

Postpartum Visit and Contraception Study

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Postpartum Visit and Contraception

Executive Summary

Background

Researchers at the University of Illinois School of Public Health undertook a multi-part effort to: identify and summarize the research related to what is known about the postpartum visit, strategies for increasing its use, as well as strategies for increasing uptake of postpartum contraception; to determine women’s and providers’ perspectives on alternative approaches to the delivery of postpartum care and contraception; and, to specifically explore the role of the Well-Baby Visit (WBV) in the early postpartum period as a time for women to discuss reproductive life planning and family planning needs. This work was funded by the Illinois Department of Healthcare and Family Services through its CHIPRA initiative.

Why is this research important?

Unintended pregnancy is highly prevalent in the US and is associated with increased risk of adverse reproductive and perinatal outcomes. Postpartum women are at particularly high risk of unintended pregnancy with 10 – 44% of women having an unintended pregnancy in the first postpartum year (Chen et al., 2010). While some women receive contraception in the hospital after delivery, actual provision varies and most often women do not receive contraception until the six-week postpartum visit. However, in the few studies that document women’s use of the postpartum visit, estimates for non-attendance at the visit vary (11%-40%) (Bryant et al., 2006; Lu & Prentice, 2002; Chu et al., 2004; Kabakian-Khasholian & Campbell, 2005; Weir et al., 2011; IDHFS, 2014). Examining ways to increase utilization of the postpartum visit and/or increase access to postpartum care in alternative settings is essential.

Providing postpartum women with access to effective methods of contraception and care is clearly the most straightforward approach to reducing unintended pregnancy in this group. As policy-makers discuss new approaches to the delivery of postpartum care, additional information is needed on women’s perceptions of barriers to and preferences for the timing and location of the postpartum visit, and likewise, barriers to and preferences for accessing postpartum contraception. Information is also needed about providers’ attitudes and comfort with new approaches to increasing the utilization of postpartum contraception. This includes the potential for adopting more focused interventions in the perinatal period and consideration of alternative approaches for the delivery of contraception in the postpartum period such as the provision of contraceptive counseling and/or services at the Well-Baby Visit. Additionally, approaches which focus on making reproductive counseling routine in all aspects of women’s health care such as utilization of the CDC’s *Reproductive Life Plan Tool (RLPT) for Health Professionals* are gaining momentum. As such, an examination of the acceptability and feasibility of implementing such approaches and tools in multiple settings is needed.

What were the goals of this research and how were they addressed?

Research Objective	Action
To document what is known to date about women’s preferences and experiences with respect to utilization of care and contraception in the postpartum period.	Review of the current literature and electronically published material related to postpartum care and contraception counseling was completed.
To determine the perceptions of postpartum women of diverse racial and ethnic backgrounds with respect to barriers to and preferences for the timing and location of the postpartum visit and the receipt of postpartum contraception.	Twenty in-depth interviews were completed with postpartum women.
To determine providers’ (OB-GYN, FP, and CNM) current practices during prenatal and/or postpartum care used to assist women to plan and space their pregnancies as well as their willingness to introduce alternative approaches into their practice.	Twelve in-depth phone interviews were completed with providers who have regular contact with postpartum women.
To assess the feasibility and acceptability of introducing an adaptation of the CDC’s Reproductive Life Plan Tool at the Well-Baby Visit.	Over 25 UIC pediatric residents were trained to use an adapted RLPT with the mother of any infant 16 weeks or less during the child’s visit with the pediatrician, followed by completion of a focus group and survey with pediatricians.

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What do the research findings mean for postpartum care moving forward?

Findings from the literature reviews and key-informant interviews with postpartum women indicate that although women view the postpartum period as an important time to be receiving support from the health care system, there are a number of barriers and issues preventing them from obtaining these services. All sources from this research (i.e., literature, women interviews, and provider interviews) emphasize the unique needs of each postpartum woman and the importance of establishing multiple mechanisms for ensuring they are receiving their desired postpartum care and contraception including being able to obtain contraception before being discharged from the delivery hospital. Although there were a number of interventions with positive findings related to increasing uptake of care and contraception in the postpartum period, not enough research has been completed to conclusively support any one approach. Conversely, this supports the overarching theme derived from this research:

Women require flexibility and multiple options for receiving care and contraception in the postpartum period.

A novel way to increase access to contraception in the postpartum period is to capitalize on the multiple interactions most postpartum women have with their infant's pediatrician at the Well-baby Visit. After discussion with women and providers in the key informant interviews as well as with pediatricians after implementing an intervention using this model, it appears as though the Well-Baby Visit for young infants has the potential to be a meaningful and feasible method of reaching postpartum women. While the limitations and concerns from pediatricians and postpartum women, in particular with regard to detracting attention from the infant, may prevent this intervention from appealing to all women and providers, further exploration is warranted to establish ways to address these concerns and increase postpartum women's access to care. With the recognition that there is no evidence-based 'gold-standard' with regard to care and contraceptive counseling in the postpartum period, it is essential that policies and funding support increased access to postpartum care at all available intersections with the health care system as well as promote innovative approaches to reaching the postpartum population.

Recommendations

- Policies and funding (Medicaid reimbursement) should support increased flexibility with regard to the location, timing, and frequency of the postpartum visit. In particular, reimbursement by IDHFS for at least two postpartum visits within the first 8 weeks postpartum appears warranted.
- Interventions and initiatives to increase attendance at the postpartum visit should target factors that are amenable to intervention. One such factor is prior health care utilization including care during the prenatal period. Reinvesting in initiatives to increase access to and utilization of prenatal care among women on Medicaid may be a key strategy to increasing postpartum visit utilization.
- IDHFS policies and funding should support increased flexibility with regard to the location, timing, and frequency of contraceptive counseling and delivery in the postpartum period, including the provision of contraception such as LARC methods at delivery or before the woman leaves the delivery hospital.
- Similar to perinatal depression screening, IDHFS should consider reimbursement for contraceptive counseling and reproductive life planning discussions at the Well-Baby Visit. This will require education of pediatric providers about the use of either one specific Reproductive Life Plan tool or a menu of Reproductive Life Plan tools (e.g., CDC RLPT, Oregon One Key Question, modified tools, etc.).

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Integrated Summary of Findings

Integrated Summary of Findings

Background

In Spring 2014 – December 2015, researchers at the University of Illinois School of Public Health undertook a multi-part effort to: identify and summarize the research literature related to what is known about the postpartum visit, strategies for increasing its use, as well as strategies for increasing uptake of postpartum contraception; to determine women's and providers' perspectives on alternative approaches to the delivery of postpartum care and contraception; and, to specifically explore the role of the Well-Baby Visit (WBV) in the early postpartum period as a time for women to discuss reproductive life planning and family planning needs. This work was funded by the Illinois Department of Healthcare and Family Services through its CHIPRA initiative. The intent of this effort is to inform the work of IDHFS aimed at improving women's utilization of postpartum visit as well as interconception care in general. Improving access to and utilization of primary care, prenatal care, postpartum care, and preconception /interconception care, and supporting seamless transitions between each care episode in the reproductive-perinatal continuum are both key strategies for improving women's health as well as reproductive and perinatal outcomes.

Why is this research important?

Unintended pregnancy is highly prevalent in the US and is associated with increased risk of adverse reproductive and perinatal outcomes. Postpartum women are at particularly high risk of unintended pregnancy with 10-44% of women having an unintended pregnancy in the first postpartum year (Chen et al., 2010). While some women receive contraception in the hospital after delivery, actual provision varies and most often women do not receive contraception until the six-week postpartum visit. Unfortunately, the timing of the six-week visit is not based on current evidence about women's sexual activity after pregnancy and the need for timely postpartum contraception, thus placing many women at risk for a rapid repeat pregnancy (Glazer et al., 2011). In fact, many women are still not using any form of contraception well past the time of a typical postpartum visit. Glazer and colleagues found that 29% of women were not using contraception at 4-6 months postpartum, despite the fact they had resumed sexual intercourse, and 32% of the study population were relying on less effective methods (non-Tier I) (Glazer et al., 2011).

In the few studies that examine women's utilization of the postpartum visit, estimates for non-attendance at the visit vary (11%-40%) (Bryant et al., 2006; Lu & Prentice, 2002; Chu et al., 2007; Kabakian-Khasholian & Campbell, 2005; Weir et al., 2011). For example, research has found that 15% of a nationally representative sample of women in 1988 had not made a postpartum visit within 6 months of delivery, and 15% of Healthy Start women in 1995-6 had not had a postpartum visit at six weeks or later (Bryant et al., 2006; Lu & Prentice, 2002). Among low-income women on Illinois Medicaid fewer than 60% of women receive a postpartum visit (IDHFS, 2014). **Table B-2** provides the range of estimates reported with respect to attendance at the postpartum visit from a review of the literature. In addition, in a recent study of Medicaid women 15-44 who gave birth in California in 2008 and had at least one visit funded by Medicaid within 18 months of delivery, only 41% of these women had a contraceptive claim within 90 days after birth. Of these women, 15% did not receive a visit paid for by Medicaid within 90 days after birth but received at least one visit in months 4-18 (Thiel de Bocanegra et al., 2013). (Note: this study was not included in this review). Examining ways to increase utilization of the postpartum visit and/or increase access to postpartum care in alternative settings is essential.

