



Maternal Mortality – How can we prevent it?

Sir Sabaratnam Arulkumaran
Professor Emeritus of Obstetrics & Gynaecology
St George's University of London & Visiting Professor
Institute of Global Health Innovation - Imperial College, London

MDG 5 – Maternal mortality

MDG 6 – HIV, TB, Malaria

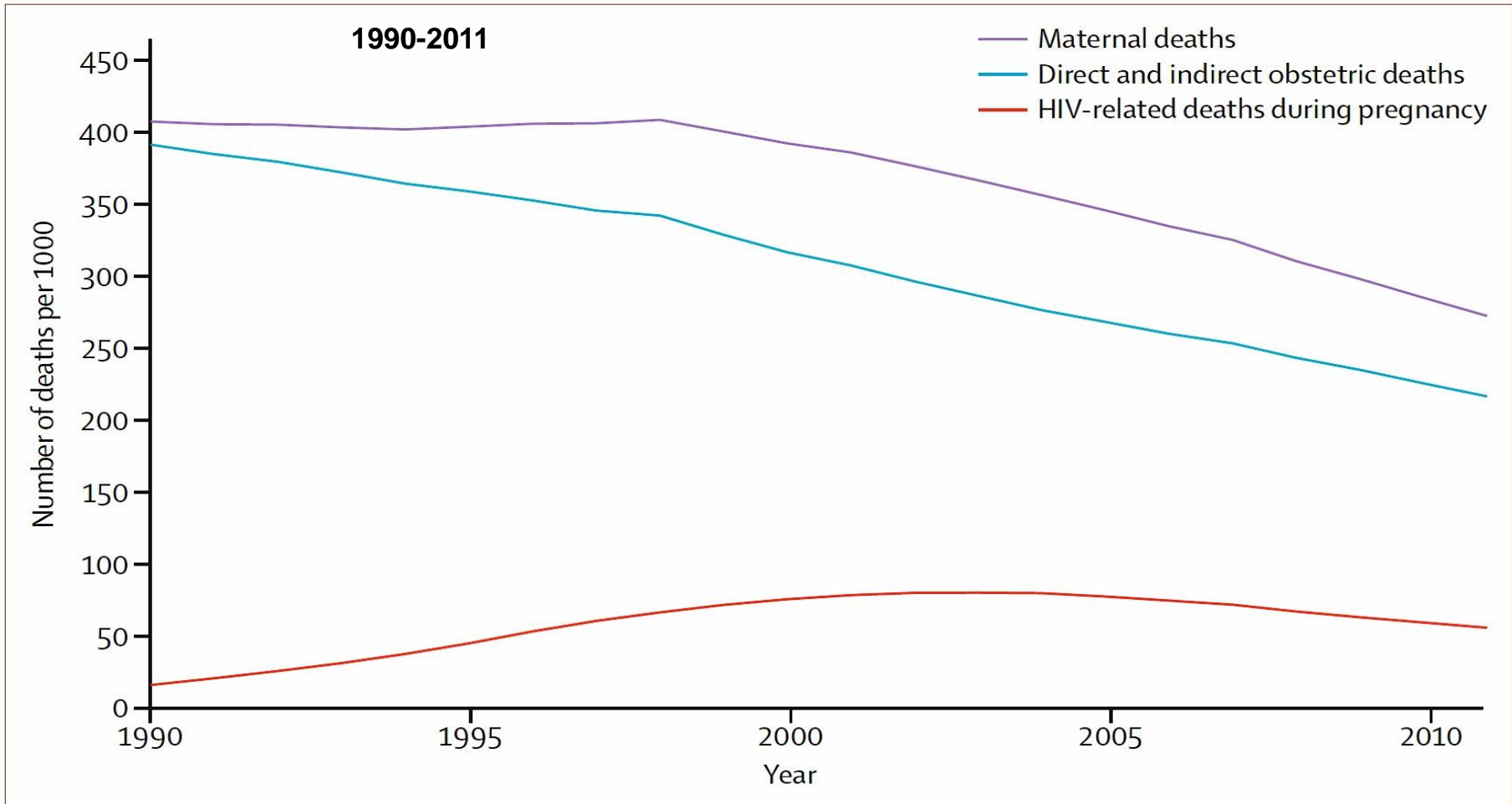
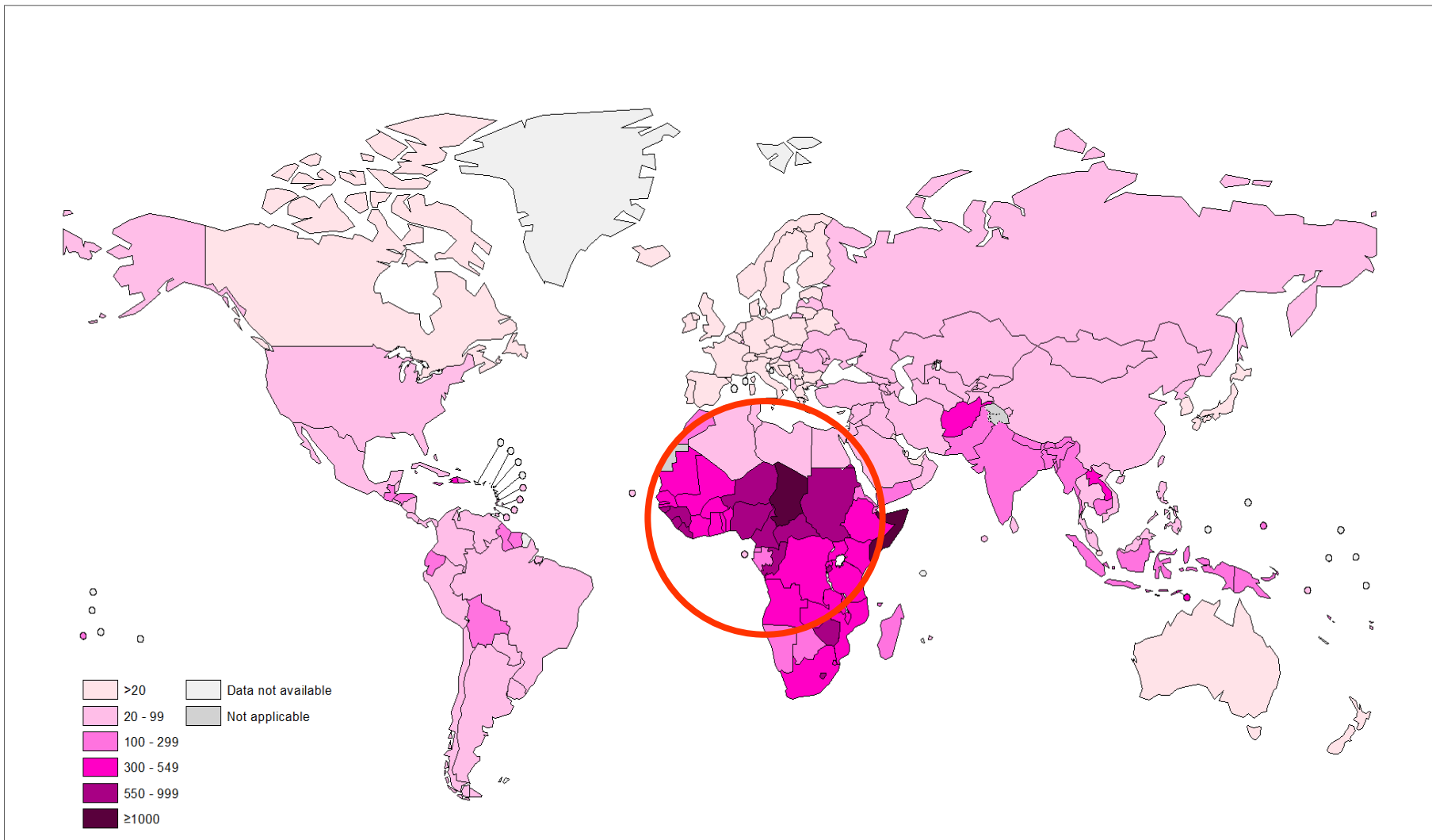


Figure 5: Worldwide maternal deaths, direct and indirect obstetric deaths, and HIV-related deaths during pregnancy, 1990–2011

Maternal mortality ratio (per 100 000 live births), 2010



The boundaries and names shown and the designations used on this map do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted and dashed lines on maps represent approximate border lines for which there may not yet be full agreement.

Data Source: World Health Organization
Map Production: Public Health Information and Geographic Information Systems (GIS)
World Health Organization



© WHO 2012. All rights reserved.



Taking stock - End of 2015

WOMEN'S HEALTH CHALLENGES

289,000 WOMEN DIE
EVERY YEAR IN **PREGNANCY**
AND **CHILDBIRTH**



1 IN 3 WOMEN
AGED 15 TO 49 EXPERIENCES
PHYSICAL AND/OR
SEXUAL VIOLENCE



225 MILLION
WOMEN HAVE
UNMET NEEDS FOR
FAMILY PLANNING

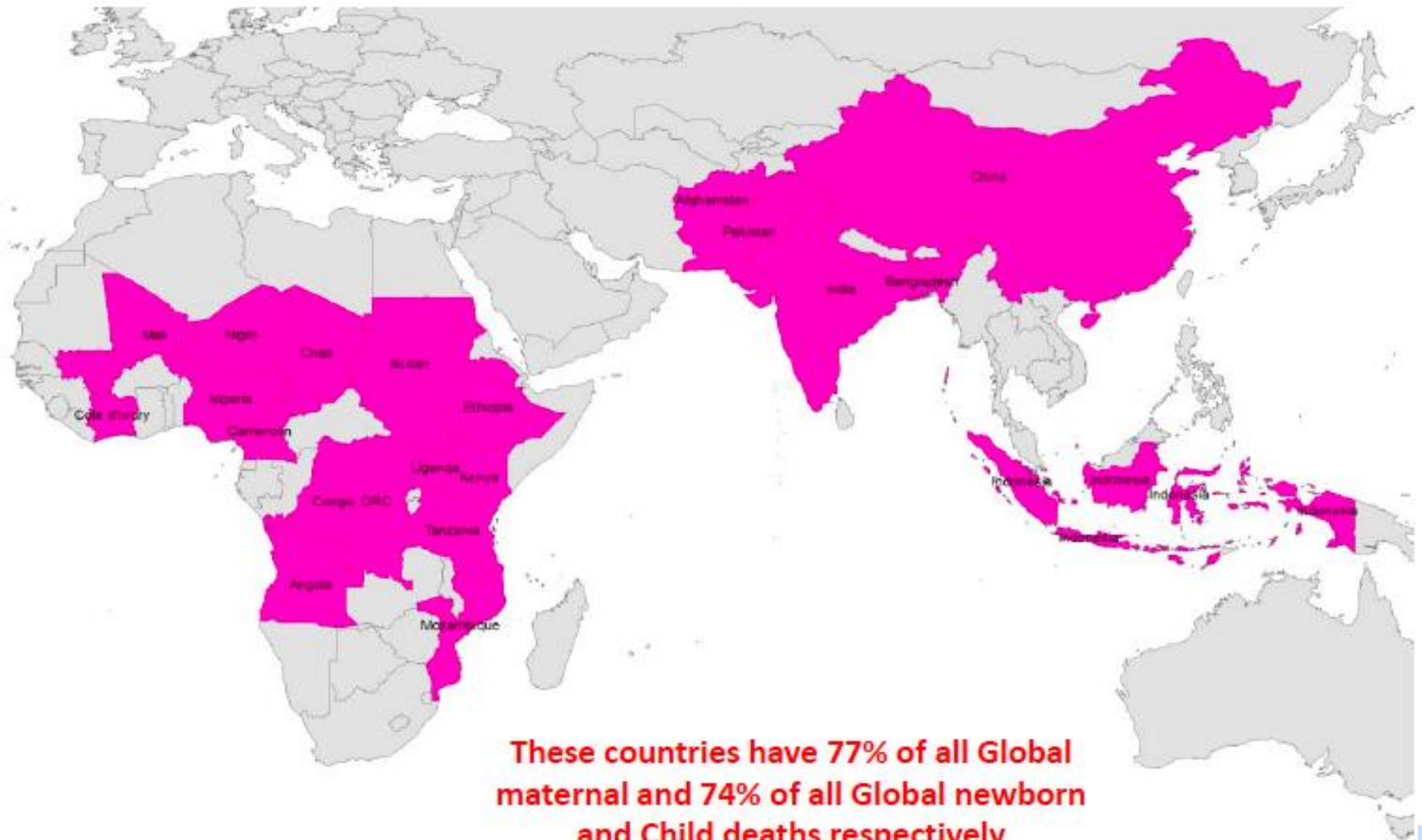
800,000 WOMEN
DIE EACH YEAR FROM
CANCERS RELATED TO
REPRODUCTIVE HEALTH

28% OF MATERNAL MORTALITY RESULTS FROM
COMMUNICABLE AND **NON-COMMUNICABLE DISEASES**

(SUCH AS DIABETES, MALARIA, HIV, OBESITY)

Rolled into SDG 3

Top 20 Countries of the World for Maternal and Child Deaths



These countries have 77% of all Global maternal and 74% of all Global newborn and Child deaths respectively

The Top 20 Countries



The equity data for maternal, newborn, and child health interventions from national surveys was provided by the *“International Center for EQUITY in Health| Pelotas”* and analyzed under the supervision of Professor Cesar Victora

Mortality Ranking Top 20 Countries

Country Name	*Ranking	GDP per capita (current US\$)‡	Total Population (millions) ‡	Land area (sq. km) ‡
India	1	1630.8	1267.4	2973190
Nigeria	2	3184.6	178.5	910770
Pakistan	3	1333.5	185.1	770880
DR Congo	4	475.2	69.4	2267050
Ethiopia	5	567.8	96.5	1000000
China	6	7593.9	1364.3	9388211
Angola	7	5935.7	22.1	1246700
Indonesia	8	3514.6	252.8	1811570
Bangladesh	9	1096.6	158.5	130170
Tanzania	10	998.1	50.8	885800
Afghanistan	11	666.3	31.3	652860
Niger	12	440.7	18.5	1266700
Sudan	13	1904.2	38.8	2376000
Uganda	14	677.4	38.8	199810
Chad	15	1053.8	13.2	1259200
Mali	16	765.7	15.8	1220190
Mozambique	17	619	26.5	786380
Cote d'Ivoire	18	1646.4	20.8	318000
Kenya	19	1337.9	45.5	569140
Cameroon	20	1426.4	22.8	472710

*Ranking : By number of Maternal+ U5 deaths (Highest to Lowest), ‡ World Bank Data (<http://data.worldbank.org/indicator>)

The world's populations compared

Total population – **6,909,100,000**

22. Britain
62million
0.9% of world population

9. Russia
143million
2%

1. People's Republic of China
1.34billion
19.4%

3. USA
311million
4.5%

5. Brazil
191million
2.76%

10. Japan
128million
1.8%

4. Indonesia
238million
3.4%

6. Pakistan
176million
2.54%

7. Nigeria
158million
2.2%

2. India
1.21billion
17.3%

8. Bangladesh
150million
2.1%



Based on annualised rates of change, the year When these countries will reach the MDG target

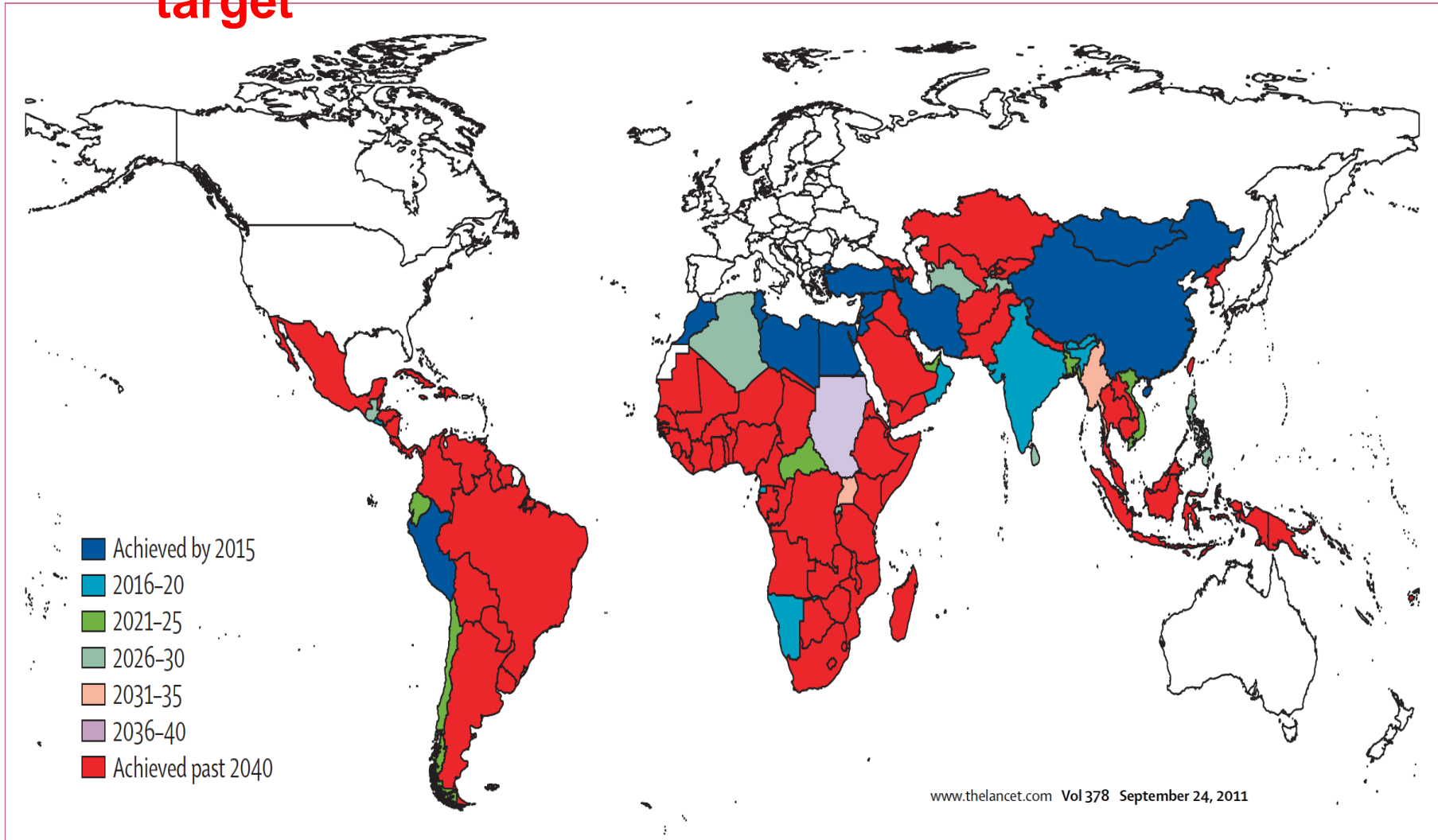
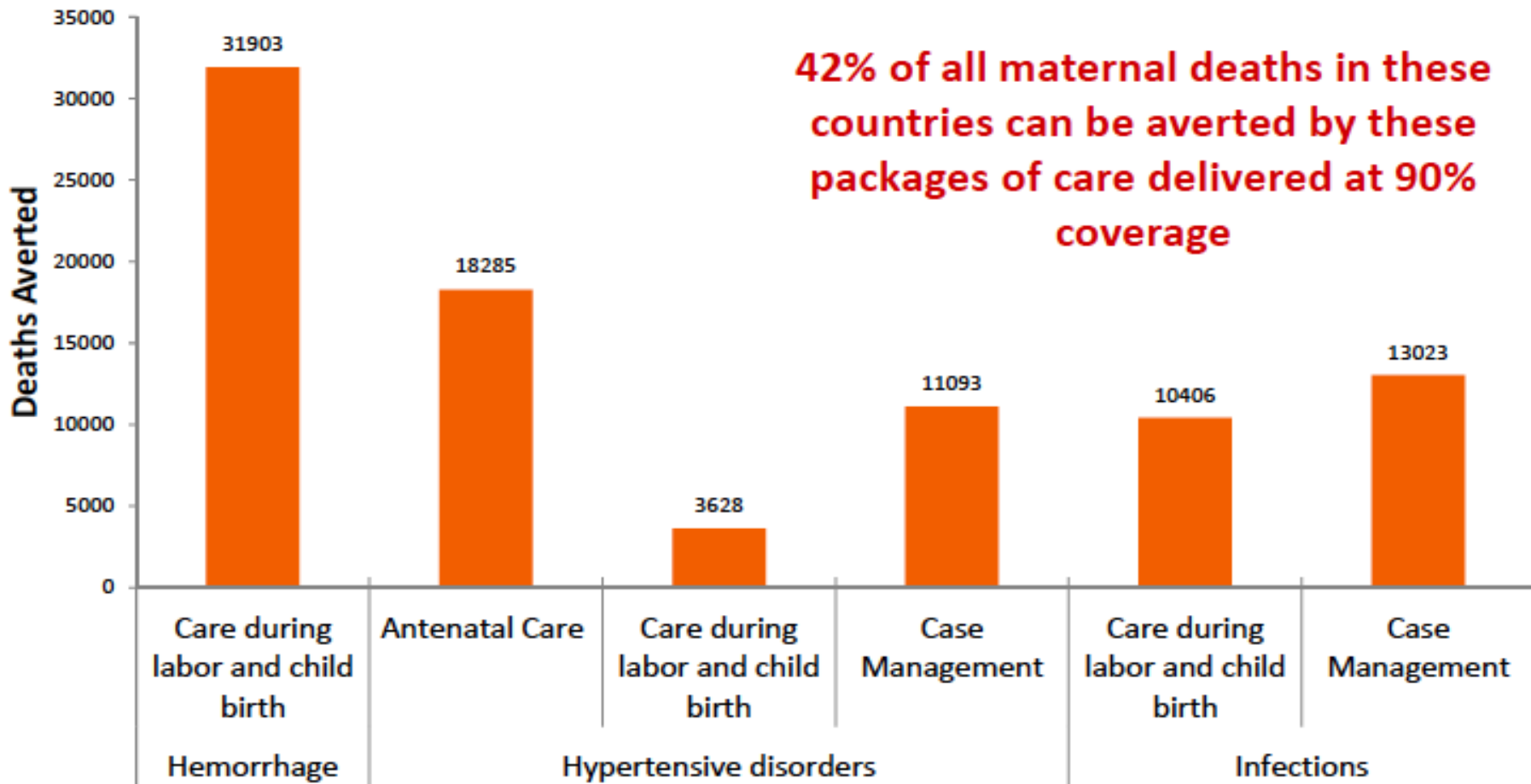


