THE LANCET

April 14, 2011 www.thelancet.com

Stillbirths

An Executive Summary for *The Lancet*'s Series

"Millions of families experience stillbirth, yet these deaths remain uncounted, unsupported, and the solutions understudied. Better counting of stillbirths alongside maternal and neonatal deaths and strategic programmatic action will make stillbirths count."

Stillbirths matter

Every day more than 7300 babies are stillborn—a death just when a parent expects to welcome a new life. Each one is an individual story of a family devastated by the loss of their child. The extensive research and analysis presented in *The Lancet*'s Stillbirths Series provides the most comprehensive assessment to date of global numbers and causes of stillbirths, perceptions and beliefs around the world, and the solutions to prevent stillbirths—well-known interventions as well as innovations.

Written by a group of 69 authors, from more than 50 organisations and 18 countries, the six Series papers,[1–6] two research Articles,[7,8] and eight linked Comments[9–16] show how stillbirths have been neglected by the global public health community. They provide new analysis of the problem and the results of incorporating stillbirths into existing health-system packages for women and babies, with examples of success and missed opportunities especially for the poorest families.

Jorgen Schytte/Still Pictures

Definition

In this Series, stillbirth refers to all pregnancy losses after 22 weeks of gestation, but for numerical comparisons between international data, we use the WHO definition of a birthweight of at least 1000 g or a gestational age of at least 28 weeks (third-trimester stillbirth).

Headline messages

- Stillbirth affects at least 2·6 million families every year and is especially a woman's loss.
- The poor are most affected—98% of stillbirths occur in low-income and middle-income countries and more than two-thirds are in rural families. In high-income countries, some ethnic and lower-income groups have higher stillbirth rates than the national average.
- There are solutions that work to reduce stillbirths, and these also save women and newborn babies. If these interventions were made universally (99%) available, the additional running cost would be US$2·32 per person per year.
- Around 1·2 million stillbirths occur during labour and birth, and most of these are term babies that could be saved with access to quality care at birth. Care at birth is a top priority and gives a triple return on investment, saving pregnant women, neonates, and stillbirths.
- The average rate at which the number of stillbirths has fallen worldwide year-by-year is slower (about 1·1% between 1995 and 2009) than for maternal and child mortality (2·3%). Specific targets, improved data, evidence-based planning, and prioritisation of an implementation research agenda can accelerate progress and halve the number of stillbirths by 2020.

The Series culminates in a call for action to the international community, individual countries, professional organisations, and families to take a stand for stillbirths. Everyone has a role to play and together stillbirths can and must be counted and reduced.

Making the unseen seen[1]

Millions of stillbirths occur uncounted each year and are not reflected in global policy. Until now, UN data collation systems have not included stillbirth. Global policy targets, such as the Millennium Development Goals (MDGs), omit stillbirths, as does the Global Burden of Disease. In an era of global efforts for maternal health, a woman's own aspiration of a live baby is missing from the world's health agenda.

In society, stillbirths are also hidden. Even in high-income countries, recognition of a parent's grief after a stillbirth is recent. In low-income countries, bereavement rituals for a stillbirth are a rarity and are not recognised by society.

Results from a large, web-based survey of health-care professionals and parents in 135 countries showed that most stillborn babies are disposed of without recognition or rituals, such as naming, funeral rites, or the mother holding or dressing the baby.[1] A widespread belief is that stillbirth represents a natural selection of babies never meant to live. Almost a third of stillbirths are almost always or often blamed on the woman or on evil spirits.[1] Efforts are needed to overcome this fatalism, lessen the stigma associated with stillbirth, and provide bereavement support. Stigma and blame add to and prolong parents' grief. The silence surrounding stillbirths hides the problem and impedes investment.

Stillbirths do count for families, and society. Effective policies and programme action rely on more public and individual recognition of stillbirth, and on increased leadership. UN agencies and existing reports hardly mention stillbirth. Not one professional organisation takes responsibility for stillbirth reduction, and yet midwives and obstetricians have a crucial part to play. Knowledge of stillbirth numbers and causes as well as feasible solutions is key to designing effective policies and programmes.

Stillbirths are a daily reality around the world

Where? When? Why?

At least 2·6 million third-trimester stillbirths occur every year, 98% in low-income and middle-income countries (figure 1).[2] Nigeria and Pakistan have the highest stillbirth rates (42 and 46 per 1000 births, respectively) and Finland and Singapore the lowest (two per 1000 births).