In contrast to the postpartum visit, the Well-Baby Visit (WBV) is highly utilized. In 2011-2012, 90.9% of U.S. infants received visits during the first year of life (CDC, 2011). The AAP recommends that normal infants have WBVs at 3-5 days post hospital discharge and by one month of age, both of which are in advance of the traditional postpartum visit, with four more visits before age one, at two, four, six, and nine months (Practice CO, 2014). Because women are more likely to obtain care for their infants, compared to their own postpartum care, women are likely to attend multiple visits in the pediatric setting during the postpartum period. Fagan et al (2009) found that the majority (86.6%) of mothers presenting

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for a WBV with their family physician felt comfortable discussing contraception with the infant's providers. Seventy-five percent reported that they would be very or somewhat likely to use a prescription for contraception provided by their infant's physician. O'Sullivan and Jacobsen (1992) conducted a randomized controlled trial with adolescents, providing specialized care (i.e., social worker; discussion of school and family planning; follow-up for missed visits) at the WBV and found that not only were teens less likely to have a repeat pregnancy by 18 months, combining services was also more cost-effective than routine well-baby care. In a study conducted by a UIC Family Planning fellow examining the feasibility and acceptability of contraceptive counseling during a WBV, 83% of postpartum women reported they were comfortable discussing contraception, and 84% stated they would accept contraceptive advice at the WBV (unpublished) (Kumaraswami et al., 2013). While studies to date have evaluated acceptability of contraception counseling during the WBV by women, the impact of implementing such counseling and referral to family planning services (if needed) has not yet been explored or evaluated.

Providing postpartum women with access to effective methods of contraception is clearly the most straightforward approach to reducing unintended pregnancy in this group. Reproductive counseling and/or provision of desired contraception in the postnatal period is considered a fundamental aspect of care; however, there are a number of delivery system issues that must be addressed to ensure that women have access to effective contraception in the postpartum (and interconception) period(s), if desired. However, little is known about how and where women want to be counseled about/obtain access to postpartum contraception, what motivates them to attend the postpartum visit, and the acceptability of alternative approaches to postpartum care. As policy-makers discuss new approaches to the delivery of postpartum care, additional information is needed on women's perceptions of barriers to and preferences for the timing and location of the postpartum visit, and likewise, barriers to and preferences for accessing postpartum contraception. Information is also needed about providers' attitudes and comfort with new approaches to increasing the utilization of postpartum contraception. This includes the potential for adopting more focused interventions in the perinatal period as well as consideration of alternative approaches for the delivery of contraception in the postpartum period such as the provision of contraceptive counseling and/or services at the Well-Baby Visit. Additionally, approaches which focus on making reproductive counseling routine in all aspects of women's health care such as utilization of the CDC's *Reproductive Life Plan Tool for Health Professionals* are gaining momentum. As such, an examination of the acceptability and feasibility of implementing such approaches and tools in multiple settings is needed.

What were the goals of this research and how were they addressed?

- (1) **Objective:** To document what is known to date about women's preferences and experiences with respect to utilization of care and contraception in the postpartum period.
Action: A review of the current literature and electronically published material was conducted on the following topics: Guidelines Related to the Postpartum Visit, Utilization of the Postpartum Visit, Interventions to Increase Use of the Postpartum Visit, Guidelines Related to Counseling to Increase Use of Postpartum Contraception, and Interventions to Increase Uptake of Contraception in the Postpartum Period.
- (2) **Objective:** To determine the perceptions of postpartum women of diverse racial and ethnic backgrounds with respect to barriers to and preferences for the timing and location of the postpartum visit and the receipt of postpartum contraception.
Action: Twenty in-depth interviews with postpartum women on their perceived barriers to and preferences for the timing and location of the postpartum visit and the receipt of postpartum contraception were completed.
- (3) **Objective:** To determine providers' (OB-GYN, FP, and CNM) current practices during prenatal and/or postpartum care used to assist women to plan and space their pregnancies as well as their willingness to introduce alternative approaches, such as a modification of *CDC's Reproductive Life Plan Tool for Health Professionals*, into their practice.

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Action: Twelve in-depth phone interviews were completed with two pediatricians (one of whom specialized in adolescent medicine), two certified nurse midwives, one internal medicine and pediatrics (med-peds) physician, two family medicine providers, and five obstetrician/gynecologists (two of whom specialized in family planning).

- (4) **Objective:** To assess the feasibility and acceptability of introducing an adaptation of the CDC's *Reproductive Life Plan Tool* at the Well-Baby Visit.

Action: Over 25 UIC pediatric residents were trained to use an adapted Reproductive Life Plan Tool (RLPT) with the mother of any infant 16 weeks or less during the child's visit with the pediatrician. Both quantitative and qualitative information on the pediatricians' acceptance and perceived feasibility of using the RLPT in practice was gathered using an online survey and two focus group sessions.

What did this research show?

There is little evidence supporting current recommendations for the timing and frequency of the postpartum visit which generally suggest one visit at 4-6 weeks postpartum; there is, however, a large body of review articles and commentaries supporting earlier and more frequent postpartum visits. Many of these argue to maintain a six-week visit but also recommend a visit around 2-3 weeks past delivery; some recommend an earlier visit within one week postpartum without specifying if there should be additional visits beyond this early one. **(Table A-1).**

Significant predictors of postpartum visit use in at least half of the studies reviewed include parity, marital status, age, race/ethnicity, education, income, prior health care utilization and insurance type. Several of these (e.g., insurance status, income, prior health care utilization including use of prenatal care) are amenable to intervention and perhaps represent the areas where resources would be best allocated to increase attendance at the postpartum visit. **(Table B-3).** However, while there have been a number of promising interventions to address the low-rates of attendance at the postpartum follow-up visit in both the antenatal and postnatal period (e.g., incentives, home visiting, enhanced prenatal care, and patient education), no intervention strategy has been evaluated more than a few times, many of the evaluations are relatively dated, and a number of studies focused only on select populations (e.g., adolescents, Latinas, etc.). **(Tables C-1 & C-2).**

Additionally, there is a lack of evidence-based, consistent guidelines on when (e.g., antenatal versus postnatal or both) and where (e.g., prenatal visits, hospital discharge, postpartum visit) counseling about postpartum contraception should take place leading to variable uptake of contraception in the postpartum period. **(Table D-1).** However, there are a number of promising interventions to increase postpartum contraception uptake (Note: only three of the articles reviewed focused on increasing uptake of LARC in the postpartum period). Interventions which showed a significant increase in postpartum contraceptive use included counseling in the prenatal (3 articles) or postnatal (2 articles) periods, group prenatal care (1 article), enhanced postpartum care (1 article), home visiting (1 article), and quick start contraception initiation (1 article). Several other articles, which focused on interventions to increase postpartum contraception use, showed significant findings with respect to decreased rates of rapid repeat pregnancy, satisfaction with counseling, and contraceptive knowledge. **(Tables E-1 & E-2).**

As indicated in the key-informant interviews with women, most felt that receiving care during the postpartum period was important and regarded the postpartum visit as a resource for not only monitoring their physical health, but also as a resource for coping with mental health issues including postpartum depression. Interestingly, many women recognized the postpartum visit as valuable because of the association of the postpartum visit with postpartum depression screening. There was a great deal of support for the provision of contraception earlier than the 6-week postpartum visit for women who wished to delay future pregnancies. Overall, women seemed informed about different contraceptive options and supported women being able to obtain a method of birth control before being discharged from the delivery hospital. Attitudes about receiving contraception services at the Well-Baby Visit varied. Although most women were in favor of this possibility (citing convenience and increased access as the primary reasons), some were concerned that receipt of contraceptive services at the WBV would take

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attention away from the baby and that co-location of services may give women a reason not to attend their own postpartum visits, thereby neglecting their own care. **(Table F-1).**

The providers interviewed stated that a multitude of issues affect the delivery of postpartum care for women. They indicated that the barriers and facilitating factors to ensuring women receive comprehensive postpartum care are present on many levels (i.e., patient, provider, and system) and thus, that improvement approaches must be multi-faceted. Providers were receptive to exploring new clinical practices (i.e., use of RLPT, co-location of contraception care at WBV) that may widen the reach of postpartum care for women. There was overwhelming support for the use of tools such as the *Reproductive Life Planning Tool* to facilitate contraceptive care and counseling. Many providers supported the idea of incorporating some aspect of contraceptive care into the WBV, but in highly variable ways. Although many expressed that co-location of services would serve as a beneficial additional opportunity to provide women with contraceptive care, barriers to feasibility included the time constraints and logistical coordination related to providing “care” for women and determining how to receive “reimbursement” for such care in addition to reimbursement for the care provided to the infant. **(Table G-1).**

Findings from the pilot intervention in which pediatricians (residents) utilized a Reproductive Life Planning Tool at the WBV suggest that despite some concerns, use of the RPLT at the WBV is generally acceptable with few challenges in implementation. A total of 55 Reproductive Life Plan Tools were utilized by pediatric residents with mothers of infants 16 weeks or younger during the three weeks of intervention implementation. Only 5 of these tools were left incomplete because either the resident (n = 2) did not feel comfortable completing the tool or the woman (n = 3) declined to discuss the tool during that particular visit. Of the 36 women eligible for a referral to family planning services through use of the tool (i.e., women with no current contraception, women who were unhappy with their current contraception, or women who did not intend to have additional children and were not using LARC), 6 (16.7%) accepted the resident’s referral to family planning services and all of these women received a referral through the University of Illinois’ online appointment request system. Among the 30 women who were eligible for a referral to family planning services and turned down the referral, 9 pediatricians (30%) commented that the women already had an appointment scheduled or already had plans to meet their postpartum contraceptive needs. Some examples of these comments included, “husband plans to get vasectomy”, “mother has 6 week postpartum visit scheduled and plans to discuss contraception options then”, and “mother has plan to get IUD”. On the post-intervention survey (n = 14) with participating pediatricians, 92.9% of physicians reported comfort in using the RLPT, 71.4% reported that the tool was easily understood; however, findings were split regarding ease of implementing RLPT in regular practice. During focus groups (n = 18) with pediatric residents, most reported comfort implementing the intervention and supported use of a RLPT as a tool for discussing contraception at the WBV. Concerns included limited time during WBV and use of the tool potentially detracting focus away from infant. **(Table H-2 and Figure H-1).**

What do these findings mean for postpartum care moving forward?

