not needed to attend a health facility for delivery care.   This is an important reason for the high number of home deliveries. But there are other factors that play a role. Women's perceived benefits of care will also depend on the quality of care. Survey findings suggest that the perceived quality of skilled birth attendance in general is low, although government health facilities compared to private health care facilities appear to perform better in case of delivery care . The satisfaction of individuals also depends on the level of expectation. The expectations of an illiterate woman will be not as high as that of a mother who is well educated.

Quality of care: The quality of care also depends on the availability of female staff, supplies and drugs. Nangarhar study findings show that at hospital level there are gaps in drugs, supplies and equipment. This appears to have a negative influence on the patient provider interpersonal relationship. Patients satisfaction in terms of giving due respect by services provided during examination and services provision is reported low in the Balanced scorecard of hospitals in Nangarhar. Other factors also play a role while deciding to use a health facility or not such as previous experience of mothers. The perceived quality of services will be very low if a woman during pregnancy or birth found that staff were not present or not responding on time, or if patient developed complication during childbirth.

Lack of female staff in health facilities is another challenge. Currently about 18% of the BHCs and 42% of the SHCs have no female staff while 47% of CHCs has no female Medical Doctor. The low number of female staff is not only due to a lack of availability but also the result of the

growing security concerns and lack of other facilities such as housing and educational services for their children.

Referral to higher levels of care in case of complications is a key aspect related to quality of care. If no referral system is in place, women will avoid using those health facilities. So called referral gaps in Nangarhar are the result of the lack of information about referral options both at individual and community level and the lack of facilities in the health system that can be accessed to facilitate patients during emergencies for and referral and a follow-up to people referred.

Another aspect is the lack of a strong gate keeping system that would stimulate women to deliver at the most appropriate health facility and prevent over-utilisation of hospitals.

4. Delivery pattern and use of services

Studies show that factors which result in bypassing primary level of care are often related to individual's perceived quality of services. Individuals consider quality care in terms of staff availability, their interaction with the patient, availability of drugs, supplies and privacy . Other concern is about the risk of complications. Gaps in capacity to manage emergencies and complications are important factors during decision. If these facilities are not present, patients will approach higher level of care. Studies show that self referral is common in developing countries due these factors. In Nangarhar it is seen that about 37% of women bypass nearby health facilities for delivery care. Perceived quality of care in hospital could be a reason for bypassing lower level of care. However underlying factors for bypassing lower level care and going to hospitals for normal delivery care needs further studies.

When looking at the pattern of use of health services, it is clear that BPHS level health facilities are underutilized for delivery care, where hospitals, in particular the Regional hospital in Nangarhar are over utilized for normal delivery care. This pattern shows that ending up in a high level care facility for normal delivery results in high costs for the individual and the family. An increased number of deliveries that take place in EPHS hospitals, having limited resources, is compromising the quality of services due to increased challenges in terms of supplies, drugs and staff.

Chapter VI: Conclusion and Recommendations

In this chapter, objective 4 of the study will be addressed by making conclusion and recommendation based the discussion made in chapter 3 of the study.

Conclusion

This study arrives at the conclusion that women in Nangarhar prefer to deliver in hospitals. If they cannot go to a hospital to deliver, they would rather stay and deliver at home; even when services at Health Centre levels are available nearby. This conclusion is based on key findings in relation to the following determinants

Knowledge and health information
The lack of information about health related issues is the result of low literacy rates among men and women. Restrictions in accessing information and service delivery and the limited freedom of choices contribute to the information gap regarding available skilled birth attendance. From a service provision point of view, there are gaps in conveying key massage to individuals and the community. These failures result in low awareness about the possible complications of deliveries and needs for skilled birth attendance

Quality of Services
The perceived quality of services by individuals appears to be a key factor when it comes to making decisions to access a health facility for delivery care. The availability of female staff, round the clock services, behaviour of the health worker are key elements which are found in this study. From the system side, gaps in supplies and emergency cover, referral system gaps between BPHS and EPHS lead to a pattern where patients bypass the lower levels of care.

Health facility and community connectedness and mutual trust
Gaps in the mutual relation between community and health facility staff, gaps in sharing information, home visits and outreach activities are related to lower community trust and low service utilization.

Physical and financial aspects
Long distance to reach health facilities and lack of transportation facilities are the factors which limit the access of women to delivery care. High cost of transportation where people spend high amount of out of pocket payment on health is the financial barrier to seek skilled birth attendance. From service provision side, NGOs are contracted with low per capita cost

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for implementation of services. Due to low financial resources availability, provision of quality care is a big challenge. This factor limits the availability of motivated staff, sufficient drugs, supplies in referral facilities and required infrastructure.

