Published in final edited form as:

Breastfeed Med. 2019 April ; 14(3): 165–171. doi:10.1089/bfm.2018.0224.

Trends in Hospital Breastfeeding Policies in the United States from 2009–2015: Results from the Maternity Practices in Infant Nutrition and Care Survey

Jennifer M. Nelson, MD, MPH[1], **Daurice A. Grossniklaus, PhD, MEd**[1]

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

Abstract

Background: Having a written breastfeeding policy that is routinely communicated to staff is important. Further, hospitals seeking the "Baby-Friendly" designation are required to purchase infant formula at fair market value. We sought to determine the trends of model policies and receipt of free infant formula among hospitals with maternity care in the United States.

Methods: The Maternity Practices in Infant Nutrition and Care (mPINC) survey obtained information, every 2 years, on breastfeeding-related practices and policies from hospitals in the United States. We examined the prevalence of hospitals with a model breastfeeding policy, of individual policy elements, and how policies were communicated as well as the receipt of free infant formula from 2009 to 2015. Statistical testing is not included because mPINC is a census.

Results: The proportion of hospitals with a model breastfeeding policy increased from 14.1% in 2009 to 33.1% in 2015. More hospitals incorporated policy elements on limited use of pacifiers (+21.0% points), early initiation of breastfeeding (+15.5% points), and limiting non-breast milk feeds of breastfed infants (+14.1% points). Fewer hospitals disseminated policies via word of mouth (−2.0% points); whereas, more posted policies (+8.1% points). The percent of hospitals not receiving free infant formula increased from 7.4% in 2009 to 28.7% in 2015.

Discussion: While more hospitals in the United States are implementing model breastfeeding policies and not receiving free infant formula, the majority do not adhere to these practices. Hospitals may consider reviewing their policies around infant feeding in order to improve care for new mothers.

Manuscript Keywords:

breastfeeding; mPINC; hospital policy

Corresponding Author: Jennifer M. Nelson, MD, MPH; 4770 Buford Hwy, MS F-77; Centers for Disease Control and Prevention; Atlanta, GA 30341; jmnelson@cdc.gov.

The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

Introduction

The Ten Steps to Successful Breastfeeding (Ten Steps), developed by the World Health Organization and UNICEF and endorsed by maternal-child health authorities,[1–3] are evidence-based maternity care practices that positively impact breastfeeding outcomes.[4] Step 1 outlines the requirements for facilities to "have a written breastfeeding policy that is routinely communicated to all health care staff."[5] Hospitals with written breastfeeding policies have improved breastfeeding support services which, in turn, lead to improved breastfeeding outcomes.[6] Both the American Academy of Pediatrics[7] and the Academy of Breastfeeding Medicine[8] have developed model policies to help facilitate implementation in maternity care facilities. These policies outline the individual components needed to provide optimal support to breastfeeding mothers and their newborns.

In addition to implementation of the Ten Steps, hospitals seeking designation through the Baby-Friendly Hospital Initiative (Baby-Friendly) must also comply with the *International Code of Marketing of Breast-milk Substitutes* (The Code),[9] which requires facilities to purchase infant formula at fair market value, among other requirements. Of note, the Ten Steps were revised in 2018 to incorporate The Code into Step 1.[10] Provision of free infant formula to hospitals is a long-standing tradition in the United States[11] and administrative buy-in to purchase infant formula at fair market value has been cited as a major barrier when seeking the Baby-Friendly designation.[12, 13]

Thus, we sought to report trends of hospital policies supportive of breastfeeding, including the practice of not receiving free infant formula, among hospitals with routine maternity care in the United States from 2009 to 2015.

Materials and Methods

The Centers for Disease Control and Prevention launched the Maternity Practices in Infant Nutrition and Care (mPINC) survey in 2007 to monitor trends in maternity care practices and policies that support breastfeeding. The mPINC survey was administered to all hospitals and birth centers that routinely provide maternity care in the United States and Territories (hereafter, United States) every two years until 2015. Given birth centers often provide ideal breastfeeding-related maternity care, they were excluded from this analysis (sample size range across survey years, n=118–170). The person(s) most knowledgeable about the hospital's infant feeding-related maternity care practices and policies completed the questionnaire. The overall survey response rate was ≥82% for all cycles. For this analysis, we examined the prevalence of individual policy elements, of having a model breastfeeding policy, and of policy dissemination methods as well as hospital receipt of free infant formula. Due to a slight variation in how the survey questions of interest were asked, the 2007 data were not included in this analysis.

