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Access to workplace accommodations to support breastfeeding after passage of the Affordable Care Act

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Abstract

Objectives—This study examines access to workplace accommodations for breastfeeding, as mandated by the Affordable Care Act, and its associations with breastfeeding initiation and duration. We hypothesize that women with access to reasonable break time and private space to express breast milk would be more likely to breastfeed exclusively at 6 months and to continue breastfeeding for a longer duration.

Methods—Data are from *Listening to Mothers III*, a national survey of women ages 18–45 who gave birth in 2011–2012. The study population included women who were employed full- or part-time at the time of survey. Using two-way tabulation, logistic regression, and survival analysis, we characterized women with access to breastfeeding accommodations and assessed the associations between these accommodations and breastfeeding outcomes.

Results—Only 40% of women had access to both break time and private space. Women with both adequate break time and private space were 2.3 times (95% CI 1.03, 4.95) as likely to be breastfeeding exclusively at 6 months and 1.5 times (95% CI 1.08, 2.06) as likely to continue breastfeeding exclusively with each passing month compared to women without access to these accommodations.

Conclusions—Employed women face unique barriers to breastfeeding and have lower rates of breastfeeding initiation and shorter durations, despite compelling evidence of associated health benefits. Expanded access to workplace accommodations for breastfeeding will likely entail

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collaborative efforts between public health agencies, employers, insurers, and clinicians to ensure effective workplace policies and improved breastfeeding outcomes.

INTRODUCTION

Health benefits of breastfeeding for both infants and nursing mothers are well documented. Infants who are breastfed have better health outcomes, including lower rates of respiratory and gastrointestinal tract infections; sudden infant death syndrome (SIDS); allergic disease, including asthma; obesity; and type 1 diabetes, among other conditions (Ip et al., 2007; Eidelman et al., 2012). Women who breastfeed have a lower risk of developing postpartum depression, type 2 diabetes, rheumatoid arthritis, and breast and ovarian cancers (Eidelman et al., 2012). Breastfeeding for longer periods and breastfeeding exclusively (breast milk only, without infant formula supplementation) are associated with greater health benefits (Eidelman et al., 2012).

Current public health and clinical guidelines recommend breastfeeding exclusively for 6 months, with continued breastfeeding for 1 year or longer (Eidelman et al., 2012; World Health Organization, 2001); however, many women fall short of meeting these guidelines. In the United States, breastfeeding initiation has increased in recent years, with rates reaching 79% in 2011 (compared with 75% in 2008) (Centers for Disease Control and Prevention, 2012). Rates of breastfeeding exclusively through the first 6 months postpartum are also increasing but reached only 18.8% of births in 2011. (Centers for Disease Control and Prevention, 2013). Although breastfeeding initiation rates have increased, some Healthy People targets remain unmet for vulnerable subgroups of women, as are Healthy People 2010 standards for breastfeeding exclusively (Centers for Disease Control and Prevention, 2012). In addition, many women do not meet their own personal goals for breastfeeding exclusively (Perrine, Scanlon, Li, Odom, & Grummer-Strawn, 2012). Subgroups of women facing barriers to breastfeeding include employed mothers, racial/ethnic minorities, and low-income women (Centers for Disease Control and Prevention, 2007).

In addition to health effects, breastfeeding may have significant financial benefits to society. One cost study showed that if 90% of US women breastfed exclusively for 6 months, the nation would save \$13 billion and prevent 911 deaths per year; most of these preventable deaths would occur among infants (Bartick & Reinhold, 2010). However, the economic effect of breastfeeding in the workplace is not generally captured in revenue flows, whereas the administrative and logistical challenges of providing workplace breastfeeding support are evident to employers and employees.

Over the past four decades, the labor force participation of US childbearing women has increased substantially. Two-thirds of women giving birth for the first time between 2006 and 2008 reported working for an employer during their pregnancies. Nearly 60% of women employed during pregnancy had returned to work within 3 months, and 72% had returned to work 12 months postpartum (Laughlin, 2011). Prior research shows that prenatal employment has a negative effect on early exclusive breastfeeding (Attanasio, Kozhimannil, McGovern, Gjerdingen, & Johnson, 2013). Full-time maternal employment has been cited as a reason for early cessation of breastfeeding, and intention to return to work and full-time

