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Context matters: Successes and challenges of intrapartum care scale-up in four districts of Afghanistan

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ABSTRACT

Reducing preventable maternal mortality and achieving Sustainable Development Goal targets for 2030 will require increased investment in improving access to quality health services in fragile and conflict-affected states. This study explores the conditions that affect availability and utilisation of intrapartum care services in four districts of Afghanistan where mortality studies were conducted in 2002 and 2011. Information on changes in each district was collected through interviews with community members; service providers; and district, provincial and national officials. This information was then triangulated with programme and policy documentation to identify factors that affect the coverage of safe delivery and emergency obstetric care services. Comparison of barriers to maternal health service coverage across the four districts highlights the complexities of national health policy planning and resource allocation in Afghanistan, and provides examples of the types of challenges that must be addressed to extend the reach of life-saving maternal health interventions to women in fragile and conflict-affected states. Findings suggest that improvements in service coverage must be measured at a sub-national level, and context-specific service delivery models may be needed to effectively scale up intrapartum care services in extremely remote or insecure settings.

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Introduction

The era of the Millennium Development Goals witnessed dramatic achievements in reduction of maternal mortality (UNFPA, UNICEF, WHO, & The World Bank, 2012). In this era, it was often claimed that ‘we know what works’ to improve maternal health, but that the real challenge in reducing maternal mortality was ‘getting what works to happen’ in low-income countries where 99% of maternal deaths occur (Burchett & Mayhew, 2009; Campbell & Graham, 2006; Penn-Kekana, McPake, & Parkhurst, 2007). Looking ahead to the ambitious post-2015 development agenda and ultimate goal of ending all preventable maternal deaths, the *Global Strategy for Women’s, Children’s and Adolescents’ Health 2015–2030* recognises challenges posed by natural disasters, conflict

and socio-economic or political instability as among the greatest obstacles in ensuring access to services for every woman and every child (UN, 2015). These challenges include immediate and lasting consequences of damaged health infrastructure, health workforce depletion and resource limitations, oftentimes compounded by limited government capacity for domestic resource mobilisation, service provision and stewardship (Hill, Mansoor, & Claudio, 2010; Kruk, Freedman, Anglin, & Waldman, 2010).

To expand the coverage of life-saving maternal health services, barriers to both the supply and demand of health-care provision must be addressed. On the supply side, the scale-up of service availability is dependent on the existence of a skilled workforce, the availability of equipment and supplies, and the management of systems to allocate resources, track their use and monitor need (De Brouwere, Richard, & Witter, 2010; Koblinsky & Kureshy, 2009). On the demand side, physical and geographical barriers to service utilisation are further complicated by socio-cultural factors at the individual, household and community level that may influence where, when and how women seek care for obstetric complications when they occur (Ensor & Cooper, 2004).

An increasingly common first step in restoring health systems in countries emerging from civil conflict is to rapidly scale up a set of cost-effective primary care services to address the country's priority health problems (Cassels, 2005; Petit, Sondorp, Mayhew, Roura, & Roberts, 2013). In brief, the Basic Package of Health Services (BPHS) in these countries has consisted of a limited set of cost-effective priority health services addressing the country's major health problems, with non-governmental organisations commonly contracted to deliver the agreed package of services, while the government and international donors take responsibility for stewardship and monitoring of implementation. Documented advantages of the national roll-out of a BPHS include rapid increases in health-care coverage, coordination and standardisation of services, facilities, staffing, drugs and equipment across the health system (Ameli & Newbrander, 2008; Loevinsohn & Sayed, 2008; Palmer, Strong, Wali, & Sondorp, 2006). There has been little research to date, however, on the successes and challenges of this approach for achievement of maternal health outcomes in different settings, or on how to adapt approaches over time to ensure that health systems remain responsive to population needs in changing circumstances (Howard, Woodward, Paterl, & Shafi, 2014; Lassi et al., 2015; Raven et al., 2014).

In Afghanistan, the establishment and stewardship of a BPHS for primary health-care facilities and an Essential Package of Hospital Services for district, provincial, regional and national hospitals, have provided a foundation for dramatic improvements in health system coverage and standardisation of care since 2003. When the Taliban were removed from power in Afghanistan in late 2001, the country had very little public health infrastructure and some of the worst health indicators in the world, including an infant mortality rate of 165 per 1000 live births, under 5 mortality rate of 257 per 1000 live births and maternal mortality ratio of 1600 maternal deaths for every 100,000 live births (United Nations Children's Fund [UNICEF], 2006). Health facilities were situated primarily in accessible urban or more secure rural areas, leaving nearly 60% of the population without access to any form of health services (Sondorp, 2004). In addition to contracting NGOs to provide the BPHS in 31 of Afghanistan's 34 provinces, the Ministry of Public Health (MoPH) and its international donors introduced in-service clinical refresher training programmes for physicians and two pre-service education programmes to train and deploy midwives. One programme

was designed to establish community midwifery education schools to train providers for BPHS facilities, and the other to strengthen existing programmes that train midwives for placement in hospitals (Turkmani et al., 2013). Government reports show that the number of trained midwives in the country increased from 467 in 2003 to approximately 2200 midwives in 2010, and population-based studies have shown improvements in skilled birth attendance estimates from less than 10% in 2003 (6% rural, 35% urban) to 19% in 2006 (rural areas only) and 34% in 2010 (26% rural, 71% urban) (Johns Hopkins Bloomberg School of Public Health, 2008; Rasooly et al., 2013; UNICEF, 2004; United States Agency for International Development [USAID], 2010). While these would be notable achievements in any setting, they are particularly impressive when the ongoing conflict and increasingly uncertain security climate in Afghanistan are taken into account. At the same time, it is important to remember that skilled birth attendance only contributes to reduction in maternal mortality if the trained provider is able to detect complications and either provide life-saving treatment or facilitate safe, timely referral to a capable facility and provider; and that the majority of women in Afghanistan still deliver their children at home, without the presence of a skilled attendant.