Trust on hospitals for delivery care
This study clearly indicates that hospitals are overburdened by normal delivery care which could be provided at lower level health facilities. Two main reasons have been found for this pattern of services use. One is the quality of services, which at Health Centre level is low compared to the quality of care in hospitals. Secondly, people have deep rooted beliefs and think that for every problem a doctor needs to be consulted or a hospital attended. Further studies are needed to see why people keep on preferring hospitals for delivery care in Nangarhar.

Consequences on health system
The overload of normal deliveries in hospitals has financial implications while the lower health system is grossly underutilized; self-referral from basic health care directly to secondary and tertiary hospital care distorts the functioning of the health system according to set standards.

Recommendations

In order to enhance skilled birth deliveries and the use of the right level of health care for standard deliveries, the following recommendations are made to the Ministry of Public Health, stakeholders and service implementers;

1. In order to improve the knowledge and awareness about pregnancy and delivery related issues among women and community members, a comprehensive strategy for improved uptake of Antenatal care service has to be developed and implemented.

2. Outreach reproductive health services linking health facility with community should be included as mandatory component of BPHS services , where health facility staff perform these activities as part of a defined package that is integrated in to other of health system such as HMIS, monitoring and services evaluation approaches.

3. In order to improve the quality of services at BPHS level, Ministry of Public health is recommended to develop strategies for placing newly graduated male and female health professional in rural areas as mandatory after graduation, and to continue increasing community level training of midwifes, nurses and other cadres.

4. To develop an efficient referral system between different levels of services of the BPHS and EPHS and establish a patient filtering system through a proper gate keeping system in Regional and District hospitals. This would entail a system where patients can only be admitted for normal delivery at hospital level once she has a referral document from the lower level health facilities.

5. Ministry of Public Health, jointly with donors and other stakeholder need to revise policies for funds allocations to EPHS based on actually utilization and patient's loads, enabling hospitals to improve quality of services.

6. In order to get a better understanding of women's perceptions why they prefer hospitals for normal delivery care, further study is needed.

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Appendices

Appendix 1: BPHS service elements and their Components: Source (BPHS 2009)

1. Maternal and Newborn Care	a. Antenatal care b. Delivery care c. Postpartum care d. Family planning e. Care of the newborn
2. Child Health and Immunization	a. Expanded Program on Immunization (EPI b. Integrated Management of Childhood Illness (IMCI)
3. Public Nutrition	a. Prevention of malnutrition b. Assessment of malnutrition
4. Communicable Disease Treatment and Control	a. Control of tuberculosis b. Control of malaria c. Prevention of HIV and AIDS
5. Mental Health	a. Mental health education and awareness b. Case identification, diagnosis and treatment
6. Disability and Physical Rehabilitation Services	a. Disability awareness, prevention, and education b. Provision of physical rehabilitation services c. Case identification, referral and follow-up
7. Regular Supply of Essential Drugs	Listing of all essential drugs needed

Appendix 2: Staffing pattern of BPHS health facilities :(Source: BPHS 2005)

. Type and Number of Health Workers by Type of Facility						
Type of Health Workers and Professionals	**Number of Health Workers in the Health Facility**					
	Health Post	**Health Sub-Center**	**BHC**	**MHT**	**CHC**	**District Hospital**
Outreach Workers						
Community health worker (male)	1					
Community health worker (female)	1					
Community health supervisor	-	-	1	-	1	1
Vaccinator	-	-	2	1	2	2
Health Providers						
Nurse (male)	-	1	1	-	1	5
Nurse (female)					1	5
Psychosocial counselor (nurse)	--	--	--	--	(1)	-
Community midwife		1	1	1	2	
Midwife	--	--	--	-	-	4
Physician MD general (male)	--	--	--	1	1	2
Physician MD general (female)	--	--	(1)	-	1	2
Surgeon Male			--	-		1
Surgeon Female	--	--	-	-	-	--
Anesthetist	--	--	--	--	--	1
Pediatrician	--	--	--	--	--	1
Dentist	--	--	--	--	--	1
Pharmacist	--	--	--	--	--	1
Physiotherapist	--	--	--	--	--	2
Paramedics, Ancillary Services Staff						
Laboratory technician	-	-	-	-	1	2
Pharmacy technician	-	-	-	-	1	-
X-ray technician	-	-	-	-	-	1
Dental Technician	-	-	-	-	-	1
Support staff						
Administrator	-	-	-	-	1	1
Cleaners, guards	-	1	2	-	4	6
Driver				1	1	1

