Sharing Knowledge for Action

on Maternal, Newborn and Child Health

The Partnership for Maternal, Newborn & Child Health

UNIVERSITY OF ABERDEEN

Publication reference: Partnership for Maternal, Newborn & Child Health and University of Aberdeen. 2010. *Sharing Knowledge for Action on Maternal, Newborn and Child Health.* PMNCH: Geneva, Switzerland.

These knowledge summaries and updates will be available online at: http://portal.pmnch.org

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Index

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Introduction

This is a practical document. These twelve Knowledge Summaries focus on action, and their immediate purpose is to help policy-makers and program managers turn promises made into lives saved – 16 million of them by 2015. The pledges committed towards this goal at the launch of the UN Secretary General's Global Strategy for Women's and Children's Health[1] in September 2010 are substantial. Beyond money, commitments were made on policies and the delivery of services. Governments from north and south, foundations, civil society organizations, academics, healthcare professionals and the private sector – all made pledges, promises and commitments.

The hope and wellbeing of the world's most vulnerable women, adolescent girls, newborns and children depend on the efficiency with which pledges are transformed into action (see Box 1).

Box 1 – Commitment, Action, Effect

The pledges made in the Global Strategy are enough to secure success. The **commitments** are:

- Financial – global and national, public and private funds have been committed
- Political – enactment of reproductive, maternal, newborn and child health (RMNCH) policies and human rights agreements
- Service – coverage of essential, evidence-based interventions for RMNCH

These commitments will enable the following **actions** to be achieved in the 49 poorest countries.
For example, in 2015 alone:

- 43 million more people have access to comprehensive family planning
- 19 million more women give birth attended by a skilled health worker, with the necessary drugs, equipment, infrastructure and regulations
- 21.9 million more infants are breastfed
- 2.2 million more neonatal infections are treated
- 15.2 million more children are fully immunized in their first year of life
- 117 million more doses of vitamin A supplements are given to children under five
- 40 million more children are protected from pneumonia
- 85,000 more good quality health facilities are provided
- Up to 3.5 million more health workers are recruited

Between 2011 and 2015, the **effect** of these actions will be to:

- Prevent the deaths of more than 15 million newborns and children under the age of five
- Prevent 33 million unwanted pregnancies
- Prevent 570,000 women dying of complications in pregnancy and childbirth, including unsafe abortion
- Protect 88 million children under five from stunting
- Protect 120 million children from pneumonia
- Tackle inequities in accessing good quality healthcare, improve gender equity and empower women and children
- Halve the proportion of people without sustainable access to safe drinking water and basic sanitation
- Make progress towards the realisation of human rights, with women and children participating in health care and development, having choices, and being free from discrimination.

1 Here and throughout the Knowledge Summaries, we use "women's and children's health" to mean reproductive, maternal, newborn and child health (RMNCH). Although the phrase "women's health" usually applies to all women and encompasses not only an absence of illness but complete physical, mental and social well-being, here we are focusing on those who face particular risks arising from reproduction and pregnancy. We take a life-cycle perspective, so our target group is women of reproductive age, adolescent girls, newborns, infants and children under five.

An agenda for action

Everything now depends upon the action being well-informed and co-ordinated. The document in your hands provides knowledge to support action. The co-ordination will be helped along by a second document - the Global Campaign Report - which sets out an agenda for action across sectors agreed by world leaders.

The Partners' Forum of the Partnership for Maternal, Newborn & Child Health (PMNCH) emphasizes three main themes to help transform pledges into action:

1. **Voices and accountability** – ensuring that all communities are supported in speaking out on reproductive, maternal, newborn and child health, and that all stakeholders are held accountable.
2. **Innovation for change** – finding new ways of making the policies, managing finances and delivery, and monitoring RMNCH interventions.
3. **Engaging all actors** – working with partners outside the RMNCH community, including other health communities (e.g. HIV/AIDS and malaria) and other sectors that affect RMNCH (e.g. water and sanitation, nutrition and education).

What should emerge from the Forum – and it is vital that it does – is an agreement on how all the partners involved can hold themselves and each other to account.

The Knowledge Summaries

The Knowledge Summaries presented here cover all three themes at the Forum, and much else. They reflect two strong principles at the heart of the PMNCH: the need to take action based on the **best knowledge available**, and the need to make **the best knowledge accessible**. Addressing these needs is the rationale for one of the six Priority Action areas for PMNCH: the creation of a knowledge management system. The added value from this activity lies in its capacity to act as a vehicle not only for sharing knowledge across a diverse range of partners, but also for developing consensus on key messages and strategies. The twelve summaries presented in this document are like the wheels of this vehicle – helping to roll forward actions by making the best knowledge available and accessible.

There are huge challenges in bringing together bodies of technical knowledge in just a few pages and for a diverse audience – advocates, policy-makers, program managers, health professionals and so on. As such, these twelve summaries represent a first modest attempt to rise to the challenge. And much has been learnt in the preparation process – valuable lessons for future summaries and for making the PMNCH knowledge management system dynamic and responsive. But ultimately the best lessons will come from reactions and feedback from the wide range of actors – the Partners of the Partnership – who read these first edition knowledge summaries. We welcome all comments and suggestions (*please submit to*: pmnch@who.int).

The twelve summaries are brought together here in one document specifically for the PMNCH 2010 Forum. The intended usual route for sharing summaries will be the PMNCH knowledge portal (http://portal.pmnch.org). This will enable knowledge sharing to be more interactive, with summaries and other knowledge products improved and updated as relevant new findings emerge. The knowledge management process not only ensures accessibility, but also reassurance of the technical content – the best currently available. These first Knowledge Summaries bring together information from trusted sources, such as systematic and structured literature reviews, global policy documents, and statistical reports. The material used to build the summaries has therefore been peer-reviewed and published by a credible source, and is based on evidence from research and program experience. Some topic areas have lots of published literature to draw upon and others have comparatively little, and so inevitably the summaries vary in depth of understanding and in confidence around "what works." Each Knowledge Summary has itself been peer-reviewed and will be updated prior to formal publication in the online edition.

In this document – *Sharing the Knowledge for Action on Maternal, Newborn and Child Health* - the summaries are arranged under the four main themes of the Global Strategy:

Global Goals and Gaps

We know the burden is unacceptable

1. Understand the Burden
2. Enable the Continuum of Care

More Money for Health, and More Health for Money

We know what resources are needed and what intervention strategies to deliver

3. Cost & Fund RMNCH programs
4. Prioritize Proven Interventions
5. Provide Essential Commodities
6. Support the Workforce
7. Assure Quality Care

Realizing Rights and Accelerating Results

We know how to make a difference

8. Strive for Universal Access
9. Address Inequities
10. Foster Innovation

We All Have a Role to Play

We know who needs to act

11. Engage across Sectors
12. Deliver on Promises

The global community acts

The knowledge presented here, in combination with the pledges made to the Global Strategy for Women's and Children's Health, will make possible a major step towards a more humane world where every woman, adolescent girl, newborn and child can realize their rights to live healthy and productive lives. They should no longer suffer and die when there are proven, affordable and readily available means of sparing them. Every year, around eight million babies and children and more than 350,000 women still die of preventable causes.

The global community is rising to this challenge. The G8 has, for the first time, launched an RMNCH initiative: the Muskoka Initiative. And the African Union (AU) Summit focused on "maternal, infant and child health and development in Africa" and committed to a co-ordinated campaign of action in member states.

We know what works

With the world focusing on women's and children's health, we know more than ever how to achieve our aims. As UN Secretary-General Ban Ki-Moon says:

"We know what works – we have achieved excellent progress in a short time in some countries. The answers lie in working together to strengthen health systems and ensure universal access to essential services and life-saving interventions."

Progress is encouraging: child deaths have declined steadily over the past decade, and new data confirm that the number of women dying owing to pregnancy and childbirth has fallen by a third since 1990. We have the chance now to honor not only the commitments made to the Global Strategy, but our common obligations to protect women's and children's rights. Perhaps the most important knowledge of all is the knowledge that we can succeed.

Knowledge Summary

1 Understand the Burden

Women and children are essential to socio-economic progress around the world. Yet they also suffer from some of the greatest inequities and vulnerabilities in terms of the burden of preventable ill-health. Pregnancy and childbirth can be unique and joyous experiences. However, they are also times of stress, as health risks and economic and social issues combine to make a woman and her newborn susceptible to illness and death. From adolescence, through pregnancy, childbirth and motherhood, all these factors impact on a woman and her child's health. The choices she can make for herself and her child to promote well-being and to access healthcare as and when needed, make a fundamental difference to current and future generations across the developing world.

Numbers alone do not tell the entire story. But the estimates are overwhelming. In 2008 alone:

- 358,000 maternal deaths[1]
- 8.1 million deaths among newborns and children under five[2,3]
- 22 million unsafe abortions[4,5]

And another stark fact: the vast majority of the burden borne by women, adolescent girls, newborns and children occurs among the poorest and most vulnerable individuals and is concentrated in sub-Saharan Africa and South Asia.

However, concerted global efforts are now being made to change this. With renewed pledges and financial commitments, between 2011 and 2015, the world aims to:

- prevent 740,000 women dying from pregnancy-related causes, including unsafe abortion
- prevent 15 million deaths among newborns and children under five
- protect 88 million children under five from stunting and 120 million from pneumonia
- prevent 33 million unintended pregnancies.

Where do we stand now?

The UN Millennium Development Goals (MDGs) 4 and 5 gave impetus to efforts to address many of the inequities that have been entrenched in countries and their health systems. Concerted efforts globally have helped to advance reproductive, maternal, newborn and child health. However, there is a long way to go before the goals are reached. Inequities persist, despite progress (see Knowledge Summary 9).

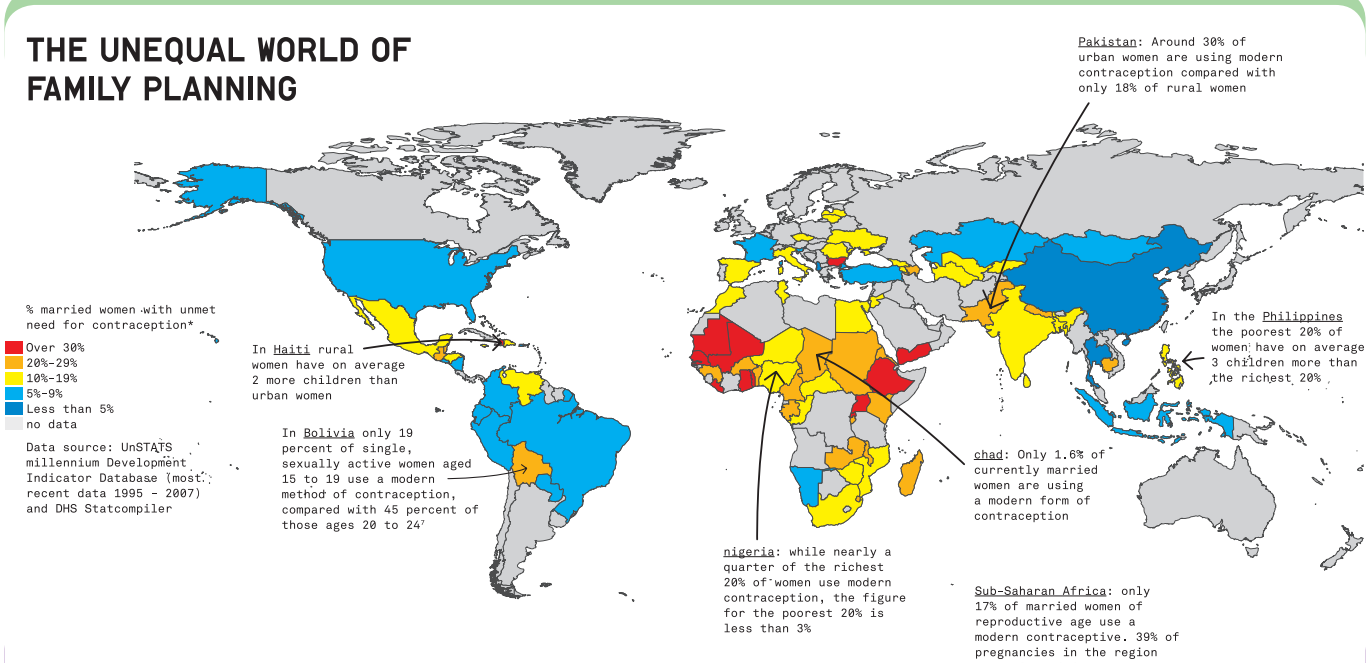
Reproductive health: slowdown in progress over the last ten years

About 200 million women would like to delay or stop childbearing, but are not using contraception. There is clearly an unmet need, and addressing this would reduce unintended pregnancies by two-thirds, maternal deaths by 70% and newborn deaths by 44%.[6]

Progress in uptake of contraceptives has slowed since 2000, largely due to inadequate funding for supplies and lack of access, while differences in contraceptive prevalence have widened. Sub-Saharan Africa has the lowest prevalence and highest unmet need: one in four women of reproductive age who would like to use a contraceptive cannot obtain one (see Figure 1).

Teenage pregnancy rates continue to be high, with sub-Saharan Africa recording the highest birth rates in this age group (15 to 19), followed by Latin America. The poorest families, and those with little education, account for the lowest use of contraception and highest number of teenage pregnancies.[7] In sub-Saharan Africa, a poor teenager is three times more likely to get pregnant and give birth than a teenager from a rich family (see Figure 2a).

Figure 1



Source: The White Ribbon Atlas of Birth (November 2010 edition) www.whiteribbonalliance.org

Unsafe abortions rates have declined in some regions, but continue to be high in parts of Africa and South America.[8]

Maternal health: slow progress towards MDG 5

Estimates show that the maternal mortality ratio (MMR) for 2008 was 260 deaths per 100,000 live births.[9] Nearly 99% of the estimated 358,000 maternal deaths were in developing countries, and most of these deaths (65%) were concentrated in 11 countries. Forty-five countries had a fairly high MMR (300 or more deaths per 100,000 live births) and Afghanistan, Chad, Guinea-Bissau and Somalia had extremely high MMRs (1,000 or more deaths per 100,000 live births). The adult lifetime risk of maternal death was the highest in sub-Saharan Africa (1 in 31).

Figure 2a

Teenage pregnancies

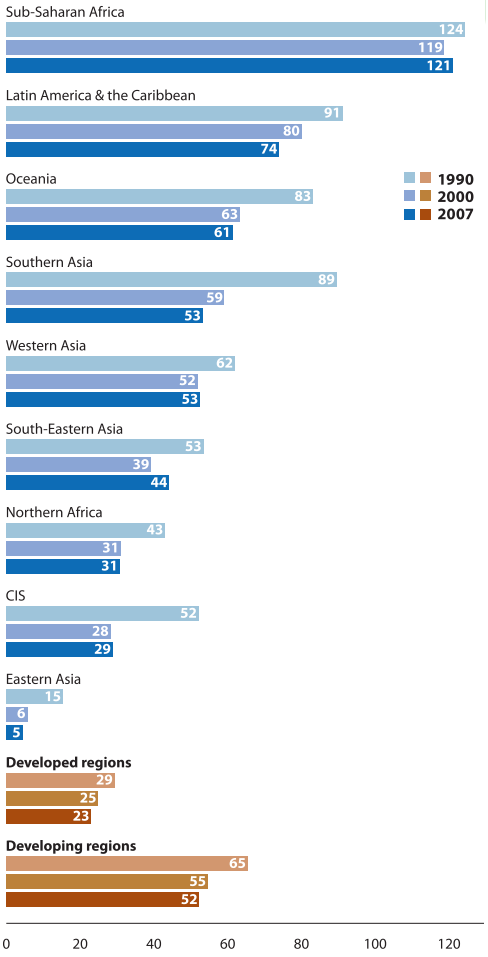
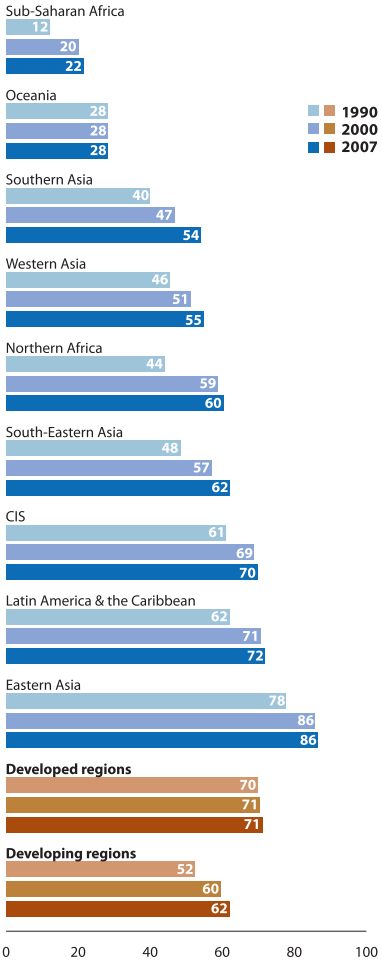


Figure 2b

Contraceptive use



Source: Millennium Development Goals Report 2010 (PDF). www.un.org/en/mdg/summit2010/pdf/MDG%20Report%202010%20En%20r15%20-low%20res%20201006 15%20-.pdf

Globally, the number of maternal deaths has declined, with a 34% decrease between 1990 and 2008. Reductions have happened across all world regions, with the largest changes happening in East Asia (63% reduction). However, this reduction masks the high risks that many women face within the poorest countries. Moreover, the progress is insufficient to achieve MDG 5. The average annual decline in MMR was 2.3% between 1990 and 2008, instead of the required rate of 5.5% per year.

More than half the maternal deaths in developing countries are due to heavy bleeding after childbirth, and hypertension. Obstructed labor and other complications at childbirth are responsible for 11% of the deaths, while indirect causes such as malaria and HIV/AIDS cause 18% of the deaths overall, although in some countries this proportion is much higher. Most of these deaths can be prevented if the woman receives the appropriate interventions from a skilled health worker, and with adequate equipment, drugs and medicines (see Knowledge Summaries 5 and 6).

Some terms explained

Maternal death: "...the death of a woman while pregnant or within 42 days of termination of pregnancy, regardless of the site or duration of pregnancy, from any cause related to or aggravated by the pregnancy or its management." *(WHO)*

Newborn death: "…death during the first 28 completed days of life." *(WHO)*

Stillbirth: "…fetal death occurring after 28 weeks of pregnancy." *(WHO)*

Lifetime risk of maternal death: "…the probability that a 15-year-old female will die eventually from a maternal cause." *(WHO)*

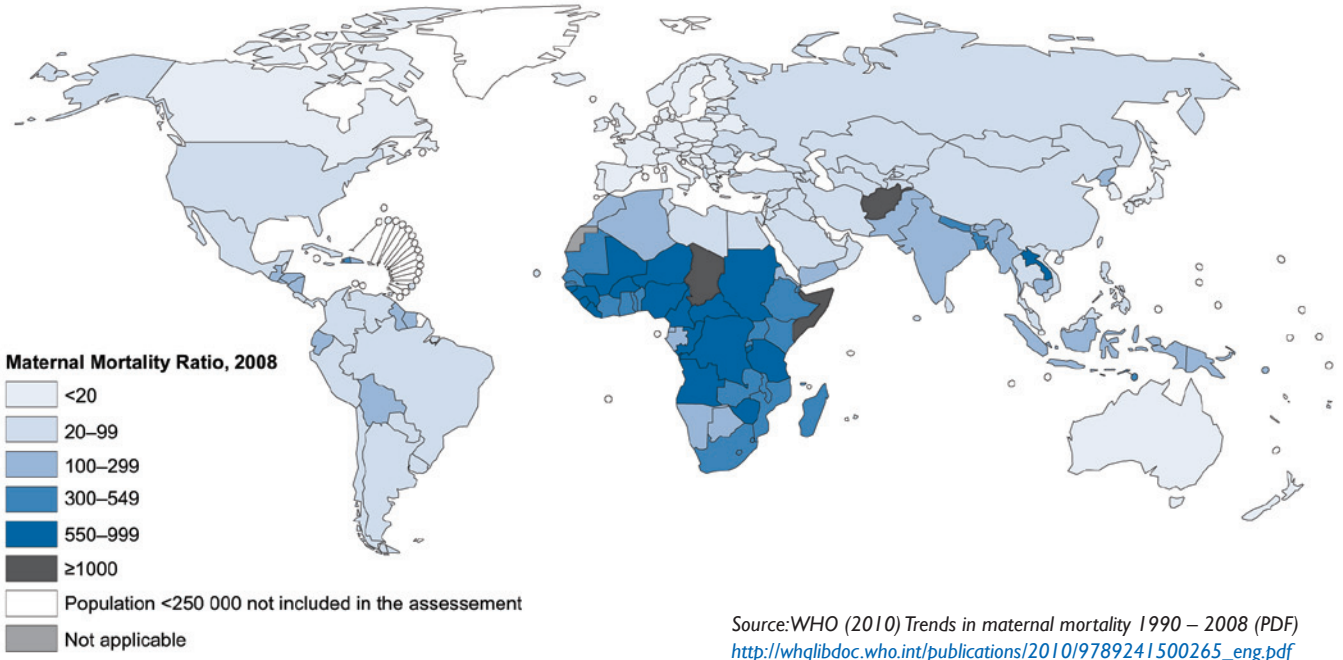
Newborn and child health: progress, but not enough to meet MDG 4

Mortality rates for under-fives dropped by 28% between 1990 and 2008. Some poor countries such as Bangladesh, Bolivia, Malawi and others have been able to reduce mortality for under-fives. 67 countries continue to have rates of 40 or more under-five deaths per 1000 live births, and only 10 countries are on track to achieve MDG 4.

