Maternity Practices in Infant Nutrition and Care in North Carolina

In 2007, CDC administered the first national **M**aternity **P**ractices in **I**nfant **N**utrition and **C**are ("mPINC") survey. All hospitals and birth centers in the U.S. that provide maternity care were invited to participate. This report describes specific opportunities to improve mother-baby care at hospitals and birth centers in North Carolina in order to more successfully meet national quality of care standards for perinatal care.

For more information about the mPINC survey, visit **www.cdc.gov/mpinc**

Changes in Maternity Care Practices Improve Breastfeeding Rates

Breastfeeding provides optimal nutrition for infants and is associated with decreased risk for infant morbidity and mortality as well as maternal morbidity.[1] Maternity practices in hospitals and birth centers can influence breastfeeding behaviors during a period critical to successful establishment of lactation.[2] The literature, including a Cochrane review, found that institutional changes in maternity care practices to make them more supportive of breastfeeding increased initiation and duration of breastfeeding.[3]

Strengths in Breastfeeding Support in North Carolina Facilities

Documentation of Mothers' Feeding Decisions Staff at **99%** of facilities in North Carolina consistently ask about and record mothers' infant feeding decisions.	Standard documentation of infant feeding decisions is important to adequately support maternal choice.
Availability of Prenatal Breastfeeding Instruction Staff at **90%** of facilities in North Carolina include breastfeeding education as a routine element of their prenatal classes.	Prenatal education about breastfeeding is important because it provides mothers with a better understanding of the benefits and requirements of breastfeeding, resulting in improved breastfeeding rates.

Needed Improvements in North Carolina Facilities

Appropriate Use of Breastfeeding Supplements Only **9%** of facilities in North Carolina adhere to standard clinical practice guidelines against routine supplementation with formula, glucose water, or water.	The American Academy of Pediatrics (AAP) and the American College of Obstetricians and Gynecologists (ACOG) Guidelines for Perinatal Care recommend against routine supplementation because supplementation with formula and/or water makes infants more likely to receive formula at home and stop breastfeeding prematurely.
Inclusion of Model Breastfeeding Policy Elements Only **10%** of facilities in North Carolina have comprehensive breastfeeding policies including all model breastfeeding policy components recommended by the Academy of Breastfeeding Medicine (ABM).	The ABM model breastfeeding policy elements are the result of extensive research on best practices to improve breastfeeding outcomes. Facility policies determine the nature of care that is available to patients. Facilities with comprehensive policies consistently have the highest rates of exclusive breastfeeding, regardless of patient population characteristics such as ethnicity, income, and payer status.
Protection of Patients from Formula Marketing Only **16%** of facilities in North Carolina adhere to clinical and public health recommendations against distributing formula company discharge packs.	Distribution of discharge packs contributes to premature breastfeeding discontinuation. The ACOG, AAP, American Public Health Association (APHA), and the federal Government Accountability Office (GAO) all identify this practice as inappropriate in medical environments and recommend against it.
Initiation of Mother and Infant Skin-to-Skin Care Only **33%** of facilities in North Carolina initiate skin-to-skin care for at least 30 minutes upon delivery of the newborn.	Upon delivery, the newborn should be placed skin-to-skin with the mother and allowed uninterrupted time to initiate and establish breastfeeding in order to improve infant health outcomes and reduce the risk of impairment of the neonatal immune system from unnecessary non-breast milk feeds.

Breastfeeding is a National Priority

Breastfeeding protects mothers' and infants' health.[1] *Healthy People 2010*[4] includes breastfeeding as a national priority and it is recommended by a number of health professional organizations.[5]

Establishing evidence-based, breastfeeding-supportive maternity practices as standards of care in US hospitals and birth centers will help meet *Healthy People 2010* breastfeeding objectives and will help improve maternal and child health nationwide.

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The CDC mPINC Survey

The CDC mPINC survey was mailed to all US maternity facilities, with the request that it be completed by the person most knowledgeable about the facility's maternity practices related to infant feeding and care.

84% of the 85 eligible hospitals and birth centers in North Carolina responded to the 2007 CDC mPINC survey.

Each participating facility received its facility-specific benchmark report in October 2008.

