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ABSTRACT

Introduction: Afghanistan has long been recognized as having one of the highest levels of maternal mortality in the world. In Afghanistan an estimated 40% to 50% of women's deaths during the childbearing years are related to complications during pregnancy and childbirth. The present study uses nationally representative data to describe and interpret trends in coverage of three key maternal health care services across provinces in Afghanistan, in order to contribute to evidence-based maternal health care planning and effective strategies to improve maternal health care in the provinces of the country.

Method: This paper presents secondary analysis of data from the 2010 Afghanistan Mortality Survey (AMS). In order to assess maternal health care service utilization, this study examined women's use of three essential maternal services: antenatal care (ANC), delivery care by a skilled birth attendant (SBA), and postnatal care (PNC). Two methods were used to compare coverage across provinces: first, provinces were compared in their overall coverage of maternal health services during the five years preceding the survey; and second, maternal health care utilization was disaggregated into one-year periods in order to examine trends in health care utilization by province during this five-year period.

Results: Nationally, 60% of women reported that they received antenatal care from a skilled provider for their last live birth, 34% reported that their last live birth was delivered by a skilled provider, and 23% reported that they received postnatal care within two days following delivery of their last live birth. Eighteen percent of women received all three maternal services for their last live birth. Nationally, use of all three services increased by roughly 10% over the five years preceding the survey, but the extent of progress varied considerably across province.

Conclusion: The study shows overall progress toward improving coverage of all three maternal health indicators (ANC, deliveries attended by SBAs, and PNC). This progress could be explained by substantial investments put in place during this period in reproductive health care and in rebuilding the health system. However, there is extensive variation in the extent of progress across provinces. Provinces with better maternal health care coverage and a higher rate of progress in coverage can be encouraged to share lessons learned from their experience with provinces with lower coverage and slower progress.

INTRODUCTION AND BACKGROUND

Pregnancy and birth-related complications are leading causes of death among women of reproductive age in developing countries. In 2008 alone, an estimated 358,000 women worldwide died from complications related to pregnancy or childbirth (WHO et al. 2010). The vast majority of maternal deaths occur in developing countries, where hemorrhage, obstructed labor, eclampsia, abortion, sepsis, and infection are the main causes of pregnancy-related complications (WHO et al. 2010).

When adequate health facilities, proper treatment, and emergency care are available, these complications should not lead to death. However, too often these essential maternal health care resources are not available or accessible to women in need. The fifth Millennium Development Goal (MDG)—to reduce maternal mortality by three-quarters between 1990 and 2015—is one of the prime objectives of countries struggling with quality of health care for women (Eijk et al. 2006). To achieve this goal it is necessary to understand where gaps in service provision lie, to learn from the experience of areas that have succeeded in improving coverage of maternal health care, and to apply these lessons strategically in areas that have made less progress.

Afghanistan has long been recognized as having one of the highest levels of maternal mortality in the world (WHO et al. 2010). In Afghanistan an estimated 40% to 50% of women's deaths during the childbearing years are related to complications during pregnancy and childbirth (APHI/MOPH et al. 2011, MoPH 2006). According to the recent 2010 Afghanistan Mortality Survey (AMS), women's risk of dying from complications during pregnancy or childbirth is very high, estimated at 327 deaths per 100,000 live births for the seven-year period preceding the survey (APHI/MOPH et al. 2011). This level of pregnancy-related mortality is higher than comparable estimates for surrounding countries, including Bangladesh, where the pregnancy-related mortality ratio was estimated at 194 deaths per 100,000 live births, based on the 2010 Bangladesh Demographic and Health Survey (DHS) (NIPORT et al. 2013), and Pakistan, where the ratio was estimated at 297 deaths per 100,000 live births, based on the 2006/7 Pakistan DHS (NIPS and MI 2008).

Women in Afghanistan have only limited access to health care, due to several factors (UNICEF 2006, NRVA 2007). These factors include restricted mobility, few female health care

providers, few health care facilities that treat women, poor household incomes, difficulty accessing health care facilities, and little education (Lynn et al. 2002, Abreu 2011). Furthermore, maternal health outcomes and access to maternal health care vary throughout the country. The majority of provinces in Afghanistan are mountainous, with underdeveloped economies, poor health conditions, and inadequate maternal health care services (ANDS and JCMBS 2008).

In order to address these geographic disparities, a strategic community-oriented package of health services, referred to as the Basic Package of Health Services (BPHS), was introduced in 2003, with a focus on areas of major health need in vulnerable population groups, including mothers and children (Acerra et al. 2009). Equitable delivery of health services to vulnerable groups, particularly women of reproductive age, has been a longstanding priority for policymakers and public health managers in Afghanistan.

Women's risk of maternal death appears to have fallen substantially in Afghanistan in recent years. In 2003, for example, Afghanistan's maternal mortality ratio was estimated at 1,600 deaths per 100,000 live births, according to the Reproductive Age Mortality Survey (RAMOS) (Bartlett et al. 2005), nearly five times higher than the level estimated in 2010 (APHI/MoPH et al. 2011). Estimates of women's lifetime risk of maternal death also have shown improvement in recent decades. Based on 1999–2002 data collected from four sites, Bartlett et al. (2005) estimated the lifetime risk of maternal death at between one in six and one in nine, whereas today, according to the 2010 AMS, approximately one in every 50 Afghan women dies of pregnancy-related causes.

These improvements appear to be consistent with the level of skilled assistance during delivery, skilled birth attendance, and delivery in health facilities, all of which have increased rapidly in Afghanistan in recent years. Despite years of continuous conflict, Afghanistan has made significant progress in rebuilding its health system. The National Reproductive Health Strategy 2006–2009 has contributed to improving the health of the people of Afghanistan, especially women and children, through the implementation of the basic package of health services (BPHS) and the essential package of hospital services (EPHS) as the standard, agreed-upon minimum package of health care services to be provided at each level of the health system.