Figure 6: Millennium Development Goal 5 attainment year based on annualised rates of change, 1990-2011

Maternal Deaths Averted by Cause By Interventions (Related to Hemorrhage, Infections and Hypertension)



Saving Mothers' Lives: Transforming Strategy into Action

Report of the Maternal Health Working Group 2012

Professor Sir Sabaratnam Arulkumaran with Dr Viktor Hediger,
Dr Ashley Manzoor and Jennifer May



**The Global Health
Policy Summit**

A partnership between

**Imperial College
London**

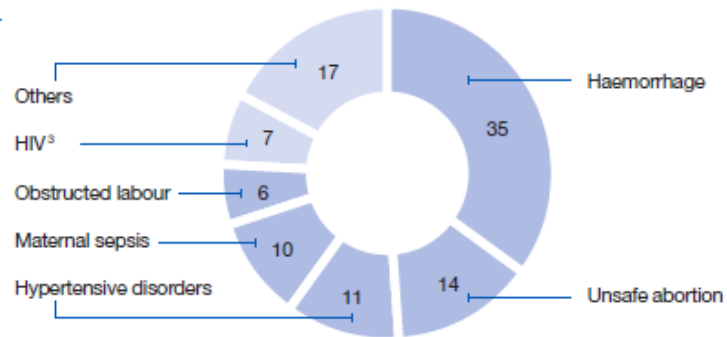


**الأسرة
Qatar Foundation**

2 Up me red

Causes of maternal death¹

100% = 358,000
(2008)



y 7

Health intervention ²		Potential to reduce maternal mortality ² Thousands of lives saved (% of current deaths)		Targets deaths due to... ²
Family Planning	Family timing/spacing and contraception	107	30%	(Preventive) All causes
Safe abortion	Vacuum aspiration or medical abortion	46	13%	Unsafe abortion
Maternal care	Prevent haemorrhage	34	9%	Haemorrhage
	Treat haemorrhage ⁴	29	8%	Haemorrhage
	Prevent/treat infection	21-28	6-8%	Sepsis
	Caesarean section	27	7%	Obstructed labour
	Prevent eclampsia / treat pre-eclampsia	24	7%	Hypertensive disorders

(% of maternal deaths saved)

¹ For 2010, the total figures by cause were not available. However, total maternal deaths have reduced to 287,000 in 2010.

² Medical interventions have been prioritised and chosen on the basis of their link with key causes of death and high impact potential to save lives, and have been validated through literature review and expert opinion.

³ HIV data is estimated. Various sources state the total burden to be 3-17%. The 7% estimate is based on Spectrum modelling data.

⁴ Examples of treatment include uterotonics, uterine massage, balloon tamponade, uterine compression sutures, hysterectomy.

PPH – Advances

Monitoring of the patient

Estimation of Blood Loss
BP, Pulse > Shock Index
Pulse oximetry



www.figo.org

Contents lists available at ScienceDirect

International Journal of Gynecology and Obstetrics

journal homepage: www.elsevier.com/locate/ijgo



CLINICAL ARTICLE

Use of the “obstetric shock index” as an adjunct in identifying significant blood loss in patients with massive postpartum hemorrhage

Abigail Le Bas ^{a,*}, Edwin Chandrarahan ^a, Anthony Addei ^b, Sabaratnam Arulkumaran ^c

Objective: To establish the normal range for the “obstetric shock index” (OSI) after birth and to determine its usefulness as an aid to estimate blood loss in postpartum hemorrhage (PPH). **Methods:** A retrospective case–control analysis was conducted involving pregnant women admitted to St Georges Hospital for delivery: 50 with no PPH (control group) and 50 with massive PPH (>30% loss of blood volume; case group). The OSI was calculated at 10 and 30 minutes from PPH onset. **Results:** Mean OSI in the control group at 10 and 30 minutes was 0.74 (range, 0.4–1.1) and 0.76 (range, 0.5–1.1), respectively. In the case group, mean OSI at 10 and 30 minutes was 0.91 (range, 0.4–1.5) and 0.90 (range, 0.5–1.4), respectively, with 64% requiring blood products. In the case group, 89% of women with an OSI of 1.1 or more at 10 minutes required transfusion; 75% with an OSI of 1.1 or more at 30 minutes required transfusion. **Conclusion:** We recommend that the normal OSI range should be 0.7–0.9. An OSI of more than 1 seems to be a useful adjunct in estimating blood loss in cases of massive PPH and in predicting the need for blood and blood products.

Shock index: an effective predictor of outcome in postpartum haemorrhage?

HL Nathan,^a A El Ayadi,^b NL Hezelgrave,^a P Seed,^a E Butrick,^b S Miller,^b A Briley,^a S Bewley,^a AH Shennan^a

^a Women's Health Academic Centre, King's College London, London, UK ^b Safe Motherhood Programs, University of California, San

Objectives To compare the predictive value of the shock index (SI) with conventional vital signs in postpartum haemorrhage (PPH), and to establish 'alert' thresholds for use in low-resource settings.

Design Retrospective cohort study.

Setting UK tertiary centre.

Population Women with PPH ≥ 1500 ml ($n = 233$).

Methods Systolic blood pressure (BP), diastolic BP, mean arterial pressure, pulse pressure, heart rate (HR) and SI (HR/systolic BP) were measured within the first hour following PPH. Values measured at the time of highest SI were selected for analysis. The area under the receiver operating characteristic curve (AUROC) for each parameter, used to predict admission to an intensive care unit and other adverse outcomes, was calculated. Sensitivity, specificity and negative/positive predictive values determined thresholds of the best predictor.

Main outcome measures Intensive care unit (ICU) admission, blood transfusion ≥ 4 iu, haemoglobin level < 7 g/dl, and invasive surgical procedures.

Results Shock index has the highest AUROC to predict ICU admissions (0.75 for SI [95% CI 0.63–0.87] compared with 0.64 [95% CI 0.44–0.83] for systolic BP). SI compared favourably for other outcomes: SI ≥ 0.9 had 100% sensitivity (95% CI 73.5–100) and 43.4% specificity (95% CI 36.8–50.3), and SI ≥ 1.7 had 25.0% sensitivity (95% CI 5.5–57.2) and 97.7% specificity (CI 94.8–99.3 for predicting ICU admission).

Conclusions Shock index compared favourably with conventional vital signs in predicting ICU admission and other outcomes in PPH, even after adjusting for confounding; SI < 0.9 provides reassurance, whereas SI ≥ 1.7 indicates a need for urgent attention. In low-resource settings this simple parameter could improve outcomes. It was not possible to adjust for resuscitative measures administered following vital sign measurement that may have influenced the outcome.

Keywords Hypovolaemic shock, postpartum haemorrhage, shock index.

CRADLE/Microlife - Traffic Light Vital Sign Alert (VSA)

Range	Syst	Dias	Traffic Light
Severe Shock flash			Red LED will Arrow down
BP V. high up	>160	>110	Red flash arrow constantly
Shock Arrow	<160		Yellow flash – Flashes down
BP High	>140	>90	Yellow flash
	<160	<110	Arrow up - const
BP norm & No shock	<140	<90	Green constantly No arrow

Developed by King's College London,
Prof. Andrew Sheenan, Hannah Nathan,
Natasha Helzegrave



Uterine activity after intravenous injection

- Heat stable long acting oxytocin

	<i>Oxytocin</i>	<i>Carbetocin</i>
Onset of action	< 1 minute	~ 1.5 minutes
Duration of rhythmic contractions	8 minutes	60 minutes

Carbetocin rapidly returns uterine tone

Carbetocin has a long duration of action

Data compiled from Sweeney et al, 1990; Hunter et al, 1992; Ferring data on file

THE COCHRANE COLLABORATION 2012

Carbetocin for Preventing Postpartum Haemorrhage (Review)

Su LL, Chong YS, Samuel M



THE COCHRANE
COLLABORATION

Background: Postpartum haemorrhage (PPH) is one of the major contributors to maternal mortality and morbidity worldwide. Active management of the third stage of labour has been proven to be effective in the prevention of PPH. Syntometrine is more effective than oxytocin but is associated with more side effects. Carbetocin, a long-acting oxytocin agonist, appears to be a promising agent for the prevention of PPH.

Objectives: To determine if the use of carbetocin, agonist is as effective as conventional uterotonic agents for the prevention of PPH, and assess the best route of administration and optimal doses of carbetocin agents.

Search methods: We searched the Cochrane Pregnancy and Childbirth Group's Trials Register (1 March 2012), the Cochrane Central Register of Controlled Trials (CENTRAL) (The Cochrane Library 2012, Issue 1 of 4), MEDLINE (1966 to 1 March 2012) and EMBASE (1974 to 1 March 2012). We checked references of articles and communicated with authors and pharmaceutical industry contacts.

Selection criteria: Randomised controlled trials which compared carbetocin against carbetocin/with other uterotonic agents or/with placebo or no treatment for the prevention of PPH.

Data collection and analysis: Two review authors independently assessed trials for inclusion, assessed risk of bias and extracted data.

Main results: We included 11 studies (2635 women) in the review. Six trials compared carbetocin with oxytocin. Five of these were conducted for women undergoing caesarean deliveries, one was for women following vaginal deliveries and one did not state the mode of delivery clearly. The carbetocin was administered as 100 µg intravenous dosage across the trials, while oxytocin was administered intravenously but at varied dosages. Four trials compared intramuscular carbetocin and intravenous oxytocin for women undergoing vaginal deliveries. Three of the trials were on women with no risk factor for PPH, while one trial was on women with risk factors for PPH.

- **11 randomised** controlled trials involving **2635 women**.
- **Carbetocin is more effective than Oxytocin** for preventing PPH in women undergoing **c/s deliveries**.
- **Carbetocin is associated with less blood loss compared to Syntometrine** in the prevention of PPH for women who have **vaginal deliveries**.

Unmet data:

Authors' conclusions: There is evidence to suggest that 100 µg of intravenous carbetocin is more effective than oxytocin for preventing PPH in women undergoing caesarean deliveries, but more studies are needed to validate this finding. Carbetocin is associated with less blood loss compared to syntometrine in the prevention of PPH for women who have vaginal deliveries and is associated with significantly fewer adverse effects. Further research is needed to analyse the cost-effectiveness of carbetocin as a uterotonic agent.

- **Carbetocin is significantly associated with fewer adverse effects.**
- **Incidence of hypertension** at 30 and 60 minutes post delivery was **significantly lower with Carbetocin**.

Control of Postpartum Hemorrhage Using Vacuum-Induced Uterine Tamponade

Yuditiya Purwosunu, MD, Widyastuti Sarkoen, MD, Sabaratnam Arulkumaran, MD, PhD, and Jan Segnitz, MD

BACKGROUND: Postpartum hemorrhage is the leading cause of maternal mortality worldwide. Vacuum-induced uterine tamponade is a possible alternative approach to balloon tamponade systems for the treatment of postpartum hemorrhage resulting from atony.

METHOD: In a prospective proof-of-concept investigation of 10 women with vaginal deliveries in a hospital setting who failed first-line therapies for postpartum hemorrhage, tamponade was used. Vacuum-induced uterine tamponade was created through a device inserted transvaginally into the uterine cavity. An occlusion balloon built into the device shaft was inflated at the level of the external cervical os to create a uterine seal. Negative pressure was created by attaching a self-contained, mobile, electrically powered, pressure-regulated vacuum pump with a sterile graduated canister.

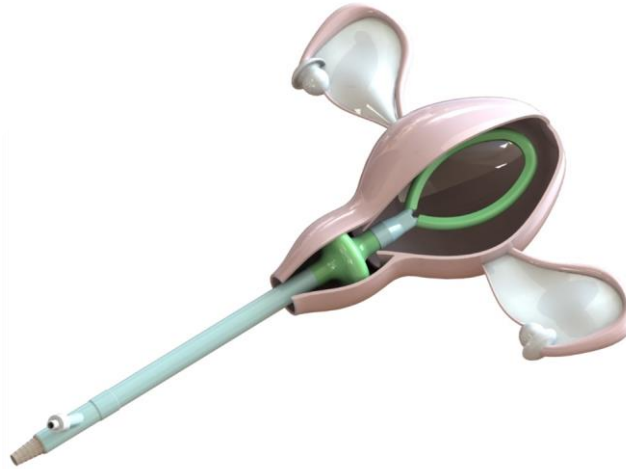
CONCLUSION: This preliminary investigation suggests that a device designed to create vacuum-induced uterine tamponade may be a reasonable alternative to other devices used to treat atonic postpartum hemorrhage.

(Obstet Gynecol 2016;0:1–4)

DOI: 10.1097/AOG.0000000000001473

Postpartum hemorrhage is the leading cause of maternal mortality worldwide. The global prevalence of postpartum hemorrhage is 6%. In Africa and Asia, where most maternal deaths occur, postpartum hemorrhage accounts for more than 30% of all maternal deaths.^{1,2} Even developed countries are challenged by this life-threatening complication of childbirth, causing 10.6% of maternal deaths in the United Kingdom and 12% of maternal deaths in the

The InPress Device



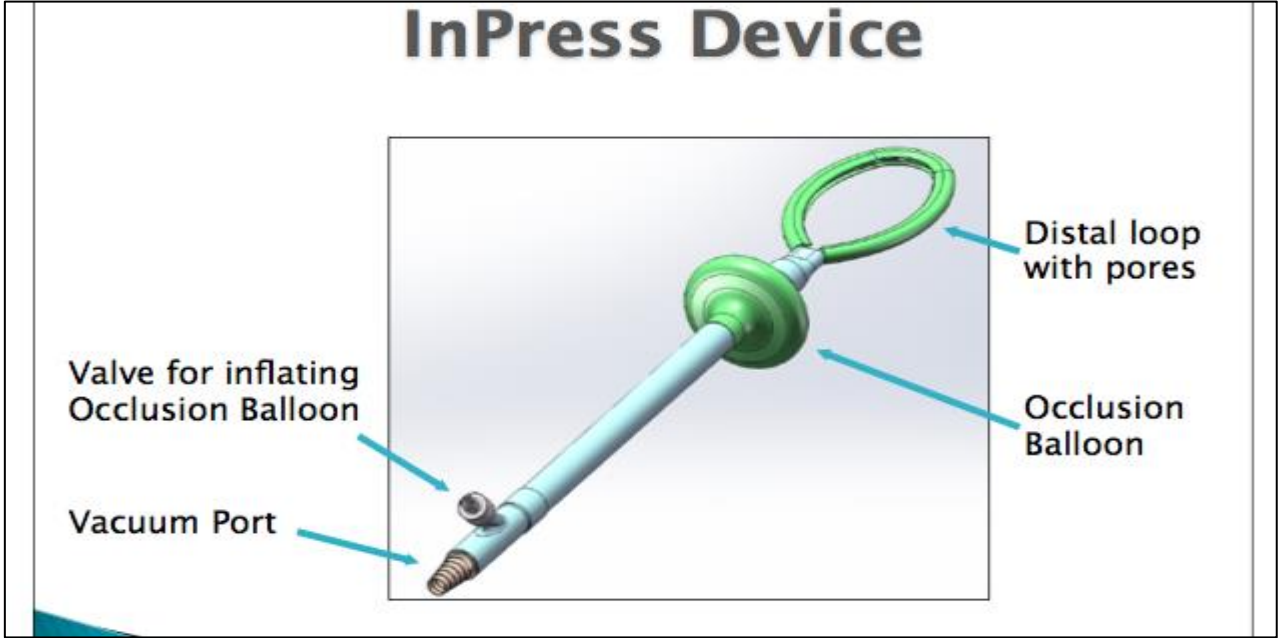
1. Seal created in birth canal
2. Light vacuum force uterine cavity
3. Uterus contracts and vessels constricted

- Immediately assess the efficacy of the treatment
- Allows physician to accurately measure blood loss

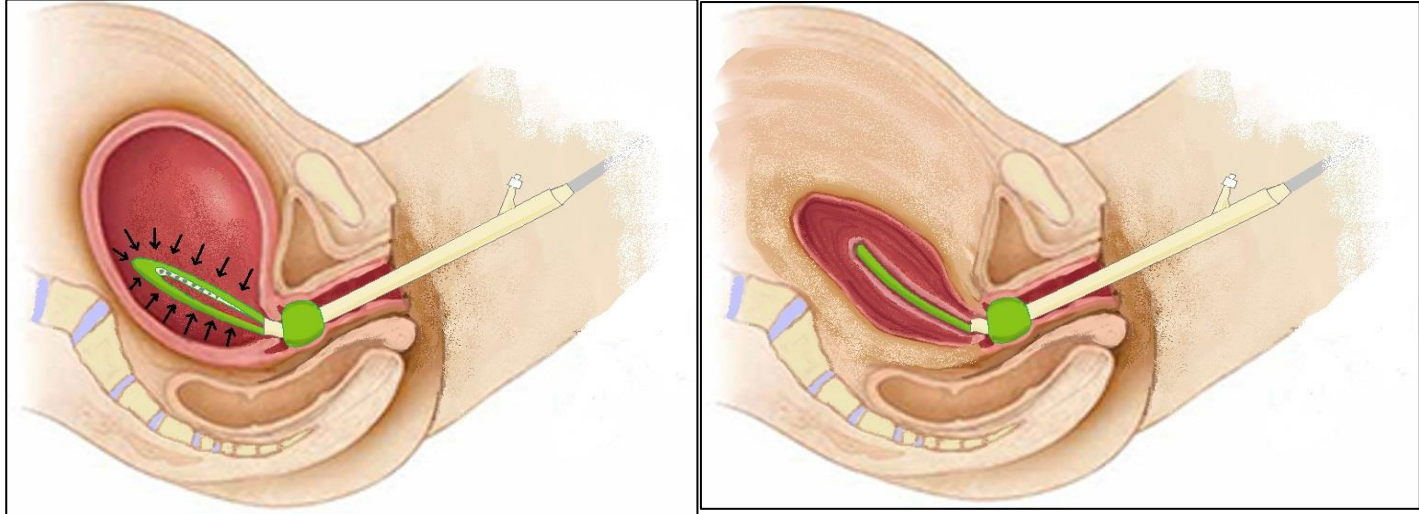
Clinical Experience: 10 patients in Jakarta, IN

