

Maternity Practices in Infant Nutrition and Care (mPINC) Survey Quality Practice Measures—2007

Benchmark Report



DEPARTMENT OF HEALTH AND HUMAN SERVICES
CENTERS FOR DISEASE CONTROL AND PREVENTION



Sample Facility

2007 Quality Practice Measures Summary Information

Your Facility's
Composite Quality
Practice Score:

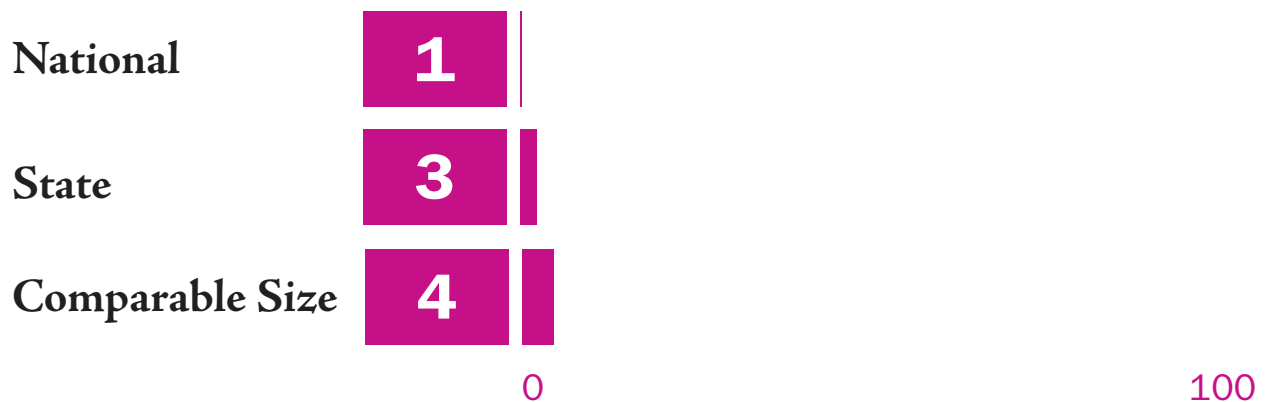
31

What is the mPINC Survey?

The Maternity Practices in Infant Nutrition and Care (mPINC) Survey is a national survey of infant feeding practices in facilities that provide maternity care services.

The Battelle Centers for Public Health Research and Evaluation conducted this survey for the Centers for Disease Control and Prevention (CDC) between August and December 2007.

Composite Quality Practice Score Percentilesⁱ



National = Among all facilities nationwide

State = Among all facilities in your state

Comparable Size = Among US facilities of similar sizeⁱⁱ

CPHRE Battelle reported 6000 births in the past year; this facility is in the size category of ≥ 5000 births per year.

ⁱYour facility's percentile is the point below which the indicated percent of scores fall in each group. For example, if your National percentile is 50, then you are performing better than half of all facilities nationwide. If your State percentile is 66 or 67, you are performing better than about two-thirds of the facilities in your state. If your Similar Size percentile is 99, you are performing better than almost all other facilities nationwide with a similar number of births per year.

ⁱⁱFacility size estimates are based on annual birth census as reported by the mPINC survey respondent and/or the American Hospital Association (when respondent did not provide data).

What's in this report?

Your facility's results from the 2007 CDC mPINC Survey—CDC provides this resource to help you improve outcomes by providing the best evidence-based care to your patients.

- ♦ **Summary Information**—Examine your Composite Quality Practice Score.ⁱⁱⁱ Scores range from 0 to 100; 100 is the highest or “best” possible score. See how your score compares to all other facilities: across the US; in your state; and in your size category nationwide.^{iv}
- ♦ **Care Dimension Information**—Learn about your subscores^v and percentiles in: labor and delivery care; postpartum feeding of breastfed infants, breastfeeding assistance, and contact between mother and infant; staff training; and structural and organizational aspects of care delivery. Accompanied with each score are explanations of how and why CDC chose to measure these particular practices.

