Scoring Explanation for the 2007 CDC Maternity Practices in Infant Nutrition and Care (mPINC) Survey

Labor	Labor and Delivery Care					
Item #	Measure	Rationale	Explanation	Scoring algorithm		
A4	Initial skin-to-skin	improves infant ability to establish breastfeeding. (1)	Reports how many patients experience mother- infant skin-to-skin contact for at least 30 minutes within 1 hour of uncomplicated vaginal birth.	100=Most 70=Many 30=Some 0=Few		
A9	contact		Reports how many patients experience mother- infant skin-to-skin contact for at least 30 minutes within 2 hours for uncomplicated cesarean birth.	100=Most 70=Many 30=Some 0=Few		
A6	Initial breastfeeding	Early initiation of breastfeeding is beneficial g because it increases overall breastfeeding duration and reduces a mother's risk of delayed onset of milk production. (2)	Reports what percentage of patients have the opportunity to breastfeed within 1 hour of uncomplicated vaginal birth	100=90%+ 70=50-89% 30=10-49% 0=0-9%		
A10	opportunity		Reports what percentage of patients have the opportunity to breastfeed within 2 hours of uncomplicated cesarean birth.	100=90%+ 70=50-89% 30=10-49% 0=0-9%		
A5	Routine procedures performed skin-to-skin	Performing routine infant assessments skin-to-skin is beneficial because it improves breastfeeding outcomes by reducing unnecessary separation of mother and infant and increases infant stability. It is safe for mother and infant to perform these without separating them. (3, 4)	Reports how often patients have routine infant procedures performed while mother and infant are skin-to-skin.	100=Almost Always 70=Often 30=Sometimes 0=Rarely		
	Labor and Delivery Care Subscale Score		Score represents summary of facility practices related to labor and delivery.	Mean of the 5 item scores		

tem#	Measure	Rationale	Explanation	Scoring algorithm
43	Documentation of feeding decision	Standard documentation of infant feeding decisions is important to adequately support maternal choice. (5)	Reports how often infant feeding decisions are documented in hospital records.	100=Almost Always 70=Often 30=Sometimes 0=Rarely
112	Breastfeeding	The American Academy of Pediatrics (AAP) recommends pediatricians provide patients with complete, current information on the benefits and methods of breastfeeding to ensure that the feeding decision is a fully informed one.(6) Patient education is important to establish breastfeeding. (7, 8)	Reports how many patients who are breastfeeding or intend to breastfeed are provided advice and instructions about breastfeeding.	100=Most 70=Many 30=Some 0=Few
13	advice & counseling	Effective breastfeeding relies on feeding in direct response to specific infant cues rather than scheduled frequency or duration of feedings. (9)	Reports how many breastfeeding patients are taught to recognize and respond to infant feeding cues instead of feeding on a set schedule.	100=Most 70=Many 30=Some 0=Few
\14			Reports how often breastfeeding patients receive instructions to limit suckling at the breast to a specific length of time.	100=Rarely 70=Sometimes 30=Often 0=Almost always
\15	Assessment & observation of breastfeeding	The AAP recommends formal evaluation of breastfeeding performance by trained observers during the first 24-48 hours of life. (6)	Reports how many breastfeeding patients receive a directly observed breastfeeding assessment by hospital staff.	100=Most 70=Many 30=Some 0=Few
16	sessions	Standardized breastfeeding assessment tools improve comparability and validity of findings. (10-12)	Reports whether breastfeeding is assessed using a standardized or adapted assessment tool.	100=Yes 0=No
\20	Pacifier use	In-hospital pacifier use reduces duration of exclusive breastfeeding. (13)	Reports how many breastfeeding patients are given pacifiers by hospital staff.	100=Few 70=Some 30=Many 0=Most
Breastfeeding Assistance Score			Score represents summary of facility practices related to breastfeeding assistance.	Mean of the 7 item scores.

ltem #	Measure	Rationale	Explanation	Scoring algorithm
A23	Separation of mother & infant during transition	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, and improve regulation of infants' neurologic states. (14)	Reports how many minutes mother-infant patient pairs are separated after uncomplicated vaginal births during the transition from labor and delivery care to their receiving patient care units.	100: No separation 90: ≤30 70: 31-60 30: 61-90 0: >90
A24	Patient rooming-in	Rooming-in of mother-infant patient pairs increases infants' opportunities to learn to breastfeed (15) and increases duration and quality of maternal sleep. (16)	Reports how many hours breastfeeding mother-infant patient pairs are separated at night.	100: No separation 90: <3 70: 3-<5 30: 5-<8 0: ≥8
A28			Reports what percentage of mother-infant patient pairs room together ≥23 hours per day.	100=90%+ 70=50-89% 30=10-49% 0=0-9%
A26	Instances of mother-infant separation	Understanding the reasons mother-infant patient pairs are separated (17) helps identify opportunities to reduce unnecessary separations. Bringing the infant to the mother to breastfeed is important because it reduces chances the infant will receive supplemental feeds. (18, 19)	Reports the number of reasons that infant patients are removed from mothers' rooms. Potential reasons for removal included: pediatric rounds, change of shift, visiting hours, hearing test, heel stick, infant photos, infant's bath, mother bathing, mother out of room. Only "mother bathing" and "mother out of room" were considered valid reasons for mother-infant separation. Individual reasons are counted (Few infants removed for the reason=0; Some/Many/Most infants removed for the reason=1) and then summed.	100=No separation 70=1-3 30=4-6 0=7
A25			Reports how many breastfeeding patients who are not rooming-in receive their infant from the nursery for breastfeeding at night.	100=Most 70=Many 30=Some 0=Few
Contact Between Mother and Infant Subscale Score			Score represents summary of practices facility practices related to contact between mother and infant.	Mean of the 5 item scores