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Appendix 3: Map of Nangarhar Province
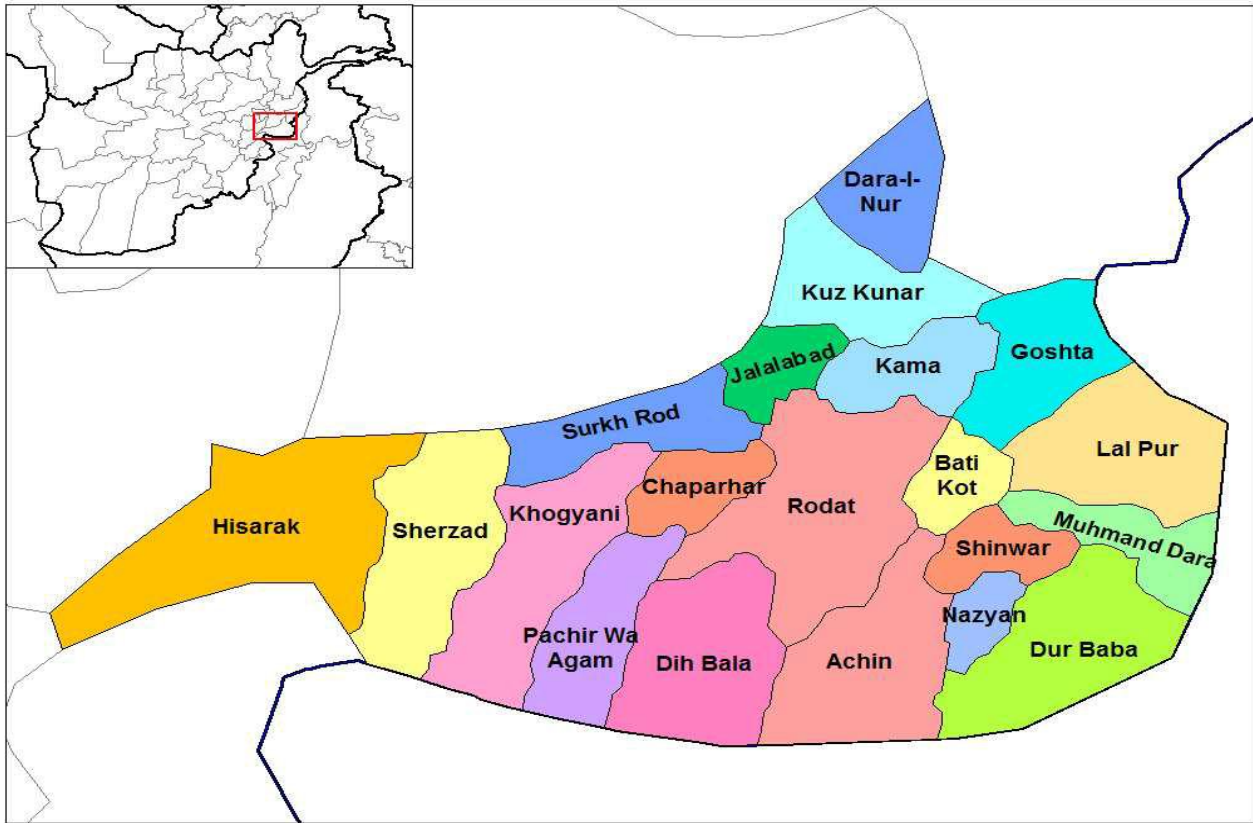
Appendix 3: Balanced Scorecard BPHS Nangarhar 2011/12(source: BCS report 2011-12)

