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THREE OUT OF THE FOUR MILLION NEWBORN BABIES WHO DIE EACH YEAR COULD BE SAVED

Launch of The Lancet Neonatal Survival Series

Three million of the four million newborn babies who die worldwide each year could be saved by low-tech and low-cost interventions, concludes a landmark series of articles published online by *The Lancet* (Thursday March 3, 2005). Every hour around 450 babies die before the age of four weeks (the neonatal period), mainly from preventable causes. Neonatal deaths worldwide are double that of HIV/AIDS. Although 99% of these deaths occur in poor countries, almost all published research relates to the 1% of newborn deaths in rich countries. The four papers in this series address a major gap in knowledge and provide new evidence detailing the causes of these deaths and the simple, effective interventions that are available to prevent them. The deaths of 10,000 newborn children everyday, largely ignored in global policy, demands immediate and sustained action from international agencies, professional organisations and national governments of both rich and poor countries.

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Issued by Udani Samarasekera, Press Officer, *The Lancet*

WHEN, WHERE AND WHY ARE FOUR MILLION NEWBORN BABIES DYING EACH YEAR?

The first paper in the series provides powerful statistics to help reduce deaths of newborn children in countries where most of these deaths occur. Globally three-quarters of neonatal deaths occur in the first week of life, with the highest risk of death on the first day of life. Of all deaths in children under the age of five years, nearly 40% occur during the first four weeks of life. South-central Asia has the highest absolute number of neonatal deaths, while sub-Saharan Africa has the highest rates. Two-thirds of deaths occur in 10 countries (Afghanistan, Bangladesh, China, Democratic Republic of Congo, Ethiopia, India, Nigeria, Pakistan, Indonesia, and the United Republic of Tanzania).

The major direct causes of neonatal deaths globally are infections (36%), premature birth (28%), and asphyxia (23%). A baby in a low-resource, high mortality country is 11 times more

likely to die of infection than a baby in a rich, low mortality country. Neonatal tetanus, which has been virtually unseen in rich countries for a century, kills half a million babies each year. Around 60-80% of neonatal deaths arise in low-birthweight babies, although many could be saved with simple support for warmth and feeding. More than half of women in Africa and South Asia give birth at home without the presence of a skilled attendant. Countries with the highest neonatal mortality rates were generally found to have the lowest skilled attendance and institutional delivery rates. The authors write that preventing neonatal deaths has been neglected in both child survival and safe motherhood programmes. Currently, child survival programmes focus on preventing pneumonia, diarrhoea and malaria, which are important causes of death, but after the first month of life.

Lead author Dr Joy Lawn (Saving Newborn Lives/Save the Children-USA and The Institute of Child Health, UK) comments: "Every year, 4 million babies still die in their first 4 weeks of life, most from preventable causes. This number is double the deaths due to HIV/AIDS; although AIDS is rightly hailed as a global emergency, newborn deaths are largely ignored. While we neglect these challenges, 450 newborn children die every hour, mainly from preventable causes, which is unconscionable in the 21st century."

HOW MANY LIVES OF NEWBORN BABIES CAN WE SAVE?

Nearly three-quarters of neonatal deaths could be avoided by 16 interventions, highlighted in the second paper in the series. These include tetanus toxoid vaccinations for pregnant women, promoting clean delivery, prompt and exclusive breastfeeding, extra care for low-birth-weight babies, and antibiotics for neonatal infection. The paper emphasises that combining interventions into packages, which are delivered within existing maternal care and child survival programs, will be more cost effective than creating a separate program. Despite the availability of cost-effective interventions to prevent neonatal mortality, coverage of many of these interventions is low.

Lead author Dr Gary Darmstadt (Johns Hopkins School of Public Health, USA) comments: "Early success in preventing neonatal deaths is possible, even in settings with high mortality and weak health systems, by improving home care practices, raising demand for skilled care and increasing care-seeking for illness through outreach services and a family-community care package.

"However, in order to achieve the kinds of reductions in neonatal mortality that are needed to meet the Millennium Development Goal for child survival, we must also begin strengthening and expanding clinical care for both mothers and babies."

