Flexible Scheduling Policy for Pregnant and New Parent Residents: A Descriptive Pilot Study

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ABSTRACT

Objectives: Many physicians complete residency training during optimal childbearing years. The literature shows that working nights or on call can lead to pregnancy complications including miscarriage, preterm labor, and preeclampsia. In addition, infant–parent bonding in the postpartum period is crucial for breastfeeding, health, and well-being. No national standards exist for flexible scheduling options for pregnant or new parent residents. Our project objectives are 1) to describe a policy for scheduling pregnant and new parent residents in an emergency medicine (EM) residency and 2) to report pilot outcomes to assess feasibility of implementation, resident satisfaction, and pregnancy outcomes.

Methods: An EM residency task force developed a proposal of scheduling options for pregnant and new parent residents based on best practice recommendations and resident input. The policy included prenatal scheduling options for pregnant residents and postpartum flexible scheduling options for all new resident parents. Resident support for the policy was evaluated via an anonymous survey. It was piloted for 2 months in an EM residency program.

Results: Policy development resulted in 1) an opt-out prenatal pregnancy work hour option policy with no nights or call during the first and third trimesters, 2) a 6-week new parent flexible scheduling policy, and 3) clarified sick call options. A majority of residents approved the new policy. During the 2-month pilot period, four residents (of 73 total) utilized the policy. The chief residents reported no added burden in scheduling. Of the residents who utilized the policy, all reported high satisfaction. There were no reported pregnancy or postpartum complications.

Conclusions: We successfully adopted a new scheduling policy for pregnant residents and new parents in one of the largest EM residency training programs in the country. This policy can serve as a national model for other graduate medical education programs.

Physicians commonly complete their medical training during optimal childbearing years. With women comprising 46% of medical trainees, it is not uncommon for residents to start a family during this time. The rigorous demands of medical school and residency can pose risks during pregnancy and be disruptive during the postpartum period for new parents. Resident physicians work in hospital settings that provide patient care 24 hours a day, necessitating shift work and overnight hours. Research suggests that night shift work is associated with increasing fatigue,
poor sleep hygiene, and negative health effects.7,8 This is compounded for pregnant residents who work night shifts during their first and third trimesters, as studies indicate increased risks of miscarriage, preterm labor, and preeclampsia.5,9-12 In addition, the postpartum period for new parents is crucial for infant–parent bonding, breastfeeding, and mental health.13 No national standards exist for flexible scheduling options for pregnant or new parent residents.

Another challenge for new parents during residency is the ability to take an adequate leave of absence. The American Academy of Pediatrics recommends 12 weeks of paid leave for parents during this critical time.14 However, graduate medical education (GME) programs vary widely in terms of paid family leave. A study of 15 GME programs found that only eight offered paid leave, with an average of 6.6 weeks.15 At our institution, residents are offered 6 weeks of paid leave, with no additional flexibility in their clinical schedule.16 Additionally, many residents truncate this leave to avoid extending total training. Residency programs typically require a minimum of 46 weeks of training each year; therefore, any leave beyond 6 weeks requires an extension of training.17

In light of these challenges, we set out to improve scheduling options for residents who choose to expand their families during residency. The purpose of our study is to describe the development of a flexible scheduling policy for pregnant and postpartum residents and to report pilot outcomes to assess feasibility of implementation, resident satisfaction, and pregnancy outcomes.

METHODS

Policy Development

In the Emergency Medicine Residency Program at Indiana University School of Medicine, a taskforce of stakeholders was convened including chief residents, program directors, and faculty members. The EM residency program comprises 73 residents across three academic hospitals. The task force identified clear gaps in resident scheduling practices for pregnant residents and new parents and set out to draft a new policy based on best practices and input from resident experiences. A focused literature review on best practices and recommendations for resident scheduling during pregnancy and postpartum timeframes was performed. We conducted our literature search through PubMed; our keywords included “parental AND leave,” “pregnancy,” “pregnancy AND scheduling OR leave OR outcomes,” “work hours,” “miscarriage,” and “night shift.” In addition, we reviewed recommendations from the American College of Emergency Physicians (ACEP) and the American College of Obstetricians and Gynecologists (ACOG).9,19