Between 2003 and 2012, the number of graduated midwives in Afghanistan increased from 467 to 3,001, according to the Afghan Midwifery Education and Accreditation Board report

(MoPH 2008). In addition, there has been a gradual increase in the number of births attended by skilled birth attendants (SBAs). In 2006 the Afghanistan household survey showed that 19% of births were attended by SBAs, while the National Risk and Vulnerability Assessment 2007/2008 showed that 24% of women delivered with a skilled birth attendant (NRVA 2010). More recently, the Ministry of Public Health (MoPH) Partnership Contracts for Health 2010 Household Survey showed that about one-third (34%) of deliveries were attended by an SBA (Huber et al. 2010).

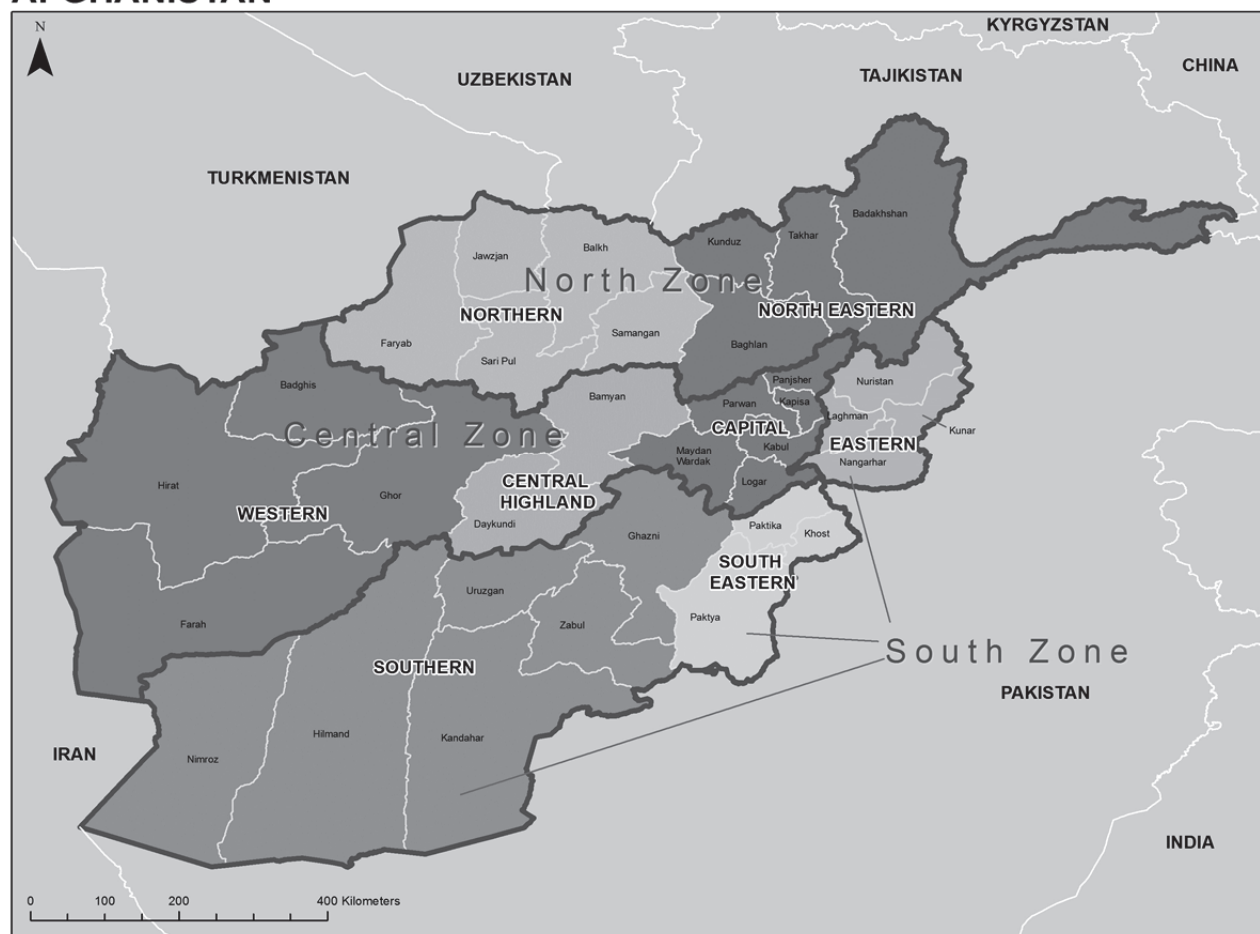
As stated in the Afghanistan National Development Strategy (ANDS and JCMBS 2008), understanding the demographic features of the country, with a focus on provincial needs, can contribute to responsive public health interventions at the national and provincial levels. Regional studies in other countries, including China, have reported substantial geographic variation in the use of health care services by women (Liu et al. 2011). While studies in Afghanistan have found that maternal health outcomes vary according to urban versus rural residence (MoPH 2008, MoPH 2010), no nationally representative studies appear to have examined province-level variation in maternal health care utilization. Therefore, the present study uses nationally representative data to describe and interpret trends in coverage of three key maternal health care services across provinces in Afghanistan, in order to contribute to evidence-based maternal health care planning and effective strategies to improve maternal health care in the provinces of the country.