- Hemorrhaging controlled <2 minutes
- Device removal unremarkable, no recurrence of bleeding
- *CE Mark Application and Pre-IDE Submission to FDA*

Control of Postpartum Hemorrhage Using Vacuum Induced Uterine Tamponade



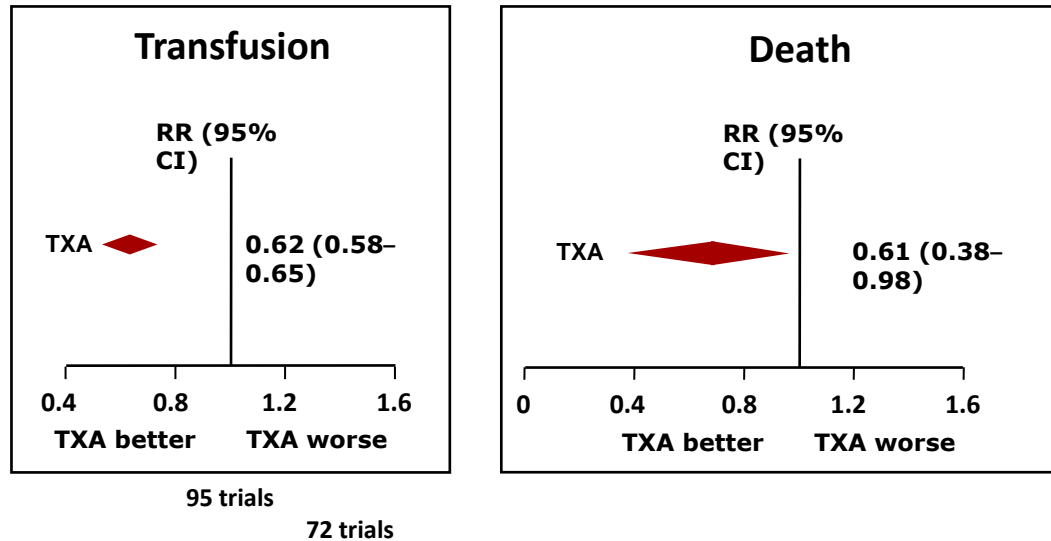
Jan Segnitz MD, Yuditia Purwosunu MD, Wydiastuti MD, Amelia Degenkolb MS, S. Arulkumaran MD -



An occlusion balloon, built into the device shaft, was inflated at the level of the external cervical os, to create a uterine seal. The distal end of the device was attached by standard suction tubing to a regulated suction source with a one-liter collection canister, and set at 70-mmHg vacuum.

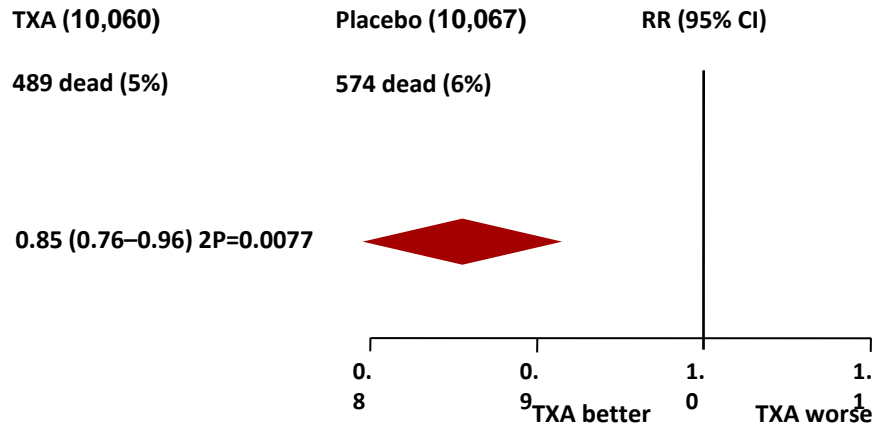
Results: The suction created an immediate seal at the cervical os, 50 -250 ml of residual blood was evacuated from the uterine cavity into the vacuum canister, the uterus collapsed and regained tone within minutes, and hemorrhaging stopped in all cases. The device remained in place while vaginal and perineal lacerations were easily repaired. The device was left in place for a minimum of one hour, and in our study, up to 6.5 hours.

Tranexamic acid in surgical bleeding

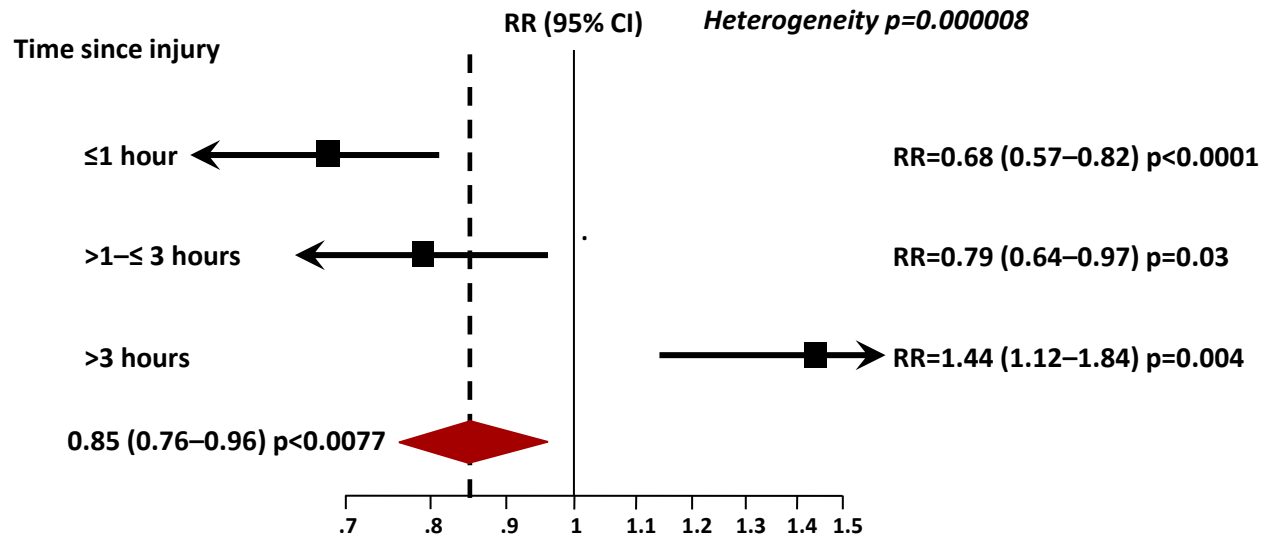


Ker K, Edwards P, Perel P, Shakur H, Roberts I. Effect of tranexamic acid on surgical bleeding: systematic review and cumulative meta-analysis. *Br Med J* 2012;344:e3054.

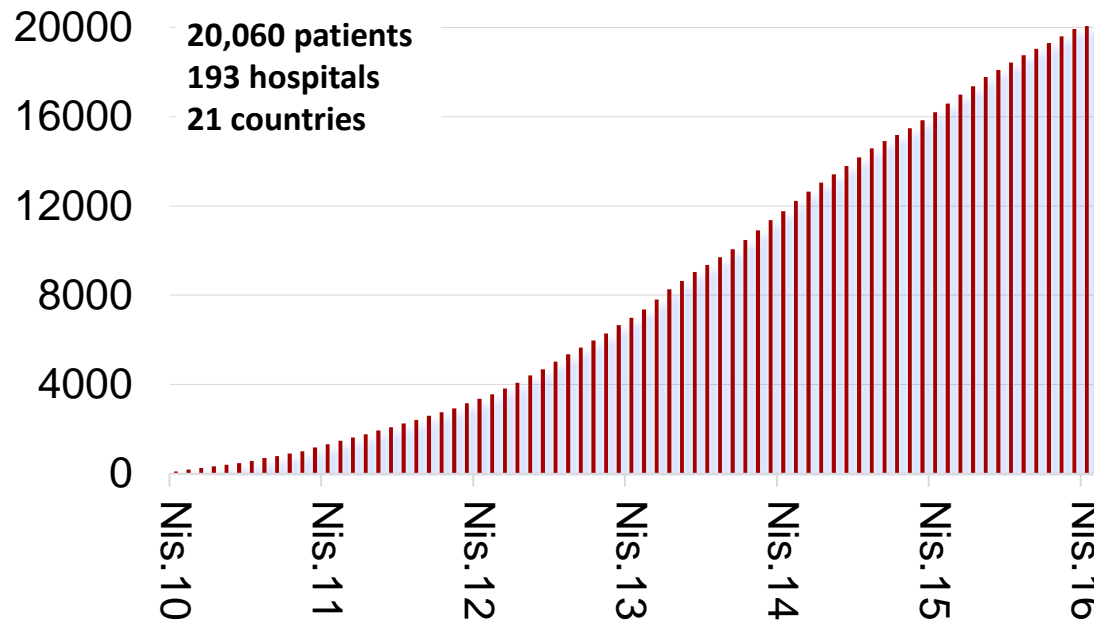
TXA and bleeding death in trauma



TXA and bleeding death in trauma



WOMAN STUDY - Patient enrolment



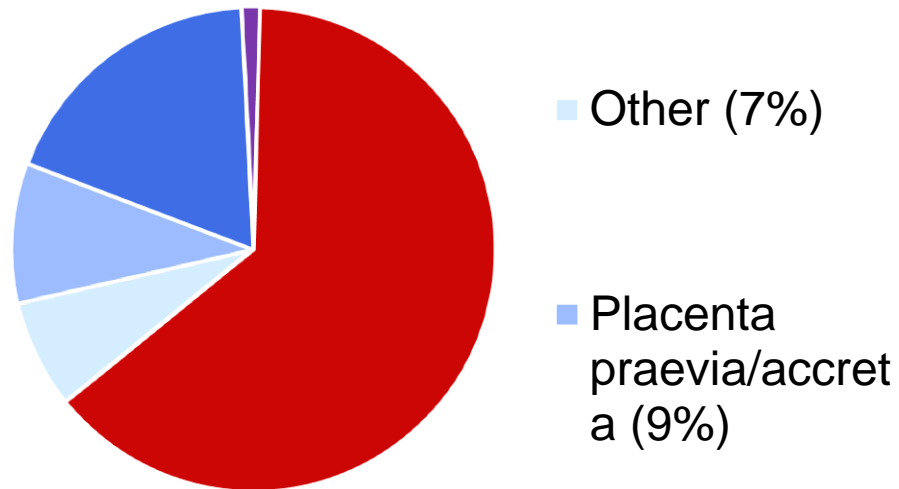
Where delivered?

Randomising hospital	17625 (88%)
Elsewhere	2435 (12%)

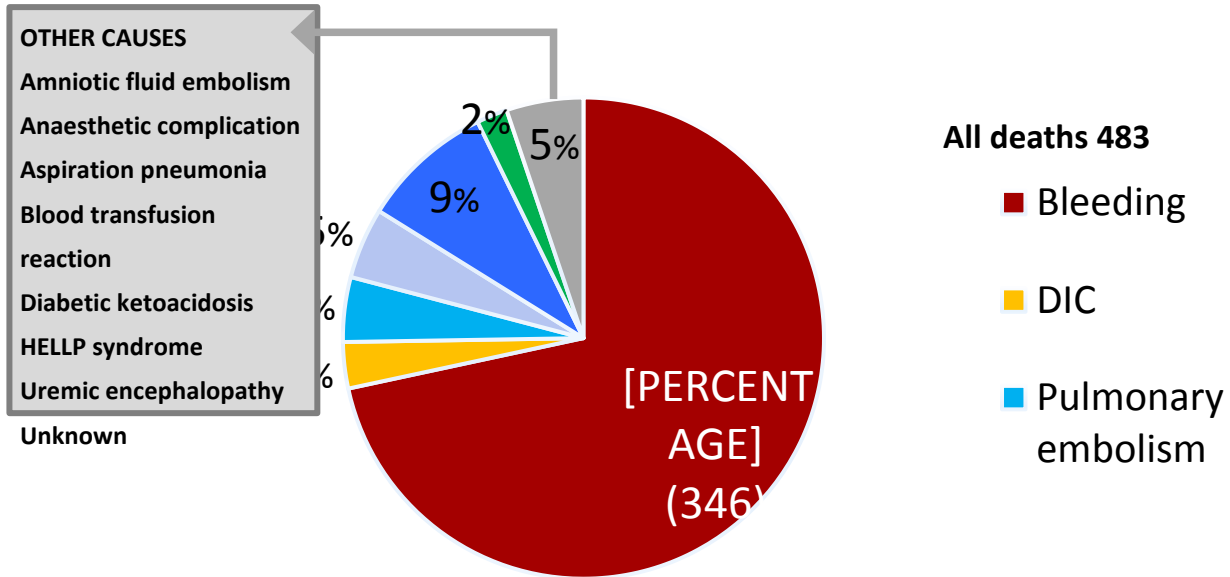
Uterotonic prophylaxis given?

Yes	19305 (96%)
No	270
Not known	485

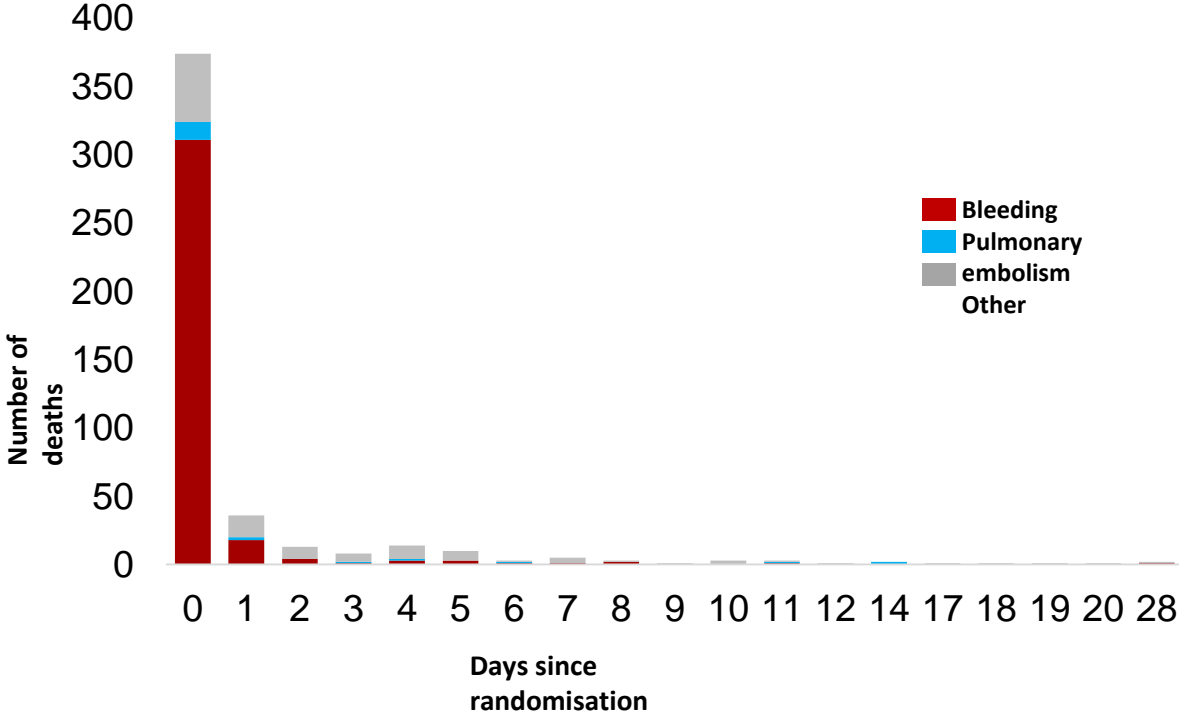
Primary cause of haemorrhage



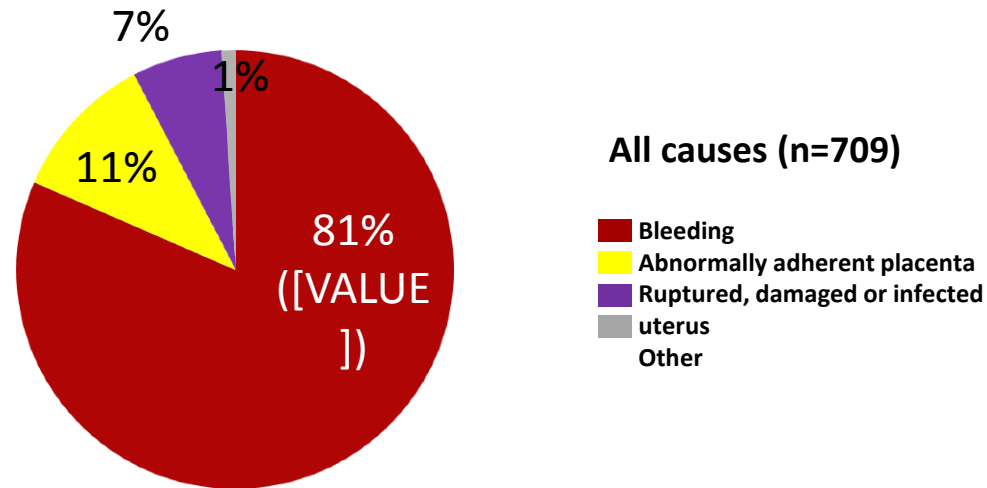
Cause of death; n=483



Death by days since randomisation

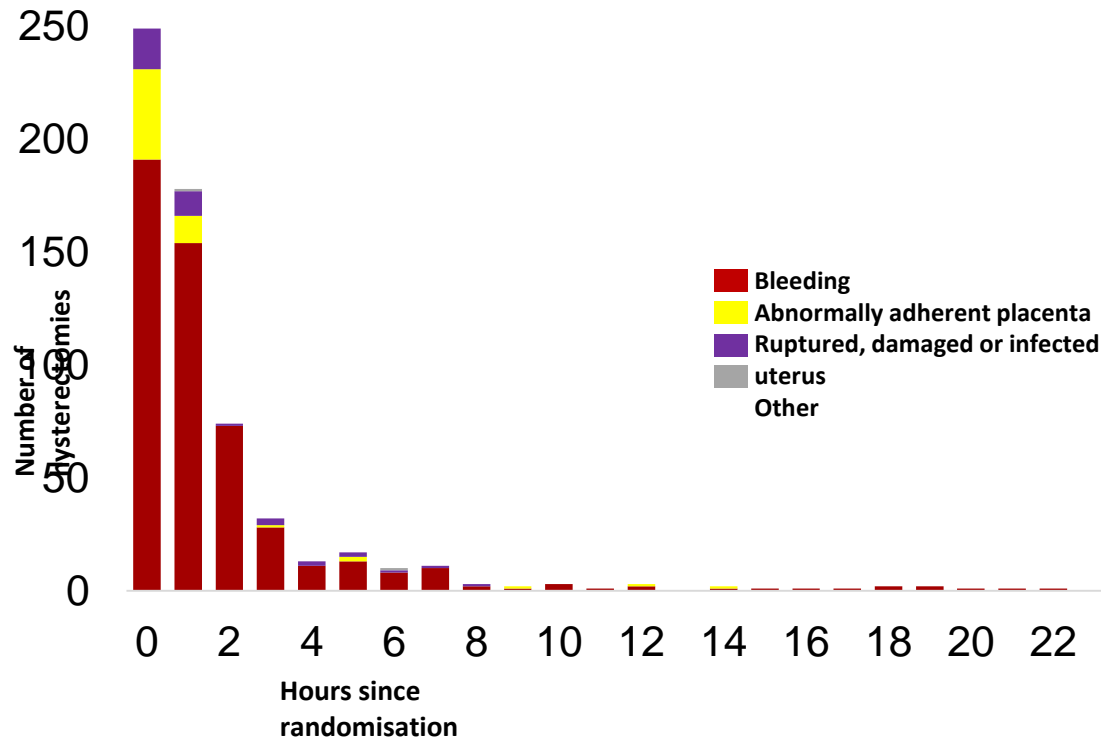


Cause of hysterectomy n=709



1020 women had a hysterectomy – 311 done before randomisation

Hysterectomy by hours since randomisation





WOMAN STUDY –

- **Women continue to die from PPH even when they deliver in hospital.**
- **More effective treatments are needed to improve outcomes.**
- **The WOMAN trial will resolve the uncertainty regarding the effectiveness and safety of TXA as a treatment for PPH.**