We then queried current and past EM residents in our program and their spouses/partners who recently added children about residency schedule challenges during the return-to-work period. This was performed via an e-mail to residents with two open response questions. First, what challenges did you and your spouse face as a new parent and in returning to work? Second, what scheduling changes could be achieved that would ease this transition? Using the qualitative method of content analysis, or thematic analysis, the written responses were reviewed by two authors and coded by themes.18 Discrepancies were resolved by consensus.

Policy Adoption

After presenting the proposed policy to the EM residents and program directors, we assessed resident support using an anonymous two-question survey instrument distributed via the resident e-mail listserv. The survey asked whether the resident supported 1) the implementation of a preferential scheduling policy in the first and third trimester period for pregnant residents and 2) a preferential scheduling policy in the 6-week postpartum period for new resident parents. Each question required the resident to mark “I support” or “I oppose” followed by an open-ended comment box (see Data Supplement S1, available as supporting information in the online version of this paper, which is available at http://onlinelibrary.wiley.com/doi/10.1002/aet2.10504/full). Because of the nature and simplicity of our survey, it was not piloted prior to distribution. When we formulated our policy, we informed residents that night shifts would be distributed equally if the policy was adopted. This meant any resident in the department may be scheduled for one additional night shift during a 3-month period. This information was presented prior to survey distribution and collection. To provide residents a safe space to express their attitudes on the potential increased burden of nights for nonpregnant, nonparent residents, we administered the survey anonymously. The policy was then presented to the program directors for final approval.
Survey data were managed and analyzed using Google Sheets (Google Software, Mountain View, CA) and responses were reported as percentages. The study protocol was reviewed by the Indiana University Human Subjects Office and deemed a quality improvement project, therefore not requiring full institutional review board review.

**Policy Pilot Implementation**

After approval, a 2-month pilot period was implemented in which four residents, three male residents and one pregnant female resident, were scheduled utilizing our new policy. In addition to resident responses, we determined successful implementation by continued adherence to previous scheduling guidelines. Our program scheduling standard are as follows: all residents in the emergency department (ED) must have one weekend free of clinical duties, all resident schedules must follow a circadian scheduling pattern, no resident may work more than 6 consecutive days in a row, all residents must have at least 8 hours away from the department between shifts, and every resident is allotted 2 days off per block where they may request to be free of clinical duties. One author was a scheduling chief and verified that these criteria were met for every resident.

**RESULTS**

**Policy Development**

Using evidence, best practices, and insights from resident parents, we drafted a policy. For the pregnancy scheduling portion of the policy, we incorporated compelling evidence that shows an association between night shift and 24-hour call with first trimester miscarriage and third trimester preterm labor, preeclampsia, and restricted intrauterine growth. We modeled our policy closely from findings and recommendations from ACOG and ACEP. According to ACOG, “working fixed night shifts was associated with an increased odds ratio of preterm delivery” and “pregnant women who work rotating shifts, fixed night shifts, or longer hours have an increased risk of adverse pregnancy outcomes.” In a recent 2019 publication, ACEP recommended “first-trimester pregnant physicians. . . and third-trimester pregnant physicians have the option to opt out of night shifts.” For the new parents scheduling portion, we incorporated features from a return-to-work policy developed at Stanford. From July 2016 to July 2019, we identified 18 births among EM residents in our program. There were 17 new resident parents, and one resident parent who added two children to her family during residency. Based on our analysis of these residents’ experiences, as reported in the two-question e-mail query, the themes that emerged fell into the following categories: working multiple days in a row, working night shifts, challenges with transition times for pumping and breastfeeding, challenges to spouses as residents returning to full time work, and additional pressure on the nonresident partner. As an example, one resident mom stated, “overnights when the baby is that young are almost impossible. They're still eating frequently [and] breastfeeding is very hard on dad.” Another resident mom wrote, “Consider reducing nights during third trimester due to the risk of preterm labor.” A resident dad reported, “Avoid extended (6-day) stretches as this wears on the parent . . . maybe 2- to 3-day stretches, because you are not vacationing or off with a newborn . . . you are in survival mode.”

