

PHYSICIAN WORK ENVIRONMENT AND WELL-BEING

Barriers to Breastfeeding for US Physicians Who Are Mothers

The benefits of breastfeeding for both women and infants are well established.¹ Despite recommendations from the American Academy of Pediatrics and the World Health Organization, initiating and sustaining lactation remains a challenge for many women.² Although 79% of mothers in the United States initiate breastfeeding, only 27% are still breastfeeding at 12 months postpartum.³

Physicians who are mothers face substantial challenges that may undermine efforts to sustain lactation after they return to work. Elsewhere, we demonstrated that the career satisfaction of physicians who are mothers was negatively affected by the short duration of maternity leave, associated financial losses, and inflexible work schedules.⁴⁻⁶ Given the paucity of data on lacta-

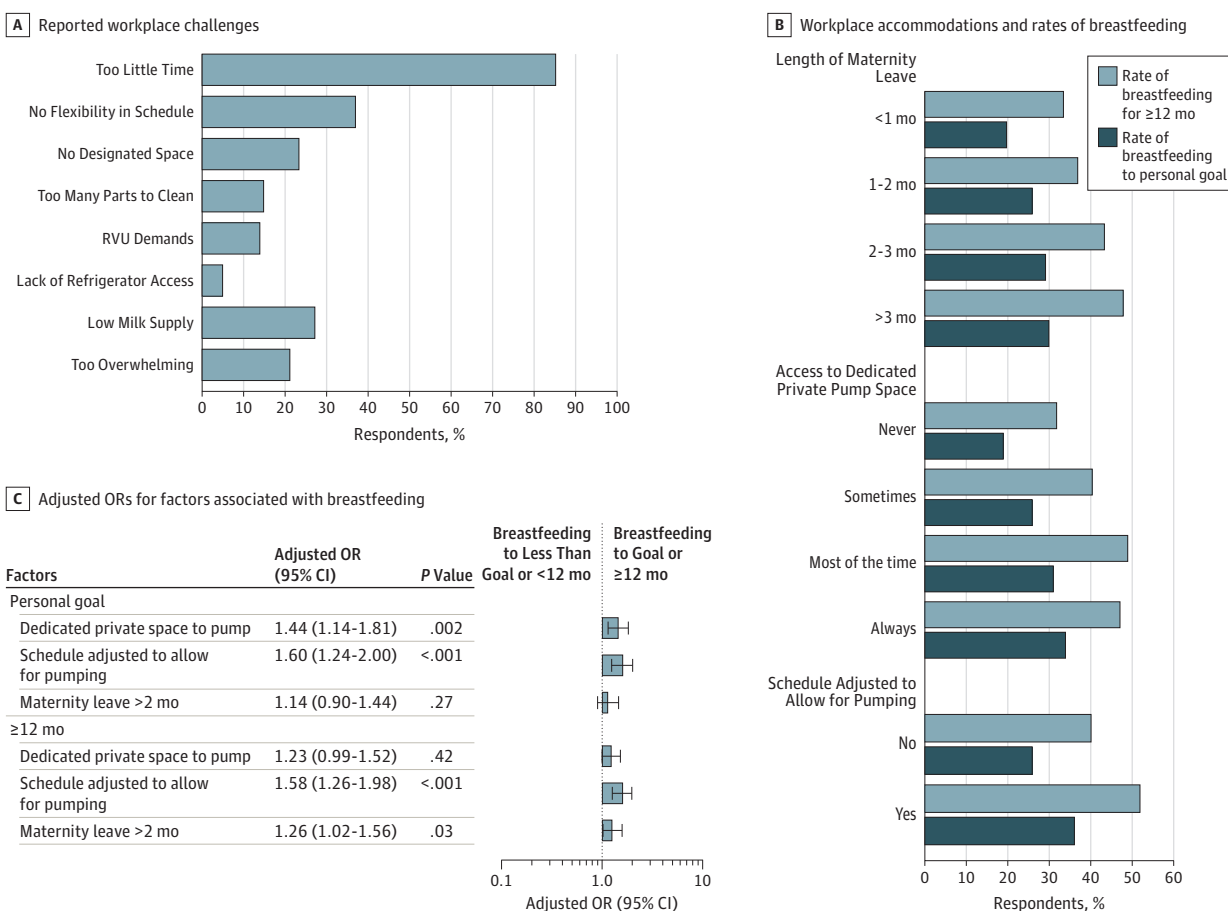
tion practices among physicians who are mothers, the aim of this study was to use a large representative nationwide cohort to evaluate the barriers to breastfeeding for physicians who are mothers.