Stork System: Rapid, On-demand, Aerial Delivery of Blood/Uterotonics/Emergency Supplies;

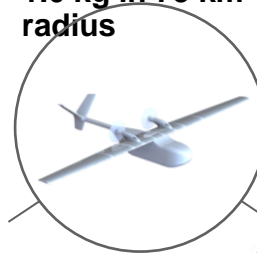


1 Health facility orders blood via mobile



2 Nest dispatches a Stork with package

3 Stork can carry up to 1.0 kg in 75 km radius



4 Stork drops package at health facility in 15-45 min

Ifakara Health Institute Tanzania & Romotive Inc. Pilot SLAB Grant

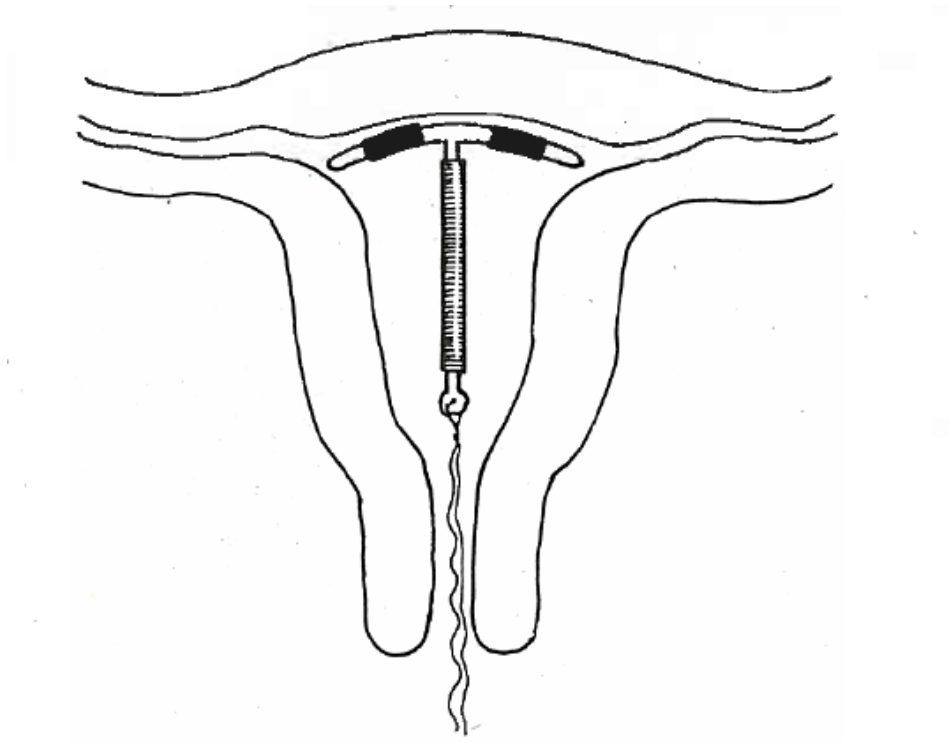
MDG 5b – Unmet need of FAMILY PLANNING



Voluntary Family Spacing with Post Partum FP programs including LARCs

Cu T 380 – Ten years of use

Thousands deliver in institutions – immediate post-placental or CS IUD – high retention rate, few expulsions, negligible perforation or infection


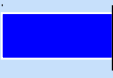

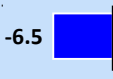
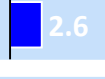
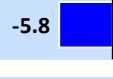



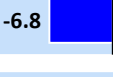

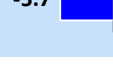


Percentage of women experiencing an unintended pregnancy within the first year of use (Pearl index)

Method	Typical Use	Perfect Use
Jadelle®	0.1	0.1
Mirena®	0.1	0.1
Depo-Provera®	0.3	0.3
Female sterilization	0.5	0.5
Copper IUD	0.8	0.6
Pill 5	N.A	
Progestin only	N.A	0.5
Combined	N.A	0.1
Condom	14	3
Diaphragm	20	6

Adapted from: Trussel J, in Hatcher R.A: Contraceptive Technology 17th Ed. NY, Ardent media Inc.,1998

Cost Effectiveness - Significant improvements in maternal health have been achieved for between \$1-6 per targeted woman

Case example	Funding covers ...	Total annual cost USD millions	Targeted women Million ¹	Cost estimate USD/targeted woman ¹	Annual reduction in MMR Percent	MMR 2011
Morocco (2008 - 12)	Free emergency obstetric care Facility upgrades/quality Emergency transport	44	8.2		-12.0 	75
Tamil Nadu (India) (2005 - 11)	24 hour services >2k additional nurses Training/equipment upgrades	22	16.4		-6.5 	97
Romania (2003 - 11)	Family planning/education Quality improvements	12	4.8		-5.8 	25
Vietnam (2000 - 09)	Training of doctors and facility upgrade Education of population Micro-insurance	31	22.9		-4.3 	54
China (2000 - 09)	Facility upgrade Demand creation	728	317.		-6.8 	27
Peru (2009 -2015)	Facility upgrades/quality Casas Maternas Emergency transport	22	7.0		-5.7 	52

Total cost <0.1% of GDP in all countries

¹ Costs for government spending
² Women in reproductive age (15-49)

SOURCE: Plan Maroc 2008, MoH; Tamil Nadu Health System Project; Sexual and Reproductive Health Strategy, MoH Romania; USAID; The Lancet; Plan estrategico nacional para la reduccion de la mortalidad materna y perinatal, MoH Peru, Centre for Community Health Research and Development Vietnam, UNICEF Report on China, Chinese MoH Maternal H. Program

Secret of these Success stories

We distilled the 5 Principles for Improving Maternal Health

1	2	3	4	5
<p>Entrench maternal health as a national priority by strengthening existing coalitions.</p> <p>Leverage groups of individuals who are passionate about maternal health and unite them around a shared vision of success.</p>	<p>Focus on selecting and implementing a few, targeted initiatives.</p> <p>Several innovative solutions to reduce maternal mortality have been successfully implemented around the world. Select and focus on the ones that will work for your local context.</p>	<p>Strengthen ownership at the grass-roots level.</p> <p>Inspire your people to continue to make a difference in maternal health and ensure they have the skills and power to drive the solution locally</p>	<p>Continually innovate to maximize available resources</p> <p>Focus on using current assets creatively and efficiently, while also leveraging the power of the private sector and other contributors.</p>	<p>Reinforce accountability by consistently measuring what matters.</p> <p>Regularly track leading indicators for maternal health and establish seamless & sustainable monitoring to ensure accountability throughout the system.</p>

80 MILLION

The number of **unintended pregnancies** that occur worldwide a year⁶

1 IN 5

...THIS IS MORE THAN A THIRD OF ALL PREGNANCIES (38%)⁶

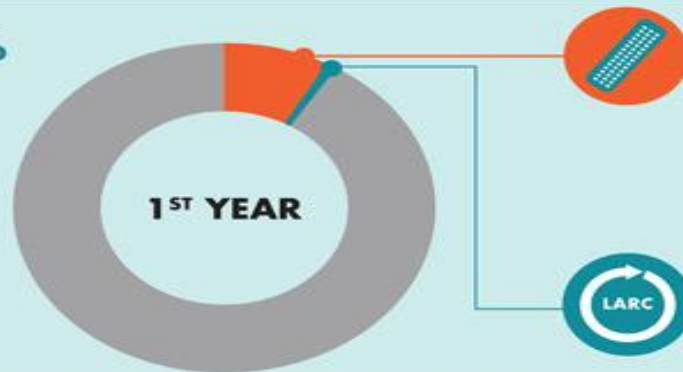


The number of **pregnancies worldwide that end in abortion**⁷



9% VERSUS LESS THAN 1%

The approximate rates of **unintended pregnancy** within the first year amongst women using **oral contraceptive pills** versus those using **long acting reversible contraceptives (LARC)**^{5*}



*Actual figures are 0.01% for women who use the subdermal implant, 0.14% for women who use levonorgestrel intrauterine system (IUS) and 0.7% for women who use the intrauterine device (IUD)

Most effective⁸

Less effective



Less than 1 pregnancy*

- IUS
- IUD
- Implant
- Sterilization

2-8 pregnancies*

- Injection
- Pill
- Ring
- Patch

15-25 pregnancies*

- Condom
- Diaphragm
- Cervical cap

30 or more pregnancies*

- Spermicide
- Withdrawal

*per 100 women in one year

In developing countries more than **22,000 women die from complications** from unsafe abortion each year and 6.9 million are treated for complications

Abortion rates have decreased significantly in high income regions since 1990, **but not in low income regions**

The annual cost of providing **postabortion care in developing countries** was **\$232 million** in 2014

ACCESS TO SAFE ABORTION IS AN URGENT PUBLIC HEALTH NEED

Restrictive abortion laws and policies put women's health in peril

SOLUTIONS



Satisfy the demand for **contraception**



FACT: Meeting the need for contraceptive services can reduce unsafe abortion by 74%



Liberalize restrictive **abortion laws** and make safe abortion services accessible



Improve access to **postabortion care**



Address **abortion stigma**









































Provide comprehensive **sexuality education** to all, including adolescents



Health worker roles in providing
**safe abortion care and
post-abortion contraception**



Management of abortion and post-abortion care in the first trimester

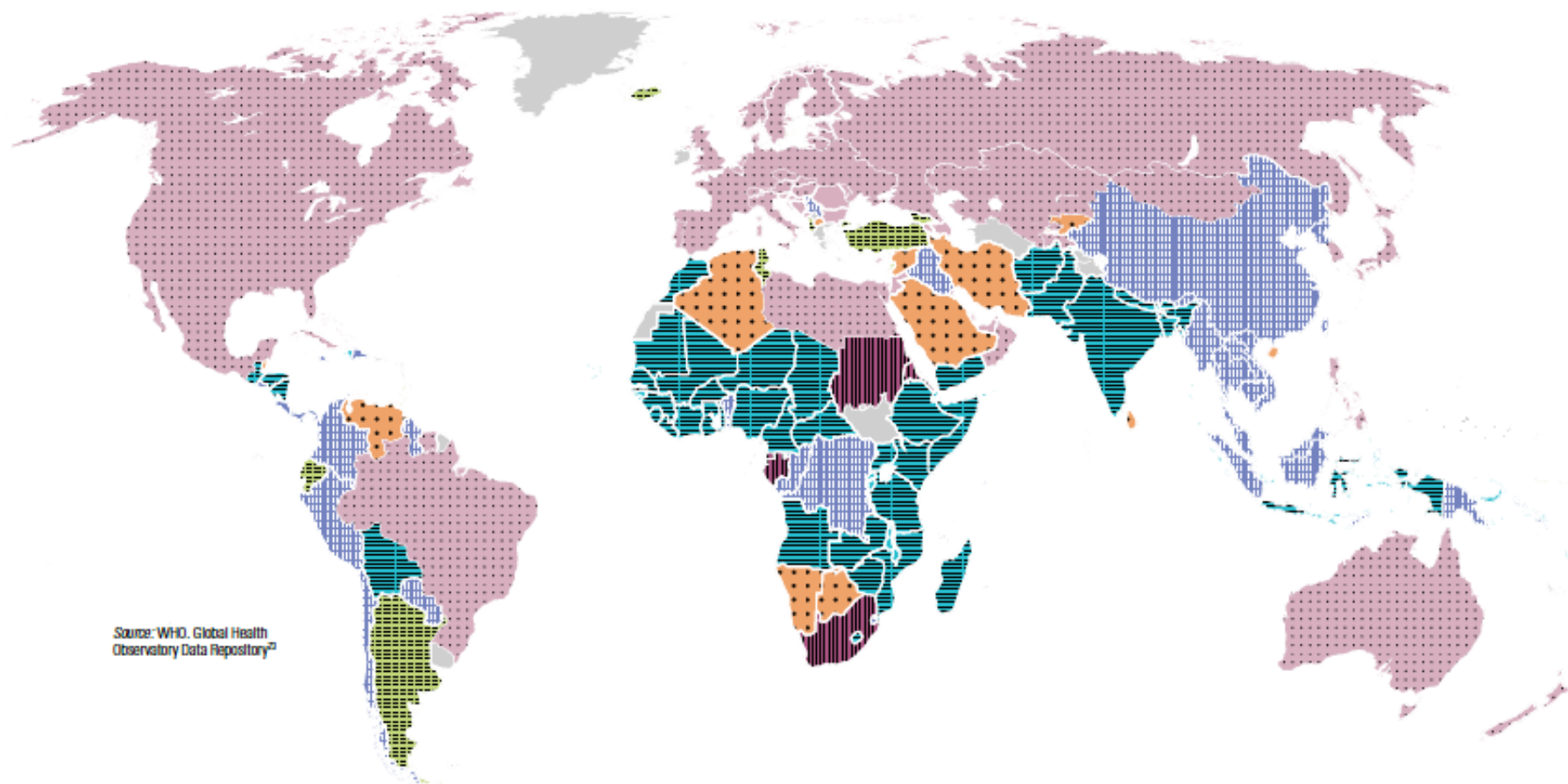
	Lay health workers	Pharmacy workers	Pharmacists	Doctors of complementary systems of medicine	Auxiliary nurses/ ANMs	Nurses	Midwives	Associate/ advanced associate clinicians	Non-specialist doctors	Specialist doctors
Vacuum aspiration for induced abortion	 **	 **	 **	 **	 **				 *	 *
Vacuum aspiration for management of uncomplicated incomplete abortion/ miscarriage	 **	 **	 **	 **	 **				 *	 *
Medical abortion in the first trimester	Recommendation for subtasks (see below)		Recommendation for subtasks (see below)	 **					 *	 *
Management of uncomplicated incomplete abortion/ miscarriage with misoprostol				 **					 *	 *

* considered within typical scope of practice; evidence not assessed.

** considered outside of typical scope of practice; evidence not assessed.

Figure 1: Health workforce to population ratios in 186 countries

-  **Group 1:** density of skilled workforce lower than 22.8/10 000 population and a coverage of births attended by SBA less than 80%
-  **Group 2:** density of skilled workforce lower than 22.8/10 000 population and coverage of births attended by SBA greater than 80%
-  **Group 3:** density of skilled workforce lower than 22.8/10 000 population but no recent data on coverage of births attended by SBA
-  **Group 4:** density is equal or greater than 22.8/10 000 and smaller than 34.5/10 000
-  **Group 5:** density is equal or greater than 34.5/10 000 and smaller than 59.4/10 000
-  **Group 6:** density is equal or greater than 59.4/10 000



Source: WHO, Global Health Observatory Data Repository²

Source: WHO, 2013 (2); using data from Global Health Observatory Data Repository (online database), available at: <http://apps.who.int/gho/data/>

2

Overarching Objective is Provision of Family Planning, Safe Abortion and Emergency Obstetric Care

	Possible place of provision		
	Community	PHC ¹	Hospital ²
Prevent haemorrhage	✓	✓	✓
Treat haemorrhage	⋯	⋯	✓
Prevent/treat infection	⋯	⋯	✓
Prevent/treat (Pre)eclampsia	✓	✓	✓
Cesarean sections			✓
Family timing/spacing	✓	✓	✓
Safe abortion	⋯	⋯	✓

- ✓ Full provision
 - ⋯ Partial provision
 - ✓ Full prevention in antenatal care
- } At child birth

- Ultimate goal to get women to institutional (hospital) care quickly when needed – where all interventions are possible
- Partial, community based interventions for preventing and treating haemorrhage and preventing pre-eclampsia
- Family timing/spacing and some aspects of safe abortion can be community interventions

¹ Primary care center, employing at least one midwife

² Hospital, providing at least one operation theatre

2 Healthcare alone is not the answer: Improvements must be made across the Maternity Ecosystem of Supply, Demand, Affordability and Accessibility

A Provide quality healthcare

Ensure that the 7 health interventions across 3 areas can be provided with skill and empathy

B Stimulate desire for care

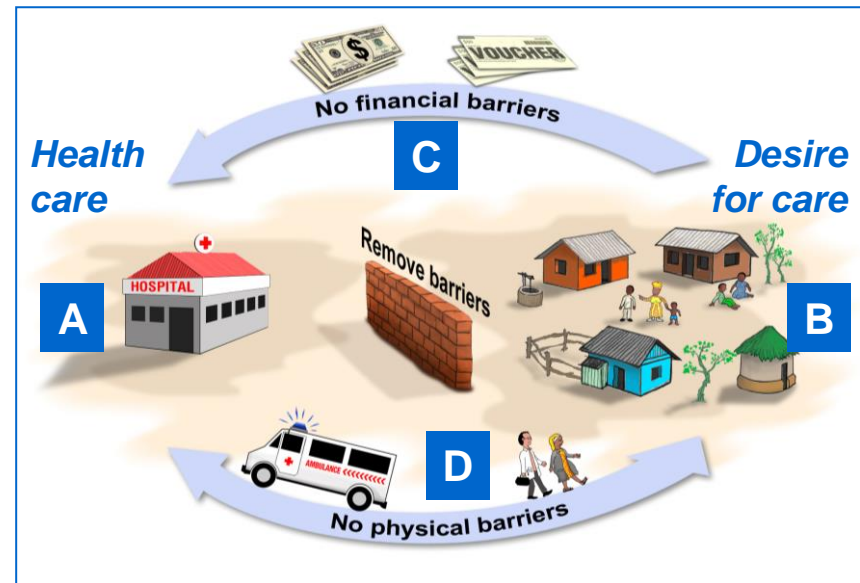
Ensure that women and their influencers know the importance of family planning and maternal care, and are willing, enabled and empowered to seek these services

C Ensure financial affordability

Innovate to provide affordable care to those who can contribute and free care to those who need it most

D Ensure physical accessibility

Overcome barriers that prevent women from accessing care by bringing women to healthcare or bringing healthcare to women



A few critical initiatives can dramatically Improve Maternal Health



Provide quality healthcare

Create and train healthcare workers in clinical guidelines that cover the 7 core medical interventions

Ensure 100% availability of clean delivery kits, uterotonics (e.g. misoprostol) and other life-saving drugs (such as antibiotics and magnesium sulphate) at health facilities

Investigate each maternal death and make local leaders responsible for prevention



Stimulate desire for care

Develop individual birth plans for women who face significant barriers to accessing care

Respect local cultural constraints when providing clinical and other healthcare

Use local context and cultural references to communicate the importance of family spacing and institutional delivery to at-risk populations



Ensure financial affordability

Segment your population so you can provide free essential care to those who need it most

Use micro-insurance for those who can afford small premiums

Encourage local contributions by enabling community insurance



Ensure physical accessibility

Provide temporary accommodation close to medical facilities for mothers who live in remote areas

Send a caregiver into rural areas 1-3 times per year, to promote awareness of maternal health and to provide contraceptives of choice

Provide emergency transportation between primary care centers and hospitals
And Consider innovative, remote solutions, e.g. mobile healthcare / tele-health

Depending on Terrain - Training of Traditional Birth Attendants



Nicaragua

Homes to stay closer to Health Facilities



3 Strengthen ownership at the grassroots level

What does this mean?

- Make the national priority a **personal priority** for everyone
- Make sure your people understand their importance and are **empowered to help you drive success**
- Give people at all levels the **ability to adapt the solution to their local needs**
- **Celebrate** and reward success

Vietnam creates ownership at all levels, inspiring even basic clinics to become leaders



Example of ownership in a commune health clinic in Luong Son District...