Hospitals were asked "does your facility have a written policy addressing…" with a response of "Yes," "No," or "Not Sure" for 12 policy elements, which served as the mPINC indicators for compontents of a model breastfeeding policy and are based off the Ten Steps to Successful Breastfeeding[14] (Table 1). Of note, hospitals were asked about initiation of

breastfeeding for vaginal and cesarean section deliveries separately but these were combined to report the "early initiation of breastfeeding" policy element. There were also two questions on referral of mothers to appropriate breastfeeding resources at hospital discharge which were combined into "post-discharge support," creating 10 individual policy elements. Responses of "No" and "Not Sure" were combined in order to create a dichotomous variable (yes/no) for the ideal practice; missing values were treated as missing. If, however, hospitals were missing all 10 individual policy elements, they were excluded from the analysis (range: 3–25 hospitals). A model policy was defined as a written breastfeeding policy that included all 10 individual policy elements.

Hospitals were then asked "how are staff informed about these policies (check all that apply)?" with answer options including: in-service training, policy is posted (paper, intranet, policy and procedures binder), newsletter, new staff orientation, new staff training, staff meeting, word of mouth, and other (please specify). The response option of "other (please specify)" was not analyzed (range: 251–338). Additionally, hospitals missing information for all answer options (range: 5–38 hospitals) were excluded. Finally, hospitals were asked "does your facility receive free infant formula?" to which they could respond "Yes," "No," or "Not Sure." Here, responses of "Yes" (range: 1611–2272) and "Not sure" (range: 53–76) were combined to create a dichotomous variable, consistent with how mPINC data were scored.[15] Hospitals with missing information on acceptance of free infant formula (range: 4–20 hospitals) were excluded from the analysis.

All analyses were conducted in SAS 9.4 (SAS Institute, Inc., Cary, NC). Prevalence estimates and the percentage point change were calculated for: having a model breastfeeding policy, not receiving free infant formula, individual policy elements, and policy dissemination modes. Additionally, in 2015, we described the prevalence of hospitals with a model breastfeeding policy and of hospitals not receiving free infant formula by hospital characteristics including ownership, teaching status, size (annual number of births), and region. No statistical tests were performed because data were obtained from a census of hospitals providing routine maternity care, therefore, there was no sampling error.

Results

From 2009 to 2015, the proportion of hospitals with a model breastfeeding policy, meaning all 10 individual policy elements were included, increased from 14.1% to 33.1%, a change of +19 percentage points (Figure 1). At the same time, the proportion of hospitals without a breastfeeding policy declined from 5.2% to 3.2%, a change of −2.0 percentage points (Table 2). Additionally, in 2015, 8.9% of hospitals had a policy containing 1 to 3 elements, 16.5% containing 4 to 6 elements, and 38.3% containing 7 to 9 elements; all declines from 2009.

Increases were seen among all 10 individual policy elements, meaning hospitals were increasingly incorporating each of these elements into their policies. The largest increases were seen among limited use of pacifiers (+21.0 percentage point change), early initiation of breastfeeding (+15.5 percentage point change), and limiting non-breast milk feeds of breastfed infants (+14.1 percentage point change); whereas, the smallest differences were among staff competency assessment (+6.0 percentage point change), prenatal breastfeeding

education (+7.8 percentage point change), and rooming-in (+7.9 percentage point change) (Table 2). In 2015, elements incorporated into policies by >75% of hospitals included: asking about mothers' feeding plans, early initiation of breastfeeding, teaching breastfeeding techniques, limiting non-breast milk feeds of breastfed infants, teaching feeding cues, and post-discharge support. In 2015, elements less frequently included in hospital policies were: staff competency assessment (58.3%) and prenatal breastfeeding education (57.3%).

Changes were also observed in how hospitals were disseminating their breastfeeding policies from 2009 to 2015 (Table 2). Hospitals decreased using word of mouth (−2.0 percentage point change) to disseminate polices but increased dissemination via posting (+8.1 percentage point change) and new staff training (+7.3 percentage point change).