Figure 3

Maternal mortality ratio across countries

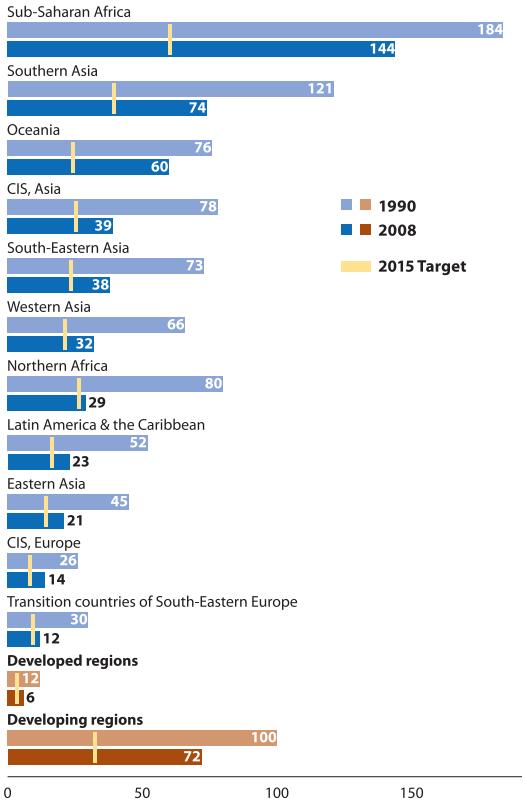
Map with countries by category according to their maternal mortality ratio (MMR, deaths per 100 000 live births), 2008



Source:WHO (2010) Trends in maternal mortality 1990 – 2008 (PDF)
http://whqlibdoc.who.int/publications/2010/9789241500265_eng.pdf

Figure 4

Under-five mortality rates, 2008



Source: Millennium Development Goals Report 2010 (PDF)
www.un.org/en/mdg/summit2010/pdf/MDG%20Report%202010%20En%20r15%20-low%20res%20201006 15%20-.pdf

Despite progress, most of these deaths continue to happen in sub-Saharan Africa (see Figure 4).

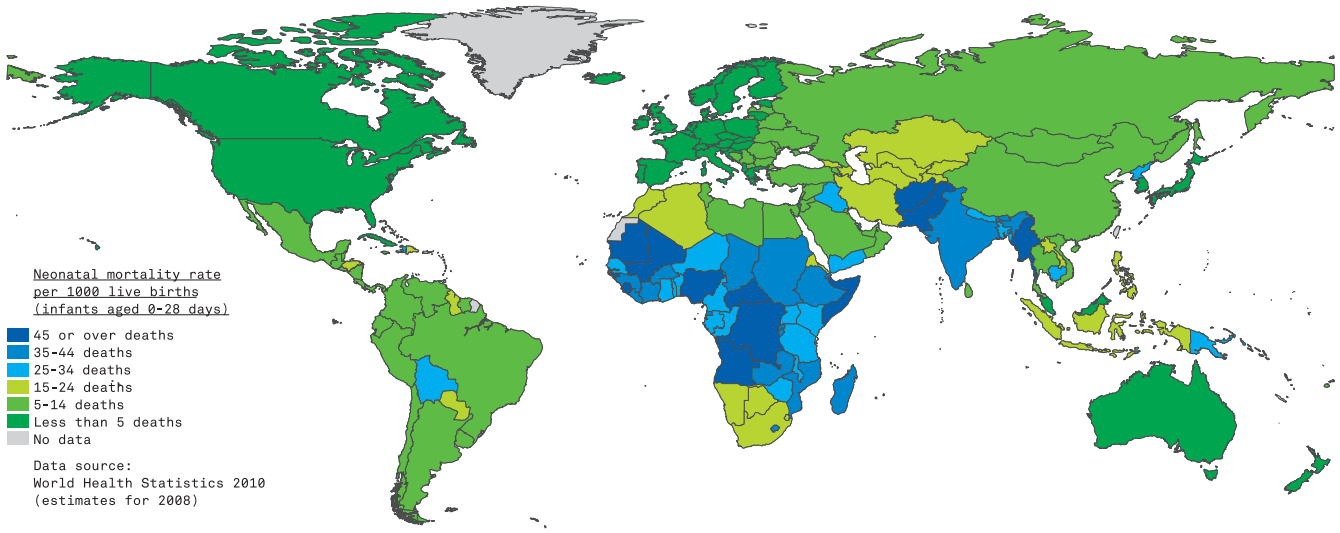
Newborn mortality accounts for a large proportion of child deaths: more than 40% of the under-five deaths in 2008 were among newborns. Newborn mortality is high in the same regions where maternal mortality is high (see Figure 5), which highlights the potential to improve outcomes for both women *and* children – particularly through timely and effective care at childbirth. Stillbirths are not part of the MDGs and hence have received less attention. An estimated 3.3 million stillbirths globally were reported for 2000, with 99% occurring in developing countries. A third of these happened during childbirth, mainly due to maternal conditions such as hypertension, obstructed labor, etc. but also partly reflecting poor quality of care in the management of these problems (see Knowledge Summary 7). However, better data and research are still needed to develop effective policies.[10]

Pneumonia, diarrhea and malaria were the lead killers, accounting for 43% of under-five deaths in 2008 (see Figure 6). On the other hand, vaccine-preventable diseases have declined owing to improvements in routine immunization coverage in the last ten years. For example, measles-related deaths reduced by 78% between 1990 and 2008, as coverage of measles immunization increased (81% in 2008).[11]

Undernutrition contributes to one-third of the under-fives deaths. Children under two are most vulnerable, and stunted growth is

Figure 5

Newborn mortality rates, 2008



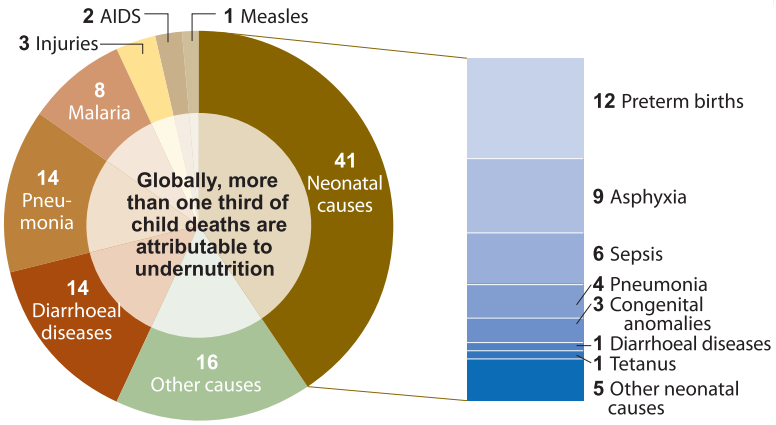
Source: The White Ribbon Atlas of Birth (November 2010 edition) *www.whiteribbonalliance.org*

largely irreversible after that age. In adult life, poor nourishment and short stature in mothers can increase the risk of low birth weight in babies, which in turn raises the risk of death in newborns. Although the global prevalence of underweight children has reduced between 1990 (31% prevalence) and 2008 (26% prevalence), sub-Saharan Africa and South Asia have not made much progress (see Figure 7). Children from poorer and rural families are more likely to be underweight. Figures show that even in countries that have a low prevalence of underweight children, stunting is still a problem. For example, Peru has an underweight prevalence of just 6% but a stunting prevalence of 30%.[12]

Early initiation of breastfeeding reduces newborn deaths by 20%. However, less than 50% of newborns in developing countries are breastfed within one hour of birth. Many countries have improved rates of exclusive breastfeeding until six months, but the average rate is still less than 35%.[13]

Figure 6

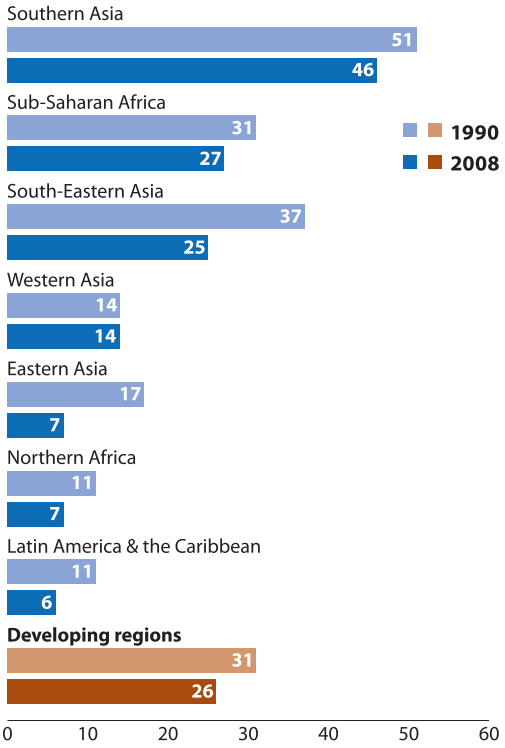
Causes of deaths among children under age five, 2008



Source: Millennium Development Goals Report 2010 (PDF) *www.un.org/en/mdg/summit2010/pdf/MDG%20Report%202010%20En%20r15%20-low%20res%20201006 15%20-.pdf*

Figure 7

Proportion of children under 5 years who are underweight (1990 to 2008)



Source: Millennium Development Goals Report 2010 (PDF) *www.un.org/en/mdg/summit2010/pdf/MDG%20Report%202010%20En%20r15%20-low%20res%20201006 15%20-.pdf*

Figure 8

Progress on the MDGs 4 and 5

Goals and Targets	Africa		Asia				Oceania	Latin America & Caribbean	Common wealth of Independent States	
	Northern	Sub-Saharan	Eastern	South-Eastern	Southern	Western			Europe	Asia
GOAL 4 | Reduce child mortality										
Reduce mortality of under-five-year-olds by two thirds	low mortality	very high mortality	low mortality	moderate mortality	high mortality	low mortality	moderate mortality	low mortality	low mortality	moderate mortality
GOAL 5 | Improve maternal health										
Reduce maternal mortality by three quarters*	moderate mortality	very high mortality	low mortality	high mortality	high mortality	moderate mortality	high mortality	moderate mortality	low mortality	low mortality
Access to reproductive health	moderate access	low access	high access	moderate access	moderate access	moderate access	low access	high access	high access	moderate access

The progress chart operates on two levels.
The words in each box indicate the present degree of compliance with the target.
The colours show progress towards the target according to the legend:

- Already met the target or very close to meeting the target.
- Progress sufficient to reach the target if prevailing trends persist.
- Progress insufficient to reach the target if prevailing trends persist.
- No progress or deterioration.
- Missing or insufficient data.

* The available data for maternal mortality do not allow a trend analysis.
Progress in the chart has been assessed by the responsible agencies on the basis of proxy indicators.

http://mdgs.un.org/unsd/mdg/Resources/Static/Products/Progress2010/MDG_Report_2010_Progress_Chart_En.pdf

Conclusion

Women, newborns and children in many parts of sub-Saharan Africa and South Asia continue to be the most vulnerable in the world. Some poor countries have, however, made progress toward achieving MDG 4 and 5, as can be seen in Figure 8, and provide a stimulus for accelerated action. Lessons from their successes can offer pointers to how progress can be achieved elsewhere. Improved health and survival can be extended to all women and children.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Knowledge Summary 2

Enable the Continuum of Care

Continuous care across life stages and from home to hospital is crucial for health - for complete physical, mental and social well-being. In the context of reproductive, maternal, newborn and child health (RMNCH) this takes on a greater significance because a child's health is closely linked to the mother's, from conception through to birth and beyond. Progress towards the Millennium Development Goals (MDGs) 4 and 5 is therefore intricately linked. Evidence shows that an effective continuum of care, which includes intervention packages from pre-pregnancy through to childhood up to age 5, is thus essential to the well-being of this and the next generation, across all developing countries.

"The 'Continuum of Care' for maternal, newborn and child health includes integrated service delivery for mothers and children from pre-pregnancy to delivery, the immediate postnatal period, and childhood. Such care is provided by families and communities, [and] through outpatient services, clinics and other health facilities."

The World Health Report 2005 - Make every mother and child count.

What works?

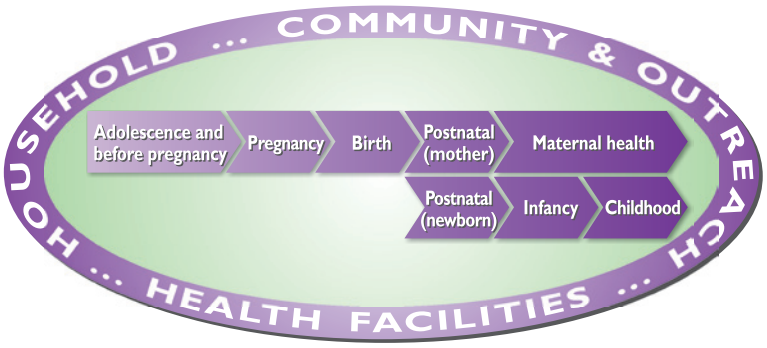
A review of 191 studies analyzed the effects of various services delivered as intervention packages along the continuum of care.[1] It found particularly strong links between maternal and newborn health outcomes. Poor implementation, inadequate linking between services in the package, or omission of some key interventions made the care ineffective. Interventions included care from pre-pregnancy to childhood and were delivered in various ways, such as outreach services, clinical care, and family and community-level care. Outreach packages had good coverage but missed out key interventions, such as preventing mother-to-child transmission (PMTCT) which could have been combined with a package for pregnancy care.[2] A review of evaluated HIV/AIDS interventions in 90 countries focused on what worked for women and girls, and found that prevention was key.[3] Effective provision of barrier methods of contraception and PMTCT could prevent a substantial number of HIV cases.

Nearly two-thirds of newborn and child deaths could be avoided if essential care was provided along the continuum. The role of the mother is crucial in this regard. One recent study in Bangladesh, for example, found that the death of a mother greatly reduces the chances of the child's survival, especially for those aged between two and five months.[4] A further study looked at the impact of 16 interventions for newborns, delivered as packages along the continuum. It found that between 0.59 to 1.08 million lives could be saved each year in South Asia, and between 0.46 to 0.8 million in sub-Saharan Africa, with improved coverage and if interventions were delivered effectively throughout the continuum of care (see Knowledge Summary 4).[5,6] Good nutrition and preventive health care for mothers and children can reduce deaths by 25% among newborns to three year olds.[7]

In addition to well-integrated clinical and outreach services, family and community-level care provide women and children with the knowledge and choices required for their health. A community-based experiment in rural Nepal showed that community links with the local health system were strengthened when women had improved knowledge of their care and greater involvement. This also encouraged other improvements within the health system. In a context where home births were the norm and mortality rates were high, this is felt to have helped to reduce newborn deaths greatly.[8] Community-based interventions, such as community case management of pneumonia in children, can thus strengthen the continuum of care and improve health outcomes.

Figure 1

The RMNCH continuum of care



Women, from their teenage years onwards, need educational, nutritional and psychological support before they conceive. Family planning services help women plan their pregnancies and avoid unsafe abortions. Good nourishment and regular antenatal care throughout pregnancy help ensure a healthy mother and baby. At childbirth, and soon after, skilled care for mother and baby is crucial, because the risk of death and serious complications are greatest at that time. The health of mothers and babies has to be monitored and cared for up to six weeks after childbirth to detect problems. An early start to breastfeeding is very important, and babies should be breastfed exclusively during the first six months. Adequate nutrition, immunization and other health care are essential from birth and throughout childhood. A healthy start ensures a healthy future.

Many mothers, newborns and children die or develop serious problems due to the poor linking between different levels of care. Families and communities can help women by supporting home-based care and programs that encourage women to seek and demand appropriate care. Outreach and outpatient services – such as family planning services, routine antenatal and postnatal checks or immunization – are essential and can be provided by mid-level health workers. Clinical care has to be available 24 hours a day and seven days a week. It should be provided by trained health-care workers, include basic and emergency care, and link the primary and tertiary levels of the health system.

Where do we stand now?

The latest report from *Countdown to 2015,* shows that, despite some progress in expanding and improving RMNCH services over the past ten years, there are still significant gaps.[9] There have been some gains in coverage of routine interventions such as immunization, and newer interventions such as PMTCT for HIV. However, much remains to be done in the most crucial area – childbirth.

Box 2 – Tracking progress in context: Afghanistan and Malawi

Progress on women's and children's health has been uneven across diverse country contexts. Current levels of coverage show that Afghanistan needs greater inputs across the continuum of care. But great potential for what can be achieved even in difficult circumstances is shown by measles immunization. In Malawi, on the other hand, although on track to achieve MDG 4, maternal mortality continues to be high. Each country is influenced by a different set of contextual factors, which require analysis to inform country-specific strategies.

Figure 2a - Afghanistan

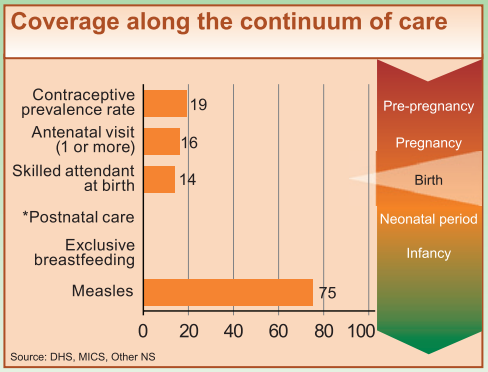
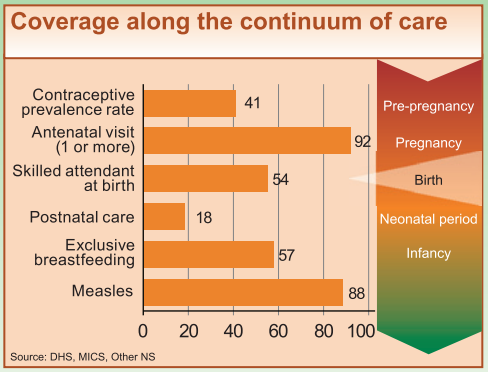


Figure 2b - Malawi



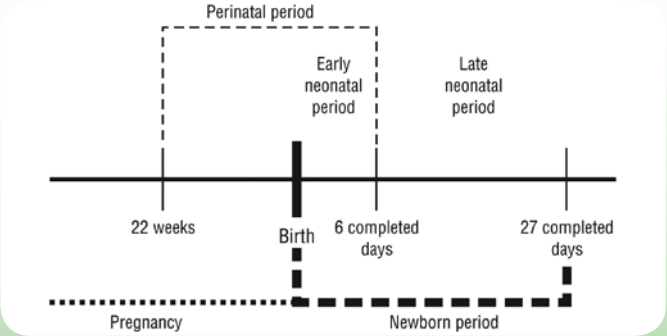
Source: Countdown to 2015 decade report (2000–10): taking stock of maternal, newborn, and child survival, (PDF)
www.Countdown2015mnch.org/documents/2010report/CountdownReportAndProfiles.pdf

Gaps in the pre-pregnancy to childhood continuum

- *Adolescence and pre-pregnancy:* Complications during pregnancy and childbirth are the leading cause of death in young women (15 to 19 years) in developing countries.[10] Unmet need for family planning remains high in this age group and in others. Nearly a third of *Countdown* countries in fact showed an increase or no change in unmet need between 2000 and 2008. Lack of family planning is reflected, in part, in the continuing burden of unsafe abortion, which accounts for an estimated 13% of all maternal deaths.[11]
- *During pregnancy:* Skilled health care during pregnancy is important; for example, to treat high blood pressure, provide tetanus immunization and test for HIV and syphilis. At least four such contacts are recommended, at which high-quality and effective care is provided. The average coverage of these four visits was 50% across 51 *Countdown* countries since 2000.
- *At childbirth:* Nearly 42% of the maternal deaths, a third of the stillbirths[12] and 23% of newborn deaths happen during childbirth. Safe delivery practices, access to skilled attendants and emergency obstetric and neonatal care, and early initiation of breastfeeding can help prevent these deaths. Two-thirds of *Countdown* countries had coverage levels of less than 5% for the proportion of births by caesarean section, indicative of poor availability of emergency obstetric and newborn care.
- *After childbirth:* Bleeding and infections after childbirth account for a high proportion of maternal deaths, and about 3 million babies die in the first week of their life.[13] However, there is very little data about the coverage of services in the postnatal period. Only 45% of *Countdown* countries had any information on postnatal care for women, and only 1% had information on postnatal care for newborns.
- *During infancy and childhood:* While coverage of immunization has improved, that of exclusive breastfeeding lags behind. Almost a third of the 52 *Countdown* countries have improved

Some terms explained

Figure 3 - Pregnancy, childbirth and newborn stages



Source: Narayanan, I., et al (2004) The Components of Essential Newborn Care, BASICS II:Virginia www.basics.org/documents/pdf/components_of_ENC_paper.pdf

exclusive breastfeeding rates by 20% or more since 2000. The average coverage of exclusive breastfeeding across countries, however, is still only 34%.

