

# Community-Based Intervention Packages for Improving Perinatal Health in Developing Countries: A Review of the Evidence

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The Lancet Neonatal Survival Series categorized neonatal health interventions into 3 service delivery modes: "Outreach," "Family-Community Care," and "Facility-based Clinical Care." Family-Community Care services generally have a greater potential impact on neonatal health than Outreach services, with similar costs. Combining interventions from all 3 service delivery modes is ideal for achievement of high impact. However, access to clinical care is limited in resource-poor settings with weak health systems. The current trend for those settings is to combine neonatal interventions into community-based intervention packages (CBIPs), which can be integrated into the local health care system. In this article, we searched several large databases to identify all published, large-scale, controlled studies that were implemented in a rural setting, included a control group, and reported neonatal and/or perinatal mortality as outcomes. We identified only 9 large-scale studies that fit these criteria. Several conclusions can be reached. (1) Family-Community Care interventions can have a substantial effect on neonatal and perinatal mortality. (2) Several important common strategies were used across the studies, including community mobilization, health education, behavior change communication sessions, care seeking modalities, and home visits during pregnancy and after birth. However, implementation of these interventions varied widely across the studies. (3) There is a need for additional, large-scale studies to test evidence-based CBIPs in developing countries, particularly in Africa, where no large-scale studies were identified. (4) We need to establish consistent, clearly defined terminology and protocols for designing trials and reporting outcomes so that we are able to compare results across different settings. (5) There is an urgent need to invest in research and program development focusing on neonatal health in urban areas. (6) It is crucial to integrate CBIPs in rural and urban settings into the already existing health care system to facilitate sustainability of the program and for scaling up. It is also important to evaluate the packages and to demonstrate the health impact of large-scale implementation. (7) Finally, there is a need for improving the continuum of care between home and facility-based care.

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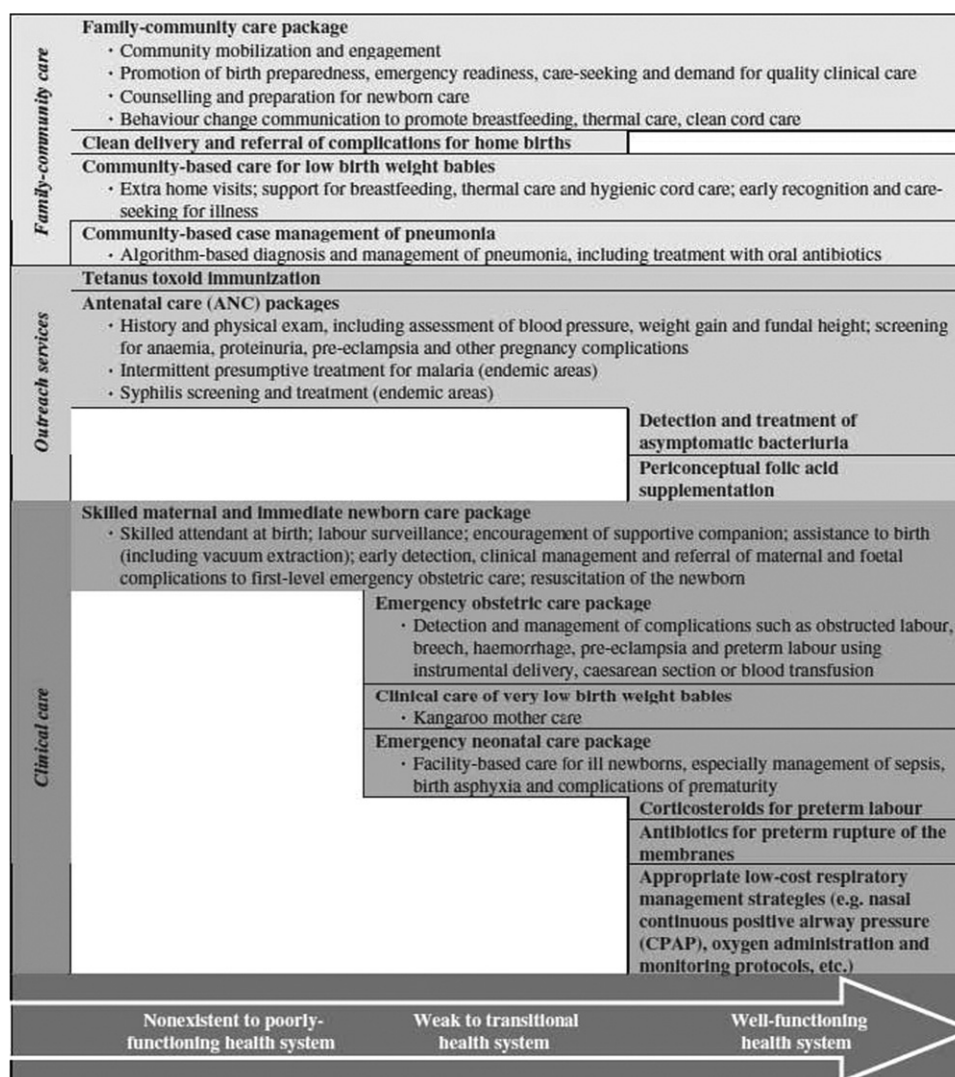
Every year, an estimated 3.6 million infants die worldwide in the first month of life.<sup>1,2</sup> Approximately three-fourths of these deaths occur within the first week of life, and the majority are preventable through simple, low-cost