In 2015, 33.1% of hospitals had a model breastfeeding policy (Table 3). A lower proportion of private (24.9%) and non-teaching (30.9%) hospitals had model policies. As hospital size increased, there was a higher proportion of hospitals with a model policy. For example, 15.0% of hospitals with 1–249 annual births had a model policy; whereas, 51.9% of hospitals with ≥5000 births had a model policy. A lower percentage of hospitals in the West North Central (21.7%), East South Central (21.7%), and Mountain (27.1%) regions had a model policy.

Overall, there was an increase in the proportion of hospitals not receiving free infant formula from 7.4% in 2009 to 28.7% in 2015, an increase of 21.3 percentage points (Figure 2). A lower proportion of private hospitals (14.6%) reported not receiving free infant formula in 2015, whereas 80.0% of military hospitals reported not receiving free infant formula (Table 3). A lower proportion of non-teaching hospitals (26.7%) also did not receive free infant formula. There was an inverse relationship between hospital size and not receiving free infant formula, with a greater proportion of larger hospitals not receiving free infant formula. For example, only 18.6% of hospitals with 1–249 births reported not receiving free infant formula; whereas, 53.7% of hospitals ≥5000 reported this practice. Less than one-third of hospitals in all regions, except the Pacific (55.8%) and New England (45.1%), did not receive free infant formula.

Discussion

Between 2009 and 2015, hospitals in the United States have made improvements in infant feeding-related maternity care practices.[16] Few hospitals in 2009 had a model breastfeeding policy, increasing to one-third of hospitals in 2015. Despite improvements, a majority (66.9%) of hospitals remained without a model breastfeeding policy in 2015. Having a model breastfeeding policy, which is regularly communicated to staff, is significantly associated with improved breastfeeding duration.[6] Without such policies, hospitals may be missing an important component to improving breastfeeding support for mothers and, in turn, improving breastfeeding outcomes for women who deliver in their care.

Hospitals have challenges with complete implementation of Step 1 (having a written breastfeeding policy), even when they are successful at implementing the other Ten Steps.[17] It has been suggested the reason behind this discrepancy is that often hospitals have specific

maternal-child health policies or nursing protocols that address breastfeeding but do not have comprehensive, hospital-wide policies.[17, 18] This may explain some of the variation we observed in the elements hospitals were incorporating into their breastfeeding policies. For example, in 2015, 33.1% of hospitals had a policy which included all 10 policy elements, but the proportion of hospitals incorporating individual policy elements ranged from 57.3% (prenatal breastfeeding education) to 87.9% (early initiation of breastfeeding). Having a comprehensive, hospital-wide policy ensures that all evidence-based breastfeeding practices are covered as well as ensuring hospital staff who may have sporadic encounters with breastfeeding mother-baby dyads (e.g., radiology and emergency department personnel) know what the hospital's breastfeeding policy is.

Education of staff, as measured by "staff competency assessment," was a less frequent policy element incorporated for all survey years. Staff education is important to ensure staff are adequately equipped with the skills and knowledge necessary to support the mother-baby dyad during the early days of breastfeeding. A systematic review demonstrated that training interventions improve staff knowledge and attitudes as well as compliance with the Ten Steps.[19] One study also demonstrated increased exclusive breastfeeding rates with improved staff training.[20] In addition, incorporation of a policy element on "prenatal breastfeeding education" was also less frequently reported by hospitals. The U.S. Preventive Services Task Force has found that primary care interventions, including formal education and professional support during the prenatal period, improve breastfeeding outcomes.[21] Facilities that provide routine maternity care may want to evaluate how to optimize the breastfeeding education available, such as collaboration with community resources. Additionally, less than 75% of hospitals incorporated the element of "rooming-in" into their policies. Rooming-in (Step 7), where mother and baby remain together during the hospital stay, has multiple benefits especially for the breastfeeding mother-baby dyad, including increasing exclusive breastfeeding[22, 23] and improving breastfeeding duration.[23] Thus, hospitals may want to review their breastfeeding policies to determine if they have incorporated all elements that are supportive of breastfeeding initiation and continuation.

More hospitals are incorporating elements related to limiting non-breast milk feeds of breastfed infants (Step 6) into their hospital policies. Attention has recently been brought to the fact that breastfed newborns who are given non-breast milk products when not medically indicated are at risk of shortened breastfeeding duration.[4, 24, 25] Thereby, more hospitals may be incorporating elements into their breastfeeding policies to reduce unnecessary supplementation of breastfed newborns. Additionally, given the medical importance of an exclusive breast milk diet for the newborn, the Joint Commission, an organization that accredits approximately 88% of accredited hospitals in the United States,[26] mandated reporting of exclusive breast milk feeding of all newborns for hospitals with ≥1,100 annual births starting January 1, 2014,[27] expanding to ≥300 births on January 1, 2016.[28] As such, hospitals may have improved their breastfeeding policies to increase their exclusive breastfeeding rates for reporting.