For more information about the mPINC survey, visit **www.cdc.gov/mpinc**

Results of the 2007 CDC mPINC Survey: North Carolina

North Carolina Composite Quality Practice Score*: 61

North Carolina State Rank†: 29

mPINC Dimension of Care	Ideal Response to mPINC Survey Question	Percent of Facilities with Ideal Response‡	NC Rank†	NC Subscale Score* (out of 100)
Labor and Delivery Care	Initial skin-to-skin contact is ≥30 min w/in 1 hour (vaginal births)	33	36	54
	Initial skin-to-skin contact is ≥30 min w/in 2 hours (cesarean births)	25	34	
	Initial breastfeeding opportunity is w/in 1 hour (vaginal births)	44	25	
	Initial breastfeeding opportunity is w/in 2 hours (cesarean births)	34	28	
	Routine procedures are performed skin-to-skin	13	32	
Feeding of Breastfed Infants	Initial feeding is breast milk (vaginal births)	73	22	76
	Initial feeding is breast milk (cesarean births)	53	34	
	Supplemental feedings to breastfeeding infants are rare	9	45	
	Water and glucose water are not used	70	26	
Breastfeeding Assistance	Infant feeding decision is documented in the patient chart	99	-	81
	Staff provide breastfeeding advice & instructions to patients	84	35	
	Staff teach breastfeeding cues to patients	79	23	
	Staff teach patients not to limit suckling time	37	25	
	Staff directly observe & assess breastfeeding	83	27	
	Staff use a standard feeding assessment tool	58	25	
	Staff rarely provide pacifiers to breastfeeding infants	24	26	
Contact Between Mother and Infant	Mother-infant pairs are not separated for postpartum transition	45	30	67
	Mother-infant pairs room-in at night	63	32	
	Mother-infant pairs are not separated during the hospital stay	23	22	
	Infant procedures, assessment, and care are in the patient room	1	34	
	Non-rooming-in infants are brought to mothers at night for feeding	76	26	
Facility Discharge Care	Staff provide appropriate discharge planning (referrals & other multi-modal support)	23	29	31
	Discharge packs containing infant formula samples and marketing products are not given to breastfeeding patients	16	35	
Staff Training	New staff receive appropriate breastfeeding education	5	25	53
	Current staff receive appropriate breastfeeding education	29	16	
	Staff received breastfeeding education in the past year	37	25	
	Assessment of staff competency in breastfeeding management & support is at least annual	43	28	
Structural & Organizational Aspects of Care Delivery	Breastfeeding policy includes all 10 model policy elements	10	26	68
	Breastfeeding policy is effectively communicated	84	17	
	Facility documents infant feeding rates in patient population	53	26	
	Facility provides breastfeeding support to employees	71	11	
	Facility does not receive infant formula free of charge	1	45	
	Breastfeeding is included in prenatal patient education	90	-	
	Facility has a designated staff member responsible for coordination of lactation care	78	11	

* Facility practices in 7 dimensions of care ("subscales") contribute to the overall "Composite Quality Practice Score." Possible item, subscale, and overall scores range from 0 to 100, with 100 being the highest, best possible score.

† State ranks range from 1 to 52, with 1 being the highest rank. In case of a tie, both states are given the same rank.

‡ Calculation excludes facilities' responses that indicate prevalence is "unknown" for the practice measured in a given item.

- State ranks are not shown for survey questions with 90% or more facilities reporting ideal responses.

References

[1] Ip S, Chung M, Raman G, et al. Breastfeeding and maternal and infant health outcomes in developed countries. Rockville, MD: US Dept of Health and Human Services, Agency for Healthcare Research and Quality; 2007.

[2] DiGirolamo AM, Grummer-Strawn LM, Fein S. Maternity care practices: implications for breastfeeding. Birth 2001;28:94-100.

[3] Fairbank L, O'Meara S, Renfrew MJ, Woolridge M, Snowden AJ, Lister-Sharp D. A systematic review to evaluate the effectiveness of interventions to promote the initiation of breastfeeding. Health Technology Assessment 2000;4:1-171.

[4] US Dept of Health and Human Services. Healthy People 2010 midcourse review. Washington, DC: US Dept of Health and Human Services; 2005. Available at http://www.healthypeople.gov/data/midcourse.

[5] Organizations including but not limited to: National Quality Forum; American Academy of Pediatrics; American Association of Family Physicians; American College of Obstetricians and Gynecologists; Association of Women's Health, Obstetric, and Neonatal Nurses; American College of Nurse Midwives; Academy of Breastfeeding Medicine; American Public Health Association; World Health Organization.

Evidence-based maternity care supports mothers' decisions and increases the chances that mothers will meet their personal breastfeeding goals.

Improvement is Needed in Maternity Care Practices and Policies in North Carolina

Many opportunities exist in North Carolina to protect, promote, and support breastfeeding mothers and infants. To take action on this critical need, consider the following:

☑ Examine North Carolina regulations for maternity facilities and evaluate their evidence base; revise if necessary.

☑ Sponsor a North Carolina-wide summit of key decision-making staff at maternity facilities to highlight the importance of evidence-based practices for breastfeeding.

☑ Pay for hospital staff across North Carolina to participate in 18-hour training courses in breastfeeding.

☑ Establish links among maternity facilities and community breastfeeding support networks in North Carolina.

☑ Identify and implement programs within hospital settings—choose one widespread practice and adjust it to be evidence-based and supportive of breastfeeding.

☑ Integrate maternity care into related Quality Improvement efforts including:

- Consistent delivery of optimal care
- Improving patient flow
- Improving patient experience & loyalty
- Engaging physicians in a shared quality agenda
- Increasing staff efficiency
- Optimizing hospital-to-home transitions

☑ Develop a plan to ensure adherence to the Joint Commission's recently revised (July 2009) Perinatal Care Core Measure Set to include exclusive breastfeeding at discharge in hospital data collection starting with April 1, 2010, discharges.

Questions about the mPINC survey?

Information about the mPINC survey, benchmark reports, scoring methods, and complete references available at: www.cdc.gov/mpinc

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