employment postpartum are associated with an increased risk of no breastfeeding (Fein & Roe, 1998; Hawkins, Griffiths, & Dezateux, 2007; Lindberg, 1996; Mandal, Roe, & Fein, 2010; Ogbuanu, Glover, Probst, Hussey, & Liu, 2011; Ryan, Zhou, & Arensberg, 2006). In addition, there are well-documented sociodemographic disparities in breastfeeding, regardless of employment status. Non-Hispanic black women have lower breastfeeding rates than non-Hispanic white and Mexican American women (Li, Darling, Maurice, Barker, & Grummer-Strawn, 2005). Rates of breastfeeding initiation are lower among low-income women, particularly those who are younger, unmarried, or have no college education (Ahluwalia, Morrow, & Hsia, 2005; Khoury, Moazzem, Jarjoura, Carothers, & Hinton, 2005). Low-income women may have a particularly difficult time managing both breastfeeding and employment because of their specific employment circumstances, such as hourly employment with limited break time, a lack of facilities for pumping and storing breast milk, service industry work requiring continuous customer contact, or limited support from employers or coworkers (Committee on Healthcare for Underserved Women, 2013; Kimbro, 2006).

The Affordable Care Act (ACA) of 2010 includes workplace-related provisions to address breastfeeding barriers among employed women ("Patient Protection and Affordable Care Act," 2010). Section 4207 of the ACA amends the Fair Labor Standards Act and applies to all employees who are non-exempt from Section 7 of the Fair Labor Standards Act, including employees working for companies engaged in interstate commerce whose total annual sales exceed \$500,000, health care facilities, schools, or public agencies. The amendment, which took effect when the ACA was signed on March 23, 2010, requires employers to provide reasonable break time and a private place, other than a bathroom, for breastfeeding mothers to use a breast pump to express their breast milk during the workday for at least 1 year postpartum ("Reasonable break time for working mothers," 2011). Employers with fewer than 50 employees can file for exemption if they prove that providing these accommodations poses undue hardship ("Reasonable break time for working mothers," 2011). The absence of such requirements has been noted previously as a substantial obstacle to breastfeeding (Shealy, Li, Benton-Davis, & Grummer-Strawn, 2005; United States Breastfeeding Committee, 2010). These provisions are expected to be particularly beneficial for women who have faced heightened barriers to breastfeeding (Drago, Hayes, & Yi, 2010). However, no studies of access to these supportive practices among employed women have been conducted since the ACA was passed.

The goal of this study is twofold: (1) to characterize the women who have access to breastfeeding accommodations in the workplace; and (2) to examine the association between these accommodations and breastfeeding outcomes, including any breastfeeding and breastfeeding exclusively at 6 months postpartum and overall breastfeeding duration.

MATERIALS AND METHODS

Data and Study Sample

We analyzed data from the Listening to Mothers III survey, commissioned by Childbirth Connection and conducted online by Harris Interactive. The core survey, administered between October and December 2012, contained responses from a national sample of 2,400

women who gave birth in US hospitals between July 2011 and June 2012. A follow-up postpartum survey, conducted January through April 2013 among the same sample, had 1,072 respondents. Harris Interactive used a survey methodology in which eligible participants were recruited from a national panel. Harris Interactive also weighted the data (based on demographics and access to the internet) to ensure that the group of respondents was nationally-representative. Information about the Listening to Mothers III survey is available on the survey website (www.childbirthconnection.org/listeningtomothers/). In addition to data on women's pregnancy and intrapartum experiences, the survey captured several unique breastfeeding-related measures. The surveys contained information on workplace accommodations for nursing mothers and past breastfeeding experiences, as well as important sociodemographic factors such as marital status, education, insurance coverage, and family income. Researchers have used data from earlier Listening to Mothers surveys to successfully analyze various maternity-related issues including breastfeeding, but this is the first examination of access to and effects of workplace-based breastfeeding support (Attanasio et al., 2013; Declercq, Labbok, Sakala, & O'Hara, 2009).

The sample for this analysis included respondents who affirmed employment at the time of the postpartum survey (N=550). Further survey questions identified full- or part-time work, and whether self-employed or working for an employer. The survey did not collect information on firm size. This study was exempted from IRB review by the University of Minnesota IRB (study number 1011E92983).

Measurement of Variables

Measures of workplace accommodations were based on 2 questions asking, "Did your employer provide...?" 1) "Reasonable breaks to allow nursing mothers to express breast milk," and 2) "A private place that is not a bathroom where nursing mothers can express breast milk." Answer choices included "Yes," "No," and "Not sure."