Findings from the literature reviews and key-informant interviews with postpartum women indicate that although women view the postpartum period as an important time to be receiving support from the health care system, there are a number of barriers and issues preventing them from obtaining these services. All sources from this research (i.e., literature, women interviews, and provider interviews) emphasize the unique needs of each postpartum woman and the importance of establishing multiple mechanisms for ensuring they are receiving their desired postpartum care and contraception including being able to obtain contraception before being discharged from the delivery hospital. Although there were a number of interventions with positive findings related to increasing uptake of care and contraception in the postpartum period, not enough research has been completed to conclusively support any one approach. Conversely, this supports the overarching theme derived from this research: **women require flexibility and multiple options for receiving care and contraception in the postpartum period.**

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A novel way to increase access to contraception in the postpartum period is to capitalize on the multiple interactions most postpartum women have with their infant's pediatrician. After discussion with women and providers in the key informant interviews as well as with pediatricians after implementing an intervention using this model, it appears as though this intervention has the potential to be a meaningful and feasible method of reaching postpartum women. While the limitations and concerns, in particular with regard to detracting attention from the infant, may prevent this intervention from appealing to all women and providers, further research is warranted to establish ways to address these concerns and increase postpartum women's access to care. With the recognition that there is no 'gold-standard' with regard to care and contraceptive counseling in the postpartum period it is essential that policies and funding support increased access to postpartum care at all available intersections with the health care system as well as promote innovative approaches to reaching the postpartum population.

Recommendations

- Policies and funding (Medicaid reimbursement) should support increased flexibility with regard to the location, timing, and frequency of the postpartum visit. In particular, reimbursement by IDHFS for at least two postpartum visits within the first 8 weeks postpartum appears warranted.
- Interventions and initiatives to increase attendance at the postpartum visit should target factors that are amenable to intervention. One such factor is prior health care utilization including care during the prenatal period. Reinvesting in initiatives to increase access to and utilization of prenatal care among women on Medicaid may be a key strategy to increasing postpartum visit utilization.
- IDHFS policies and funding should support increased flexibility with regard to the location, timing, and frequency of contraceptive counseling and delivery in the postpartum period, including the provision of contraception such as LARC methods at delivery or before the woman leaves the delivery hospital.
- Similar to perinatal depression screening, IDHFS should consider reimbursement for contraceptive counseling and reproductive life planning discussions at the Well-Baby Visit. This will require education of pediatric providers about the use of either one specific Reproductive Life Plan tool or a menu of Reproductive Life Plan tools (e.g., CDC RLPT, Oregon One Key Question, modified tools, etc.).

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Final Report

Final Report

Background

Unintended pregnancy is highly prevalent in the US and is associated with increased risk of adverse reproductive and perinatal outcomes. Providing women with access to effective methods of contraception is the most straightforward approach to reducing unintended pregnancy. Reproductive counseling and/or provision of contraception in the perinatal period is considered an important aspect of care; however, there are a number of delivery system issues that must be addressed to ensure that women have access to effective contraception in the postpartum (PP) period, if desired. In some populations fewer than 60% of women receive a postpartum visit (IDHFS, 2014), which is considered to be a primary venue for the provision of effective postpartum contraception. In response to the low rates of attendance at the postpartum visit and the significance of this visit in increasing uptake of contraception, system and policy changes related to the transitions between delivery and the postpartum period are being considered.

However, little is known about how and where women want to be counseled about/obtain access to postpartum contraception, what motivates them to attend the postpartum visit, and the acceptability of alternatives such as receiving counseling or contraception at the Well-Baby Visit (WBV). As policy-makers discuss new approaches to the delivery of postpartum care, additional information is needed on women's perceptions of barriers to and preferences for the timing and location of the postpartum visit, and likewise, barriers to and preferences for accessing postpartum contraception. Information is also needed about providers' attitudes and comfort with new approaches to increase the utilization of postpartum contraception including the potential for adopting more focused interventions in the perinatal period as well as consideration of alternative approaches for the delivery of contraception in the postpartum period; the latter includes the provision of contraceptive counseling and/or services at the Well-Baby Visit. Additionally, approaches which focus on making reproductive counseling routine in all aspects of women's health care such as CDC's *Reproductive Life Plan Tool for Health Professionals* or Oregon's *One Key Question* are gaining momentum. As such, an examination of the acceptability and feasibility of implementing such approaches and tools in multiple settings including in the perinatal period is needed.

Objectives and Deliverables

To address these needs, the objectives and deliverables of the Postpartum Visit and Contraception Study are as follows:

- 1) **Objective:** To document what is known to date about women's preferences and experiences with respect to utilization of postpartum contraception, including Long Acting Reversible Contraception (LARC), and experiences with the postpartum visit, to include consideration of antenatal and postnatal interventions to increase such use.

Action: A review of the current literature and electronically published material was conducted using multiple databases (i.e., PubMed, CINAHL, TRIP, Uptodate, and Popline) on the following topics: Guidelines Related to the Postpartum Visit, Utilization of the Postpartum Visit, Interventions to Increase Use of the Postpartum Visit, Guidelines Related to Counseling to Increase Use of Postpartum Contraception, and Interventions to Increase Uptake of Contraception in the Postpartum Period. Articles for each topic were

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reviewed, summarized, and synthesized into the deliverables below. The two topics pertaining to interventions included a quality review in addition to the literature review.

Deliverable(s):

Appendix A: *A Review of Current Recommendations and Guidelines Related to the Postpartum Follow-Up Visit*

Appendix B: *A Review of the Literature Related to Utilization of the Postpartum Follow-Up Visit*

Appendix C: *Interventions to Increase Attendance at the Postpartum Follow-Up Visit: A Review of the Literature*

Appendix D: *A Review of Current Recommendations and Guidelines Related to Counseling to Increase Use of Postpartum Contraception*

Appendix E: *Interventions to Increase Uptake of Contraception in the Postpartum Period: A Review of the Literature*

- 2) **Objective:** To determine the perceptions of postpartum women of diverse racial and ethnic backgrounds with respect to barriers to and preferences for the timing and location of the postpartum visit and the receipt of postpartum contraception.

Action: We conducted 20 in-depth interviews with postpartum women on their perceived barriers to and preferences for the timing and location of the postpartum visit and the receipt of postpartum contraception. Nine of these women were recruited in the postpartum ward of the UIC Hospital. The remaining eleven postpartum women were recruited from the UIC pediatric clinic at the time of their infant's well child visit. All interviews were completed by the project director or a research assistant using an interview guide developed by the PIs.

Deliverable:

Appendix F: *Findings from Key Informant Interviews with Postpartum Women*

- 3) **Objective:**
- a. To determine providers' (OB-GYN, FP, CNM) current practices during prenatal and/or postpartum care used to assist women to plan and space their pregnancies including: whether they are asking women if they want to have more children and when, whether they are providing contraceptive counseling and provision, and how often/at what time points during the prenatal and postpartum periods these activities are taking place.
 - b. To determine providers' willingness to introduce a modification of *CDC's Reproductive Life Plan Tool for Health Professionals* into their practice.
 - c. To determine the attitudes of prenatal care providers, family planning providers, and pediatricians with respect to alternative approaches to the provision of

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contraceptive services during the early postpartum period, including the provision of family planning services in conjunction with the Well-Baby Visit.

Action: We conducted 12 in-depth phone interviews with providers. Of the providers interviewed, two were pediatricians (one of whom specialized in adolescent medicine), two were certified nurse midwives, one specialized in internal medicine and pediatrics (med-peds), two were family medicine providers, and five were obstetrician/gynecologists (two of whom specialized in family planning). All interviews were completed by the project director or a research assistant using an interview guide developed by the PIs.

Deliverable:

Appendix G: *Findings from Key Informant Interviews with Postpartum Providers*

- 4) **Objective:** To assess the feasibility and acceptability of introducing an adaptation of the CDC's *Reproductive Life Plan Tool* at the Well-Baby Visit.

Action: Over 25 UIC pediatric residents were introduced to the study and trained to use the adapted Reproductive Life Plan Tool (RLPT) during an hour lunch session in August 2014. The intervention took place approximately two months following the training and the goal of 50 completed tools was reached after 10 full days and 4 half days of recruitment. The intervention was delivered by the pediatric residents with the mother of any infant 16 weeks or less during the child's visit with the pediatrician. Physician-completed RLPTs were collected and recorded by an RA. Both quantitative and qualitative information on the pediatricians' acceptance and perceived feasibility of using the RLPT in practice was gathered using an online survey and two focus group sessions. Through both of these approaches, the pediatric resident participants provided their feedback on the idea of using a RLPT at the WBV, the implementation of the RLPT in actual practice, and the design and structure of the tool.