Feedi	eeding of Breastfed Infants					
Item #	Measure	Rationale	Explanation	Scoring algorithm		
A7		Neonatal immune system development depends on transfer of specific antibodies through colostrum and is significantly impaired by prior introduction of non-breast milk feeds. (20, 21)	Reports what percentage of breastfeeding patients receive breast milk as their first feeding after uncomplicated vaginal birth.	100=90%+ 70=50-89% 30=10-49% 0=0-9%		
A11			Reports what percentage of breastfeeding patients receive breast milk as their first feeding after uncomplicated cesarean birth.	100=90%+ 70=50-89% 30=10-49% 0=0-9%		
A17	Supplementary	Gynecologists (ACOG) Guidelines for Perinatal Care (22) & Academy for Breastfeeding Medicine guidelines for supplementing feedings in healthy and hypoglycemic neonates all recommend against routine supplementation with formula, glucose	Reports what percentage of breastfeeding infants receive non-breast milk feedings.	100=0-9% 70=10-49% 30=50-89% 0=90%+		
A19	feedings		Reports whether breastfeeding patients receive glucose water and/or water.	100=Answer to both is No. 0=At least one answer is Yes		
Feeding of Breastfed Infants Subscale Score			Score represents summary of facility practices related to feeding of breastfed infants.	Mean of the 4 item scores		

Facilit	acility Discharge Care					
Item #	Measure	Rationale	Explanation	Scoring algorithm		
A30	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. (25) Ensuring post-discharge ambulatory support improves breastfeeding outcomes. (26, 27)	Reports how many modes of post-discharge breastfeeding support patients are offered. To get credit for the mode, at least one support strategy within the mode had to be reported. Mode 1=Physical Contact (strategies: home visit, hospital postpartum followup visit); Mode 2=Active Reaching Out (strategy: followup phone call to patient after discharge); Mode 3=Referrals (strategies: hospital phone number to call, hospital-based support group, other breastfeeding support group, lactation consultant/specialist, WIC, outpatient clinic).	100=All 3 modes 90=Modes 1 and 2 75=Modes 1 and 3 65=Mode 1 only 35=Modes 2 and 3 25=Mode 2 only 10=Mode 3 only 0=No modes		
A29	Distribution of "discharge packs" containing infant formula	The AAP (6) and ACOG (28) recommend against distributing infant formula "discharge packs" because it reduces exclusive breastfeeding rates & implies health care professional endorsement of specific commercial items. (29-31)	Reports whether breastfeeding patients are given "discharge packs" containing product marketing infant formula samples.	100=No 0=Yes		
			Score represents summary of facility practices related to discharge care.	Mean of the 2 item scores		

Staff 7	Staff Training					
Item #	Measure	Rationale	Explanation	Scoring algorithm		
B1	Preparation of new staff	Staff training ensures standard capacity to provide evidence-based care, learn about new information, and maintain patient support skills. (31-34) Standard 18-hour staff training improves patient breastfeeding outcomes facility-wide. (35, 36)	Reports how many hours of breastfeeding education are received by new nurses and other birth attendants [†] .	100: >18 75: 9 to 18 50: 5 to 8 25: 1 to 4 0: <1		
B4			Reports how many hours of breastfeeding education current nurses and other birth attendants [†] received in the past year.	100: ≥5 50: 1 to 4 0: <1		
В3	education		Reports how many nurses and other birth attendants [†] received any breastfeeding education in the past year.	100=Most 70=Many 30=Some 0=Few		
B5	Competency assessment	Like other critical nursing competencies, regular assessment of competency in breastfeeding management and support improves delivery of care. (37-39)	Reports how often nurses and other birth attendants [†] are assessed for competency in breastfeeding management and support.	100: At least once a year 50: Less than once a year 0: Not assessed		
Staff Training Subscale Score			Score represents summary of facility practices related to staff training.	Mean of the 4 item scores		

