

United Republic of Tanzania - Zanzibar

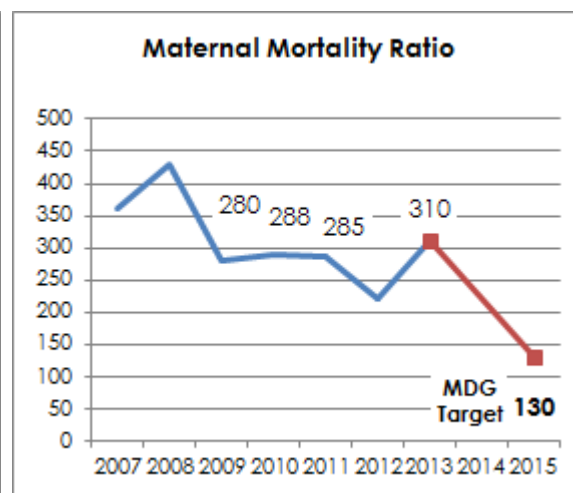
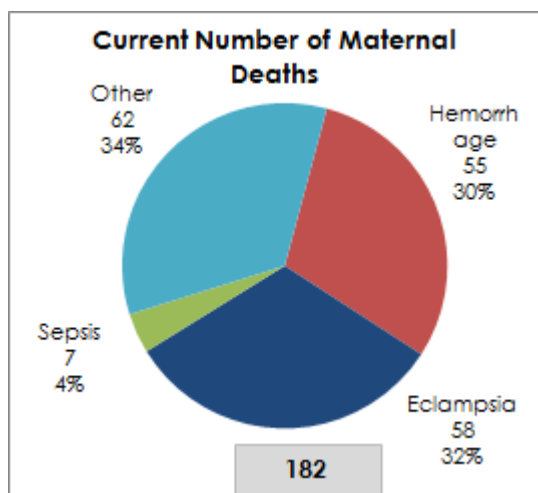
Achieving MDG 5

Maternal Mortality

Zanzibar, a large island in the Indian Ocean and a semi-autonomous part of Tanzania, in 2013 had a population of 1.3 millionⁱ and about 180 maternal deaths. While there has been some progress made in reducing the maternal mortality ratio, Zanzibar is currently not on track to reach the 75% reduction in the MMR required by the MDG5. According to Zanzibar's routine HMIS data, in 2013 the island had a MMR of 310 per 100,000 live birthsⁱⁱ. A concerted effort will be required to reach the MDG goal of an MMR of 130 (or about 75 annual deaths) by 2015.

Almost 70% of all maternal deaths in Zanzibar are due to just three conditions - hemorrhage, eclampsia, and sepsisⁱⁱⁱ.

An estimated 30 of these deaths are among adolescents^{iv}.



Family Planning and Maternal Health

Population:	1,303,569	(vi)
Women of Reproductive Age:	339,007	(vi)
% Married:	57%	(vii)
Married WRA:	191,539	
Total Fertility Rate:	5.2	(vi)
Contraceptive Use (Any Method):	18.4%	(viii)
Contraceptive Use (Modern Methods):	12.4%	(viii)
Number of Modern Users:	23,751	
Unmet Need:	35.0%	(viii)
Number of Women with Unmet Need:	67,039	
Total Number of Births:	58,660	(vi)
Antenatal Care Coverage (4+ Visits):	68.0%	(viii)
% of Births with Skilled Birth Attendant:	53.7%	(viii)
No. of Births with SBA:	31,500	
No. of Births w/o SBA:	27,160	
% of Births to Adolescents (15-19)	4.5%	(vi)
No. of Births to Adolescents (15-19)	2,640	(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 Zanzibar.

Family Planning

12.4% of women in Zanzibar use modern family planning methods, 35% of married women have an expressed unmet need for family planning.

Antenatal Care

68% of pregnant women have at least 4 antenatal care visits.

Skilled Delivery Care

As measured by the latest national survey, 53.7% of the annual 59,000 births in Zanzibar were assisted by a skilled attendant.^v

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.

