

## **Postpartum contraception counseling and uptake in an uninsured population**

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### **Abstract**

**Objective:** Assess postpartum contraceptive preferences and use before and after implementation of interventions to improve contraceptive counseling at a free clinic for uninsured pregnant patients.

**Methods:** This was a pre- and post-intervention observational study in Iowa City, Iowa, that included patients from February 2019 – December 2021. Multilingual educational charts and an electronic medical record (EMR) template reminder to prompt antenatal contraceptive discussion were implemented in April 2021.

**Results:** There were 117 pre-intervention patients and 33 post-intervention. Prior to the intervention, 30% of patients had no documentation of contraceptive counseling; afterward, 3% had no documentation ( $p=.001$ ). Thirty-three percent of patients obtained highly or moderately effective contraception prior to the interventions and 52% did after ( $p=.068$ ).

**Conclusions:** Multi-lingual educational handouts and an EMR template reminder were

associated with increased postpartum contraceptive counseling; contraceptive use also generally increased with the interventions. Increasing access to contraceptive education may increase contraceptive autonomy in underserved populations.

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### *Abbreviations used:*

EMR – Electronic Medical Record

FMC – Iowa City Free Medical Clinic

ACOG – American College of Obstetricians and Gynecologists

UIHC – University of Iowa Hospitals and Clinics

IUD – Intrauterine Device

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## **Background**

Postpartum contraceptive use has been associated with reduced unintended pregnancies and fewer short interpregnancy intervals.<sup>1-3</sup> The American College of Obstetricians and Gynecologists (ACOG) recommends avoiding interpregnancy intervals shorter than 6 months and discussion regarding the risks and benefits of repeat pregnancy sooner than 18 months. ACOG also recommends discussions regarding reproductive life plans and postpartum contraception begin in the prenatal period, and studies have found that patients perceive the best timing of contraceptive education to be during both the antepartum and postpartum periods.<sup>4,5</sup> Access to a variety of contraceptive methods, and to education over such methods, becomes vitally important in ensuring patients have the autonomy to choose if and when they would like to become pregnant again.

Nevertheless, many patients face obstacles in accessing and using contraception in the postpartum period, including the inability to afford their preferred type, limited same-day availability, and inaccurate counseling or understanding.<sup>6,7</sup> Most private and public insurance policies cover all costs associated with postpartum care and contraception for at least 60 days postpartum. However, many temporary and undocumented immigrants are neither eligible for coverage by Medicaid nor eligible to purchase health insurance through state marketplaces. This makes accessing postpartum care exceptionally difficult for immigrant individuals and therefore they are at

higher risk for experiencing poorer reproductive health outcomes.<sup>8-10</sup> To be eligible for Medicaid, immigrants must have a “qualified” immigration status for five years before enrolling.<sup>11</sup> The “qualified” status includes Lawful Permanent Residents (“Green Card” holders), refugees, asylees, victims of trafficking, and Cuban and Haitian entrants.<sup>12</sup> Twenty-five states have eliminated this five-year wait period for pregnant patients who have the qualified status and many other states have passed legislation to use state funds to provide prenatal and postpartum care to all pregnant individuals regardless of their immigration status.

In 2018, there were 175,137 immigrants (foreign-born individuals) living in the state of Iowa with 80,326 of them being women, and by the latest estimates in 2017, there were 50,000 “undocumented” or “unauthorized” immigrants living in Iowa.<sup>13</sup> The state of Iowa has not allowed for exceptions to the Medicaid rules such as those described above, thus those who have immigrated within the last five years and those who are not lawful permanent residents are ineligible for Medicaid or other public insurances. The pregnant individuals who fall into this coverage gap may receive two months of Medicaid coverage through “Presumptive Eligibility,” which grants Medicaid benefits to applicants while a formal Medicaid eligibility determination is being made.<sup>14</sup> Once it is determined that the individual does not qualify for Medicaid coverage, they are eligible only for coverage of delivery services at the hospital by Emergency Limited Medicaid. Emergency Limited Medicaid does not cover any form of

contraception or postpartum care.

In order to provide care for patients who fall into this coverage gap, physicians from the University of Iowa Hospital and Clinics (UIHC) host a weekly clinic at the Iowa City Free Medical Clinic (FMC) for uninsured pregnant and recently delivered patients. Since its inception in late 2017, this clinic has served approximately 80 pregnant patients per year, providing the necessary prenatal screenings, counseling, and postpartum care. No one had previously assessed postpartum contraceptive preferences and use in this population, and it was noted that several patients returned with short interval pregnancies, thus a review of contraceptive counseling practices and contraceptive use was warranted. This study aimed to determine the most common postpartum contraceptive methods preferred by FMC patients, and quantify the rate of postpartum contraceptive use, before and after the implementation of simple, low-cost interventions to improve contraceptive counseling in an uninsured pregnant population.