While hospitals are incorporating more elements supportive of breastfeeding into their policies, policy may not always reflect actual hospital practice. Additionally, many hospitals may be implementing breastfeeding-supportive practices without having those practice

elements incorporated in their policies. Although policy and practice are not synonymous, similar trends of improvement have been observed in hospital practices.[16] Thus, it is likely that hospitals that provide maternity care in the United States are working towards improving their breastfeeding-supportive care through changes in both practices and policies.

Our analysis also demonstrates that more hospitals are implementing all or portions of The Code as measured by an increase in the number of hospitals not receiving free infant formula. Despite this increase, few hospitals (28.7%) in the United States were paying for infant formula. In 2015, less than 25% of private hospitals, of hospitals with <1,000 annual births, and of hospitals in four (West North Central, East North Central, West South Central, and East South Central) of nine regions were paying for infant formula. One study[29] showed that when hospitals pay fair market value for infant formula, there is an increase in early initiation of breastfeeding and in-hospital exclusive breastfeeding rates, which increases any[4, 29] and exclusive[29] breastfeeding duration. Continued efforts to ensure hospitals are paying fair market value for infant formula may be an important step towards helping mothers reach their breastfeeding goals.

The main strength of our study is that mPINC was a census of all hospitals providing routine maternity care in the United States, with a consistently high response rate (≥82%). Given this high rate, we believe the mPINC data reflect the practices and policies among hospitals providing routine maternity care in the United States. The questions asked on the mPINC survey have remained consistent over the survey cycles included in our analysis, allowing for reporting of data trends. A limitation of the mPINC survey is that these data were self-reported by key informants at the hospitals and, therefore, reported and actual hospital practices and policies may differ. The mPINC survey has not been validated but it is unlikely validity has changed over time. Additionally, the mPINC indicator for model breastfeeding policy is consistent with the Ten Steps but is not directly aligned with the requirements necessary to receive Baby-Friendly designation.

Conclusion

Modest improvements, such as increased implementation of model breastfeeding policies and decreased receipt of free infant formula, have been made in hospitals providing routine maternity care in the United States. Hospitals may want to evaluate the components of their breastfeeding policies as well as their practice around receipt of infant formula to ensure they are providing evidence-based care for the mothers and babies they serve.

Acknowlegment:

The authors would like to thank Dr. Cria Perrine for her feedback on earlier drafts of this manuscript. These data were presented at the 2018 Pedatric Academic Societies Meetings (Toronto, Canada).

Funding:

No external funding source.