What are the components of infant feeding care best practices?

The following key clinical care processes, policies, and staffing expectations are appropriate for care of all perinatal patients, unless medically contraindicated:

- I. Labor and delivery care—Upon delivery,^{vi} the newborn is placed skin-to-skin with the mother, allowing uninterrupted time for breastfeeding.
- II. Postpartum care:
 - a. Feeding of breastfed infants—The breastfeeding infant is only offered pacifiers and supplements (infant formula, water, and glucose water) when medically indicated;

- b. Breastfeeding assistance—Assistance is offered to the breastfeeding mother and infant using consistent standards for supportive patient education and assessment;
 - c. Contact between mother and infant—The infant is enabled to stay with the mother 24 hours per day, without unnecessary separation or restrictions.
- III. Facility discharge care—The breastfeeding mother and infant are assured ambulatory breastfeeding care; patient discharge gifts contain no infant formula marketing samples.
 - IV. Staff training—All staff with primary responsibility for care of the breastfeeding mother and infant receive appropriate breastfeeding skills training and assessment.
 - V. Structural & organizational aspects of care delivery—Best practices policies are implemented for staffing, care process, and communication expectations in perinatal patient education and care settings; are supportive of breastfeeding employees; and are free from financial conflict of interest.

Who responded to the mPINC Survey?

All facilities were surveyed that provide intrapartum care in the United States and Territories.

At each facility, surveys were completed by the person most knowledgeable about the care processes and policies involved in feeding healthy infants.

The survey response rate was 82%.^{vii}

Maternity Care Practices and Infant Feeding

A group of specific interventions has been identified that, when implemented together as a consistent system of care,¹⁻³ results in better breastfeeding outcomes.⁴⁻⁸ Inpatient and ambulatory intrapartum care strategies describe how infant feeding care is delivered across the perinatal period. These strategies are designed to reduce the incidence of events and experiences that undermine mothers' breastfeeding intentions and decisions.

The key components of this care system were identified using the best available science and evidence. Like other clinical care models, this evidence spans a wide range, from results of randomized trials to expert opinion, producing a set of connected best practices that make up a facility's infant feeding care system.

ⁱⁱⁱ The Composite Quality Practice Score is a simple average of subscores from each care dimension.

^{iv} Facility size estimates are based on annual birth census as reported by the mPINC survey respondent and/or the American Hospital Association (when respondent did not provide data).

^v The care dimension subscore is the calculated simple average of scored items within each dimension.

^{vi} Immediate skin-to-skin contact and breastfeeding opportunities are possible and beneficial in both vaginal and Cesarean deliveries. These practices should be initiated within one hour of vaginal birth and within two hours of Cesarean birth.

^{vii} Please visit www.cdc.gov/mpinc for detailed information on the scoring algorithm and other details about administration of the 2007 mPINC Survey.

I. Labor and Delivery Care

Subscore 0

Subscore Percentiles	
National	0
State	2
Comparable size	1
	0 100

Measure	Rationale	Explanation	Ideal Response	Your Response	Your Score
Initial skin-to-skin contact	Skin-to-skin contact improves infant ability to establish breastfeeding. ⁹	This measure reports how many patients experience mother-infant skin-to-skin contact for at least 30 minutes within 1 hour of uncomplicated vaginal birth.	Most	Few	0
		This measure reports how many patients experience mother-infant skin-to-skin contact for at least 30 minutes within 2 hours of uncomplicated Cesarean birth.	Most	Few	0
Initial breastfeeding opportunity	Early initiation of breastfeeding increases overall breastfeeding duration & reduces a mother's risk of delayed onset of milk production. ¹⁰	This measure reports what percent of patients have the opportunity to breastfeed within 1 hour of uncomplicated vaginal birth.	≥90	5	0
		This measure reports what percent of patients have the opportunity to breastfeed within 2 hours of uncomplicated Cesarean birth.	≥90	0	0
Routine procedures performed skin-to-skin	Performing routine newborn procedures & assessments skin-to-skin increases infant stability, is safe for mother & infant, ¹¹ & improves breastfeeding outcomes by reducing unnecessary separation of mother & infant. ¹²	This measure reports how often patients have routine infant procedures performed while mother & infant are skin-to-skin.	Almost always	Rarely	0



