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A continuum of care to save newborn lives

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The global community recently declared a commitment to "create an environment—at the national and global levels alike—which is conducive to development and to the elimination of poverty".[1] This declaration led to an agreement on eight goals in key areas of global concern: the Millennium Development Goals. Central among those goals are two that aim to reduce maternal and child mortality, goals 4 and 5. Investment in maternal, newborn, and child health is not only a priority for saving lives, but is also critical to advancing other goals related to human welfare, equity, and poverty reduction.[2]

The United Nations has led the global community in articulating a rights-based approach to health, giving special attention to mothers and children. The Universal Declaration of Human Rights, ratified in 1948, states that "motherhood and childhood are entitled to special care and assistance".[3] The Convention on the Rights of the Child, ratified in 1989, guarantees children's right to the highest attainable standard of health.[4] Other conventions and international consensus documents focus on redressing the gender-based discrimination that might undermine good health, particularly that of girls and women.

Michael Bisceglie for Save the Children US

Vietnamese mother and baby

Only collective responsibility and close coordination among governments, assistance agencies, and civil society will make achieving these goals possible. The challenge is significant. Each year: more than 60 million women without skilled care;[5] about 515 000 women die from pregnancy-related complications;[6] almost 11 million children die before they reach the age of 5 years;[7] of children who die under the age of 5, 38% die in the first month of life, the neonatal period, and about three-quarters of neonatal deaths occur in the first week after birth;[8] and there are about 4 million stillbirths.[9]

The socioeconomic consequences of maternal, newborn, and child morbidity and mortality are also significant. Many conditions, such as obstructed labour or preterm birth, can cause severe disabilities for survivors, adding stress to already fragile communities and health systems. A mother's death or illness can jeopardise an entire family's well-being; the care required for disabled or sick children burdens families; and the loss of current or future earnings exacerbates the cycle of poverty and poor health for families and societies.[10]

The burden of maternal, newborn, and child mortality falls disproportionately on the world's poorest countries and on the poorest populations. Within most low-income countries, child mortality rates, for example, are several times higher in the poorest 20% of the population than the richest and yet access to care, such as skilled attendance, is lowest for those most in need.[11]

Despite the health burden, availability of cost-effective interventions, and the human rights imperative, maternal, newborn, and child health needs have lost out over the past decades. Investment is pitifully low given the size of the problem, available cost-effective

interventions, and potential gains. Competition between advocates has weakened their collective voice, splitting support for the maternal and child health agenda.[12] In the struggle for resources, priorities have been determined all too often on political grounds rather than need and potential impact. For example, the package of interventions that would best reduce mortality in women and also in newborn infants—female education, family planning, community-based maternity care, and referral services for women with obstetric complications—has received inadequate resources and attention from global policy-makers and national decision-makers. As a result, as resources are directed elsewhere, millions of women continue to endure the risks of childbearing under appalling conditions and babies continue to die unnecessarily.[13,14]

The interventions most likely to reduce child deaths also do not reach those most in need. During the 1980s, the international community created the impetus for a child survival revolution, triggering progress in reducing child mortality. However, since then, progress has stalled and in some countries even reversed. In 2003, the Bellagio Child Survival group published a series in *The Lancet* as an urgent call for action, indicating the need for a second revolution in child survival.[15] This series has had far-reaching effects at global and national levels.

Until recently, the health of newborn babies was virtually absent from policies, programmes, and research in the developing world, although 4 million newborn babies die each year. This issue of *The Lancet* sees the publication of the first paper, in a series of four, that places newborn babies and their care firmly in the spotlight, highlighting neonatal deaths and cost-effective interventions appropriate for use, particularly where most newborn infants are born and die—at home.[8] This series includes new analyses produced through a year of teamwork by a wide group of academics, agencies, and non-governmental organisations.

The time has come for these health interventions for newborn babies to be integrated into maternal and child health programmes, which in turn need to be strengthened and expanded. Proven cost-effective interventions, delivered through a continuum-of-care approach, can prevent millions of needless deaths and disabilities. The continuum-of-care approach promotes care for mothers and children from pregnancy to delivery, the immediate postnatal period, and childhood, recognising that safe childbirth is critical to the health of both the woman and the newborn child—and that a healthy start in life is an essential step towards a sound childhood and a productive life. Another related continuum is required to link households to hospitals by improving home-based practices, mobilising families to seek the care they need, and increasing access to and quality of care at health facilities.[16,17] For example, India has taken the lead in developing a strategy for Integrated Management of Neonatal and Childhood Illness, which extends the earlier strategy, to reach the newborn child as well as older children, and includes home visits as well as facility-based care.[18]

Over the past few years, several countries, agencies, and international organisations have joined forces to create three partnerships for safe motherhood, the health of newborn babies, and child survival (panel 1). To maximise effectiveness, the partnerships have now formed a consortium and are working towards full integration. First, the partnerships are coordinating their advocacy efforts to promote the continuum of care for maternal, newborn, and child health, and to mobilise the additional resources needed to meet the targets of Millennium Development Goals 4 and 5. Second, they

***Panel 1:* The partnerships**

Healthy Newborn Partnership
Formed in 2000, the Healthy Newborn Partnership is led by Save the Children/USA's Saving Newborn Lives initiative, in Washington, DC. The partnership aims to: promote awareness and attention to newborns' health; exchange information on programmes, research, and technical advances; and support incorporation of newborns' care into health policies and programmes.