This aim of this study is to explore the conditions that affect the availability and utilisation of intrapartum care services in four distinct districts of Afghanistan. By investigating barriers to service provision and use in different parts of the country, this study can provide insights into the complexities of health service planning and identify areas where additional efforts may be needed to ensure essential maternal health services reach women with obstetric complications in all parts of Afghanistan.

Methods

Study setting

This study examines the successes and challenges of maternal health service expansion in four districts of Afghanistan where mortality studies were conducted in 2002 and 2011. The sites selected for this study are the four districts that were purposively selected for the first reproductive age mortality study – RAMOS I – conducted in 2002 (Bartlett et al., 2005), and revisited in a follow up study – RAMOS II – in 2011 to measure changes in risk of maternal death over the decade. The four districts selected to represent a range of remoteness are illustrated in [Figure 1](#): Kabul City, Kabul Province (urban); Alisheng District, Laghman Province (semi-rural); Maiwand District, Kandahar Province (rural); Ragh District, Badakshan Province (rural, mostly remote). Since the 2002 study, Ragh district has been subdivided into three districts – Raghistan, Kohistan and Yawan – which together have the same borders as the original Ragh district and are referred to collectively as Ragh for the purposes of this study.

Data sources

Various methods were used for collecting information about intrapartum care availability, utilisation and quality, including a programme and policy document review, secondary analysis of data from the government's Health Management Information System (HMIS) at the province and district level, in-depth interviews and focus group discussions

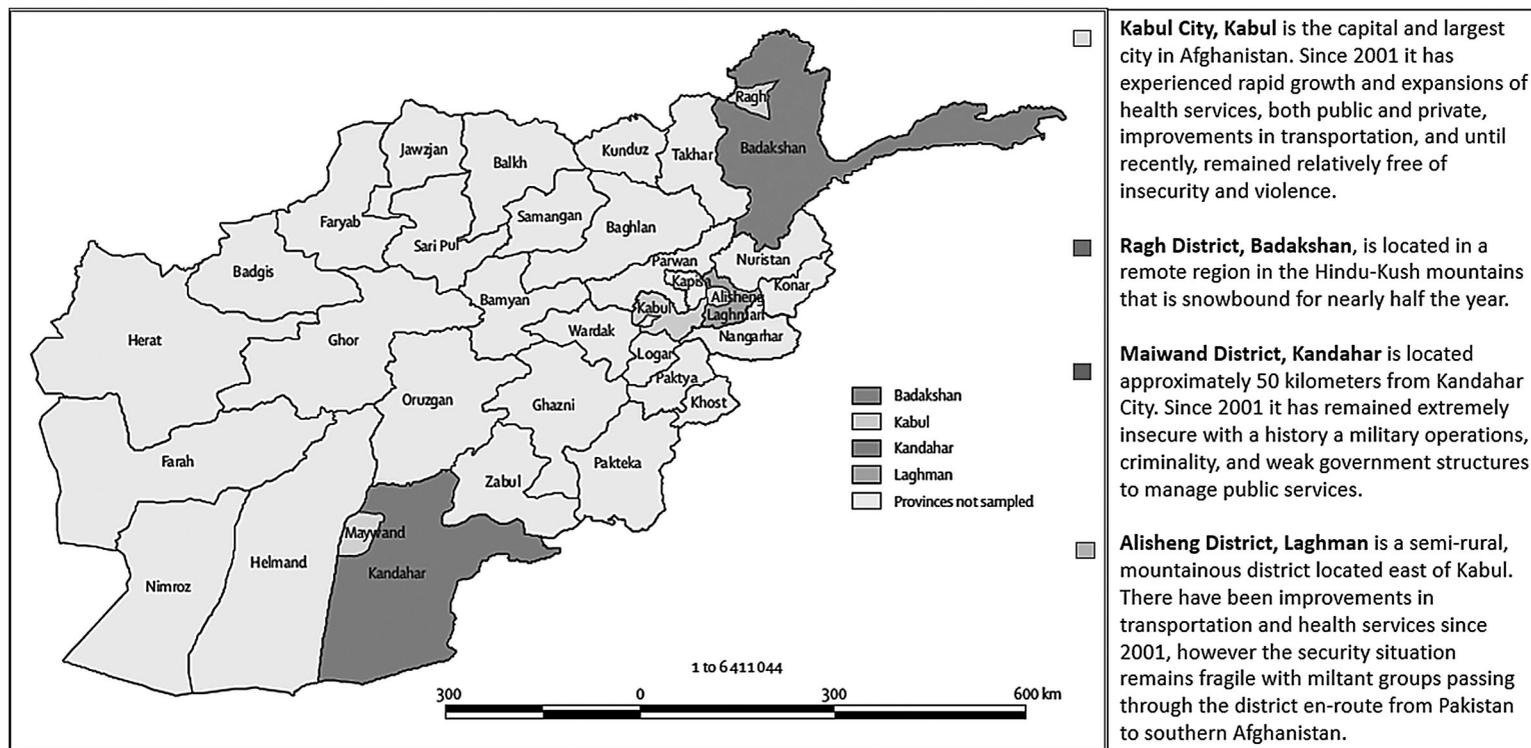


Figure 1. Map of RAMOS study areas.