WHAT WILL IT TAKE IN REALITY FOR POOR COUNTRIES TO REDUCE NEONATAL DEATHS?

The third paper in the series highlights how there is no “one-size-fits-all” solution for countries. The numbers and causes of neonatal deaths, the capacity of the health system, and the obstacles faced, all differ markedly between and within countries as do support from policymakers and the availability of resources. A shortage of skilled staff is the biggest problem facing the scaling up of clinical care in high mortality settings. Many countries train insufficient numbers of health care providers and have difficulty in retaining staff, especially in poor rural areas. In countries with low coverage of skilled clinical care for maternal and child health, the staff, infrastructure and support needed to achieve universal coverage are attainable with major investments. However, the authors suggest that outreach campaigns such as one for neonatal tetanus and simple home care of small babies, or community management of pneumonia with oral antibiotics, might be the most feasible option in the beginning to bring early success to saving newborn lives. The paper includes three real case studies, examining the cost and effect of varying options for saving the lives of newborns in Ethiopia, Madagascar, and one large state in India.

Lead author Dr Rudolf Knippenberg (UNICEF) comments: “In the very countries with the highest burden of neonatal deaths, coverage of cost-effective interventions is low, inequitable, and slow to progress. There is no one solution to these problems: individual solutions need to be designed that take into account local obstacles and opportunities.

“To save the lives of newborn children and their mothers, our analysis suggests the need to double or even quadruple the health budget of many of the world’s poorest countries – while increasing accountability for the use of those resources. Action in countries, driven by countries, is essential.”

NEONATAL SURVIVAL: A CALL FOR ACTION

The final paper in the series is a call to action for tackling neonatal health. The authors state that the cost of saving lives of newborn babies is low, but requires political commitment and leadership at national and international levels. There are low-income countries such as Sri Lanka, Honduras and Botswana that, through committed leadership, have halved neonatal death rates in recent years. Currently, funding for maternal, neonatal and child health is low given the burden of deaths and the fact that extremely cost-effective interventions are available. To provide selected, high impact neonatal health interventions at 90% coverage, an extra \$4.1 billion per year is estimated to be needed on top of the \$2.0 billion spent currently, giving a total of \$6.1 billion in the 75 countries with the highest mortality. The additional cost is less than \$1 per inhabitant per year.

The paper outlines five points of action on a national level, which include, by the end of 2005, publishing national targets for reduction of neonatal mortality to be achieved by 2015. It also lists four action points for the international community, which include promoting greater accountability of national governments, international agencies, and non-governmental organisations in meeting their commitments to address neonatal health.

In an accompanying commentary to the series Anne Tinker (Save the Children-USA) and colleagues state: "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."

Richard Horton, Editor of *The Lancet*, comments: "While the infant and mother have been at the centre of efforts to protect early childhood, the newborn period has been relatively neglected. This marginalisation is difficult to square with the bare numbers. Eight million children are either stillborn or die each year within the first month of life.

"If we continue to fail children under threat, we will be delivering a verdict of wanton inhumanity against ourselves. We will be a knowing party to an entirely preventable mass destruction of human life. The weapon that will be wielded in this crime will not be a bomb, a biological agent, or an aeroplane. It will be something more sinister – withdrawal from the universe of human reason and compassion into a national solipsism that degrades the values that we claim to revere."

Notes to editors

The neonatal survival series is the second phase of *The Lancet's* campaign on child survival. In July 2003 *The Lancet* published a series that focused on deaths of children under the age of five. The latest series addresses a major gap in information about deaths in the first four weeks of life—the neonatal period. To gain free access to the articles please go to www.thelancet.com The papers will be published online at 15:00H (London time) Thursday March 3, 2005.

The fourth Millennium Development Goal commits the international community to reducing mortality in children aged younger than 5 years by two-thirds between 1990 and 2015. To meet this goal a substantial reduction in neonatal mortality in high-mortality countries is needed.

Contacts for media information

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Paper 2 **Evidence based, cost-effective interventions: how many lives of newborn babies can we save?**

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