## **Methods**

This was a pre- and post-intervention observational study of patients who received prenatal care at the FMC and delivered at UIHC. The prenatal clinic is run by faculty and resident physicians from the Departments of Family Medicine and Obstetrics and Gynecology. Patients are eligible to receive prenatal and postpartum care at the FMC if they are uninsured and do not qualify for Medicaid or other types of health insurance, most commonly due to immigration status. Patients are

counseled on obtaining Presumptive Eligibility for Medicaid starting around 18-22 weeks-gestation, allowing them access to eight weeks of care at University clinics and coverage for second trimester screenings and anatomy ultrasound. After their Presumptive Eligibility expires, they return to care at the FMC until delivery and for postpartum visits. The contraceptive options available at the FMC include a hormonal intrauterine device (IUD), free of cost to all patients via grant funding, or a prescription for contraceptive pills. IUDs cannot be placed on the same day they are requested at the FMC due to equipment and staff availability, so patients must return for a separate appointment if IUD is desired. If patients prefer another type of contraception, they are referred to the county public health office's reproductive health clinic, which provides most types of contraception for an income-based fee, or to Planned Parenthood. Patients are counseled on available contraceptive options by the physicians providing care at the FMC. Documentation of these visits is done via a standardized note template in the electronic medical record (EMR) that is used by all the physicians in the group providing care.

Weekly prenatal and postpartum appointment lists were used to identify patients to include in this study. Patients were included in the pre-intervention group if they had at least one prenatal visit at the FMC and delivered at the University hospital between February 2019 and February 2021. While the time period of the study did enter into the COVID-19 pandemic period, care at the FMC was continued as usual throughout

the entire study period without pandemic-related restrictions.

In April 2021 educational contraceptive handouts were made available in clinic in six different languages (Arabic, Chinese, English, French, Spanish, and Swahili) for physicians to use when counseling patients on postpartum contraception. The open-access educational handout was printed from the Family Planning New South Wales Australia website (<https://www.fpnsw.org.au/health-information/individuals/non-english-speaking/fact-sheets-community-languages>) and the contact information for the FMC and the local public health office's reproductive clinic was attached, along with the specific contraceptive options available at each clinic. Color laminated copies were available for physicians to use when counseling in the clinic and unlaminated, black and white copies were available for patients to take home with them, if desired. The standardized EMR note template that all physicians use was updated to include the phrase "must discuss at 32 weeks-gestation" at the section for postpartum contraceptive plans.

Patients were included in the post-intervention group if they had at least one prenatal visit at the FMC and delivered at the University hospital between April 2021 and December 2021. If a patient received care for more than one pregnancy during either the pre- or post-intervention time periods, the most recent prenatal and postpartum course was included in the study. For both groups patients were excluded if they were lost to follow up or transferred care before delivery,

delivered at a hospital other than the University hospital, or became eligible and enrolled in private or public insurance at some point during their pregnancy. All clinical and demographic data were obtained from the EMR. Data were collected and entered into a Research Electric Data Capture (REDCap) database. Institutional Review Board approval was obtained and waived the need for informed consent (IRB # 202102037).

The primary outcomes of the study were planned type of postpartum contraception and type of contraception obtained in the postpartum period. Demographic information, obstetric history, prenatal complications, obstetric complications, and type of delivery were recorded to provide context for generalizability of the study results. Obstetric history included parity, history of prenatal or obstetric complications, and interpregnancy interval timing. Categorical variables were summarized using counts and percentage while continuous variables were summarized using medians and inter-quartile ranges. Wilcoxon rank sum, Fisher's exact, and Pearson's Chi-squared tests were used to calculate p-values and assess differences between the pre- and post-intervention groups. A significance threshold of 0.05 was employed throughout the manuscript. R version 4.1.3 was used for all analyses.

## **Results**

### *Sample Characteristics*

The study included 150 total patients who met the inclusion criteria – 117 in the pre-intervention period and 33 in the

post-intervention period. Table 1 presents the demographic characteristics of the population. Overall, the population was a majority Spanish-speaking (51%). One-hundred and twenty-one, or 81%, of patients required interpretation services for medical appointments. Most patients reported being of Hispanic/Latino race (53%), followed by Black/African/African

American (37%). The median age was 30 years old (interquartile range, IQR, 26–34) and the median body mass index was 31.7 kg/m<sup>2</sup> (IQR 28.4 – 35.2 kg/m<sup>2</sup>). Seventy-one percent of the sample were married or partnered. Median parity was 3. The overall cesarean delivery rate was 37% and the unplanned cesarean rate was 24%.