(FGDs). Individual interviews were conducted with four levels of respondents (community members, district-level health officials and service providers, province-level health officials and service providers, and national health policy-makers), and FGDs conducted with separate groups of men and women of reproductive age in each community.

At the national level, five key informants with responsibility for reproductive health services were identified in consultation with the RAMOS II Steering Committee (consisting of interested MoPH officials and international development agency representatives) and invited for in-depth interviews. In each of the four provinces, four to six government officials and health-care providers were selected for interviews, depending on the MoPH and health facility staffing structures for that province. In addition, village elders, reproductive age men and recently delivered women in three communities per district were invited to participate in FGDs for a total of six per district; communities were selected in consultation with health sector stakeholders to represent a range of village size and accessibility. In-depth interviews and FGDs conducted in each study district are presented in [Table 1](#).

Data collectors were divided into two teams (one Dari-speaking and one Pashto-speaking), each of which consisted of a male and female interviewer, a male and female notetaker and a male supervisor. At the community level, all male interviews and FGDs were conducted by men and all female interviews and FGDs were conducted by women. To ensure consistent interpretation of study tools across languages and interviewers, all team members were trained using interview and FGD guides tailored to each level of respondent. Interviews and FGDs lasted approximately 30–45 min, depending on the time the participants had available and their ability to offer answers. Verbal informed consent was obtained from each participant prior to initiation of the interview and FGDs.

Whenever possible, interviews and FGDs were recorded. However, concerns about privacy prevented several female FGDs from being recorded, and in these cases, detailed notes were taken. Translation and transcription were conducted by data collection team members and reviewed by senior RAMOS II study staff.

Table 1. Individual and group interviews conducted by study district.

Kabul City, Kabul	Alisheng District, Laghman
10 individual and 6 group interviews <ul style="list-style-type: none"> • 3 village elders • 5 recently delivered women • 3 groups of reproductive age women • 3 groups of reproductive age men • 2 specialty hospital directors • 1 province-level MoPH official 	12 individual and 6 group interviews <ul style="list-style-type: none"> • 3 village elders • 3 recently delivered women • 3 groups of reproductive age women • 3 groups of reproductive age men • 1 comprehensive health centre-based midwife • 1 comprehensive health centre-based doctor • 1 provincial referral hospital director • 1 district-level MoPH official • 2 province-level MoPH officials
Maiwand District, Kandahar <ul style="list-style-type: none"> • 12 individual and 6 group interviews • 3 village elders • 3 recently delivered women • 3 groups of reproductive age women • 3 groups of reproductive age men • 1 comprehensive health centre-based midwife • 1 comprehensive health centre-based doctor • 1 provincial referral hospital director • 3 province-level MoPH officials 	Ragh District, Badakshan: <ul style="list-style-type: none"> • 9 individual and 3 group interviews • 1 village elder • 4 recently delivered women • 1 group of reproductive age women • 2 groups of reproductive age men • 1 basic health centre-based midwife • 1 provincial referral hospital director • 2 province-level MoPH officials
National 5 individual interviews with MoPH officials	

Data analysis

In-depth analysis was conducted using a deductive framework approach, the first step of which was to become familiar with the data through a broad-stroke review of all transcripts and listing of key topics covered in the interviews (Pope, Ziebland, & Mays, 2000). Two coders validated this list on four selected interview transcripts and inter-rater reliability was assessed. The list of thematic codes and sub-codes was then used to annotate all transcripts and organise annotated text into charts to elucidate key factors facilitating or hindering maternal health service provision and utilisation in each district. Critical themes that emerged were then discussed with senior members of the RAMOS II study team in an analysis workshop, and triangulated with documentation of policy and programme implementation in each district. Preliminary findings were also shared with key stakeholders to verify interpretation of results and relevance for health sector stakeholders in Afghanistan.

Ethical considerations

All primary data collection has been approved by the Institutional Review Board of Johns Hopkins Bloomberg School of Public Health and the Afghanistan Public Health Institute of the MoPH.

Results

At the national level, substantial progress has been made in scaling up skilled birth attendance and access to emergency obstetric care. National stakeholders described significant changes over the last decade, but also highlighted continuing challenges and widening disparities in terms of access and quality of care across the country. These sentiments were echoed at the provincial, district and village level. Nearly all study participants provided examples of improvements in access and quality of care, but the extent of improvements and nature of barriers varied substantially from one district to the next. Access to a facility, the level of care available there, community mobility and household norms were common factors in whether women planned to deliver at a facility or only decided to seek care upon detection of complications. When asked about barriers to maternal mortality reduction, three common themes highlighted by national policy-makers, health-care providers and community members were: (1) structural barriers limiting availability of services, (2) programmatic constraints hindering provision of quality care and (3) contextual factors affecting when, where and why women deliver at facilities. Specific factors affecting provision and utilisation of intrapartum care in the four study districts are described in detail below.