Worldwide, 1·2 million stillbirths occur during labour (intrapartum).[2] The risk of intrapartum stillbirth for an African woman is 24 times higher than for a woman in a high-income country. Stillbirths before labour (antepartum) account for more than half (1·4 million) of all stillbirths.

Estimates for stillbirth causation are impeded by more than 35 classification systems. Despite data limitations, the most common causes of stillbirth and associated maternal disorders are clear. These causes are similar to those that kill pregnant women and newborn babies.

The big five causes of stillbirths

1 Childbirth complications
2 Maternal infections in pregnancy
3 Maternal disorders, especially hypertension and diabetes
4 Fetal growth restriction
5 Congenital abnormalities

Improving the data

Data on stillbirths and other pregnancy outcomes could be improved immediately by strengthening existing data collection systems, especially household surveys, and vital registration. Urgent attention to simplified, standard classification for stillbirths is needed.

Change in counting by 2020

Stillbirths should be specified in post-MDG targets. Every country should have national estimates of stillbirth rate and causes. Global agencies should collect stillbirth data, facilitate yearly estimates, and improve national death certificates and counting systems.

Ten countries account for 66% of the world's stillbirths

1 India
2 Pakistan
3 Nigeria
4 China
5 Bangladesh
6 Democratic Republic of Congo
7 Ethiopia
8 Indonesia
9 Tanzania
10 Afghanistan

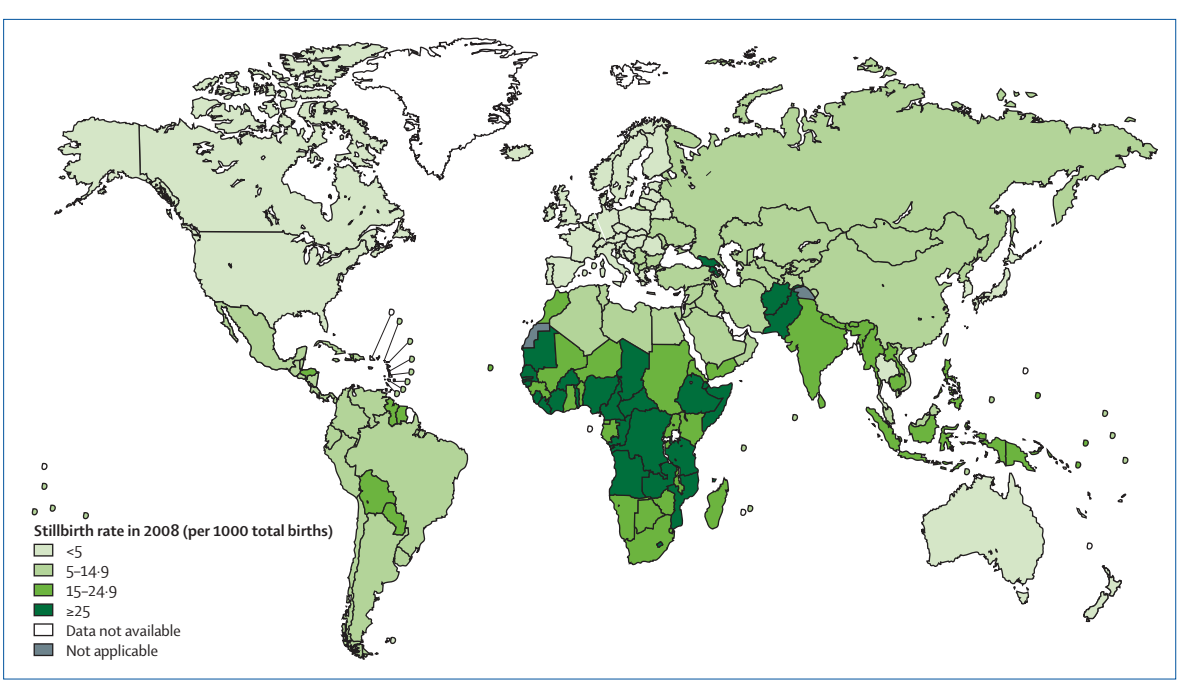


Figure 1: **Country variation in third-trimester stillbirth rates in 2008**
Based on new estimates for 193 countries undertaken through a collaborative effort including WHO.[7]

Health-system packages save women, newborn babies, and stillbirths

Evidence-based interventions

A systematic review of randomised trials and observational studies of interventions and packages that could reduce the burden of stillbirths, particularly in low-income and middle-income countries, identified ten interventions with sufficient evidence to recommend for implementation in health systems.[3]

An analysis with the Lives Saved Tool (LiST) showed that, if these interventions were made universally (99%) available in countries with the highest burden of stillbirths, they could prevent up to 45% of stillbirths (table 1).