**Table 1. Description of study population**

Characteristic	Overall N=150 Median (IQR); n (%)	Pre-intervention N=117 Median (IQR); n (%)	Post-intervention N=33 Median (IQR); n (%)	p-value <sup>1</sup>
Age at delivery	30 y (26, 34)	30 y (26, 33)	32 y (28, 35)	0.077
BMI (at admission) (Missing)	31.7 (28.4, 35.2) 1	31.5 (28.1, 35.2) 1	32.1 (29.6, 34.9) 0	0.5
Parity (after delivery)	3 (2, 3)	2.00 (2, 3)	3.00 (2, 4)	0.13
Race				0.4
Hispanic/Latino	80 (53%)	64 (55%)	16 (49%)	
Black or African American	56 (37%)	42 (36%)	14 (42%)	
Asian	4 (2.7%)	4 (3.4%)	0 (0%)	
Multiracial/two or more races	3 (2.0%)	2 (1.7%)	1 (3.0%)	
White	1 (0.7%)	0 (0%)	1 (3.0%)	
Unknown/Not reported	6 (4.0%)	5 (4.3%)	1 (3.0%)	
Preferred language				0.7
Spanish	77 (51%)	63 (54%)	14 (42%)	
Arabic	28 (19%)	20 (17%)	8 (24%)	
French	24 (16%)	17 (15%)	7 (21%)	
English	10 (6.7%)	7 (6.0%)	3 (9.1%)	
Lingala	5 (3.3%)	4 (3.4%)	1 (3.0%)	
Mandarin	2 (1.3%)	2 (1.7%)	0 (0%)	
Swahili	2 (1.3%)	2 (1.7%)	0 (0%)	
Portuguese	1 (0.7%)	1 (0.9%)	0 (0%)	
Bengali	1 (0.7%)	1 (0.9%)	0 (0%)	
Patients needing interpretation services	121 (81%)	96 (82%)	25 (76%)	0.4
Relationship status				>0.9
Married	97 (65%)	75 (64%)	22 (67%)	
Single	37 (25%)	29 (25%)	8 (24%)	
Life-Partner	9 (6.0%)	7 (6.0%)	2 (6.1%)	
Separated	3 (2.0%)	3 (2.6%)	0 (0%)	
Unknown/Not reported	4 (2.7%)	3 (2.6%)	1 (3.0%)	

<sup>1</sup>Wilcoxon rank sum test; Fisher's exact test; Pearson's Chi-squared test

Prenatal Preferences

Table 2 presents type of contraception

desired as noted in the prenatal period for the total population and separated by pre- and post-intervention.

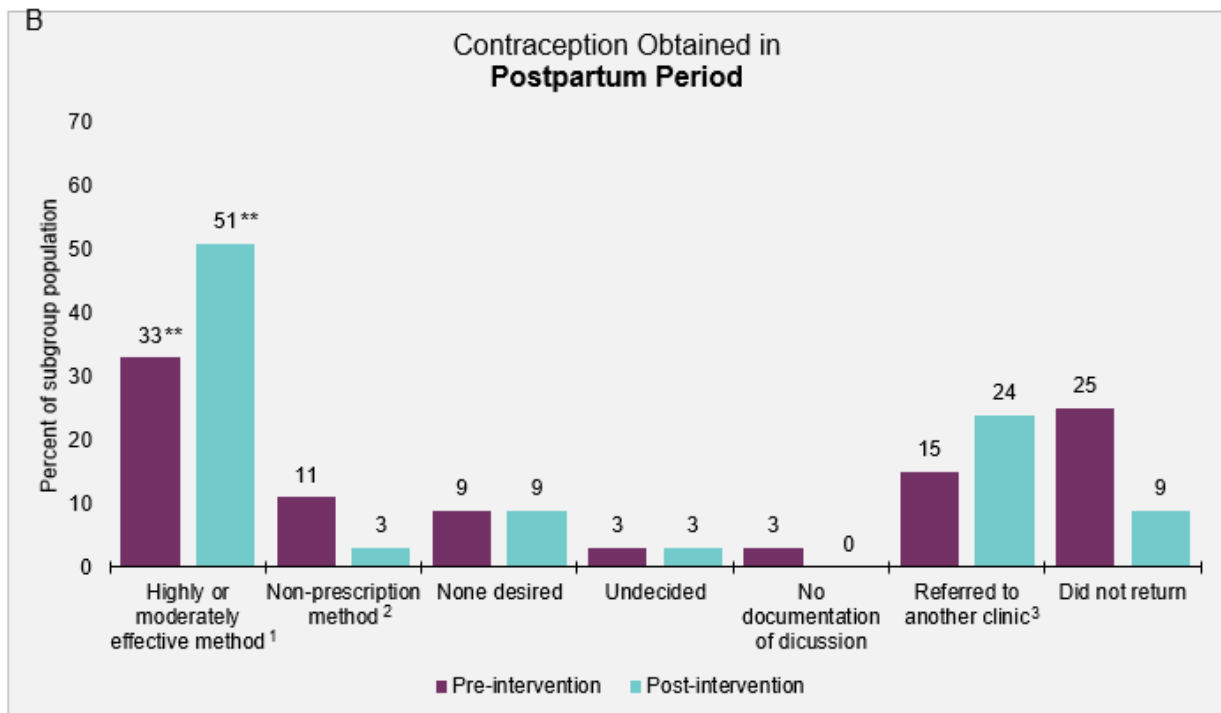
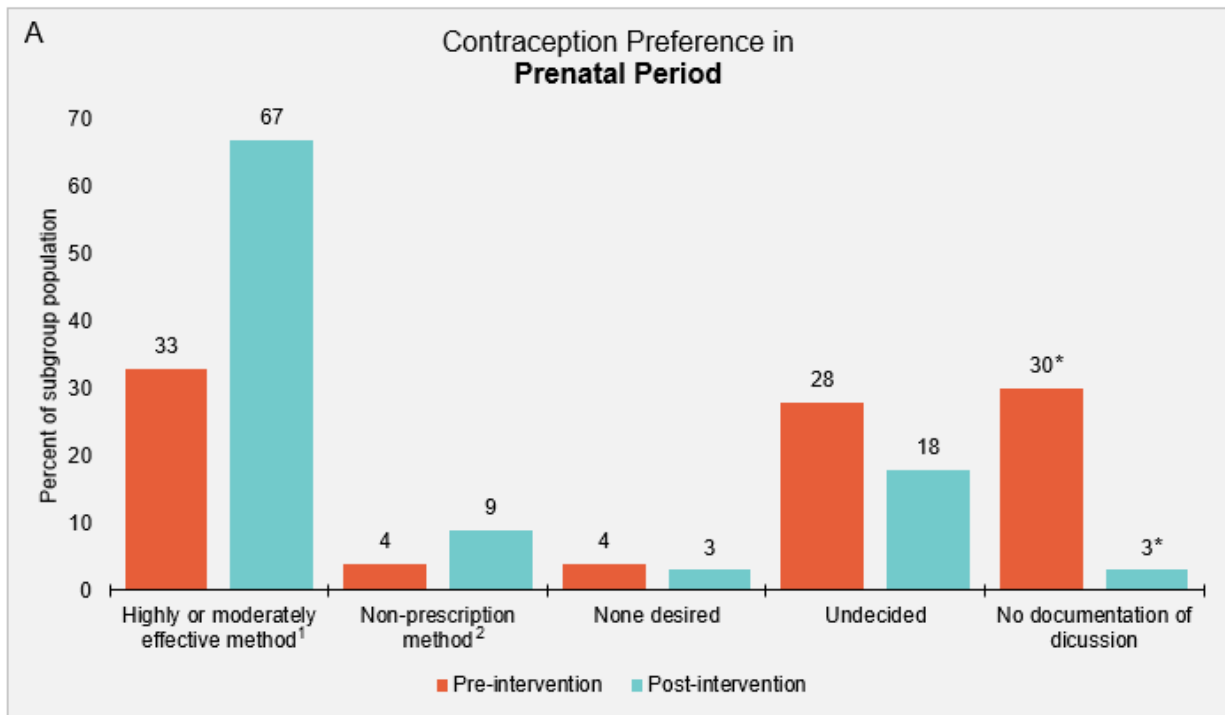
**Table 2. Preferred Contraception type as noted in prenatal period**