II. Postpartum Care— a. Feeding of Breastfed Infants

Subscore 25

Subscore Percentiles	
National	2
State	█ 6
Comparable size	█ 4
	0 100

Measure	Rationale	Explanation	Ideal Response	Your Response	Your Score
Initial feeding received after birth	Neonatal immune system development depends on transfer of specific antibodies through colostrum & is impaired by prior introduction of non-breast milk feeds. ^{13,14}	This measure reports what percent of breastfeeding infants receive breast milk as their first feeding after uncomplicated vaginal birth.	≥90	5	0
		This measure reports what percent of breastfeeding infants receive breast milk as their first feeding after uncomplicated Cesarean birth.	≥90	5	0
Supplementary feedings	The AAP & ACOG <i>Guidelines for Perinatal Care</i> ¹⁵ & Academy for Breastfeeding Medicine guidelines for supplementing feedings in healthy ¹⁶ & hypoglycemic ¹⁷ neonates all recommend against routine supplementation with formula, glucose water, or water.	This measure reports what percent of breastfeeding infants receive non-breast milk feedings.	<10	95	0
		This measure reports whether breastfeeding infants receive glucose water and/or water.	No	No	100

II. Postpartum Care— b. Breastfeeding Assistance

Subscore **29**

Subscore Percentiles	
National	0
State	0
Comparable size	1
	0 100

Measure	Rationale	Explanation	Ideal Response	Your Response	Your Score
Documentation of feeding decision	Standard documentation of infant feeding decisions is important in order to adequately support maternal choice. ¹⁸	This measure reports how often infant feeding decisions are documented in medical records.	Almost always	Almost always	100
Breastfeeding advice & counseling	The AAP recommends pediatricians provide parents with complete, current information on the benefits and methods of breastfeeding to ensure that the feeding decision is a fully informed one. ¹⁹ Patient education is important in order to establish breastfeeding. ^{20,21}	This measure reports how many patients who are breastfeeding, or intend to breastfeed, are provided advice & instructions about breastfeeding.	Most	Most	100
	Effective breastfeeding relies on feeding in direct response to specific infant cues rather than scheduled frequency or duration of feedings. ²²	This measure reports how many patients are taught to recognize & respond to infants' cues instead of feeding on a set schedule.	Most	Few	0
		This measure reports how often breastfeeding patients receive instructions to limit suckling at the breast to a specific length of time.	Rarely	Almost always	0
Assessment & observation of breastfeeding sessions	The AAP recommends formal evaluation of breastfeeding performance by trained observers during the first 24–48 hours of life. ¹⁹	This measure reports how many patients receive a directly observed breastfeeding assessment by facility staff.	Most	Few	0
	Standardized breastfeeding assessment tools improve comparability & validity of findings. ^{23–25}	This measure reports whether breastfeeding is assessed using a standardized or adapted assessment tool.	Yes	No	0
Pacifier use	In-hospital pacifier use reduces duration of exclusive breastfeeding. ²⁶	This measure reports how many breastfeeding patients are given pacifiers by facility staff.	Few	Most	0

II. Postpartum Care— c. Contact Between Mother and Infant

Subscore **25**

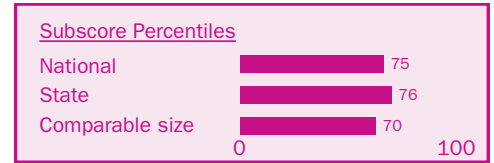
Subscore Percentiles	
National	1
State	0
Comparable size	2
	0 100