For female residents and partners of male residents, the findings revealed that an increased number of consecutive shifts in a row, particularly night shifts, increased caregiver strain, negatively impacted breastfeeding, and disrupted both infant and parental sleep patterns. All residents and partners identified consecutive night shifts as difficult in the postpartum period for reasons related to the infant’s sleep, breastfeeding, and sleeping during the day with a newborn at home. With regard to sick call, it appeared that many male residents were unaware of the option to use sick call surrounding childbirth. As a result, many returned to work as soon as the day after birth. Of note, these male residents did not opt to use FMLA or vacation time around the birth of their child. In the development of our policy, we incorporated these thematic categories by addressing number of shifts in a row, number of consecutive night shifts, and availability of sick call.

**Description of Resident Scheduling Policy**

The scheduling policy consists of three sections: 1) The pregnant resident scheduling option is an opt-out, no nights or call policy during the first and third trimesters. For first trimester accommodations, since the schedule would already be made, if residents choose to disclose their pregnancy to the chief residents and use this option, it would be kept confidential. The chief resident scheduler would work to arrange shift
trades and remove the resident from her night shifts. Additionally, if the resident were on a clinical block with 28-hour call obligations, the block would be changed. For third trimester scheduling, pregnant residents would be scheduled in advance for no night shifts. The number of nights during an ED block averages two to four shifts each month. The first step would be to seek volunteers to work extra nights, then distribute among the approximately 37 other residents in the ED for the block. Number of night shifts is tracked annually, and distribution of extra shifts would be done equitably. Regarding 28-hour call, residents would be switched out of these blocks during their third trimester and rescheduled. This switch would be accomplished with a 1:1 EM resident switch to provide the same resident coverage and avoid disruption of off-service scheduling. 2) The postpartum new parent scheduling option offers 6 weeks of flexible scheduling, which would be accommodated ahead of time. It provides preferential scheduling for any birth or nonbirth parent or partner regardless of gender in the 6 weeks postpartum or postadoption when returning to work. 3) Sick call clarification was added to explicitly include miscarriage and sick childcare to our residency practices (Table 1).

Policy Adoption
Of the 73 EM residents (28 women, 45 men) who received the anonymous survey of the proposed scheduling policy, 58 responded (79% response rate). The majority (86%, n = 50/58) supported the pregnancy portion of the policy. An even larger majority (91%, n = 53/58) supported the postpartum portion to extend flexible scheduling to all new parents. After such broad support from the residents, the program directors officially approved the policy adoption.

Policy Pilot Implementation
At the time we adopted this policy, there were four qualifying residents (4/73; 5.5%). One resident was pregnant in her third trimester and three were expecting fathers. None of these residents opted out of the policy.

The pregnant resident had six remaining night shifts during her pregnancy. Eliminating nights for her was similar to what we anticipated first trimester accommodations would be like, as the schedule was already made. However, we were able to request volunteers openly as her pregnancy was not confidential at that point. More residents than needed volunteered to cover her shifts, and one resident volunteered to take all six of her shifts. She worked no more night shifts and went on to have an uncomplicated full-term pregnancy.

Of the three expectant fathers, all were scheduled under our flexible scheduling paradigm by the end of the 2019 academic year. Implementation has had no noticeable effect on other resident schedules. One author was a scheduling chief and verified that all schedules stayed within our program standards as stated in the methods section. Each of the four new parents has expressed satisfaction with their scheduling.