Contraceptive Method	Overall N=150 n (%)	Pre-intervention N=117 n (%)	Post-intervention N=33 n (%)
Tubal ligation	6 (4.0%)	5 (4.3%)	1 (3.0%)
IUD	22 (15%)	14 (12%)	8 (24%)
Nexplanon	14 (9.3%)	9 (7.7%)	5 (15%)
Depot medroxyprogesterone	3 (2.0%)	2 (1.7%)	1 (3.0%)
Combined oral contraceptive pill	7 (4.7%)	5 (4.3%)	2 (6.0%)
Progestin only pill	9 (6.0%)	4 (3.4%)	5 (15%)
Condoms	7 (4.7%)	5 (4.3%)	2 (6.0%)
Natural Family Planning	1 (0.7%)	0 (0%)	1 (3.0%)
None desired	6 (4.0%)	5 (4.3%)	1 (3.0%)
Undecided	39 (26%)	33 (28%)	6 (18%)
No documentation of discussion or preference	36 (24%)	35 (30%)	1 (3.0%)*

\**p*=0.001 for “No documentation of discussion or preference” vs all other categories in the pre-intervention vs post-intervention phases

Prior to the implementation of the educational handouts and EMR template reminder, 39 (33%) of patients planned on receiving a highly or moderately effective method of contraception (including tubal ligation, IUD, Nexplanon, depo medroxyprogesterone, or contraceptive pills). 35 (30%) had no documentation of discussing postpartum contraception or birth spacing. After the initiation of the interventions, 22 of the 33 patients (67%) planned on receiving a highly or moderately effective method of

contraception, only 1 (3%) patient had no documentation of discussing postpartum contraception or birth spacing. The pre-intervention patients were much more likely than the post-intervention patients to have “No documentation of discussion or preference” noted in regard to their preferred type of postpartum contraception than the pre-intervention patients (*p*=.001). Figure 1 illustrates the comparisons of pre- and post-intervention preferences and contraception obtained.



**Figure 1. Postpartum contraception method planned in the prenatal period (A) and method obtained (B) pre- and post-intervention.**

\*p=0.001 when comparing “No documentation of discussion” pre- and post-intervention. \*\*p=0.068 when comparing “Highly or moderately effective method” pre- and post-intervention.

<sup>1</sup>Highly or moderately effective methods include tubal ligation, IUD, Nexplanon, depo medroxyprogesterone, or contraceptive pills.

<sup>2</sup>Non-prescription methods include condoms or natural family planning.

<sup>3</sup>Patients desiring any form of contraception except a hormonal IUD or contraceptive pills (which are the only types available for free at the Free Medical Clinic) were referred to the County Public Health Clinic for their desired type with fees based on income.

