

# Afghanistan

## Achieving MDG 5

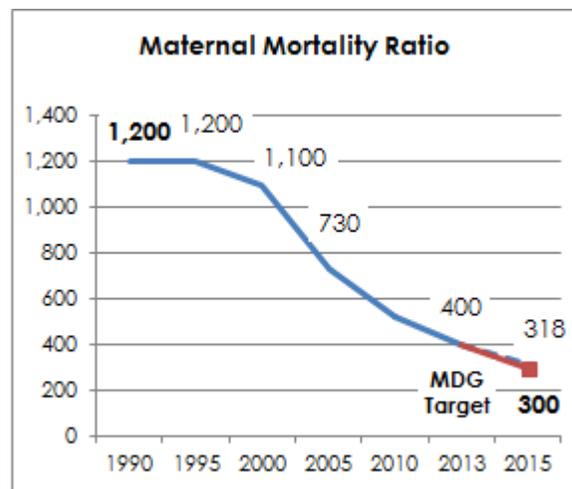
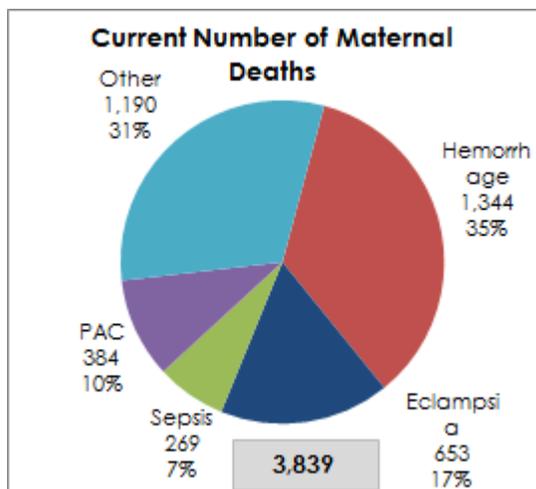
### Maternal Mortality

With a population of almost 30 million in 2013<sup>i</sup>, Afghanistan's health status is one of the poorest in the world. It is also among the top ten countries in the world when it comes to maternal mortality. With an estimated 3,800 women dying in pregnancy or childbirth each year, Afghanistan accounts for about 1.3% of the global maternal death burden<sup>ii</sup>.

Afghanistan has made significant progress in reducing the maternal mortality ratio and is actually currently on track to reach the 75% reduction in the MMR required by the MDG5. According to UN data, in 2013 it had a MMR of 400 per 100,000 live births<sup>iii</sup>. If the current trend continues, Afghanistan should be able to almost reach its MDG goal of an MMR of 300 (or about 2,900 annual deaths) by 2015.

Almost 70% of all maternal deaths in Afghanistan are due to just four conditions - hemorrhage, eclampsia, sepsis and abortion complications<sup>iv</sup>.

An estimated 500 of maternal deaths are among adolescents<sup>v</sup>.



### Family Planning and Maternal Health

<b>Population:</b>	29,824,536	(vi)
<b>Women of Reproductive Age:</b>	6,527,004	(vi)
<b>% Married:</b>	67%	(vii)
<b>Married WRA:</b>	4,363,437	
<b>Total Fertility Rate:</b>	5.0	(vi)
<b>Contraceptive Use (Any Method):</b>	22.8%	(viii)
<b>Contraceptive Use (Modern Methods):</b>	19.5%	(viii)
<b>Number of Modern Users:</b>	850,870	
<b>Unmet Need:</b>	NA	(viii)
<b>Number of Women with Unmet Need:</b>	NA	
<b>Total Number of Births:</b>	959,655	(vi)
<b>Antenatal Care Coverage:</b>	15%	(ix)
<b>% of Births with Skilled Birth Attendant:</b>	39%	(ix)
<b>No. of Births with SBA:</b>	370,427	
<b>No. of Births w/o SBA:</b>	589,228	
<b>% of Births to Adolescents (15-19)</b>	14.8%	(vi)
<b>No. of Births to Adolescents (15-19)</b>	142,476	(vi)

In addition to a 75% reduction in the MMR, MDG5 also calls for universal access to reproductive health care by 2015. The following shows current coverage with key reproductive services in Afghanistan.