References

1. American Academy of Family Physicians. Breastfeeding, Family Physicians Supporting (Position Paper). https://www.aafp.org/about/policies/all/breastfeeding-support.html#Ten. Accessed January 5, 2018.
2. American Academy of Pediatrics. Letter: AAP Endorsement to the WHO/UNICEF Ten Steps to Successful Breastfeeding. http://nctba.internetfd.info/wp-content/uploads/2009/10/TenStepswosig.pdf. Accessed January 5, 2018.
3. The American College of Obstetrics and Gynecologists. Optimizing Support for Breastfeeding as Part of Obstetric Practice. https://www.acog.org/-/media/Committee-Opinions/Committee-on-Obstetric-Practice/co658.pdf?dmc=1&ts=20160215T1143378890. Accessed January 5, 2018.
4. DiGirolamo AM, Grummer-Strawn LM, Fein SB. Effect of maternity-care practices on breastfeeding. Pediatrics. Oct 2008;122 Suppl 2:S43–49. [PubMed: 18829830]
5. Baby-Friendly USA. The Guidelines & Evaluation Criteria. https://www.babyfriendlyusa.org/get-started/the-guidelines-evaluation-criteria. Accessed April 10, 2017.
6. Rosenberg KD, Stull JD, Adler MR, Kasehagen LJ, Crivelli-Kovach A. Impact of hospital policies on breastfeeding outcomes. Breastfeed Med. Jun 2008;3(2):110–116. [PubMed: 18563999]
7. American Academy of Pediatrics. Sample Hospital Breastfeeding Policy for Newborns. http://www2.aap.org/breastfeeding/curriculum/documents/pdf/Hospital%20Breastfeeding%20Policy_FINAL.pdf. Accessed April 10, 2017.
8. Philipp BL, Academy of Breastfeeding Medicine Protocol Committee. ABM Clinical Protocol #7: Model Breastfeeding Policy (Revision 2010). Breastfeed Med. Aug 2010;5(4):173–177. [PubMed: 20590476]
9. World Health Orangization. International Code of Marketing of Breast-milk Substitutes. http://www.who.int/nutrition/publications/code_english.pdf. Accessed April 10, 2017.
10. World Health Orangization. Ten Steps to Successful Breastfeeding (revised 2018). http://www.who.int/nutrition/bfhi/ten-steps/en/. Accessed May 22, 2018.
11. Greer FR, Apple RD. Physicians, formula companies, and advertising. A historical perspective. Am J Dis Child. Mar 1991;145(3):282–286. [PubMed: 1781817]
12. Bartick M, Edwards RA, Walker M, Jenkins L. The Massachusetts baby-friendly collaborative: lessons learned from an innovation to foster implementation of best practices. J Hum Lact. Nov 2010;26(4):405–411. [PubMed: 20876344]
13. Merewood A, Philipp BL. Becoming Baby-Friendly: overcoming the issue of accepting free formula. J Hum Lact. Nov 2000;16(4):279–282. [PubMed: 11155598]
14. World Health Orangization and UNICEF. Baby-Friendly Hospital Initiative: Revised, Updated, and Expanded for Integrated Care. http://whqlibdoc.who.int/publications/2009/9789241594967_eng.pdf. Accessed April 27, 2015.
15. Centers for Disease Control and Prevention. Calculation of Item Score: 2009 Survey of Maternity Practices in Infant Nutrition and Care (mPINC Survey). https://www.cdc.gov/breastfeeding/pdf/SCORING_ALGORITHM_mPINC09-508_tagged.pdf. Accessed 01/29/2018.
16. Perrine CG, Galuska DA, Dohack JL, et al. Vital Signs: Improvements in Maternity Care Policies and Practices That Support Breastfeeding - United States, 2007–2013. MMWR Morb Mortal Wkly Rep. Oct 9 2015;64(39):1112–1117. [PubMed: 26447527]
17. Grizzard TA, Bartick M, Nikolov M, Griffin BA, Lee KG. Policies and practices related to breastfeeding in Massachusetts: hospital implementation of the Ten Steps to Successful Breastfeeding. Matern Child Health J. May 2006;10(3):247–263. [PubMed: 16496220]
18. Kovach AC. Hospital breastfeeding policies in the Philadelphia area: a comparison with the Ten Steps to Successful Breastfeeding. Birth. Mar 1997;24(1):41–48. [PubMed: 9271966]
19. Balogun OO, Dagvadorj A, Yourkavitch J, et al. Health facility staff training for improving breastfeeding outcome: a systematic feview for Step 2 of the Baby-Friendly Hospital Initiative. Breastfeed Med. Nov 2017;12(9):537–546. [PubMed: 28930480]
20. Martens PJ. Does breastfeeding education affect nursing staff beliefs, exclusive breastfeeding rates, and Baby-Friendly Hospital Initiative compliance? The experience of a small, rural Canadian hospital. J Hum Lact. Nov 2000;16(4):309–318. [PubMed: 11155609]