Breastfeeding variables included breastfeeding status at 1 week and 6 months postpartum (any/exclusive) and breastfeeding duration (months). All respondents were asked whether they were currently feeding their child breast milk and/or formula. Women were also asked how many months they breastfed exclusively and when they stopped feeding their baby breast milk. The analysis also included indicators for women to report whether (1) their employment plans affected their breastfeeding decisions; (2) breastfeeding was a major or minor problem associated with return to work; and (3) respondents faced any breastfeeding challenges in the first 2 months postpartum, including sore nipples, breast infection, or other breastfeeding problems.

Additional covariates included age; race/ethnicity; education; marital status; census region; income; prenatal participation in the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC); delivery mode (vaginal or cesarean); neonatal intensive care (NICU) stay; low birth weight (<2,500 grams); and whether breastfeeding intentions were met in previous births. Breastfeeding intentions in previous births was coded as a dichotomous (0/1) variable indicating whether women did *not* meet previous intentions; respondents who had met previous breastfeeding intentions as well as those who were first-time mothers (with no previous breastfeeding experience) had a value of 0 for this variable.

Analysis

We examined bivariate associations between sociodemographic and birth-related characteristics (age, race/ethnicity, marital status, education, Census region, income, participation in the WIC program, delivery mode, prior breastfeeding experiences, NICU status, preterm birth, and low birth weight) and access to (1) adequate break time, (2) private space, or (3) both accommodations. We also performed cross-tabulations and χ^2 tests to assess associations between workplace accommodations and breastfeeding challenges, intentions, and outcomes. We then used multivariable logistic regression models to predict the likelihood of each workplace accommodation.

To examine breastfeeding outcomes, we used multinomial logistic regression models to predict the likelihood of any breastfeeding and breastfeeding exclusively at 6 months postpartum by workplace accommodation, as well as Cox proportional hazards models – which were tested for violation of the proportional hazards assumption – to estimate the likelihood of continuing breastfeeding each month. We controlled all models for sociodemographic and birth-related covariates described above. Results were robust to alternate, more parsimonious, model specifications that included only significant predictors of workplace accommodations and more limited sets of predictor variables. We performed all analyses using Stata 12.0 (StataCorp, College Station, TX, USA).

RESULTS

Table 1 shows the characteristics of women in the study sample, both overall and by access to each type of workplace accommodation. Of the 550 women included, 59% reported having access to reasonable break time to express milk, 45% had access to a private space, and 40% had both break time and private space. Respondents were predominantly non-Hispanic white and married. More than one-third (36%) of respondents participated in the WIC program during their pregnancy, and 41% reported not having met their breastfeeding intentions during a previous birth. This demographic profile reflects the national population of childbearing women (Martin, Hamilton, Ventura, Osterman, & Matthews, 2013). Significantly more women with higher incomes reported having access to break time, private space, and both accommodations ($P<.001$ for all comparisons). Similarly, women who participated in WIC had significantly less access to break time ($P=.001$) and both accommodations ($P=.036$). Women with lower levels of education and those who did not meet breastfeeding intentions in prior births had less access to private space and both accommodations, and married women had more access to both accommodations ($P<.05$ for all comparisons).

Bivariate associations between workplace accommodations and breastfeeding challenges, intentions, and outcomes are shown in Table 2. Nearly 60% of women reported breastfeeding as a major or minor problem associated with return to work during the first 2 months postpartum. Nearly 50% reported that their postpartum employment plans affected breastfeeding-related decisions, and 33% indicated that employment posed a challenge to breastfeeding. In unadjusted comparisons, significantly more women who intended to breastfeed exclusively reported having sufficient break time, although this may have been a function of higher education and income levels. Fewer women who were not breastfeeding

at either 1 week ($P=.010$) or 6 months postpartum ($P=.030$) reported having access to sufficient break time.

Table 3 shows the adjusted, predicted odds of having each accommodation type by sociodemographic and birth-related characteristics. As suggested earlier in Table 1, income and WIC participation were significant predictors of access to accommodations despite controlling for other covariates. Specifically, women with household incomes from \$52301 to \$102000 were more than twice as likely as women with incomes of \$52300 or less to have access to break time, private space, and both accommodations, whereas women with incomes exceeding \$102001 were more than 3 times as likely to have private space and both accommodations. Women who participated in the WIC program during pregnancy were one-half as likely to have access to private space as were women who did not. Married and partnered women were more than 3 times as likely to have private space and both accommodations compared with single women. Women who did not meet previous breastfeeding intentions were approximately one-half as likely to have private space and both accommodations as women who had met their prior intentions.