#### Family Planning

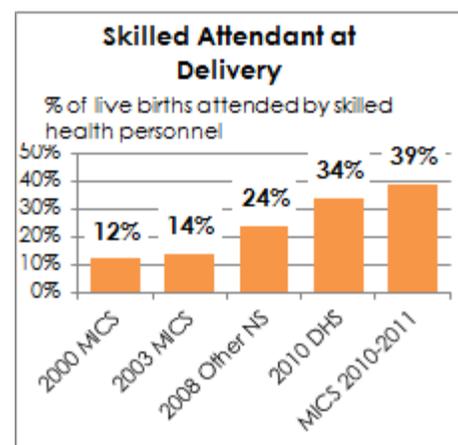
19.5% of Afghanistan women use modern family planning methods, no data are available on how many women have an expressed unmet need for family planning.

#### Antenatal Care

Only 15% of pregnant women had at least 4 antenatal care visits.<sup>ix</sup>

#### Skilled Delivery Care

As measured by the latest MICS survey, only 39% of the annual 960,000 births in Afghanistan were assisted by a skilled attendant.



### Estimated Impact of Universal Access to Reproductive Health

#### Family Planning

Providing women with access to family planning and making it possible for them to decide how many children they want and when to have them, reduces the overall number of deaths by reducing the number of women dying due to pregnancies they never intended to have.

No data are available on the number of women with unmet need for family planning in Afghanistan, but at the current low level of use (19.5% or 850,000 women) it is easily conceivable that there are at least a similar number of women whose needs are currently not being met. Meeting only 25% of these needs, i.e., supplying 210,000 additional women with access to family planning would reduce the number of unintended pregnancies by almost 80,000 and deaths related to unintended births and abortions by 200.

### Maternal Health

Most maternal deaths are preventable, as the health-care solutions to prevent or manage complications are well known. The following interventions and drugs tackle the four top causes of maternal deaths in Afghanistan:

- Prevention and management of hemorrhage/treatment of postabortion complications - **Oxytocin/Misoprostol**:
- Prevention and management of eclampsia **with Magnesium sulfate**
- Prevention and treatment of sepsis with **Clean delivery kits** and **antibiotics**

### Number of Maternal Deaths that Could be Prevented

Providing all women with the required maternal health medicines and supplies would prevent an additional 1,900 deaths, reducing the annual number of deaths to about 1,750 and the MMR to about 190, well below Afghanistan's target of 300.

In addition, these interventions would have a significant impact on child, and in particular, newborn mortality. Currently Afghanistan has about 35,000 neonatal deaths a year. About 13% of these, or 4,600, could be prevented by providing women with the above life-saving interventions<sup>x</sup>.

	Current Maternal Deaths	Deaths Prevented	Projected Maternal Deaths
Hemorrhage	1,344	1,146	126
Eclampsia	653	334	284
Sepsis	269	234	20
PAC	384	173	191
Other	1,190	0	1,127
<b>All MH</b>		<b>1,886</b>	
Averted by increasing Modern FP Use by 25%		<b>203</b>	
<b>TOTAL</b>	<b>3,839</b>	<b>2,090</b>	<b>1,749</b>

### Essential Drug Requirements and Costs

#### Maternal Health Drugs For Universal Coverage

	Units	Total Cost
Oxytocin injections	451,191	\$67,679
Misoprostol tablets	1,712,422	\$479,478
Magnesium sulfate injections	83,669	\$52,711
Clean delivery kits	570,807	\$1,561,158
Other sepsis prevention supplies		\$43,062
Antibiotics		\$146,067
<b>TOTAL</b>		<b>\$2,350,155</b>

Drug and commodity requirements to provide the care detailed above would cost approximately \$2.9 million, \$600,000 for additional FP supplies and \$2.3 million for maternal health (detailed calculations are available in Annex 1).

### Required health system investments

Additional investments will be necessary to strengthen countries' logistics systems and to ensure that health providers (both at facility and community level) know how to administer these drugs.

## Annex 1. Methodology

The following describes the methodology used to arrive at the impact and cost estimates in the factsheet.

### Maternal Mortality

The number of current annual maternal deaths was calculated using the 2013 MMR from the 2014 publication:

Trends in Maternal Mortality: 1990-2013. UNFPA, WHO, World Bank, UNICEF

<http://www.who.int/reproductivehealth/publications/monitoring/maternal-mortality-2013/en/> applied to the estimated number of births in 2013 (based on population data from the UN Population Division).