21. U. S. Preventive Services Task Force, Bibbins-Domingo K, Grossman DC, et al. Primary Care Interventions to Support Breastfeeding: US Preventive Services Task Force Recommendation Statement. JAMA. Oct 25 2016;316(16):1688–1693. [PubMed: 27784102]
22. Ward LP, Williamson S, Burke S, Crawford-Hemphill R, Thompson AM. Improving exclusive breastfeeding in an urban academic hospital. Pediatrics. Feb 2017;139(2).
23. Chiou ST, Chen LC, Yeh H, Wu SR, Chien LY. Early skin-to-skin contact, rooming-in, and breastfeeding: a comparison of the 2004 and 2011 National Surveys in Taiwan. Birth. Mar 2014;41(1):33–38. [PubMed: 24654635]
24. Chantry CJ, Dewey KG, Peerson JM, Wagner EA, Nommsen-Rivers LA. In-hospital formula use increases early breastfeeding cessation among first-time mothers intending to exclusively breastfeed. J Pediatr. Jun 2014;164(6):1339–1345 e1335. [PubMed: 24529621]
25. 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. Mar 2003;111(3):511–518. [PubMed: 12612229]
26. The Joint Commission. Facts about Hospital Accreditation. https://www.jointcommission.org/facts_about_hospital_accreditation/. Accessed December 12, 2017.
27. The Joint Commission. Questions and Answers: The Perinatal Care Core Measure Set. http://www.jointcommission.org/assets/1/6/S11.pdf. Accessed December 12, 2017.
28. The Joint Commission. Expanded Requirement for Perinatal Care Measure Set Reporting. https://www.jointcommission.org/assets/1/6/CAH_HAP_Perinatal_Meas.pdf. Accessed January 5, 2018.
29. Tarrant M, Lok KY, Fong DY, et al. Effect on Baby-Friendly Hospital Steps when hospitals implement a policy to pay for infant formula. J Hum Lact. May 2016;32(2):238–249. [PubMed: 26286469]

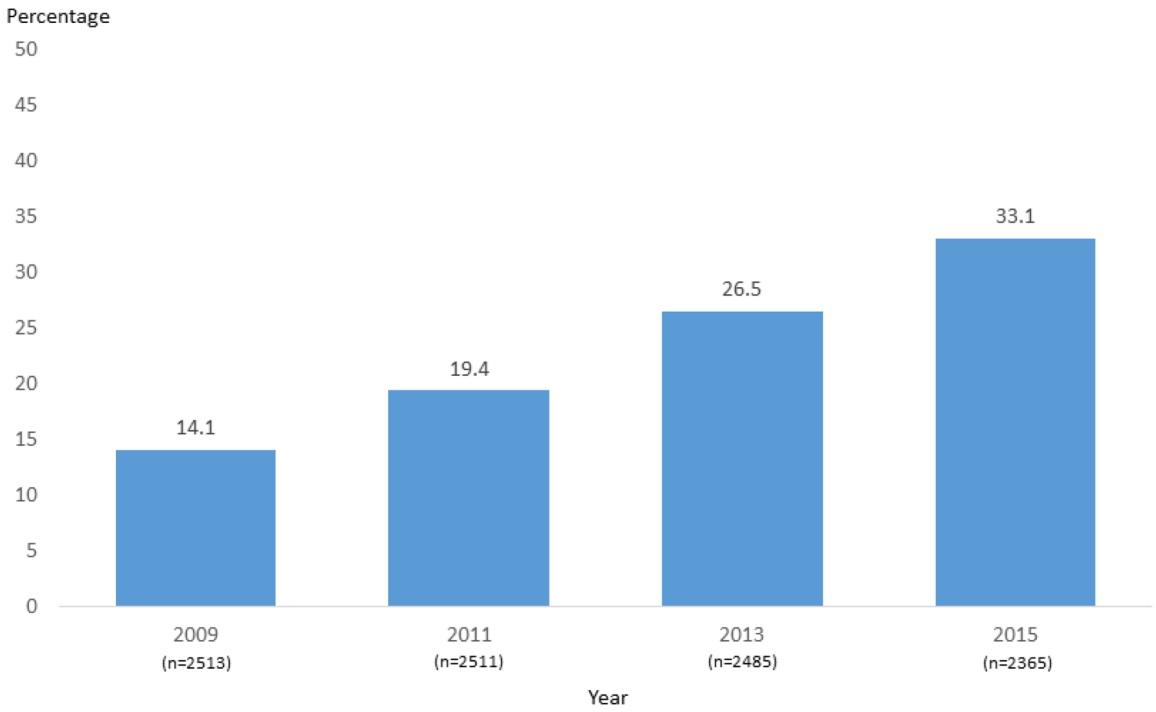

Figure 1:

Percentage of Hospitals with Model Breastfeeding Policy,§ mPINC, 2009–2015

§Model policy elements are 1) staff competency assessment, 2) prenatal breastfeeding education, 3) asking about mothers' feeding plans, 4) early initiation of breastfeeding, 5) teaching breastfeeding techniques, 6) limiting non-breast milk feeds of breastfed infants, 7) rooming-in, 8) teaching feeding cues, 9) limited use of parifiers, and 10) post-discharge support.