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<td>Resident Flexible Scheduling Policy for Pregnancy and New Parents</td>
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1. **Pregnant resident scheduling options.**
   - Pregnant residents will not be scheduled for nights or clinical rotations requiring 28-hour call during the first 13 weeks of pregnancy (first trimester) and from weeks 27 and beyond (third trimester), unless they would prefer this schedule.
   - If a resident is already scheduled for a clinical block rotation that requires “call” during their first or third trimester, the chief residents will work to rearrange the block schedule to resolve this.

2. **Postpartum new parent scheduling options.**
   - All new parents may designate 6 weeks within the first 12 weeks after delivery or adoption for flexible scheduling. The chief residents will attempt to accommodate all reasonable requests.
     a. Examples of reasonable requests: shorter strings of shifts (i.e., 2–3 consecutive days), splitting up night shifts (i.e., no more than 1–2 nights in a row), no shifts on a certain weekday (i.e., request Tues off for a doctor’s appointment).
     b. Examples of unreasonable requests: no weekends, no evenings, no holidays. Residents will typically be scheduled for night shifts, and accommodations will be considered on a case-by-case basis.
   - Requests for flexible scheduling should be made before the schedule request deadline for the designated block. Any late requests will be accommodated on a case-by-case basis.

3. **Sick call clarifications.**
   - Miscarriage remains a valid reason to activate sick call, and as always, residents do not need to disclose the reason why they are activating sick call if they do not feel comfortable doing so.
   - Activating sick call for the birth of a child and surrounding events will not be considered an inappropriate activation and should be paid back 1:1. Chief residents will help arrange shift trades as necessary to help during the immediate postpartum period.
under the new policy and would recommend it to other residents. The overwhelming support of our policy, indicated by survey results, suggests that one additional night was an acceptable number for most residents in our program.

DISCUSSION

Reality of Flexible Scheduling
We successfully developed and piloted a flexible scheduling policy for residents who are pregnant or new parents. The goal of offering scheduling options to create a supportive, healthier work–life environment for residents is a reality. Our policy aims to mitigate pregnancy complications and supports infant bonding, breastfeeding, and well-being. While this policy does not replace our program’s absence of a 12-weeks’ paid parental leave, it does supplement our 6-weeks’ paid parental leave with an additional 6 weeks of schedule flexibility and sick call clarity.

Our policy has been met with resounding support from the majority of our residents, both men and women. Its implementation, although limited to four residents so far, is feasible in our large residency program, proving minimal impact on the schedules of other residents.

Work–Life Choices and Career Satisfaction of Women
The literature suggests longer-term benefits of GME policies that support work–life choices for female physicians earlier in their career. A 2018 study showed that 64% of practicing female physicians chose to defer important life decisions, such as getting married (22%) or having children (86%), to pursue their medical career.20 Interestingly, women who chose not to defer marriage and/or having children were significantly more satisfied with their career than those who deferred (85% vs. 71%).21 Therefore, residency policies that support the pipeline of female residents may improve ongoing career satisfaction.

Prior work by Clem et al.22 confirms that the career satisfaction of female EM physicians is associated with schedule flexibility and having supportive colleagues, specifically when “emergency medicine colleagues support my efforts to balance personal and work responsibilities.” Additionally, Rizvi et al.23 showed that women cite sufficient time with family as an important factor in career satisfaction.

Policy to Support Nonbirth Parents
Our policy also recognizes the pressures and expectations that new parenthood places on fathers, partners, and nonbirth parents, such as adoptive parents or parents who vary in gender identity or identify in a non-traditional role. A study of GME family leave policies found that less than half (seven of 15) offered paid family leave for new fathers or partners (average 3.9 weeks).12 A larger study in 2019 included 59 medical schools and found that 42% (25/59) offered residents paid parental leave (average 5.1 weeks).24 Since no national standards exist in GME for parental leave options for residents, our policy addresses a need by providing the option of flexible scheduling when any nonbirth parents returns to work.25

Gender Implications for Wellness and Retention
The recruitment and retention of talented residents, and specifically women in the workforce, is vital to the success and longevity of residency programs. Residency positions are limited, competitive, and costly. The loss of even one resident puts increased burden on the program and remaining residents, affecting morale and increasing workload. Recognizing the work–life challenges faced during the transition to parenthood is paramount and developing supportive work–life policies could influence the recruitment and retention of top talent.

