

The first 28 days of life

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It is widely recognized that a large proportion of child deaths occur in the newborn period, the first 28 days of life. Of an estimated 9.2 million deaths of children under five around the world in 2007, around 40 per cent occurred in the newborn period. In many developing countries, deaths of newborns account for over half of all deaths in infancy, with the vast majority occurring in the first few days of life. The major causes of such deaths are serious infections (36 per cent), prematurity (27 per cent), birth asphyxia (23 per cent) and congenital malformations (7 per cent). These figures do not include an estimated 3 million stillbirths annually. Some 30–40 per cent of these stillbirths may be related to events during labor and delivery, which in turn may result from intrauterine problems and asphyxiation.

The relative lack of progress in reducing newborn deaths is due to several factors. Most important is that, unlike health in the post-natal period (29 days to 59 months), newborn health is closely tied to maternal health. Improving it requires interventions that address complex issues such as maternal empowerment, sociocultural taboos and health-system responsiveness.

Specific factors leading to neonatal deaths include:

- A lack of attention to maternal health, with limited access to skilled care providers.
- The poor state of maternal health care, especially during home births, which are associated with at least half of all newborn deaths.
- Inadequate recognition of newborn illnesses and insufficient care-seeking among families and communities.
- A limited repertoire of interventions for early neonatal disorders such as birth asphyxia and problems due to premature birth.
- A lack of consensus on interventions and delivery strategies to prevent and treat serious neonatal infections – other than neonatal tetanus – in community settings.

Recent years have brought significant improvement in our understanding of neonatal illnesses and mortality. Inequities in distribution of maternal and newborn deaths indicate that most deaths occur in poor, rural populations and in often-ignored urban squatter settlements. Many countries also recognize that reaching the Millennium Development Goal for reducing child mortality will not be possible without improving care for mothers and newborns, focusing efforts on reducing deaths during the first 28 days of life.

The evidence supporting strategies and interventions that use community partnerships has also improved. A number of programmes, largely based in South Asia, have attempted to reduce newborn morbidity and mortality in community settings using innovative approaches. In a landmark study undertaken in rural Maharashtra, India, Dr. Abhay Bang and his colleagues trained community health workers, working with traditional birth attendants, to recognize serious neonatal illnesses such as birth asphyxia or suspected bacterial infections and treat them with home-based resuscitation or oral and injectable antibiotics, respectively. The programme showed a significant reduction in neonatal mortality through these home-based newborn care strategies. More recently, researchers from Johns Hopkins University have demonstrated the efficacy of using trained community health workers to

deliver an integrated package of preventive and curative newborn care in Sylhet, rural Bangladesh. While home-based care provision was important in these studies, it is possible that major benefits also accrued from improved family practices and newborn care. In a study in Makwanpur, in rural Nepal, women's support groups, assisted by trained facilitators, effected a significant reduction in neonatal mortality. Further studies have shown that a concerted strategy of community-based education in newborn care can lead to significant change in practices and reductions in neonatal mortality.

All of these recent studies provide evidence that community-based education in improved maternal and newborn care and home-based treatment for newborn infections can significantly enhance newborn survival. To affect public-health systems in the foreseeable future, these strategies need to be replicated at scale using feasible motivation and training of available health-care workers. Such an expansion has taken place in rural Pakistan, where community-based Lady Health Workers work with village health committees and women's groups. A recent evaluation of the Pakistan initiative has shown a significant reduction in perinatal and neonatal mortality and improved care-seeking for skilled maternal care.

This emerging evidence provides support for strategies to improve maternal and newborn health in the very communities and families with the highest burden of mortality and least access to quality health care. The challenge is to integrate effective strategies and interventions across the continuum of maternal and newborn care in both community settings and health facilities. Recent estimates indicate that providing basic preventive and curative interventions for mothers and newborns in primary-health-care settings at pragmatic levels of coverage has the potential to reduce maternal and newborn deaths by 20–40 per cent.

While these measures show promise, particularly when several complementary interventions are packaged together and delivered through a range of health-care providers, important bottlenecks to improved service delivery remain in many developing countries, including poorly functioning health-system facilities and limited numbers of skilled health-care providers. These bottlenecks can and must be addressed through strategies targeted to reach those families, communities and districts most at risk of missing out on basic health care and maternity services. Despite these difficulties, and the still important gaps in our knowledge of how best to tackle difficult newborn problems such as birth asphyxia, the fragility of preterm infants and serious bacterial infections in community settings, one point is clear: We know enough about what works to make a difference. The critical need is to implement what we know and create the policy framework for appropriate maternal and newborn care where it matters: among the rural and urban poor.

See References, page 109.