Breastfeeding outcomes are shown in Table 4. After controlling for sociodemographic and birth-related covariates, women with sufficient break time were 2.6 times as likely to breastfeed exclusively (95% confidence interval [CI], 1.0–6.7) and 3.0 times as likely to breastfeed at all (95% CI, 1.2–7.3) at 6 months postpartum compared with women without access to break time or private space. Women with access to both accommodations were 2.3 times as likely to breastfeed exclusively at 6 months (95% CI, 1.0–5.0). Workplace accommodations are also significant predictors of breastfeeding duration. Women with private space and both accommodations were 3.8 and 1.5 times as likely, respectively, to continue breastfeeding exclusively each month (95% CI, 1.4–10.3 and 95% CI, 1.1–2.1). Overall, women with private space breastfeed for 1.36 months longer than women with no break time or private space, and those with both accommodations breastfeed for 0.44 months longer.

DISCUSSION

Based on our analysis, an estimated 1.8 million women return to work within 6 months after giving birth, out of the nearly 2.5 million US women who are employed during their pregnancies each year (Monte & Ellis, 2014). Although the ACA requires many employers to provide nursing mothers with reasonable break time and private space to express breast milk, this study finds that only 59% of women who returned to work postpartum reported having access to adequate break time to express milk, 45% had private space, and only 40% had access to both accommodations. Our findings also show that workplace accommodations for breastfeeding significantly predict breastfeeding outcomes at 6 months postpartum, as well as breastfeeding duration up to 20 months postpartum. Improving access to workplace-based breastfeeding support may have important health and financial implications for US families and employers.

How potential benefits accrue relates to the types of women who have access to accommodations and support. Our analysis also reveals systematic disparities in access to

workplace accommodations for breastfeeding. Low-income women and single mothers are significantly less likely to have access to either break time or private space to express breast milk at work, mirroring the socioeconomic patterns of breastfeeding (Eidelman et al., 2012; Forste & Hoffmann, 2008; Taveras et al., 2003). Both of these groups of women were disproportionately affected, suggesting efforts to improve access could focus on employers that have a workforce of predominantly lower-wage female employees and single female employees. Strategies to address systemic disparities in health outcomes, including infant access to breast milk, must focus on the social determinants of health, which include the overall environment where people live and work. The rationale to focus on social determinants is important for all ages but particularly for infants, because improving the conditions that shape early child development can improve health throughout the life span (Wilensky & Satcher, 2009).

IMPLICATIONS FOR PRACTICE AND POLICY

Given the demonstrated health benefits of breastfeeding, these findings have important and actionable implications for clinicians, employers, and policymakers. For clinicians, an increased emphasis on postpartum support, particularly for women who plan to or have returned to work, may encourage women to continue any breastfeeding or breastfeeding exclusively for longer periods. Clinicians could also support their patients in obtaining breastfeeding supplies for expressing breast milk at work; the ACA-mandated women's preventive services amendment now requires first-dollar insurance coverage for these supplies when medically necessary, and clinicians play an important role in communicating this benefit to patients and encouraging their use (U.S. Department of Health and Human Services, 2010; U.S. National Archives and Records Administration, 2013).

For employers, accommodations that support breastfeeding – even beyond the minimum break time and private space mandated by the ACA – should be included in comprehensive workplace policies aimed at improving the health of employees and their families. Although employers are often aware of the health benefits of breastfeeding, many do not list breastfeeding support for employees as a priority; similarly, many women report being unaware of breastfeeding-related policies in their workplace and desire more support for breastfeeding from their employers (Brown, Poag, & Kasprzycki, 2001; Kosmala-Anderson & Wallace, 2006). Employers should establish clear and easily understood policies for employees to request reasonable break time and private space to express breast milk, as well as taking measures to inform employees about their right to access these accommodations. Like other workplace wellness programs, such as those encouraging physical activity, support for breastfeeding in the workplace can improve employee health, reduce absenteeism, and generate savings for employers (Baicker, Cutler, & Song, 2010). These incentives should further motivate employers to not only comply with ACA-mandated accommodations for breastfeeding, but to find other innovative ways to support breastfeeding among their employees. Employers can hire, consult, or utilize occupational health nurses and physicians or human resources personnel for information and guidance on policies and programs, or they can consult online resources available from the Centers for Disease Control (<http://www.cdc.gov/breastfeeding/policy/index.htm>) and the Department of Health and Human Services (<http://mchb.hrsa.gov/pregnancyandbeyond/breastfeeding/>).

