

# Indonesia

## Achieving MDG 5

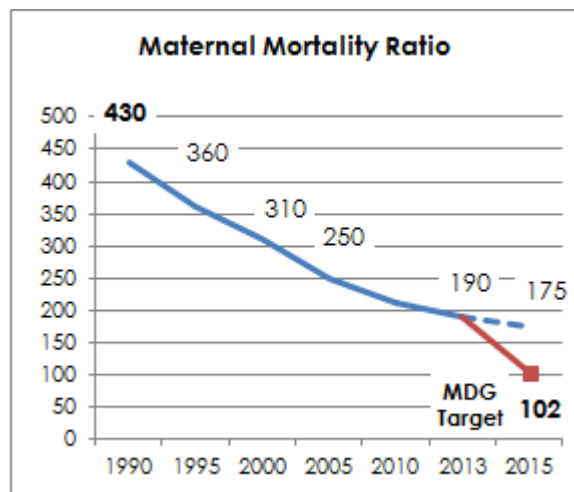
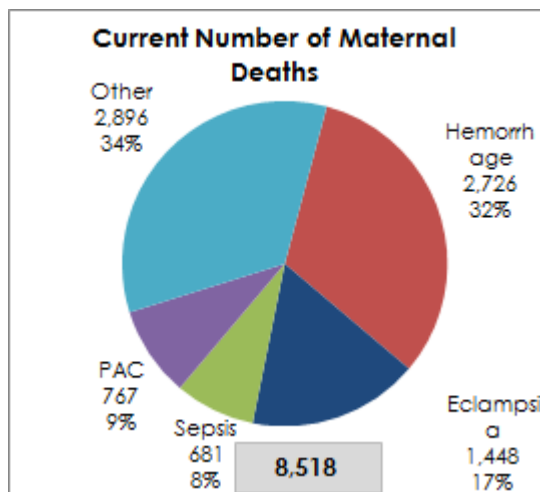
### Maternal Mortality

With a population of over 248 million in 2013<sup>i</sup>, Indonesia is the 4<sup>th</sup> most populous country in the World. It is also among the top ten countries in the world when it comes to maternal mortality. With over 8,500 women dying in pregnancy or childbirth, Indonesia accounts for almost 3% of the global maternal death burden<sup>ii</sup>.

Indonesia has made significant progress in reducing the maternal mortality ratio but at the current trend is not 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 190 per 100,000 live births<sup>iii</sup>. A concerted effort will be required to reach the goal of an MMR of 102<sup>iiii</sup> (or about 4,800 annual deaths) by 2015.

Almost 80% of all maternal deaths in Indonesia are due to hemorrhage, eclampsia, sepsis and abortion complications<sup>v</sup>.

An estimated 2,100 of these deaths are among adolescents<sup>v</sup>



### Family Planning and Maternal Health

Population:	248,818,100	(vi)
Women of Reproductive Age:	68,008,800	(vi)
% Married:	71%	(vii)
Married WRA:	48,286,248	
Births:	4,483,307	(vi)
Total Fertility Rate:	2.6	(vii)
Contraceptive Use (Any Method):	61.9%	(vii)
Contraceptive Use (Modern Methods):	57.9%	(vii)
Number of Modern Users:	27,957,738	
Unmet Need:	11.4%	(vii)
Number of Women with Unmet Need:	5,504,632	
Total Number of Births:	4,453,844	(vi)
Antenatal Care Coverage:	96%	(vii)
% of Births with Skilled Birth Attendant:	83%	(vii)
No. of Births with SBA:	3,721,145	
No. of Births w/o SBA:	762,162	
% of Births to Adolescents (15-19)	9.5%	(vii)
No. of Births to Adolescents (15-19)	423,115	

In addition to a 75% reduction in the MMR, MDG5 also calls for universal access to reproductive health care by 2015. Indonesia is doing relatively well on this front. The following shows current coverage with key reproductive services in Indonesia.

#### Family Planning

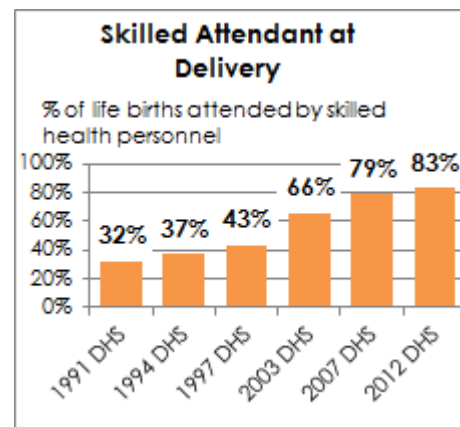
58% of Indonesian women use modern family planning methods, only 11% have an expressed unmet need for family planning (IDHS 2012).

#### Antenatal Care

95.7% of pregnant women had at least 4 antenatal care visits (IDHS 2012).

#### Skilled Delivery Care

As measured by the 2012 IDHS survey, 83% of the annual 4.5 million births in Indonesia 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.