Deliverable:

Appendix H: *Findings from the Reproductive Life Plan Tool Pilot Intervention at the Well-Baby Visit*

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Objectives and Deliverables

Objective No.	Objective	Deliverable(s)
1	To document what is known to date about women’s preferences and experiences with respect to utilization of postpartum contraception including Long Acting Reversible Contraception (LARC), and experiences with the postpartum visit, to include consideration of antenatal and postnatal interventions to increase such use. (Literature Review)	<ul style="list-style-type: none"> • Appendix A: <i>A Review of Current Recommendations and Guidelines Related to the Postpartum Follow-Up Visit</i> • Appendix B: <i>A Review of the Literature Related to Utilization of the Postpartum Follow-Up Visit</i> • Appendix C: <i>Interventions to Increase Attendance at the Postpartum Follow-Up Visit: A Review of the Literature</i> • Appendix D: <i>A Review of Current Recommendations and Guidelines Related to Counseling to Increase Use of Postpartum Contraception</i> • Appendix E: <i>Interventions to Increase Uptake of Contraception in the Postpartum Period: A Review of the Literature</i>
2	To determine the perceptions of postpartum women of diverse racial and ethnic backgrounds with respect to barriers to and preferences for the timing and location of the postpartum visit and the receipt of postpartum contraception. (Postpartum Women Key Informant Interviews)	<ul style="list-style-type: none"> • Appendix F: <i>Findings from Key Informant Interviews with Postpartum Women</i>
3	<p>a. To determine providers’ (OB-GYN, FP, CNM) current practices during prenatal and/or postpartum care used to assist women to plan and space their pregnancies including: whether they are asking women if they want to have more children and when, whether they are providing contraceptive counseling and provision, and how often/at what time points during the prenatal and postpartum periods these activities are taking place.</p> <p>b. To determine providers’ willingness to introduce a modification of <i>CDC’s Reproductive Life Plan Tool for Health Professionals</i> into their practice.</p> <p>c. To determine the attitudes of prenatal care providers, family planning providers, and pediatricians with respect to alternative approaches to the provision of contraceptive services during the early postpartum period, including the provision of family planning services in conjunction with the Well-Baby Visit.</p> (Provider Key Informant Interviews)	<ul style="list-style-type: none"> • Appendix G: <i>Findings from Key Informant Interviews with Postpartum Providers</i>
4	To assess the feasibility and acceptability of introducing an adaptation of the CDC’s <i>Reproductive Life Plan Tool</i> at the Well-Baby Visit. (Pilot Intervention)	<ul style="list-style-type: none"> • Appendix H: <i>Findings from the Reproductive Life Plan Tool Pilot Intervention at the Well-Baby Visit</i>

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Summary of Key Findings

1) Summary of Literature Review Findings (Appendix A – E):

There is little evidence supporting current recommendations for the timing and frequency of the postpartum visit; there is, however, a large body of review articles and commentaries supporting earlier and more frequent visits. Many of these argue to maintain a six-week visit but also recommend a visit around 2-3 weeks past delivery and some recommend an earlier visit within one week postpartum without specifying if there should be additional visits beyond this early one.

Significant predictors of lower postpartum visit attendance in at least half of the studies reviewed included identifying as a minority race/ethnicity, having lower levels of education, as well as having a lower household income, and public insurance. However, there are a number of promising interventions to address the low-rates of attendance at the postpartum follow-up visit in both the antenatal and postnatal period. These included incentives, home visiting, enhanced prenatal care, and patient education. Despite some positive findings, no intervention strategy was evaluated more than a few times, many of the evaluations are relatively dated, and a number of studies focused only on select populations (e.g., adolescents, Latinas, etc.).

There is a lack of evidence-based, consistent guidelines on when (e.g., antenatal versus postnatal or both) and where (e.g., prenatal visits, hospital discharge, postpartum visit) counseling for postpartum contraception should take place leading to the current disjointed counseling practices. However, there are a number of promising interventions to increase postpartum contraception uptake. These include health care provider counseling in the antenatal or postnatal period, group prenatal care, patient education (e.g., pamphlet, video), enhanced postpartum care, and home visiting. Only three of the articles reviewed focused on increasing uptake of LARC in the postpartum period. Given the effectiveness of LARC methods and the consequent beneficial impact of increasing LARC use, implementation and evaluation of interventions focused on increasing LARC use in the postpartum period is essential.

2) Summary of Themes from Women's Interviews (Appendix F):

- A. Women support and value care in the postpartum period including the postpartum visit
 - a. Women support the idea of an earlier postpartum visit as well as flexibility in timing to meet women where they are at physically and emotionally
 - b. Women expressed support for home visits and phone interactions with the health care delivery system during this period
 - c. Women expressed some challenges with attending postpartum visits
- B. Women know what to expect at the postpartum visit with respect to the content of the visit
 - a. Discussion and receipt of contraception
 - b. Attention to physical health including issues related to the pregnancy, delivery, and chronic health issues
 - c. Attention to mental health issues
- C. Women support the idea of access to contraception as early as possible after delivery if a woman desires it

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- a. There is support for the provision of contraception at delivery or discharge from the hospital
- b. Women don't view accessing contraception at delivery much differently from getting a tubal at delivery, a practice with which they are familiar
- D. Women view the postpartum period as a time in which there is a great need for emotional support
 - a. From family
 - b. From the health care delivery system
- E. Women have varying views about discussion/provision of contraception at the WBV visit
 - a. Importance of focus on baby
 - b. Importance of relationship with provider
 - c. Timing of WBVs may be better than six week postpartum visit (women's visit)

3) Summary of Themes from Provider Interviews (Appendix G):

- A. There is health care provider support for the concept of use of a Reproductive Life Planning Tool (RLPT) in a variety of care settings
 - a. Some providers indicated that the RLPT is a good reminder to discuss contraception or codifies their practice
 - b. Some providers indicated that the tool might be best completed by women (e.g., in waiting room)
- B. There is health care provider support for the WBV to be linked to contraceptive counseling/care although there was not endorsement for a specific way for this to occur
 - a. Whatever the model, there is a need for sufficient time to address women's and baby's issues/concerns
- C. Barriers to postpartum contraception reflect the intersection of the women's needs/context, insurance coverage, and the ability of the health care delivery system to respond
 - a. Low income, vulnerable women have particular contexts that may prevent them from seeking care (i.e., transportation and child care issues very salient; cultural and familial issues also important)
 - b. Varying views as to who is responsible for women receiving postpartum care: women versus providers versus system
- D. Lack of continuity of care in the perinatal period is a major systems issue
- E. LARC has very strong provider support
 - a. However, providers are very aware of the barriers to use of LARC: System, Insurance, Women

4) Summary of Results from Reproductive Life Plan Tool Pilot (Appendix H):

- A. Findings from Use of Reproductive Life Plan Tool
 - a. 55 RLPT were utilized by pediatric residents
 - b. Twenty-three percent of women who completed the tool were less than or equal to 1 week postpartum, 38% between 2 to 6 weeks postpartum, and 30% 7 to 16 weeks postpartum
 - c. 5 of the RLPT were left incomplete as either the resident or woman did not feel comfortable discussing the RLPT during that particular visit

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- d. Fifty-four percent of women given the RLPT reported already using some form of birth control and 8 of these women were using a LARC method
 - e. Of women eligible for a referral to family planning services through use of the RLPT (i.e. women with no current contraception, women who were unhappy with their current contraception, or women who did not intend to have additional children and were not using LARC) 16.7% accepted the resident's referral to family planning services and all of these women received a referral through the University of Illinois' Online Appointment Request System
 - f. Among the 30 women who were eligible for a referral to family planning services and turned down the referral, 9 commented that they already had an appointment scheduled or plan to meet their postpartum contraception needs
 - g. The majority of residents (68.8%) indicated on the RLPT that it took under 3 minutes to complete the RLPT, 29.2% responded that it took between 3 to 5 minutes to complete, and 2.1% spent 5 to 10 minutes completing the RLPT with the mother
- B. Pediatricians' Perceived Acceptability and Feasibility of Using RLPT at WBV
- a. Focus Group: A total of 18 residents attended the focus group sessions (13 in one, 5 in the other)
 - i. Most pediatric residents described the general idea of discussing birth spacing and reproductive plans with their patients' mothers at the WBV as an activity with which they were comfortable, although most had not done so previously
 - ii. In general, the focus group participants reported that women were comfortable with pediatricians using the RLPT to discuss their contraception and reproductive needs at their child's WBV
 - iii. Residents stated that the tool was easy to use, self-explanatory, and straightforward
 - iv. Residents mentioned the limited time they had with any given patient and the difficulty of fitting an additional 'thing' into their already tight schedule
 - v. Other challenges addressed by the pediatricians during the focus group sessions included difficulty remembering to complete the tool as well as a lack of familiarity leading to increased time to complete it
 - b. Online Survey: 14 surveys were completed
 - i. Respondents reported feeling comfortable (92.9%) discussing reproductive planning and contraception with their patients' mothers
 - ii. Over 70% reported that the tool was both easy to follow and understand
 - iii. Over three-quarters of respondents (78.6%) disagreed with the statement that the tool was too complicated
 - iv. Approximately 29% agreed and 43% disagreed with the statement that the tool took too long to implement with each mother
 - v. To assess general feasibility, residents were asked if 'it would be easy to implement the screening tool as part of regular practice.' The responses to this question were evenly split with 42.9% agreeing with this statement, 42.9% disagreeing, and 2 respondents choosing to neither disagree or agree

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- vi. Four cited ‘time constraints’ as a challenge to implementing the RLPT in regular practice and another commented on the length and wordiness of the tool
- vii. Five respondents commented on the importance of discussing contraception and the postpartum visit with the mothers of their patients and that this tool served as a good reminder to initiate this conversation

As referenced throughout this report, the postpartum period is a critical time in the reproductive continuum given that it is during this period that women transition from pregnancy-related to preventative care. However, as shown here, both through the current literature as well as interviews with providers and postpartum women, care during this period is not being maximized; services that are essential for women to remain healthy and to plan their future reproductive lives are often missed. In particular, while the postpartum period is a critical time for women to restart the use of contraception, by not seeking care for themselves, many women are not accessing effective contraception, thereby increasing their risk of experiencing a rapid repeat pregnancy, one which is often unintended. Although there is support from both providers and women to increase attendance at the postpartum visit and to increase uptake of postpartum contraception, there is variable evidence and not sufficient agreement about the most effective way to provide postpartum care. Further research is necessary to establish evidence-based guidelines related to the timing and content of the postpartum visit as well as the timing and delivery of postpartum contraceptive counseling and services. Importantly, there are a number of promising approaches which should be explored including robust antenatal-postnatal counseling about the postpartum visit and postpartum contraception, immediate delivery of postpartum contraception in the hospital, use of the Reproductive Life Plan Tool by diverse provider types, and co-locating some or all aspects of postpartum care at the Well-Baby Visit. Larger scale demonstrations/interventions and evaluations are needed to further assess the acceptability and feasibility of these efforts.