- Clinic manager (of past 23 years) knows and tells the interviewer that maternal health is a national priority
- Manager holds up MoH guidelines, outlining exactly what each staff member should know how to do, and what supplies she should always have. Awareness of guidelines high at all staff levels
- To encourage more deliveries at the clinic, the manager has personally created an inter-village quiz about maternal health, and leads a talent show about maternal health every year
- The manager points to her many awards on the wall, the most recent “2nd place in district for best provision of care”



Empowerment can be achieved by Community Mobilization; to select priority areas, discuss Family Planning, Immunization, micro financing for transport, medicine, agriculture/ nutrition. Tony Costello's group – Lancet series – MMR reduction by community mobilization.

Women and Children First – a UK charity - www.wcf-uk.org

What does this mean?

- Focus on **making the most of the resources that are currently available** (rather than delay until more resources are procured)
- Use **innovative financing models** to move beyond traditional sources (e.g., micro-insurance, community insurance)
- Capitalize on the private** sector where it is more efficient

Case examples

Focus on using what is available

Mozambique

Training of surgical assistants to perform Caesarean sections extended the reach of these life saving interventions to underserved populations – and proved to be highly cost-efficient



Capitalize on private sector

India

For-profit company Zigitza runs over 300 emergency areas in collaboration with the government and provides transport to the poor for free



Tanzania

NGO regulated pharmacies for the government and increased availability of essential drugs while reducing the black market



Maximize the reach of your finances

Kenya

Savings cards allow women to prepare for the cost of delivery and take a part of the burden



India

Large insurance scheme for the poor negotiated 30% lower fees for private sector services





**Midwife – One/5000
Rep age group
women**



**Home visit - 83% booked by 12
weeks**



**Adequate, well
trained motivated
personal are essential
Desire, Devotion &
Determination**



Postnatal care – takes care of child

Antenatal – quality care at door

5

Reinforce accountability by consistently Measuring what Matters

Audit structure, process and outcomes.

What does this mean?

- Identify a focused set of **data which highlights both process and outcome measures** to monitor maternal health improvement
- Develop **short cycles of data generation** and production of reports
- **Create accountability at every level**, make levels accountable for each other
- Create a friendly competitive spirit by highlighting achievements and **rewarding success**

Peru conducts immediate maternal death audits to create accountability and understand root causes



- Ministry of Health follows-up with each maternal death to understand reason and cause of death
- A doctor and midwife team travel to the clinic and analyze reason for death, giving future preventative training
- Each death is discussed in maternal health committees and resulting actions are defined for the local level

Vietnam creates accountability between health facility levels, fostering and rewarding competition



- In 4-tiered health center system (national, provincial, district, commune), the tier above is responsible for monitoring and resulting training of centers underneath (e.g. district hospitals responsible for ~10-15 commune health centers)
- Districts and commune health centers are given yearly recognition for status within the province and district

Success in maternal health requires everyone in the system to work together towards the same goal

Potential roles and players – some examples



Goal 1 Eradicate extreme poverty & hunger

TARGET

Halve, between 1990 and 2015, the proportion of people whose income is less than \$1 a day

Higher food prices may push 100 million people deeper into poverty

New data, based on the latest estimates of the cost of living in developing countries, may change our view of the scale and distribution of global poverty (see box). But the continuing economic growth in all developing regions suggests that the downward trend in poverty continued through 2007. The goal of cutting in half the proportion of people in the developing world living on less than \$1 a day by 2015 remains within reach. However, this achievement will be due largely to extraordinary economic success in most of Asia. In contrast, previous estimates suggest that little progress was made in reducing extreme poverty in sub-Saharan Africa. In Western Asia, poverty rates were relatively low but increasing. And the transition economies of the Commonwealth of Independent States (CIS) and South-Eastern Europe were still recovering from the rise in poverty in the early 1990s.

Since 2002, one of the factors contributing to growth in many developing countries, notably in sub-Saharan Africa but also in Western Asia and Latin America, has been the increased prices of commodities, including oil. For exporters, this has been a boon. But higher commodity prices, particularly oil prices, have dampened growth in countries importing these products. Many are among the poorest countries in the world.

The recent increases in the price of food have had a direct and adverse effect on the poor. Poor people who do not produce their own food are the most severely hurt because a larger proportion of their expenditure is allocated to food. Higher food prices limit their ability to obtain not only food but also other essential goods and services, including education and health care. Most of the urban poor and the landless rural poor are in this position. Poor farmers, on the other hand, can benefit from higher food prices if they are able to produce more than they consume. But many lack the resources to do so, in part because higher oil prices have raised the cost of fertilizer. Overall, higher food prices are expected to push many more people into absolute poverty, with estimates suggesting that the increase will be as many as 100 million. Most of the increase will occur in sub-Saharan Africa and Southern Asia, already the regions with the largest numbers of people living in extreme poverty.

Poverty – living with less than \$1/= per day

Exacerbated by economic crisis created by the Banking & Investment sector

Higher Fuel & Food Prices

Unemployment

Corruption

Population expansion

Environmental Factors – Natural disasters

Civil wars

Main Goal with SDGs



Goal 2 Achieve universal primary education



2,3 & 4 Included in the SDGs

Goal 3 Promote gender equality and empower women



TARGET
Eliminate gender disparity in primary and secondary education, preferably by 2005, and in all levels of education no later than 2015

Girls still wait for equal primary school access in some regions

Girls' primary school enrolment in relation to boys', 1990/1991, 1999/2000 and 2005/2006 (Girls per 100 boys)



Goal 4 Reduce child mortality



Child mortality has an impact on...
Child mortality has been significantly reduced by...
programs and...
intervention

What can you do tomorrow to save more women's lives?

✓ **Commit to making maternal health a personal priority**

✓ **Ensure there is a compelling case for change** in place that inspires everyone – from village mother to Prime Minister – to join you in saving mothers' lives

✓ **Identify any existing alliances for improving maternal health and handpick a few influential leaders** who will drive change starting tomorrow

✓ Use others' success as inspiration - **create a shortlist of 2-3 innovations that could dramatically improve maternal health** in your country

✓ Define and **commit to follow up personally on the most relevant process & outcome indicators*** for your top 2-3 initiatives (e.g. availability of contraceptives, facility-based deliveries, maternal mortality ratio)

How many more lives could you save?

* Good indicators are those suggested by the UN for MDG 5 (see <http://mdgs.un.org/unsd/mdg/Host.aspx?Content=indicators/officialist.htm>)

DEADLY DELIVERY

THE MATERNAL
HEALTH CARE CRISIS
IN THE USA

ONE YEAR UPDATE
SPRING 2011



MATERNAL HEALTH
IS A HUMAN RIGHT

AMNESTY
INTERNATIONAL



It keeps startling me that at the beginning of the 21'st Century, at a time when we can .. explore the depths of the seas and build an international space station, we have not been able to make childbirth safe for all women around the world. .. This is one of the greatest social deficiencies of our time

Thoraya Obaid
Executive Director
United Nation Population Fund
MDG 5 - It is unethical not to take action to rectify this Human Rights Issue

Moving forwards; POVERTY/ SOCIAL UNREST Climate change & Disasters



Those affected mostly are women & children
World, National leaders & **WE** have a major role to play

**“Women are not dying because of diseases we cannot treat.
They are dying because societies have yet to make the decision that their
lives are worth saving.”**

***Mahmoud Fathalla –
Past President FIGO***

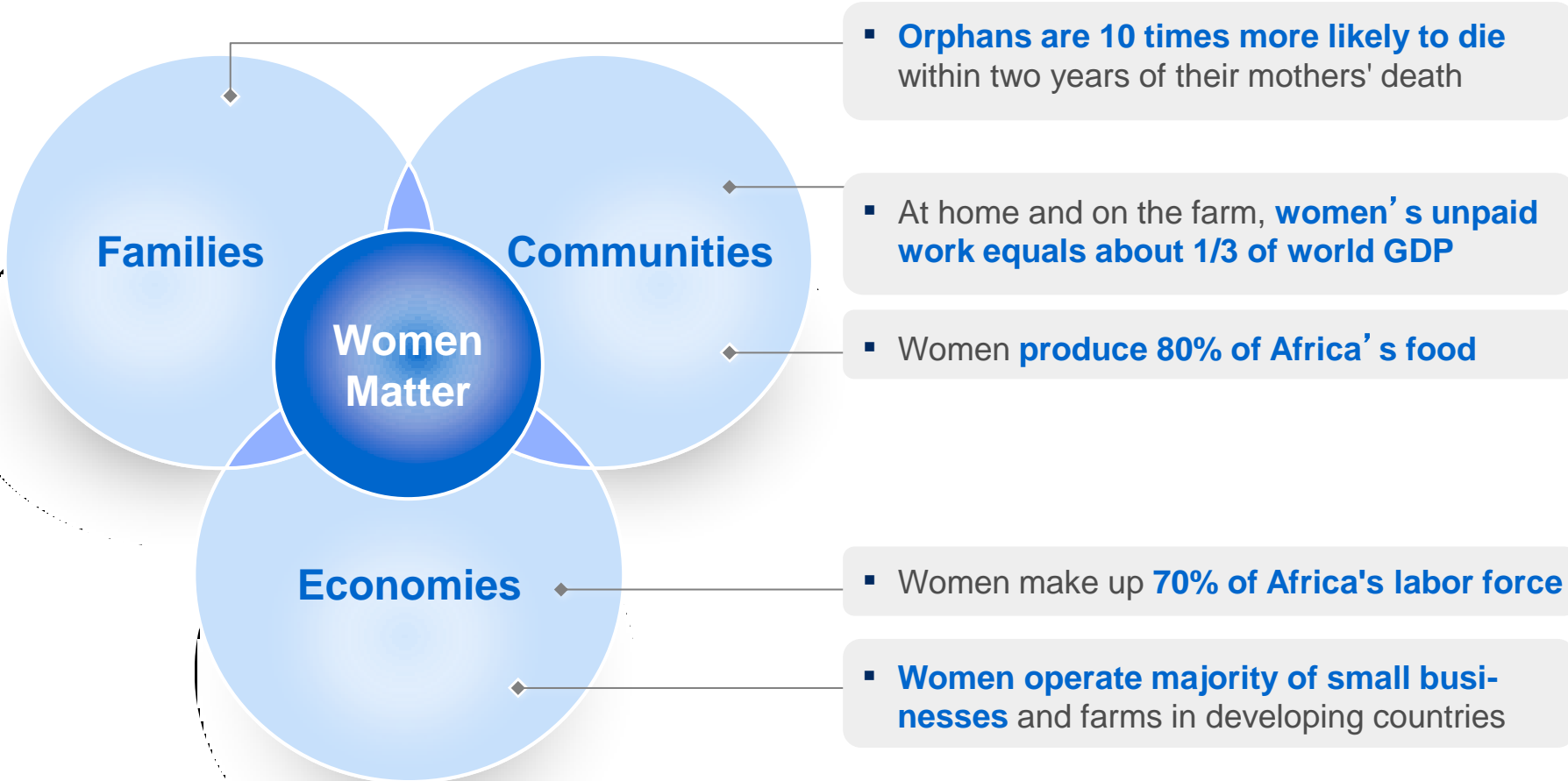
THANK YOU

**Acknowledgement; Imperial College &
McKinseys & Company**



Women matter: The world should focus on Maternal Health

Saving women stimulates the Economy, Bolsters communities, and Strengthens families



Working Draft - Last Modified 09/08/2012 23:05:14 Printed

SOURCE: UNFPA; UNICEF, "The State of the World's Children 2009: Maternal and Newborn Health."; Julio Frenk, "It's Time to Set A Women and Health Agenda." PMNCH, "Global Strategy for Women's and Children's health." UN, 2010; Women Deliver; Woodrow Wilson Center event, "The Impact of Maternal Mortality and Morbidity on Economic Development"

Indicators for MDG 4 and 5

MDG 5a	Target
Maternal Mortality Ratio (MMR)	reduce by 75% between 1990 and 2015
Proportion of births attended by Skilled Birth Attendant (%)	at least 80% by 2015
MDG 5b	
Contraceptive prevalence rate	Universal access to reproductive health by 2015
Unmet need for family planning	
Adolescent Birth Rate	
Antenatal care coverage	at least 1 visit, at least 4 visits
MDG 4	
Under five mortality rate	Reduce child mortality by 65% between 1990 and 2015
Infant mortality rate	
Proportion of 1 year old children immunised against measles	

Because Women matter, the World agreed to reduce Maternal Deaths by 5.5% every year - MDG 5 (75% reduction from 1990 – 2015)

A woman from the developing world is 100x more likely to die in childbirth than one in the developed world

Deaths per 100,000 live births

Developing world



Developed world



These deaths are almost entirely preventable, if you address the root causes for maternal mortality

By 2015, the world has pledged to decrease deaths to 100 per 100,000 live births



Millennium Development Goal 5 outlines 2 global objectives in maternal health, measured by 6 key performance indicators

Target 2015
 Current status¹
 1990



MDG 5: Improve maternal health

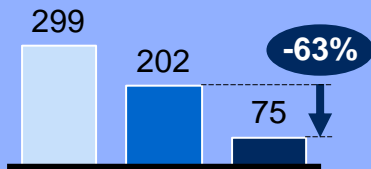
Target goal:

5A Reduce maternal mortality by 75%, between 1990 and 2015

Performance Indicator:

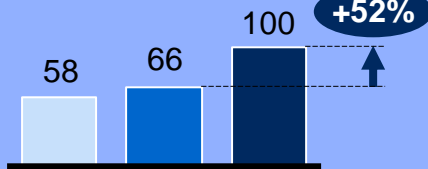
5.1 Maternal mortality ratio

Deaths per 100,000 live births



5.2 Births attended by skilled health personnel

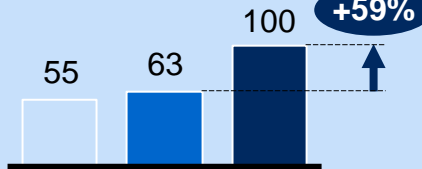
Births attended by skilled health personnel, %



5B Achieve universal access to reproductive health by 2015

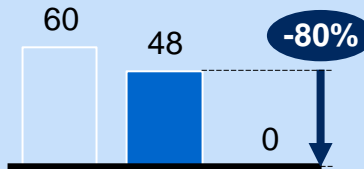
5.3 Contraceptive prevalence rate

Usage among women (15-49), %

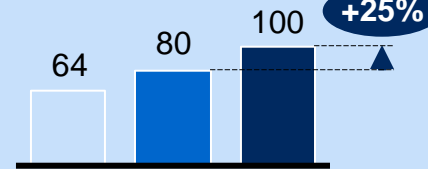


5.4 Adolescent birth rate

Births to women aged 15-19, Per 1,000 women

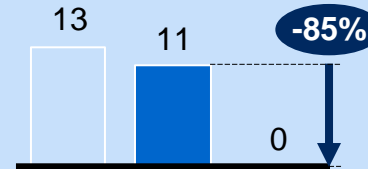


5.5 Antenatal care coverage
Women (15-49) receiving antenatal care, %
At least one visit



5.6 Unmet need for family planning

Women (15-49), married or in union with unmet need for family planning, %



Working Draft - Last Modified 09/08/2012 23:05:14

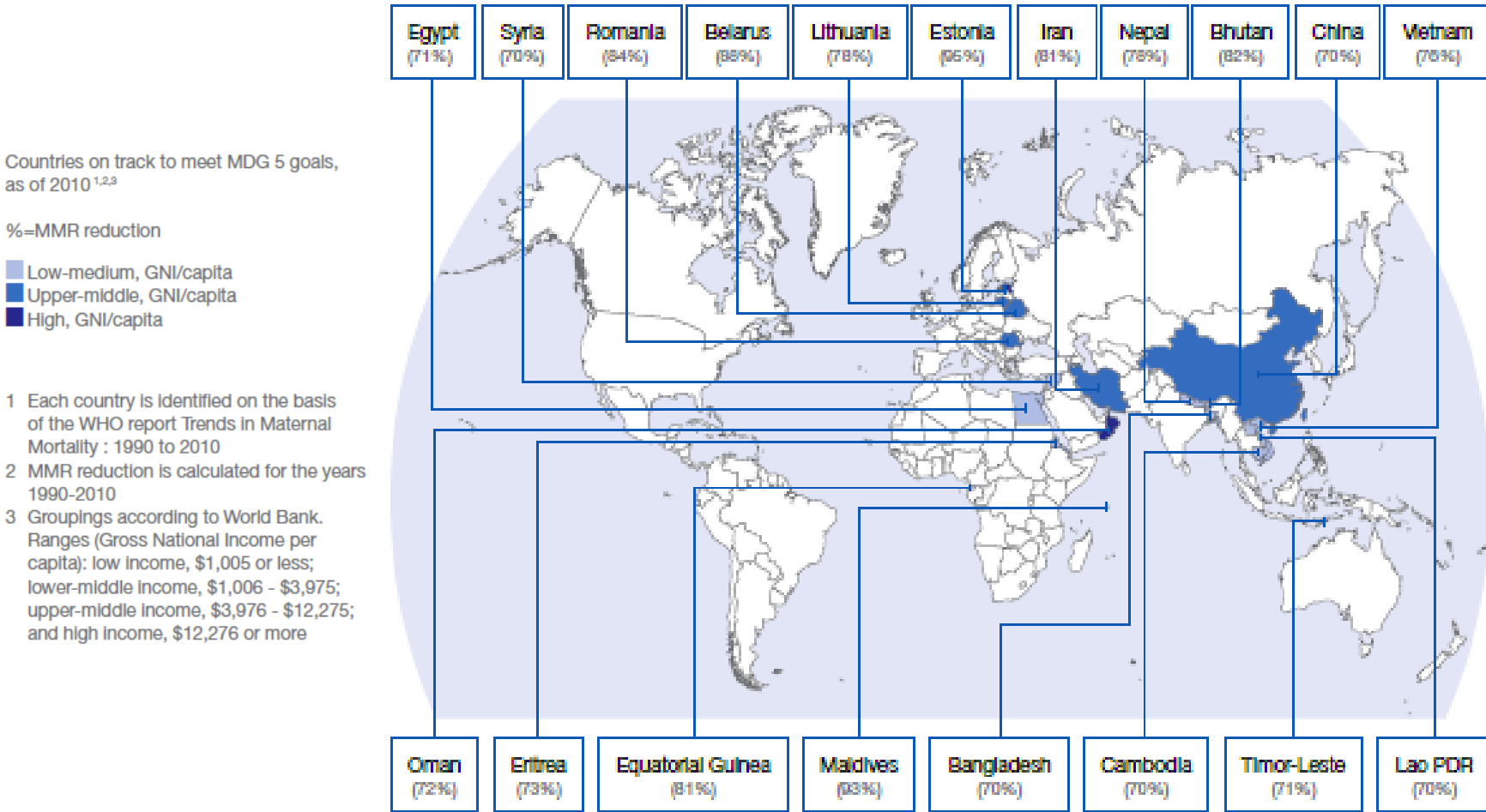
Printed

¹ Current status based on most recent available data (2008-2011)

**Adolescent Birth – Poor outcome – Community Education
Legal age of marriage >20; Contraception for Adolescents
Termination of unintended pregnancies Vs Criminal
Septic abortion (Nepal, Uruguay, Hungary). Medical & MVA**



Observation - Countries on track to meeting MDG 5 are from various geographies and income levels - Success is possible in all environments – An inspiration to the ~90% of countries who must still improve progress