Meeting only 25% of the unmet demand for family planning in Zanzibar, i.e., supplying 17,000 additional women with access to family planning would reduce the number of unintended pregnancies by over 6,000 and deaths related to unintended births and abortions, which are particularly high among unintended pregnancies, by about 15.

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 Tanzania:

- 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 90 deaths, reducing the annual number of deaths to about 80 and the MMR to about 140, making it possible for Zanzibar to come extremely close to its MDG target of 130 deaths per 100,000 live births.

	Current Maternal Deaths	Deaths Prevented	Projected Maternal Deaths
Hemorrhage	55	51	5
Eclampsia	58	17	15
Sepsis	7	14	1
PAC	0	7	8
Other	62	0	48
All MH		90	
Averted by meeting 25 % of Unmet Need for FP		15	
TOTAL	182	104	77

Essential Drug Requirements and Costs

Maternal Health Drugs For Universal Coverage

	Units	Total Cost
Oxytocin injections	34,872	\$5,231
Misoprostol tablets	76,811	\$21,507
Magnesium sulfate injections	4,977	\$3,135
Clean delivery kits	25,604	\$70,026
Other sepsis prevention supplies		\$3,564
Antibiotics		\$8,689
TOTAL		\$112,152

Drug and commodity requirements to provide the care detailed above would cost approximately \$160,000, \$50,000 for additional FP supplies and \$110,000 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 based on data from Zanzibar's HMIS system.

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 17,000 (25% of the about 70,000 women with currently unmet need in Zanzibar) 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 53% of unintended pregnancies would be carried to term, 33% would be aborted and 14% would end in a miscarriage.

	Number	Comment
Current Number of Women using FP	23,751	Women Married or in Union x Modern CPR
Additional Number of Women Using	17,000	If estimated number of number of women with unmet need available, 25% of that number, otherwise increase in current number of modern method users by 25%
Would have gotten pregnant	6,800	Assumption that without contraception 40% of women would get pregnant in a year
Now getting pregnant (method failure)	510	Assumption that 3% of women get pregnant despite using contraception (average failure rate)
Unintended Pregnancies Prevented	6,290	Pregnancies that would have occurred without FP minus births that would occur with FP
Unintended Births Prevented	3,360	Averted Pregnancies x % that would have been carried to term (about 53% of all unintended pregnancies)
Abortions Prevented	2,052	Averted Pregnancies x % that would have been aborted (33%)
Miscarriages Prevented	877	Averted Pregnancies x % that would have been miscarried (14%)
Deaths Prevented through Contraception	15	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 nominator 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 opening 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 27%, 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: <i>The Cochrane Library, Issue 1.</i>
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%	<i>Cochrane Database Syst Rev.</i> 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 59,000 annually minus 3,400 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 or 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 price.

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
Hemorrhage Prevention				
Facility births				
Oxytocin, injection, 10 IU in 1 ml	\$0.15	1	\$0.15	UNICEF
Home births				
Misoprostol, tablet, 200mcg	\$0.28	3	\$0.84	MSH
Hemorrhage Treatment				
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>				

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
For complications				
Calcium carbonate, tablet, 600mg	\$0.02	1	\$0.02	MSH
<i>Needle for initial injection and IV set not included in costing</i>				

Sepsis Prevention and Treatment

Drug	Unit Costs	No. of Units Required	Total Costs	Source
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
			\$0.12	
Delivery Kit	\$2.74	1	\$2.74	UNFPA 200 FOR \$547
Non-Severe Cases				
Amoxicillin, caplet, 250 mg	\$0.05	2	\$0.10	MSH
Severe Cases				
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
			\$7.76	

ⁱ 2012 National Housing Census.

ⁱⁱ WHO. 2014. *Maternal Mortality 1990-2013*.

ⁱⁱⁱ WHO and UNICEF. 2012 *Countdown, Country Profiles*

^{iv} Based on: Blanc et al. 2013. *New Findings for Maternal Mortality Age Patterns: Aggregated Results for 38 Countries*. *PLoS ONE* 8(4): e59864.

^v Tanzania DHS 2010

^{vi} 2012 National Housing Census.

^{vii} Tanzania DHS 2010.

^{viii} Tanzania DHS 2010.