### Deaths Prevented through Family Planning

The number of unintended pregnancies averted was calculated by comparing the number of pregnancies that would have happened if the 210,000 (25% of the about 850,000 women assumed to have currently unmet need in Afghanistan) had not been able to access contraception to the number of pregnancies that would occur if these women used contraception (i.e. only experienced pregnancies due to failure of their chosen method). It was assumed that 40% of all women would have gotten pregnant if not using contraception. The average failure rate of contraceptives was estimated to be 3%.

Based on regional data collected by the Guttmacher Institute for its 2014 update of "Adding It Up" it was estimated that only about 39% of unintended pregnancies would be carried to term, 49% would be aborted and 13% would end in a miscarriage.

	Number	Comment
Current Number of Women using FP	850,870	Women Married or in Union x Modern CPR
Additional Number of Women Using	210,000	If estimated number of women with unmet need is available, 25% of that number, otherwise, increase in current number of users by 25%
Would have gotten pregnant	84,000	Assumption that without contraception 40% of women would get pregnant in a year
Now getting pregnant (method failure)	6,300	Assumption that 3% of women get pregnant despite using contraception (average failure rate)
Unintended Pregnancies Prevented	77,700	Pregnancies that would have occurred without FP minus births that would occur with FP
Unintended Births Prevented	30,001	Averted Pregnancies x % that would have been carried to term (about 39% of all unintended pregnancies)
Abortions Prevented	37,908	Averted Pregnancies x % that would have been aborted (49%)
Miscarriages Prevented	9,791	Averted Pregnancies x % that would have been miscarried (13%)
Deaths Prevented through Contraception	203	Number of deaths that would have occurred during childbirth/abortions

Note: Family planning reduces the absolute number of maternal deaths in a country but since it reduces both numerator AND denominator of the Maternal Mortality Ratio (defined as deaths per 100,000 live births) the reduction in maternal deaths caused by family planning is not reflected in the MMR. The estimated reduction in number of deaths required to achieve the country's MMR goal differs therefore slightly depending on the assumption made about the number of births. The estimate in the first paragraph uses the current number of births, while the estimate in the Estimated Impact paragraph is based on a lower number of births (originally projected number of births minus unintended births averted through the provision of contraception to women with unmet need).

### Deaths Prevented through Maternal Health Interventions

It was assumed that half of the women currently covered by skilled birth attendance, i.e. about 20%, already had access to the three life-saving drugs. This coverage was then scaled up to 100%.

The following effectiveness data were used in estimating the expected reduction in maternal deaths:

Intervention	Effectiveness	Source
1. Hemorrhage Prevention - Oxytocin	62%	Prendiville WJ, Elbourne D, McDonald S. Active versus expectant management in the third stage of labour. In: The Cochrane Library, Issue 1.
2. Hemorrhage Prevention - Misoprostol	43%	30% less effective than oxytocin Gulmezoglu AM, Villar J, Ngoc NTN, et al. WHO multicentre randomized trial of misoprostol in the management of the third stage of labour. <i>Lancet</i> . 2001; 358:689-695
3. Hemorrhage Treatment - Oxytocin	80%	Pollard et al. Estimating the impact of interventions on cause-specific maternal mortality: a Delphi approach. <i>BMC Public Health</i> 2013, 13(Suppl 3):S12
4. Eclampsia Management - MgSulfate	43%	Cochrane Database Syst Rev. 2010 Nov 10
5. Sepsis Prevention - Facility Births	60%	Pollard et al. Estimating the impact of interventions on cause-specific maternal mortality: a Delphi approach. <i>BMC Public Health</i> 2013, 13(Suppl 3):S12
6. Sepsis Prevention - Home Births	60%	Pollard et al. Estimating the impact of interventions on cause-specific maternal mortality: a Delphi approach. <i>BMC Public Health</i> 2013, 13(Suppl 3):S12
7. Sepsis treatment - Antibiotics	80%	Pollard et al. Estimating the impact of interventions on cause-specific maternal mortality: a Delphi approach. <i>BMC Public Health</i> 2013, 13(Suppl 3):S12
8. PAC management - Misoprostol	50%	

The MMR after FP and MH scale-up was calculated by dividing the remaining number of maternal deaths by the number of births expected at the new contraceptive prevalence level (current 960,000 births annually minus 33,000 averted through increased use of family planning).