These resources may be useful in guiding employers to not only comply fully and comprehensively with mandated accommodations for breastfeeding in the workplace, but also to foster a workplace environment that views breastfeeding positively. Across all occupations and income levels, women whose employers are actively supportive of breastfeeding may be more likely to not only reach their breastfeeding goals, but also to intend exclusive breastfeeding for longer durations due to viewing breastfeeding as compatible with their employment.

For local, state, and federal policymakers, study findings highlight the need for policy coupled with comprehensive oversight, including monitoring and enforcement alongside employer education and support, to ensure access to workplace accommodations for breastfeeding women. The ACA represents an important first step, but further policy work is warranted to overcome the access barriers identified in this analysis. In particular, efforts to address access for low-income women and single mothers are urgently needed. To ensure that existing requirements are met, evaluation and monitoring are crucial. Adopting employer-based reporting mechanisms detailing breastfeeding accommodations in the workplace—similar to those used to monitor ACA-mandated insurance coverage—may increase accountability, as may guidelines for reporting violations and penalties for employers who do not provide them (Kaiser Family Foundation, 2012, 2013). In addition, policymakers may consider adopting provisions that extend guaranteed access to workplace accommodations for breastfeeding to women not covered by the Fair Labor Standards Act. These women are likely to be lower-income or work in jobs with less flexibility, which is associated with lower rates of breastfeeding initiation and shorter duration. Finally, at the federal level, incorporating the economic value of breastfeeding into calculations of gross domestic product can highlight the significant economic benefits of breastfeeding and provide a strong basis of support for programs and regulations that protect and support breastfeeding in the workplace.

Limitations

This study had several important limitations that provide context for interpreting the findings. All data were based on retrospective self-report and thus were susceptible to recall and social desirability bias, particularly with regard to breastfeeding intention and duration. Some issues with self-selection may arise; for instance, the availability of workplace accommodations for breastfeeding may influence women's decisions to return to work, or women who are more intent on breastfeeding may select workplace with more generous accommodations for breastfeeding. Because the data in this survey were collected after ACA provisions for breastfeeding accommodations had been implemented, we expect the variation in employer policies to be much smaller than they had been previously, thereby minimizing self-selection biases. However, the quality and accessibility of these accommodations may not be consistent across all employers (Bai et al., 2015), which may leave room for selection bias. Another potential limitation was that respondents may have found the definition of "reasonable break time" to be vague; however, this reflects the language used in the ACA. Future studies could gather more detailed data to examine the specific types of amenities as well as the amount of break time needed to support improvements in breastfeeding outcomes. The data also lack information on employer type

and size, as well as maternal occupation category. As the ACA-mandated accommodations apply only to employees covered under the Fair Labor Standards Act, which applies only to certain employers (government agencies, hospitals, schools, and any companies with more than \$500,000 in annual sales or receipts), women in some occupations (e.g., service or retail industries, seasonal or farm workers) may be less likely to have access to these accommodations. Both formal and informal barriers to accessing workplace accommodations may vary across employers and occupational categories. More granular data in future studies would aid policy implementation and interpretation of findings. Finally, the data were cross-sectional and did not reflect whether any significant changes in access to workplace accommodations have occurred as a result of the ACA. Despite these limitations, the Listening to Mothers III survey remains a unique source of detailed information on women's experiences in the workplace and breastfeeding postpartum, and our analyses represent a first look at the association between workplace accommodations and breastfeeding outcomes in the wake of US health care reform.

CONCLUSION

Clinicians, employers, and policymakers should work together with pregnant women and mothers to prioritize workplace support for employed women who are breastfeeding. Efforts to fully implement the accommodation required by the ACA and expand these provisions will improve access to breast milk for all infants, particularly those from families and communities that experience greater challenges in achieving optimal health and well-being.

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Biographies

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Patricia McGovern is Professor in the Division of Environmental Health Sciences at the University of Minnesota. Her research applies the tools of health services research and policy to occupational and environmental health issues, in particular, issues of women's and children's health.