Care during childbirth, particularly emergency obstetric care (including caesarean section), would reduce the highest number of stillbirths. Antenatal care (eg, detection and management of syphilis, hypertension, diabetes, fetal growth restriction, and post-term pregnancy) is also highly effective, and can be provided through outreach workers and services. Family planning interventions were not included in this analysis, but this crucial package would also have a major effect on the number of deaths prevented at an affordable cost.

	Stillbirths prevented
Periconceptional folic acid fortification	27 000
Insecticide-treated bednets or intermittent preventive treatment for malaria prevention during pregnancy	35 000
Syphilis detection and treatment	136 000
Detection and management of hypertensive disease of pregnancy	57 000
Detection and management of diabetes in pregnancy	24 000
Detection and management of fetal growth restriction	107 000
Identification and induction for pregnant women with ≥41 weeks' gestation	52 000
Comprehensive emergency obstetric care	696 000
Combined	1134 000

Table 1: **Interventions and number of stillbirths averted at 99% coverage in 2015**

Most of these evidence-based interventions to reduce stillbirths are already part of recommended packages for maternal and neonatal care.

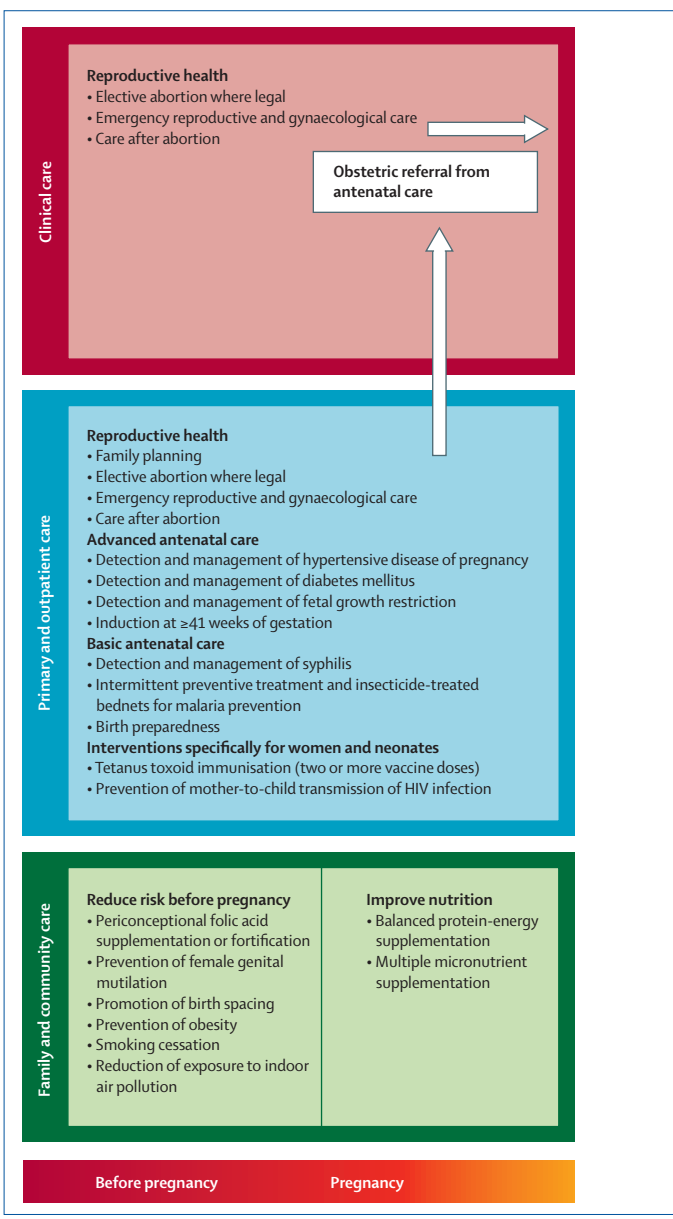
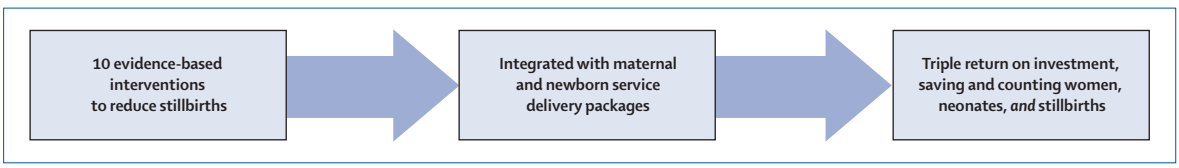
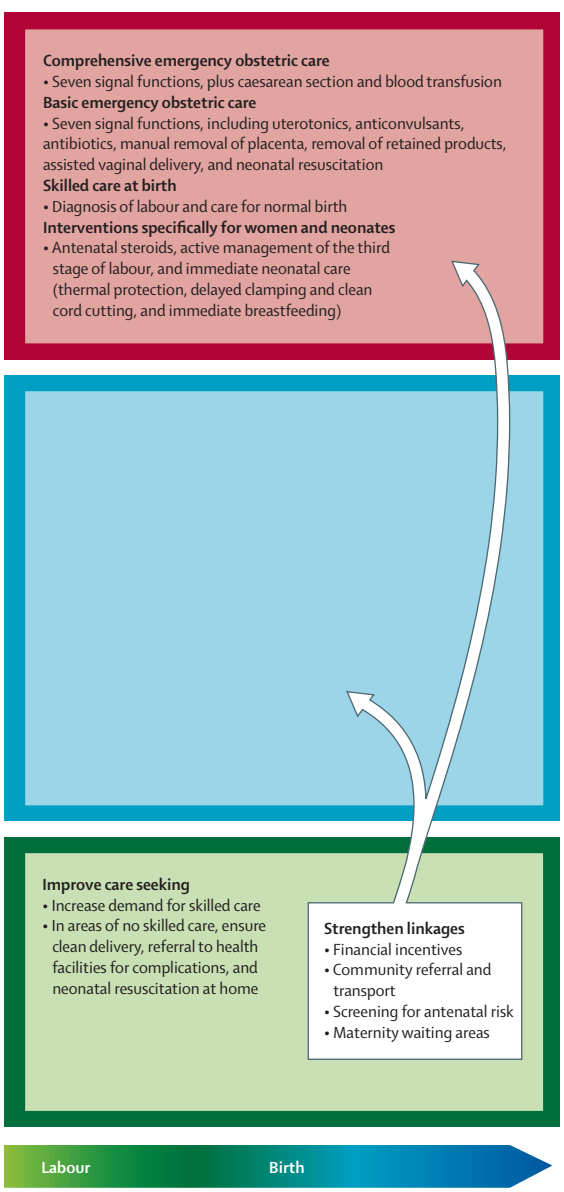


Figure 2: **Integration of intervention packages within existing care pathways and methods of service delivery**



Triple return on investment

If they are to reach all families, interventions are most cost effective when provided through integrated packages that are tailored to suit existing health-care systems. Linkages across the continuum of care from before pregnancy through to postnatal care, as well as between home and hospital, are crucial (figure 2).



If five further interventions to prevent maternal and neonatal deaths (tetanus toxoid, antibiotics for preterm prelabour rupture of membranes, antenatal steroids, active management of the third stage of labour, and neonatal resuscitation) were to be added to the ten evidence-based interventions for stillbirth reduction, 1·6 million women and newborn babies could be saved and 1·1 million stillbirths prevented, representing a triple return on investment. The additional cost is estimated to be US$2·32 per person (table 2).[4] Strengthening family planning services would also save lives through fewer pregnancies and helping families to plan and space pregnancies.

To save the most lives, care needs to be delivered at all levels of the health system and implemented with proven techniques that target key health-system interfaces. These are interactions between people within the health systems such as health-care providers, management, patients, and policy makers.

	Deaths prevented	Cost per death prevented (US$)	Running cost per head (US$)
Maternal	201 000	54 347	..
Neonatal	1 447 000	7536	..
Stillbirths	1 134 000	9614	..
Total	2 782 000	3920	2·32

This analysis does not include postnatal neonatal interventions.

