Improving Neonatal Care
A Global Perspective

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KEYWORDS

• Quality improvement • Low-resource setting • Neonatal mortality • Coverage gap • Quality gap • Quality of care • Indicators • Education

KEY POINTS

- Each year, approximately 2.7 million babies die during the neonatal period; more than 90% of these deaths occur in developing countries.
- Prevention of mortality from the 3 major causes of death (complications of preterm birth, intrapartum-related causes, and sepsis) is possible with the implementation of simple, low-cost interventions, even in countries with limited resources.
- Mortality may result from a gap in coverage or a gap in quality of essential interventions and services. Both coverage and quality gaps may be amenable to improvement strategies.
- A variety of international organizations, including the World Health Organization and United Nations Children's Fund, have recommended key indicators of quality and established roadmaps for improving neonatal outcomes.
- The use of quality improvement methods is not yet part of standard educational training or routine health care delivery in developing countries.

INTRODUCTION

Poor perinatal outcomes are a significant global health burden. Each year, approximately 300,000 women die during or after childbirth, 2.6 million babies are stillborn, and 2.7 million babies die within the first month of life. More than 90% of these deaths occur in developing countries.[1,2] Until the late twentieth century, maternal and neonatal mortality were considered an expected and unavoidable outcome of many pregnancies in developing countries. It is now recognized that most of these deaths are preventable, and reducing perinatal mortality is now a priority in the world

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community. Strategies to improve perinatal health in developing countries have ranged from educating health care workers, to providing commodities essential for quality health care, to improving monitoring and evaluation. Continuous quality improvement (QI) methods have been used to a lesser degree.

This article discusses applications of QI science in developing countries. It reviews:

- The current state of global neonatal health
- Metrics to identify and monitor quality of care
- The role and limitations of education in reducing mortality
- The use of QI methods: international to facility-level initiatives
- Future needs

The focus in this article is on strategies to improve neonatal care and reduce neonatal mortality. In many cases, similar and concurrent strategies are being used to improve maternal care and reduce fetal and maternal mortality.

THE CURRENT STATE OF GLOBAL NEONATAL HEALTH

A new and intense focus on reducing neonatal mortality in developing countries began in 2000 when world leaders adopted a United Nations declaration that established goals to reduce extreme poverty and improve health: the Millennium Development Goals (MDGs). The MDGs covered a broad array of health goals; within perinatal care and pediatrics, MDG number 4 was reduction of mortality of children less than 5 years of age by two-thirds from 1990 to 2015, with a target under–5 years old mortality (U5M) of 30 per 1000 live births by 2015. Although this target was not reached, substantial progress was made, with the U5M decreasing by 53% from 91 to 43 per 1000 live births over this period (**Fig. 1**). This improvement was primarily caused by

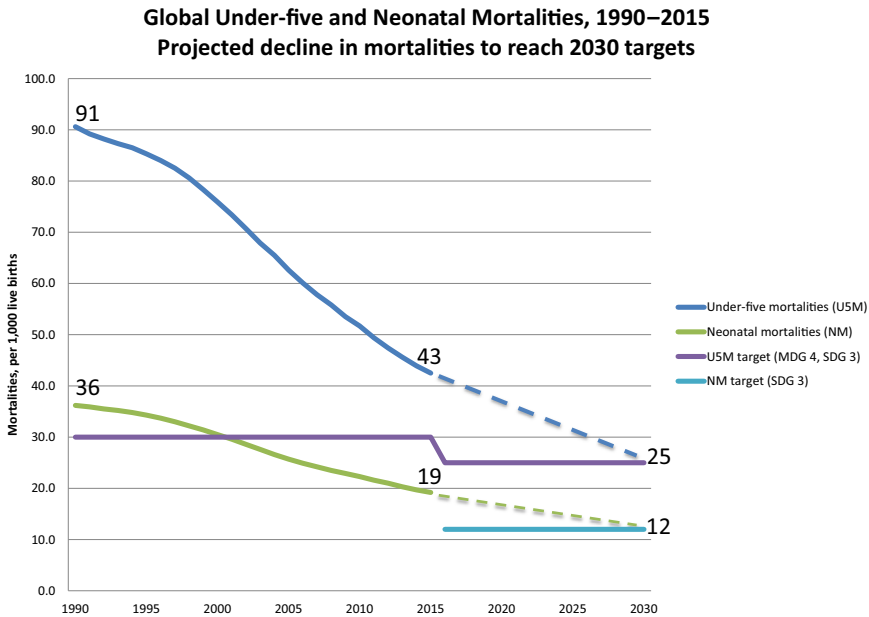

Fig. 1. Global U5M and neonatal mortality (NM) per 1000 live births from 1990 to 2015, and projected decline (*dashed line*) in mortality required to reach 2030 Sustainable Development Goal 3 (SDG 3). SDG 3 targets include U5M of 25 per 1000 live births and NM of 12 per 1000 live births. (*Data from* http://data.unicef.org.)