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Appendix A

A Review of Current Recommendations and Guidelines Related to the Postpartum Follow-Up Visit

This literature review was prepared by Katrina Stumbras and Tierra Williams under the supervision of Arden Handler, DrPH, Kristin Rankin, PhD, Sadia Haider, MD, and Rachel Caskey, MD. This document was developed for the Illinois Department of Healthcare and Family Services under grant CFDA93.767 from the US Department of Health and Human Services, Center for Medicare and Medicaid Services. However, these contents do not necessarily represent the policy of either the Illinois Department of Healthcare and Family Services or the US Department of Health and Human Services, and you should not assume endorsement by the state or federal government.

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A review of the current literature and electronically published guidelines related to the postpartum follow-up visit was conducted using multiple databases including PubMed, CINAHL, TRIP, Uptodate, and Popline. Search terms included: postpartum, postnatal, and internatal with combinations of care, visit, guidelines, and recommendations. In addition to the U.S., sources were primarily limited to recommendations from developed nations with a focus on Canada, the United Kingdom, Australia and other European countries. This was due to both the availability of recommendations from these nations as well as their similarities to the U.S. with respect to culture and the sophistication of their health care facilities/practices, despite somewhat different health care delivery systems. Reference lists of articles and guidelines were used to gather additional sources in an effort to create a more comprehensive search. Only findings relating to the general postpartum visit were included; in other words, recommendations only discussing specific maternal conditions (e.g., HIV, depression) in the postpartum period were excluded.

Overall, this review demonstrated that recommendations for postpartum care are inconsistent and are typically based on weak evidence and opinions. However, based on this review, it is also clear that there is support for postpartum care to be delivered in a manner (e.g., time, site) to best meet women's needs. Finally, these results indicate a distinct need for additional research and increased evidence relating to the timing and frequency of postpartum follow-up visits.

Current Recommendations and Guidelines

Guidelines for the timing and frequency of maternal postpartum care were obtained from the National Institute for Health and Care Excellence (NICE), the World Health Organization (WHO), the American College of Obstetrics and Gynecologists (ACOG), the Michigan Quality Improvement Consortium (MQIC), the Institute for Clinical Systems Improvement (ICSI), and the Association of Reproductive Health Professionals (ARHP). Publication dates range from 2006 to 2013, reflecting fairly current and up-to-date recommendations. All recommendations were primarily designed for health care professionals interacting with postpartum women as well as for public health officials and policy makers as applicable. In addition, these guidelines were primarily designed to be used for women who experienced a generally healthy pregnancy and birth and are not intended for more complicated scenarios.

Guideline Development and Background: International Guidelines

National Institute for Health and Care Excellence (2006): “Routine Postnatal Care for Women and Their Babies”. The United Kingdom’s NICE guidelines consistently emerged as the most comprehensive set of recommendations related to the postnatal period. These guidelines are designed to fit within a framework centered on the mother-infant dyad. They were developed by the National Collaborating Centre for Primary Care (NCC-PC) under contract from NICE. Initially, a Technical Team gathered information from economic and clinical databases for review by a Guideline Development Group (GDG). Final recommendations were agreed upon by the GDG following comments from relevant stakeholders.

WHO (2006): “Pregnancy, Childbirth, Postpartum and Newborn Care: A Guide for Essential Practice”. These guidelines were designed to provide evidence-based recommendations to health care professionals on a global scale. Recommendations were prepared by a team at the WHO Department of Reproductive Health and Research with revisions made by a secondary team and input from WHO regional offices from over 35 countries. Final recommendations were reviewed and endorsed by the International Confederation of Midwives, International Federation of Gynecology and Obstetrics, and the International Pediatric Association.

WHO (2013): “Postnatal Care of the Mother and Newborn” Guidelines. These guidelines were created through a Guidelines Development Group responsible for the synthesis and evaluation of evidence gathered through systematic reviews, use of GRADE¹ profiles for evidence evaluation, and analysis of the benefits, risks, and costs of implementation. These findings were then used by a WHO Steering Group to draft recommendations to be presented to the GDG. Final recommendations were determined through group consensus or vote.

Guideline Development and Background: United States Guidelines

American Academy of Pediatrics (AAP) and American College of Obstetrics and Gynecologists (ACOG) (2012): “Guidelines for Perinatal Care”. AAP and ACOG have created these guidelines as the basis for the development of local practice and norms. Guideline and recommendation development was based on the most up-to-date scientific information, clinical practice, and expert opinion. The AAP Committee on Fetus and Newborn and the ACOG Committee on Obstetric Practice were responsible for composing, revising, and reviewing these guidelines prior to publication.

Michigan Quality Improvement Consortium (MQIC) (2012): “Routine Prenatal and Postnatal Care”. MQIC is a committee created to establish and implement evidence-based clinical practice guidelines and performance measures for the state of Michigan aimed at improving health outcomes. MQIC developed the *Routine Prenatal and Postnatal Care* guidelines based on a literature review conducted by a health care analyst. Literature was rated for strength of evidence by type of study (i.e. Randomized Controlled Trial, Observational, etc.) Using this information, the health care analyst created a set of guidelines which were reviewed by the Medical Director’s committee. The committee along with the Michigan Academy of Family Physicians reviewed and revised the guidelines until a group consensus was reached.

Institute for Clinical Systems Improvement (ICSI) (2012): “Health Care Guideline: Routine Prenatal Care”. ICSI is sponsored by four non-profit health plans in Minnesota and Wisconsin in order to “improve health, optimize the patient experience and make health care more affordable”. ICSI develops guidelines and recommendations based on a literature search

¹ GRADE is short for “Grading of Recommendations Assessment, Development and Evaluation” and is designed as method for grading the quality of evidence and strength of recommendations.
<http://www.gradeworkinggroup.org/index.htm>.

conducted by a team of researchers including a medical librarian. This team then rates the strength of the evidence using the GRADE² methodology. Finally, a series of medical committees and relevant stakeholders review and comment on the guidelines for final development. This *Prenatal Care* guideline was created to improve health outcomes by recommending the necessary medical interventions, risk stratification, counseling, and preventative care in the prenatal and postnatal periods.

Association of Reproductive Health Professionals (AHRP) (2013): “A Quick Reference Guide for Clinicians: Postpartum Counseling”. The AHRP aims to educate health care professionals through evidence-based training and the development of accredited peer-review programs on reproductive health related concepts. The methods used to develop AHRP’s *Postpartum Counseling* guideline were not readily available.

Recommendations for Timing and Frequency of the Postpartum Visit

The international guidelines from WHO and NICE emphasize multiple postpartum visits. In WHO’s 2006 guidelines there is mention of an initial visit 2-3 days after delivery, followed by a second visit 4-6 weeks after delivery. These recommendations also include more specific visit timing recommendations for women experiencing a fever, UTI perineal infection, hypertension, depression, incontinence, and varying severity of anemia. The 2013 WHO guidelines were expanded to include a recommendation for a minimum of 3 postpartum visits: at 48-72 hours, 7-14 days, and 6 weeks following delivery. Finally, the NICE guidelines strongly recommend an individualized care plan developed in conjunction with the woman during the antenatal period. Within the individualized plan NICE explicitly recommends a visit during the first week postpartum and again within the 2-8 weeks following delivery. NICE also recommends discussing sexual activity with the women by the eighth day following delivery and screening for postpartum depression around the 10 to 14th day.

The guidelines used in the United States typically focus on one postpartum visit during the 4-6 week range following delivery. Recommendations from ICSI, AAP/ACOG, and AHRP all mention only one visit during this time frame. MQIC also recommends only one postnatal visit but expands the timeframe to include the 3-8 weeks following delivery. Although

² GRADE is short for “Grading of Recommendations Assessment, Development and Evaluation” and is designed as method for grading the quality of evidence and strength of recommendations.

AAP/ACOG recommendations explicitly support the one 4-6 week visit, they are also the only recommendations among the US guidelines to mention that this interval can be modified based on the needs of the individual patient. AAP/ACOG's guidelines also mention the need for a telephone follow-up within 48 hours of discharge by a health care professional if hospital discharge occurs before 48 hours for vaginal deliveries. AAP/ACOG's recommendation for the 4-6 week postpartum period goes as far back as the first edition of these guidelines published in 1983.

Comments on Current Recommendations and Guidelines

Although each of the above guidelines mention timing and frequency of the postpartum visit there was a distinct lack of evidence supporting these recommendations. Evidence-based information was typically supplied with respect to the **content** to be provided at each visit as opposed to the **specific timing** of the visit. In particular, the US recommendations for a single visit at the 4-6th week appear to be based primarily on tradition rather than evidence. A literature review conducted by Eberhard-Gran et al. in 2010 exploring the postpartum period from a cross-cultural perspective observed that many religions and cultures have a 40 day postpartum period (approximately 6 weeks) during which a woman is considered 'unclean' and still recovering from the birth. Given the lack of other evidence supporting the 4-6 week visit, it would appear that long-standing cultural norms about sex after pregnancy have influenced the timing of this care, with little evidence available to shift these norms. Furthermore, Eberhard-Gran et al. also discuss that in the absence of evidence-based guidelines, the historical amount of postpartum care provided in the hospital has shrunk considerably. In addition, more recent trends in the US have taken focus away from the mother during the postpartum period to focus on the newborn; importantly, as the length of the postpartum hospital stay has decreased there has not been a concomitant increased focus on postpartum care in the community (Eberhard-Gran et al., 2010). So although according to Eberhard-Gran et al., tradition has been the main driver of the current 40 day period in terms of timing of the follow-up visit, these researchers suggest that a sole 4-6 week visit was never intended to be the only care received by the mother during this time. As a result, the authors argue for increased focus on women's needs earlier in the postpartum period (Eberhard-Gran et al, 2010).