Measure	Rationale	Explanation	Ideal Response	Your Response	Your Score
Separation of mother & newborn during transition to receiving units	Separation during transition to postpartum care is unnecessary for stable patients. Mother-infant contact is important during this time to establish breastfeeding, maintain infant weight, & improve regulation of infants' neurologic states. ²⁷	This measure reports how many minutes mother-infant pairs are separated after uncomplicated vaginal births during the transition from labor and delivery care to their receiving patient care units.	No Separation	180	0
Patient rooming-in	Rooming-in of mother-infant pairs increases infants' opportunities to learn to breastfeed ²⁸ & increases duration & quality of maternal sleep. ²⁹	This measure reports how many hours breastfeeding mother-infant pairs are separated at night.	No Separation	8	0
		This measure reports what percent of mother-infant pairs room together ≥23 hrs per day.	≥90	No response	—
Instances of mother-infant separation	Understanding the reasons mother-infant pairs are separated ³⁰ helps identify opportunities to reduce unnecessary separations. Bringing the infant to the mother to breastfeed reduces chances the infant will receive supplemental feeds. ^{31,32}	This measure reports the number of reasons that infant patients are removed from mothers' rooms.	0	1	70
		This measure reports how many patients who are not rooming-in receive the infant from the nursery for breastfeeding at night.	Most	Some	30

Sample Facility

III. Facility Discharge Care

Subscore **55**

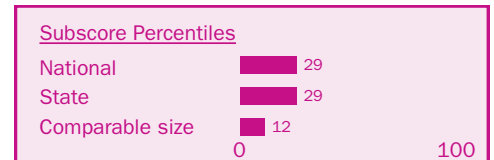


Measure	Rationale	Explanation	Ideal Response	Your Response	Your Score
Assurance of ambulatory breastfeeding support	The AAP clinical practice guidelines recommend examination of all infants by a qualified health care professional within 48 hours of hospital discharge to assess breastfeeding. ³³ Ensuring post discharge ambulatory support improves breastfeeding outcomes. ³⁴⁻³⁵	This measure reports how many modes of ambulatory breastfeeding support are offered: Physical Contact—Home/hospital visit; Active Reaching Out—Phone call to patient; Referral—Providing information about: available phone numbers, support groups, lactation consultant/specialists, WIC, outpatient clinics.	All 3 modes	Mode 3 only	10
Distribution of “discharge packs” containing infant formula	The AAP & ACOG recommend against distributing infant formula “discharge packs” ^{19,36} because it reduces exclusive breastfeeding rates & implies health care professional endorsement of specific commercial items. ³⁷⁻³⁹	This measure reports whether breastfeeding patients are given “discharge packs” containing product marketing infant formula samples.	No	No	100



IV. Staff Training

Subscore **36**

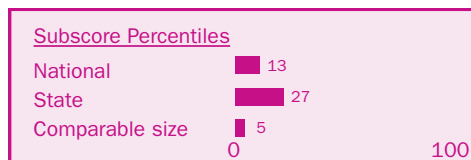


Measure	Rationale	Explanation	Ideal Response	Your Response	Your Score
Preparation of new staff	Staff training ensures standard capacity to provide evidence-based care, learn about new information, & maintain patient support skills. ³⁹⁻⁴² Standard 18 hour staff training improves patient breastfeeding outcomes facility-wide. ^{43,44}	This measure reports how many hours of breastfeeding education new nurses & other birth attendants* receive.	>18	1 to 4	25
Continuing education		This measure reports how many hours of breastfeeding education current nurses & other birth attendants* received in the past year.	≥5	1 to 4	50
		This measure reports how many nurses & other birth attendants* received any breastfeeding education in the past year.	Most	Many	70
Competency assessment	Like other critical nursing competencies, regular assessment of competency in breastfeeding management & support improves delivery of care. ⁴⁵⁻⁴⁷	This measure reports how often nurses & other birth attendants* are assessed for competency in breastfeeding management & support.	At least once a year	Never	0

* In free-standing birth centers, these questions were asked among “birth attendants” to accommodate the range of attendants to births in these facilities.