Structural factors

Infrastructure

At the national and provincial level, MoPH officials and health-care providers all reported improvements in the availability and accessibility of health facilities since 2002. The scale of improvement, however, varied substantially across and within provinces and many health officials did note that there are still areas of the country where access is limited,

particularly in remote and insecure regions. The number, as well as population and geographic density, of facilities in each district are presented to illustrate differences in maternal health service availability in Table 2.

In Kabul, Laghman and Badakshan study sites, both community members and health-care providers reported substantive improvements in the number of functional health facilities in the district, as well as improvements in road networks and transportation availability. In Badakshan, however, many study participants reported that despite these improvements, access to health facilities remains extremely limited for much of the

Table 2. Maternal health service availability in RAMOS study districts in 2010.

	Kabul City, Kabul	Alisheng District, Laghman	Maiwand District, Kandahar	Ragh District, Badakshan
<i>District characteristics</i>				
Population	3,289,000	68,153	58,254	87,400
Area	425 km ²	754 km ²	2858 km ²	2324 km ²
<i>Public health facilities</i>				
Number of facilities (by type) ^a	47 (24 BHC, 16 CHC, 3 DH, 4 SH)	3 (2 BHC, 1 CHC)	1 (1 CHC)	4 (2 BHC, 1 CHC, 1 CHC+)
Facility density (population)	1 per 69,978	1 per 22,727	1 per 58,524	1 per 21,850
Facility density (geographic)	1 per 9 km ²	1 per 251 km ²	1 per 160 km ²	1 per 580 km ²
<i>Human resources for maternal health</i>				
Number of female community health workers ^b	60	40	49	46
Number of midwives	677 (1 per 4858 population)	5 (1 per 13,361 population)	1 (1 per 40,700 population)	7 (1 per 12,486 population)
Number of female doctors	218 (1 per 15,097 population)	0	0	3 (1 per 29,133 population)
Skilled birth attendants per 175 births (% midwives)	1.25 (76%)	0.34 (100%)	0.08 (100%)	0.53 (70%)
Midwife to doctor ratio	3:1	N/A	N/A	2:1
<i>Health facility utilisation^c</i>				
Number of new ANC visits reported in HMIS (% of expected birth)	64,001 (51%)	1843 (71%)	0	2261 (68%)
Number of facility deliveries reported in HMIS (% of expected birth)	79,941 (64%)	569 (22%)	0	287 (8.6%)
Number of cases with direct obstetric complications reported in HMIS (% of expected birth)	5890 (4.7%)	21 (0.8%)	0	17 (0.5%)
Number of cases with direct obstetric complications referred out to other facilities for care	49	8	0	10
<i>EmOC availability</i>				
Expected CEmONC availability	Yes	No	No	Yes
Distance to closest CEmONC referral facility in provincial capital	N/A	21 km to PH (~45 min drive year round)	80 km to RH (~1.5–2 h drive)	120 km to PH (~6–8 h drive in summer months)

^aBHC, Basic Health Center, CHC, Comprehensive Health Center, CHC+, Comprehensive Health Center upgraded to include some functions of a district hospital; DH, district hospital; SH, specialty hospital.

^bFemale community health workers are not skilled birth attendants; however, responsibilities do include counseling on birth preparedness and complication readiness, as well as referral to health facilities for delivery with a skilled attendant or EmOC.

^cHealth facility utilisation data are extracted from the government's HMIS and therefore does not include data from private facilities or any BPHS facilities not complying with government reporting requirements. Percentages are based on expected number of births assuming a crude birth rate of 38.11 per 1000 persons in the population at mid-year.

Sources: CSO, HMIS; AGCHO.

population. Despite having the highest facility density per population (1 facility per 21,850 population), Ragh, the most remote and mountainous of the four study districts has only one facility per 580 km². Routine health facility reports indicate less than 10% of births in Ragh occurred in public health facilities compared with more than 60% of births during the same time period in Kabul City. Alisheng district, which has a similar facility density per population but less mountainous terrain than Ragh, reported approximately 22% of births occurred in health facilities, more than double that of Ragh district and one-third as many as Kabul.

In Maiwand, the most insecure of the study districts with only one functional health facility, community members described improvements in road networks but less mobility and access to health services than in 2002. In fact, as [Table 2](#) shows, HMIS reports did not list any deliveries at the district's health centre in 2010.

Human resources

Human resource constraints were mentioned as a barrier to maternal mortality reduction in all districts. While training and deployment of community midwives was highlighted by both local community members and national policy-makers as one of the greatest contributors to reduction in maternal mortality since 2002, study participants at all levels also highlighted the need for more trained providers to meet the needs of the population. As health officials explained,

Those who have access to clinics that have community midwives receive good care ... The problem is that not all women have access to facilities or midwives. (Provincial health official, Badakshan)

There are still provinces with no female doctor. How can you have women's reproductive health services without a doctor? In Kabul and other provinces where access is better, we have made good progress, but still, not every district has a female doctor. In those places, women must travel far for emergency care or stay at home. (National health official, Kabul)

The implication of these shortages is evident in the number and gender of health workers across the four study districts. As shown in [Table 2](#), the number of midwives per population in study districts ranged from 1 per 40,700 population in Maiwand district of Kandahar to 1 per 4858 population in Kabul City. The number of midwives per population in Kabul was 12 times greater than in Maiwand district of Kandahar, 3 times greater than in Alisheng district of Laghman and 2.5 times greater than in Ragh district of Badakshan. Neither Maiwand district of Kandahar nor Alisheng district of Laghman had a single female doctor.