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In recognition of the trend for earlier postpartum hospital discharge, a 1998 study by Britton examined provider practice related to early hospital discharge. This survey of physicians in the US and Canada found that the length of stay in the hospital following birth somewhat influenced physician recommendations for the frequency of postnatal follow-up visits. Specifically, 39% of physicians surveyed stated that they advise an additional follow visit for women discharged early (defined by Britton as <48 hours after vaginal delivery) and of these, 64% advised this additional visit only if the mother was discharged within 24 hours of delivery (Britton, 1998). Although this study is almost 15 years old, it suggests that some physicians are providing expanded care after delivery to those women who are not receiving the necessary care in their hospital stay.

The fact that some providers are recommending a postpartum visit depending on their view of the women's needs is documented in an unpublished survey by a 2012 Chicago Maternal Child Health Advisory Committee (CMCHAC) of the Chicago Department of Public Health to assess current hospital policies with respect to the postpartum visit. This survey found great variability across Chicago hospitals regarding postpartum visit recommendations. With respect to timing of the postpartum visit for vaginal deliveries, 87.5% of responding hospitals recommended a postpartum visit at 6 weeks, 6.25% recommended a visit anytime between 2-6 weeks, and 6.25% recommend a visit at 4-weeks postpartum (CMCHAC, 2012). Additionally, in 2013, Brodribb et al. published findings based on a series of interviews with postpartum women and providers in Australia. They documented a need for specific recommendations for the postpartum visit; both women and providers felt there was not consistent information on postpartum care (Brodribb et al., 2013). Similar studies have concluded that current postpartum guidelines are "inconsistent across jurisdictions, fragmented across disciplines and sectors, and currently do not adequately meet the needs of the population" (Schmied et al., 2010).

In 2013 a Cochrane Review of best care practices associated with prenatal and internal care was released. The review concluded that current evidence related to the timing and frequency of postnatal care is limited and inconsistent (Yonemoto et al., 2013). They found that although women's physical and psychological health do not appear to improve with more postpartum visits, the infants of mothers with an increased frequency of visits were less likely to end up in the emergency room as well as more likely to be exclusively breastfed (Yonemoto et al., 2013). As a result of the limited findings Yonemoto et al. recommend that providers

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individualize their care to meet local needs. Similarly, a 2014 systematic review of current postpartum care guidelines reviewed 6 guidelines meeting the following criteria: available in English, readily available online, and containing cited evidence (Haran et al., 2014). In agreement with many of the conclusions above, the authors found a lack of high quality research with respect to the most effective care for postpartum women; the most apparent gap in recommendations was related to the timing of the follow-up visit. In lieu of actual evidence-based support for the specific timing for follow-up visits, Haran et al. recommend the strategy established by the NICE recommendations: the **utilization of a mother-centered approach** for the timing of visits rather than an all-inclusive recommendation (Haran et al., 2014).

In addition to the wide variation of guidelines with relation to the timing and frequency of the postpartum visit there is also inconsistency in the type and location of the postpartum follow-up visit in the United States (i.e. clinic, home, telephone). According to Cheng et al., home visits by health care professionals for postpartum women and their infants are provided in all northern and western European countries. For example, in the Netherlands insurance covers a continuous 1 week home care program that includes a professional who provides postpartum care in addition to child care and housework services (Cheng et al., 2006). In the United Kingdom, women have access to homecare through their midwife for up to a month postpartum as well as home health visitors throughout the remainder of the postpartum period (Haran et al., 2014). Cheng states that home visiting programs in the postpartum period have shown improved mental status for women, fewer subsequent pregnancies, greater spacing between pregnancies and a shorter duration of reliance on welfare and food stamp programs (Cheng et al., 2006).

Although almost twenty years old, Britton's 1998 study of American and Canadian physicians found that for vaginal deliveries, the majority of postnatal follow-up visits (55%) take place in the doctor's office/clinic while 33% of visits are exclusively at the mother's home and 12% take place at either location (Britton, 1998). This study also found that 99% of home visits were conducted by a nurse or nurse practitioner and that 98% of office visits were completed by a physician (Britton, 1998). A Canadian study by Goulet et al. of postpartum women found that 64.5% of women received a postpartum home visit and that 88% of these women received this visit in the first week following hospital discharge (Goulet et al., 2007). However, these researchers also found that significant improvement in maternal outcomes (i.e., lower proportion

of moderate to severe depressive symptoms at 1 month) was associated with very early postnatal contact, irrespective of site of visit (i.e., home vs. clinic).

Similarly, other studies comparing the postnatal home visit and clinic visit show no significant difference in maternal outcomes. The Cochrane review conducted by Yonemoto et al. in 2013 analyzed four different studies comparing home visits to hospital clinic visits for postpartum care. They found that there was no significant difference between those who received a postpartum home visit vs a clinic visit in severe maternal morbidity, maternal depression, maternal anxiety, and breastfeeding discontinuation (Yonemoto et al., 2013). However, they did find that maternal satisfaction with postpartum care was significantly higher for those who received home visits (RR = 1.26 [95% CI = 1.09 – 1.45]).

In the U.S., postpartum home visits occur as part of multiple programs such as Healthy Start, high-risk infant follow-up programs (e.g., APORS), family case management, etc. However, these visits are not typically considered “postpartum care” and are not considered to be a substitute for routine postpartum care with a medical provider. In addition, most of these home visiting programs primarily focus on the needs of the infant, rather than the needs of the mother.

Arguments for Earlier and More Frequent Postpartum Visits

As discussed above, there is little evidence supporting current recommendations for the timing and frequency of the postpartum visit; there is, however, a large body of review articles and commentaries supporting earlier and more frequent visits (Albers, 2000; Apgar et al., 2005; Goulet et al., 2007; Lu et al., 2006; Jacobson et al., 1999; Peijko, 2006; Speroff & Mishell, 2008). Many of these argue to maintain a six-week visit but also recommend a visit around 2-3 weeks past delivery (Albers, 2000; Apgar et al., 2005; Lu et al., 2006; Peijko, 2006; Speroff & Mishell, 2008) and some recommend an earlier visit within one week postpartum (Goulet et al., 2007; Jacobson et al., 1999) but do not specify if there should be additional visits beyond this early one. Arguments for earlier and more frequent postpartum visits are based on increased maternal satisfaction, decreased risk of postpartum depression, increased adherence to breastfeeding, and an early connection to services for contraception. In a survey conducted by Goulet et al. examining postpartum care and maternal outcomes, researchers found that among mothers who received postpartum services, those who did so in fewer than 72 hours were at significantly decreased risk of postpartum depression at one month (OR = .6 [95% CI = .45 -

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.79]) (Goulet et al., 2007). A randomized control trial by Labarere et al. found that women with a 2-week and 4-week visit with a family physician were more likely to continue breastfeeding for a longer duration than those who did not receive the two-week visit (Labarere et al., 2005).

Furthermore, there have been a number of studies showing that the majority of women resume sexual activity prior to six weeks, making the 6-week postpartum visit potentially too late for interventions relating to contraception (Speroff & Mishell, 2008).

In addition, the postpartum visit represents a valuable opportunity for increased internatal care and as a result requires more consideration and emphasis in practice (Lu et al., 2006). To address this need, Lu et al. call for not only an earlier visit at two weeks postpartum but also for follow-up care at 6-weeks, 6-months and an annual follow-up visit (Lu et al., 2006). Similar to the NICE guidelines, Lu et al. emphasize a need for these visits to be individualized to the needs of the mother and also suggest that women/providers meet the minimum number and timing of visits as outlined above. Similarly in a review of current postpartum care, Cheng et al. (2006) argue that there is a need to increase the availability of postpartum follow-up visits beyond 6 weeks. Cheng et al. state that the postpartum resources for mothers and families are necessary for up to a year following birth of their infant and that the timing of these visits should be flexible and reflect of the mother's needs. Unfortunately, despite the consensus of many that there is a need for more frequent and earlier postpartum visits, the evidence is still fairly limited and what is available lacks the necessary strength for wide-scale implications. There is a clear need for more research in this area.