V. Structural & Organizational Aspects of Care Delivery

Subscore **46**



Measure	Rationale	Explanation	Ideal Response	Your Response	Your Score
Breastfeeding policy	The AAP recommends inclusion of specific elements in facility breastfeeding policies. ¹⁹ The Academy of Breastfeeding Medicine’s clinical protocol lists components of a model breastfeeding policy. ¹⁶	This measure reports the number of model breastfeeding policy elements in your facility’s breastfeeding policy.	10	2	20
Communication of breastfeeding policy	Effective intra-professional communication increases the likelihood that a facility’s breastfeeding policy will be implemented appropriately. ^{48,49}	This measure reports the modes used to inform staff about breastfeeding policies. In person—In-service training, new staff orientation, new staff training, staff meeting; Printed/online materials—Policy posted, newsletter.	Both modes	Both modes	100
Infant feeding documentation policy	Standardized documentation of patient decisions allows for valid internal assessment, monitoring & improvement of quality of care, & improves staff collaboration & support of patients’ decisions. ⁵⁰	This measure reports your facility’s policy for documentation of patient infant feeding plans & practices.	Any point during or post-stay	No/not sure	0
Employee breastfeeding support	The AMA & AWHONN recommend medical facilities support all lactating employees by providing appropriate time & facilities to express & store milk during the working day. ^{51,52} The US Breastfeeding Committee recommends specific workplace supports. ⁵³	This measure reports how many supports are provided to lactating staff. Critical supports—Room to express milk, electric breast pump for staff use, permission to express milk on breaks; Additional supports—On-site child care, breastfeeding support group for staff, access to lactation consultant/specialist, paid maternity leave other than accrued leave.	3 critical ^{viii}	3 critical, 0 additional	100
Facility receipt of free infant formula	The ADA guidelines for mandatory elements of infant formula HACCP plans ⁵⁴ apply to purchased & free infant formula. The AMA recognizes the inherent conflict of interest this kind of financial support introduces. ^{55,56}	This measure reports whether your facility receives infant formula free of charge from manufacturers.	No	Yes	0
Prenatal breastfeeding instruction	Patient education about breastfeeding improves breastfeeding rates. ²⁰	This measure reports whether breastfeeding is a component of prenatal patient education opportunities.	Yes	Yes	100
Coordination of lactation care	A designated Lactation Coordinator demonstrates consideration of lactation support as an essential & necessary function of intrapartum care. ⁵⁷	This measure reports whether your facility has a designated person who oversees lactation care within the facility.	Yes	No	0

^{viii}Please visit www.cdc.gov/mpinc for detailed scoring information.

Next steps

Examine the care dimension that was the most problematic in your facility compared to others in your state or across the country, and choose one care process or policy to begin improving. For example:

- I. Labor and delivery care—**Reduce delays in first contact and breastfeeding opportunities.**
- II. Postpartum care:
 - a. Feeding of breastfed infants—**Eliminate unnecessary supplementation;**
 - b. Breastfeeding assistance—**Improve patient education and assistance;**
 - c. Contact between mother and infant—**Eliminate unnecessary separations between mothers and infants.**
- III. Facility discharge care—**Ensure compliance with AAP clinical practice recommendations.**
- IV. Staff training—**Facilitate staff training on breastfeeding management and support.**
- V. Structural & organizational aspects of care delivery—**Improve your facility’s policies related to breastfeeding.**