As the number of female trainees continues to increase, the difference in resident attrition rates between genders should be noted. Lu et al.26 reported the average resident attrition rate from 2006 to 2016 was 1.8% per year. For EM, this rate was 0.8%, meaning 52 residents left each year. The study noted gender differences. Women were more likely to leave residency than men, and women more commonly cited “health/family reasons” for leaving (21.5% women vs. 9.6% men). The additional demands of pregnancy and childbirth add to these challenges. A prior study from Guille et al.27 found that during their internship, residents experienced increased rates of depression and work–family conflict, both of which were significantly higher for women (p = 0.01). In addition, Stack et al.28 found that 50% of female residents who birthed children during residency experienced symptoms of burnout, regardless of their length of maternity leave, suggesting that more needs to be done to support female residents. Our hope is that our policy helps mitigate some of the factors that contribute to female residents experiencing more pressures
outside of work from health and family responsibilities that negatively impact wellness and retention.

Younger generations of physicians have embraced and promoted the idea that work–life wellness should not be penalized but rather supported by leadership. They challenge the way work has been done, bring the expectation of flexibility, and offer new and creative solutions to the “how” and “where” work is done.\textsuperscript{29} Mohr et al.\textsuperscript{29} offers recommendations to academic EM leaders on ways to support generational expectations within departments and programs including strengthening recruitment and retention strategies (e.g., “policy changes related to work–life balance”) and flexible work scheduling to “achieve balance between career and family.”

**LIMITATIONS AND FUTURE DIRECTIONS**

Our study has several limitations. First, our residency is larger than most EM programs in the country; therefore, implementation and scheduling changes may be more easily achieved in our program due to its large size. Programs with fewer residents may experience more difficulty implementing preferred scheduling and co-residents may bear a greater burden in regard to night shifts and schedule changes. Second, our implementation outcomes are based on a small number of residents who actually utilized the policy and may change as the overall number and frequency of use increases.

Another timely consideration is the impact of COVID-19 on EM residency training and scheduling. Dr. Jill Baren, President of the American Board of Emergency Medicine, announced a temporary policy change for board eligibility in an open letter to EM residents.\textsuperscript{30}

As we move forward, we plan to longitudinally implement this policy in our EM residency, while tracking feasibility, pregnancy outcomes, postpartum health, and new parent experiences as more residents utilize the policy. In addition, we will offer our policy to all non-EM residents rotating in the ED to provide the same benefits. The residents on our EM task force have presented this policy at our institution’s GME forum, and a GME taskforce was formed to expand and create similar policies in other residency programs.

While our policy does not address parental leave, the importance of adequate, paid parental leave policies for residents cannot be overstated. As no national GME standards exist, we are tasked with creating best practices. Initiating similar scheduling policies among all EM residencies is a first step in trying to improve wellness, reduce the perceived burdens associated with childbearing during residency, and reduce health risks to pregnant EM residents. As prior studies have indicated, longer paid maternity leaves are positively associated with increased breastfeeding duration and exclusivity.\textsuperscript{31–34} Future research of similar scheduling policies coupled with parental leave is needed.

**CONCLUSION**

Our study describes the successful development, adoption, and pilot implementation of a new scheduling policy for pregnant residents and new parents in one of the largest EM residency training programs in the country. Resident support was broad and policy utilization was positive, with minimal effect on co-resident scheduling. Our scheduling policy can serve as a best practice model for graduate medical education programs who wish to support residents who choose to expand their families during residency by offering flexible work–life options that promote wellness.

**References**


Supporting Information

The following supporting information is available in the online version of this paper available at http://onlinelibrary.wiley.com/doi/10.1002/aet2.10504/full

Data Supplemental S1. Supportive parenting proposal.