Table A-1. National and International Guidelines for Postpartum Visit Guidelines for Timing and Frequency of Postpartum Visit

Author, Title	Organization, Location	Year	Guidelines for Timing and Frequency of Postpartum Visit	Evidence for Guidelines
International Guidelines				
<i>Demott et al, Postnatal Care: Routine Postnatal Care of Women and Their Babies</i>	National Institute for Health and Care Excellence, United Kingdom	2006	<i>Care should be individualized for each woman and determined in the antenatal period.</i> <u>First Visit:</u> Within 1st Week Postpartum <u>Remaining Visit(s):</u> 2-8 Weeks Postpartum	Available Literature and Expert Opinion/Panel
<i>Pregnancy, Childbirth, Postpartum and Newborn Care: A guide for Essential Practice</i>	World Health Organization	2006	<u>First Visit:</u> Within 1st Week Postpartum <u>Second Visit:</u> 4-6 Weeks Postpartum. <i>If specific concerns in postpartum period additional follow-up:</i> Fever -2 Days, UTI -2 Days, Perineal Infection - 2 Days, Incontinence - 1 Week, Severe Anemia - 2 Weeks, Postpartum Depression - 2 Weeks, HIV+ - 2 Weeks, Moderate Anemia - 4 Weeks, Any Complication - 2 Weeks	Expert Opinion/Panel
<i>Postnatal Care of the Mother and Newborn</i>	World Health Organization	2013	<i>A minimum of three visits.</i> <u>First Visit:</u> 48-72 Hours Postpartum <u>Second Visit:</u> 7 - 14 Days Postpartum <u>Third Visit:</u> 6 Weeks Postpartum	Available Literature and Expert Opinion/Panel
National Guidelines				
<i>Guidelines for Perinatal Care</i>	American College of Obstetrics and Gynecology, United States	2012	<u>Follow-Up Visit:</u> 4 - 6 Weeks Postpartum <i>Interval can be modified by needs of patient</i>	Scientific Information, Expert Opinion, and Clinical Practice
<i>Routine Prenatal and Postnatal Care</i>	Michigan Quality Improvement Consortium, United States	2012	<u>Follow-Up Visit:</u> 3 - 8 Weeks Postpartum	Available Literature and Expert Opinion/Panel
<i>Akkerman et al, Routine Prenatal Care</i>	Institute for Clinical Systems Improvement, United States	2012	<u>Follow-Up Visit:</u> 4 - 6 Weeks Postpartum <i>Discussion of postpartum care initiated in antenatal period.</i>	Available Literature and Expert Opinion/Panel
<i>Boyd et al, Postpartum Counseling</i>	Association of Reproductive Health Professionals, United States	2013	<u>Follow-Up Visit:</u> 4 - 6 Weeks Postpartum	Not Provided

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Table A-2. Recommendations for Postpartum Visit: Review of the Literature

Author, Title	Journal	Year	Guidelines for Timing and Frequency of Postpartum Visit	Evidence for Guidelines
Gunn et al, <i>Does an early postnatal check-up improve maternal health: results from a randomized trial in Australian general practice</i>	British Journal of Obstetrics and Gynecology	1998	More information needed before recommendations can be made on timing of first visit.	Randomized Controlled Trial
Jacobson et al, <i>The Post Birth Partnership: Washington State's Comprehensive approach to Improve Follow-Up Care</i>	The Journal of Perinatal and Neonatal Nursing	1999	3 -5 days following birth	Observational Study and Expert Opinion
Albers, <i>Health Problems After Childbirth</i>	Public Health Perspectives	2000	2, 3, or 4 weeks followed by 6 week visit	Expert Opinion
Apgar et al, <i>The Postpartum Visit: Is Six Weeks Too Late?</i>	American Family Physician	2005	Prior to 6 weeks. Potentially between 2 - 4 weeks.	Expert Opinion
Cheng et al, <i>Postpartum Maternal Health Care in the United States: A Critical Review</i>	Journal of Perinatal Education	2006	Timing flexible and available up to one year postpartum.	Expert Opinion
Lu et al, <i>Preconception Care Between Pregnancies: The Content of Internatal Care</i>	Maternal and Child Health Journal	2006	Minimum of three visits at 2 weeks, 6 weeks, and 6 months	Expert Opinion
Piejko, <i>The Postpartum Visit: Why Wait 6 Weeks?</i>	Australian Family Physician	2006	First visit at 2 - 4 weeks postpartum	Expert Opinion
Goulet et al, <i>Type and Timing of Services Following Postnatal Discharge</i>	Women & Health	2007	Follow-up in first 72 hours after hospital discharge	Observational Study
Speroff & Mishell, <i>The Postpartum Visit: It's Time for a Change in Order to Optimally Initiate Contraception</i>	Contraception	2008	First visit at 3 weeks and second at 3 months postpartum	Expert Opinion

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Appendix B

A Review of the Literature Related to Utilization of the Postpartum Follow-Up Visit

This literature review was prepared by Katrina Stumbras and Tierra Williams under the supervision of Arden Handler, DrPH, Kristin Rankin, PhD, Sadia Haider, MD, and Rachel Caskey, MD. This document was developed for the Illinois Department of Healthcare and Family Services under grant CFDA93.767 from the US Department of Health and Human Services, Center for Medicare and Medicaid Services. However, these contents do not necessarily represent the policy of either the Illinois Department of Healthcare and Family Services or the US Department of Health and Human Services, and you should not assume endorsement by the state or federal government.

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Introduction

The postpartum period and visit (AAP and ACOG, 2007) provide the critical link between prenatal care and women's preventive health care. Despite the significance of postpartum care, in some populations fewer than 60% of women receive a postpartum visit (IDHFS, 2014). Detailed research on the predictors of non-compliance with the postpartum visit may lead to an increased understanding of populations at risk of not receiving postpartum care. An awareness of these factors may have important implications for program and policy makers including where focus and support is most needed. This review aims to summarize and synthesize the literature related to factors associated with utilization of the postpartum visit.

Methods

A review of the current literature and electronically published guidelines related to women's use of the postpartum follow-up visit was conducted using multiple databases including PubMed, CINAHL, and Popline. Search terms included: postpartum, postnatal, and international with combinations of care, visit, utilization, use, non-use, delay and associated factors. In addition to the US, sources were primarily limited to research within developed nations with a focus on Canada, the UK, Australia, and other European countries. Details of the articles contributing to this literature synthesis are outlined in the table below.

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Table B-1. Background on Studies Included in the Literature Review

Author, Title	Name of Journal	Year of Publication	Sample Size	Data Source
Kogan et al., Factors Associated with Postpartum Care Among Massachusetts Users of the Maternal and Infant Care Program	Family Planning Perspectives	1990	13,921	1985-1987 Medical Records from 21 Maternal and Infant Care Offices operated by the Massachusetts Department of Public Health
Hulsey et al., The Influence of Attitudes About Unintended Pregnancy on Use of Prenatal and Postpartum Care	Journal of Perinatology	2000	319	Primary data collection via survey of English-speaking, Medicaid-eligible women entering prenatal care before 32 weeks at a tertiary clinic in Detroit between Nov 1996 and Nov 1997
York et al., Postnatal Care in Low-Income Urban African American Women: Relationship to Level of Prenatal Care Sought	Journal of Perinatology	2000	180	Consecutive sample of women at high-risk for inadequate prenatal care recruited at a large metropolitan hospital
Lu & Prentice, The Postpartum Visit: Risk Factors for Nonuse and Association with Breastfeeding	American Journal of Obstetrics and Gynecologists	2002	9,953	Nationally representative sample of women who had a live birth in 1988 and were surveyed by the National Maternal and Infant Health Survey
Bryant et al., Predictors of Compliance with the Postpartum Visit among Women Living in Healthy Start Project Areas	Maternal Child Health Journal	2006	1,637	Dec 1995 and Apr 1996 in-person interviews with Healthy Start participants and non-participants in Healthy Start project areas nationwide
Chu et al., Postpartum Care Visits - 11 States and New York City, 2004	CDC MMWR	2007	18,558	Pregnancy Risk Assessment Monitoring System
Dhaher et al., Factors Associated With Lack of Postnatal Care among Palestinian Women: A Cross-Sectional Study of Three Clinics in the West Bank	BMC Pregnancy and Childbirth	2008	264	Primary data collection of postpartum women who attended three clinics run by the Ministry of Health in West Bank, Palestine in 2006
Verbiest, The Postpartum Visit: An Overlooked Opportunity for Prevention	UNC Master's Dissertation	2008	400	Medical records of women who received prenatal services between April 2006 and March 2007 at the University of North Carolina
Matijasevich et al., Inequities in Maternal Postnatal Visits Among Public and Private Patients: 2004 Pelotas Cohort Study	BMC Public Health	2009	3,497	2004 Pelotas, Brazil Birth Cohort
Weir et al., Predictors of Prenatal and Postpartum Care Adequacy in Medicaid Managed Care Population	Women's Health Issues	2011	1,858	MassHealth enrolment and claims from women in Medicaid in Massachusetts with live birth between Nov 6, 2005 and Nov 5, 2006
Declercq et al., Major Findings of <i>Listening to Mothers III: New Mothers Speak Out</i>	The Journal of Perinatal Education	2014	2,400	Primary data collection via online survey of women who had given birth to singleton babies in US hospital between July 2011 and June 2012

State and National Rates of Postpartum Visit Utilization

Healthy People 2020 includes a developmental objective related to postpartum care: MICH-19. *Increase the proportion of women giving birth who attend a postpartum care visit with a health worker.* While there is not a universal surveillance system for collecting postpartum visit information, data from both PRAMS and from the National Committee for Quality Assurance (NCQA) provide state and national estimates of postpartum care use.

- **PRAMS.** Data collected from 2009 to 2010 by the Centers for Disease Control and Prevention's Pregnancy Risk Assessment Monitoring System (PRAMS),

which included data from 17 states, found that overall 88.9% of women attended a postpartum follow-up visit between 2 and 9 months following delivery (Child Health, 2013). However, when stratified by education level there was considerable variability in use of the postpartum visit. For mothers with fewer than 12 years of education, 78.6% of the population attended the postpartum visit compared to the 95.1% of women with 16 years or more of education who attended the postpartum visit (Child Health, 2013).

- **The National Committee for Quality Assurance (NCQA).** In 2013 NCQA released *The State of Health Care Quality* to bring attention to areas of key quality issues in U.S. health care. The quality measures in this report were assessed using data from the 2012 Healthcare Effectiveness Data and Information Set (HEDIS) and included information from health plans covering 43% of the U.S. population. According to the NCQA report, between 2001 and 2012 the proportion of mothers who attended a postpartum visit between 21 to 56 days after delivery increased for both the commercial HMO and Medicaid populations; a similar trend was present for commercial PPO users from 2005 to 2012 (Note: data for this population were not available prior to this point) (NCQA, 2013). In 2012, 80.1% of the commercial HMO population had a postpartum visit, compared to 70.0% of the commercial PPO population, and 63.0% of the Medicaid population (NCQA, 2013).