Programmatic factors

Technical capacity

According to national guidelines, Comprehensive Health Centers are expected to provide basic emergency obstetric care (BEmOC), defined by seven basic life-saving procedures: administration of parenteral antibiotics, administration of parenteral anticonvulsants, administration of parenteral oxytocics, manual removal of the placenta, removal of retained products, assisted or instrumental vaginal delivery and newborn resuscitation. District, Provincial, Regional and Specialty Hospitals are all expected to provide

comprehensive emergency obstetric care (CEmOC), defined by the provision of caesarean surgery and blood transfusion services, as well as the seven BEmOC functions. Routine health facility data and research studies show substantial limitations in the availability of BEmOC and CEmOC outside Kabul and the 10 Provincial and Regional Hospitals across the country.

As [Table 2](#) shows, only two of the four study districts, the most urban and the most remote, have the infrastructure and human resource capacity to provide CEmOC services. In Kabul City, there are at least seven public facilities designed to have CEmOC capability, including four high-volume Specialty Hospitals. In Ragh District, although there is one facility equipped to provide CEmOC, interviews with health officials suggest that a portion of the women seen at the facility with complications are still referred out to the Provincial Hospital for further care. HMIS reports confirm this: of the 17 cases with direct obstetric complications recorded at Ragh health centres in 2010, 10 were referred out to other facilities for further care ([Table 2](#)).

A national health official explained that it is not uncommon for health workers in rural areas to refer women with obstetric complications to higher level facilities; reasons from this range from lack of knowledge or confidence in performing procedures to lack of resources or lack of authority to act without supervision.

All midwives should have skills to administer magnesium sulfate but they do not. In some cases of severe pre-eclampsia, they refer because they do not know how to perform the procedure. In some places, they have the knowledge to provide magnesium sulfate but it is not on the list of drugs that can be administered by midwives; it requires a doctor to prescribe. In some places midwives do not use MVA [manual vacuum aspiration] because the equipment is not available and in some cases they have the equipment but do not know how to perform the procedure so they refer. (National health official, Kabul)

If women experience obstetric complications that cannot be addressed at the district level, they must travel between 21 km (Alisheng district, Laghman) and 120 km (Ragh district, Badakshan) to reach the closest referral facility in the provincial capital. The distance from study districts in Kandahar and Badakshan to the closest CEmOC referral facility suggests that even for the small proportion of women that do deliver with a skilled attendant, or seek care at the onset of obstetric complications, opportunities for timely access to life-saving services may be limited.

Referral systems

Descriptions of cases seen by health-care providers and experiences of community members participating in the study suggest that none of the study districts have a well-functioning referral network. Residents of semi-urban Alisheng, the district with the shortest distance to an EmOC referral facility outside Kabul, described substantial improvements in maternal health service availability in their district as there is now a Comprehensive Health Center open 24-hours/day in the district centre, and a recently rehabilitated maternity ward and increasing number of private clinics in the provincial capital a 45-minute drive away. These facilities, however, have few female providers, and FGDs conducted towards the outskirts of the district reported many women dying because of lack of access to health services. In all three areas of Alisheng district visited, most women preferred to deliver at home but consistently described that care would be

sought at facilities in the event of complications or if advised to do so by a doctor. Women described first going to the local clinic, then provincial hospital, where they were then referred on to the regional hospital in Nangarhar, and in some cases then onto Peshawar in Pakistan. While the health centre-in-charge and District Health Officer mentioned transferring women from the Alisheng health centre to the provincial hospital via ambulance, community members described using their own car (or privately arranged transport) to move from one facility to the next, and provincial hospital staff confirmed that most women from Alisheng come directly to the provincial hospital without being referred by the health centre (in part because some villages are closer to the provincial capital than the district centre where the health centre is located).

In Badakshan, a midwife based at one of the more remote health centres explained,

When there is a woman with obstetric complications, I call the office in Faizabad [the provincial capital] to inform them that we have such a patient. If possible, we ask for an ambulance from Yawan to take the women to Faizabad hospital, but if not we give this responsibility to her family and the health shura [village health council] to make arrangements. Most families do not understand why the patient cannot be treated here but the health shura helps us to explain so that the families accept this and take the patient to the hospital, even carrying her until they can reach a passable road with transport. (Midwife, Badakshan)

No community members in Kabul mentioned referral from one facility to another, although many described bypassing the nearest public health facility to deliver at a specialty or private hospital.