METHODS

This paper presents secondary analysis of data from the 2010 Afghanistan Mortality Survey (AMS). The AMS, completed in 2010, provides a unique opportunity to assess progress toward achieving improved maternal health and maternal health care, and to examine coverage at the provincial level as well as nationally. The AMS is a nationally representative household survey that collected information on mortality levels and causes, as well as information on fertility, family planning behavior, and utilization of maternal and child health services (APHI/MoPH et al. 2011). Within selected households, all women of age 12-49 who were either usual residents of the household or who slept there the night before the survey were eligible to be interviewed (APHI/MoPH et al. 2011). The sample for the AMS was selected using a two-stage stratified selection process, based on the 2011 Afghanistan Population and Housing Census (PHC) sampling frame obtained from the Central Statistics Organization (CSO) (APHI/MoPH et al. 2011). The sampling design and survey implementation procedures for the AMS are described in detail in the survey final report (APHI/MoPH et al. 2011).

The survey was designed to generate estimates of indicators for the entire country, as well as for urban and rural settings, and for three geographic domains—the North Zone, Central Zone, and South Zone. The map displays the provinces of Afghanistan and outlines the three geographic domains used in the AMS. It is important to note that, due to serious known security concerns, the rural areas of three provinces, Kandahar, Helmand, and Zabul, which account for slightly less than 9% of the population, were excluded from the AMS sample. In addition to these areas, a small percentage of selected primary sampling units (34 of 751 selected PSUs) were not able to be surveyed, largely due to security problems in the south of the country. The survey ultimately covered about 87% of the total population of Afghanistan, and 66% of the population in the southern provinces (APHI/MoPH et al. 2011). The AMS sample included 47,848 women age 12-49. For this study, the sample was restricted to the 16,988 women age 12-49 years who had a live birth in the five years preceding the survey. This subsample was used to generate national estimates of maternal health care coverage.

AFGHANISTAN



In order to assess maternal health care service utilization, this study examined women's use of three essential maternal services: antenatal care (ANC), delivery care by a skilled birth attendant (SBA), and postnatal care (PNC). To examine receipt of ANC, this study examined use of at least one antenatal visit with a doctor, nurse, or midwife, based on women's responses to two questions regarding their last live birth: "Did you see anyone for antenatal care during this pregnancy?" and "Who did you see?" To examine delivery by an SBA, information on the delivery of women's last live birth was used to identify women who reported that this birth was attended by either a doctor, nurse, or midwife, based on women's response to the question: "Who assisted with the delivery of [name]." To examine PNC, women who said that someone checked on their health within two days of the delivery of their last live birth were identified, based on their response to the following two questions: "After [name] was born, did anyone check on your health?" and "How long after you delivered [name] did the first check on your health take

place?” (APHI/MoPH et al. 2011) Finally, the study examined receipt of all three key services—the full continuum of maternal health care—as a fourth indicator.

It should be noted that while delivery in a health facility is another commonly used maternal health indicator, this indicator was not included in the study’s assessment of maternal health care coverage, because home delivery is widely accepted in Afghanistan and current programs focus on use of SBAs rather than health facilities for deliveries.

The approach used to compare coverage across provinces consisted of two methods: first, provinces were compared in their overall coverage of maternal health services during the five years preceding the survey; and second, maternal health care utilization was disaggregated into one-year periods in order to examine trends in health care utilization by province during this five-year period. To facilitate this comparison, provinces were ranked in terms of both methods of comparison—overall maternal care coverage and progress in achieving coverage. Provinces were first ranked according to performance on the indicators, and then the ranked provinces were put into three groups of equal size (two groups of 10 and one group of 11 provinces). The goal of this exercise was not to grade individual provinces’ performance but to use the rankings as an analytic tool to help compare provinces, to identify commonalities across provinces with similar performance, and to learn from areas with improved coverage in recent years as a guide for allocating resources and improving maternal health care programs.

It was possible to examine 31 of Afghanistan’s 34 provinces (all except Kandahar, Helmand, and Zabul, where due to security problems only urban areas were sampled). However, in the examination of progress during the five-year period studied, estimates for an additional eight provinces were suppressed, due to insufficient sample size at the provincial level. If a province had fewer than 25 women age 12-49 with a birth in any one of the previous five years, or fewer than 40 cases in the either the first or fifth year (since these two years were used to assess trends), it was not possible to generate reliable estimates of trends in maternal health care coverage. The information for these provinces was included in national coverage estimates for progress, but their provincial estimates were suppressed. Despite these exclusions, the 23 provinces are sufficient to provide a reasonable geographical representation of the country in studying use of maternal health care services. All tables reflect weighted percentages and population sizes. The analysis was conducted using SPSS, version 19.

RESULTS

First, we present overall coverage of antenatal care (ANC), delivery assistance by a skilled birth attendant (SBA), use of postnatal care (PNC), and receipt of all three essential services for the most recent birth among women who gave birth during the five years preceding the survey, by province in Afghanistan. Second, we examine improvement in coverage of each indicator during this five-year period.

Overall Coverage of Maternal Health Care

Table 1 presents coverage estimates for all three key maternal health services (ANC, delivery by an SBA, and PNC), as well as the proportion of women who received the full continuum of care for their last live birth in the five years preceding the survey. Nationally, 60% of women reported that they received antenatal care from a skilled provider for their last live birth, 34% reported that their last live birth was delivered by a skilled provider, and 23% reported that they received postnatal care within two days following delivery of their last live birth. Eighteen percent of women received all three maternal services for their last live birth. Coverage of antenatal care is the highest of the four indicators, ranging from 13% in Nuristan to 86% in Kabul. Coverage of skilled birth delivery ranges from as low as 2% in Daykundi to 75% in Kabul, and coverage of postnatal care ranges from 2% in Nuristan to 55% in Laghman.