- *Serious childhood illnesses:* Childhood illnesses such pneumonia, diarrhea and malaria require immediate attention and access to 24-hour health services. There has been some progress, for example in treating malaria, but more needs to be done.

Gaps in the home-to-hospital continuum

Saving lives depends not only on high coverage but also on the quality of care delivered throughout the continuum.

Health worker shortages severely weaken the continuum of care

To deliver essential health services, a minimum of 23 midwives, nurses and doctors are needed per 10,000 people. Only 29% of *Countdown* countries now meet this requirement. Efforts to train, recruit and retain health-care workers in priority areas are crucial (see Knowledge Summary 6) across primary, secondary and tertiary levels of care.

Quality issues and supply shortages make care ineffective

Quality of care (see Knowledge Summary 7) is adversely affected, not only by health worker shortages, but also by poor infrastructure and inadequate supplies of medicines, medical products and equipment. Locally produced commodities and stronger distribution systems are key interventions to overcome these bottlenecks (see Knowledge Summary 5).

Gender inequities, poverty and lack of education affect women's health

Coverage rates are lowest among women and children from the poorest families, who face the greatest health risks (see Knowledge Summary 9). People's demand for care can be adversely affected by factors such as: the cost of health care borne through out-of-pocket payments; local beliefs; and knowledge and misperceptions about the health system. To improve health outcomes, educational attainment must be increased,[14] community-level strategies promoted, and changes in care-seeking behavior encouraged.

Conclusion

The Global Strategy for Women's and Children's Health emphasizes the importance of using effective interventions to strengthen the continuum of care. However, the task of overcoming the high burden of maternal and newborn deaths is hindered by inequitable coverage of services along the continuum (see Knowledge Summary 1). We know which RMNCH interventions are important (see Knowledge Summary 4). A number of established and new ways to help scale-up services, improve service delivery and encourage health care uptake amongst women and children are available. Governments, donors, business communities and global initiatives must now work together to ensure that MDGs 4 and 5 are realized.

Useful resources

- *Countdown to 2015* Decade Report (2000-2010): Taking stock of maternal, newborn and child survival www.*Countdown*2015mnch.org/documents/2010report/*Countdown*ReportAndProfiles.pdf
- Opportunities for Africa's newborns: Practical data, policy and programmatic support for newborn care in Africa www.who.int/pmnch/media/publications/africanewborns/en/index.html
- WHO (2005) The World Health Report 2005 - Make every mother and child count www.who.int/whr/2005/en/index.html
- Baby-Friendly Hospital Initiative www.who.int/nutrition/publications/infantfeeding/9789241594950/en/index.html
- WHO recommended interventions for improving Maternal and Newborn Health http://whqlibdoc.who.int/hq/2007/WHO_MPS_07.05_eng.pdf

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4 Ronsmans C, et al (2010). "Effect of parent's death on child survival in rural Bangladesh: a cohort study." Lancet 2010; 375: 2024–31.
5 Darmstadt G L, et al (2008). "Saving newborn lives in Asia and Africa: cost and impact of phased scale-up of interventions within the continuum of care." Health Policy and Planning 2008;23:101–117.
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7 Bhutta Z A, et al (2008). "What works? Interventions for maternal and child undernutrition and survival." Lancet 2008; 371: 417–40.
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9 Countdown to 2015 Decade Report (2000-2010): "Taking stock of maternal, newborn and child survival." (PDF). www.Countdown2015mnch.org/documents/2010report/CountdownReportAndProfiles.pdf
10 WHO (2009). "Women and health: today's evidence tomorrow's agenda." (PDF). http://whqlibdoc.who.int/publications/2009/9789241563857_eng.pdf
11 UNFPA https://www.unfpa.org/public/home/mothers/pid/4382 (accessed 19 October 2010).
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3 Cost & Fund RMNCH Programs

Spending on women's and children's health is an investment, not just a cost, contributing to the well-being of families and communities, and to a nation's socio-economic development. Estimating costs and raising the required funds, and ensuring efficient and effective use of these resources, are key responsibilities – enabling "more money for health" and "more health for the money."

Accurate and up-to-date information on the costs of reproductive, maternal, newborn and child health (RMNCH) programs and interventions is needed. This can inform the formulation of national health policies, strengthen arguments for the required investments to achieve national health targets, and help countries and their partners to plan, budget and monitor the delivery of essential services to ensure the health of women, adolescent girls, newborns and children.

What works?

Many methods are used to estimate the resources required. Financial estimates may vary depending on the costing tools and approaches used, the interventions included, and the projected timescales (see Table 1). The first step in securing and using funding effectively is thus to prioritize and estimate the costs of high-impact RMNCH interventions (see Knowledge Summary 4). Countries and their partners can use the Lives Saved Tool (LiST) both to estimate the impact of scaling-up interventions and to inform planning for RMNCH (see Box 1).

The Global Strategy for Women's and Children's Health employed a combination of two approaches to determine the global funding gap[1] The WHO approach estimated the resources required to scale-up country health systems to a level that is considered "best practice" by experts and practitioners. The Marginal Budgeting for Bottlenecks approach focused on budgeting based on removing critical constraints in existing health systems in order to scale-up a set of proven interventions. Using these two costing strategies, the Global Strategy estimates that the funding gap for women's and children's health in the 49 poorest countries ranges from US$14 billion (US$10 per capita) in 2011 to US$22 billion (US$14 per capita) in 2015 (See Figure 1).

Box 1 – Lives Saved Tool (LiST)

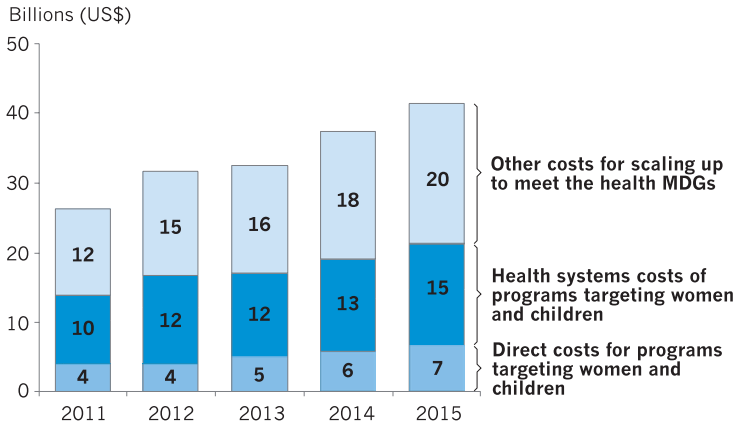
The LiST tool is a computer-based package to assist national and district-level planning processes in poor countries.[1] It uses information about the effectiveness of RMNCH interventions, causes of death and current intervention coverage. This helps countries and their partners to plan, prioritize, implement and evaluate investments in interventions and programs. In Burkina Faso, Ghana and Malawi, for example, it predicted that achieving national targets for a small set of high-impact interventions could reduce child mortality by 20% by 2011. Scaling-up could lead to larger reductions.[2]

[1] *LiST: The Lives Saved Tool: An evidence-based tool for estimating intervention impact* www.jhsph.edu/dept/ih/IIP/list/index.html

[2] *Bryce J, et al (2010). "LiST as a catalyst in program planning: experiences from Burkina Faso, Ghana and Malawi." International Journal of Epidemiology, Volume 39, Suppl 1, April 2010.* http://ije.oxfordjournals.org/content/39/suppl_1/i40.full

Figure 1

Estimated annual funding gap for women's and children's health in 49 developing countries, 2011-2015



Source: UN (2010) Global Strategy for Women's and Children's Health
www.who.int/pmnch/topics/maternal/20100914_gswch_en.pdf

At the national level, policymakers and program managers can use a range of costing tools to make funding decisions. A technical review of 13 such costing tools linked to the health Millennium Development Goals (MDGs) identified the questions they answer, whether they do so in a technically correct manner, and assessed their user friendliness.[2] The review emphasized that national cost estimates are strongly dependent on data availability and quality. Each tool was found to be helpful for different costing purposes, and, with adequate user training, could inform country strategies and plans.

Raising funds

While health spending by governments, donor agencies and the private sector has increased, current funds remain insufficient to achieve MDGs 4 and 5. Governments, donor agencies, non-governmental

Table 1 – Financial estimates for RMNCH

Source of estimate	Additional costs estimated (US$)	Number of countries covered	MDG focus	Costing tool / approach	Examples of other sources of differences in estimates
Global Campaign[1]	7.2 billion in 2009; 18.4 billion in 2015	51	4 and 5	WHO normative costing[6]	▪ Coverage target ▪ Scale-up scenarios and time-lines ▪ Degree to which health systems costs are included ▪ Degree to which family planning is included
The Taskforce (Scenario One)[2]	Total 251 billion (2009 to 2015)	49	1c, 4, 5, 6, 8e	WHO normative costing	
The Taskforce (Scenario Two)[3]	Total 112 billion (2009 to 2015)	49	1c, 4, 5, 6, 8e	Marginal Budgeting for Bottlenecks[7]	
Global Strategy[4]	Total 88 billion (2011 to 2015)	49	1c, 4, 5, 6, 8e	Median of the WHO normative costing and MBB	
Countdown to 2015[5]	60 billion per year (2008 to 2015)	68	4 and 5	WHO normative costing	

[1] *NORAD (2008) The Global Campaign for the Health Millennium Development Goals - First Year Report 2008.*

[2] *Technical Background Report (WHO)*

[3] *Technical Background Report (World Bank, UNICEF, UNFPA, PMNCH)*

[4] *Financial Estimates in the Global Strategy*

[5] *Countdown to 2015 Decade Report (2000-2010)*

[6] *WHO normative approach – focuses on scaling-up health systems by expanding facility-based services.*

[7] *Marginal Budgeting for Bottlenecks Toolkit – focuses on prioritizing scaling-up of community-based services and then expanding clinical services in 2014-15.*

organizations and the private sector have together pledged an estimated US$40 billion for women's and children's health over the next five years.[3] Whilst this headline figure is still being refined, it is already clear that more is needed.

Channeling funds well

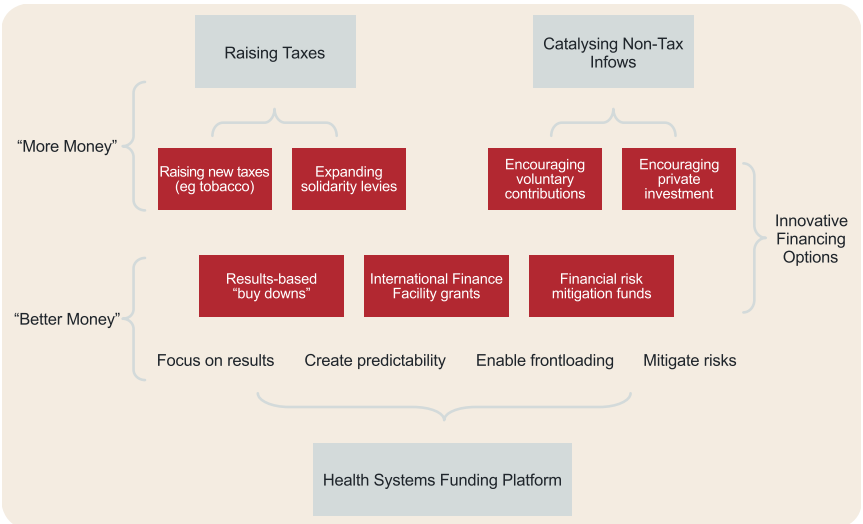
Efficient and targeted use of funds is key to helping to improve the health of the poorest and most vulnerable women and children. To ensure sustainability of investment and promote universal access, funding must help to strengthen health systems by improving service delivery, the health workforce, information, medical products, vaccines and technologies, leadership and accountability (see Knowledge Summaries 5, 6,8 and12).

Efficiency in funding is often impeded by poor donor coordination and alignment with national priorities. This can pose serious challenges in relation to national budgets and planning processes, especially where national administrative and institutional capacity is weak. For example, in 2008, about 90% of donor support for MNCH was for specific projects rather than sector-wide funding or general budget support.[4]

A range of innovative funding mechanisms are being developed and deployed to improve the efficiency and effectiveness of RMNCH funding. Results-based financing, for instance, could increase the impact of investments by providing incentives for better performance and results (see Box 2 and Figure 2).

Figure 2

Innovative financing mechanisms



Source: IHP+ (2009) Raising and Channelling Funds Working Group 2 Report www.internationalhealthpartnership.net//CMS_files/documents/working_group_2_report:_raising_and_channeling_funds_EN.pdf

Box 2 – Some examples of innovative financing mechanisms

Debt2Health – additional funds through debt relief. Countries invest in health systems now instead of repaying debt owed in the future. A three-way partnership between creditors, countries and a multilateral institution.

Source: IHP+ Factsheet - Global Fund Debt2Health Initiative (PDF).
www.internationalhealthpartnership.net//CMS_files/documents/factsheet_-_global_fund_debt2health_initiative_EN.pdf

The International Finance Facility for Immunisation (IFFIm) – launched in 2006, with a total pledge of US$5.3 billion over 20 years from eight countries. Raises finance by issuing bonds in the capital markets. The long-term government pledges will be used to repay the IFFIm bonds.

Source: www.iff-immunisation.org

Voluntary Solidarity Contributions (VSC) – small donations collected in different ways. VSC on airline tickets or other travel products are helping to scale-up access to essential drugs in poor countries. Proposed VSC on mobile phones would allow individuals and corporations to make voluntary donations via their monthly mobile phone bills.

Sources: Factsheet - Voluntary Solidarity Contribution on Travel Products (PDF).
www.internationalhealthpartnership.net//CMS_files/documents/factsheet_-_voluntary_solidarity_contribution_on_travel_products_EN.pdf

IHP+ Factsheet - Mobile Phone Voluntary Solidarity Contribution (PDF).
www.internationalhealthpartnership.net//CMS_files/documents/factsheet_-_mobile_phone_voluntary_solidarity_contribution_EN.pdf

UNITAID's campaign - www.massivegood.org

Advance Market Commitments (AMCs) – advance funding commitments designed to spur the creation of a market that does not yet exist, or functions poorly (for example, one targeting a pneumococcal vaccine was launched in 2009).

Source: Factsheet - Advance Market Commitment (PDF).
www.internationalhealthpartnership.net//CMS_files/documents/factsheet_-_advance_market_commitment_EN.pdf

Also see: www.vaccineamc.org

Results-Based Financing (RBF) – a financing strategy that can increase the impact of investments in health by providing a financial or in-kind reward, conditional upon achievement of agreed performance goals, or a sanction if goals are not achieved. Examples of RBF mechanisms are conditional cash transfers (CCTs) and vouchers. Rwanda has received attention for its recent success with RBF for RMNCH improvements, by rewarding health facilities for their performance. An impact evaluation study found improvements in quality of pregnancy care (but not number of visits); preventive care visits for children (but not immunization rates); and the number of institutional deliveries.[1] Although demand-side initiatives such as cash transfers and vouchers seem to work well, rigorous evidence on the impact, cost-effectiveness and sustainability of RBF, particularly on supply-side initiatives such as payment for performance, is still very limited.[2,3]

[1] *Basinga P, et al (2010). "Paying Primary Health Care Centers for Performance in Rwanda." Policy Research Working Paper 5190, the World Bank, http://ideas.repec.org/p/wbk/wbrwps/5190.html*

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[3] *Eldridge C and Palmer N (2009). "Performance-based payment: some reflections on the discourse, evidence and unanswered questions." Health Policy Plan. (2009) 24 (3): 160-166.*

Also see: www.rbfhealth.org/rbfhealth/about

Conclusion

For the funds for RMNCH to be used more efficiently and effectively, interventions have to be prioritized, taking into account the local epidemiological and health systems context. The costs of implementation can be estimated with the help of tools developed for this purpose. Funds can be raised from governments and donors, and from non-traditional sources such as the business community and global philanthropic institutions. Innovative mechanisms for channeling funds can increase the efficiency and impact of investments by rewarding performance. Finally, the use of funds needs to be tracked and monitored to ensure accountability (see Knowledge Summary 12).

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3 UN (2010)." Global Strategy for Women's and Children's Health." Commitments summary (PDF). www.un.org/sg/hf/global_strategy_commitments.pdf
4 Pitt C, Greco G, Powell-Jackson T, Mills A (2010). "*Countdown to 2015*: assessment of official development assistance to maternal, newborn, and child health, 2003-08." *Lancet,* DOI:10.1016/S0140-6736(10)61302-5.

4 Prioritize Proven Interventions

The burden of ill-health and death borne by women and children is now widely acknowledged by the global community. The next step is urgent action in countries where the problem is greatest. Such action must be directed by policies, investments and effective service delivery that support a cohesive set of priority interventions.

Contexts and requirements may vary across countries, but a common core of essential interventions exists to improve reproductive, maternal, newborn and child health (RMNCH). The challenge for countries and their partners is to implement these interventions at scale and equitably.

What do we know?

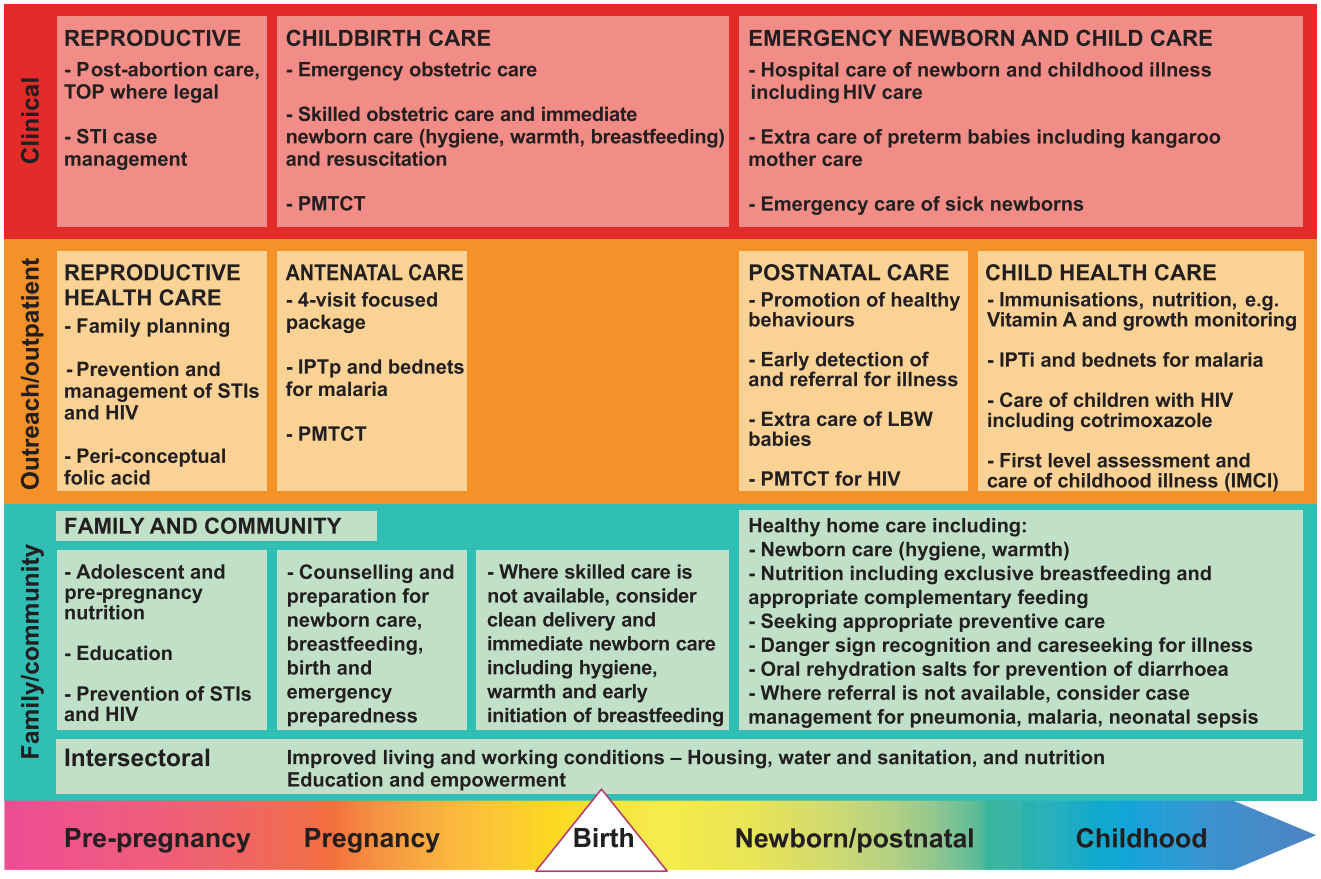
Existing interventions can improve women's and children's health in developing countries, especially when provided in combination as packages.[1,2] When delivery of these intervention packages is prioritized across the continuum of care, progress occurs in RMNCH outcomes (see Knowledge Summary 2). However, many health systems continue to implement them as vertical interventions, rather than as integrated RMNCH packages (see Figure 1).[3]

The Partnership for Maternal, Newborn & Child Health (PMNCH) identified and reviewed various interventions shown to be effective by rigorous studies. It arrived at a consensus on the core set of RMNCH interventions, classified them by their effectiveness and defined the various levels of care.[4] These interventions and levels have different requirements for commodities and supplies (see Knowledge Summary 5), as presented together in Annex 1. The World Health Organization (WHO) groups these interventions in terms of packages delivered across the RMNCH continuum of care from home to referral level. These include family planning, safe abortion care, pregnancy care, childbirth care, postpartum care for the mother, care of the newborn and care during infancy and childhood.[5]

Figure 1

Integrated maternal, newborn and child health packages along the continuum of care

(For details on essential RMNCH interventions and commodities see Annex I)



Source: Kinney, MV, et al (2010). Sub-Saharan Africa's Mothers, Newborns, and Children: Where and Why Do They Die? PLoS Med Vol 7, Issue 6, e1000294

What works?