Methods | Data from physicians who are mothers were gathered via an anonymous online survey on the impact of pregnancy and maternity leave that used social media recruitment (Physician Moms Group), as reported elsewhere.⁴ Of the 14 518 members of the Physician Moms Group at the time of the study, 2363 mothers (16.3%) completed the survey. Women who were currently breastfeeding were excluded. Univariate analysis was performed using χ^2 and Fisher exact tests. A multivariable model was also created to determine predictors of sustained lactation to at least 12 months postpartum and to personal goal. A 2-sided $P < .05$ was used to determine statistical significance. The survey was approved and the need for patient

Table. Demographic Characteristics of 1606 US Physicians Who Are Mothers Who Initiated Breastfeeding

Demographic Category	Breastfed to ≥ 12 mo Postpartum, No. (%) (n = 670 [41.7%])	P Value	Breastfed to Personal Goal, No. (%) (n = 450 [28.0%])	P Value
Age, y				
25-30 (n = 76)	25 (32.9)	.03	18 (23.7)	.07
31-35 (n = 806)	318 (39.5)		209 (25.9)	
36-40 (n = 593)	274 (46.2)		189 (31.9)	
>40 (n = 131)	53 (40.5)		34 (26.0)	
Race				
White (n = 1102)	492 (44.7)	.003	326 (29.6)	.20
Black (n = 65)	26 (40.0)		18 (27.7)	
Hispanic (n = 42)	10 (23.8)		7 (16.7)	
Asian (n = 293)	101 (34.5)		72 (24.6)	
Other (n = 104)	41 (39.4)		27 (26.0)	
Specialty type				
Procedural (n = 446)	166 (37.2)	.02	111 (24.9)	.08
Nonprocedural (n = 1160)	504 (43.5)		339 (29.2)	
Trainee during last pregnancy				
Yes (n = 549)	225 (41.0)	.67	136 (24.8)	.04
No (n = 1057)	445 (42.1)		314 (29.7)	
Current practice type				
Academic (n = 665)	274 (41.2)	.36	176 (26.5)	.18
Community (n = 351)	160 (45.6)		111 (31.6)	
Private (n = 513)	203 (39.6)		145 (28.3)	
Other (n = 72)	30 (41.7)		15 (20.8)	
Duration of time in practice, y				
<4 (n = 983)	435 (44.3)	.01	155 (24.8)	.03
≥ 4 (n = 623)	235 (37.7)		295 (30.0)	
Spouse/partner occupation				
Full-time professional (n = 796)	333 (41.8)	.30	22.4 (28.6)	.38
Physician (n = 442)	183 (41.4)		123 (27.8)	
Surgeon (n = 125)	42 (33.6)		28 (22.4)	
Full-time parent (n = 150)	69 (46.0)		49 (32.7)	
Other (n = 74)	28 (37.8)		18 (24.3)	
No. of children				
1 (n = 636)	233 (38.1)	.02	136 (22.3)	<.001
2 (n = 771)	315 (42.3)		222 (29.8)	
≥ 3 (n = 270)	122 (48.6)		92 (36.7)	

Figure. Workplace Challenges, Accommodations, and Factors Associated With Breastfeeding



A, Reported challenges to establishing a breast pumping routine while at work. B, Workplace accommodations and rates of breastfeeding to at least 12 months postpartum and to personal goal. C, Adjusted odds ratios (ORs) for factors associated with breastfeeding to at least 12 months postpartum and to personal goal. Models included those variables with statistical significance on bivariate

analysis. Personal goal model was adjusted for number of children, trainee status, and time in practice. At least 12 months model was adjusted for age, race, procedural field, time in practice, and number of children. Error bars indicate 95% CI. RVU indicates relative value unit.

informed consent was waived by the institutional review board of Brigham and Women's Hospital.

Results | The survey was completed by 2363 US physicians who were mothers, of whom 2224 (94.1%) initiated breastfeeding and 1606 (68.0%) met inclusion criteria. A complete case analysis was used for missing data. Overall, 670 of the 1606 respondents (41.7%) reported continued lactation to at least 12 months postpartum, and 450 (28.0%) reported that reaching their goal was the primary reason for cessation of breastfeeding (Table). Nearly half (788 [49.1%]) reported that they would have breastfed for longer if their job had been more accommodating. Characteristics associated with breastfeeding to at least 12 months postpartum were older maternal age, non-Hispanic race, non-procedural specialty, longer time in practice, and having additional children. Having additional children and being a trainee were also associated with breastfeeding to personal goal. Respondents reported using a breast pump in their office (1045 respondents [99.2%]), in lactation rooms (207 [19.7%]), in call

rooms (146 [12.8%]), and in their car (143 [13.9%]); 331 respondents (20.6%) used empty patient rooms, bathrooms, locker rooms, or closets.