Table 1
 Characteristics of sample (N=550) based on availability of break time and private space for breastfeeding

| | All Women (%) | | Sufficient Break Time | | Private Room | | Break Time+Private Room | |
|---|----------------------------|---------|----------------------------|---------|----------------------------|---------|----------------------------|---------|
| | Yes (%) n=326 (59.3) | P Value | Yes (%) n=249 (45.3) | P Value | Yes (%) n=222 (40.4) | P Value | Yes (%) n=222 (40.4) | P Value |
| <i>Sociodemographic Characteristics</i> | | | | | | | | |
| Age category (y) | | .127 | | .564 | | .135 | | |
| 18–24 | 27.5 | | 22.6 | | 25.0 | | 22.0 | |
| 25–29 | 25.9 | | 29.3 | | 29.1 | | 31.2 | |
| 30–34 | 26.8 | | 29.4 | | 28.0 | | 30.0 | |
| 35+ | 19.7 | | 18.8 | | 17.9 | | 16.7 | |
| Race | | .838 | | .526 | | .608 | | |
| White | 62.3 | | 64.5 | | 60.9 | | 65.5 | |
| Black | 13.7 | | 13.1 | | 16.8 | | 14.4 | |
| Hispanic | 18.0 | | 16.6 | | 17.2 | | 14.2 | |
| Other/multiple race | 6.1 | | 5.7 | | 5.2 | | 5.9 | |
| Marital status | | .051 | | .064 | | .015 | | |
| Not married, no partner reported | 6.1 | | 5.0 | | 3.1 | | 2.2 | |
| Unmarried w/ partner | 26.5 | | 21.6 | | 23.5 | | 22.4 | |
| Married | 67.4 | | 73.4 | | 73.4 | | 75.4 | |
| Education | | .125 | | .013 | | .043 | | |
| HS or less | 26.3 | | 21.7 | | 17.8 | | 18.8 | |
| Some college/Associate's degree | 28.4 | | 27.4 | | 26.7 | | 25.5 | |
| Bachelor's degree | 27.3 | | 29.9 | | 32.5 | | 32.2 | |
| Graduate education/degree | 18.0 | | 20.9 | | 22.9 | | 23.5 | |
| Region | | .377 | | .770 | | .551 | | |
| Northeast | 19.4 | | 19.7 | | 17.4 | | 17.3 | |
| Midwest | 24.2 | | 23.0 | | 23.2 | | 21.5 | |
| South | 38.7 | | 36.4 | | 40.0 | | 40.6 | |

| | All Women (%) | Sufficient Break Time | Private Room | Break Time+Private Room | |
|--|---------------|----------------------------|----------------------------|----------------------------|-------------|
| | | Yes (%) n=326 (59.3) | Yes (%) n=249 (45.3) | Yes (%) n=222 (40.4) | P Value |
| West | 17.7 | 21.0 | 19.4 | 20.5 | <.001 |
| Income | | | | | |
| \$52300 | 32.3 | 22.1 | 20.3 | 18.2 | |
| \$52301–\$102000 | 47.4 | 54.1 | 53.8 | 54.0 | |
| >\$102001 | 20.3 | 23.8 | 25.9 | 27.8 | |
| WIC used during pregnancy | 36.4 | 27.8 | 30.4 | 28.2 | .036 |
| <i>Birth-related Characteristics</i> | | | | | |
| Mode of delivery | | | | | |
| Vaginal | 71.6 | 70.4 | 69.0 | 67.3 | .204 |
| Cesarean | 28.4 | 29.6 | 31.0 | 32.7 | |
| Did not meet breastfeeding intentions in previous births | 41.1 | 37.7 | 34.1 | 33.3 | .028 |
| Baby was in NICU | 19.9 | 17.4 | 21.1 | 16.0 | .227 |
| Low birth weight (<2.49 kg) | 8.3 | 5.8 | 7.8 | 5.9 | .164 |