### Cost Estimates Family Planning

Unit costs for the different supply methods were taken from UNFPA's RH Interchange database and multiplied by the amount required to provide one couple-year of protection (CYP). It was assumed that 15 cycles of the pill, 120 condoms and 4 injectables would provide one CYP. IUDs and Implant were assumed to provide 3.5 years of protection or CYPs. Their cost was thus divided by 3.5. The RHInterchange price for implants (\$18.80) was replaced with a cost estimate per implant of \$8.50 to reflect the recent price reduction seen, but not yet reflected in the database, due to the introduction of Sino-Implants.

Drug and supply cost for male and female sterilization came from calculations carried out by the Guttmacher Institute for its Adding It Up 3 publication using UNFPA's RHCT costing tool with updated 2013 prices.

It was assumed that new users would adopt methods based on the current modern method mix.

### Cost Estimates Maternal Health Interventions

Based on WHO treatment guidelines the following drugs and supplies were costed using drug prices from both the MH International Drug Price Indicator and the UNICEF Supply Catalogue.

#### Hemorrhage Prevention and Treatment

Drug	Unit Costs	No. of Units Required	Total Costs	Source
<b>Hemorrhage Prevention</b>				
<b>Facility births</b>				
Oxytocin, injection, 10 IU in 1 ml	\$0.15	1	\$0.15	UNICEF
<b>Home births</b>				
Misoprostol, tablet, 200mcg	\$0.28	3	\$0.84	MSH
<b>Hemorrhage Treatment</b>				
Oxytocin, injection, 10 IU in 1 ml	\$0.15	4	\$0.60	UNICEF
<i>For atonic uterus. Not included: Syringes, IV sets, IV solutions</i>				

#### Sepsis Prevention and Treatment

Drug	Unit Costs	No. of Units Required	Total Costs	Source
<b>Sepsis Prevention</b>				
Gloves, exam, latex, disposable, pair	\$0.05	2	\$0.10	UNICEF
Soap for handwashing	\$0.01	1	\$0.01	UNICEF
Chlorohexidine for cord care	\$0.01	1	\$0.01	UNICEF
			<b>\$0.12</b>	
<b>Sepsis Treatment</b>				
Delivery Kit	\$2.74	1	\$2.74	UNFPA 200 FOR \$547
<b>Non-Severe Cases</b>				
Amoxicillin, caplet, 250 mg	\$0.05	2	\$0.10	MSH
<b>Severe Cases</b>				
Ampicillin, powder for injection, 500mg	\$0.14	24	\$3.46	MSH
Gentamicin, injection, 40 mg/ml in 2ml	\$0.09	6	\$0.54	MSH
Metronidazole, injection, 500 mg in 100	\$0.47	8	\$3.76	MSH
			<b>\$7.76</b>	

#### Pre-Eclampsia/Eclampsia Treatment

Drug	Unit Costs	No. of Units Required	Total Costs	Source
Magnesium sulfate, injection, 500 mg	\$0.63	9	\$5.67	UNICEF
<b>For complications</b>				
Calcium carbonate, tablet, 600mg	\$0.02	1	\$0.02	MSH
<i>Needle for initial injection and IV set not included in costing</i>				

<sup>i</sup> UN Population Division. *World Population Prospects: The 2012 Revision, data for 2013*

<sup>ii</sup> WHO. 2014. *Maternal Mortality 1990-2013*.

<sup>iii</sup> WHO. 2014. *Maternal Mortality 1990-2013*.

<sup>iv</sup> WHO and UNICEF. 2012 *Countdown, Country Profiles*

<sup>v</sup> Based on: Blanc et al. 2013. *New Findings for Maternal Mortality Age Patterns: Aggregated Results for 38 Countries*. *PLoS ONE* 8(4): e59864.

<sup>vi</sup> UN Population Division. *World Population Prospects: The 2012 Revision*

<sup>vii</sup> UN Population Division. *World Marriage Data 2012*.

<sup>viii</sup> Afghanistan MICS 2010/2011.

<sup>ix</sup> UNICEF. *State of the World Population 2013*

<sup>x</sup> Futures Institute. *Spectrum, LiST module*.