Countries that are "resource poor" find it hard to scale up all the necessary interventions and close coverage gaps (see Knowledge Summary 2). This is also a challenge because of the competition between service areas for scarce resources, and outstanding debates on priorities.[6] Countries and their partners should order and phase interventions based on their projected impact, costs of delivery, as well as local challenges (such as specific diseases, e.g. HIV, or conflict) and strength of the health system.[7]

Skilled care during childbirth is key to reducing mortality

To improve maternal and newborn health, there is little doubt that priority should be given to care during labor and delivery, supported by antenatal and postnatal care.[1] Most maternal and newborn deaths happen at birth, or within 24 hours of birth, so access and provision of emergency obstetric and newborn care are crucial.[8]

Community-based packages are an essential part of integrated care

Studies show the benefits from implementing many interventions through community-based packages.[9,10] A recent review of studies found that preventive care during childbirth and the postnatal period, such as clean delivery practices, may reduce maternal deaths by 29%, and training of skilled birth attendants may help reduce newborn deaths by 27%. Similarly, community support services were suggested to reduce perinatal deaths by 21%, and family involvement by 27%.[9] Other studies show that postnatal home visits in Bangladesh, India and Pakistan helped to reduce newborn deaths by 30% to 61%.[11,12,13]

Preventive care and case management of childhood illnesses reduces child deaths

Priority interventions delivered through the Integrated Management of Childhood Illnesses (IMCI) strategy have reduced the incidence of diseases and improved nutritional levels among the under fives[14]. Multi-country evaluations have shown that IMCI can reduce mortality when local illnesses, such as malaria and diarrhea, are targeted within each region and country.[15]

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In sub-Saharan Africa, infections account for 23 percent of maternal deaths. Such local contextual issues must be taken into account when prioritising interventions.
Source: Khan KS et al Lancet 2006

Family planning services help to reduce maternal and child deaths

By improving family planning services, countries and their partners can contribute alongside other interventions to reduce deaths among women from unintended and mistimed pregnancy, and among children owing to better birth spacing between siblings.[16] A long-term investigation in Bangladesh found that the overall level of maternal mortality fell between 1976 and 2005 by 68% in a study area and by 54% in the control area. Abortion-related deaths in particular fell sharply after 1989. Improved access to family planning, emergency obstetric care and safe abortion services are felt to be responsible for this reduction. Better levels of education among women are argued to have contributed, showing that wider development across sectors other than health is also important[17] (see Knowledge Summary 11).

Scaling up

Prioritize low-cost and high-impact interventions and phased implementation

Newborn care delivered at the community level is argued to be very cost-effective in sub-Saharan Africa and south-east Asia. This is particularly true when backed up by antenatal interventions (such as tetanus immunization), supported by skilled health workers at health facilities, and more comprehensive interventions at the referral level. Although facility-based care during childbirth typically requires more resources than home-based care, it is often more cost-effective in preventing deaths.[18] Skilled care at delivery, while an immediate priority, has to be complemented by addressing specific diseases or local problems and broader strengthening of the health system (see Knowledge Summary 8).[7]

Estimates from modelling show that a 20% increase in coverage for specific community-based/outreach interventions in sub-Saharan Africa could save 486,000 lives among women, newborns and children, and would cost US$1.21 per capita. Quality improvements in facility-based care could save 105,000 lives at an additional cost of US$0.54 per capita.[13] Meeting the need for family planning would reduce unintended pregnancies by two-thirds and would cost an additional US$3.6 billion per year.[19]

Context matters in implementing what works

It is clear what needs to be done, and the challenge now is to understand more about overcoming the barriers to implementation. Specific studies may, for example, show that technical interventions are cost-effective, but they need to be executed at scale, in varied, real-world and complex socio-economic and political environments. The ultimate impact of interventions is affected by local issues, such as access to services, quality of care, available finances and co-existing illnesses (e.g. malaria or HIV). Local needs assessments, which then lead to tailored implementation of interventions, including strong management, are crucial to effectiveness and sustainability.[20]

Some terms explained

Intervention: "Drug treatments, procedures or non-medical inputs such as information about danger signs in pregnancy."

Package: "Combinations of single interventions."

Extracted from: Campbell, O and Graham W (2006). Strategies for reducing maternal mortality: getting on with what works, Lancet 2006; 368: 1284–99

Conclusion

Women and children need timely and effective care. Evidence has shown that lives can be saved and health can be improved through simple, cost-effective interventions, delivered equitably and at scale through integrated packages at every stage of the continuum of care (see Knowledge Summaries 2, 3, 8, 9). These need to be delivered with adequate attention to quality to achieve RMNCH targets.

Useful resources

- UNICEF, UNFPA, WHO, World Bank (2010). Packages of interventions for family planning, safe abortion care, maternal, newborn and child health (PDF). http://whqlibdoc.who.int/hq/2010/WHO_FCH_10.06_eng.pdf
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5 Provide Essential Commodities

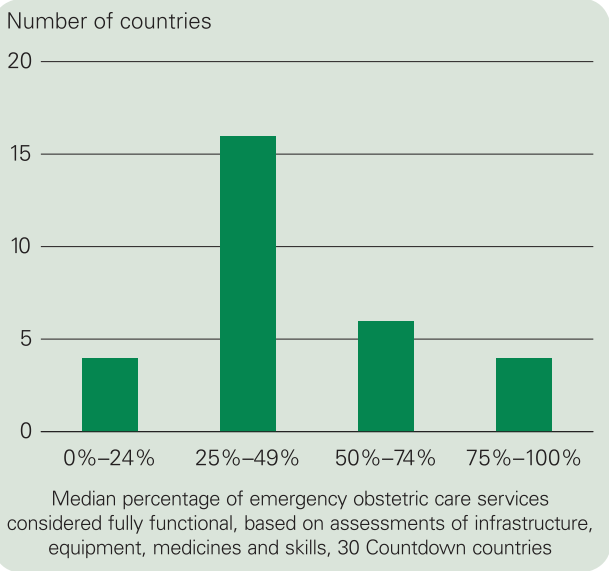
Access to good quality, affordable medicines and supplies would enable health workers to provide better care to girls, women, newborns and children. Currently, access is hampered by inefficient procurement and supply systems, poor partner collaboration, and the lack of crucial reproductive, maternal, newborn and child health (RMNCH) commodities on national essential medicines lists.[1] There is evidence on how to ensure commodity security, particularly in relation to vaccines and contraceptives. Applying these lessons across the RMNCH continuum of care would help ensure that women and children have access to the essential interventions they need, when and where they need them.[2]

"Women without access to quality care and commodities face an increased risk of birth complications, unintended and mistimed pregnancies, infectious diseases and deaths."[3]

There are several reasons why drugs, equipment and other commodities for RMNCH are in short supply. National procurement and supply systems are often weak and result in poor storage conditions, such as overstocking in central medical stores and stock-outs in remote areas. Inefficient national procurement systems lead to the development of parallel mechanisms to procure drugs and devices, thereby further reducing efficiency. Another challenge is the lack of coordinated implementation and information exchange between the private and public sectors, across countries, and between local, national and global levels.[4]

Figure 1

Countries with fully functional emergency obstetric care services



Adapted from Countdown to 2015 Decade Report (2000-2010): Taking stock of maternal, newborn and child survival (PDF) www.Countdown2015mnch.org/documents/2010report/CountdownReportAndProfiles.pdf

The equipment, medicines and skills required for emergency obstetric care are available in less than half of the *Countdown* countries studied. Such shortages in supplies are also reflected in the high mortality rates, particularly at the time of delivery, and low usage rates of facility-based healthcare.

What works?

Stable and long-term funding

An integrated RMNCH commodities financing strategy is feasible even in the poorest countries. Some countries receive sector-wide or pooled funding from donors, and are also increasingly allocating their own funds. Such financing can be used to facilitate procurement of drugs and to subsidize medicines. For instance, in Lao PDR, one course of magnesium sulphate to treat pre-eclampsia currently costs up to US$24. Here, public financing is being used to help reduce the charge to the patient.[5] Innovative financing strategies that used multiple sources to fill funding gaps have helped to maintain continuous supplies in, for example, Burkina Faso.[6]

Box 1 – Missed opportunities to save lives: effectively treating childhood pneumonia

An estimated 18% of deaths among children under five and 4% of newborn deaths are caused by pneumonia (totaling almost 2 million deaths in 2008).[1] Pneumonia can be treated with a simple course of antibiotics that costs around US$0.27 per case.

Since there is limited access to fixed health facilities in so many developing countries, prompt treatment may require training frontline health workers to diagnose and treat children in the community. This approach is proving effective, affordable and straightforward. In Nepal, for example, a 3-year study showed that such a community-based approach led to a 28% reduction in the risk of death from all causes. A recent analysis of nine studies using the same approach showed that under-5 deaths were reduced by about 24%.[2]

Unfortunately, these types of effective interventions currently reach very few children. Only an estimated one in five care-givers in the developing world know the two key symptoms of pneumonia— fast and difficult breathing —which require immediate treatment. And only about half of children with pneumonia receive appropriate medical care.[2]

The Global Action Plan for Prevention and Treatment of Pneumonia (GAPP) recommends treating childhood pneumonia in a holistic way through interventions to Protect (breast feeding), Prevent (vaccination) and Treat (case management). Together these interventions will cost an additional annual investment of about US$12.9 per child.[3]

Sources:

1 Black, R et al. 2010. Global, regional, and national causes of child mortality in 2008: a systematic analysis. Lancet. 2010 Jun 5;375(9730):1969-1987

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3 WHO and UNICEF. 2008. Global Action Plan for Prevention and Treatment of Pneumonia (GAPP)

In some countries, such as Mexico, decentralized health spending has helped to increase funding for reproductive health supplies. However, decentralization does not work in all cases, with large amounts of pooled funding remaining unspent and delivery systems fragmented.[7]

Essential medicines lists

The World Health Organization's (WHO) Model Lists of Essential Medicines and Devices can guide countries in planning for RMNCH supplies. Inclusion of the right commodities in the national essential medicines lists is crucial to improving women's and children's health. In Mongolia, for example, ergometrine - an important drug for the management of heavy bleeding during/after childbirth, is not on the essential medicines list.[8] Although in the Philippines this drug is included in the national essential medicines list, the composition used is not optimal for the prevention and treatment of heavy bleeding.[9]

Box 2 – Centralized information systems

Online information systems improve coordination by keeping track of donor, government, and program activities. For example, the web-based system RHInterchange (http://rhi.rhsupplies.org) provides detailed information about shipments of donor-supplied contraceptives and related supplies to countries around the world. Program managers can track the supplies they have ordered from various organizations, and determine their arrival time and quantities. Better coordination of procurement helps programs to avoid running out of stock due to incomplete orders and shipment errors.

Extracted from: "Elements of success in family planning programming." Population Report (PDF). http://info.k4health.org/pr/J57/J57.pdf

Integrated systems, better training and coordination

Requirements for each commodity are often different, for example, in terms of shelf life or sufficient suppliers, and so vertical supply chains are common. In countries where these chains have been integrated, duplication has been reduced and supply logistics made more efficient. For example, Uganda's efforts to strengthen its health system included integrating procurement and supply systems.[10]

Moreover, the effectiveness of medicines and supplies also depends on the abilities of both health workers and logistics staff. In post-conflict countries like Liberia, improvements were made by training service providers in logistics management systems, and by integrating the training into national health education.[11]

Coordination among partners is also key to improving delivery of commodities in countries. For example, joint forecasting and planning by partners and subsequent negotiation with manufacturers has been undertaken successfully by The Reproductive Health Supplies Coalition (RHSC) (See Box 2). In some countries, such as Nicaragua, Tanzania, Ghana, Uganda and Bangladesh, contraceptive coordination committees (which have representatives from the government, donor agencies and NGO service providers) have also been able to improve delivery of supplies. However, shortages at primary and district health facility levels still need to be addressed.[4, 12]

Box 3 – Tracking access to medicine

The Access to Medicine Index analyzes and ranks the efforts of the world's largest pharmaceutical companies to ensure access to medicines, and aims to help them improve their commitments and practices. Latest trends show: increased sharing of intellectual property for research; more research and cross-company collaborations; innovative approaches to improve access; and some increased capacity in poor countries. However, challenges still remain.

www.accesstomedicineindex.org/publication/access-medicine-index-2010-full-report

Box 4 – Zimbabwe: innovative delivery improves supplies

The Delivery Team Topping Up (DTTU) system was adopted in 2004 to improve the availability of contraceptives at healthcare facilities by ensuring deliveries every four months. The team's technical advisor keeps a record of supply levels and the average monthly consumption over the previous four months, and then estimates needs for the next four months. Supplies are replenished as required.

This system helped by:

- Taking responsibility for inventory management away from the over-burdened clinical staff. As clinics no longer had to place orders with central warehouses, the need to train healthcare workers in inventory management was removed.
- Reducing the number of occasions when stocks ran out (stock-outs). Nationwide stock-out rates for condoms, injectable contraceptives and oral contraceptives were over 20% in some places before the project. However, in 2005 and 2006 they were below 5%.

The system now serves nearly 99% of the country's health care facilities.

Extracted from: "Elements of success in family planning programming," Population Report (PDF). http://info.k4health.org/pr/J57/J57.pdf

Advocacy delivers results

International advocacy has helped greatly to highlight the issue of shortages in supplies (see Box 3). Advocacy strategies at national level have also advanced the agenda for reproductive health supplies. Civil society organizations in Uganda, for instance, have highlighted gaps in reproductive health supplies, and lobbied for a range of commodities to be included in the essential medicines list for the country.[13] In Tanzania, district contraceptive security committees now monitor supplies and ensure they are adequate.[4]

Some terms explained

Commodity security

- Reproductive health commodity security exists "when every person is able to choose, obtain, and use quality contraceptives and other essential reproductive health products whenever s/he needs them" *(IWG 2001)*
- The WHO essential medicines strategy aims to "help save lives and improve health by ensuring the quality, efficacy, safety and rational use of medicines, including traditional medicines, and by promoting equitable and sustainable access to essential medicines, particularly for the poor and disadvantaged" *(WHO 2004)*.

Partnerships support commodity security

The involvement of external service providers at the level of delivery has helped to improve public-sector services in many areas. For example, a third-party partnership enabled timely and effective procurement and delivery of commodities in the Democratic Republic of Congo, while an innovative delivery system had a similar effect in Zimbabwe (see Box 4). International partnerships, such as the Global Alliance for Vaccines and Immunisation, have played an important role in improving immunization coverage in developing countries by increasing supplies and strengthening delivery systems. Joint programming between the African, Caribbean and Pacific states, UNFPA and the European Commission has helped to maintain supplies in conflict and post-conflict countries.[11]

Conclusion

The global RMNCH community must come together to advocate and support the implementation of more informed and collaborative procurement strategies and systems – not only to provide regular supplies of commodities already known to be essential, but also to develop and roll-out new and improved products.

Useful resources

- UNFPA: Tools to Help Countries Assess their Needs and Manage their Supplies www.unfpa.org/public/site/global/lang/en/pid/3592
- WHO: Rethinking the vaccine supply chain – the right vaccine, in the right place at the right time www.who.int/immunization_delivery/systems_policy/optimize/en/index.html
- PATH and WHO: Optimizing Vaccine Supply Chains www.path.org/vaccineresources/details.php?i=921
- CDC: Global Reproductive Health: Contraceptive Logistics www.cdc.gov/reproductivehealth/Global/ContraceptiveLogistics.htm

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12 USAID DELIVER Project (2009). "A Strong Supply Chain Responds to Increased Demand for Contraceptives in Rwanda." www.usaid.gov/our_work/global_health/pop/techareas/contrasecurity/success_rwanda.pdf
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Support the Workforce

Boosting the capacity of the health workforce is an integral part of health systems strengthening, and has to be a priority for achieving MDGs 4 and 5. A strong health workforce helps countries to uphold women's and children's rights to health and quality care. Countries and their partners have to commit to long-term support, coordinate across the public and private health sectors and forge inter-sectoral links.[1] In the short term, some countries have made significant progress through innovative approaches, such as task-shifting and incentive-based programs for the health workforce.[2]

Midwives, nurses, doctors and frontline health workers are a crucial part of any health system, but currently, in many places, there are simply too few. [3] A study of 198 countries found that maternal and child death rates were higher in those with fewer health workers.[4] The Global Health Workforce Alliance asserts that: "One decade into the 21st century, the world continues to face a health workforce crisis of unprecedented proportions."[1]

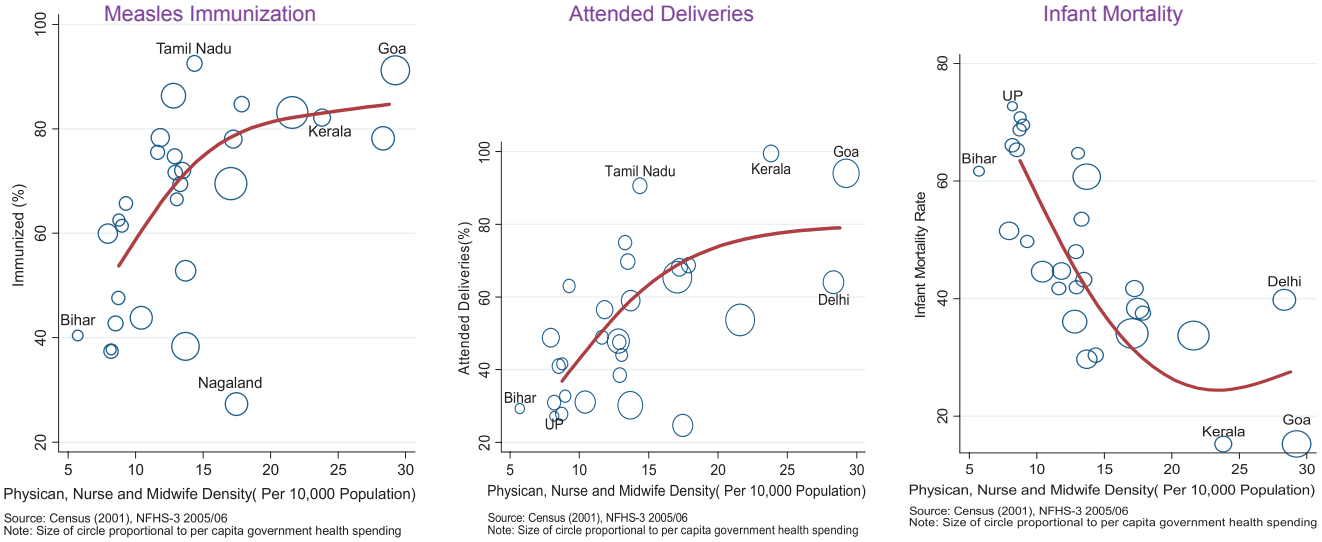
What do we know?

The shortage of health workers worldwide is the result of multiple, complex factors, including too few people being trained in the relevant skills. There is an uneven distribution of health workers within and across countries. Highly skilled medical workers, such as obstetricians, pediatricians and other specialists, tend to be concentrated in urban areas and are more likely to seek employment in other countries, contributing to the so-called "brain drain".[4] Health workers face problems such as lack of opportunities for further training and career progression, low salaries[5], poor work environments and unsupportive supervision/management. These factors affect workers' motivation and performance, which adversely affect both the quality of care and health outcomes.

Recent analyses emphasize the strong link between the number of health workers, the use of health services and health outcomes in different Indian states.[4,5] A 2008 study by the Public Health Foundation of India and the World Bank shows that higher worker density is associated with higher measles immunization, more attended deliveries, and lower infant mortality (see Figure 1). However, variations in these outcomes indicate that: "there are several factors other than the workforce density which are influencing health and service utilization. This includes, among other things, the efficiency of health workers, their quality, their distribution and composition."[6]

Figure 1

Health workers save lives: India's health workforce, service utilization and health outcomes



Source: PHFI and the World Bank (2008). "India's Health Workforce: Size, Composition, Distribution."
www.hrhindia.org/Paper1/Health_service_utilization_and_the_health_workforce.html

What works?

Countries need to train, employ and effectively deploy adequate numbers of health workers. However, while scaling up is essential, it is not always enough. Countries also need to build the capacity of existing workers so that they perform better, and create an environment that encourages them to stay in areas where the need is greatest. This has already been shown to work in some contexts.