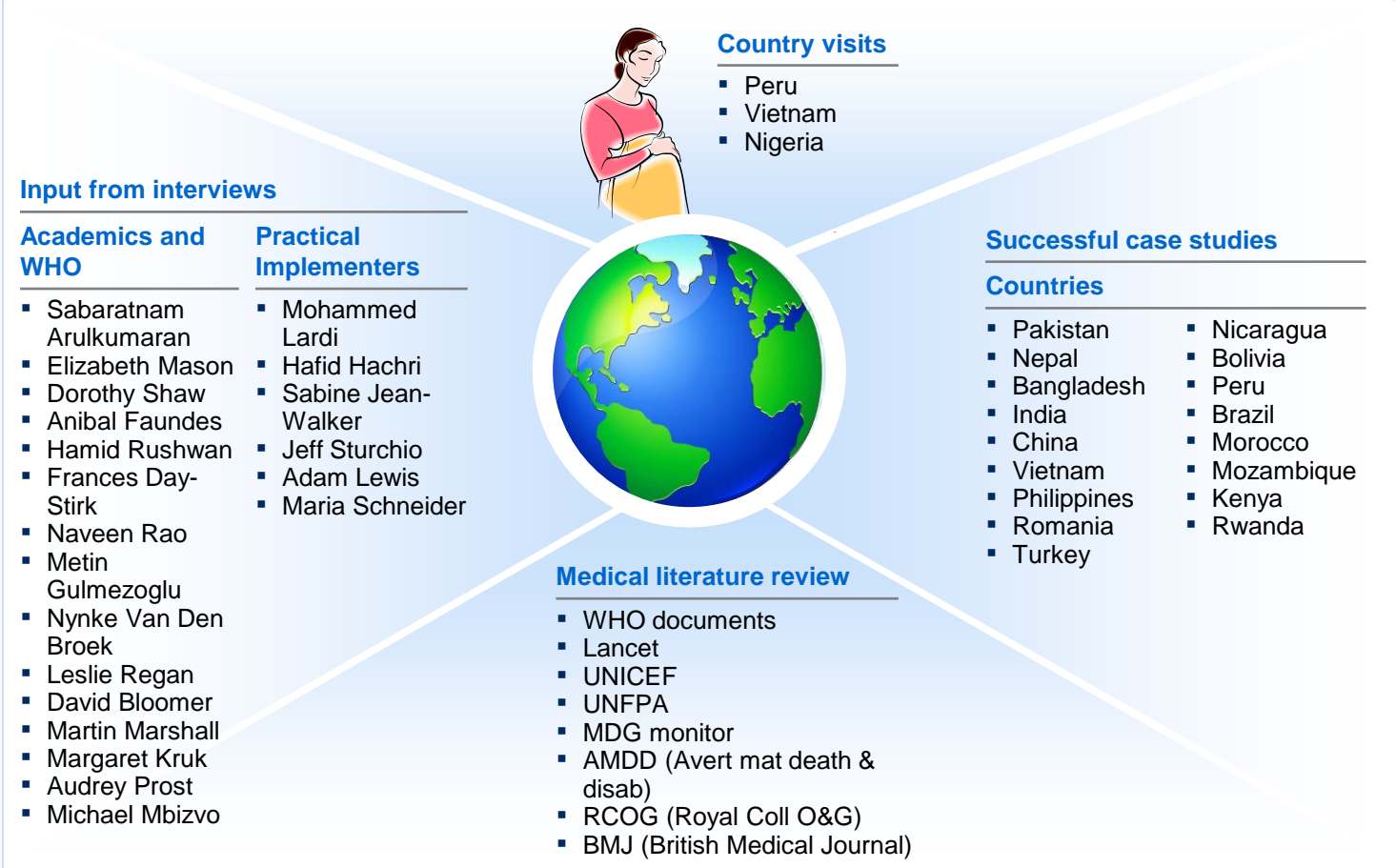
Working Draft - Last Modified 09/08/2012 23:05:14

Printed

Research - To determine what works in maternal health we Examined medical literature, Interviewed global experts, and Visited successful countries...

NOT EXHAUSTIVE

Sources



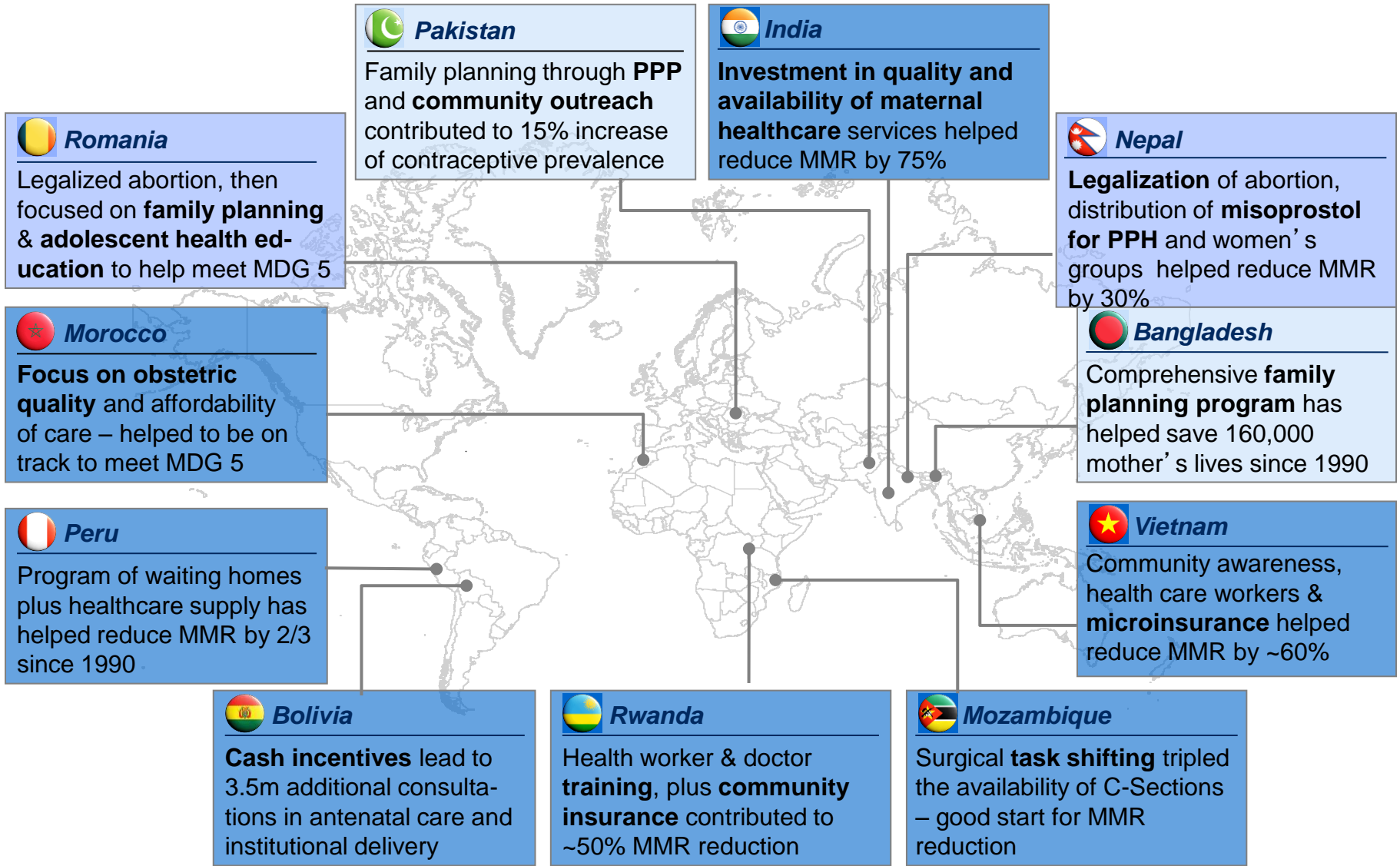
Findings

- Causes of maternal mortality
- Medical interventions with impact on maternal health
- Initiatives that have proven to be successful
- Principles to ensure successful implementation

Working Draft - Last Modified 09/08/2012 23:05:14 Printed

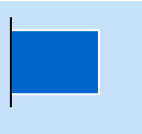
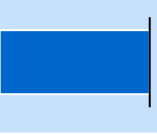
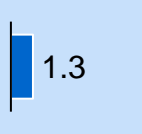

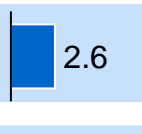
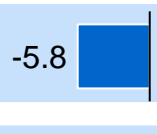
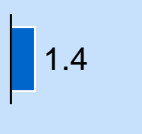
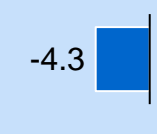
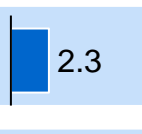
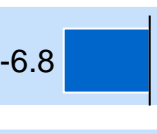
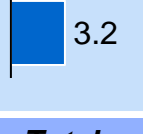
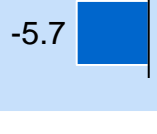
... Findings - Incredible maternal health success stories from around the world

- Family planning
- Safe Abortion
- Maternity care



Working Draft - Last Modified 09/08/2012 23:05:14 Printed

Cost Effectiveness - Significant improvements in maternal health have been achieved for between \$1-6 per targeted woman

Case example	Funding covers ...	Total annual cost USD millions	Targeted women Million ¹	Cost estimate USD/targeted woman ¹	Annual reduction in MMR Percent	MMR 2011
Morocco (2008 - 12)	Free emergency obstetric care Facility upgrades/quality Emergency transport	44	8.2		-12.0 	75
Tamil Nadu (India) (2005 - 11)	24 hour services >2k additional nurses Training/equipment upgrades	22	16.4		-6.5 	97
Romania (2003 - 11)	Family planning/education Quality improvements	12	4.8		-5.8 	25
Vietnam (2000 - 09)	Training of doctors and facility upgrade Education of population Micro-insurance	31	22.9		-4.3 	54
China (2000 - 09)	Facility upgrade Demand creation	728	317.7		-6.8 	27
Peru (2009 -2015)	Facility upgrades/quality Casas Maternas Emergency transport	22	7.0		-5.7 	52

Total cost <0.1% of GDP in all countries

¹ Costs for government spending

² Women in reproductive age (15-49)

Secret of these Success stories - we distilled the 5 Principles for Improving Maternal Health

1	2	3	4	5
<p>Entrench maternal health as a national priority by strengthening existing coalitions.</p> <p>Leverage groups of individuals who are passionate about maternal health and unite them around a shared vision of success.</p>	<p>Focus on selecting and implementing a few, targeted initiatives.</p> <p>Several innovative solutions to reduce maternal mortality have been successfully implemented around the world. Select and focus on the ones that will work for your local context.</p>	<p>Strengthen ownership at the grass-roots level.</p> <p>Inspire your people to continue to make a difference in maternal health and ensure they have the skills and power to drive the solution locally</p>	<p>Continually innovate to maximize available resources.</p> <p>Focus on using current assets creatively and efficiently, while also leveraging the power of the private sector and other contributors.</p>	<p>Reinforce accountability by consistently measuring what matters.</p> <p>Regularly track leading indicators for maternal health and establish seamless & sustainable monitoring to ensure accountability throughout the system.</p>

1 Entrench maternal health as a National Priority by strengthening Existing Coalitions (FIGO – LOGIC Project)

What does this mean?

- **Develop a “burning platform”** on why MDG 5 matters for your country
- **Create your coalition for change**
 - Government
 - Donors / NGOs
 - Private sector representatives
 - “On the ground” implementers
 - Professional organizations
- Bring your coalition for change together and **align on your goal** – to meet MDG 5 targets within five years
- Ensure maternal health becomes a national priority by using the **advocacy power of your coalition**
- Extend your reach beyond maternal health (e.g. HIV, infrastructure) and **build a comprehensive solution**

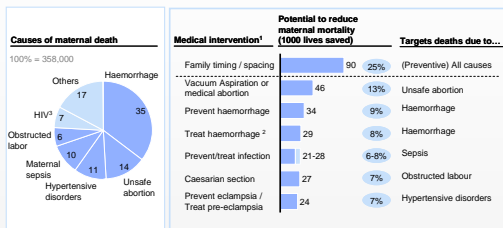
CASE EXAMPLE: Rwanda uses technical working groups and basket funding to align all activities



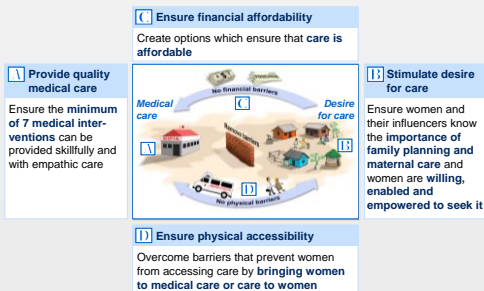
2 Focus on Selecting and Implementing a few, Targeted Initiatives

What does this mean?

- Understand which **medical interventions** matter



- Know what works for you**



- Focus on **delivering a few key initiatives**



Morocco used initial demographic survey to focus on 3 essential pillars

Results from demographic survey

- Low institutional delivery rates for rural and poor population
 - 74% no ability to pay¹
 - 60% no geographical access¹
 - 46% lack of transport¹

- Social barriers to institutional care, e.g., lack of respect, privacy, supportive environment

3 pillar strategy

- Reduce barriers to access and increase quantification, e.g.
 - Free access to care
 - Rural awareness
 - Increase training
 - Ambulances
- Improve quality of care
 - Quality audits and facility upgrades
 - Improved patient experience
- Improve governance

¹ Reasons for not delivering in institution

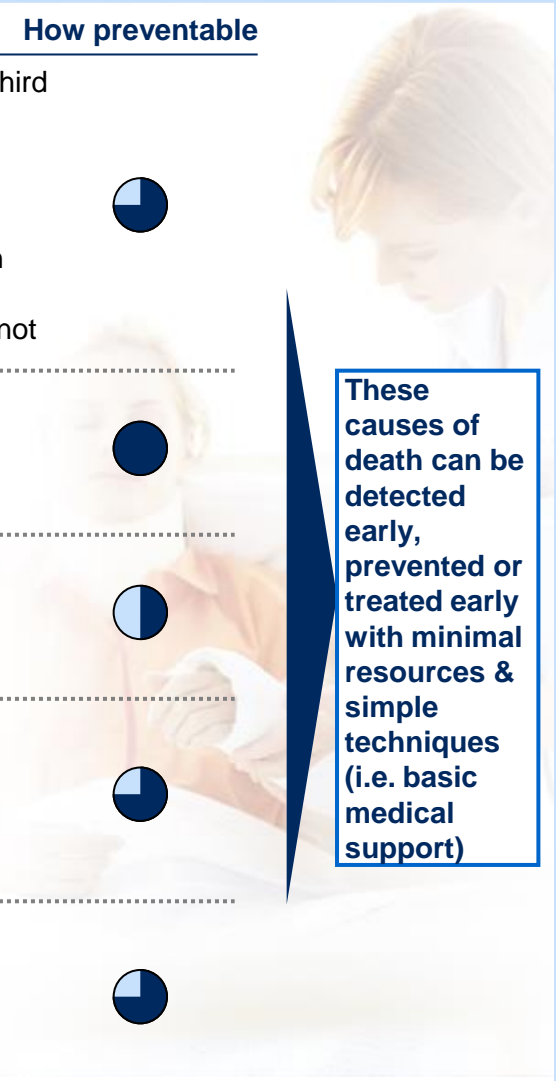
2

Women die from relatively simple to understand and easily preventable causes

● Easily preventable ○ Not easily preventable

	How does this cause death?	How can it be avoided?	How preventable
Hemorrhage	<ul style="list-style-type: none"> Women bleed to death from uncontrollable blood loss 	<ul style="list-style-type: none"> Prevented with active management of third stage of labour Basic treatment through additional oxytocics & uterine massage/ bimanual compression Secondary basic treatment with balloon tamponade and compression sutures; Lack of knowledge/experience & often not used; Complex treatment is surgery 	○
Unsafe abortion	<ul style="list-style-type: none"> The procedure may cause bleeding, infection and rupture to internal organs 	<ul style="list-style-type: none"> Trained healthcare workers and post abortion monitoring creates a safe procedure 	●
Hypertensive disorders	<ul style="list-style-type: none"> High blood pressure causes cerebral bleed, seizures and organ failure 	<ul style="list-style-type: none"> Monitoring can identify warning signs early and allow for medication 	○
Sepsis	<ul style="list-style-type: none"> Pregnant women are more susceptible to bacterial infection; these bacteria can enter the uterus/ blood and can be fatal 	<ul style="list-style-type: none"> Antiseptic and aseptic techniques; Monitoring during pregnancy/ post delivery and early use of antibiotics 	●
Obstructed labour	<ul style="list-style-type: none"> Woman unable to deliver the baby, causing risk of uterus rupture, sepsis and haemorrhage 	<ul style="list-style-type: none"> Skilled attendants to monitor progress and intervene early; Advanced care includes surgery (C-sections) 	○

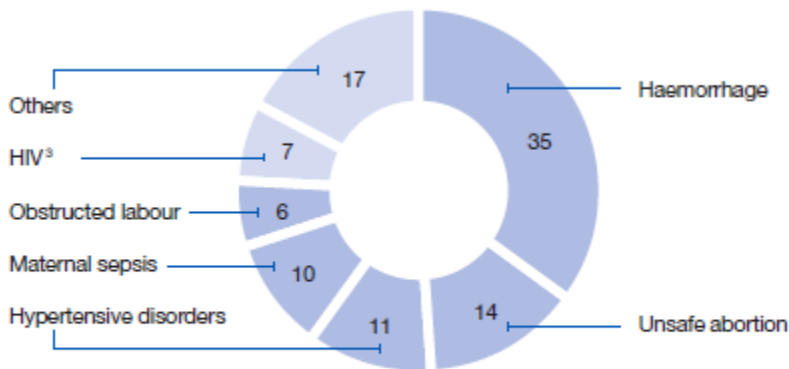
These causes of death can be detected early, prevented or treated early with minimal resources & simple techniques (i.e. basic medical support)



Up to 50% of maternal deaths could be prevented by 7 medical levers which focus on family planning, safe abortion and maternal care

Causes of maternal death¹

100% = 358,000
(2008)



Potential to reduce maternal mortality²

Thousands of lives saved
(% of current deaths)

Health intervention²

Health intervention ²	Thousands of lives saved	(% of current deaths)
Family Planning Family timing/spacing and contraception	107	30%
Safe abortion Vacuum aspiration or medical abortion	46	13%
Maternal care	Prevent haemorrhage	34 (9%)
	Treat haemorrhage ⁴	29 (8%)
	Prevent/treat infection	21-28 (6-8%)
	Caesarean section	27 (7%)
	Prevent eclampsia / treat pre-eclampsia	24 (7%)

(% of maternal deaths saved)

Targets deaths due to...²

(Preventive) All causes
Unsafe abortion
Haemorrhage
Haemorrhage
Sepsis
Obstructed labour
Hypertensive disorders

¹ For 2010, the total figures by cause were not available. However, total maternal deaths have reduced to 287,000 in 2010.

² Medical interventions have been prioritised and chosen on the basis of their link with key causes of death and high impact potential to save lives, and have been validated through literature review and expert opinion.

³ HIV data is estimated. Various sources state the total burden to be 3-17%. The 7% estimate is based on Spectrum modelling data.

⁴ Examples of treatment include uterotonics, uterine massage, balloon tamponade, uterine compression sutures, hysterectomy.