Struct	Structural & Organizational Aspects of Care Delivery						
Item #	Measure	Rationale	Explanation	Scoring algorithm			
B11	Breastfeeding policy	The AAP recommends inclusion of specific elements in a facility's breastfeeding policies. (6) The Academy of Breastfeeding Medicine's clinical protocol lists components of a model breastfeeding policy. (23)	Reports the number of model written breastfeeding policy elements in the facility's communication of breastfeeding policy. Aspects include a) in-service training, b) prenatal breastfeeding classes, c) asking about mothers' feeding plans, d) initiating breastfeeding within 60 minutes of uncomplicated vaginal birth, e) initiating breastfeeding after recovery for uncomplicated cesarean sections, f) showing mothers how to express milk and maintain lactation if separated from infant, g) giving only breast milk to breastfed infants, h) 24 hr / day rooming-in, i) breastfeeding on-demand and duration and frequency of feedings, j) pacifier use by breastfed infants, k) referral of mothers with breastfeeding problems, l) referral of mothers to appropriate community breastfeeding resources at discharge. Aspects worth 10 points each except: 10 points given for 'd' and/or 'e'; 10 points given for 'k' and/or 'l'.	100=10 90=9 80=8 70=7 60=6 50=5 40=4 30=3 20=2 10=1 0=0			
B12	Communication of breastfeeding policy	Effective intra-professional communication increases the likelihood that a facility's breastfeeding policy will be implemented appropriately. (40, 41)	Reports how staff are informed about breastfeeding policies. Strategies for informing staff were divided into two modes - "in person" and "printed / online materials." Strategies categorized as being "in person" included: in-service training, new staff orientation, new staff training, and staff meeting. Strategies categorized as being "printed / online materials" included: policy is posted and newsletter. At least one strategy from the mode had to be reported for the mode to be counted.	100=In person & printed/online materials 70=In person only 30=Printed/online materials only			
C5	Infant feeding documentation policy	Standardized documentation of patient decisions allows for valid internal assessment, monitoring and improvement of quality of care, and improves staff collaboration and support of patients' decisions. (42)	Reports the hospital's policy for documentation of patient infant feeding plans and practices.	100=Any point after admission 25=At admission only 0=No / not sure			

B13	support	The American Medical Association (AMA) (43) and Association of Women's Health, Obstetric, and Neonatal Nurses (AWHONN) (44) recommend medical facilities support all lactating employees by providing appropriate time and facilities to express and store milk during the working day. The US Breastfeeding Committee recommends specific workplace supports. (45)	Reports how many of 3 critical and 4 additional supports are provided to lactating staff after returning to work. Critical supports are room to express milk (a), electric breast pump for staff use (c), permission to use work breaks to express milk (d). Additional supports are on-site child care (b), breastfeeding support group for staff (e), lactation consultant/specialist available for consult (f), paid maternity leave other than accrued vacation or sick leave (g). If yes to all 3 critical supports: 100. If yes to ≤2 critical supports, 35 points for each critical support and 5 points for each additional support. 0=no to all supports	100=All 3 critical (with or without any additional) 90=2 critical, 4 additional 85=2 critical, 3 additional 80=2 critical, 2 additional 75=2 critical, 1 additional 70=2 critical, 0 additional 55=1 critical, 4 additional 50=1 critical, 3 additional 45=1 critical, 2 additional 40=1 critical, 1 additional 35=1 critical, 0 additional 20=0 critical, 4 additional 15=0 critical, 3 additional 15=0 critical, 3 additional 10=0 critical, 1 additional 10=0 critical, 1 additional 0=No supports
A21	Facility receipt of free infant formula	The American Dietetic Association (ADA) guidelines for mandatory elements of infant formula Hazard Analysis and Critical Control Points plans (46) apply to purchased and free infant formula. The AMA recognizes the inherent conflict of interest this kind of financial support introduces. (47, 48)	Reports whether the facility receives infant formula free of charge from manufacturers.	100=No 0=Yes
A1	Prenatal breastfeeding instruction	Patient education about breastfeeding is important because it improves breastfeeding rates. (43)	Reports whether breastfeeding is a component of prenatal patient education opportunities.	100=Yes 0=No / Not Sure
B08	Coordination of lactation care	A designated Lactation Coordinator demonstrates a facility's consideration of lactation support as an essential and necessary function of intrapartum care. (49)	Reports whether the facility has a designated person who oversees lactation care within the facility.	100=Yes 0=No
	Structural & izational Subscale Score		Score represents summary of facility practices and policies related to structural and organizational aspects of care.	Mean of the 7 item scores

Overall Materity Pra	verall Materity Practices Score				
OVERALL MATERNITY PRACTICES SCORE	land intant teeding of breastfed intants tacility	Overall score represents summary of maternity care practices provided by the facility.	Mean of the 7 subscale scores.		

^{*}Unless otherwise noted, missing/not sure/not applicable values were denoted as "missing" and not included in the scores.

[†]In free-standing birth centers, these questions were asked among "birth attendants" to accommodate the range of attendants to births in these facilities.

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