References Cited *Sample Facility*

- (1) Perez-Escamilla R, Segura-Millan S, Pollitt E, Dewey KG. Effect of the maternity ward system on the lactation success of low-income urban Mexican women. *Early Hum Dev* 1992; 31(1):25-40.
- (2) Kersting M, Dulon M. Assessment of breast-feeding promotion in hospitals and follow-up survey of mother-infant pairs in Germany: the SuSe Study. *Public Health Nutr* 2002; 5(4):547-552.
- (3) Murray EK, Ricketts S, Dellaport J. Hospital practices that increase breastfeeding duration: results from a population-based study. *Birth* 2007; 34(3):202-211.
- (4) Blomquist HK, Jonsbo F, Serenius F, Persson LA. Supplementary feeding in the maternity ward shortens the duration of breast feeding. *Acta Paediatr* 1994; 83(11):1122-1126.
- (5) Coutinho SB, de Lira PI, de Carvalho LM, Ashworth A. Comparison of the effect of two systems for the promotion of exclusive breastfeeding. *Lancet* 2005; 366(9491):1094-1100.
- (6) DiGirolamo AM, Grummer-Strawn LM, Fein S. Maternity care practices: implications for breastfeeding. *Birth* 2001; 28(2):94-100.
- (7) Illingworth RS, Ston DG, Jowett GH, Scott JF. Self-demand feeding in a maternity unit. *Lancet* 1952; 1(14):683-687.
- (8) Vittoz JP, Labarere J, Castell M, Durand M, Pons JC. Effect of a training program for maternity ward professionals on duration of breastfeeding. *Birth* 2004; 31(4):302-307.
- (9) Anderson GC, Moore E, Hepworth J, Bergman N. Early skin-to-skin contact for mothers and their healthy newborn infants. *Cochrane Database Syst Rev* 2003;(2):CD003519.
- (10) Dewey KG, Nommsen-Rivers LA, Heinig MJ, Cohen RJ. Risk factors for suboptimal infant breastfeeding behavior, delayed onset of lactation, and excess neonatal weight loss. *Pediatrics* 2003; 112(3 Pt 1):607-619.
- (11) Bystrova K, Matthiesen AS, Vorontsov I, Widstrom AM, Ransjo-Arvidson AB, Uvnas-Moberg K. Maternal axillary and breast temperature after giving birth: effects of delivery ward practices and relation to infant temperature. *Birth* 2007; 34(4):291-300.
- (12) Awi DD, Alikor EA. Barriers to timely initiation of breastfeeding among mothers of healthy full-term babies who deliver at the University of Port Harcourt Teaching Hospital. *Niger J Clin Pract* 2006; 9(1):57-64.
- (13) Brandtzaeg P. The secretory immunoglobulin system: regulation and biological significance, focusing on human mammary glands. In: David M, Isaacs C, Hanson L, editors. *Integrating Population Outcomes, Biological Mechanisms and Research Methods in the Study of Human Milk and Lactation*. New York: Kluwer Academic/ Plenum Publishers, 2002: 1-16.
- (14) Adlerberth I, Hanson L. Ontogeny of the intestinal flora. In: Sanderson I, Walker W, editors. *Development of the Gastrointestinal Tract*. Hamilton, Ontario: BC Dexter Inc., 1999: 279-292.
- (15) American Academy of Pediatrics, American College of Obstetricians and Gynecologists. Care of the neonate. In: Lockwood CJ, Lemons JA, eds. *Guidelines for Perinatal Care*. 6th ed. Elk Grove Village, IL: American Academy of Pediatrics; 2007:205-249.
- (16) The Academy of Breastfeeding Medicine Protocol Committee. Model Breastfeeding Policy. *Breastfeeding Medicine* 2007; 2(1):50-55.
- (17) The Academy of Breastfeeding Medicine Protocol Committee. Guidelines for Glucose Monitoring and Treatment of Hypoglycemia in Breastfed Neonates. *Breastfeeding Medicine* 2006; 1(3):178-184.
- (18) Lee T.T. Nursing diagnoses: factors affecting their use in charting standardized care plans. *J Clin Nurs* 2005; 14(5):640-647.