AFGHANISTAN HEALTH SECTOR BPHS Balanced Scorecard 2004 - 2011/12			BENCHMARKS		NANGARHAR						
			LB	UB	2004	2005	2006	2007	2008	2009/10	2011/12
Domain A		**Client and Community**									
	1	Overall Patient Satisfaction	66.4	90.9	85.5	75.5	70.0	60.4	66.3	71.0	-
		Patient Perception of Quality Index	66.2	83.9	76.0	73.8	67.5	64.1	75.2	70.7	-
		Overall Client Satisfaction and Perceived Quality of Care Index	73.3	81.3	-	-	-	-	-	-	84.5
	2	Written Shura-e-sehie activities in community	18.1	66.5	46.9	15.7	36.4	80.0	95.8	95.2	-
		Community Involvement and Decision Making Index	72.4	90.0	-	-	-	-	-	-	98.0
Domain B		**Human Resources**									
	3	Health Worker Satisfaction Index	56.1	67.9	64.1	62.3	64.5	68.1	66.2	62.3	-
		Revised Health Worker Satisfaction Index	61.7	66.6	-	-	-	-	-	-	71.3
	4	Health Worker Motivation Index	66.7	72.8	-	-	-	-	-	-	76.9
	5	Salary Payment Current	52.4	92.0	66.0	85.2	39.9	97.4	53.2	95.3	71.8
	6	Staffing Index -- Meeting minimum staff guidelines	10.1	54.0	59.8	57.4	64.4	71.5	76.6	90.4	-
		Revised Staffing Index -- Meeting minimum staff guidelines	11.4	33.3	-	-	-	-	-	-	33.8
	7	Provider Knowledge Score	44.8	62.3	58.3	62.8	76.9	74.6	-	-	-
		Revised Provider Knowledge Score	71.5	86.0	-	-	-	-	79.3	-	-
		Revised Revised Provider Knowledge Score	61.9	77.7	-	-	-	-	-	80.9	-
		New Provider Knowledge Score	59.4	67.6	-	-	-	-	-	-	66.4
	8	Staff received training in last year	30.1	56.3	42.0	53.5	56.4	74.8	55.9	68.7	-
		Revised Staff Received Training (in last year)	7.1	14.9	-	-	-	-	-	-	8.9
Domain C		**Physical Capacity**									
	9	Equipment Functionality Index	61.3	90.0	74.1	53.3	76.7	85.1	85.9	91.6	-
		Revised Equipment Functionality Index	67.4	85.0	-	-	-	-	-	-	94.8
	10	Drug Availability Index	53.3	81.8	65.3	68.4	55.1	76.8	76.5	98.2	-
		Pharmaceuticals and Vaccines Availability Index	71.8	88.6	-	-	-	-	-	-	88.6
	11	Laboratory Functionality Index (Hospitals & CHCs)	5.6	31.7	33.9	36.2	52.0	62.4	69.9	83.4	-
		Revised Laboratory Functionality Index (CHCs only)	53.1	76.3	-	-	-	-	-	-	73.8
	12	Clinical Guidelines Index	22.5	51.0	58.6	42.7	82.8	72.3	89.0	95.7	-
		Revised Clinical Guidelines Index	64.3	85.9	-	-	-	-	-	-	94.4
	13	Infrastructure Index	49.3	63.2	53.2	44.9	48.6	53.5	51.1	74.4	-
		Revised Infrastructure Index	48.9	73.4	-	-	-	-	-	-	82.3
Domain D		**Quality of Service Provision**									
	14	Patient History and Physical Exam Index	55.1	83.5	55.6	56.0	76.4	84.8	80.7	77.7	-
		Client Background and Physical Assessment Index	66.7	81.2	-	-	-	-	-	-	84.6
	15	Patient Counseling Index	23.3	48.9	21.2	17.3	32.6	46.6	60.4	32.3	-
		Client Counselling Index	31.7	58.5	-	-	-	-	-	-	57.7
	16	Proper sharps disposal	34.1	85.0	64.0	8.7	100.0	71.8	63.2	34.1	-
		Universal Precautions	51.8	70.4	-	-	-	-	-	-	80.3
	17	Time Spent with Client	3.5	31.2	22.5	3.8	6.9	27.4	13.0	5.2	11.4
Domain E		**Management Systems**									
	18	HMIS Use Index	49.6	80.7	54.7	42.2	82.5	92.0	91.7	79.1	-
		Revised HMIS Use Index	66.1	86.2	-	-	-	-	-	-	88.2
	19	Financial Systems	25.2	62.3	-	-	-	-	-	-	91.9
	20	Health Facility Management Functionality Index	40.0	57.6	-	-	-	-	-	-	82.9
Domain F		**Overall Mission**									
	21	Outpatient visit concentration index	48.0	52.7	47.9	48.1	48.1	47.7	49.9	-	-
		New Outpatient visit concentration index	46.2	56.9	-	-	-	-	-	49.1	43.3
	22	Patient satisfaction concentration index	49.0	50.9	49.3	49.3	49.7	49.8	49.0	-	-
		New Patient satisfaction concentration index*	49.6	50.8	-	-	-	-	-	49.5	49.9
COMPOSITE SCORES											
		Percent of Upper Benchmarks Achieved		-	15.0	15.0	35.0	50.0	30.0	50.0	63.6
		Percent of Lower Benchmarks Achieved		-	90.0	65.0	85.0	85.0	95.0	90.0	95.5
		Overall Means (Provincial)		-	54.9	47.9	59.4	68.1	67.4	70.2	69.8