Improving skilled attendance through different recruitment methods

Countries need to prioritize active recruitment of more midwives and nurses. In some places (e.g. Ethiopia, Ghana and Pakistan) however, recruiting more frontline community health workers is helping to ease acute shortages in the immediate term, and is aiding deployment of workers to the

Box 2 – What countries can do now: 29 actions to scale up and improve the health workforce

The World Health Organization and the Global Health Workforce Alliance have recently identified seven key issues to strengthening the capacity of the workforce, and proposed 29 actions to address these.

Two illustrative examples are:

Issue One: How can countries pay for scaled-up employment of Human Resources for Health (HRH)?

1. Estimate the "fiscal space"/government funding that is likely to be available for employment of HRH through to the end date of countries' HRH scale-up plans (e.g. 2015 if the plans are aligned with the MDGs).
2. The Ministry of Health can use the fiscal space analysis for advocacy. The gap figures could be used to seek additional resources to make it possible to attain the planned HRH levels.

Issue Six: What are the key elements needed to strengthen HRH management and how much do they cost?

22. Budget for and then upgrade the staffing of HRH departments in ministries of health and build or develop HRH information management systems.
23. Obtain guidance about the essential functions of a strong HRH management system and implement them: e.g. The USAID-funded Capacity Project.
24. Involve HRH managers in strategic decision-making processes of ministries of health.
25. Work with schools of business administration and private providers of health services to develop modules on HRH management.

Further information on the other issues and action statements can be found at:
www.who.int/workforcealliance/knowledge/publications/taskforces/actionpaper.pdf

Source: World Health Organization and the Global Health Workforce Alliance (2009). Taskforce on Human Resources for Health Financing.

areas of greatest need[7] (see Box 1). The recruitment of local residents and training of married women in rural areas as nurses or midwives helps to improve retention.[7] To meet short-term needs, task-shifting could also be a cost-effective way to train, retain and strengthen the workforce.

The private sector may be able to help countries reduce health worker shortages in some places.[8] In other cases, decentralized recruitment and financing has been used, alongside special allowances and other incentives, to improve the efficiency of hiring and retaining frontline health workers on flexible short-term contracts.[9] However, decentralization may not be effective for recruiting higher cadre workers, or to effect an equitable distribution of workers across districts, as found in Tanzania.[10]

Continuing education and training helps, particularly when supervision is good

Evidence shows that health workers who continue their education, training and professional development enhance not only their knowledge and skills, but also their motivation.[11] However, this has to be accompanied by good management and continued supervision, if any short-term improvements in performance are to be maintained. For example, high workloads in India[12] and poor management techniques in South Africa[13] adversely affected performance, despite training.

Education and training that raises awareness of health systems issues and problems helps health workers to develop a solution-focused approach to their work, thereby improving their performance and patient relationships.[7]

Financial incentives help when combined with non-financial incentives

Performance is improved by higher salaries or additional payments and allowances (for example, higher salaries linked to remote locations, housing benefits and school fees), because they motivate staff and increase job satisfaction.[14] In Rwanda and Cambodia, linking financial rewards to health facility performance has helped to improve quality and uptake of care. However, to retain staff, strategies that combine financial incentives with non-financial

Box 1 – Lady health workers in Pakistan

Pakistan has faced serious problems retaining skilled health care practitioners. So, in 1994, it began training a cadre of "lady health workers" (LHW). They were tasked with providing essential primary health care services to the communities where they lived. Working in tandem with local health authorities and clinics, each LHW is responsible for 1000 individuals living within her area. The target is to deploy 150,000 LHWs by the end of 2011. The total cost per year is only US$745 per LHW, or less than 75 cents for every individual that a LHW is responsible for.

Source: The Global Health Workforce Alliance. "Catalyst for Change." 2009 Annual Report (PDF)
www.who.int/workforcealliance/knowledge/resources/ghwa_annualreport_2009.pdf

incentives appear to work better.[10,15,16]

Good supervision and management, and supportive colleagues, help motivation; while performance is influenced by patient satisfaction, positive feedback and collegial environments.[10]

However, financial incentives are typically much smaller than salaries in major urban areas, in developed countries or in the private sector, so they do not affect migration patterns unless other work-related issues exist.[17] In Samoa, for example, doctors preferred to migrate despite being well-paid. Reasons included long working hours, high workloads and links with families who lived overseas.

Some terms explained

Task shifting: "A process whereby specific tasks are moved, where appropriate, to health workers with shorter training and fewer qualifications." *(WHO & GHWA, 2008:7)*

Skilled attendant at delivery: is an accredited health professional — such as a midwife, doctor or nurse — who has been educated and trained to proficiency in the skills needed to manage normal (uncomplicated) pregnancies, childbirth and the immediate postnatal period, and in the identification, management and referral of complications in women and newborns."

Source: Making pregnancy safer: the critical role of the skilled attendant. A joint statement by WHO, ICM and FIGO. Geneva, World Health Organization, 2004.
www.who.int/making_pregnancy_safer/documents/9241591692/en/index.html

Conclusion

Evidence shows certain strategies work, but are very context specific. A review of 55 studies on attracting and retaining staff in remote and rural areas concluded that no single solution could be applied across countries.[18] Usually, a set of interventions is more effective than a single intervention, but this has to be determined by local needs. For example, Thailand was able to improve access to care in rural areas by recruiting local people, training them in rural areas and assigning them to places close to their home towns. In Indonesia, doctors in rural areas were paid twice as much as those in urban areas, and were also given specialist training.[19]

Ultimately, improvements have to occur across the health system to enable health workers to deliver effectively (see Box 2). Governments and international organizations have to provide the required funding, coherent health workforce plans, and policies to manage global migration as an integral part of global accountability.

Useful resources

- WHO and GHWA (2008): Scaling Up, Saving Lives (PDF). www.who.int/workforcealliance/documents/Global_Health%20FINAL%20REPORT.pdf
- UNFPA and University of Aberdeen (2004): Into Good Hands: Progress Reports from the Field. www.unfpa.org/public/site/global/lang/en/pid/2048
- Human Resource Projection Tool for maternal and newborn health. www.who.int/making_pregnancy_safer/countries/hr_projection_program/en/index.html
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Knowledge Summary

7 Assure Quality Care

Achieving high and equitable coverage of interventions for reproductive, maternal, newborn and child health (RMNCH) is essential, but saving lives also depends crucially on the quality of care.[1] Each country context presents a different set of challenges for assuring quality care that is effective, safe and a positive experience for women and children. The greatest possibility of success comes from multifaceted interventions that address quality issues throughout the health system and are supported within a progressive policy environment. Providers must embed quality care assurance at all levels of the health system, and view it as essential to achieving health and survival goals for women, adolescent girls, newborns and children.

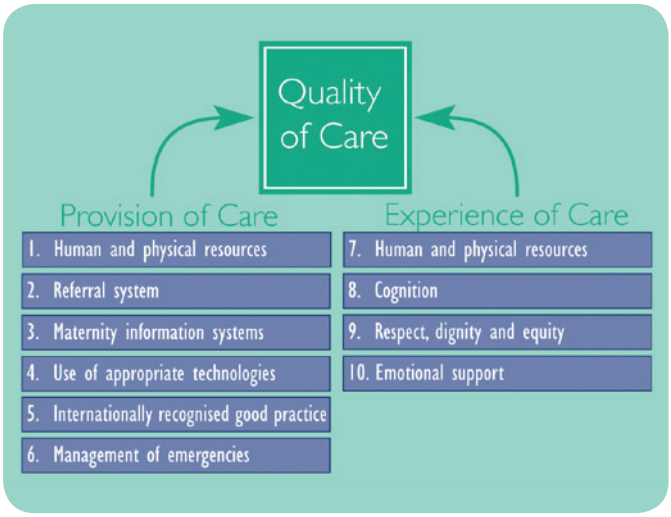
One of the simplest definitions of *quality of care in health* is care that is "clinically effective, safe and a good experience for the patient."[2] A more comprehensive description refers to quality of care in terms of meeting standards in ways that are: safe, effective, patient-centered, timely, efficient and equitable.[3]

What is common to all definitions is the need to see quality of care as much more than just a matter of technical skills and the supply of services. Good quality care must also respect the perspectives and needs of the patient or client. One definition that clearly shows this for maternal health, states that quality of care is: *"the degree to which maternal health services for individuals and populations increase the likelihood of timely and appropriate treatment for the purpose of achieving desired outcomes that are both consistent with current professional knowledge and uphold basic reproductive rights."*[4]

Quality includes two inter-related components: the quality of provision of care and the quality of care as experienced by the users.

Figure 1

A quality-of-care framework



Source: Hulton L, et al (2000). "A framework for the evaluation of quality of care in maternity services." http://eprints.soton.ac.uk/40965/

What do we know?

We know that the technical competence, motivation and interpersonal skills of health workers determine their individual performance.[5] However, it is clear that this also depends on quality issues at a management level, such as coordination and linking of services, adequate supplies and ongoing supportive supervision (see Knowledge Summaries 5 and 6). We also know that, although access to services has been improving,[1] women still do not always seek appropriate care for themselves or their children. This is partly due to distance and costs, but also because of earlier experience of disrespectful treatment from health workers, or adverse perceptions of the facilities and providers.[6]

Some terms explained

Audit and feedback: "...any summary of clinical performance of health care over a specified period of time, given in a written, electronic or verbal format, and may include recommendations for clinical action."

SUPPORT (2008). Summary of a systematic review. Jamtvedt G, et al. "Audit and feedback: effects on professional practice and health care outcomes." Cochrane Database of Systematic Reviews, 2006, Issue 2.

Educational outreach: "... entails the use of a trained person from outside the practice setting to meet with health-care professionals in their practice."

SUPPORT (2008). Summary of a systematic review. O'Brien MA, et al. "Educational outreach visits: effects on professional practice and health-care outcomes." Cochrane Database of Systematic Reviews, 2007, Issue 4.

What works?

Many context specific lessons about improving quality have already been learned. These encompass technical models such as quality assurance, continuous quality improvement and total quality management.[7] These approaches aim to improve healthcare quality continually, while also taking into account the needs of the service and those of women and children. The specific quality improvement actions taken are typically based on the data and evidence gathered by healthcare managers and their teams.

Continuous education benefits health care workers' practice

Continuous education and training are known to improve the motivation and performance levels of health care workers.[8] The most effective approaches are those that involve active participation of these workers, including educational outreach visits, interactive workshops and small group tutorial sessions. Although the use of manual reminders can help, distribution of educational material is ineffective unless combined with continuing education. Providing such support through outreach to workers does, however, involve higher costs and is often harder to sustain.[3]

Box 1 – Burkina Faso: Audits can improve quality but need to be supportive

Audits conducted in an urban district hospital in Burkina Faso helped to highlight several problems with clinical practice. These included lack of medicines and equipment, non-adherence to protocols, poor communication within the team and with patients, staff negligence and negative attitudes towards patients. Many of the recommendations from the audits were not implemented due to problems at the district management level. However, some actions were taken, with information recorded more systematically in the patients' files, cases managed more quickly, and communication with the women improved. Although most health workers thought that the audits were a positive development, junior staff felt they were unfairly criticized and blamed for mistakes and senior staff saw it as a way to increase their power.

Source: Richard F, et al (2009). "The difficulty of questioning clinical practice: experience of facility-based case reviews in Ouagadougou, Burkina Faso." BJOG; 116:38–44.

Continuous monitoring, feedback, supervision and support improves quality of care

Mechanisms such as clinical audits and regular feedback are useful,[9] particularly in contexts where quality is very poor,[10] and training and supportive supervision make audits more effective. In Kenya, healthcare workers who received supervision, support and feedback at each stage of service delivery for mothers and newborns achieved improved skills scores.[11] Similarly, a package to improve postnatal counseling also helped to improve the quality of care in Kenya,[12] and criterion-based audits, combined with management support resulted in strengthened referral systems for mothers and babies in Malawi.[13]

Maternal and perinatal death audits and reviews are now used in many countries. When these are well-conducted, such audits can provide valuable information to improve services and clinical practice. However, realizing the full benefits from applying these quality assessment tools can be undermined by limited resources, poor management or institutional procedures, and in some cases can also create tensions within a team (see Box 1). In Tanzania, for example, there was inadequate discussion during audits conducted at some of the main urban hospitals and the recommendations were not implemented, which demoralized the team.[14] Again, these experiences from the field highlight the need for an enabling management and wider health systems environment in order to achieve the full benefits from essential audit and feedback mechanisms.

Supportive national policies are essential to quality assurance

Poor quality infrastructure and healthcare practices can be improved through nationally recognized quality standards, certification and accreditation measures.[15] These can be applied to service institutions, medical education and training institutes and other healthcare organizations – both in the public and private sectors. Community-level monitoring of services through patient welfare committees, public hearings and similar activities may improve local services. In India, several such quality-assurance mechanisms were widely used, which led to strengthened infrastructural and human resources. However, increased demand for services created additional pressures that compromised quality.[16]

Enhancement of infrastructure and services must be an integral part of quality improvement

In contexts where services are hard to reach, service developments such as the introduction of maternity waiting homes (centers within easy reach of clinics, or hospitals where women can wait close to the time of childbirth) and support for referral transport are key. Although there is little hard evidence of their effectiveness at improving outcomes,[17] some studies report benefits – for example, in Cuba, Nicaragua and Ethiopia.[18] Birth companions have also been suggested to improve timely uptake of care, as well as mothers' experiences of childbirth, although the benefits are likely to vary by context. A pilot

Box 2 – The Reach Every District approach: linking coverage with quality

The Reach Every District (RED) approach, developed by WHO and UNICEF in 2002, addresses common problems in routine childhood immunization coverage. This involves five key actions at district-level health facilities suited to each context: planning and management of resources; supportive supervision; re-establishing outreach services; linking services with communities; and monitoring for action. A recent evaluation found that overall immunization coverage showed "promising improvements". Some challenges continued, such as high turnover of staff, but the support for RED was better in areas where local community representatives were actively involved in planning and implementation.

Sources: Ryman T, et al (2010). "Reaching every district (RED) approach to strengthen routine immunization services: evaluation in the African region, 2005." Journal of Public Health, Vol. 32, No. 1, pp. 18–25.

WHO (2008). "Implementing the RED approach: a guide for district health management teams." www.afro.who.int/index.php?option=com_docman&task=doc_download&gid=3715.

study in South Africa, did not find any difference in care received when women had birth companions,[19] whereas various schemes to improve uptake by reducing transport barriers have been more successful. For example, a current scheme in India to improve facility-based care includes a reimbursement towards transport costs for women.[20]

Involving communities helps to improve demand for quality care

Community participation on issues such as training of healthcare workers, community education, selection of health committees, supplies and referral systems, have been useful in improving quality (see Box 2). For example, a review found that community participation helped to increase clean delivery practices.[21] Although lack of education and literacy are often barriers to effective community involvement,[3] mass media campaigns on health issues (through radio, television, newspapers, magazines, posters, etc.) can be used to improve public knowledge, and thereby demand for quality health services.[3]

Conclusion

A progressive policy environment is essential to embedding quality assurance at all levels of the health system. Quality improvement interventions for RMNCH care that are multifaceted and tailored to specific contexts are more likely to achieve good results. Efforts towards quality improvement can thus not only strengthen the health system, but crucially also ensure women, adolescent girls, newborns and children receive the effective, safe and respectful care they need and deserve.

Useful resources

- USAID/BASICS (2009). Integrated maternal and newborn care basic skills course: facilitators guide (PDF). www.basics.org/documents/Facilitators-Guide-final.pdf
- WHO RHL Library. Improving clinical practice. http://apps.who.int/rhl/effective_practice_and_organizing_care/en/
- WHO (2005). Emergency Triage Assessment and Treatment (ETAT) course. www.who.int/child_adolescent_health/documents/9241546875/en/index.html
- WHO (2006). Quality of care – A process for making strategic choices in health systems. www.who.int/management/quality/assurance/QualityCare_B.Def.pdf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Strive for Universal Access

Providing universal access to health care is still a challenge for many countries. But they can make significant improvements in three key ways. First, they can ensure entitlements, which link human rights with the resources required to enjoy these rights. Secondly, they can integrate services and packages to promote access and improve outcomes for women and children. Thirdly, they can strengthen and scale up health systems, reaching out to those who are underserved.

To improve the health of women and children around the world…the answers lie in building our collective resolve to ensure universal access to essential health services.

UN Secretary-General Ban Ki-moon[1]

What do we know?

Universal access means that all individuals can obtain the health care they need.[2,3] This would enable women and children around the world to enjoy their fundamental human right to the highest attainable standard of health.[1,4]

However, many countries face challenges in providing universal access to essential health services. In low- and middle-income countries, people often have to pay for health care out of their own pockets,[5] putting it out of the reach of the poorest and most vulnerable. The challenge for these countries is to find ways to modify health financing and delivery systems in order to achieve universal access. Other barriers stem from sociocultural, gender and age differences as well as geographical and transportation challenges that result in women, newborns, children and adolescent girls being discriminated against when trying to access essential health services.[6]

What works?

Reviews of what works in promoting universal access to essential health services identify important interventions and strategies.[3,6] These include sustainable financing, improving the quality of care, addressing inequities, removing barriers to access, strengthening participation and accountability, integrating services, and drawing on human rights and advocacy (see Knowledge Summaries 3, 7, 9, 11 and 12). The three key components discussed in this Knowledge Summary are: ensuring entitlements, using a 'diagonal' approach to integrate services, and strengthening and scaling up health systems.

Some terms explained

"Access" is a broad concept that measures three dimensions of key health-sector interventions: availability, coverage, and outcome and impact.[2]

Availability is defined in terms of the reachability (physical access), affordability (economic access) and acceptability (sociocultural access) of services that meet a minimum standard of quality. Making services available, affordable and acceptable is an essential precondition to achieving universal access.

Coverage is defined as the proportion of the people needing an intervention who receive it. Coverage is influenced by the supply or provision of services, and by the demand from those who need services and their health-seeking behavior.

Outcome and impact are defined in terms of medium-term effects, such as behavioral change and higher survival rates, and long-term effects, such as lower infection rates.

Outcome and impact are the result of coverage and depend on the efficiency and effectiveness of interventions.

Note: There are many approaches to measure progress towards universal access, and there are ongoing advances in the concepts and methods used.

Ensuring entitlements

Entitlements link human rights with the resources required to enjoy these rights.[7] All individuals have human rights, including the right to the highest attainable standard of health.[1,4] However, unless they also have the ability and resources to access essential health services, they cannot enjoy this right.

Entitlements = Rights + Resources

The right of women and children to enjoy the highest attainable standard of health is set out in human rights agreements and in related declarations and policies at global, regional and national levels.[1,8] Providing the required resources depends on three key health financing functions: (1) collection of sufficient and sustainable resources or revenues; (2) pooling of funds to ensure that costs are shared equitably to ensure financial accessibility; (3) purchasing and providing health care services in the most efficient and equitable way.[5] Health systems reforms in Mexico illustrate how the concept of entitlements can be used to promote universal access (see Box 1).[9,10]

Box 1 – Ensuring entitlements: the example of Seguro Popular in Mexico [8,9]

The right to health care has been recognized in the Mexican Constitution since 1983, but in practice not all citizens enjoyed this right – and 50 million people lacked guaranteed access to health services.

The 2003 health reforms introduced a public insurance scheme, known as Seguro Popular, and created legal and financial incentives and two packages of services. The incentives required that the number of families affiliated to Seguro Popular would determine state budgets. This meant that state governments had an incentive to sign up to the scheme all families living within the state, ensuring universal coverage. The state then had to deliver the services outlined in the two service packages. Part of each package involved making people aware that under the law they would have access to all interventions included in both packages.

The two service packages were targeted at the poor to ensure equitable access. "Social acceptability criteria" were identified through a consultative process involving health professionals and the general public.

The government also made the necessary health systems investments to improve infrastructure, equipment and personnel, and every healthcare facility had to be accredited according to standardized protocols. This was important to ensure that coverage throughout the country was standardized, not only in terms of quality, but also in terms of the resources required to provide the services stipulated.

Initial evaluations of Seguro Popular show that the reform program has significantly reduced the burden of health care expenditure in poor households. However, further evaluations are required to evaluate the impact on coverage and health outcomes.

A 'diagonal' approach to integrating services

Emerging research shows that integration of services and packages across the reproductive, maternal, newborn and child health (RMNCH) continuum has the potential to promote access and improve outcomes for women and children [11] (see Knowledge Summaries 2 and 3).