Quality of care

MoPH officials, staff at district and specialty hospitals, and community members all highlighted notable improvements in maternal health service quality since 2002. However, the way in which people were treated by facility staff was an important component of satisfaction with care in high-access Kabul city. Recently delivered women described lack of privacy and long waiting times at government hospitals, poor facility conditions such as open or broken windows in the maternity ward and poor treatment by staff such as neglecting patients until they ‘screamed for help’ or refusing to let women leave the facility with their infants after delivery until ‘gifts’ had been paid to the doctor, suggesting that while resources may be in place, the quality of care at high-volume specialty hospitals and under-resourced district facilities in the capital city may vary substantially. Consequently, community members in the three Kabul neighbourhoods visited expressed preference for women to deliver at private or specialty hospitals because the availability and quality of care at these facilities is perceived to be higher. These tertiary care facilities, intended to be teaching facilities and referral points for complicated cases, are therefore crowded with a high caseload of normal deliveries.

In Badakshan and Laghman, community members’ perceptions of the quality of care at health facilities were generally positive. In Kandahar, opinions expressed were more mixed. Some community members spoke positively about the quality of care of midwives, with men mentioning that having midwives in the clinics ‘has solved many problems of the people in the village’ and others explaining that ‘the women that call themselves midwives at private clinics do not have sufficient skills and experience ... they cannot perform good practice’.

Contextual factors

Gender, household decision-making and care seeking

At all levels, there was widespread recognition of greater female mobility and maternal health care seeking compared to 10 years ago, but also suggestions that women may still have limited decision-making authority or women's health may not be recognised as a priority concern within the home. Community members in all study areas nearly universally identified male household members and mother-in-laws as decision-makers.

Although most women outside Kabul city deliver at home with family members or traditional birth attendants, community members provided a range of reasons for home delivery, with some women expressing preference for traditional practices and other women wishing to deliver at a facility but only seeking care in the event of life-threatening complications due to the challenges of reaching health facilities or poor quality of care available in their area.

Geographic access and availability of transport

In Ragh District of Badakshan, the most remote and mountainous of the four study districts, the rugged terrain makes it very challenging for women to access health facilities. Descriptions of improvement in maternal health service availability varied substantially with remoteness and topography within the district. Those living towards the centre of Yawan district, in relatively close proximity to the Comprehensive Health Center and the road to the provincial capital, noted that 10 years ago all births took place at home but now women prefer to deliver with the midwife at the clinic. However, for most residents of the three districts that constitute the Ragh study area, access remains difficult, limited to un-maintained roads and small trails in the summertime and often completely inaccessible due to heavy snowfall up to six months of the year. Those living farther from the district centre explained that women give birth in the home with elder family members but seek care in the event of severe complications. Weather permitting, male family members will organise large groups of neighbours (sometimes as many as 20–25 men) to help them carry women experiencing obstetric complications on a ladder or make-shift stretcher to the closest clinic or to the district centre, where they can arrange a vehicle to transport them to the Provincial Hospital in Faizabad.

There is now a BHC in Pas Pul [a village in the northwest of Kohistan district in the Ragh study area] but for villages that are six, eight, ten hours distance from the clinic, it is as if nothing has changed. There is no transportation to take women with obstetric complications from these villages to the clinic except for men to carry the patient on their shoulders
(Midwife, Badakshan)

Rugged terrain and distance were not described as barriers to care seeking in any of the other study districts. However, in other districts, delays in reaching a facility were more commonly associated with challenges in finding a car to borrow and challenges paying for a taxi. In addition, in Kabul City, the most densely populated and developed of the study districts, some community members reported delays in reaching a facility due to bad traffic delays once transportation had been identified.

Security

National policy-makers reported ongoing insecurity as reason for limited access to health services in some areas of the country. Insecurity was the primary barrier to facility delivery reported in Maiwand district of Kandahar. There was universal agreement among key informants and FGDs participants from Maiwand that security had worsened, and is now a significant barrier in care seeking as no one is allowed to travel within the district or on the road to Kandahar City at night. Nearly all community members interviewed or participating in FGDs highlighted security concerns, including fighting between armed opposition groups and international forces, landmines and other explosions. As a community member from Maiwand district explained,

Sometimes if we have a problem during the day we might go to the clinic or hospital, but during the night (international soldiers) and (anti-government forces) block the village roads and do not give us permission to go out from home, so whatever happens to us – if we become sick and die – it is still mandatory to stay at home. (Recently delivered woman, Kandahar (names of military groups changed))

Insecurity was also mentioned as a barrier to care seeking by community members in Alisheng district of Laghman. FGD participants from one community expressed fear of travelling at night, and difficulty finding a taxi driver willing to work at night, because of criminal and insurgent activity. In another community, the village elder explained that international forces often close roads in the area to conduct military operations, preventing any travel, including referral of patients to the Provincial Hospital or to the closest Regional Hospital in Nangarhar province. Insecurity was not reported as a constraint to service provision or care seeking in Kabul or Badakshan study districts.

Discussion

Although Afghanistan has made impressive improvements in overall coverage of maternal health services over the last decade, there is still a long way to go to ensure every pregnant woman has access to obstetric care when she needs it. The reach of BPHS services varied substantially across study areas, with only two of the four districts having a clinic with a female doctor or resources needed to provide CEmOC. However, even in districts that met BPHS standards for infrastructure and staffing needs, programmatic and contextual factors played a major role in whether women planned to delivery at a facility or only decided to seek care upon detection of complications.

Differences in health system reach and barriers to intrapartum care provision and utilisation across the four districts in this study highlight the complexities of health service planning and resource allocation in geographically diverse and conflict-affected countries such as Afghanistan, and suggest that additional investment in context-specific strategies may be needed to scale-up maternal health services in hard-to reach areas.