Table 2: **Deaths prevented, cost per death prevented, and running cost of all the included interventions at 99% coverage in 2015**

Priority programme investments

- Family planning
- Care at birth
- Antenatal care with focus on hypertension
- Advanced antenatal care (diabetes screening, detection of fetal growth restriction, induction for post-term pregnancy)

Global research agenda to prevent stillbirths

This Series identifies ten key interventions that, if delivered at high coverage and quality, would substantially reduce the number of stillbirths worldwide at a sustainable cost, especially when considering linked benefits for women and newborn babies. However, urgent research gaps remain, particularly around implementation in different contexts.

High-priority research themes[6]

Implementation in low-income and middle-income countries[3,4,6]

- Adapt and scale up the most effective components of intrapartum care, particularly the appropriate use of caesarean section.
- Adapt and scale up the most effective components of antenatal care, including how to screen for, prevent, and treat various maternal infections.
- Implement effective quality-improvement programmes, including mortality audits, linking to change.
- Assess the value of task shifting and the most cost-effective and sustainable training approaches.
- Assess effective and sustainable mobilisation of communities at scale for behaviour change and care seeking.
- Test models of care to improve support for women and families with a stillbirth and reduce the associated stigma.

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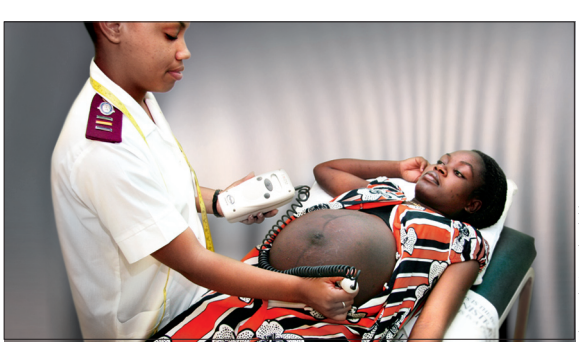
Implementation in high-income countries[5,6]

- Reduce disparities in stillbirth rates between groups of different ethnic origins and between people in rural and socioeconomically disadvantaged groups and people in affluent, urban groups.
- Reduce risk factors associated with antepartum stillbirth.
- Improve antenatal screening for risk factors for stillbirth, including fetal growth restriction.
- Prevent early-gestational-age stillbirths.
- Implement standard investigation protocols for every stillbirth and linked perinatal audit to improve the quality of maternity care.

Data for programmatic action and tracking[2,6]

- Count stillbirths, including through household surveys, sentinel surveillance systems, and strengthening of routine vital registration.
- Advance a simplified classification of stillbirths that is useful for programme implementation, so that comparisons can be made across locations and time periods, including the use of verbal and social autopsy methods in low-income and middle-income countries.
- Overcome barriers to weighing and gestational age assessment for stillborn babies by use of simplified surrogates such as foot size for gestational age.
- Improve detection of infections in pregnancy in settings with limited laboratory facilities.
- Effective use of simplified audit tools for facility and community.



Chris Taylor/Save the Children

Priority actions to reduce stillbirths in high-income countries[5]

Stillbirth rates in high-income countries declined dramatically around 1940, but this decline has slowed or stalled in the past 20 years in many, but not all, high-income countries. The variation in stillbirth rates indicates that further reduction is possible especially for poorer-performing countries.

Many stillbirths in the world's richest countries are linked to avoidable conditions relating to quality of care and lifestyle factors. With detailed investigation, the proportion of stillbirths with unknown cause is reduced to below 20%. There is also wide disparity, with women from disadvantaged backgrounds experiencing stillbirth rates far in excess of non-disadvantaged women in high-income countries.

The action priorities are to:

- Reduce inequity, intentionally designing policies and programmes to reach underserved women from poorer communities or ethnic minorities.
- Improve quality of care and use audit to link to change.
- Address lifestyle risk factors such as obesity, smoking, and advanced maternal age. Identify ways to reduce maternal overweight and obesity.

An agreed set of investigations, combined with improved counselling is important for every stillbirth. Every parent whose baby has died wants to know why it happened, and what can be done to stop other parents experiencing the same grief.