Partnership for Safe Motherhood and Newborn Health
Launched in 2003 and developed from the Safe Motherhood Inter-Agency Group, which was established in 1987, the Partnership for Safe Motherhood and Newborn Health is based at WHO, Geneva. The partnership aims to strengthen maternal and newborns' health efforts in the context of poverty reduction, equity, and human rights, as well as advocate for increased political will and progress towards the Millennium Development Goals.

Child Survival Partnership
The recently established Child Survival Partnership is hosted by UNICEF, New York, and aims to galvanise global and national commitment and action for accelerated reduction of child mortality worldwide, through universal coverage of essential cost-effective interventions for child health.

Panel 2: Promoting accountability for maternal, newborns, and child health

International level

- The MDG task forces and monitoring of the Millennium Development Goals, with regular progress reports
- The United Nations agencies with responsibility for child survival and maternal health (UNICEF, UNFPA, and WHO), with annual or other regular mortality and coverage data

The partnerships (see panel 1)

- International professional organisations, via journals, annual meetings, and special committees and reports
- External interested parties, such as the Bellagio Child Survival Group and the *Lancet* neonatal series team, with mechanisms such as a biannual conference on child survival
- Donors, via appropriate and transparent allocation of funds and support of national decision-making
- The international mass media, via reporting of maternal, neonatal, and child mortality, and pressure on the governments of high-income countries to meet their agreed giving targets
- International non-governmental organisations, via pressure on governmental and inter-governmental bodies

National level

- Ministries of health, finance, and planning, via transparent and responsible fund allocation and the promotion of health-systems strengthening and research
- Professional organisations and academics, via the assessment of national progress and public debate
- The national mass media, reporting on government spending and whether national targets for health spending, particularly on maternal, neonatal, and child health, are being met
- Civil society and women and families in particular—demanding the right to access high-quality health care

are joining in national-level planning meetings to support countries' efforts to accelerate high and equitable coverage of evidence-based maternal, newborn, and child health interventions. Third, the partnerships are planning a high-level global meeting on World Health Day, April 7, 2005, in Delhi, with the Government of India. The aim of the meeting is to mobilise national and international commitment to the integrated maternal, newborn, and child health agenda, and facilitate coordinated programming, emphasising the south Asian and African regions. The meeting is building on the launch of the *World Health Report 2005*, which focuses on maternal, newborn, and child health.[19] Fourth, they will promote accountability at the international level and are considering the possibility of biannual conferences as a mechanism to track and accelerate progress (panel 2).

It is now time for governments and assistance agencies to take joint responsibility to reduce the needless deaths of women and children. Particular attention needs to be given to the critical childbirth and early neonatal periods—when women and children in developing countries are most likely to die and a vital window of opportunity to save lives exists.[8,20] The health and interests of the mother and child cannot be separated, and the newborn baby, once neglected, is now coming into focus as part of a broader picture and the link between maternal and child health.[5]

Political commitment, increased human and financial resources, community involvement, and coordinated country-level support will be required to turn what we know into action.[18] We know that most neonatal mortality can be prevented through cost-effective interventions; we know that maternal health is important as an individual concern and as the most important determinant of neonatal outcome; and we also know that a healthy newborn infant is the best promise for the future. The articles in *The Lancet*'s neonatal survival series contribute to the further development and dissemination of current knowledge on the health of newborn babies, and are a major step towards ensuring that the next generation receives a safe and healthy start. However, it is up to all of us in the global community to see that this information moves from written articles to tangible actions in the places where most women and children die.

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Epidemiological transition, medicalisation of childbirth, and neonatal mortality: three Brazilian birth-cohorts

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Over the past two decades, Brazil has seen improvements in women's nutritional status, education, smoking habits, and antenatal care. Neonatal mortality rates (deaths of liveborn infants up to 1 month of age), however, have changed little. In this issue of *The Lancet*, Fernando Barros and colleagues present fascinating data from three birth-cohorts which suggest that falling mortality in term infants (37 weeks' gestation or more) has been offset by a rise in preterm births and deaths, resulting in little change in neonatal mortality. Brazilian health authorities can claim fairly that more preterm infants survive because of better neonatal care: gestation-specific mortality rates have fallen by 50% since 1982. Nonetheless, many preterm deliveries result from pregnancy interruption, either by caesarean section or induction. Such early delivery is often a direct consequence of inappropriate medicalisation.

The road to hell is paved with good intentions, and efforts to improve perinatal care have often had unintended consequences.[1] Diethylstilbestrol was used in millions of pregnancies before its association with vaginal cancer in offspring was noted. Uncontrolled use of oxygen and sulphonamides to treat respiratory distress in premature infants in the 1950s triggered epidemics of retinopathy and kernicterus, respectively. A proportion of the epidemic of sudden infant deaths was attributable to paediatricians encouraging prone sleeping for term infants, drawing incorrectly on their experience of nursing preterm infants in this position to avoid aspiration.[2] Arguably the most pernicious example of medicalisation, however, is the promotion of formula milks. The increased health risks of formula feeding have been well documented in communities where illiteracy, poverty, and lack of a clean supply of water are the norm. Formula-fed infants aged under 2 months are nearly six times more likely to die than breastfed infants,[3] but inappropriate promotion by milk companies remains widespread.[4]

Two medical interventions that are potentially life-saving, antenatal ultrasonography and caesarean section, are particularly prone to misuse. Sen estimates that over