- (19) Gartner LM, Morton J, Lawrence RA, Naylor AJ, O'Hare D, Schanler RJ, Eidelman AI; American Academy of Pediatrics Section on Breastfeeding. Breastfeeding and the use of human milk. *Pediatrics*. 2005 Feb;115(2):496-506.
- (20) US Preventive Services Task Force. Behavioral interventions to promote breastfeeding: Recommendations and rationale. *Annals of Family Medicine* 2003; 1(2):79-80.
- (21) Kronborg H, Vaeth M, Olsen J, Iversen L, Harder I. Effect of early postnatal breastfeeding support: a cluster-randomized community based trial. *Acta Paediatr* 2007; 96(7):1064-1070.
- (22) Riordan J. *Breastfeeding and Human Lactation*. Third ed. Sudbury, MA: Jones and Bartlett, 2005.
- (23) Kumar SP, Mooney R, Wieser LJ, Havstad S. The LATCH scoring system and prediction of breastfeeding duration. *J Hum Lact* 2006; 22(4):391-397.
- (24) Cakmak H, Kuguoglu S. Comparison of the breastfeeding patterns of mothers who delivered their babies per vagina and via cesarean section: an observational study using the LATCH breastfeeding charting system. *Int J Nurs Stud* 2007; 44(7):1128-1137.
- (25) Benson S. What is normal? A study of normal breastfeeding dyads during the first sixty hours of life. *Breastfeed Rev* 2001; 9(1):27-32.
- (26) Howard CR, Howard FM, Lanphear B et al. Randomized clinical trial of pacifier use and bottle-feeding or cupfeeding and their effect on breastfeeding. *Pediatrics* 2003; 111(3):511-518.
- (27) Bystrova K, Widstrom AM, Matthiesen AS et al. Early lactation performance in primiparous and multiparous women in relation to different maternity home practices. A randomised trial in St. Petersburg. *Int Breastfeed J* 2007; 2:9.
- (28) Buranasin B. The effects of rooming-in on the success of breastfeeding and the decline in abandonment of children. *Asia Pac J Public Health* 1991; 5(3):217-220.
- (29) Keefe MR. The impact of infant rooming-in on maternal sleep at night. *J Obstet Gynecol Neonatal Nurs* 1988; 17(2):122-126.
- (30) Svensson K, Matthiesen AS, Widstrom AM. Night rooming-in: who decides? An example of staff influence on mother's attitude. *Birth* 2005; 32(2):99-106.
- (31) Blythe H, Vavilala M, Heslop E, Leech SJ, Brown KA. Randomised trial of infant sleep location on the postnatal ward. *Arch Dis Child* 2006; 91(12):1005-1010.
- (32) Lindenberg CS, Cabrera AR, Jimenez V. The effect of early post-partum mother-infant contact and breast-feeding promotion on the incidence and continuation of breast-feeding. *Int J Nurs Stud* 1990; 27(3):179-186.
- (33) American Academy of Pediatrics Subcommittee on Hyperbilirubinemia. Management of hyperbilirubinemia in the newborn infant 35 or more weeks of gestation. *Pediatrics*. 2004 Jul;114(1):297-316.
- (34) Ingram J, Rosser J, Jackson D. Breastfeeding peer supporters and a community support group: evaluating their effectiveness. *Matern Child Nutr* 2005; 1(2):111-118.
- (35) Chapman DJ, Damio G, Perez-Escamilla R. Differential response to breastfeeding peer counseling within a low-income, predominantly Latina population. *J Hum Lact* 2004; 20(4):389-396.
- (36) Committee on Healthcare for Underserved Women, Committee on Obstetric Practice. ACOG Committee Opinion No. 361: Breastfeeding: Maternal and Infant Aspects. *Obstet Gynecol* 2007 109: 479-480.
- (37) Bliss MC, Wilkie J, Acredolo C, Berman S, Tebb KP. The effect of discharge pack formula and breast pumps on breastfeeding duration and choice of infant feeding method. *Birth* 1997; 24(2):90-97.