Antenatal care is an essential gateway to accessing further maternal care services. In all provinces except Logar and Khost, coverage of ANC is higher than coverage of delivery assisted by an SBA, which in turn is nearly uniformly higher than PNC coverage, with the exception of Laghman, Urozgan, and Daykundi provinces. The drop-off between the proportion of women receiving antenatal care and the proportion receiving postnatal care is notable. Nationally, among women who had at least one antenatal care visit and had a skilled provider for their last birth, no more than 30% proceeded to have postnatal care within two days of delivery.

Table 1. Percentage of women age 15-49 who had a live birth in the five years preceding the survey and who received three types of maternal care services for their most recent birth, according to province, Afghanistan 2010*

Region	Province	Percentage receiving antenatal care from a skilled provider	Rank group	Percentage delivered by a skilled provider	Rank group	Percentage receiving PNC within 2 days following the birth	Rank group	Percentage receiving ANC, skilled attendance at birth and PNC	Rank group	Number of women
Capital	Kabul	86.4	1	74.9	1	43.2	1	38.1	1	1,757
Capital	Kapisa	62.0	2	24.5	2	15.7	2	12.3	3	316
Capital	Logar	79.8	1	85.1	1	24.1	2	23.0	1	227
Capital	Panjsher**	72.7	1	16.9	3	15.9	3	12.6	2	88
Capital	Parwan	78.0	1	34.7	2	25.8	2	21.6	1	432
Capital	Wardak	56.6	3	18.0	3	16.8	3	15.9	2	320
Central Highland	Bamyan**	72.9	1	29.2	2	26.1	2	18.5	2	193
Central Highland	Daykundi	37.9	3	2.2	3	5.6	3	0.0	3	364
Eastern	Kunar	35.9	3	26.9	2	18.5	2	14.9	2	808
Eastern	Laghman	77.2	1	46.4	1	55.1	1	41.2	1	415
Eastern	Nangarhar	58.4	2	44.1	1	27.1	1	20.8	1	1,616
Eastern	Nuristan	12.6	3	2.8	3	2.4	3	2.4	3	206
North Eastern	Badakhshan	47.0	3	9.5	3	9.3	3	5.3	3	752
North Eastern	Baghlan	57.5	2	31.4	2	9.1	3	8.0	3	565
North Eastern	Kunduz	72.5	1	33.1	2	28.8	1	27.0	1	595
North Eastern	Takhar	57.2	2	23.5	3	17.6	2	12.4	3	700
Northern	Balkh	79.1	1	43.0	1	21.3	2	17.5	2	843
Northern	Faryab	64.2	2	16.9	3	15.8	3	12.2	3	790
Northern	Jawzjan	74.9	1	35.6	1	24.0	2	17.1	2	425
Northern	Samangan	65.8	2	30.4	2	19.5	2	11.4	3	286
Northern	Sari Pul	70.6	2	24.7	2	19.9	2	16.7	2	388
South Eastern	Khost	43.6	3	44.6	1	27.0	1	17.8	2	538
South Eastern	Paktika	15.5	3	7.8	3	6.0	3	1.6	3	418
South Eastern	Paktia	73.6	1	21.2	3	20.1	2	15.8	2	589
Southern	Ghazni	48.0	3	30.9	2	29.5	1	23.2	1	497
Southern	Urozgan	62.2	2	48.1	1	49.6	1	38.5	1	230
Southern	Nimroz **	70.8	2	57.3	1	29.4	1	28.7	1	84

(Continued...)

Table 1. – Continued

Region	Province	Percentage receiving antenatal care from a skilled provider	Rank group	Percentage delivered by a skilled provider	Rank group	Percentage receiving PNC within 2 days following the birth	Rank group	Percentage receiving ANC, skilled attendance at birth and PNC	Rank group	Number of women
Western	Badghis	16.3	3	4.8	3	2.9	3	1.4	3	387
Western	Farah	46.6	3	27.7	2	26.4	1	19.7	2	420
Western	Ghor	14.9	3	5.4	3	5.5	3	2.1	3	400
Western	Herat	59.1	2	35.1	1	27.2	1	21.6	1	1,063
Total		59.6		34.3		23.4		18.4		16,998

*Three provinces (Zabul, Kandahar and Helmand) are not shown because the AMS sample included only urban areas.

**Reader should exercise caution in interpreting the results for three provinces, as figures are based on a small number of unweighted cases: 58 women in Panjsher, 176 women in Bamyan, and 111 women in Nimroz.

Another way to examine the continuum of care is by tracing provinces' ranking across the three indicators of service coverage. Only nine provinces are consistent in their ranking for each indicator. Kabul and Laghman rank in the highest group for all indicators; Badakhshan, Badghis, Daykundi, Ghor, Nuristan, and Paktik rank in the lowest group for all indicators; and Sari Pul ranks in the middle group for all indicators. There is substantial variation in the ranking of other provinces across the indicators. Of interest, Ghazni, Farah, Kunar, and Khost rank in the lowest third in ANC coverage, but rank either in the first or second group for delivery care and postnatal care, and for receipt of all three services. In these provinces, women who access ANC are more likely to access the full continuum of maternal health care compared with women in other provinces, such as Balkh or Panjsher, that rank high in ANC coverage but rank lower in PNC coverage.

Improvement in Coverage of Maternal Health Care, 2006-2011

Another approach for examining provincial variation in maternal health care is to examine the trend or rate of progress in women's use of these services over the five years preceding the survey. As Figure 1 shows, use of all three services increased steadily during this period.