Family spacing with LARCs

PP – IUD program with Cu T380/ Implants



The Millennium Development Goals Report 2014

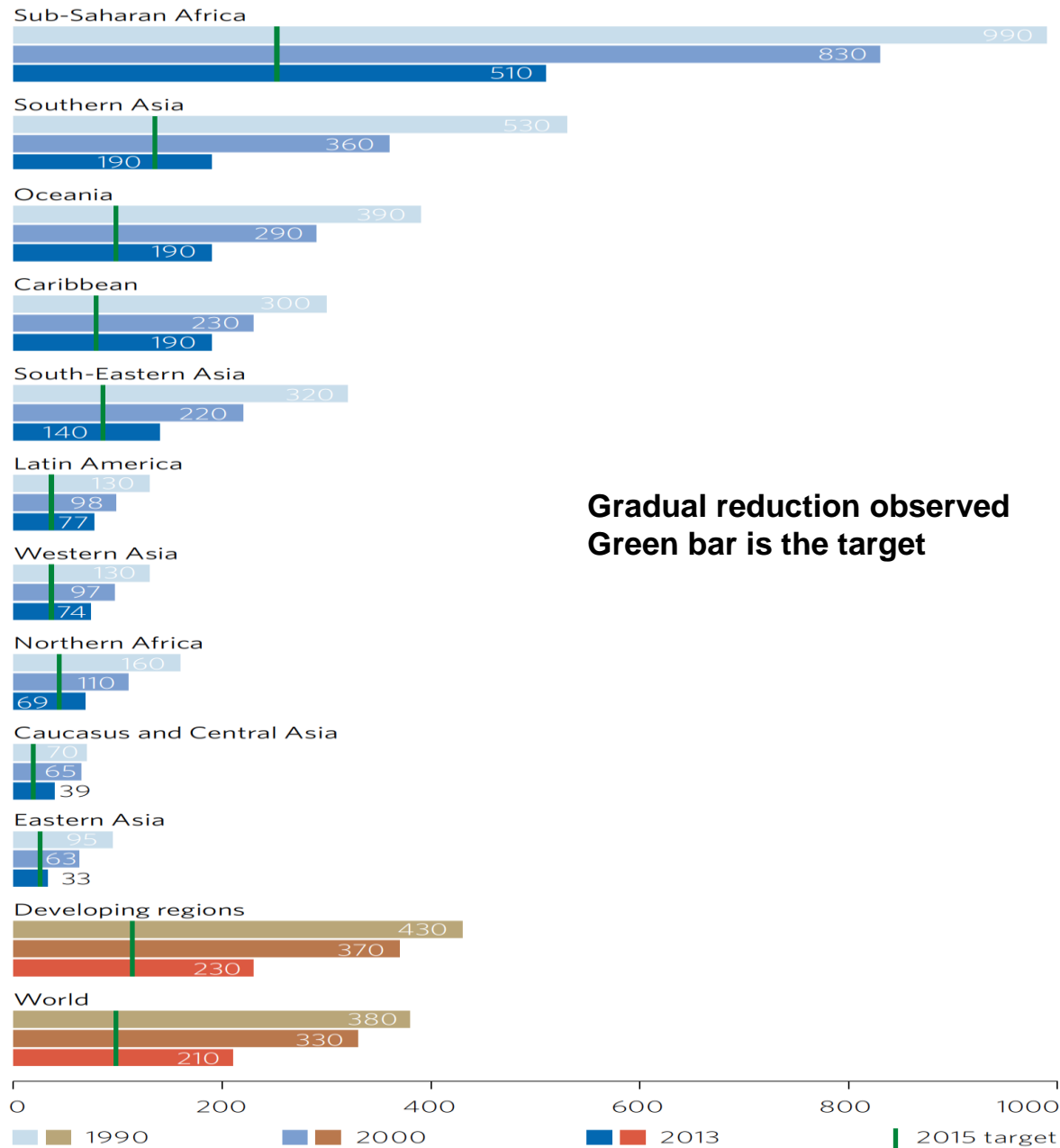


UNITED NATIONS

UP TO 2013

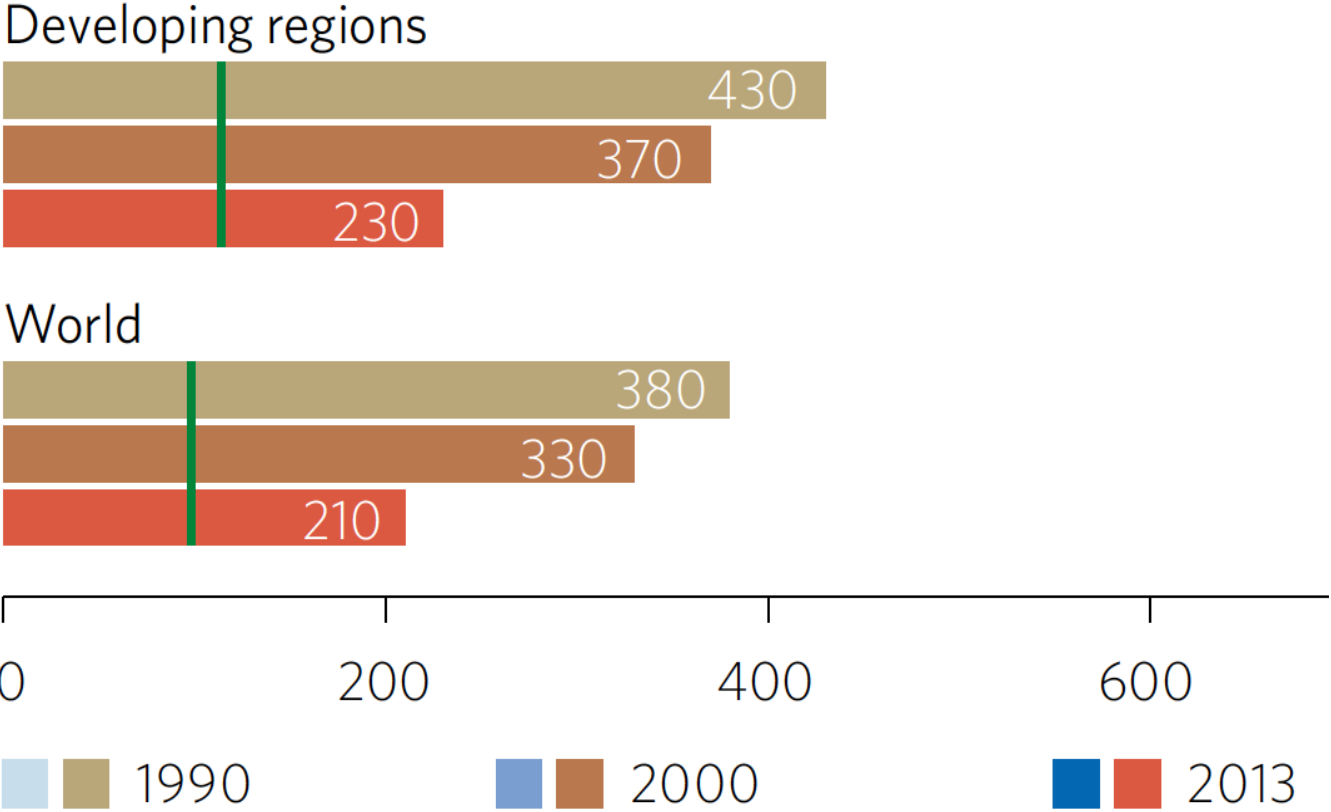


Maternal mortality ratio, 1990, 2000 and 2013 (Maternal deaths per 100,000 live births, women aged 15–49)

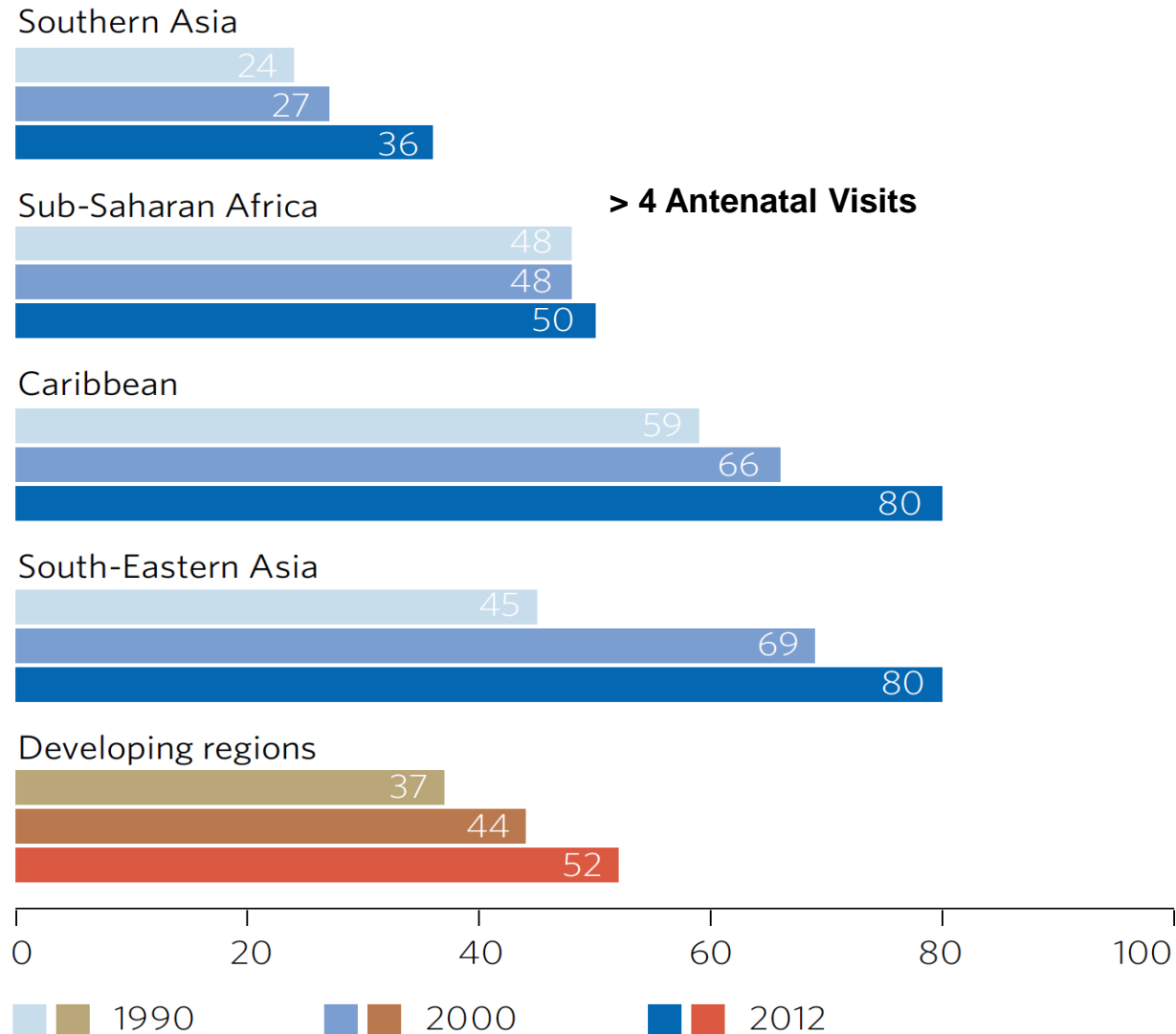


**Gradual reduction observed
Green bar is the target**

Maternal mortality ratio, 1990, 2000 and 2013 (Maternal deaths per 100,000 live births, women aged 15–49)

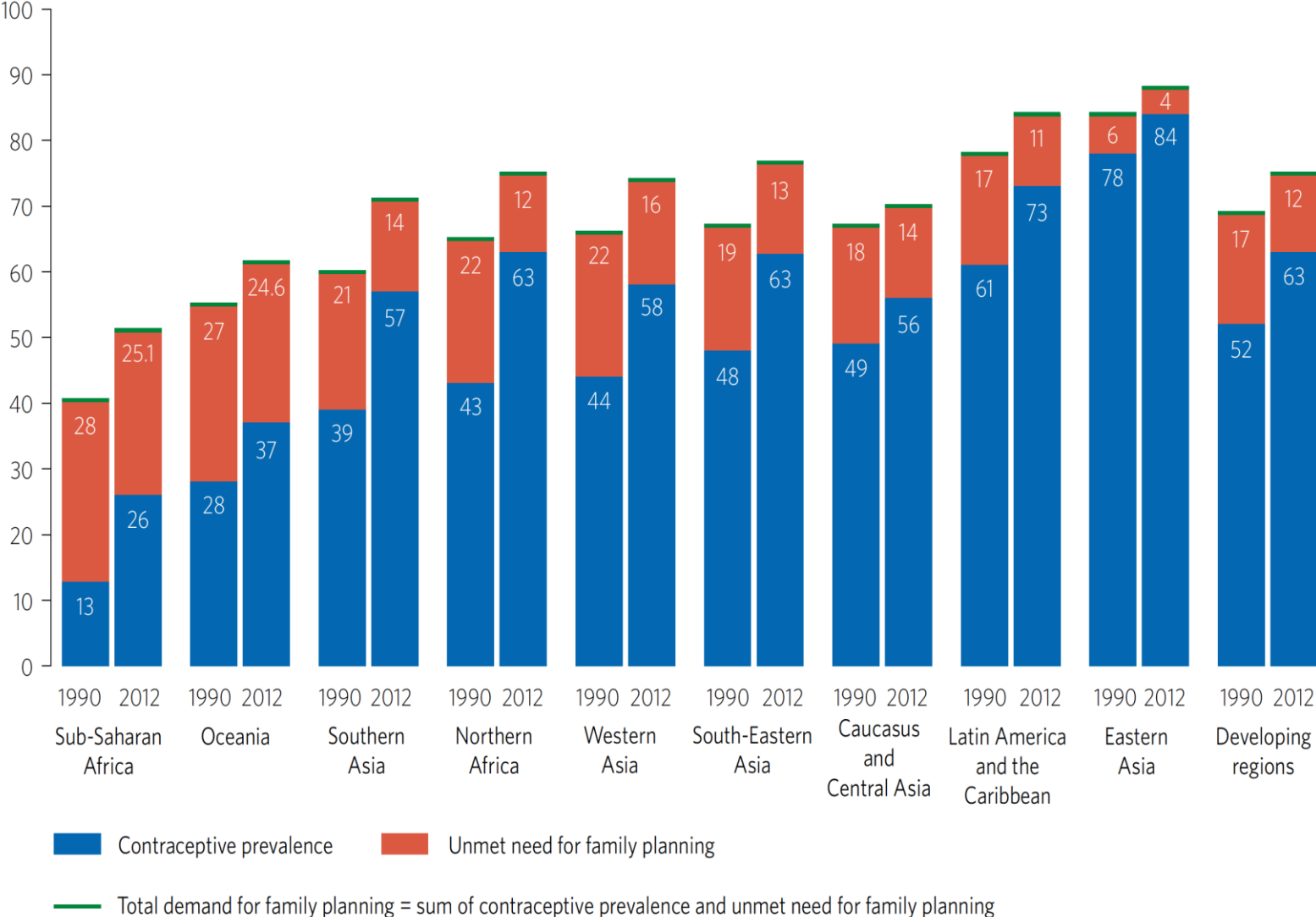


Proportion of women aged 15–49 attended four or more times by any provider during pregnancy, 1990, 2000 and 2012 (Percentage)



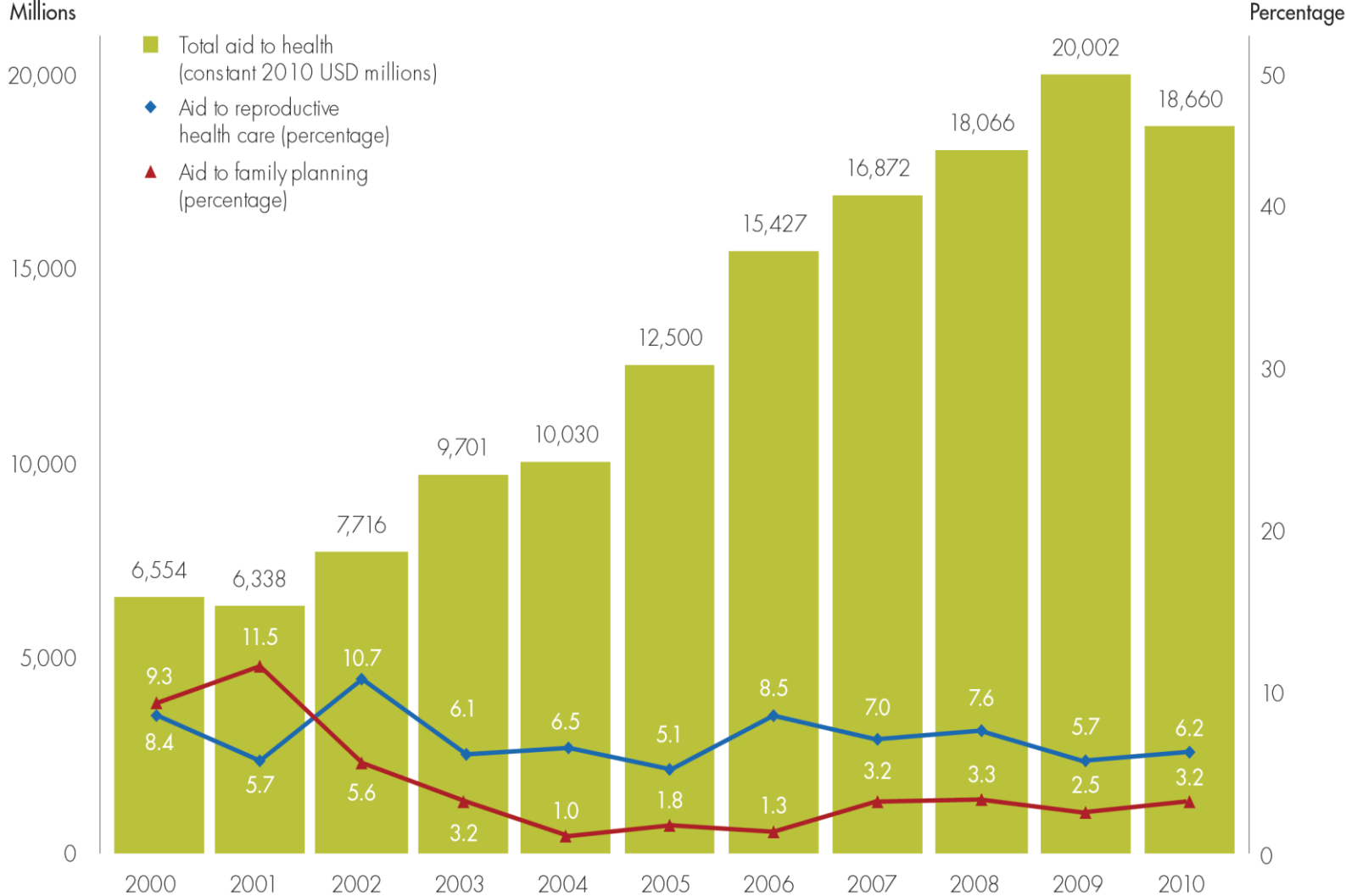
Contraceptive use has increased but gaps persist in meeting the demand for family planning

Proportion of women aged 15–49, married or in union, who have a demand for family planning, who are using any method of contraception, and who have an unmet need for family planning, 1990 and 2012 (Percentage)

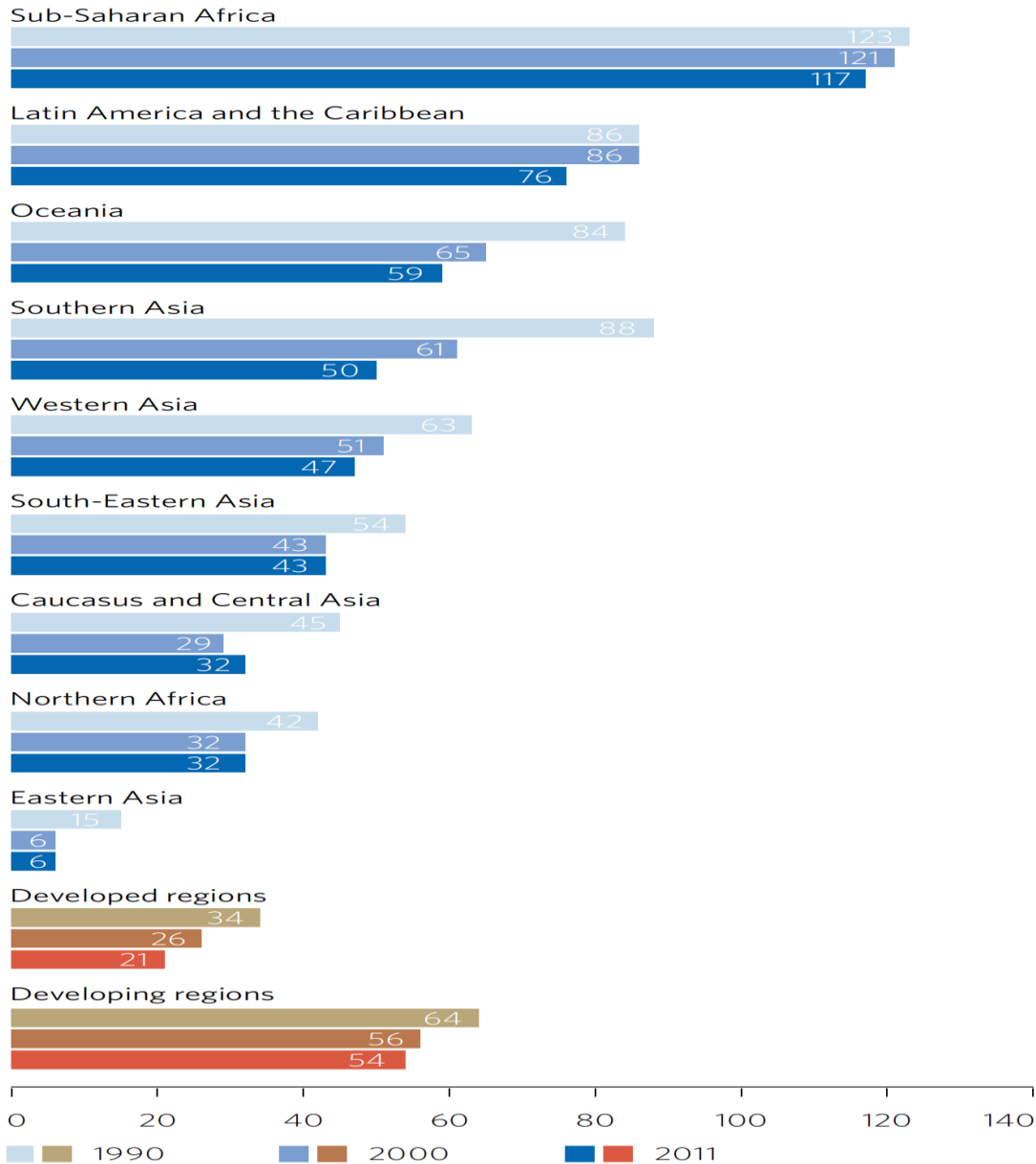


Aid to reproductive health care and family planning remains low

Official development assistance to health, total (constant 2010 US\$ millions) and proportion going to reproductive health care and family planning, 2000-2010 (Percentage)



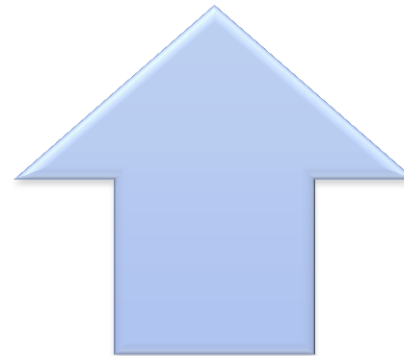
Number of births to women aged 15–19, 1990, 2000 and 2011 (per 1,000 women)





***"Millennium
Development Goals
after 2015 – the aim
will continue under
SDG 3"***

***Degree of
achievement of the
Millennium
Development Goals
ten years later.***



Where did we go wrong ???