**Table 3. Contraception type obtained by 12 weeks postpartum**

Contraceptive Method	Overall N=150 n (%)	Pre-intervention N=117 n (%)	Post-intervention N=33 n (%)
<b>Tubal ligation</b>	1 (0.7%)	1 (0.9%)	0 (0%)
<b>IUD</b>	23 (15%)	15 (13%)	8 (24%)
<b>Nexplanon</b>	2 (1.3%)	2 (1.7%)	0 (0%)
<b>Depot medroxyprogesterone</b>	6 (4.0%)	5 (4.3%)	1 (3.0%)
<b>Combined oral contraceptive pill</b>	4 (2.7%)	3 (2.7%)	1 (3.0%)
<b>Progestin only pill</b>	20 (13%)	13 (11%)	7 (21%)
<b>Referred to another clinic</b>	26 (17%)	18 (15%)	8 (24%)
<i>Contraceptive patch</i>	1 (0.7%)	1 (0.9%)	0 (0%)
<i>Depot</i>	4 (2.7%)	2 (1.7%)	2 (6.1%)
<i>Implant (Nexplanon)</i>	21 (14%)	15 (13%)	6 (18%)
<b>Condoms</b>	13 (8.7%)	12 (10%)	1 (3.0%)
<b>Natural Family Planning</b>	1 (0.7%)	1 (0.9%)	0 (0%)
<b>None desired</b>	14 (9.3%)	11 (9.4%)	3 (9.1%)
<b>Undecided</b>	4 (2.7%)	3 (2.7%)	1 (3.0%)
<b>No documentation of discussion or preference</b>	4 (2.7%)	4 (3.4%)	0 (0%)
<b>Did not return</b>	32 (21%)	29 (25%)	3 (9.1%)
<i>For any pp visits</i>	24 (16%)	21 (18%)	3 (9.1%)
<i>For insertion</i>	8 (5.3%)	8 (6.8%)	0 (0%)

Postpartum Contraception Obtained

obtained by 12 weeks postpartum for the total population, separated by pre-

Table 3 presents type of contraception



and post- intervention. Among the pre-intervention group, by 12 weeks postpartum only 39 patients (33%) had received a highly or moderately effective method of contraception. 29 (25%) had planned to get an IUD but did not return for the insertion visit or had not returned for any postpartum visit and therefore did not receive any contraception. After the implementation of the interventions, 17 of the 33 patients (51%) had received a highly or moderately effective method of contraception by 12 weeks postpartum. Among this group there were no patients who did not have documentation of contraception or discussion of birth spacing and 1 patient was undecided if she desired contraception or which type. When comparing before and after the interventions for the “Highly or Moderately Effective Method” group to all of the other categories of obtained type of postpartum contraception, post-intervention patients were more likely to receive a “Highly or Moderately Effective Method”, although the effect was only marginally significant (OR 2.11,  $p=.068$ ). Additionally, the overall no-show rate for postpartum visits decreased in the post-intervention period, with 25% of patients not returning for their postpartum visit or IUD procedure in the pre-intervention period, but only 9.1% failing to come for their visit after the intervention ( $p=.0569$ ).

#### *Prenatal Care and Complications*

The most common prenatal complication was anemia with 66 patients (44%) being diagnosed with anemia at some point of their pregnancy. Gestational diabetes mellitus was the second most common

complication with 26 patients (17%) being diagnosed with it. Within the total population of 150, 61 (41%) were planned pregnancies, 71 (47%) were unplanned, and 18 (12%) did not have documentation regarding whether the pregnancy was planned.

#### *Short Interval Pregnancies*

Among the 124 multiparous patients in the cohort, 51 (41%) either had a short interpregnancy interval for the pregnancy included in this study or had a history of a short interval in a previous pregnancy (defined as a conception within 18 months of delivery). Twenty-four patients were pregnant twice over the 35-month study period (February 2019 through December 2021) with 23 of these occurring after a short interpregnancy interval. The median interval for these pregnancies was 10.3 months (IQR 6.0 – 13.1). Seventeen (74%) of these short interval pregnancies were unplanned and 8 (33%) had no documentation of contraception counseling during the prenatal period of the first pregnancy. Table 4 displays the type of contraception, if any, that was used between the short interval pregnancies. Of note, the largest group (10 of 23, 43%) was those who had not returned between pregnancies for either any postpartum visit (and therefore almost certainly did not have access to any form of contraception) or for the IUD insertion visit.

**Table 4. Contraception between short interval pregnancies**

Contraceptive Method	Overall, N=23
<b>Did not return</b>	10
<i>For any pp visits</i>	8
<i>For insertion</i>	2
<b>Highly or moderately effective method<sup>1</sup></b>	5
<b>None desired or undecided</b>	4
<b>Non-prescription method<sup>2</sup></b>	1
<b>Referred to another clinic<sup>3</sup></b>	3

<sup>1</sup>Highly or moderately effective methods include tubal ligation, IUD, Nexplanon, depo medroxyprogesterone, or contraceptive pills

<sup>2</sup>Non-prescription methods include condoms or natural family planning.

<sup>3</sup>Patients desiring any form of contraception except a hormonal IUD or contraceptive pills (which are the only types available for free at the Free Medical Clinic) were referred to the County Public Health Clinic for their desired type with fees based on income.