- (38) Snell BJ, Krantz M, Keeton R, Delgado K, Peckham C. The association of formula samples given at hospital discharge with the early duration of breastfeeding. *J Hum Lact* 1992; 8(2):67-72.
- (39) Taveras EM, Li R, Grummer-Strawn L et al. Opinions and practices of clinicians associated with continuation of exclusive breastfeeding. *Pediatrics* 2004; 113(4):e283-e290.
- (40) Freed GL, Clark SJ, Sorenson J, Lohr JA, Cefalo R, Curtis P. National assessment of physicians' breast-feeding knowledge, attitudes, training, and experience. *JAMA* 1995; 273(6):472-476.
- (41) Dykes F. The education of health practitioners supporting breastfeeding women: time for critical reflection. *Matern Child Nutr* 2006; 2(4):204-216.
- (42) Lu MC, Lange L, Slusser W, Hamilton J, Halfon N. Provider encouragement of breast-feeding: evidence from a national survey. *Obstet Gynecol* 2001; 97(2):290-295.
- (43) Cattaneo A, Yngve A, Kolerzko B, Guzman LR. Protection, promotion and support of breast-feeding in Europe: current situation. *Public Health Nutr* 2005; 8(1):39-46.
- (44) Cattaneo A, Buzzetti R. Effect on rates of breast feeding training for the baby friendly hospital initiative. *BMJ* 2001; 323(7325):1358-1362.
- (45) O'Hearne RM. A review of methods to assess competency. *J Nurses Staff Dev* 2006; 22(5):241-245.
- (46) Whelan L. Competency assessment of nursing staff. *Orthop Nurs* 2006; 25(3):198-202.
- (47) Arcand LL, Neumann JA. Nursing competency assessment across the continuum of care. *J Contin Educ Nurs* 2005; 36(6):247-254.
- (48) Gifford WA, Davies B, Edwards N, Graham ID. Leadership strategies to influence the use of clinical practice guidelines. *Nurs Leadersh (Tor Ont)* 2006; 19(4):72-88.
- (49) Reeves S, Lewin S. Interprofessional collaboration in the hospital: strategies and meanings. *J Health Serv Res Policy* 2004; 9(4):218-225.
- (50) Cummings GG, Estabrooks CA, Midodzi WK, Wallin L, Hayduk L. Influence of organizational characteristics and context on research utilization. *Nurs Res* 2007; 56(4 Suppl):S24-S39.
- (51) American Medical Association. Infant health policy H-245.982: AMA support for breastfeeding. Adopted 2005, reaffirmed 2007.
- (52) Association of Women's Health, Obstetric and Neonatal Nurses. AWHONN policy position statement: Breastfeeding and lactation in the workplace. Adopted June, 1999.
- (53) United States Breastfeeding Committee. Workplace breastfeeding support [issue paper]. Raleigh, NC: United States Breastfeeding Committee; 2002.
- (54) Pediatric Nutrition Practice Group. *Infant Feedings: Guidelines for Preparation of Formula and Breast Milk in Health Care Facilities*. Chicago: U.S. The American Dietetic Association, 2004.
- (55) American Medical Association. MSS resolution 403: Doctors defending breastfeeding. In: Summary of actions: Medical student section resolutions; 2006 interim meeting, Las Vegas, Nevada. November 11, 2006.
- (56) American Medical Association Council on Science and Public Health. Report 2 of the Council on Scientific Affairs (A-05): Factors that influence differences in breastfeeding rates. June, 2005.
- (57) Mannel R, Mannel RS. Staffing for hospital lactation programs: recommendations from a tertiary care teaching hospital. *J Hum Lact* 2006; 22(4):409-417.

For more information visit:

www.cdc.gov/mpinc

Division of Nutrition, Physical Activity, and Obesity
National Center for Chronic Disease Prevention
and Health Promotion
Centers for Disease Control and Prevention
Atlanta, GA USA

October 2008