Figure 1. Trends in maternal health services in the five years preceding the survey, Afghanistan AMS 2010

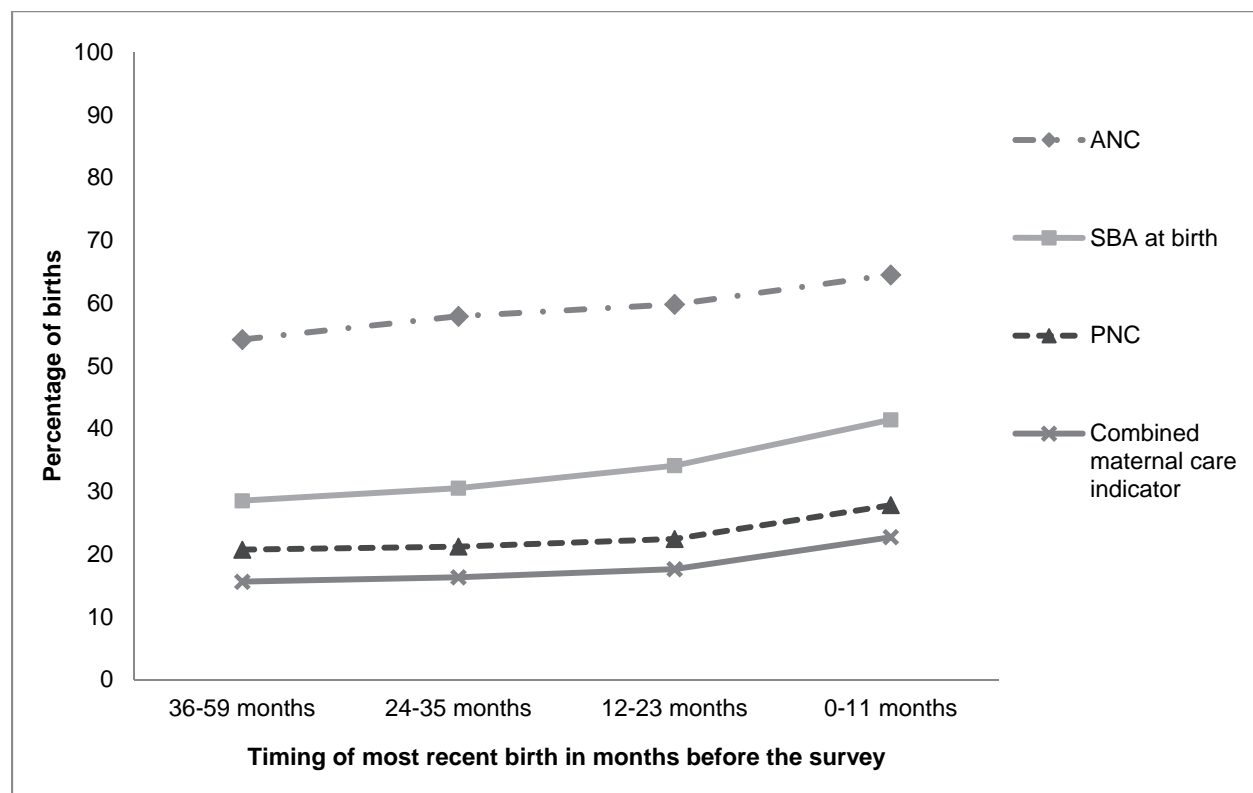


Table 2 presents the trend in coverage of antenatal care by a skilled provider over the five years preceding the survey, by province. As a summary measure for improvement, the table also presents the percentage-point increase in ANC coverage between the earliest and most recent coverage estimates. Overall, there has been notable improvement in the percentage of women who received antenatal care from a skilled provider for their last live birth in the five years preceding the survey, from 54% of women whose last birth was 36-59 months before the survey to 65% of women whose last birth was 0-11 months before the survey. Provinces differed substantially in progress with ANC coverage, however, from an increase in coverage of 24 percentage points in Kunduz to a decrease of 13 percentage points in Paktika. Table 2 also shows that several provinces that ranked lower in ANC coverage ranked higher in improvement in coverage over the survey period.

Table 2. Trend in antenatal care coverage by province, Afghanistan 2005-2010

Percentage of women age 12-49 who had a live birth in the five years preceding the survey who received antenatal care (ANC) from a skilled provider during pregnancy for the most recent birth by months of the birth before the survey, according to province, Afghanistan 2010*

Region	Province	Percentage of women who received antenatal care from a skilled provider for their last live birth, by the timing of the last live birth				Rank group based on 5-year coverage**	Percentage point increase	Rank group based on percentage point increase
		36-59 months before the survey	24-35 months before the survey	12-23 months before the survey	0-11 months before the survey			
Capital	Kabul	83.2	84.3	86.8	89.0	1	5.8	2
Capital	Parwan	76.8	68.9	82.2	80.3	1	3.5	3
Central Highland	Daykundi	(41.1)	(20.1)	(31.6)	(51.3)	3	10.2	2
Eastern	Kunar	28.8	35.9	36.8	40.9	3	12.1	1
Eastern	Laghman	78.1	68.3	75.8	83.4	1	5.3	2
Eastern	Nangarhar	49.4	58.7	56.5	67.0	2	17.6	1
Eastern	Badakhshan	40.6	44.6	50.4	51.1	3	10.5	2
North Eastern	Baghlan	53.1	(60.6)	50.1	64.3	2	11.2	2
North Eastern	Kunduz	57.8	71.4	81.9	81.4	1	23.6	1
North Eastern	Takhar	53.7	60.7	53.2	60.0	2	6.3	2
Northern	Balkh	71.1	77.1	80.6	84.2	1	13.1	1
Northern	Faryab	54.9	61.4	64.6	74.1	2	19.2	1
Northern	Jawzjan	64.6	74.4	81.9	78.2	1	13.6	1
Northern	Samangan	54.8	65.1	72.3	69.0	2	14.2	1
Northern	Sari Pul	54.5	72.6	73.2	76.2	2	21.7	1
South Eastern	Khost	41.6	45.0	47.8	36.5	3	-5.1	3
South Eastern	Paktika	(19.7)	22.7	12.0	(6.3)	3	-13.4	3
South Eastern	Paktya	78.2	77.6	73.9	66.9	1	-11.3	3
Southern	Ghazni	54.6	49.1	48.3	43.6	3	-11.0	3
Western	Badghis	2.9	22.5	23.6	14.8	3	11.9	2
Western	Farah	(48.7)	44.6	53.0	42.4	3	-6.3	3
Western	Ghor	12.0	18.6	16.9	13.2	3	1.2	3
Western	Herat	56.4	60.6	54.0	64.0	2	7.6	2
Total		54.2	57.9	59.8	64.5		10.3	

Note: Figures in parentheses are based on fewer than 50 unweighted cases.

