

Widespread Hospital Variation in Supplementation of Breastfed Newborns

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Multiple health organizations, including the American Academy of Pediatrics,¹ endorse the recommendation for exclusive breastfeeding for the first 6 months of life. In the United States, most women initiate breastfeeding, but a majority do not meet their intended goals of duration.² There is a complex interplay of factors that impact breastfeeding outcomes, which include sociodemographic variables, psychosocial issues, maternal health, and infant conditions. However, hospital practices also play a significant role in a mother's experience during the birth hospitalization and can be critical in setting the stage for breastfeeding success after discharge.²

In this issue of *Pediatrics*, Nguyen et al³ noted that in 2014, New York had the highest national rate of formula supplementation in breastfed newborns in the first 2 days of life. These authors sought to determine the factors that influence this finding. By using birth certificate data, they included 176 764 breastfed infants born in New York hospitals. Infants who were admitted to the NICU, transferred to other facilities, and/or exclusively formula fed were excluded. Although breastfeeding initiation was similar to the 2014 national rate (88% versus 81%), the authors found that approximately half of breastfed infants in their cohort received formula in the first 2 days. Furthermore, there was a higher likelihood of supplementation with increasing level of perinatal

care at the delivery hospitals. These findings persisted after adjusting for variables known to impact breastfeeding outcomes. There was significant interhospital variation in the rate of formula supplementation, ranging from rare (2.8%) to nearly universal (98.4%). This variance was widest in level 3 facilities (that are capable of providing complex care to high-risk women and their newborns) and narrowed with lower levels of care. These results challenge the long-held belief that hospital differences in exclusive breastfeeding rates are due to characteristics of the patient population served and not to individual hospital practices.

Evidence suggests that in-hospital supplementation negatively impacts longer term breastfeeding outcomes. Bunik et al⁴ examined multiple hospital practices and determined that exclusive breastfeeding at the time of discharge was the most important predictor of continued breastfeeding at 8 weeks. In addition, Chantry et al⁵ found that supplementation of breastfed infants prior to discharge increased the odds of not exclusively breastfeeding at 30 and 60 days. There are certainly circumstances in which supplementation is medically indicated during the hospital stay.⁶ However, the striking degree of hospital differences in early formula supplementation rates described in Nguyen's study² suggests unwarranted variation, or that which can't be explained by patient factors, and therefore represents an opportunity for improvement.

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Quality-improvement methods that implement evidence-based approaches to hospital-based breastfeeding support can reduce variation in breastfeeding measures.⁷ Several national and statewide collaboratives supported by the Centers for Disease Control and Prevention have effected a measurable change in maternity care practices that support breastfeeding, as reflected by a national increase in maternity practices in infant nutrition and care scores.⁸

There are many questions raised by this article that require further exploration: What are the factors that drive this variation across facilities? What lessons can be learned from the centers with highest performance? Do hospitals with low rates of supplementation have fewer rotating staff? Do staff at lower-performing centers have different attitudes toward formula supplementation and find it more acceptable? What can level 3 facilities learn from centers with lower levels of care? Do units equipped to handle critically ill neonates have an altered perception of a “well” newborn and therefore a lower threshold to provide formula supplementation? A closer

examination of these differences could help inform future efforts.

A mother’s pathway to successful breastfeeding requires coordinated and multifaceted support throughout her pregnancy, delivery, and recovery well after hospital discharge. No single approach will eradicate all obstacles she may encounter along the way. Many disparities in breastfeeding are difficult to change, but hospital practices are a modifiable factor. Hospitals should work toward solutions that narrow gaps in inequities by optimizing maternity care practices and confronting obstacles that undermine breastfeeding success.

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