*Percentage point change (2009–2015): +19.0

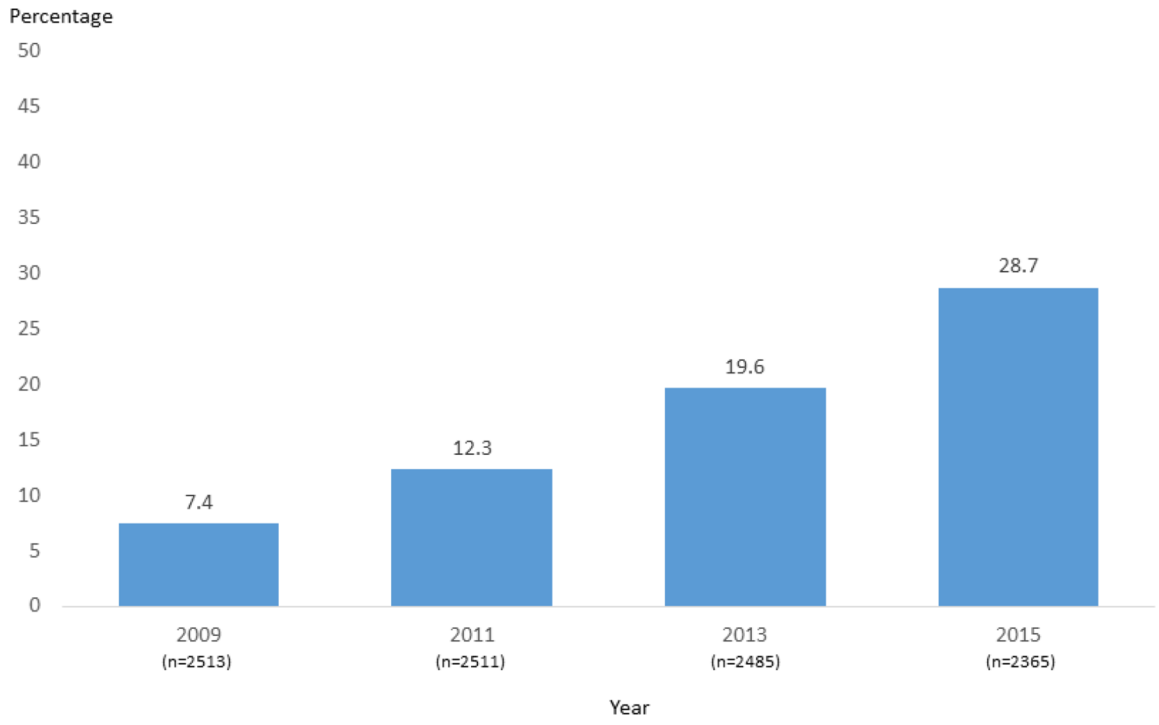

Figure 2:

Percentage of Hospitals Not Receiving Free Infant Formula, mPINC, 2009–2015

*Percentage point change (2009–2015): +21.3

Table 1:

Maternity Practices in Infant Nutrition and Care (mPINC) survey question on elements included in hospitals' written breastfeeding policies, 2009–2015

Does your facility have a written policy addressing….	**Policy Element**
1) Formal in-service training programs for facility staff	Staff competency assessment
2) Prenatal classes informing mothers about breastfeeding	Prenatal breastfeeding education
3) Asking about mothers' feeding plans	Asking about mothers' feeding plans
4) Early initiation of breastfeeding	Early initiation of breastfeeding
Initiating breastfeeding within 60 minutes after uncomplicated vaginal birth	
Initiating breastfeeding after recovery for births by uncomplicated cesarean section	
5) Showing mothers how to express breast milk and maintain lactation should they be separated from their infants	Teaching breastfeeding techniques
6) Giving breastfed infants food or drink other than breast milk	Limiting non-breast milk feeds of breastfed infants
7) 24-hour/day rooming-in	Rooming-in
8) Breastfeeding on-demand and duration and frequency of individual feedings	Teaching feeding cues
9) Use of pacifiers by breastfed infants	Limited use of pacifiers
10) Referral of mothers to appropriate community resources	Post-discharge support
Referral of mothers with breastfeeding problems to appropriate resources (e.g. lactation consultant/specialist, community support group, medical provider, WIC Program)	
Referral of mothers to appropriate community breastfeeding resources upon discharge	

Table 2:

Prevalence of individual policy elements included in hospitals' written breastfeeding policies and policy dissemination modes, mPINC survey, 2009 to 2015