*Estimates for 11 provinces are not shown. Three provinces (Zabul, Kandahar, and Helmand) are not shown because the AMS sample included only urban areas. Eight additional provinces are not shown (Kapisa, Wardak, Logar, Panjsher, Bamyan, Nuristan, Urozgan, and Nimroz) because the unweighted number of births during the year 36-59 months prior to the survey or the year 0-11 months prior to the survey was less than 40, so that it was not possible to examine improvement during this period.

**Coverage ranks are based on the 31 provinces included in Table 1, before excluding 8 additional provinces, as mentioned above. For this reason the groups are not of equal size in this table.

Three provinces in the highest rank group for overall ANC coverage also rank among the provinces with the most improvement in coverage: Balkh, Jawzjan, and Kunduz. Kunduz increased ANC coverage by over 20 percentage points during this five-year period. Also noteworthy is that Kunar, which ranks in the lowest group for overall ANC coverage, ranks in the highest group for improvement in coverage.

Table 3 shows trends in coverage of births attended by skilled attendants over the five years preceding the survey, by province. Overall, there has been noteworthy improvement in the percentage of births attended by SBAs, from 29% of women whose last birth was 36-59 months before the survey to 41% of women whose last birth was 0-11 months before the survey. The improvement was greatest in Kunduz, at an increase of 35 percentage points in skilled attendance at delivery, and least in Farah, at a decrease of 1.4 percentage points. Some provinces, notably Faryab, that ranked lower in SBA coverage ranked higher in progress increasing skilled attendance at delivery.

In general, the provinces with the strongest improvements in coverage of ANC also had strong improvements in the percentage of births delivered with a skilled birth attendant. Two exceptions are Kunar, which experienced a large increase in the coverage of ANC but essentially no change in coverage of skilled attendance at delivery, and Parwan, which showed almost no change in coverage of ANC but experienced a large improvement in skilled attendance at delivery, from 28% to 45%.

Table 3. Trend in use of a skilled attendant at birth by province, Afghanistan 2005-2010

Percentage of women age 12-49 who had a live birth in the five years preceding the survey whose most recent birth was delivered by a skilled birth attendant, by months of the birth before the survey, according to province, Afghanistan 2010*

Region	Province	Percentage of women whose last live birth was delivered by a skilled provider, by the timing of the last live birth				Rank group based on 5-year coverage	Percentage point increase	Rank group based on percentage point increase
		36-59 months before the survey	24-35 months before the survey	12-23 months before the survey	0-11 months before the survey			
Capital	Kabul	69.9	75.7	71.2	80.5	1	10.6	2
Capital	Parwan	27.8	31.1	29.6	45.0	2	17.2	1
Central Highland	Daykundi	(2.1)	(0)	(0)	(5.1)	3	3.0	3
Eastern	Kunar	27.4	30.6	24.3	26.5	2	-0.9	3
Eastern	Laghman	47.7	47.8	36.5	53.7	1	6.0	2
Eastern	Nangarhar	41.6	41.1	41.6	51.1	1	9.5	2
Eastern	Badakhshan	7.1	6.1	10.0	14.0	3	6.9	2
North Eastern	Baghlan	30.3	(28.7)	26.8	37.9	2	7.6	2
North Eastern	Kunduz	15.1	23.5	46.1	49.9	2	34.8	1
North Eastern	Takhar	18.1	13.2	27.4	29.2	3	11.1	1
Northern	Balkh	32.6	34.5	47.2	51.3	1	18.7	1
Northern	Faryab	10.3	14.6	20.0	22.0	3	11.7	1
Northern	Jawzjan	22.7	26.5	49.3	42.7	2	20.0	1
Northern	Samangan	15.7	30.6	26.8	45.5	2	29.8	1
Northern	Sari Pul	16.1	19.3	28.8	30.8	2	14.7	1
South Eastern	Khost	43.4	42.0	47.7	45.1	1	1.7	3
South Eastern	Paktika	(2.0)	4.6	11.8	(10.4)	3	8.4	2
South Eastern	Paktya	20.1	16.0	22.6	24.0	3	3.9	2
Southern	Ghazni	30.9	32.3	27.0	32.7	2	1.8	3
Western	Badghis	3.3	4.9	6.4	4.4	3	1.1	3
Western	Farah	(27.1)	28.2	30.2	25.7	2	-1.4	3
Western	Ghor	3.4	3.2	6.3	7.1	3	3.7	3
Western	Herat	33.8	32.4	31.7	41.4	1	7.6	2
Total		28.5	30.5	34.1	41.4		12.9	

Note: Figures in parentheses are based on fewer than 50 unweighted cases.

*Estimates for 11 provinces are not shown. Three provinces (Zabul, Kandahar and Helmand) are not shown because the AMS sample included only urban areas. Eight additional provinces are not shown (Kapisa, Wardak, Logar, Panjsher, Bamyan, Nuristan, Urozgan, and Nimroz) because the unweighted number of births during the year 36-59 months prior to the survey or the year 0-11 months prior to the survey was less than 40, so that it was not possible to examine improvement during this period.