The most frequently cited challenges to establishing a pumping routine in the workplace included inadequate time (1219 respondents [85.4%]), schedule inflexibility (529 [37.0%]), and insufficient space (332 [23.3%]; Figure, A). Respondents who reported longer maternity leave, dedicated space to pump, and accommodating schedules were more likely to report lactation to at least 12 months postpartum and to personal goal (Figure, B). In adjusted analysis, having a schedule that accommodated pumping was associated with increased odds of breastfeeding to at least 12 months postpartum (odds ratio [OR], 1.58; 95% CI, 1.26-1.98) and for breastfeeding to goal (OR, 1.60; 95% CI, 1.24-2.00). Having a longer maternity leave was associated with breastfeeding to at least 12 months postpartum (OR, 1.26; 95% CI, 1.02-1.56), and having a dedicated private space was associated with pumping to personal goal (OR, 1.44; 95% CI, 1.14-1.81; Figure, C).

Discussion | Our findings suggest that 41.7% of physicians who are mothers who initiate breastfeeding sustain breastfeeding for at least 1 year. Although this finding exceeds the national rate of 27%,³ fewer than one-third of the respondents reported being able to sustain breastfeeding to their personal goal, and nearly half reported that they would have breastfed longer if their job had been more accommodating. Our findings suggest that modifiable, work-related factors—in particular, accommodating schedules to allow for pumping, providing longer maternity leave, and establishing a dedicated private space—may improve the ability of physicians who are mothers to continue lactation after they return to work. These factors should be taken into consideration when designing a workplace that is conducive to breastfeeding.

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Changes in Ability of Hospitals to Provide Pricing for Total Hip Arthroplasty From 2012 to 2016

Over the past decade there has been increasing demand for price transparency in US health care.^{1,2} A 2014 Government

Accountability Office report called on the Centers for Medicare and Medicaid Services to take concrete steps to collect and disseminate pricing information.³ Most US states have legislation requiring hospitals to report price information. A 2012 study identified more than 60 state health care price transparency websites.⁴ Several private businesses sell price transparency products.⁵

Interestingly, it is unclear whether increasing interest in price transparency has translated into tangible improvements in the ability of hospitals to provide price information. We examined whether a group of 122 hospitals we originally surveyed in 2011⁶ had improved in their ability to provide price for a total hip arthroplasty (THA) when resurveyed in 2016.

Methods | Beginning with a list of 122 hospitals performing primary THA initially surveyed in 2011, we resurveyed 120 that remained open and independent.⁶ The original study included 20 top-ranked orthopedic hospitals selected from the 2011-2012 *US News and World Report* hospital rankings and an additional 102 randomly selected non-top-ranked hospitals (2 from each state plus the District of Columbia).

This study was approved by the University Health Network institutional review board. We used the same protocol used in our prior study, with only minor modifications to our interview script.⁶ We phoned each hospital from June to August 2016.

We called each hospital posing as a granddaughter seeking information on the price of a primary hip replacement for her 62-year-old grandmother. We specified that we were looking for the lowest “cash” bundled price, which would include all hospital and physician fees. If the hospital was only able to provide the hospital fee, we asked for the name of an orthopedic surgery practice that we could call for the physician fee. Each hospital was contacted up to 5 times. All prices were categorized as hospital price only, the physician price only, or a combined hospital-physician (or “bundled”) price.

We used bivariate methods to compare the percentage of hospitals able to provide us with a bundled, complete (hospital plus physician by calling separately), partial price (hospital or physician only), and no price in 2012 as compared with 2016. The means in 2012 and 2016 were compared with determine whether reported prices had changed. Using paired *t* test, differences in the maximum and minimum price estimates received in 2012 and 2016 were compared. All analyses were performed using R software (version 3.0.2).^{3,4}

Results | Of the 120 hospitals included in our 2016 survey, we were able to obtain a bundled price from 8 (6.7%), a complete price from 25 (20.8%) by contacting the hospital and physician office separately, a partial price (hospital or physician only) from 34 (28.3%), and no price from 44.2% (Table 1). The percentage of hospitals able to provide a bundled price declined from 15.8% in 2012 to 6.7% in 2016 (odds ratio [OR], 0.2; 95%