interventions.<sup>3</sup> One-half or more of these deaths occur in the home.<sup>2</sup>

The most common causes of neonatal mortality include a variety of infections (36%), prematurity (28%), and intrapartum-related neonatal deaths ("birth asphyxia") (23%).<sup>2</sup> Maternal health during pregnancy and delivery are key determinants of neonatal survival. In low-resource settings, where deliveries are commonly performed in the home, household practices are important determinants of mortality.<sup>3</sup> Therefore, to prevent the greatest number of neonatal deaths, we must focus our attention on prevent-

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**Figure 1** The Lancet Neonatal Survival Series Universal Evidence-based intervention packages organized by service delivery modes.<sup>4</sup>

ing complications in the perinatal and neonatal periods in developing countries.

The current trend in developing community-based strategies for improving neonatal health in low-resource settings is to combine antepartum, intrapartum, and postnatal interventions into “packages” that can be integrated into the health care system. In this paper, we define a “package” as a bundle of 2 or more interventions and refer to the community-based intervention packages as community-based intervention package (CBIP). We are moving away from implementing single interventions into health care systems in a vertical manner because combining evidence-based interventions into packages with a common service delivery mode is generally more cost-effective than implementing a single intervention into the health care system. Even in weak health care systems, reaching high coverage with these basic packages can decrease neonatal deaths by an estimated 35% to 66%.<sup>3</sup>

The authors of the Lancet Neonatal Survival Series categorized the service delivery modes for neonatal health interven-

tions into “Outreach,” “Family-Community Care,” and “Facility-based Clinical Care” (Fig. 1).<sup>3</sup> The “Outreach” category describes services that meet the needs of a population and can be implemented periodically either in health facilities or in the community. Examples include immunization programs and routine antenatal care.<sup>3,4</sup> The “Family-Community Care” category combines family-oriented and community-oriented services that are designed to complement the specific community’s social and cultural context.<sup>3</sup> An important focus of Family-Community Care is to empower families and communities to practice healthy preventive behaviors and to demand services, such as care-seeking for illness. Another example of Family-Community Care is case management of neonatal illness by community-based workers (CBWs), including referral to health facilities for clinical care.<sup>3,5</sup> The “Clinical Care” category describes facility-based clinical services, such as neonatal resuscitation, emergency obstetrical care, care of sick newborns, and care for very low birth weight infants. These services are performed by skilled clinicians and are most commonly delivered in clinics and hospitals.<sup>3</sup>

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