In Bangladesh, for example, evaluations of the Integrated Management of Childhood Illnesses (IMCI) program show that it resulted in improvements in exclusive breastfeeding rates and a reduction in the prevalence of stunting.[11] A recent review of 185 studies found that creating linkages between sexual and reproductive health and HIV interventions reduced the incidence of HIV and sexually transmitted infections. It also encouraged use of condoms and other contraceptives, and improved uptake of HIV testing and quality of services.[12]

Meanwhile, Egypt, which is one of the few countries on track to achieve both MDGs 4 and 5, has integrated child health and family planning, upgraded maternal health programs and expanded water and sanitation systems. This has happened alongside training of health workers and improving community outreach programs.[1,13]

Table 1 – Interventions to Correct Barriers in Access to Care [6]

Demand barrier	Information imperfections	Increase ability to pay	Supply side
Lack of knowledge ▪ Education ▪ Information ▪ Culture	Rectify knowledge gaps Educate communities and households	Stimulate demand through general cost reduction	Culturally sensitive health care delivery
Uncertainty about financial costs		Develop insurance, prepayment schemes and targeted subsidies	
Equity ▪ Distance costs ▪ Opportunity costs ▪ Intrahousehold		Targeted subsidies for the poor Patient compensation for transport and lost income, loan funds	Bring services to communities, more flexible opening hours

Such integration across the RMNCH continuum and between RMNCH and other health and intersectoral issues has the potential to improve outcomes for women and children.

There is an ongoing debate in the global health community about the relative benefits of integrated health programs versus programs that emphasize specific interventions. A systematic review found little hard evidence to support one approach over the other. Instead, the review said that: "The purpose, nature, speed and the extent of integration also vary – in part, dependent on the intervention complexity, the health system characteristics and the contextual factors … creating a rich mosaic of local solutions to address emergent problems."[14]

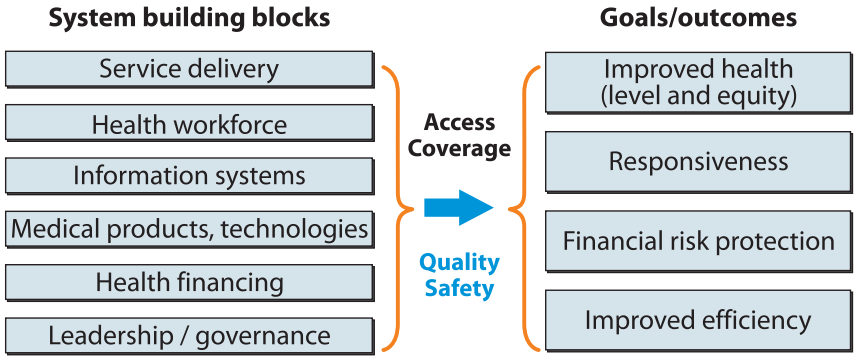
Thus, a strategic, context-specific approach is required to integrate services effectively, efficiently and equitably for universal access, which should include identifying and addressing specific barriers (see Table 1). This strategy is referred to as a 'diagonal approach' that combines proactive vertical interventions targeting specific problems, with horizontal demand-driven interventions that connect healthcare from homes to hospitals.[15]

Strengthening and scaling up health systems

While consideration has to be given to country-specific contexts, including the burden of disease and health system capacity, the expansion of proven interventions and strengthening of health systems will generally need to be undertaken in a phased manner.[17] Investment in high-impact and cost-effective interventions is a priority (see Knowledge Summary 3). Countries and partners engaged in scaling up will also need to prioritize, reaching out to those who are underserved to ensure equity (see Knowledge Summary 9). Health systems strengthening can then be addressed as part of longer-term strategic plans based on existing systems capacities and current levels of health outcomes (see Figure 1). Expanding coverage of interventions, in parallel with health system strengthening, should also address the socio-economic barriers to healthcare access, which influence the success of any health system.

Figure 1

The WHO Health Systems Framework[18]



Conclusion

A determination to improve the health of women and children must include a commitment to improving universal access to essential healthcare. Using the synergies that exist between the various health and development programs is an efficient and effective way of delivering services and improving health outcomes. A special effort must be made to reach those who are underserved. Governments, donors and those who manage global initiatives must come together to make this possible.

Useful resources

- World Health Organization. Health Systems Financing. www.who.int/healthsystems/topics/financing/en/index.html
- Realizing Rights and IDS Health and Development Information Team. Universal access to sexual and reproductive health services. www.eldis.org/health/Universal/index.htm

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18 The WHO Health Systems Framework. www.wpro.who.int/sites/hsd/hsd_framework.htm

Address Inequities

The burden of mortality and ill-health is borne disproportionately by the women and children who are least well served. Deep-seated gender inequities in societies pose significant barriers to women's and girls' access to, and use of, healthcare services.[1,2] To scale up service coverage for reproductive, maternal, newborn and child health (RMNCH) and achieve Millennium Development Goals (MDGs) 4 and 5, countries and their partners should focus on the most vulnerable and hardest-to-reach women and children: the poorest, those living with HIV/AIDS, orphans, indigenous populations and those living farthest from health services.

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By definition, universal access to RMNCH care requires good quality services to be available to all. Equitable access is achieved when "avoidable and unfair" differences in healthcare are removed.[3] Inequities in RMNCH care and outcomes are a result of the socio-cultural, religious, economic, political and geographical vulnerabilities that women and children face. And, as a review on gender inequities puts it: *"The heart of the problem is that gender discrimination, bias, and inequality permeate the organizational structures of governments and international organizations, and the mechanisms through which strategies and policies are designed and implemented."*[1]

Health equity for women and children needs strong advocacy and action from all quarters and at all levels. New hope is presented by UN Women – the new agency for gender equality and women's empowerment, which can help lead the advocacy to remove gender inequities and achieve progress for RMNCH.

What do we know?

Poor women and children have poorer access

Women and children in the poorest families across the developing world bear the greatest burden of death and ill-health. They are more exposed to health risks and often have less resistance to illness owing to poor nourishment or environmental conditions.[4] Studies have shown that their access to care is also the lowest in developing countries.[5] National averages hide the inequities that exist within countries. Progress on MDG 4, for example, has been accompanied by rising inequality in under-five mortality. Even in countries with low levels of under-five mortality, most deaths are recorded amongst the poorest families.[6]

The *Countdown to 2015* analysis shows that the wealthiest households had a better coverage across all the RMNCH interventions studied (see Figure 1). The largest gaps (typically 30% to 50%) across the interventions were in South Asia and sub-Saharan Africa.[7] Such inequities were seen along the continuum of care (see Box 1 and Knowledge Summary 2).

Evidence shows that some program interventions can have unintentional effects and increase inequities. In rural Bangladesh, for example, the gap in uptake between poor and rich widened after facility-based care was introduced. Although the facility-based care was free and more women started using it, fewer women from the poorest families attended.[8]

Unfairness also manifests in other ways. Lack of respectful care in health facilities, particularly towards poor women, discourages them from using available care (see Knowledge Summary 7). In Kenya, for example, poor women also faced physical and verbal abuse from health workers in many public healthcare facilities, because they could not pay the fee.[9]

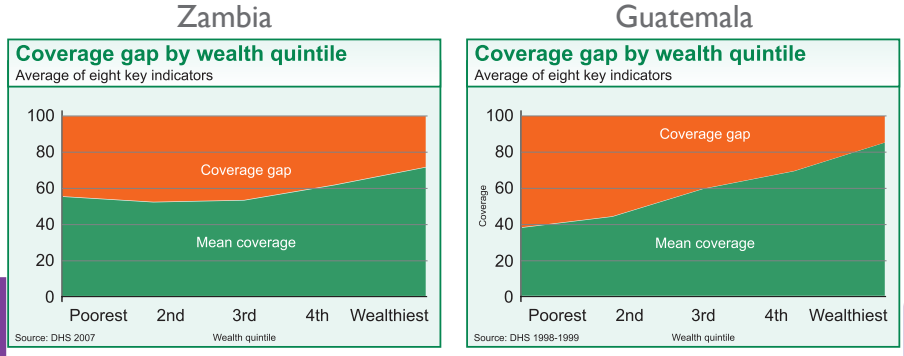
It matters where women and children live

Women and children in rural and remote areas are the most underserved. For example, women in rural Ethiopia were less likely to receive skilled birth attendance than their urban counterparts.[10] However, poor women in urban areas do not always have better access, underscoring the fact that poverty is one of the main drivers of inequity in access. In Indonesia, for example, caesarean rates were lowest among the poorest women in both rural and urban areas. A comparison of coverage across different terrains in Nepal showed that those living in the mountains were least served in terms of the eight RMNCH interventions (see Figure 2).

Women and children who are displaced by conflict, or live in conflict-affected areas, are at greater risk of ill-health and mortality. The reproductive health of women may suffer acutely with sexual violence, and the consequent risks of unsafe abortions or HIV infection.[11]

Figure 1

Zambia and Guatemala: inequities are masked by overall coverage



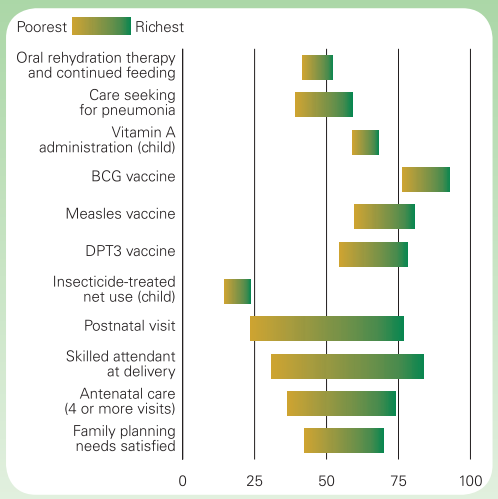
These two countries show similar levels of overall coverage for eight RMNCH interventions. However, uptake amongst the poorest women and children in Guatemala was only 38% compared to 55% in Zambia.

Source: Countdown to 2015 decade report (2000–10): taking stock of maternal, newborn, and child survival, (PDF) www.Countdown2015mnch.org/documents/2010report/CountdownReportAndProfiles.pdf

Socio-cultural origins may weaken access to quality care

Women and children in particular communities, such as ethnic groups, castes or religions, may face greater health challenges. Often such groups are also poor, lack education, experience restrictive cultural practices, face racial discrimination and live in remote areas.[12] Several Latin American ethnic groups – Mayan, Aymara, Quechua, Guarani – hold specific cultural beliefs about childbirth, which influence their use of services.[13] Similarly, in India, some ethnic groups in underdeveloped areas had poorer access to and use of family planning, and poorer maternal health and nutrition, compared to non-indigenous women.[14]

Box 1 – Health inequities exist along the continuum of care



Source: Countdown to 2015 decade report (2000–10): taking stock of maternal, newborn, and child survival, (PDF) www.Countdown2015mnch.org/documents/2010report/CountdownReportAndProfiles.pdf

The *Countdown to 2015* report analyzed coverage levels of healthcare based on eight intervention indicators (contraceptive prevalence; antenatal care; skilled attendance at delivery; vaccinations for BCG, DPT3, measles; ORT; care seeking for pneumonia). Across the 38 countries where data were available, coverage was much higher among the wealthier households. Countries that had overall similar levels of coverage showed large internal inequities. The analysis also showed that equity gaps were much wider for maternal and newborn healthcare than for children and for facility-based care (e.g. skilled attendance at birth) than for care delivered at a community level (e.g. vaccinations).

What works?

Some promising stories have recently come to light. Brazil, for example, has seen socio-economic development coupled with equity-oriented public policies. As a result, living conditions have improved markedly and child undernutrition has declined significantly. Further studies are needed to show whether these gains will be maintained under current global economic conditions.[15] Similarly, a recent analysis by UNICEF, published in two reports, demonstrates how the global community can save millions of lives by investing first in the most disadvantaged children and communities.[16,17]

Targeting is useful in some contexts

It can be helpful to target specific groups of women and children by poverty level, geographical location, type of population and other factors that characterize vulnerable populations. A pilot project that targeted internally displaced communities in Burma, by providing innovative community-based maternal health services, helped to increase use of services across the continuum of care. Skilled attendance at birth, in particular, increased tenfold.[18]

There is not enough evidence on targeting and effective interventions to improve healthcare access for orphans and vulnerable children in either low-prevalence or concentrated HIV/AIDS epidemic countries. However, doctors know that a short course of ART for mother and newborn reduces mother-to-child transmission of HIV. Educational programs and improved feeding practices can also reduce the risk of transmission, and supplementary food helps in some contexts.[19]

Economic support or free services

There is robust evidence that targeted conditional cash transfer (CCT) programs can improve the use of healthcare facilities by the poorest women and children. For example, Mexico's CCT program, *Oportunidades*, improved the quality of pregnancy care among poor women.[20] In Nepal, the Safe Delivery Incentive Program improved skilled birth attendance and facility-based delivery, but had no impact on infant mortality.[21]

However, there is insufficient evidence to show that CCTs specifically help the poorest families with orphans, and particularly those that might be affected by HIV/AIDS. In Kenya, for example, a CCT program found that, although orphans were being covered successfully, only about 40% in fact came from the poorest families.[22]

Many public health experts advocate free care for all to ensure that poor women benefit, and indeed, the removal of user fees has been seen to increase use of facility-based care. In Ghana, for example, free childbirth services led to increased use by poor women, although it did not decrease their out-of-pocket payments.[23] Such programs need to be well funded, and governments should take on strong ownership to ensure their success.

Improved quality of care encourages demand for services

Poor quality care is known to deter women and children from seeking care. This is particularly true in the most marginalized groups, who may receive care that is not only technically inadequate, but also violates their right to respectful treatment (see Knowledge Summary 7). Conversely, women and their families are encouraged to use health services when quality of care

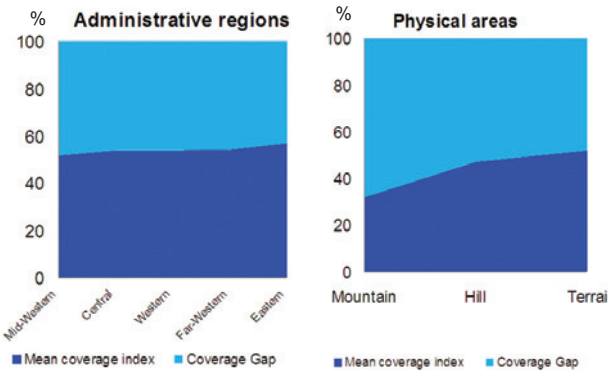
is improved and assured. In Peru, for example, childbirth in healthcare facilities increased by 77 percentage points from 1999 to 2007 among indigenous women. This was a result of a program that encouraged staff at facilities to support certain culturally appropriate and safe practices and to speak the local language.[24,25]

Equity-sensitive monitoring helps to improve outreach

Data for monitoring should be disaggregated to show if the most vulnerable groups are benefiting from scaling-up activities (see Knowledge Summary 12). *Countdown to 2015* provides valuable information (as seen above) to identify groups that are left behind.[26] This facilitates prioritization and effective action, particularly when accompanied by data on costing and funding (see Knowledge Summary 3). For example, a recent analysis of donor aid flows showed that 18 conflict and post-conflict countries allocated only 2.4% of aid money to reproductive health. Countries not in conflict received 53% more aid for reproductive health than those affected by conflict.[27] Such inequities in funding flows only help to reinforce existing inequities.

Figure 2

Inequitable coverage in Nepal: administrative versus physical areas



Source: Graham W J and Hounton S (2010). The Geography of Coverage. Presentation at the 2010 Countdown to 2015 Conference, Washington DC. www.countdown2015mnch.org/index.php?option=com_content&view=article&id=266&Itemid=390

Conclusion

Universal access to healthcare is essential to improve RMNCH and achieve MDGs 4 and 5 (see Knowledge Summary 8). Access to healthcare is a basic human right, as recognized by the UNHRC. Currently, this right is being violated for many poor and marginalized women and children. Governments should uphold people's right to care. This is one of the most empowering actions they can take on behalf of vulnerable individuals.

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Foster Innovation

Innovation is one of the keys to accelerating progress in reproductive, maternal, newborn and child health (RMNCH). This includes finding new and creative ways to deliver services, apply new technologies, raise new money, and form new partnerships. All innovations, however, must pass through a robust process of testing and refinement before precious resources are used to scale up.

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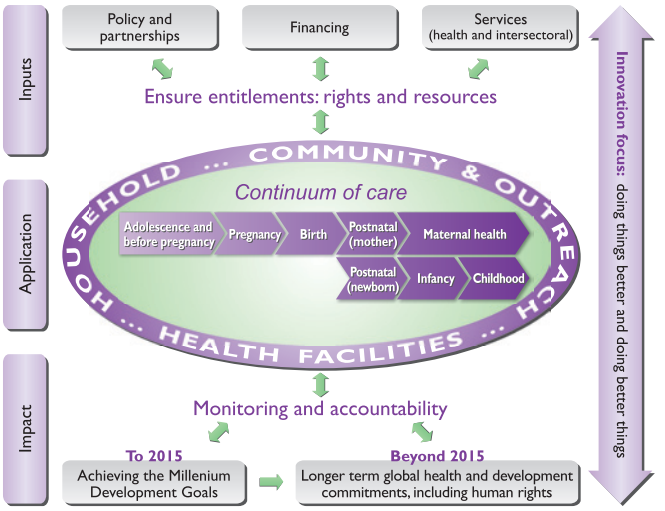
Science and technology continually yield new ideas for improving human welfare.[1] Some prove successful when tested, while other less promising innovations may still feed back into the research pipeline, so advancing knowledge incrementally. Innovations are needed along the continuum of care to accelerate progress towards MDGs 4 and 5 and must be relevant to local health systems. Emerging creative solutions include those related to testing new models for service delivery, and those created through technology. Innovations in financing are referred to in Knowledge Summary 3. Here we highlight just a small selection of the many promising ideas currently at various stages of development.

Figure 1

An Innovation Framework for Women's and Children's Health



Service delivery innovations

Several rural, remote and conflict-affected areas now receive healthcare through approaches that "take the care to the people". These include mobile clinics, special health days and home visits. For example, teams of health workers visit villages in Afghanistan to deliver immunizations and insecticide-treated bednets (ITNs).[2] Mobile clinics treated women, newborns and children affected by the flood crisis in Pakistan in July 2010 for illnesses such as diarrhea and malaria.[3] Home visits by health workers after childbirth have helped to reduce newborn deaths in Bangladesh and Pakistan by 30% to 61%, and are now being recommended as standard practice.[4] Child health days in Ethiopia have helped increase the coverage of Vitamin A.[5]

Task-shifting (delegation to less specialized health workers) can help address shortages of health workers. Communities and civil society groups are getting involved in delivering health services or distributing commodities, such as contraceptives and anti-malarial drugs. Injectable contraceptives are being distributed in Malawi by health-surveillance assistants (frontline health workers) working with communities.[6] Pneumonia case management in Nepal by community-based workers helped reduce child deaths by 28%.[7]

Box 1 – Misoprostol – reducing maternal deaths

Severe bleeding after childbirth accounts for about 35% of maternal deaths, but it can be prevented or managed by good clinical practice and by using drugs. Misoprostol in particular does not require refrigeration and has a longer shelf-life than other uterotonics, like oxytocin. However, the right dose needs to be administered by a trained health worker to avoid side effects, such as high fever and unconsciousness.[1,2,3]

A trial in India found that misoprostol reduced bleeding after childbirth by 5.6% and severe bleeding by 1%.[4] A recent study on the cost-effectiveness of misoprostol at the community level, also in India, estimated that it reduced maternal mortality by an estimated 70% when given sublingually (under the tongue) to *treat* severe bleeding. When given orally to *prevent* severe bleeding, the reduction was 81%. The *treatment* intervention increased the costs of delivering and managing obstetric care by 6% and the *preventive* intervention by 35%. The additional cost for every disability adjusted life year saved was estimated at US$6 and US$170 respectively.[5]

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Technology innovations

Several new drugs, treatments, procedures and devices currently still in the research pipeline are expected to bring significant improvements to the health of women, adolescent girls, newborns and children (see Table 1 and Box 1).

Sophisticated technologies are often available in private sector hospitals in the urban areas of many developing countries. However, their use in rural areas is problematic because they are often too expensive and complex to apply. Some low-cost solutions have been tested, such as pre-filled syringes, pocket-size ultrasound devices[8] and manual vacuum aspirators, and their suitability for different contexts is now being explored. For example, oxytocin to prevent heavy bleeding during childbirth, provided in pre-filled syringes (Uniject),[9] has been tested in Angola, Vietnam and Mali for use by frontline health workers to improve women's access to this life-saving drug.[10]

Equipment to monitor fetal heart rates is not usually suitable for use in rural areas, where electricity and maintenance can be problematic. Simple, manually-operated heart rate monitors are now available.[11] Similarly, a wider range of health workers can now practice neonatal resuscitation with a simple oral and nasal suction device.[12] And for children, discoveries on the benefits of zinc supplements and oral rehydration salts (ORS) to reduce the severity of acute diarrhea and diarrhea-related deaths are being extended in countries such as Bangladesh.[13]

New information and communication technologies (ICTs) have also contributed significantly. Telemedicine – the use of interactive audio-visual media, such as the internet, email, video-conferencing or telephony – is being used in several countries for clinical consultations and information exchange.[14] Mobile phones have the potential to significantly change the ways in which healthcare is delivered and sought (see Box 2).

Some terms explained

Innovation: " … generally understood as the successful introduction of a new thing or method … the embodiment, combination, or synthesis of knowledge in original, relevant, valued new products, processes, or services."

Working definition of the Innovation Working Group, Global Strategy for Women's and Children's Health.