**Discussion**

In this pre- and post-intervention study, we found that having educational contraceptive handouts available and an EMR template reminder about antenatal contraception discussion was associated with increased postpartum contraceptive counseling in the prenatal period. Additionally, we saw increased use of highly or moderately effective methods of postpartum contraception after the intervention, although the finding neared but did not achieve statistical significance (p=.068). Our findings are consistent with other studies that have found both EMR templates and utilizing simple educational contraceptive charts as teaching aids increased postpartum

contraceptive counseling.<sup>15,16</sup>

It is concerning that prior to the interventions 30% of patients did not have any documentation of discussing postpartum contraception or birth spacing in the prenatal period and another 28% were undecided if they would use contraception after delivering or which type. Not all patients will decide to use postpartum contraception and in a study surveying individuals with recent deliveries (within 2 – 6 months), 45.6% of patients responded that they were not using postpartum contraception or were using a non-prescription form, such as condoms or natural family planning.<sup>17</sup> Even so, our findings suggest that our patient population may not have been receiving the adequate counseling necessary to make an informed decision about postpartum contraception use.

There are several aspects unique to this clinic and patient population that may contribute to lower rates of preventative discussions like postpartum contraception. First, a majority of patients (93%) speak a language other than English as their primary language and 81% needed interpretation services when accessing medical care. Most patients therefore require the use of either one of the few volunteer in-person interpreters or a telephone interpreter, which has been shown to increase the length of time needed to complete a visit.<sup>18</sup> With needing more time to review acute issues, signs of labor, chronic health issues, etc., it is possible physicians at the FMC may not have as much time to discuss such a complex, and less acute, topic such as postpartum contraception. Additionally, this population had a notably high rate

of anemia in pregnancy and gestational diabetes, both of which require additional counseling in the prenatal period. In our population, 44% of patients had anemia in pregnancy while the overall prevalence in the United States pregnant population is 2.2%, with a higher rate in non-Hispanic black individuals.<sup>19</sup> Moreover, 17% of our patients had gestational diabetes, while nationally the prevalence is 7.6%, again with a higher prevalence in Hispanic patients.<sup>20</sup> Both anemia and gestational diabetes have been associated with maternal and fetal complications, and it is therefore reasonable to speculate that physicians treating those included in our study prioritized reviewing management of these conditions, and less time was spent on preventative counseling.

Additionally, studies have found that high-quality postpartum contraceptive counseling is relatively rare and occurs less often among low socioeconomic and immigrant patients, such as our patient population.<sup>21</sup> Though we did not assess the quality of counseling given to each individual, our results suggest that simple and low-cost interventions that take minimal time and effort to employ may increase the occurrence of counseling and can be adaptable to a very linguistically diverse patient population. With multilingual educational handouts readily available, only 3% of patients had no documentation of contraceptive counseling in the prenatal period, implying physicians may be more likely to at least introduce the topic of postpartum contraception and provide educational materials that patients can take with them to reflect on and review with a partner if desired. Our interventions not only increased

postpartum contraceptive counseling, but also postpartum contraceptive use. Our data parallels other studies that found that postpartum contraceptive use was highest when contraceptive counseling was provided during both the prenatal and postpartum periods.<sup>22,23</sup> Interestingly, we also saw a marginally significant change in the attendance of postpartum visits overall after implementation of the intervention, with the rate of missing the postpartum visit dropping from 25% to 9.1% after the intervention ( $p=.0569$ ). We speculate that the improved contraception counseling may remind or motivate patients to come back for their postpartum visit, although this finding requires further study.

With regard to the short interval pregnancies seen in our study, many of the patients had not returned for any postpartum visit or were lost to follow up for their IUD insertion visit. These patients almost certainly did not receive postpartum contraception between pregnancies as they continued to be ineligible for insurance at the beginning of the next pregnancy and would have had to pay completely out of pocket to be seen or prescribed contraception at other clinics. Additionally, 74% of these short interval pregnancies were documented as unintended, whereas the rate of unintended pregnancy among our total sample was similar to the national average of 50%.<sup>24</sup> Emphasizing the importance of postpartum follow up, counseling on the adverse outcomes associated with intervals of less than 18 months, and providing same-day access to a variety of contraceptive methods would all likely contribute to preventing such

unintended short interval pregnancies.

This is one of few studies reporting postpartum contraceptive use in an uninsured population and the use of simple interventions aimed at increasing contraceptive counseling. The paucity of data may be related to the fact that uninsured patients are less likely to seek and utilize preventative care. Also, most states have provided ways for any pregnant women to obtain public insurance for the duration of their pregnancy and postpartum care. Allowing all pregnant individuals, regardless of their immigration status, to be eligible for Medicaid would likely decrease financial and logistical barriers to accessing effective postpartum contraception and would allow these patients to receive full prenatal and postpartum care at standard healthcare facilities. Indeed, studies have found that Medicaid expansion was associated with increased use of effective forms of contraception, as well as decreased unintended pregnancy.<sup>25-27</sup>

Limitations of this study include the small sample size and that all data is from a single free clinic with its unique challenges to providing care to vulnerable populations, limiting generalizability. Another factor that must be considered is the role of cultural beliefs in contraception use, especially in a largely immigrant population. We did not analyze the EMR for information related to patients' beliefs related to contraception use and pregnancy spacing and so cannot comment on the impact this played. Previous studies have shown mixed results regarding the association between length of time living in American culture (acculturation) and

levels of contraception use.<sup>28,29</sup> We were unable to obtain information about length of time in the United States beyond that these patients have lived in the United States for a short enough time to limit qualification for Medicaid. Lastly, we implemented both the educational handouts and the EMR template reminder at the same time, limiting the ability to differentiate which intervention had a greater impact.