Addressing challenges to maternal health scale-up in extremely remote settings

Distance to health facilities is a known determinant of maternal health service utilisation in Afghanistan, and globally (Hanlon, Burstein, Masters, & Zhang, 2012; Hirose et al.,

2011; Steinhardt et al., 2009; Trani, Bakhshi, Noor, Lopez, & Mashkoo, 2010). A recent review of strategies for improving reproductive, maternal and child health in difficult to access mountainous locations found that extremely mountainous areas in many low- and middle-income countries represent the most extreme experiences of barriers to service utilisation and suggests that actions with 'intensity proportionate to disadvantage' may be required to see any significant change in health service coverage and outcomes (Byrne, Hodge, Jimenez-Soto, & Morgan, 2014). Barriers to intrapartum care identified in Ragh district show that although utilisation of health services is a function of both patient demand and supply, limited availability of services is a major constraint to utilisation in remote areas. National policy-makers indicated that similar constraints exist in equally remote areas of the country.

Although not yet introduced in the RAMOS study districts, a number of strategies have been piloted to expand access to health services in remote areas, including Maternity Waiting Homes, Mobile Health Units, Family Health Houses, telemedicine programmes and the expansion of services provided by the country's network of more than 20,000 volunteer community health workers (Sanghvi et al., 2010; UNICEF, 2013). While these strategies show great promise, each has its own advantages and disadvantages and the feasibility of implementation at scale in a country with substantial health worker shortages and low retention of both facility- and community-based service providers still needs to be evaluated (Howard et al., 2014; Najafizada, Labonte, & Bourgeault, 2014).

In addition, while increasing the supply of health services is critical, improving the coverage of intrapartum care in remote and otherwise hard-to-reach areas may not be possible without increased attention to service quality and investment in other types of social programming (Quayyum et al., 2013; Samar et al., 2014). Study participants in less remote areas reported perceptions of poor quality care and disrespectful treatment by service providers as reasons for electing to bypass nearby facilities for higher level hospitals or private facilities. Recognising the importance of interpersonal aspects of care and planning services in a way that supports positive provider-patient interactions has been seen to increase the acceptability and uptake of services (D'Ambruso, Abbey, & Hussein, 2005; Mselle, Moland, Mvungi, Evjen-Olsen, & Kohi, 2013). Research also shows that women's empowerment, involvement in household decision-making, educational status and wealth all have positive impacts on maternal health. Despite overall improvements in access and uptake of services over the last decade, norms around childbirth still include delivery at home. Socio-cultural barriers inhibiting utilisation of maternal and newborn health services include shame about care seeking and lack of female mobility (Newbrander, Natiq, Shahim, Hamid, & Skena, 2013). Without the onset of complications or expectation of a difficult delivery, seeking a skilled birth attendant may not be considered important. Recent studies have highlighted the role of community health workers and health shura in strengthening trust in health service providers and promoting care seeking (Howard et al., 2014; Newbrander, Ickx, Werner, & Mujadidi, 2012). Further community mobilisation that emphasises the importance of planning for delivery, identifying danger signs of obstetric complications and delivering in a health facility with a skilled attendant whenever possible will be necessary to minimise deaths associated with decision-making and transport delays.

Addressing challenges to maternal health scale-up in conflict settings

The BPMS approach is designed to facilitate the rapid scale-up of standardised health services in post-conflict settings. However, the context in Maiwand district of Kandahar at the time of this study cannot be considered 'post-conflict'; the frequency of security incidents, restrictions on movement and communications, and limited functionality of vital institutions and infrastructure all point to classification of the district as a protracted crisis setting. In fact, Kandahar province records the most security incidents out of any province in Afghanistan, the area stretching from Kandahar City west to Lashkar Gah through Maiwand district is notable for a large number of conflict incidents, some attributed to the desire of armed groups to control smuggling routes from Pakistan to Iran through this area (Danish Refugee Council, 2013).

Some argue that improved security may be essential before strategies to impact on health equity can be employed (Waldman, 2006). Others argue that developing informed strategies to protect and promote health during and after armed conflict should be a global priority (Haar & Rubenstein, 2012). There is no debate, however, over the fact that some areas of Afghanistan remain conflict settings and that the reach of BPMS services to these areas is limited. Barriers to availability and utilisation of maternal health services in conflict-affected study areas are similar to those documented by studies in other war-affected countries (Bourdeaux, Kerry, Haggemiller, & Nickel, 2015; Durham, Pavignani, Beesley, & Hill, 2015; Kabakian-Khasholian, Shayboub, & El-Kak, 2013; Namakula & Witter, 2014). The lack of female health professionals in insecure study areas was a major obstacle to skilled birth attendance, compounded by low levels of mobility, general distrust in the health system, and fears of safety and security. Barriers expressed by study participants in Kandahar highlight the need for innovative strategies to expand health service coverage in conflict-affected districts. However, there is a limited evidence base on how to effectively deliver health services in areas with ongoing conflict (Haar & Rubenstein, 2012; Kruk et al., 2010; Witter, 2012). There is need for research into new models of training, supporting and retaining health workers to deliver services in insecure settings, as well as scale-up of community-based strategies for prevention and treatment of complications, such as distribution of misoprostol by community health workers (Nic Carthaigh et al., 2015; Prata, Bell, & Weidert, 2013; Sanghvi et al., 2010; Smith et al., 2014).