**Coverage ranks are based on the 31 provinces included in Table 1, before excluding 8 additional provinces, as mentioned above. For this reason the groups are not of equal size in this table.

In general, the provinces with the strongest improvements in coverage of ANC also had strong improvements in the percentage of births delivered with a skilled birth attendant. Two exceptions are Kunar, which experienced a large increase in the coverage of ANC but essentially no change in coverage of skilled attendance at delivery, and Parwan, which showed almost no change in coverage of ANC but experienced a large improvement in skilled attendance at delivery, from 28% to 45%.

Table 4 presents trends in coverage of postnatal care (PNC) received by mothers over the five years preceding the survey, by province. As a whole, there has been a slight improvement in the percentage of mothers who received PNC, from 21% of women whose last birth was 36-59 months before the survey to 28% of women whose last birth was 0-11 months before the survey, ranging among provinces from an increase of 29 percentage points in Kunduz to a decrease of 12 percentage points in Farah. Faryab had low PNC coverage but experienced a substantial increase in coverage in the five years preceding the AMS (from 8% to 21%). The provinces of Daykundi, Kunar, Laghman, Baghlan, and Farah all experienced decreases in the coverage of PNC, which indicates a need for further investigation and corrective intervention.

Table 4. Trend in coverage of postnatal care for the mother by province, Afghanistan 2005-2010

Percentage of women age 12-49 who had a live birth in the five years preceding the survey who received postnatal care (PNC) within two days of giving birth for the most recent birth by months of the birth before the survey, according to province, Afghanistan 2010

Region	Province	Percentage of women who received postnatal care for their last live birth, by the timing of the last live birth				Rank group based on 5-year coverage	Percentage point increase	Rank group based on percentage point increase
		36-59 months before the survey	24-35 months before the survey	12-23 months before the survey	0-11 months before the survey			
Capital	Kabul	43.1	45.7	39.4	45.1	1	2.0	2
Capital	Parwan	13.7	25.6	20.9	37.2	2	23.5	1
Central Highland	Daykundi	(8.7)	(2.1)	(0.0)	(8.3)	3	-0.4	3
Eastern	Kunar	22.9	15.7	14.7	21.7	2	-1.2	3
Eastern	Laghman	62.4	57.8	43.6	60.5	1	-1.9	3
Eastern	Nangarhar	28.9	26.0	21.8	31.6	1	2.7	2
Eastern	Badakhshan	4.8	3.9	14.1	12.3	3	7.5	2
North Eastern	Baghlan	13.1	(6.1)	7.2	10.7	3	-2.4	3
North Eastern	Kunduz	13.7	22.1	38.8	42.6	1	28.9	1
North Eastern	Takhar	13.2	10.5	21.0	21.4	2	8.2	1
Northern	Balkh	19.0	20.0	19.7	24.9	2	5.9	2
Northern	Faryab	8.3	13.2	20.6	20.5	3	12.2	1
Northern	Jawzjan	17.8	15.4	30.0	31.9	2	14.1	1
Northern	Samangan	12.4	19.3	16.2	28.5	2	16.1	1
Northern	Sari Pul	10.9	16.6	24.1	24.3	2	13.4	1
South Eastern	Khost	25.9	27.0	27.2	27.7	1	1.8	3
South Eastern	Paktika	(4.0)	1.6	9.3	(8.4)	3	4.4	2
South Eastern	Paktya	22.5	14.9	19.3	23.6	2	1.1	3
Southern	Ghazni	29.2	31.9	22.7	33.0	1	3.8	2
Western	Badghis	0.0	4.0	4.1	3.0	3	3.0	2
Western	Farah	(31.3)	27.9	31.1	19.6	1	-11.7	3
Western	Ghor	4.0	2.5	5.8	7.8	3	3.8	2
Western	Herat	25.8	22.2	26.4	33.4	1	7.6	1
Total		20.7	21.2	22.4	27.8		7.1	

Note: Figures in parentheses are based on fewer than 50 unweighted cases.

*Estimates for 11 provinces are not shown. Three provinces (Zabul, Kandahar and Helmand) are not shown because the AMS sample included only urban areas. Eight additional provinces are not shown (Kapisa, Wardak, Logar, Panjsher, Bamyan, Nuristan, Urozgan, and Nimroz) because the unweighted number of births during the year 36-59 months prior to the survey or the year 0-11 months prior to the survey was less than 40, so that it was not possible to examine improvement during this period.

**Coverage ranks are based on the 31 provinces included in Table 1, before excluding 8 additional provinces, as mentioned above. Thus the groups are not of equal size in this table.

Table 5 shows that, overall, coverage of all three key maternal health care services increased during the five years preceding the survey, from 16% of women whose last birth was 36-59 months before the survey to 23% of women whose last birth was 0-11 months before the survey. Progress ranged widely among provinces, from an increase of 27 percentage points in Kunduz to a decrease of 8 percentage points in Farah. Three provinces rank in the highest group both in coverage of all three maternal health services and improvement in coverage during the five-year period studied: Parwan, Kunduz, and Herat. In contrast, four other three provinces—Baghlan, Daykundi, Badghis, and Paktika—rank in the lowest group in both overall coverage and in improvement in maternal health care coverage.