2020 vision

Goal by 2020[6]

For countries with a current stillbirth rate of more than 5 per 1000 births, the goal by 2020 is to reduce their stillbirth rates by at least 50% from the 2008 rates. For countries with a current stillbirth rate of less than 5 per 1000 births, the goal by 2020 is to eliminate all preventable stillbirths and close equity gaps.

More than 40 high-income countries and several middle-income countries have already achieved a stillbirth rate of less than 5 per 1000 births—eg, Mexico has almost halved stillbirth rates in the past 15 years and the national rate is now close to 5 per 1000.

To achieve a substantial reduction in stillbirths worldwide requires concerted and coordinated action by national and local governments, and international organisations. The UN, particularly WHO, UNICEF, and UNFPA, have a mandate to improve data, guidelines, and programmes in line with the UN Secretary General's Global Strategy for Women's and Children's Health. Other global health agencies such as non-governmental organisations, research institutes, and donors are key especially for innovative service delivery.

Professional organisations, particularly the International Federation of Gynecology and Obstetrics (FIGO) and the International Confederation of Midwives (ICM) have a part to play through advocacy, education, capacity building, and task shifting as well as through national associations to improve quality health-care services during pregnancy and childbirth.

Parent groups have a crucial voice. The power of parent groups is maximised through linkages with professional and other organisations. They advocate for wide change and provide compassionate support for affected parents.

Call to action

To achieve change by 2020, the authors of *The Lancet*'s Stillbirths Series ask:

The international community to:

- Include stillbirth reduction in all relevant maternal and neonatal health initiatives.
- Include stillbirth in all relevant international health reports.
- Collate and disseminate accurate stillbirth rates and data on cause of death.
- Create a universal classification system for stillbirth.
- Agree and implement an effective business model to reduce stillbirths.
- Create models for public and private funding to reduce stillbirths.

Individual countries to:

- Create a plan for stillbirth reduction, linked to maternal and newborn care and set specific, time-bound goals.
- Collect and report accurate data on stillbirth rates and causes of death.
- Assess disparities in stillbirth rates by ethnic origin and location and act to address these.
- Audit stillbirths for causes and preventability and act on findings.
- Reduce stigma associated with stillbirth.

Communities and families to:

- Ensure empowerment of women to formulate plans to reduce stillbirths.
- Set up community groups to improve family health.
- Facilitate birth plans and communication and transportation links.
- Reduce stigma associated with stillbirth.
- Provide bereavement support for affected families.

Todd Hochberg. http://www.toddhochberg.com

Power of parents who have been affected by stillbirth[12,17]

The death of a baby before or soon after birth has a devastating and long-lasting impact on the families left behind. Even though stillbirth should be recognised as being no less significant than any other death, individual stories of loss and grief are too often hidden behind taboo and ignorance. The silence of stillbirth can be broken by the voices of bereaved parents telling their stories. Parent organisations are powerful change agents and have an important role in raising awareness to prevent stillbirth.

> "I can talk about the day she died and not cry, sometimes. I am proud of the little girl we lost. She has changed me from the shy insecure person I was then to the openly emotional, caring, supportive, and strong man I am now... I love Danielle because she has inspired me to succeed or fail in her memory. Danielle will be 18 this year; "will be" because she is always in my thoughts. To me she lives in the work I do to help other parents bereaved as I was back then."
>
> *Steven Guy, UK,whose daughter Danielle was stillborn on May 3, 1993*

> "I had begun journaling on the very same day that we were told our baby was no longer alive. I wrote for my own relief and sanity and to try to capture as much of her and her impact, for remembrance as time passed by. Six years later a book had emerged: a tribute to my daughter, made with immeasurable love... She lives through us and through all those on whom her story—our story—has made an impression. Through writing and speaking out about her, that circle widens and the overwhelming silence and invisibility around her life and death, and many others like hers, is penetrated."
>
> *Malika Ndlovu, South Africa, whose daughter Iman Bongiwe was stillborn on Jan 3, 2003*

For more on the **Series** see http://www.thelancet.com/series/stillbirth

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Funding for this publication was provided by the Bill & Melinda Gates Foundation through grants to the International Stillbirth Alliance and Saving Newborn Lives/Save the Children.

More information on what you can do is available from:
http://www.healthynewbornnetwork.org
http://www.stillbirthalliance.org
http://maternalhealthtaskforce.org