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Appendix 4: Balanced Score Card Nangarhar EPHS 2011/2012 (Extracted from Balanced Scorecard Report 2010-12)

Nangarhar

Domain A: Clients and Community	
A-1: Client Satisfaction & Perception of Quality Index	80.4
A-2: Community Involvement and Participation	95.8
A-3: User Fees; Transparency and Exemptions	-
Domain B: Human Resources	
B-1: Staffing Index	71.6
B-2: Staff Management	86.7
B-3: Staff Satisfaction	65.5
B-4: Staff Motivation	69.3
B-5: Hospital Training Activities	74.3
B-6: Provider Knowledge Score	63.4
B-7: Gender Equity, Providers of Care	65.0
B-8: Salaries up-to-date	58.8
Domain C: Physical Capacity	
C1: Communications and Transport	
C-1: Communications and Transport	100.0
C2: Infrastructure	
C-2: Infrastructure Index	85.9
C3: Supplies-Drugs and Equipment	
C-3: Equipment Functionality Index	76.5
C-4: Pharmaceuticals Availability Index	81.0
C4: Service Availability	
C-5: Lab and X-ray Index	88.7
C-6: Clinical Guidelines Index	94.4
C-7: Record System Index	100.0
C-8: Hotel Services	35.9
C-9: Safety precautions	55.6
C-10: Female Friendly Facilities	57.6
Domain D: Quality of Service Provision	
D1: Enabling Environment	
D-1: Functioning of standing committees	96.9
D-2: Drug Storage and Record Keeping	97.2
D2: Quality of Care	
D-3: Client History and Physical Exam Index	83.1
D-4: Client Counseling Index	36.0
D-5: Universal Precautions	74.2

General: Four hospitals were surveyed in Nangarhar: two provincial hospitals and two district hospitals. The province did very well, with the pooled provincial scores showing thirteen (13) indicators above upper benchmark and none below lower.

Activity: Apart from the Ceasarian section rate which was below median; the in- and outpatients, deliveries and surgeries per month, deliveries per midwife, bed occupancy rate and inpatient admissions and OPD consultations per physician were all above median.

Staffing levels: Physicians per bed was above median, whiles nurses per bed at median.

Strengths: Nangarhar performed very well in *Domain E: Management Systems,* and was not particularly weak in any one domain.

Areas for improvement: Domains A, B, C, D and G (*Clients and Community, Human Resources, Physical Capacity Quality of Service Provision, and Ethics and Values* respectively) all have room for improvement though.

Domain E: Management Systems	
E-1: Management Team (Including training)	100.0
E-2: HMIS	100.0
E-3: Equipment Management	91.7
E-4: Administrative and Financial Autonomy	75.0
E-5: Local Financial Management	65.0
E-6: Security	83.3
Domain F: Functionality Indicators	
Total Inpatients/month	1693.6
Total Inpatients/month (excl. pregnancy)	1155.1
Total Outpatients/month	12308.5
Total deliveries/month	527.5
CS rate	2.5%
Total Surgeries/month	453.0
Physicians per bed	0.3
Nurses per bed	0.4
Inpatient admissions/MD	44.9
Average Length of Stay	2.7
Bed Turn Over Rate	9.6
Bed Occupancy Rate	85.3
OPD consults/MD	681.6
Surgeries/surgeon	118.4
Deliveries/midwife	48.1
Average consultation time per OPD Patient (min)	4.7
Inpatient Utilisation Male : Female	0.5
Inpatient Utilisation U5 : O5	0.5
Inpatient Utilisation Male : Female (excl. pregnancy)	1.3
Inpatient Utilisation U5 : Over 5 (excl. pregnancy)	0.7
Outpatient Utilisation Male : Female	1.0
Outpatient Utilisation U5 : O5	0.6
Proportion of new outpatients prescribed antibiotics	0.4
Average number of drugs per new outpatients	0.9
Domain G: Ethics and Values	
G-1: Gender Equity, Recipients of Care	65.0
G-2: Compliance with MOPH Policy and Local Laws	100.0