Source: "Investing in Our Common Future." Background Paper for the Global Strategy for Women's and Children's Health. (PDF). www.who.int/entity/pmnch/activities/jointactionplan/1100922_2_investing.pdf

Table 1 – A selection of innovations in the pipeline

Cleaning the umbilical cord with an antiseptic

WHO recommends dry cord care for newborns. However, in many developing countries practices during childbirth, together with poor hygiene, lead to infections and newborn deaths. Cleaning the umbilical cord with a chemical antiseptic (4.0% chlorhexidine) could reduce the risks.

Source: Mullany LC, et al (2009). "Impact of 4.0% chlorhexidine cleansing of the umbilical cord on mortality and omphalitis among newborns of Sylhet, Bangladesh: design of a community-based cluster randomized trial." BMC Pediatrics 2009, 9:67. www.biomedcentral.com/1471-2431/9/67

Anti-malarial drugs for infants

The use of anti-malarial drugs for infants is an innovation, and is under investigation for safety and effectiveness.

Source: Grobusch MP, et al (2007). Intermittent preventive therapy for malaria: progress and future directions. Curr Opin Infect Dis 20:613–620 (PDF). www.ipti-malaria.org/LinkClick.aspx?fileticket=Buwx9cln2tA%3D&tabid=228

Nutritional improvements

There is some evidence that home fortification (adding nutrients to regular diets) can reduce anemia risk and improve the height and weight of children. A study found that home fortification was acceptable to mothers and children, and had few side effects. Scaling up requires more evidence on benefits and cost-effectiveness.

Source: Dewey K G, et al (2009). "Systematic review and meta-analysis of home fortification of complementary foods." Maternal & Child Nutrition, Vol.5, Issue 4, pp 283 – 32.

Clean birth kits(CBK)

These kits are designed to help support the use of the "six cleans" practices at the time of birth, which reduce significantly the risks of infection among mothers and newborns. Simple CBKs typically include only a few disposable items, such as soap, blade and a plastic sheet. Mother-held CBKs are already used in over 50 countries. Current evidence suggests that CBKs are appropriate in conflict or humanitarian emergencies and in settings where there is low coverage of facility births, now and in the foreseeable future. There is a need for more robust information about the benefits and costs of introducing mother-held CBKs, particularly given the potential to use this as a mechanism for providing other proven commodities, such as ITNs.

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Birth Kits Working Group. See: http://maternalhealthtaskforce.org/component/search/clean%2Bbirth%2Bkits/%252F?ordering=&searchphrase=all&limit=20

Box 2 – mHealth – reaching the unreached

About 64% of mobile phone users are in developing countries.[1] Several countries are now capitalizing on this opportunity through mHealth – which provides health solutions through mobile phones. Some of the innovative uses of mobile phones include: storing patient data and managing cases (e.g. TRACnet in Rwanda); providing information and advice (e.g. mDhil in India); accessing transport for emergency referrals (e.g. MoTech in Ghana); and linking patients, community workers and hospitals (Frontline SMS).

Rigorous evidence is still needed on the impact of mHealth on health and costs. Most mHealth solutions are currently single applications, such as data generation or disease surveillance. The next step is to enable solutions to undertake multiple tasks, including, for example, gathering data and then integrating this with routine health information systems.[2] A new initiative of the mHealth Alliance now aims to apply mHealth solutions to RMNCH needs and support proven interventions along the continuum of care.[3]

Sources:

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Conclusion

Ultimately, the benefits of all innovations depend on their availability at scale. Barriers to successful implementation of any new device or service-delivery innovation, such as rickshaw ambulances to transport women in labor,[15] vary across countries. Knowledge of which efforts work (or do not) in specific contexts and conditions comes from robust implementation research (see Box 3). Such lessons not only help to strengthen health systems and the drive towards universal access (see Knowledge Summary 8), but also to optimize the benefits of service delivery and technology innovations.

Box 3 – Investing in implementation research

The Implementation Research Platform (IRP) is an initiative of the Alliance for Health Policy and Systems Research (AHPSR). It aims to support research on implementing RMNCH interventions and to build developing countries' capacity to conduct this type of crucial research.

Source: http://www.who.int/alliance-hpsr/about/en/

Useful resources

- Innovations for Maternal, Newborn & Child Health www.innovationsformnch.org/learning/
- Center for Health Market Innovations (CHMI) http://healthmarketinnovations.org
- Health Unbound (HUB) www.healthunbound.org

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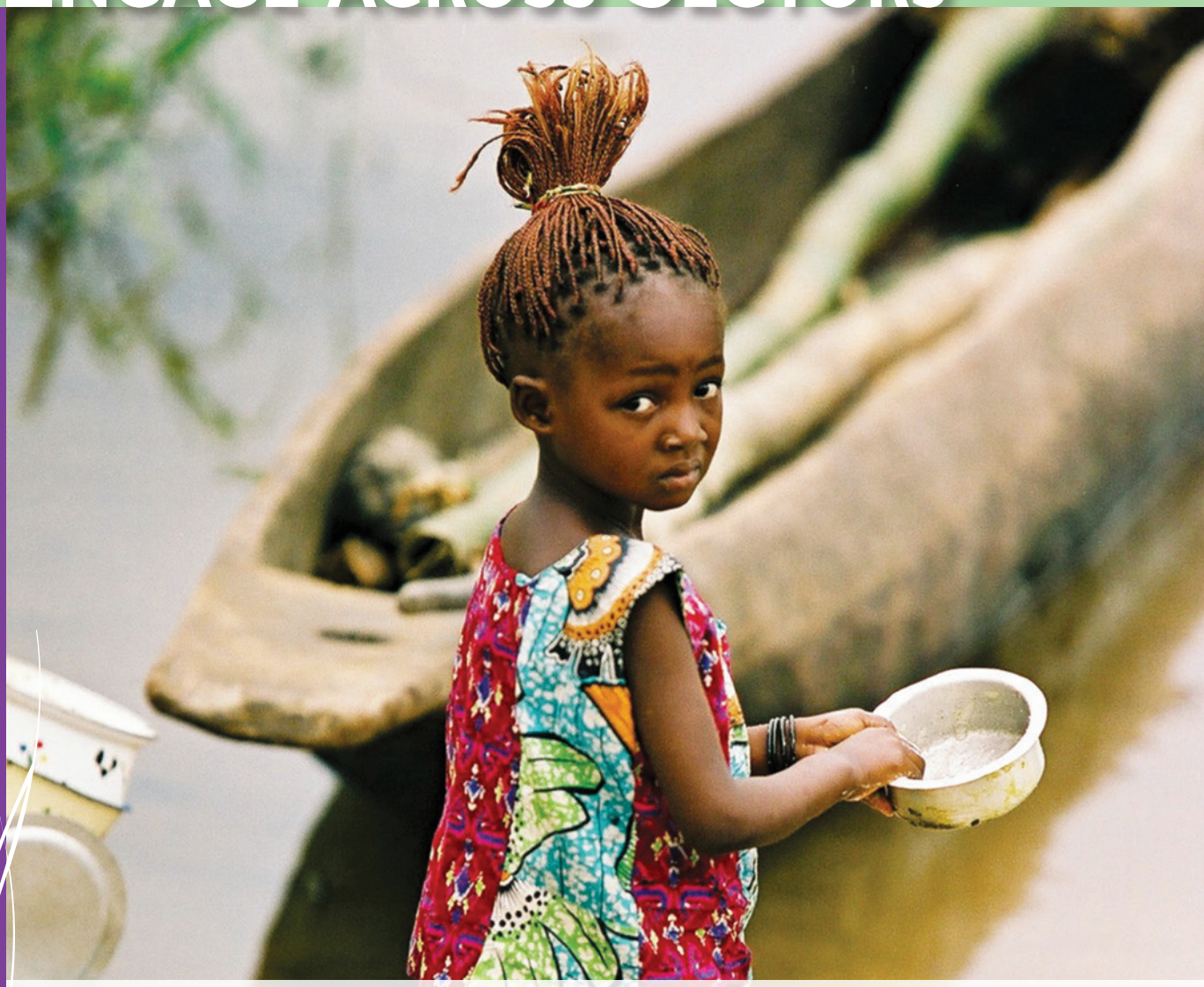
15 http://gizmodo.com/5023869/jaambaaro-vehicle-puts-the-rickshaw-in-ambulance

11 Engage across Sectors



In 1978, the International Conference on Primary Health Care in Alma-Ata called for cooperation and coordinated effort across *"all related sectors and aspects of national and community development."* More than 30 years later, striving to achieve broader development goals remains essential to improving reproductive, maternal, newborn and child health (RMNCH).

Providing access to good quality services is a core component of RMNCH strategies everywhere, but a range of factors act as barriers to achieving this. Poverty, gender inequities, denial of rights, lack of education and safe drinking water, inadequate roads and transport, and poor sanitary conditions are some of them. Ministries of health cannot remove these barriers alone, so inter-sectoral collaboration is essential to achieving both coherent policies and better results.

The MDGs have achieved much. Globally, communities have come together to rally around them and have successfully raised the profile of specific issues, leading to improved funding and impact of programs. More could be achieved by exploiting the synergies that exist between sectors.

What do we know?

Poverty, hunger and ill health (MDG 1)

Whilst economic growth has led to some reductions in overall poverty, this masks the inequities within countries. Moreover, sub-Saharan Africa, Western Asia and some countries in Eastern Europe will not achieve the MDG target of halving poverty. Many people have been forced into vulnerable jobs as a result of the financial crisis, and more workers now live in extreme poverty. High food prices have led to lower food intake and undernourishment.[1] Substantial evidence over the years has pointed to the inter-relationship between poverty, inequity and ill-health.[2] The poorest and least educated women and their children also have the worst access to quality services. For example, in Tajikistan, a weak economy and poor quality of services contributed to an increase in health care costs. As a result, pregnant women sought less care.[3]

Gender, education and health (MDGs 2 and 3)

Gender inequity exists both within and outside the health system and is intertwined with factors such as poverty, ethnicity, caste and race.[4] In women's daily lives, this manifests as poor access to health resources, sexual abuse and violence, including female genital mutilation. To address health inequities, it is essential to empower women and ensure that their rights and health are protected (see Knowledge Summary 9). Men play a crucial role in determining health outcomes in women. For example, negotiating condom use is difficult in many contexts due to unequal power relations. This can lead to unintended pregnancies and expose women to a higher risk of HIV infection.[5]

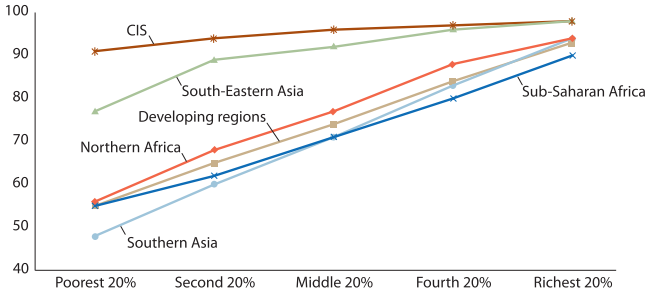
The links between women's education and RMNCH have been long established.[6] Gender, education and health are inter-related with poverty.[7] Confirming this, a recent review indicates that between 1970 and 2009, increased schooling levels amongst women (now aged 15 to 44) contributed to nearly 50% of the reduction in deaths among children under five in developing countries.[8] However, despite major advances in primary school enrolment, girls from the poorest households are 3.5 times more likely to be out of school than girls from the richest families. Gender parity in secondary education, particularly in rural areas, is still very low in sub-Saharan Africa, South Asia and Western Asia.[9]

Safe drinking water, sanitation and health (MDG 7)

Gender, safe water, sanitation and health have many connections.[10] For example, pregnant women are at greater risk from hookworm infestations, which can lead to low birth weight and poor growth in children.[11] Simple measures such as hand washing among new mothers and birth attendants, during and after childbirth, are suggested to have contributed to reductions in newborn deaths in Nepal.[12] Access to safe and clean water is improving in some rural areas, but is still a challenge in others. In urban Kenya and Zambia, for example, population growth was associated with a negative trend in access to safe drinking water and in vaccination coverage, and contributed to increased child deaths.[13] Sanitation continues to be a major problem. In 2008, only 52% of the population in developing countries had any improved sanitation facilities, and the problem of open defecation remains.[14] When sanitation is poor, water quality also suffers and contributes to diseases such as diarrhea, which is a leading cause of death in children under five years of age.[15]

Figure 1

Inequities in care during pregnancy



Source: UN (2010). "Millennium Development Goals Report 2010." (PDF). www.un.org/en/mdg/summit2010/pdf/MDG%20Report%202010%20En%20r15%20-low%20res%20201006l5%20-.pdf

Proportion of women who saw a skilled health worker at least once during pregnancy, by household wealth quintile, 2003/2008 (percentage)

What works?

Inter-sectoral collaboration is possible, but local contextual factors influence success

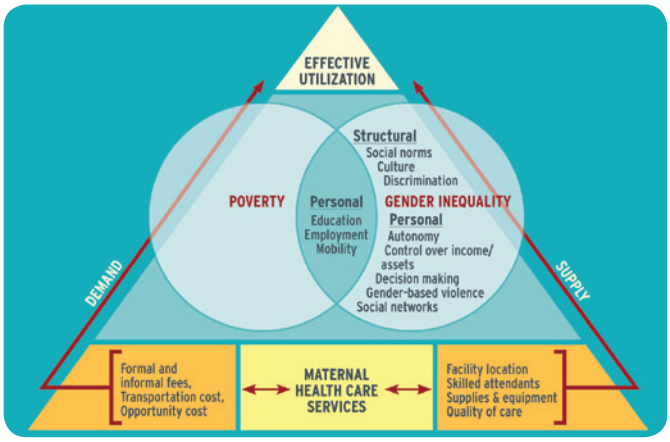
Countries like Sri Lanka, Thailand and the state of Kerala in India have successfully improved the health of women and children through a holistic approach to healthcare provision.[16] More recent examples of inter-sectoral linkages have been reported from child nutrition programs in Bolivia, HIV/AIDS programs in Nigeria,[17] and participatory public health schemes in Brazil.[18] Further examples can be found in Rwanda[19] and several other countries. However, inter-sectoral collaboration is not easy, as a review of 15 developed countries showed.[20] Comparative lessons from Sri Lanka and Uganda provide further insights (see Box 1).

Some interventions in other sectors can support progress in MDGs 4 and 5

Studies show that microfinance schemes can increase income levels, empower women and improve the health of mothers and children. Similarly, unconditional cash transfers, such as South Africa's Child Support Grant,[21] and conditional cash transfers such as *Oportunidades* in Mexico, have contributed to better outcomes in education and health.[22] Reviews have shown that midday-meal schemes at schools significantly improve children's physical and mental growth.[23] Interventions to improve hygienic practices have included household level interventions, such as water treatment,[24] hand washing and promotion of the use of improved toilet facilities. Although studies show that household level water treatment can contribute to better health,[25] the evidence to support scaling-up is weak.[26] Participatory approaches to encourage hygienic behavior and toilet use are still being tested (see Box 2).

Figure 2

Women at the centre of maternal health care



Source: Paruzzolo S et al (2010) Targeting poverty and gender inequality to improve maternal health (PDF) www.womendeliver.org/assets/Targeting_poverty.pdf

Women's empowerment and rights are central to any strategy that aims to improve women's health. Across the personal and public domains, women constantly encounter gender biases that affect their well-being.

Some terms explained

Inter-sectoral coordination: "a recognized relationship between part or parts of the health sector with parts of another sector, which has been formed to take action on an issue to achieve health outcomes (or intermediate health outcomes) in a way that is more effective, efficient or sustainable than could be achieved by the health sector acting alone."

Source: WHO (1997). "Intersectoral action for health: a cornerstone for health-for-all in the twenty-first century." Report of the international conference (PDF). http://whqlibdoc.who.int/hq/1997/WHO_PPE_PAC_97.6.pdf

Box 1 – Sri Lanka and Uganda: a comparative account

Sri Lanka

In 1980, the Government of Sri Lanka prioritized primary healthcare and made a commitment to attain acceptable levels of health for all by 2000. The National Health Council oversaw the inter-sectoral coordination for health. Its members include ministers from other sectors such as Agriculture, Finance, and Education. District Health Councils were set up to promote multi-sectoral and inter-sectoral activities. All this was supported by investments in education, health, food supplementation, infrastructure, essential medicines and medical and food supplies during conflict.

Sri Lanka's success in health is largely due to strong political leadership, inter-sectoral linkages and high female literacy. All stakeholders were united by a clear objective and vision.

Extracted from: Canadian Ministry of Health (2007). "Crossing sectors – experiences in inter-sectoral action, public policy and health." (PDF). www.phac-aspc.gc.ca/publicat/2007/cro-sec/pdf/cro-sec_e.pdf

Uganda

Conflict, poverty and poor social indicators characterize Northern Uganda. In 2004, with WHO involvement, a national policy for Internally Displaced Persons (IDPs) was developed. It laid down guidelines for national and local government institutions, humanitarian agencies and NGOs, to improve the situation of IDPs. Inter-sectoral institutions were established, including District Disaster Management Committees (DDMCs). In one district, Kitgum, the DDMC had six sub-committees, including one to oversee health. This linking across sectors helped to improve a number of health problems. For example, it helped to reduce acute malnutrition and stunting among children.

However, there were several challenges. DDMC deliberations and decisions were slow, due to the diversity of its members. Political rivalries, shortage of funds, lack of adequate IDP participation and continued security issues also affected decisions and implementation.

Extracted from: Mutambi R, et al (2007). "Intersectoral action on health in a conflict situation: a case study of Kitgum district, Northern Uganda." (PDF). www.who.int/social_determinants/resources/isa_conflict_uga.pdf

Box 2 – Community-led total sanitation

Lack of toilets invades privacy and harms health. The poorest women, infants and children (and particularly school-going and adolescent girls) in rural areas are the ones who tend to suffer most. Community-led total sanitation (CLTS) is a new way to approach the problem, and has been tried in several countries. Using participatory techniques, this approach enables local communities to be self-aware, change behavior and act on the problem. Studies have recorded successes with this approach and some communities have eliminated open defecation. Although impact analyses of CLTS have been few, one study in India shows improvements in child health in the area where it was implemented. However, it remains difficult to sustain behavior change and toilet use. Moreover, "no subsidies for toilets", as advocated by CLTS, could exclude the poorest people, who may be unable to invest in their own facilities.

Source: Community-Led Total Sanitation. www.communityledtotalsanitation.org (Accessed on 19 October 2010)

Conclusion

It is evident that the same women and children – those who are poor, living in rural areas and less educated – are also the ones who face the greatest risks of ill-health and death. Poor health is not only a consequence of poverty and disadvantage, but also a cause. This vicious cycle can be broken by recognizing these interdependencies, and through joined-up actions and effective inter-sectoral collaboration.

Useful resources

- Women Deliver www.womendeliver.org/
- A manual for integrating gender into reproductive health and HIV programs www.prb.org/igwg_media/manualintegrgendr09_eng.pdf
- WHO/UNPEP (2008): "Health Environment – managing the linkages for sustainable development – a toolkit for decision-makers." (PDF) http://whqlibdoc.who.int/publications/2008/9789241563727_eng.pdf
- BRIDGE Cutting Edge Pack on Gender and Indicators www.bridge.ids.ac.uk/go/bridge-publications/cutting-edge-packs/gender-and-indicators/

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Deliver on Promises

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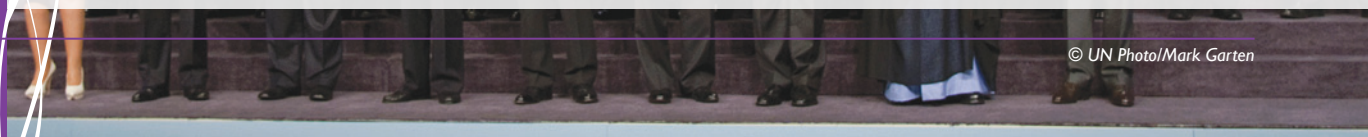
Women and children have a right to quality health care and to survival – fundamental rights that should be respected and protected. The aim is: "*Every pregnancy wanted, every birth safe, every newborn and child healthy*". A well-coordinated and integrated approach can help realize this, based on: **advocacy** for policy, services and financial resources; **action**; and **accountability**.



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Accountability holds the key to progress. Women and children – whose health and lives are at stake – have a right to know what their governments are doing and achieving. Global, national and local communities have to get involved in supporting this basic right and in helping women and children live healthy lives.

What do we know?

Funding for reproductive, maternal, newborn and child health (RMNCH) has been a low priority for many years, despite the availability of proven and cost-effective strategies.[1] As a result, 10 million lives are lost every year. However, progress is possible when countries make RMNCH a political priority.[2]

In 2010, RMNCH has featured prominently on political and policy-making agendas. The United Nations General Assembly, the G8, and the African Union have prioritized RMNCH. The media has played a major role in advocating change and insisting on political accountability, and provided a platform for public education, debate and generation of demand.[3] The Partnership for Maternal, Newborn & Child Health (PMNCH) and its partners are building on this recent momentum to mobilize greater resources, action and accountability.

What will make it work?

