Each year 3.6 million infants are estimated to die in the first 4 weeks of life (neonatal period) but the majority continue to die at home, uncounted. This article reviews progress for newborn health globally, with a focus on the countries in which most deaths occur—what data do we have to guide accelerated efforts? All regions are advancing, but the level of decrease in neonatal mortality differs by region, country, and within countries. Progress also differs by the main causes of neonatal death. Three major causes of neonatal deaths (infections, complications of preterm birth, and intrapartum-related neonatal deaths or “birth asphyxia”) account for more than 80% of all neonatal deaths globally. The most rapid reductions have been made in reducing neonatal tetanus, and there has been apparent progress towards reducing neonatal infections. Limited, if any, reduction has been made in reducing global deaths from preterm birth and for intrapartum-related neonatal deaths. High-impact, feasible interventions to address these 3 causes are summarized in this article, along with estimates of potential for lives saved. A major gap is reaching mothers and babies at birth and in the early postnatal period. There are promising community-based service delivery models that have been tested mainly in research studies in Asia that are now being adapted and evaluated at scale and also being tested through a network of African implementation research trials. To meet Millennium Development Goal 4, more can and must be done to address neonatal deaths. A critical step is improving the quantity, quality and use of data to select and implement the most effective interventions and strengthen existing programs, especially at district level.