Meeting only 25% of the unmet demand for family planning in Indonesia, i.e., supplying 1.4 million additional women with access to family planning would reduce the number of unintended pregnancies by 520,000 and deaths related to unintended births and abortions by almost 1,000.

### 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 Indonesia:

- Prevention and management of hemorrhage/treatment of postabortion complications - **Oxytocin**
- 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 3,800 deaths, reducing the annual number of deaths to about 3,700 and the MMR to just under 90, making it possible for Indonesia to not only reach, but exceed its MDG goal of 102.

In addition, these interventions would have a significant impact on child, and in particular, newborn mortality. Currently Indonesia has about 67,000 neonatal deaths a year. About 13% of these, or 9,000, could be prevented by providing women with the above life-saving interventions<sup>vii</sup>.

	Current Maternal Deaths	Deaths Prevented	Projected Maternal Deaths
Hemorrhage	2,708	2,205	198
Eclampsia	1,439	689	587
Sepsis	677	553	48
PAC	762	321	355
Other	2,877	0	2,553
<b>All MH</b>		<b>3,768</b>	
Averted by meeting 25 % of Unmet Need for FP		<b>953</b>	
<b>TOTAL</b>	<b>8,462</b>	<b>4,721</b>	<b>3,741</b>

## Essential Drug Requirements and Costs

### Maternal Health Drugs For Universal Coverage

	Units	Total Cost
Oxytocin injections	3,916,031	\$587,405
Magnesium sulfate injections	385,849	\$243,085
Clean delivery kits	724,538	\$1,981,612
Other sepsis prevention supplies		\$427,520
Antibiotics		\$673,606
<b>TOTAL</b>		<b>\$3,913,228</b>

Drug and commodity requirements to provide the care detailed above would cost close to \$8 million, \$4 for additional FP supplies and approximately \$4 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 1.4 million (25% of the 5.2 million women with currently unmet need in Indonesia) 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
<b>Current Number of Women using FP</b>	27,952,468	Women Married or in Union x Modern CPR
<b>Additional Number of Women Using</b>	1,400,000	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%
<b>Would have gotten pregnant</b>	560,000	Assumption that without contraception 40% of women would get pregnant in a year
<b>Now getting pregnant (method failure)</b>	42,000	Assumption that 3% of women get pregnant despite using contraception (average failure rate)
<b>Unintended Pregnancies Prevented</b>	518,000	Pregnancies that would have occurred without FP minus births that would occur with FP
<b>Unintended Births Prevented</b>	166,635	Averted Pregnancies x % that would have been carried to term (about 39% of all unintended pregnancies)
<b>Abortions Prevented</b>	289,125	Averted Pregnancies x % that would have been aborted (49%)
<b>Miscarriages Prevented</b>	62,240	Averted Pregnancies x % that would have been miscarried (13%)
<b>Deaths Prevented through Contraception</b>	953	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 42%, 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%	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 final MMR was calculated by dividing the remaining number of maternal deaths by the number of births expected at the new contraceptive prevalence level (current 4.5 million births annually minus 170,000 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>				
Oxytocin, injection, 10 IU in 1 ml	\$0.15	1	\$0.15	MSH
<b>Hemorrhage Treatment</b>				
Oxytocin, injection, 10 IU in 1 ml	\$0.15	4	\$0.60	UNICEF
For atonic uterus. Not included: Syringes, IV sets, IV solutions				

#### Sepsis Prevention and Treatment

Drug	Unit Costs	No. of Units Required	Total Costs	Source
<b>Non-Severe Cases</b>				
Gloves, exam, latex, disposable, pair	\$0.05	2	\$0.10	UNICEF
Soap for handwashing	\$0.01	1	\$0.01	UNICEF
Chlorhexidine for cord care	\$0.01	1	\$0.01	UNICEF
			<b>\$0.12</b>	
<b>Severe Cases</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
Needle for initial injection and IV set not included in costing				

<sup>i</sup> Indonesia Population Projection based on Census 2010 data.

<sup>ii</sup> WHO. 2014. Trends in maternal mortality 1990 to 2013: Estimates by WHO, UNICEF, UNFPA, the World Bank and UN Population Division

<sup>iii</sup> WHO. 2014. Trends in maternal mortality 1990 to 2013: Estimates by WHO, UNICEF, UNFPA, the World Bank and UN Population Division

Note: There is substantial challenge in measuring MMR in Indonesia. Since 1991, the Indonesian Demographic and Health Survey (IDHS) estimate has been used as a formal national MMR. However, the number of maternal deaths in the sample is small which gives a wide confidence interval, and, therefore, should be carefully interpreted. The latest MMR figure from IDHS 2012 is 359 (a mid point of a range between 239 to 478) per 100,000 live-births.

<sup>iiia</sup> MMR target as stated in national document "A Roadmap to Accelerate Achievement of the MDGs in Indonesia (National Development Planning Agency/BAPPENAS, 2010)

<sup>iv</sup> Indonesia DHS 2012.

<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> Indonesia Population Projection based on Census 2010 data.

<sup>vii</sup> Indonesia DHS 2012.

<sup>viii</sup> Futures Institute. Spectrum, LiST module.