Table 2

Breastfeeding experiences based on availability of break time and private space

| | All Women (%) | Sufficient Break Time | | Private Room | | Break Time+Private Room | |
|--|---------------|-----------------------|-------------|-----------------|-------------|-------------------------|---------|
| | | Yes (%) (n=326) | P Value | Yes (%) (n=249) | P Value | Yes (%) (n=222) | P Value |
| Major or minor BF problem during first 2 months after giving birth | 59.5 | 55.8 | .148 | 58.1 | .668 | 54.9 | .204 |
| Employment plans PP affected breastfeeding-related decision | 49.6 | 46.9 | .302 | 46.7 | .379 | 44.0 | .122 |
| Employment posed a challenge to BF | 33.0 | 35.2 | .371 | 33.3 | .918 | 31.0 | .570 |
| Breastfeeding intention at the end of pregnancy | | | .017 | | .163 | | .189 |
| Breastfeeding only | 56.5 | 62.6 | | 57.7 | | 59.7 | |
| Formula only | 15.8 | 10.7 | | 11.3 | | 10.6 | |
| Combination of breastfeeding and formula | 27.8 | 26.7 | | 31.1 | | 29.7 | |
| Breastfeeding status at 1 wk postpartum | | | .010 | | .417 | | .250 |
| Formula only/no breast milk | 20.8 | 14.4 | | 17.5 | | 15.9 | |
| Breast milk only | 26.3 | 26.9 | | 26.0 | | 26.5 | |
| Both breast milk and formula | 52.9 | 58.7 | | 56.5 | | 57.6 | |
| Breastfeeding status at 6 mo | | | .030 | | .677 | | .722 |
| Formula only/no breast milk | 76.8 | 71.4 | | 75.7 | | 75.1 | |
| Both breast milk and formula | 12.4 | 14.7 | | 11.9 | | 12.4 | |
| Breast milk only | 10.8 | 14.0 | | 12.4 | | 12.5 | |
| Mean duration of breastfeeding exclusively (mo) | 5.33 | 5.37 | .397 | 5.89 | .002 | 5.64 | .088 |
| Breastfed as long as wanted | 61.6 | 60.8 | .823 | 63.6 | .692 | 63.1 | .774 |

Abbreviation: BF=breastfeeding.

Table 3
 Logistic regression of odds of employer accommodations for breastfeeding, by women’s characteristics (N=550)

| | Sufficient Break Time | | Private Room | | Break Time+Private Room | |
|--|--------------------------|------------------|--------------------------|------------------|--------------------------|-------------------|
| | AOR | 95% CI | AOR | 95% CI | AOR | 95% CI |
| <i>Sociodemographic Characteristics</i> | | | | | | |
| Age category (y) (ref=18–24) | | | | | | |
| 25–29 | 1.889 | 0.81 4.42 | 1.399 | 0.65 3.02 | 1.592 | 0.74 3.44 |
| 30–34 | 1.317 | 0.60 2.88 | 1.075 | 0.48 2.39 | 1.121 | 0.52 2.43 |
| 35+ | 0.948 | 0.41 2.20 | 0.850 | 0.35 2.07 | 0.739 | 0.32 1.68 |
| Race (ref=white) | | | | | | |
| Black | 1.467 | 0.57 3.76 | 1.682 | 0.75 3.79 | 1.221 | 0.52 2.85 |
| Hispanic | 1.207 | 0.56 2.62 | 1.506 | 0.71 3.19 | 0.935 | 0.44 1.99 |
| Other/multiple race | 1.191 | 0.41 3.42 | 0.885 | 0.37 2.11 | 1.118 | 0.50 2.49 |
| Marital status (ref=unmarried w/o partner) | | | | | | |
| Unmarried w/ partner | 0.935 | 0.28 3.12 | 2.337 | 0.64 8.52 | 3.396^a | 1.04 11.04 |
| Married | 1.379 | 0.42 4.54 | 2.792 | 0.74 10.51 | 3.907^a | 1.25 12.20 |
| Education (ref=HS or less) | | | | | | |
| Some college/Associate’s degree | 0.840 | 0.37 1.90 | 1.403 | 0.61 3.20 | 1.040 | 0.44 2.44 |
| Bachelor’s degree | 0.803 | 0.34 1.88 | 1.713 | 0.74 3.97 | 1.278 | 0.53 3.08 |
| Graduate education/degree | 1.073 | 0.43 2.67 | 2.152 | 0.91 5.10 | 1.700 | 0.70 4.11 |
| Region (ref=Northeast) | | | | | | |
| Midwest | 0.739 | 0.34 1.61 | 1.153 | 0.53 2.50 | 1.021 | 0.46 2.27 |
| South | 0.914 | 0.43 1.94 | 1.625 | 0.76 3.46 | 1.688 | 0.78 3.66 |
| West | 1.436 | 0.67 3.08 | 1.444 | 0.71 2.95 | 1.708 | 0.83 3.51 |
| Income (ref= \$52300) | | | | | | |
| \$52301–\$102000 | 2.132^a | 1.11 4.08 | 2.371^b | 1.26 4.48 | 2.283^a | 1.20 4.34 |
| >\$102001 | 1.972 | 0.85 4.57 | 3.232^b | 1.53 6.81 | 3.348^b | 1.49 7.51 |
| WIC used during pregnancy | 0.515^a | 0.28 0.96 | 0.904 | 0.50 1.65 | 0.882 | 0.48 1.63 |
| <i>Birth-related Characteristics</i> | | | | | | |
| Mode of delivery (ref=vaginal) Cesarean | 1.092 | 0.60 1.97 | 1.408 | 0.80 2.48 | 1.510 | 0.85 2.68 |