REASON FOR FAILURE - 1

Donor not fulfilling their promises

First: The failure of the developed countries to abide by their promise i.e. at least 0.7 of its budget to development cooperation.

With the exception of four Nordic countries, others looked the other way, hiding behind the issue of economic crisis.

It may not have been their intention to provide such % of their budget. They cut the donation; it happened even in the years before the crisis.

Delivery gaps in aid commitments by DAC donors, 2012 and 2013

		Percentage of GNI	Billions of current dollars
Total ODA	United Nations target	0.7	314.6
	Delivery in 2013	0.3	134.8
	Gap in 2013	0.4	179.8
ODA to LDCs	United Nations target	0.15–0.20	67.6–90.1
	Delivery in 2012	0.09	40.5
	Gap in 2012	0.06–0.11	27.0–49.5

ODA – Overseas Development Assistance
LDC - Least developed countries
GNI – Gross National Income

One reason for failure is that, although the amount of development assistance had increased over the past decade, the richest states

failed to meet their commitment to donate 0.7% of gross national income.

Of the so-called G-8 countries, the United Kingdom gave the highest level of aid at 0.51% and Italy the lowest at 0.15%.

G8 countries also failed to meet a promise to double aid to Africa by 2010, made at a summit in Gleneagles, in Scotland, five years ago.

They maintain that it is due to the **global financial crisis**.

REASON FOR FAILURE - II

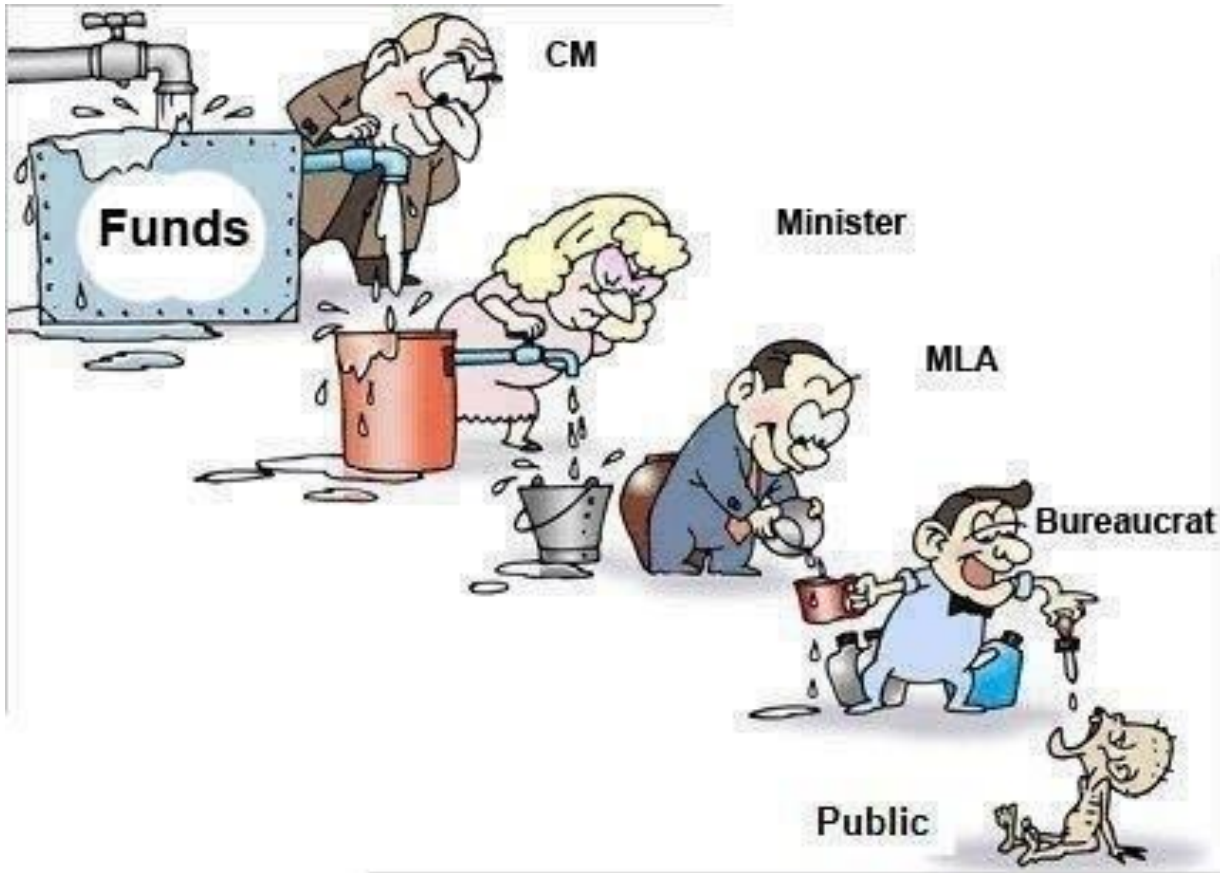
Non tested policies were implemented in the developing and the least developed countries.

Up to 99.3% of their own budget was spent on **public policy actions - continued focus on deficits in governance (+ corruption and malpractices)**.

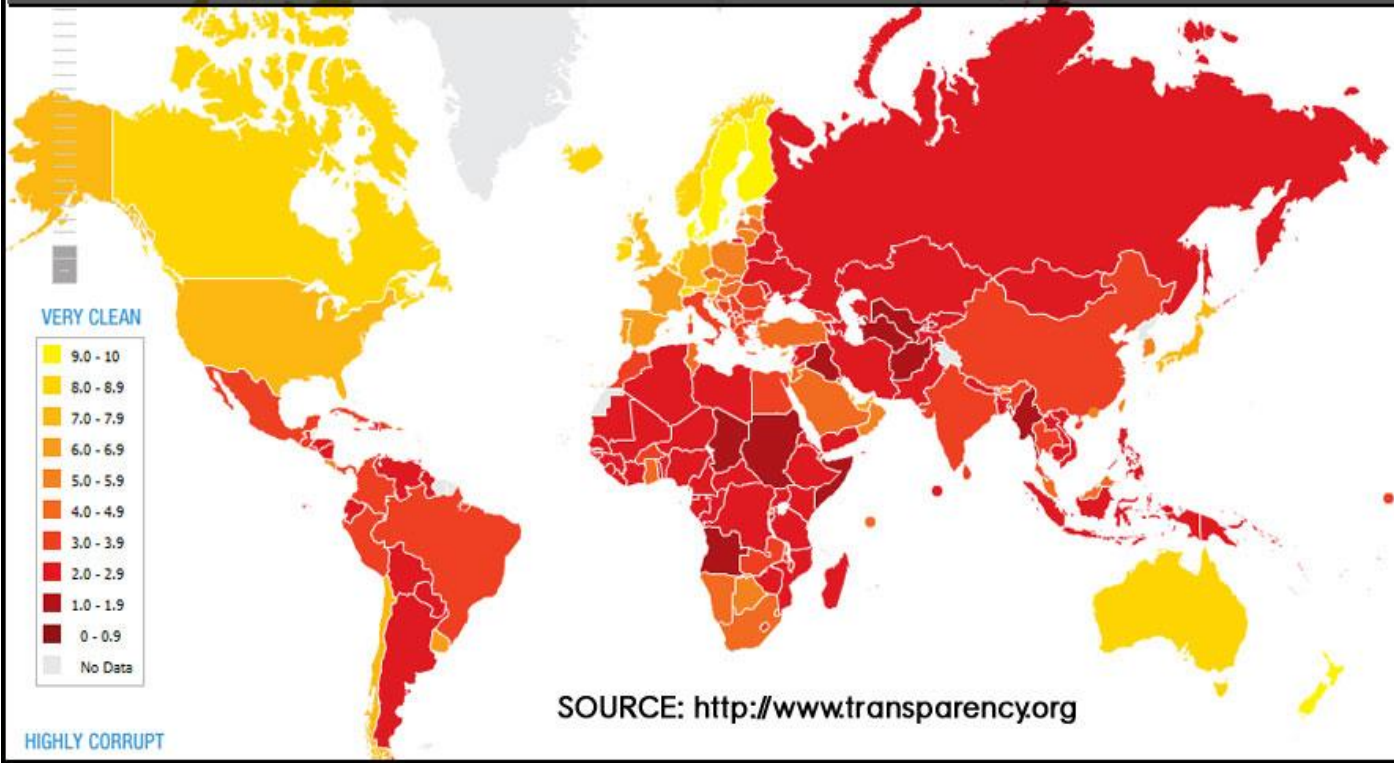
Inadequate monitoring of social policies.

Heads of States blame rich countries for not fulfilling their commitment but looking the other way when faced with problems.

More interested in self and being elected the next time.



WORLDWIDE CORRUPTION INDEX



REASON FOR FAILURE III

The UN has proved to be ineffective in addressing the objectives.

It needs to reform based on international public opinion in order to be an operational organization and guarantor of global progress.

The UN structure has outlived its intended purpose.

Astronomical salaries of it's experts

An international workforce without promoting nationals in each country. Must reduce the budget - absolute cooperate structure should diminish

Spends too much money to cover the cost of personnel and logistics.

**SAVING MOTHERS' LIVES:
TRANSFORMING
STRATEGY INTO ACTION**

Professor Sir Sabaratnam Arulkumaran
with Dr Viktor Hediger,
Dr Ashley Manzoor and
Jennifer May

**Strategy into
Action**

**Acknowledgments;
Institute of Global Health
Imperial College
McKinseys – Global Health Division**



The Global Health
Policy Summit

A partnership between

Imperial College
London



القطرية
Qatar Foundation

Report of the Maternal
Health Working Group 2012

Estimated couples with subfertility – 80 mill

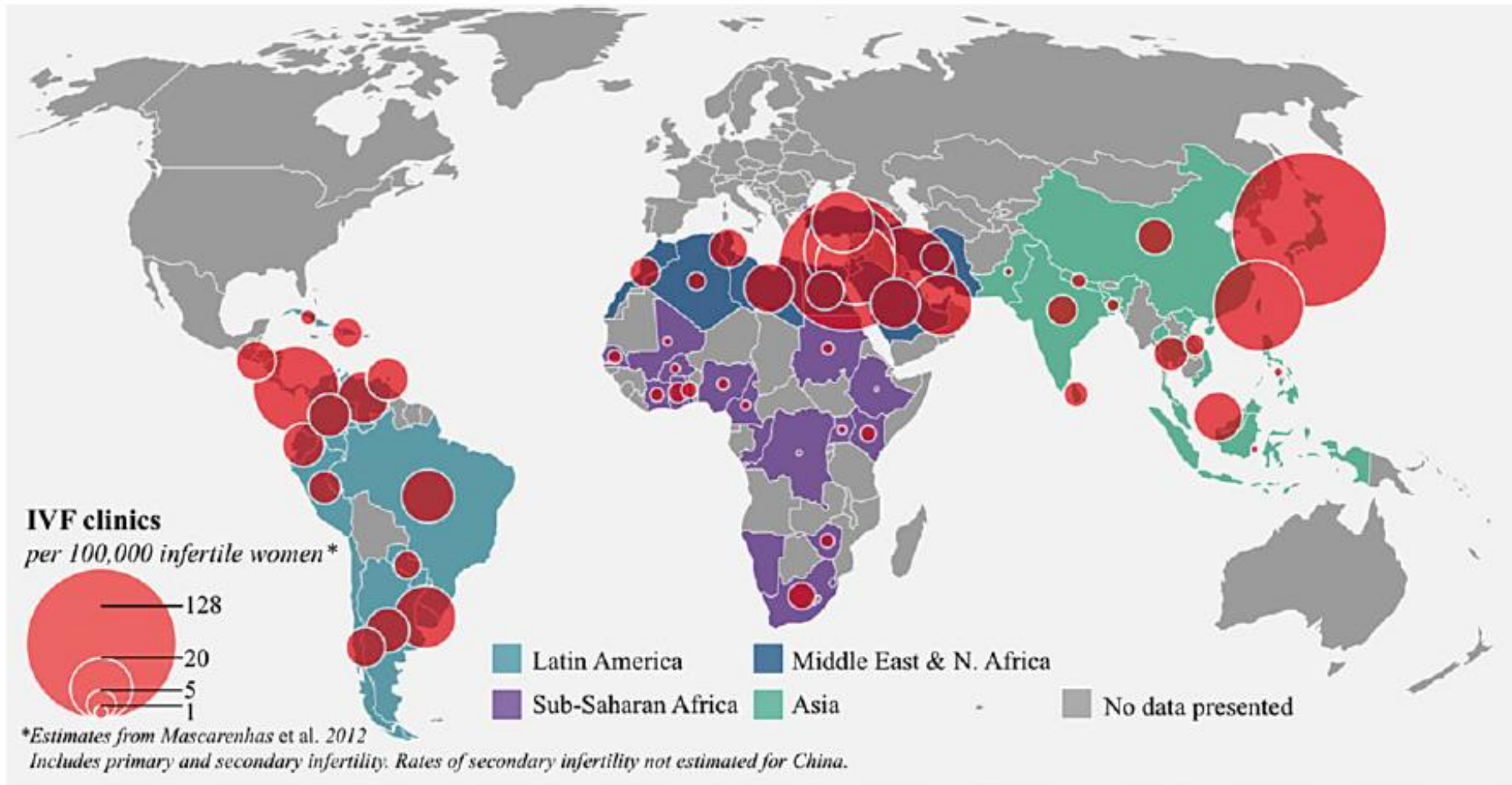
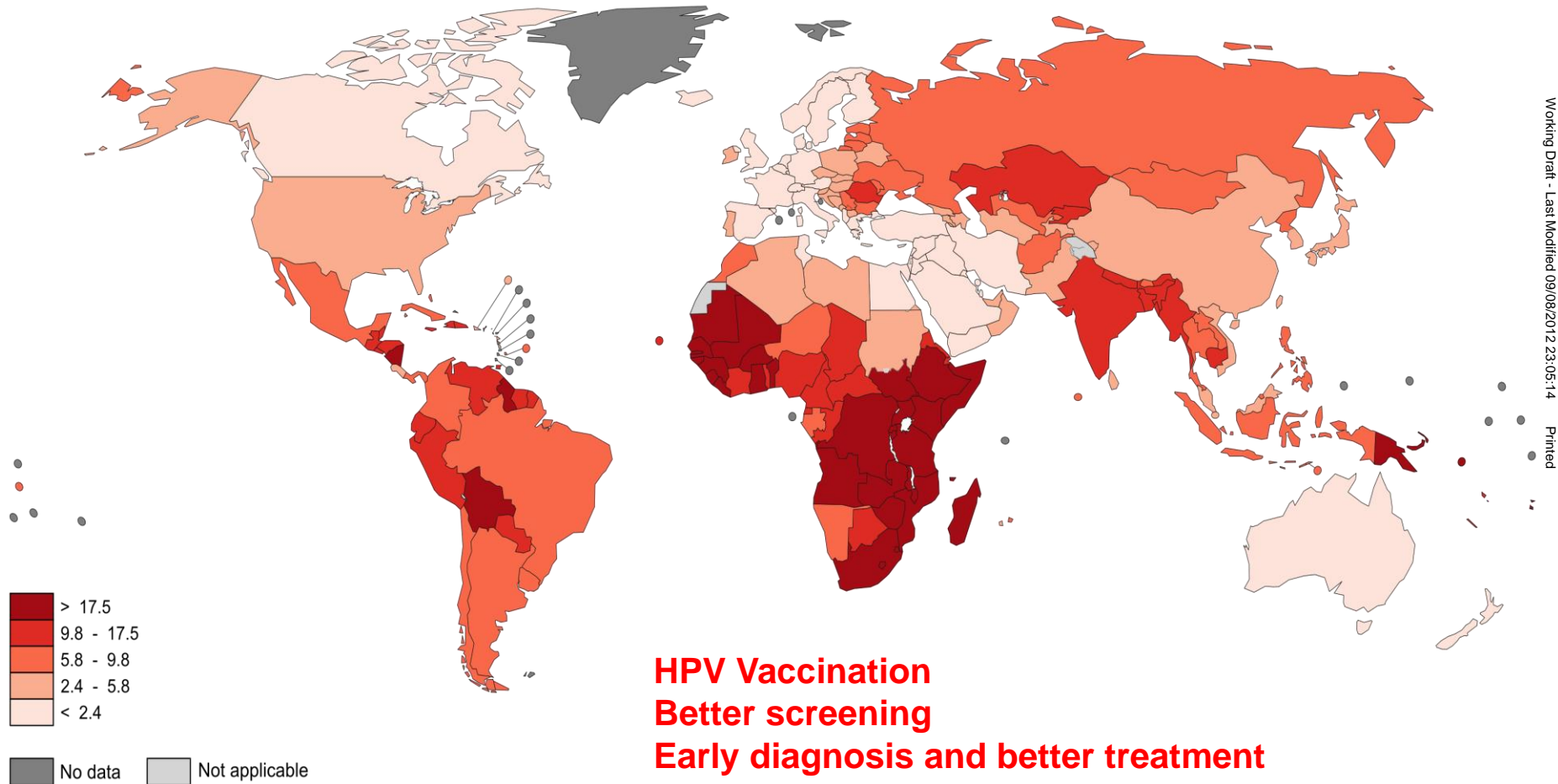


Figure 2 Comparative regional distribution of IVF clinics per estimated numbers of infertile women.

Estimated Cervical Cancer Mortality – Rates/ 1



The boundaries and names shown and the designations used on this map do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted and dashed lines on maps represent approximate border lines for which there may not yet be full agreement.

Data source: GLOBOCAN 2012
Map production: IARC
World Health Organization



© WHO 2015. All rights reserved