## **Conclusions**

Our findings suggest that having educational handouts in a variety of languages available in clinic, as well as a reminder phrase about contraceptive counseling in the EMR note template, increases the occurrence of postpartum contraceptive counseling and increases overall postpartum contraceptive use in a clinic providing care for pregnant patients without insurance. Overall, increasing access to postpartum contraception will take a multifaceted approach, including policy change, but our study demonstrates that simple interventions can be employed at the clinic level to provide rapid and population-specific progress.

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## References

1. Gemmill A, Lindberg LD. Short interpregnancy intervals in the United States. *Obstet Gynecol.* 2013 Jul;122(1):64-71. <https://doi.org/10.1097/AOG.0b013e3182955e58>. PMID: 23743455; PMCID: PMC3749871.
2. Potter JE, Hubert C, Stevenson AJ, Hopkins K, Aiken AR, White K, Grossman D. Barriers to Postpartum Contraception in Texas and Pregnancy Within 2 Years of Delivery. *Obstet Gynecol.* 2016 Feb;127(2):289-96. <https://doi.org/10.1097/AOG.0000000000001201>. PMID: 26942356; PMCID: PMC4780343.
3. Thiel de Bocanegra H, Chang R, Menz M, Howell M, Darney P. Postpartum contraception in publicly-funded programs and interpregnancy intervals. *Obstet Gynecol.* 2013 Aug;122(2 Pt 1):296-303. <https://doi.org/10.1097/AOG.0b013e3182991db6>. PMID: 23969798.
4. ACOG Committee Opinion No. 736: Optimizing Postpartum Care. *Obstet Gynecol.* 2018 May;131(5):e140-e150. <https://doi.org/10.1097/AOG.0000000000002633>. PMID: 29683911.
5. Yee LM, Farner KC, King E, Simon MA. What do Women Want? Experiences of Low-Income Women with Postpartum Contraception and Contraceptive Counseling. *J Pregnancy Child Health.* 2015 Oct;2(5):191. <https://doi.org/10.4172/2376-127X.1000191>. Epub 2015 Sep 23. PMID: 27294202; PMCID: PMC4902110.
6. Coleman-Minahan K, Dillaway CH, Canfield C, Kuhn DM, Strandberg KS, Potter JE. Low-Income Texas Women's Experiences Accessing Their Desired Contraceptive Method at the First Postpartum Visit. *Perspect Sex Reprod Health.* 2018 Dec;50(4):189-198. <https://doi.org/10.1363/psrh.12083>. Epub 2018 Dec 3. PMID: 30506996; PMCID: PMC6314803.
7. Zerden ML, Tang JH, Stuart GS, Norton DR, Verbiest SB, Brody S. Barriers to Receiving Long-acting Reversible Contraception in the Postpartum Period. *Womens Health Issues.* 2015 Nov-Dec;25(6):616-21. <https://doi.org/10.1016/j.whi.2015.06.004>. Epub 2015 Jul 23. PMID: 26212318.
8. Committee opinion no. 627: health care for unauthorized immigrants. *Obstet Gynecol.* 2015 Mar;125(3):755-759. <https://doi.org/10.1097/01.AOG.0000461771.63747.37>. PMID: 25730255.
9. Health coverage of immigrants. KFF. Published March 18, 2020. Accessed March 9, 2021. <https://www.kff.org/racial-equity-and-health-policy/fact-sheet/health-coverage-of-immigrants/>
10. Reed MM, Westfall JM, Bublitz C, Battaglia C, Fickenscher A. Birth outcomes in Colorado's undocumented immigrant population. *BMC Public Health.* 2005 Oct 4;5:100. <https://doi.org/10.1186/1471-2458-5-100>. PMID: 16202159; PMCID: PMC1262728.
11. Medicaid/CHIP Coverage of Lawfully-Residing Immigrant Children and Pregnant Women. KFF. Published April 1, 2020. Accessed March 9, 2021. <https://www.kff.org/health-reform/state-indicator/medicaid-chip-coverage-of-lawfully-residing-immigrant-children-and-pregnant-women/>