Measuring progress and increasing accountability at a sub-national level

This study, as well as a recent study on the cost-effectiveness of strategies to reduce maternal mortality in Afghanistan, found that because factors such as the number of skilled birth attendants, reliable transport and availability/quality of emergency obstetric care facilities vary greatly across the country, contextualising analyses of progress and increasing accountability for service coverage at a sub-national level is of critical importance (Carvalho, Salehi, & Goldie, 2013). Greater emphasis should be placed on strengthening quality of community and district-level data from routine health information systems, and supporting both government and NGO stakeholders to use this data in developing context-specific strategies for extending access to maternal health services to underserved populations.

In addition, modification of current benchmarks for progress towards maternal health service coverage may help stakeholders monitor the reach of intrapartum care services to the women who need them and identify areas in need of additional support or new strategies. Benchmarks for the number of facilities needed for EmOC are generally given in relation to the population and the number of births, but do not account for the size of facility or for how accessible or dispersed the population is over a catchment area (Gabrysch, Zanger, & Campbell, 2012). This introduces ambiguity when comparing actual numbers of facilities with the benchmarks. For instance, rural and remote areas may have apparently sufficient numbers of facilities, but these may be too few to serve all women in need. Conversely, in urban areas, a few large facilities may readily meet needs.

Data from Zambia and Sri Lanka suggest that health professional density has more discriminatory power than health facility density as an indicator for maternal health service coverage (Gabrysch, Zanger, Seneviratne, Mbeve, & Campbell, 2011). The World Health Organization has also raised the issue of geographic accessibility of facilities, proposing a larger number of lower level facilities for more dispersed populations and discussing the trade-off between efficiency, quality and accessibility. There are no clear guidelines, however, to apply to different contexts. Establishment of national standards for health facility coverage based on both population size and density could help inform more context-specific planning.

Strengths and limitations

This study contributes to understanding the complex challenges faced by those who plan and manage health services in Afghanistan by illustrating the challenges of intrapartum care provision and utilisation in four distinctly different parts of the country. It is not intended to be representative of all districts or provinces, but does represent the diversity of challenges faced by women providing and seeking maternal health services in Afghanistan. Previous research investigating barriers to institutional delivery and quality of care at facilities in Afghanistan has only examined conditions at specialty maternity hospitals in Kabul city and at a regional referral hospital in Herat, where barriers to care seeking, accessing a facility, and receiving care once at the facility may be quite different from those in more remote or insecure areas (Hirose et al., 2011; Khorrami, Karzai, Macri, Amir, & Laube, 2008). This study also contributes to the increasing number of studies on safe motherhood initiatives, a small number of which are conducted in conflict-affected settings, by triangulating data from a variety of sources to provide a more comprehensive illustration of the barriers to intrapartum care provision and utilisation at a district level.

There are also limitations that should be considered when interpreting these findings, some of which are an element of any study involving qualitative and secondary data collection, and others which are unique to conducting research in contemporary Afghanistan. First, description of the barriers to intrapartum care can only be as complete as the information provided. The number and type of documents collected from government and non-governmental organisations working in each of the study districts varied, as did the level of detail and completeness. For example, government health records did not list any deliveries at the Maiwand health centre in 2010; this may be because none took place, or may indicate other gaps in health system functionality such as reporting gaps. Service

statistics from all districts should be interpreted with similar caution, although triangulation of statistics with anecdotal reports of health workers and community members suggest they are reasonably accurate. Second, due to security restrictions, the qualitative research team could not travel to Maiwand district; instead community members from three villages in Maiwand district were invited to travel to Kandahar City to participate in interviews and FGDs. Similarly, heavy snowfall during the data collection period prevented study teams from travelling to Raghistan or Kohistan areas of Ragh; consequently community members from three villages of Yawan were interviewed, which may not capture perspectives that are representative of experiences of villages throughout the district.

It is also worth noting that since this study was completed, the MoPH has continued to adapt its efforts to sustain and expand access to essential maternal health services. A 'flexibility clause' was added to the 2010 BPHS revision, allowing implementing agencies to modify service delivery mechanisms in remote and insecure areas (MoPH, 2010). Provincial Scorecards were introduced to promote accountability for reproductive, maternal, newborn, child and adolescent health services at a provincial level, and, most recently, a *Kabul Declaration for Maternal and Child Health* was signed, recommitting the government's resources and support to reducing preventable maternal and child deaths and calling on partners to ensure equitable delivery of life-saving maternal and child health interventions (Ministry of Public Health, 2015).

Conclusions

Reducing preventable maternal mortality and achieving Sustainable Development Goal targets for 2030 will require increased investment in improving access to quality health services in fragile and conflict-affected states. This study of barriers to intrapartum care provision and utilisation highlights the complexities of national health policy planning and resource allocation in Afghanistan, and provides examples of the types of challenges that must be addressed to extend the reach of life-saving maternal health interventions to women in remote and insecure settings. Findings suggest that improvements in service coverage must be measured at a sub-national level and context-specific service delivery models may be needed to effectively scale up intrapartum care services in extremely remote or insecure settings.

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