	2009	2011	2013	2015	Percentage Point Change
	n=2513†	n=2511†	n=2485†	n=2365†	(2009 – 2015)
Number of elements included in policy:					
No elements (i.e., no breastfeeding policy)	5.2	3.2	4.4	3.2	−2.0
1 to 3 elements	15.7	14.7	11.1	8.9	−6.8
4 to 6 elements	25.4	23.5	19.6	16.5	−8.9
7 to 9 elements	39.7	39.3	38.4	38.3	−1.4
All 10 elements (i.e., model breastfeeding policy)	14.1	19.4	26.5	33.1	19.0
Individual policy element					
Staff competency assessment	52.3	53.0	54.2	58.3	6.0
Prenatal breastfeeding education	49.5	50.3	53.7	57.3	7.8
Asking about mothers' feeding plans	76.9	79.8	82.9	86.3	9.4
Early initiation of breastfeeding	72.4	79.0	83.2	87.9	15.5
Teaching breastfeeding techniques	67.8	70.3	74.3	78.5	10.7
Limiting non-breast milk feeds of breastfed infants	62.3	65.8	71.0	76.4	14.1
Rooming-in	66.0	67.0	70.9	73.9	7.9
Teaching feeding cues	77.4	79.5	82.9	86.6	9.2
Limited use of pacifiers	46.7	53.0	61.6	67.7	21.0
Post-discharge support	64.0	68.2	70.9	75.5	11.5
Policy dissemination mode					
In-service training	69.8	73.1	74.5	76.0	6.2
Posted policy	78.2	81.0	82.4	86.3	8.1
Newsletter	13.8	14.1	17.6	18.3	4.5
New staff orientation	70.2	71.4	72.5	77.0	6.8
New staff training	60.8	59.3	62.1	68.1	7.3
Staff meeting	73.8	77.2	76.7	79.5	5.7

	2009	2011	2013	2015	Percentage Point Change
	n=2513[†]	n=2511[†]	n=2485[†]	n=2365[†]	(2009 – 2015)
Word of mouth	48.9	44.1	44.8	46.9	−2.0

[†]Due to missing information, n varies slightly for each of the prevalence estimates.

Breastfeed Med. Author manuscript; available in PMC 2022 August 30.

Table 3:

Characteristics of hospitals with a model breastfeeding policy and of hospitals not receiving free infant formula, mPINC survey, 2015

		Hospitals With a Model Breastfeeding Policy*		Hospitals Not Receiving Free Infant Formula	
	N	n	%	n	%
Total	2365	783	33.1	678	28.7
Ownership					
Government hospital	451	140	31.0	122	27.1
Non-profit hospital	1509	531	35.2	471	31.2
Private hospital	301	75	24.9	44	14.6
Military hospital	20	8	40.0	16	80.0
Missing	84	29	34.5	25	29.8
Teaching hospital					
Yes	190	108	56.8	94	49.5
No	2091	646	30.9	559	26.7
Missing	84	29	34.5	25	29.8
Size (annual number of births)					
1–249	408	61	15.0	76	18.6
250–499	456	105	23.0	100	21.9
500–999	479	147	30.7	111	23.2
1000–1999	507	217	42.8	161	31.8
2000–4999	460	225	48.9	201	43.7
≥ 5000	54	28	51.9	29	53.7
Missing	1	--	--	--	--
Region					
Pacific	303	116	38.3	169	55.8
Mountain	207	56	27.1	60	29.0
West North Central	323	70	21.7	68	21.1
East North Central	407	141	34.6	100	24.6
West South Central	280	97	34.6	63	22.5
East South Central	157	34	21.7	14	8.9
New England	122	58	47.5	55	45.1

		Hospitals With a Model Breastfeeding Policy*		Hospitals Not Receiving Free Infant Formula	
	N	n	%	n	%
Mid-Atlantic	217	96	44.2	58	26.7
South Atlantic	349	115	33.0	91	26.1

*Model Breastfeeding Policy elements include: 1) staff competency assessment, 2) prenatal breastfeeding education, 3) asking about mothers' feeding plans, 4) early initiation of breastfeeding, 5) teaching breastfeeding techniques, 6) limiting non-breast milk feeds of breastfed infants, 7) rooming-in, 8) teaching feeding cues, 9) limited use of pacifiers, and 10) post-discharge support.