

# Quality Initiatives Related to Moderately Preterm, Late Preterm, and Early Term Births

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## KEYWORDS

- Quality improvement • Preterm births • Infection reduction • Delaying preterm birth
- Human milk

## KEY POINTS

- The goal of quality-improvement methodology is to improve the quality and cost-effectiveness of health care.
- The care provided to moderately preterm, late preterm, and early term births is an area with significant practice variation.
- Prior quality-improvement initiatives designed to reduce nonindicated early term births and bloodstream infections may serve as models for future initiatives in more mature infants.
- Respiratory care, feeding management, and discharge planning may serve as future directions for quality improvement in moderate preterm, late preterm, and early term births.

## INTRODUCTION

Prematurity is the leading cause of death for newborns in the United States and represents more than \$26 billion dollars in health care expenditure costs per year.<sup>1</sup> Overall, most premature infants born in the United States each year are classified as either moderately preterm (MPT) or late preterm (LPT) infants, defined as birth at 31 0/7 to 33 6/7 and 34 0/7 to 36 6/7 weeks' gestation respectively.<sup>2</sup> Together this group accounts for more than 70% of the preterm population. Ample opportunity exists to improve care using quality improvement (QI) methodology.

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The principal tenets of QI to improve and ensure the safety, quality, and cost-effectiveness of health care are particularly appropriate for application among preterm infants.<sup>3</sup> QI in the neonatal intensive care unit (NICU) has primarily focused on extremely low-gestational-age newborns (ELGANs) because they are at highest risk for death or morbidity. However, they represent a minority of premature infants: ~5% of premature infants born in the United States each year.<sup>2</sup> Therefore, MPT and LPT infants represent an important focus for QI within the United States because they are subject to a great deal of variation in care practices among individual centers as well as among practitioners. Unnecessary variation in care and lack of evidence-based practices may contribute to the morbidities of prematurity.

Over the last decade the number of QI projects involving neonatal and perinatal topics has increased substantially. As a result, the number of national collaboratives focused on the care of neonates has also increased. One of the most recognized collaboratives is the Vermont Oxford Network (VON). An international collaborative of more than 900 NICUs established in 1988, the mission of the VON is to improve the quality, safety, and efficiency of health care delivery to newborns.<sup>4</sup> The VON iNICU Quality Improvement Collaboratives for Neonatology works to identify and implement evidence-based practices through the creation of shared goals and measurable achievements. iNICU define 4 key habits necessary for effective QI: change, collaborative learning, evidence-based practice, and systems thinking.<sup>5</sup>

National and international collaboratives are an important component to improving the care delivered to newborns and provides an established platform for sharing strategies for QI. However, the scope and direction of QI initiatives must be taken in the context of the health care systems in which they will function.<sup>6</sup> As a result, the VON platform for QI in NICUs has now been applied to multiple regional perinatal quality collaboratives. State collaboratives such as the Perinatal Quality Collaborative of North Carolina, Tennessee Initiative for Perinatal Quality Care, New York State Perinatal Quality Collaborative, California Perinatal Quality Care Collaborative, and the Ohio Perinatal Quality Collaborative (OPQC) have built particularly active quality initiatives based on the VON platform. This article uses the experience of the OPQC to show how quality collaboratives could be applied to decreasing unnecessary variation in the care provided to MPT, LPT, and early term (ET) infants.

## OPQC

OPQC is a network of Ohio institutions, hospitals, and individuals dedicated to improving perinatal health in the state. The collaborative includes 24 neonatal teams and 19 obstetric teams that represent the 6 perinatal regions of Ohio. The OPQC mission is “Through collaborative use of improvement science methods, to reduce preterm births and improve outcomes of preterm newborns in Ohio as soon as possible.” OPQC uses an adapted methodology from the Institute for Healthcare Improvement’s (IHI) Breakthrough Series Model (**Fig. 1**). OPQC’s primary goal is to target improvements in outcome through defined shared goals based on established scientific evidence, which includes using rapid-cycle QI techniques such as Plan-Do-Study-Act.

OPQC brings together a multidisciplinary team of individuals through face-to-face sessions and webinar-based action period calls to review individual site and collaborative data, share successful QI initiatives and strategies, and plan future OPQC projects. Thus far 6 project titles have been designed: reducing late onset infections, human milk, antenatal corticosteroid (ANC), 39 weeks charter and 39 weeks/birth registry accuracy project. Three of the projects have targeted reducing preterm birth, and the other two are designed to reduce the morbidity and mortalities of preterm birth.

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