Women's and children's education and participation

Women and children are the primary stakeholders in their own health. There have been few systematic reviews of the evidence,[4] but individual field-based studies have emphasized the importance of women's and children's participation, empowerment and community mobilization. Such efforts have led to better outcomes where they have been tried and implemented, although scale-up has proven much more difficult.[5] Local and sub-national initiatives have also contributed to better outcomes where they have involved women in identifying their own health problems (for example, in rural Malawi) [6] or facilitated improvements in their interactions with the local health system (for example, in Nepal).[7]

Children's participation in national parliaments and at UN General Assembly and G8 special sessions has influenced

Box 1 – Promoting accountability for MDG acceleration

Evidence from various countries shows significant progress in creating systems of accountability:

Audits help identify the causes of maternal, newborn and child mortality. Social audits have been introduced in India to hold policymakers and institutions accountable for service delivery.

- Eighty-four developing countries adopted Right to Information or Freedom of Information Acts, which recognize that informed citizens are empowered, can influence decisions that affect their lives, and demand accountability.
- In Tunisia, municipal councils for children have been in place since 1987, and since 2002 there has been a children's parliament, which works with members of the country's parliament on a range of issues. Children also have delegates on the councils of various educational institutions to help ensure that their voices are heard and that their needs are met.
- Albania adopted MDG 9 to "establish and strengthen a good governance process," with the aim of reforming public administration, legislation and policies in accordance with EU Standards by 2015. The country has made significant progress, albeit slowly, towards this target.
- The "Promoting Procurement, Transparency and Efficiency to Achieve the MDGs" initiative in the Philippines works to ensure that MDG-related programs at the local level are managed in a transparent and efficient manner.
- Community surveillance efforts can support citizens' demands for accountability. The Gambia adopted a community scorecard scheme, whereby citizens have the required information to demand and monitor service delivery.
- In Uganda, information about transfers of grants to promote student attendance in each school district is made public, and primary schools and district offices have also been required to post notices of actual receipts for everyone to see.

Sources: UNDP (2010). "What will it take to achieve the Millennium Development Goals? An international assessment. http://content.undp.org/go/cms-service/stream/asset/?asset_id=2620072

UNICEF (2007) Children and the Millennium Development Goals (PDF) www.unicef.org/publications/files/Children_and_the_MDGs.pdf

policy-making on a range of issues, including poverty, health, education and the environment.[8] Children and adolescents also effectively use new social media to make their voices heard.

Working together

The primary responsibility for ensuring good quality RMNCH services lies with national governments, but several other stakeholders also have a significant influence. Bilateral and multilateral donors, the UN, civil society organizations, parliamentarians, the media, private sector organizations, academics and healthcare providers all have a role to play.

Global health initiatives – such as GAVI, the Global Fund and others – have successfully galvanized support for tackling major diseases. These multi-stakeholder partnerships have helped improve access and equity as well as the quality of specific health services. Joint planning by these global initiatives could ensure that their strategies and resources are better aligned to country priorities across the continuum of care.[9]

Putting knowledge into action

The knowledge of what works in RMNCH is available, but there is a gap between knowledge and its use in policy and practice. Awareness of scientific evidence tends to stay within the scientific community. In practical terms, this could result in low uptake of proven interventions and, in turn, poor outcomes. This could be overcome if RMNCH policy networks can bring knowledge into the mainstream, using innovative ways of generating and applying evidence.[10] The SUPPORT Tools – which include summaries of systematic reviews in RMNCH – are one example of a positive step in this direction.[11]

Honoring commitments

Budgets are a reflection of stakeholders' priorities. Civil society organizations have begun tracking national budgets to assess governments' priorities and funding commitments (see Box 2). However, data on domestic expenditure on the MDGs and RMNCH are not easily available. Tracking international funds faces similar challenges.

The *Countdown to 2015* calculated that international funding for MNCH in 2008 accounted for 34% of all development assistance for health. Though this proportion represents a 15% increase in funding for MNCH between 2007 and 2008, the spending is still insufficient and is not always targeted to the countries in most need.[1] The commitments made at the MDG Summit in September 2010, included quantified targets on increased funding, improvements in the health workforce, reductions in maternal and newborn deaths, improvements in child health and other related measures.[12] Better costing, budgeting and tracking of RMNCH funding is needed to improve actions and accountability (see Knowledge Summary 3).

Box 2 – Uganda – the need to move forward quickly

Aid to Uganda for maternal and newborn health improved by 85% between 2003 and 2006.[1] But the rate of progress towards MDG5 remained disappointingly slow. In response to this, the Government developed the Roadmap for Accelerating the Reduction of Maternal and Neonatal Mortality and Morbidity in Uganda, 2007-2015, to complement other initiatives already in place. It identified 20 key interventions across seven strategic areas. With the help of UNDP's MDG Acceleration Framework, the government identified constraints to implementation and defined priority actions. Uganda now has four priority intervention areas: EmOC, skilled attendance at birth, antenatal care to address direct and indirect causes of maternal deaths, and universal access to family planning. Financing and implementation remain major bottlenecks. An Action Plan has been developed to include: improvements to recruitment at the district level; coordination with ongoing ventures in other ministries to prioritize improvements, such as roads and water supplies; and referral centers to facilitate EmOC.[2]

Sources:

[1]Greco G, et al (2008). "Countdown to 2015: assessment of donor assistance to maternal, newborn, and child health between 2003 and 2006." Lancet; 371: 1268–75.

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Box 3 – Budget tracking

Accountability for what governments, donors and others are investing in MDGs continues to be weak. It is important to strengthen the role of parliamentarians in budget prioritization and oversight, and of NGOs to promote advocacy and community-level accountability.

The "Ask Your Government" initiative asked 84 governments for specific MDG-related budget information. Three areas were addressed:

- Expenditures on training midwives and the procurement of drugs to reduce maternal mortality
- The predictability and volatility of development aid
- Expenditure on environmental protection agencies and fossil-fuel subsidies.

Most of the governments in the study could not specify how much they spent on interventions to reduce maternal mortality. Furthermore, many governments did not consider that citizens were entitled to know about expenditure.

Source: International Budget Partnership. "Ask Your Government How Much It's Spending On Development Commitments." 2010. www.internationalbudget.org/cms/index.cfm?fa=view&id=3653

Being accountable

Political, managerial and social accountability will encourage implementation of commitments to RMNCH. For example, maternal death reviews help ministries of health to ensure a chain of accountability. South Africa's National Committee on Confidential Enquiries into Maternal Deaths (NCCEMD) has provided invaluable information on avoidable causes of maternal and perinatal mortality. It revealed that weak health systems and HIV/AIDS are responsible for lack of progress in reducing deaths. This enquiry process has encouraged leaders to set priorities and act.[13]

The Committee on the Rights of the Child (CRC) requires all governments to submit regular reports on their progress towards implementing children's rights. Civil society organizations and international agencies participate in the process, thus promoting mutual accountability.[14]

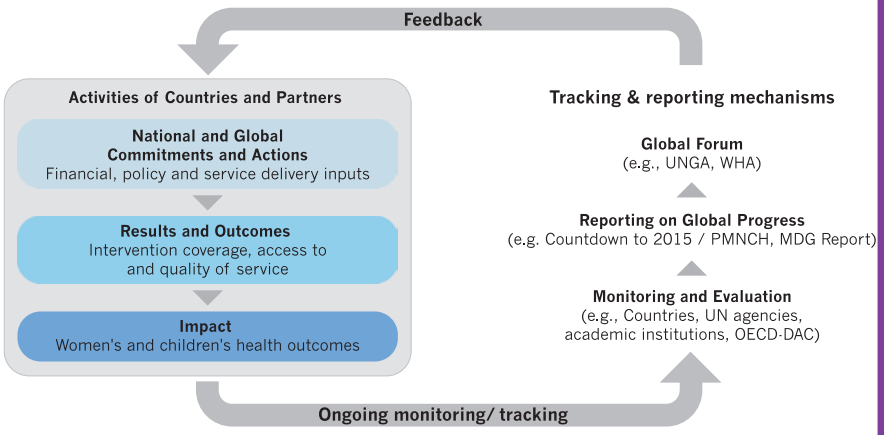
Accountability depends on the ability to measure results

Accountability requires accurate information on the health of women, adolescent girls, newborns and children. However, vital registration and monitoring systems are weak in many of the poorest countries, due to insufficient political will, lack of resources and poor staff motivation or training.[15,16] Alternative sources of information are demographic surveys, sentinel surveillance systems and hospital records. Several initiatives – such as the Health Metrics Network – are working with countries to strengthen information systems.

The Global Strategy calls for the World Health Organization to "chair a process to determine the most effective international institutional arrangements for global reporting, oversight and accountability on women's and children's health". The PMNCH is supporting this effort across its range of partners, for example by engaging with parliamentarians through the Inter-Parliamentary Union[17] and by supporting the *Countdown to 2015* work on monitoring RMNCH funding, coverage, equity and outcomes.

Figure 1

Approaches to tracking progress



Source: The Global Strategy

Conclusion

Governments and many other partners have acknowledged the global disgrace of mothers, newborns and children dying needlessly. All partners have to come together at this juncture, to take action. Knowledge of what works has to translate into effective policies and programs. Now is the time.

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Annex I - RMNCH essential packages of interventions by level and commodity requirements
Part I - Reproductive and maternal interventions and commodities

Level at which care is provided	Continuum stage	Interventions	Commodities
Community level	Pre-pregnancy [1]	-Interventions to delay first pregnancy and promote birth spacing -Peri-conceptual folic acid -Prevention and management of sexually transmitted infections, including HIV	-Counselling, health education and promotion materials -Contraceptives (including condoms) -Folic Acid -Insecticide treated bednets (ITN)
	Pregnancy		-Counselling, health education and promotion materials -Home-based maternal records -Hand-held birth and emergency cards -Condoms -ITN
	Labour and Delivery	-Social support during labor -Infection prevention -Post-partum hemorrhage (PPH) prevention, active management of 3rd stage of labor with uterotonics, where childbirth care is provided by trained personnel	-Hand-held birth and emergency cards
	Postnatal	-Advice and support for breastfeeding -Advice and support for care seeking for complications, such as PPH and infections -Advice and provision of family planning	-Counselling, health education and promotion materials -Home-based maternal records -Contraceptives (including condoms) -Hand-held birth and emergency cards
First level / Outreach	Pre-pregnancy	-Interventions to delay first pregnancy and promote birth spacing -Peri-conceptual folic acid -Prevention and management of sexually transmitted infections (including HIV where relevant)	-Counselling, health education and promotion materials -Contraceptives (including condoms, vasectomy) -Folic Acid -Lab test kits -Surgical equipment (for implants) -Sphygmomanometer (blood pressure) -Antiretroviral drugs -ITN -Antimalarial drugs -Antihelmintic drugs -Cotrimoxazole
	Pregnancy I	-Appropriate antenatal care package (WHO antenatal care package) -Management of preterm premature rupture of membranes (PROM) -Initiation of ART for HIV	-Counselling, health education and promotion materials -Home-based maternal records -Hand-held birth and emergency cards -Condoms -Sphygmomanometer (blood pressure) -Stethoscope -On site tests (Hb, pregnancy, proteinuria, HIV and syphilis, Thermometer) -Vaccine (TT) -Iron and folic acid -IV fluids -Parenteral drugs (antibiotics, MgSO4) -Manual Vacuum Aspiration kit -Gloves -Oxygen -Calcium gluconate -ITN -Antimalarial drugs -Antihelmintic drugs -Cotrimoxazole
	Labour and Delivery	-Partograph use in labor -Social support during labor -Infection prevention -Pain relief in labor -PPH prevention, active management of 3rd stage of labor with uterotonics -Management of preterm labor	-Birth kit -Oxytocin -Partograph -Sphygmomanometer -Stethoscope -Thermometer -Vacuum extractor -Gloves -IV fluids -Parenteral drugs (antibiotics and MgSO4) -Analgesia -Oxygen -Newborn suction device -Newborn resuscitation device -Home-based maternal record -Calcium gluconate -Vitamin K -Corticosteroids for preterm labour
	Postnatal	-Advice and support for breastfeeding -Advice and support for care seeking for complications, such as PPH and infections -Advice and provision of family planning -Initiation of ART for HIV (where relevant)	-Counselling, health education and promotion materials -Home-based maternal records -Contraceptives (including condoms) -Hand-held birth and emergency cards -Sphygmomanometer -Stethoscope -Thermometer -On site tests (Hb, HIV, syphilis) -Vaccines (TT) -Basic oral medicines -IV fluids -Antibiotics, MgSO4, oxytocin -Gloves -Analgesia -Oxygen -Calcium gluconate - ITN -Antimalarial drugs -Antihelmintic drugs -Cotrimoxazole

Level at which care is provided	Continuum stage	Interventions	Commodities
Referral level	Pre-pregnancy [1]	-Interventions to delay first pregnancy and promote birth spacing -Peri-conceptual folic acid -Prevention and management of STIs (including HIV here relevant) -Availability and provision of abortion-related care -Provision of post abortion care	-Surgical equipment -Counselling, health education and promotion materials -Contraceptives (including condoms) -Pregnancy test kits -Vacuum aspiration equipment -Medicine for induced abortion (mifepristone + misoprostol) -Analgesics and local anaesthetics -Antibiotics -Uterotonics -Parenteral and oral antibiotics -Intravenous fluids -Oxygen -Blood and transfusion sets -Operating theatre drugs
	Pregnancy	-Appropriate antenatal care package -External cephalic version to reduce mal-presentations (> 36 weeks) -Management of antepartum hemorrhage -Management of pre-eclampsia	-Surgical kits -Analgesics and local anesthetics -Antibiotics -Uterotonics -Parenteral and oral antibiotics -Intravenous fluids -Oxygen -Blood and transfusion sets -Operating theatre drugs -Aneasthesia -Laboratory equipment for biochemical and microbiological tests -ITN -Antimalarial drugs -Antihelmintic drugs -Cotrimoxazole
	Labour & delivery	-Partograph use in labor -Social support during labor -Infection prevention -Pain relief in labor -PPH prevention, active management of 3rd stage of labor with uterotonics -Management of complicated labor *Management of PROM (induction of labor) -Management of preterm PROM -Management of prolonged pregnancy (induction of labor) -Management of preterm labor -Interventions to manage prolonged or obstructed labor -Cesarean delivery for specific indications -Prevention and treatment of eclampsia -Clinical management (vaginal/cesarean section) of breech presentation	-Surgical kits -Analgesics and local anaesthetics -Antibiotics -Uterotonics -Parenteral and oral antibiotics -Intravenous fluids -Oxygen -Blood and transfusion sets -Operating theatre drugs -Anaesthesia -Laboratory equipment for biochemical and microbiological tests
	Postnatal	-Advice and support for breastfeeding -Advice and provision of family planning -Treatment of maternal anemia -Treatment of maternal infection -Management of PPH -Initiation of ART for HIV	-Counselling, health education and promotion materials -Home-based maternal records -Contraceptives (including condoms) -Hand-held birth and emergency cards -Surgical kits -Analgesics and local anaesthetics -Antibiotics -Uterotonics -Parenteral and oral antibiotics -Intravenous fluids -Oxygen -Blood and transfusion sets -Operating theatre drugs -Anaesthesia -Laboratory equipment for biochemical and microbiological tests -ITN -Antimalarial drugs -Antihelmintic drugs -Cotrimoxazole

Sources:
Interventions from PMNCH essential packages of interventions (2010)
Commodities from H4 essential commodities for interventions (2010) – matched to PMNCH essential packages

1 Includes care during interpartum period (between pregnancies) and for unintended pregnancies

	Newborn interventions	Newborn commodities
Community level	-Oral antibiotics for neonatal pneumonia -Home visits for newborn care -ART for PMTCT (breastfeeding)	-Counselling, health education and promotion, materials -Weighing scales -Thermometers -Timing devices (watch) -Child's health record and immunization cards -ITN
First level / Outreach	-ART for PMTCT (breastfeeding)	-Counselling, health education and promotion materials -Weighing scales -Thermometers -Timing devices (watch) -Child's health record and immunization cards -ITN -On site tests (Syphilis, HIV) -Vaccines -ORS and zinc tablets -Oral and parenteral antibiotics, treatment for local infections -Utensils for breastmilk expression and cup feeding -Record keeping materials -Antiretroviral drugs -Cotrimoxazole drugs
Referral Level	-Skin-to-skin contact for the first hour of life [breastfeeding rates and thermal protection] -Resuscitation for birth asphyxia -Vitamin K prophylaxis for the newborn -Kangaroo mother care for stable low birth-weight /preterm infants <2000gc compared to standard care -Surfactant therapy for very preterm babies to prevent or treat RDS -Continuous positive airway pressure (CPAP) to prevent or treat RDS -Antibiotics for the newborn if at risk of bacterial infection -Vitamin A supplementation for very low birth weight -Prenatal steroids (neonatal mortality, RDS, IVH)	-Counselling, health education and promotion materials -Weighing scales -Thermometers -Timing devices (watch) -Child's health record and immunization cards -ITN -On site tests (Syphilis, HIV) -Vaccines -ORS and zinc tablets -Oral and parenteral antibiotics, treatment for local infections -Utensils for breastmilk expression and cup feeding -Record keeping materials -Antiretroviral drugs -Cotrimoxazole drugs -Oxygen -IV fluids -NG tubes, -Binders for KMC -Baby warmers / incubators -Blood and blood transfusion sets -Phototherapy -Laboratory - biochemical and microbiology test kits

Sources:
Interventions from PMNCH essential packages of interventions (2010)
Commodities from H4 essential commodities for interventions (2010) – matched to PMNCH essential packages

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Part III - Child interventions and commodities

	Child interventions	Child commodities
Community level	-Exclusive breastfeeding for 6 months -Continued breastfeeding up to 2 years of age -Complementary feeding from 6 to 23 months of age -Vitamin A supplementation -Insecticide-treated bednets (ITNs) for children -Case management of childhood pneumonia -Enhanced diarrhea management [oral rehydration salts (ORS), zinc and continued feeding]	-Counselling, health education and promotion materials -ITN -Rapid diagnostic tests for malaria -ORS and zinc tablets -Antibiotics for pneumonia -Anti-malarial drugs
First level / Outreach	-Vitamin A supplementation -ITNs for children -Feeding practice for HIV-exposed child -Vaccine: H influenzae type b (Hib) -Vaccine: Pneumococcal conjugate -Vaccine: Rotavirus -Case management of childhood pneumonia -Enhanced diarrhea management (ORS, zinc and continued feeding) -Antibiotics for the treatment of dysentery in children -Vitamin A as treatment of measles and pneumonia	-Counselling, health education and promotion materials -ITN -Rapid diagnostic tests for malaria & HIV -ORS and zinc tablets -Antibiotics for pneumonia -Anti-malarial drugs -Vaccines and equipment -Cotrimoxazole -Ready-to-Use Therapeutic Foods -Micronutrient supplements -Antiretroviral drugs
Referral Level	-Antiretroviral therapy to improve HIV-free survival -Feeding practice for HIV-exposed child -Vaccine: H influenzae type b (Hib) -Vaccine: Pneumococcal conjugate -Vaccine: Rotavirus -Management of severe acute malnutrition -Case management of childhood pneumonia -Case management of childhood meningitis -Case management of childhood malaria -Enhanced diarrhea management (ORS, zinc and continued feeding) -Antibiotics for the treatment of dysentery in children -Vitamin A as treatment of measles and pneumonia	-Counselling, health education and promotion materials -ITN -Rapid diagnostic tests for malaria & HIV -ORS and zinc tablets -Antibiotics for pneumonia -Anti-malarial drugs -Vaccines and equipment -Cotrimoxazole -Ready-to-Use Therapeutic Foods -Micronutrient supplements -Antiretroviral drugs -Parenteral and oral anticonvulsants -Intravenous fluids -Oxygen -F100, F75

Sources:
Interventions from PMNCH essential packages of interventions (2010)
Commodities from H4 essential commodities for interventions (2010) – matched to PMNCH essential packages

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Acknowledgements

The Partnership for Maternal, Newborn & Child Health (PMNCH) supported the development of this publication.
The knowledge summaries were planned and prepared by Wendy J Graham and Shanti Mahendra, Immpact, University of Aberdeen, with Shyama Kuruvilla who coordinated the project at the PMNCH secretariat.

We are very grateful to all members of the peer review team who provided helpful comments and revisions on drafts of the summaries, and particularly:
PMNCH board members and partners: Elizabeth Mason, Ana Langer, Ann Starrs, Nancy Terreri, Andre Lalonde, Sadia Chowdhury and Zulfiqar Bhutta.
Immpact, University of Aberdeen: Bilal Avan, Etheline Enoch, Julia Hussein.

Henrik Axelson, Kadi Toure, Lori McDougall, Marta Seoane, Andres de Francisco and Flavia Bustreo from the PMNCH Secretariat also provided valuable inputs and support.

The design and layout of the publication is by Roberta Annovi www.annovidesign.com

The document was edited by Taylor-made Communications. www.taylormc.co.uk

Photo credits: For the front and back cover, we gratefully acknowledge the contribution of the team at Double Pulsar (www.doublepulsar.com). We especially thank the women and children who, literally, lent their helping hands to this project.

Photo credits for the individual knowledge summaries are acknowledged with each photograph.

Printing by Lopez Design www.lopezdesign.com

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