Table 5. Trend in continuum of care by province, Afghanistan 2005-2010

Percentage of women age 12-49 who had a live birth in the five years preceding the survey who received all three key maternal health care services (ANC, delivered with a skilled provider and received PNC within two days of giving birth) for the most recent birth by months of the birth before the survey, according to province, Afghanistan 2010

Region	Province	Percentage of women who received all three key services for their last live birth, by the timing of the last live birth				Rank group based on 5-year coverage	Percentage point increase	Rank group based on percentage point increase
		36-59 months before the survey	24-35 months before the survey	12-23 months before the survey	0-11 months before the survey			
Capital	Kabul	36.9	39.0	35.2	40.7	1	3.8	2
Capital	Parwan	12.9	22.1	19.1	28.5	1	15.6	1
Central Highland	Daykundi	(0)	(0)	(0)	(0)	3	0.0	3
Eastern	Kunar	15.5	10.0	13.0	20.9	2	5.4	2
Eastern	Laghman	43.1	38.3	32.1	50.4	1	7.3	2
Eastern	Nangarhar	21.4	19.8	16.3	25.5	1	4.1	2
Eastern	Badakhshan	4.4	3.1	4.6	8.7	3	4.3	2
North Eastern	Baghlan	11.0	(5.6)	5.6	10.1	3	-0.9	3
North Eastern	Kunduz	12.8	20.8	36.5	39.7	1	26.9	1
North Eastern	Takhar	9.0	7.5	15.1	14.8	3	5.8	2
Northern	Balkh	12.2	16.2	18.4	21.1	2	8.9	1
Northern	Faryab	6.0	8.8	16.3	16.8	3	10.8	1
Northern	Jawzjan	10.4	9.0	21.7	26.1	2	15.7	1
Northern	Samangan	6.3	12.3	8.2	18.0	3	11.7	1
Northern	Sari Pul	9.0	14.1	20.6	20.0	2	11.0	1
South Eastern	Khost	18.4	18.6	19.4	13.6	2	-4.8	3
South Eastern	Paktika	(0)	0.5	2.5	(2.8)	3	2.8	3
South Eastern	Paktya	15.3	13.3	15.4	18.9	2	3.6	2
Southern	Ghazni	25.8	23.7	18.5	24.4	1	-1.4	3
Western	Badghis	0.0	4.0	1.5	0.7	3	0.7	3
Western	Farah	(21.9)	21.3	24.8	13.7	2	-8.2	3
Western	Ghor	0.0	1.0	2.3	3.9	3	3.9	2
Western	Herat	19.0	17.8	20.4	28.0	1	9.0	1
Total		15.6	16.3	17.6	22.7		7.1	

Note: Figures in parentheses are based on fewer than 50 unweighted cases.

*Estimates for 11 provinces are not shown. Three provinces (Zabul, Kandahar and Helmand) are not shown because the AMS sample included only urban areas. Eight additional provinces are not shown (Kapisa, Wardak, Logar, Panjsher, Bamyan, Nuristan, Urozgan, and Nimroz) because the unweighted number of births during the year 36-59 months prior to the survey or the year 0-11 months prior to the survey was less than 40, so that it was not possible to examine improvement during this period.

**Coverage ranks are based on the 31 provinces included in Table 1, before excluding 8 additional provinces, as mentioned above. Thus the groups are not of equal size in this table.

DISCUSSION

The study shows overall progress toward improving coverage of all three maternal health indicators (ANC, deliveries attended by SBAs, and PNC). On average, Tables 2-5 show an increase of roughly 10% in each of the indicators. This level of progress is not as substantial as might be expected, considering the major investments to support key health interventions in Afghanistan aimed at providing quality health care, with the main focus on improving the health of mothers and children under age 5. These interventions include the basic package of health services and the hospital reform project.

Still, the findings indicate that the efforts toward improving and expanding access to maternal health care services throughout the country have had an impact. A similar positive trend in coverage of antenatal care and skilled assistance at delivery has been reported by the Health Management Information System (HMIS) in the Afghan Ministry of Public Health (MoPH). Also, the levels of ANC and skilled birth attendant coverage reported in the current study (Table 4) agree with levels reported in the Multi Indicator Cluster Survey in Afghanistan (CSO and UNICEF 2012).

Several factors could explain why ANC coverage is higher than for the other two maternal health care indicators: ANC is less expensive, is available at more health facilities than skilled birth care, and may have received more emphasis than PNC from the service delivery side, while women may be more highly motivated to seek ANC care during pregnancy compared with care after delivery. Nonetheless, over the five years preceding the 2010 AMS, coverage of deliveries by SBAs and coverage of PNC increased more rapidly than coverage of ANC.

As mentioned above, the Ministry of Health's HMIS data on coverage of ANC and deliveries with skilled attendance, which are collected at the health facility level, are largely consistent with the findings of this study, which are based on survey data. The HMIS data show that both the percentage of women receiving ANC and the percentage of deliveries attended by skilled attendants have increased across the whole country, by as much as 20% over the course of last six years, from 1384-1389 (corresponding to 2005-2009).

The current study has the limitation of excluding 11 provinces, due to either security concerns or small sample size. Nevertheless, the results, which are based on a nationwide survey

capturing the coverage of maternal health care services, with household data from 23 provinces, can be considered the main source of information for assessing maternal health status in the various provinces in the country.

The provincial comparison of maternal health care services further contributes to the evidence-based decisions of the Afghan Ministry of Public Health and supports its efforts to mobilize resources on an equitable basis across the country. Additionally, provinces with better maternal health care coverage and a higher rate of progress in coverage can be encouraged to share lessons learned from their experience with provinces with lower coverage and slower progress. Given the low coverage, and in a few cases the decline, in use of postnatal care (PNC) in most of the provinces, it could be recommended that further studies be conducted in these provinces looking at potential reasons for low use of these services, in order to find ways to tackle the barriers accordingly. Studying the lessons learned from provinces with relative high rates of PNC use would also provide insights to the MoPH in order to get a sense of the discrepancies in the use of PNC in the provinces with low rates of PNC.

Additionally, it would perhaps be of interest to the MoPH of Afghanistan to conduct an assessment of health care delivery in the provinces where low rates of ANC coverage are evident, including a review of the portfolio of the NGOs delivering health care and the provincial public health office.

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