12. Health coverage for lawfully present immigrants. HealthCare.gov U.S. Centers for Medicare & Medicaid Services. Baltimore, MD. Published April 29, 2022. Available at: <https://www.healthcare.gov/immigrants/lawfully-present-immigrants/>
13. Flood S, King M, Rodgers R, Ruggles S, Warren JR. Integrated Public Use Microdata Series, Current Population Survey: Version 7.0. Published online 2020. <https://doi.org/10.18128/D030.V7.0>. Available at: <https://www.ipums.org/projects/ipums-cps/d030.v7.0>
14. Presumptive Eligibility. Iowa Department of Human Services. Accessed March 9, 2021. <https://dhs.iowa.gov/ime/providers/tols-trainings-and-services/medicaid-initiatives/pe>
15. Grotell LA, Bryson L, Florence AM, Fogel J. Postpartum Note Template Implementation Demonstrates Adherence to Recommended Counseling Guidelines. *J Med Syst*. 2021 Jan 7;45(1):14. <https://doi.org/10.1007/s10916-020-01692-6>. PMID: 33409663.
16. Goldstein S, Hubbard R. Standardized Contraceptive Handout Facilitates Contraceptive Counseling. *Fam Med*. 2018 Feb;50(2):146-148. <https://doi.org/10.22454/FamMed.2018.388877>. PMID: 29432632.
17. Oduyebo T, Zapata LB, Boutot ME, Tepper NK, Curtis KM, D'Angelo DV, Marchbanks PA, Whiteman MK. Factors associated with postpartum use of long-acting reversible contraception. *Am J Obstet Gynecol*. 2019 Jul;221(1):43.e1-43.e11. <https://doi.org/10.1016/j.ajog.2019.03.005>. Epub 2019 Mar 15. PMID: 30885772; PMCID: PMC6592782.
18. Fagan MJ, Diaz JA, Reinert SE, Sciamanna CN, Fagan DM. Impact of interpretation method on clinic visit length. *J Gen Intern Med*. 2003 Aug;18(8):634-8. <https://doi.org/10.1046/j.1525-1497.2003.20701.x>. PMID: 12911645; PMCID: PMC1494905.
19. Adebisi OY, Strayhorn G. Anemia in pregnancy and race in the United States: blacks at risk. *Fam Med*. 2005 Oct;37(9):655-62. PMID: 16193419.
20. Casagrande SS, Linder B, Cowie CC. Prevalence of gestational diabetes and subsequent Type 2 diabetes among U.S. women. *Diabetes Res Clin Pract*. 2018 Jul;141:200-208. <https://doi.org/10.1016/j.diabres.2018.05.010>. Epub 2018 May 26. PMID: 29772286.
21. Coleman-Minahan K, Potter JE. Quality of postpartum contraceptive counseling and changes in contraceptive method preferences. *Contraception*. 2019 Dec;100(6):492-497. <https://doi.org/10.1016/j.contraception.2019.08.011>. Epub 2019 Sep 4. PMID: 31491380; PMCID: PMC6893140.
22. Hernandez LE, Sappenfield WM, Goodman D, Pooler J. Is effective contraceptive use conceived prenatally in Florida? The association between prenatal contraceptive counseling and postpartum contraceptive use. *Matern Child Health J*. 2012 Feb;16(2):423-9. <https://doi.org/10.1007/s10995-010-0738-9>. PMID: 21197562.
23. Zapata LB, Murtaza S, Whiteman MK, Jamieson DJ, Robbins CL, Marchbanks PA, D'Angelo DV, Curtis KM. Contraceptive counseling and postpartum contraceptive use. *Am J Obstet Gynecol*. 2015 Feb;212(2):171.e1-8. <https://doi.org/10.1016/j.ajog.2014.07.009>. Epub 2014 Aug 2. PMID: 25093946; PMCID: PMC4470255.

24. Committee Opinion No. 642: Increasing Access to Contraceptive Implants and Intrauterine Devices to Reduce Unintended Pregnancy. *Obstet Gynecol.* 2015 Oct;126(4):e44-e48. <https://doi.org/10.1097/AOG.0000000000001106>. PMID: 26393458.
25. Eliason EL, Spishak-Thomas A, Steenland MW. Association of the affordable care act Medicaid expansions with postpartum contraceptive use and early postpartum pregnancy. *Contraception.* 2022 Sep;113:42-48. <https://doi.org/10.1016/j.contraception.2022.02.012>. Epub 2022 Mar 5. PMID: 35259409; PMCID: PMC9378469.
26. Myerson R, Crawford S, Wherry LR. Medicaid Expansion Increased Preconception Health Counseling, Folic Acid Intake, And Postpartum Contraception. *Health Aff (Millwood).* 2020 Nov;39(11):1883-1890. <https://doi.org/10.1377/hlthaff.2020.00106>. PMID: 33136489; PMCID: PMC7688246.
27. Geiger CK, Sommers BD, Hawkins SS, Cohen JL. Medicaid expansions, preconception insurance, and unintended pregnancy among new parents. *Health Serv Res.* 2021 Aug;56(4):691-701. <https://doi.org/10.1111/1475-6773.13662>. Epub 2021 Apr 27. PMID: 33905119; PMCID: PMC8313946.
28. Gilliam ML, Neustadt A, Whitaker A, Kozloski M. Familial, cultural and psychosocial influences of use of effective methods of contraception among Mexican-American adolescents and young adults. *J Pediatr Adolesc Gynecol.* 2011 Apr;24(2):79-84. <https://doi.org/10.1016/j.jpag.2010.10.002>. Epub 2010 Dec 3. PMID: 21126893; PMCID: PMC5145289.
29. Chamberlain R, Fatehi M, Fogel J, Kulyan J. Hispanic Acculturation: Associations with Family Planning Behaviors and Attitudes. *Kans J Med.* 2021 Apr 19;14:103-107. <https://doi.org/10.17161/kjm.vol1414845> PMID: 33903810; PMCID: PMC8060065.