| | Sufficient Break Time | | Private Room | | Break Time+Private Room | |
|--|-----------------------|-----------|--------------------------|------------------|--------------------------|------------------|
| | AOR | 95% CI | AOR | 95% CI | AOR | 95% CI |
| Did not meet breastfeeding intentions in previous births | 0.634 | 0.37 1.08 | 0.537^a | 0.32 0.90 | 0.484^b | 0.29 0.81 |
| Baby was in NICU | 0.897 | 0.42 1.92 | 1.303 | 0.66 2.57 | 0.708 | 0.36 1.39 |
| Low birth weight (<2.49 kg) | 0.540 | 0.21 1.39 | 0.638 | 0.27 1.50 | 0.674 | 0.29 1.59 |

^a $P < .05$.

^b $P < .01$.

Table 4

Breastfeeding outcomes by access to workplace accommodations (N=550)

| Logistic regression odds of breastfeeding at 6 months, bivariate and multivariate | | | | | |
|--|-------------------------------------|---------------|---------------------|--|------------------|
| Bivariate: Breastfeeding at 6 months (base=formula only) | | | | | |
| | Exclusive (breast milk only) | 95% CI | AOR | Any (breast milk & formula) | 95% CI |
| Reasonable break time to express milk | 2.560^b | 1.254 | 5.224 | 1.848 | 0.81 4.20 |
| Private room to express milk | 1.376 | 0.66 | 2.89 | 0.948 | 0.47 1.92 |
| Both break time+private room | 1.347 | 0.66 | 2.75 | 1.042 | 0.51 2.11 |
| Multivariate: Breastfeeding at 6 months (base=formula only) | | | | | |
| | Exclusive (breast milk only) | 95% CI | AOR | Any (breast milk & formula) | 95% CI |
| Reasonable break time to express milk | 2.593^a | 1.00 | 6.71 | 3.004^a | 1.23 7.32 |
| Private room to express milk | 2.669 | 0.43 | 16.48 | 0.555 | 0.12 2.57 |
| Both break time+private room | 2.255^a | 1.03 | 4.95 | 1.946 | 0.88 4.28 |
| Proportional hazard ratios of breastfeeding duration, bivariate and multivariate | | | | | |
| Bivariate: Duration of breastfeeding (base=formula only) | | | | | |
| | Exclusive (breast milk only) | 95% CI | Hazard Ratio | Any (breast milk & formula) | 95% CI |
| Reasonable break time to express milk | 1.420 | 0.965 | 2.09 | 1.253 | 0.928 1.689 |
| Private room to express milk | 1.381 | 0.828 | 2.30 | 1.106 | 0.78 1.57 |
| Both break time+private room | 1.273 | 0.76 | 2.12 | 1.102 | 0.77 1.58 |
| Multivariate: Duration of breastfeeding (base=formula only) | | | | | |

| | Exclusive (breast milk only) | | | Any (breast milk & formula) | | |
|---------------------------------------|------------------------------|-------------|--------------|-----------------------------|--------|------|
| | Hazard Ratio | 95% CI | | Hazard Ratio | 95% CI | |
| Reasonable break time to express milk | 1.098 | 0.72 | 1.67 | 1.232 | 0.88 | 1.72 |
| Private room to express milk | 3.813^b | 1.41 | 10.34 | 0.901 | 0.45 | 1.81 |
| Both break time+private room | 1.490^a | 1.08 | 2.06 | 1.174 | 0.83 | 1.66 |

^a $P < .05$.

^b $P < .01$.

Note: Multivariate models are adjusted for age, race/ethnicity, marital status, education, Census region, income, WIC use during pregnancy, mode delivery, whether breastfeeding intentions in previous births were met, preterm birth (<37 wk), low birth weight (<2.49 kg), and whether the baby was in NICU.