Postpartum Visit Utilization Rates from the Literature

Although the majority of the studies included in this literature review found postpartum visit attendance rates between 80% and 90%, there does appear to be variation between populations as shown in Table 2 below. Based on this information there is a clear need for further understanding of the factors influencing postpartum visit utilization.

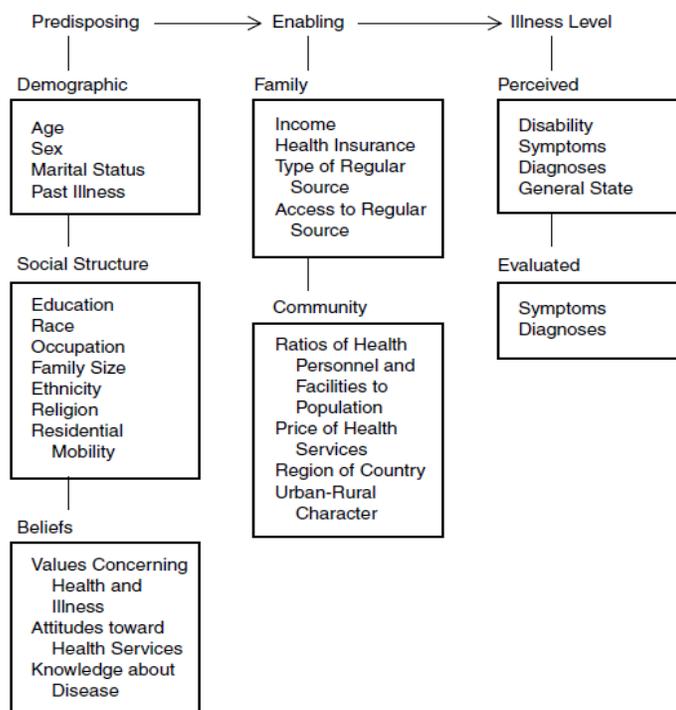
Table B-2. Proportion of Study Population Who Attended Postpartum Visit

Study	Study Population	Year(s) of Data Collection	Attended Postpartum Visit
Kogan et al., 1990	High-Risk Women in Massachusetts' Maternal and Infant Care Program	1985-1987	78%
Hulsey et al., 2000	Low-Income Women in Detroit	1996-1997	83%
Lu & Prentice, 2002	Nationally Representative Sample	1988	85%
Bryant et al., 2006	Low-Income Women Throughout US	1995-1996	86.5%
Chu et al., 2007	PRAMS, 11 States and NYC in 2004	2004	88.7%
Verbiest, 2008	Recipients of Prenatal Services at UNC	2006-2007	82.5%
Weir et al., 2011	Massachusetts Medicaid Managed Care	2005-2006	60%

Factors Influencing Postpartum Visit Utilization

Anderson & Newman (2005) established a conceptual model for evaluating individual factors influencing health care utilization (modification of the Aday and Anderson Utilization Model, 1995). This model focuses on three categories of factors affecting health services utilization: predisposing factors, enabling factors, and illness level (previously categorized as need) (Figure 1). Additionally, Andersen & Newman argue that equity of health care services can be assessed based on which factors best predict health care service utilization. Ideally, in a society with equitable access to health services, predisposing factors related to social structure and beliefs, and all enabling factors would be minimized with respect to predicting use of health services, while factors associated with demographics and illness level/need would be maximized (Andersen & Newman, 2005). This review uses the Andersen & Newman model as a way to consider the factors associated with use of the postpartum follow-up visit and reflect on equity of postpartum care. The findings from this literature review are discussed with respect to the above three categories; this categorization provides insight into areas in need of further emphasis with respect to research and practice.

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**Figure B-1. Individual Determinants of Health Service Utilization
(Andersen & Newman, 2005)**

Predisposing Factors

Andersen & Newman define predisposing factors associated with use of health care services as consisting of three categories: demographic, social structure, and beliefs as outlined in Figure 1. Unfortunately, information specific to use of the postpartum visit was not available for all factors listed above. Of the predisposing factors included in the studies reviewed, maternal age, marital status, education, race/ethnicity, employment status, transportation accessibility, parity, and pregnancy intent were found to be associated with use of the postpartum visit in at least one study.

Predisposing Factors: Demographic

A number of studies found women of younger maternal age to be less likely to attend the postpartum visit (Kogan et al., 1990; Chu et al., 2007; Verbiest, 2008; Matijasevich et al., 2008; Weir et al., 2011). Studies by Weir et al. of the Medicaid population in Massachusetts and Matijasevich et al. of a birth cohort in Pelotas, Brazil found women under 20 to be at high risk of not attending a postpartum visit. Verbiest compared women under 22 to women over 22 years

old, all of whom attended prenatal care at the University of North Carolina, and found that only 64% of women under 22 attended the postpartum visit compared to 85% of women over 22 years (Verbiest, 2008). In a national sample, Kogan et al. found that women up to 26 years of age were less likely to attend the postpartum visit compared to women over 26 years, at 77.3% and 82.2% respectively (Kogan et al., 1990). Two studies of low-income women in United States urban areas found that age was not significantly associated with use of the postpartum visit (Hulsey et al., 2000; Bryant et al., 2006). In addition Lu & Prentice, using a nationally representative sample of women, found age was no longer significant after adjustment for parity, marital status, race, education, income, region, pregnancy intent, prenatal care, pregnancy interventions, childbirth classes, substance use, insurance status, low birth weight and preterm delivery (Lu & Prentice, 2002).

All but two studies reviewing marital status found it to be associated with use of the postpartum visit such that single women were less likely to attend the postpartum visit (Kogan et al., 1990; Chu et al., 2007; Verbiest, 2008; Matijasevich et al., 2009). Lu & Prentice found that 86% of married women attend the postpartum visit compared to only 82% of unmarried women; however these findings were no longer significant after adjusting for the confounders listed above (Lu & Prentice, 2002).

Predisposing Factors: Social Structure

Three separate studies found that women with less than 9 years of schooling were the least likely group to attend the postpartum visit and found a positive correlation between years of school and the proportion of women who attend postpartum follow-up care (Kogan et al., 1990; Chu et al., 2007; Matijasevich et al., 2009). Lu & Prentice found that women without a high school degree had 1.57 (1.10, 2.24) times lower odds of attending the postpartum visit compared to women who graduated college (Lu & Prentice, 2002). Three of the studies reviewed found no significant association between education and use of the postpartum visit; however, all three of these studies are only generalizable to low-income populations (Hulsey et al., 2000; Bryant et al., 2006; Weir et al., 2011).

In general, it appears as though Hispanic and African-American women utilize the postpartum visit significantly less than their White counterparts (Kogan et al., 1990; Chu et al., 2007; Verbiest, 2008; Matijasevich et al., 2009). Using PRAMS data from 2004, researchers found Hispanic women to have the lowest postpartum care use at 82.6%, followed by African-

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American women at 87.5% and White women at 91.2% (Chu et al., 2007). However, four studies reviewed found no significant association between race/ethnicity and postpartum visit use (Hulsey et al., 2000; Lu & Prentice, 2002; Bryant et al., 2006; Weir et al., 2011). Of these four studies, three are among only low-income populations indicating that income may be driving the above association. Additionally, Hulsey et al.'s study of low-income women in Detroit found African-American women to be significantly more likely to attend the postpartum visit compared to White women ($p = .03$) in unadjusted analyses; however, this association was no longer significant after adjustment for age, marital status, education, parity, employment, use of birth control, initial feelings about pregnancy, consideration of abortion, whether woman was trying to get pregnant, and prenatal care (Hulsey et al., 2000). These researchers speculate that the initial association was possibly driven by the fact that in this population African-American women were more likely to be employed when compared to White women (Hulsey et al., 2000).

As mentioned above, Hulsey et al.'s 2000 study of low-income women in Detroit examined the influence of employment status on postpartum care use and found currently employed women to be significantly more likely to attend the postpartum visit (OR = 2.72 [1.00, 7.42]) compared to unemployed women. Researchers hypothesize that this could be due to the fact that most employed women already have regular child care while unemployed women may be unable to find care for their children in order to attend the postpartum visit (Hulsey et al., 2000). Similar to employment, only one study (Bryant et al., 2006) of low-income women examined the relationship between perceived transportation barriers and attendance at the postpartum visit. Not surprisingly, the researchers determined that women who experienced difficulty with transportation were significantly less likely to attend postpartum follow-up care (OR = .59 [.39, .90]).

The most consistent finding related to predisposing factors and use of postpartum care was related to parity. Six of the eight studies that looked at parity found that women with fewer or no previous children are significantly more likely to attend the postpartum visit (Kogan et al., 1990; Hulsey et al., 2000; Chu et al., 2007; Verbiest, 2008; Matijasevich et al., 2009; Weir et al., 2011). For example, using PRAMS data researchers found that 90.4% of women with no previous children attended their postpartum visit, as compared to 88.1% of women with 1 to 2 children and 84.2% of women with over 2 children (Chu et al., 2007).

Predisposing Factors: Beliefs

Information about the role of beliefs (the third category of predisposing factors) in women's decision to attend the postpartum visit is found in several studies. Dhaher et al., 2008, interviewed 264 postpartum Palestinian women to assess factors associated with postpartum care use and to assess women's attitudes toward the value of postpartum care. These researchers found that 66.7% of women found postpartum care necessary although only 36.7% obtained these services. It was suggested that the considerable difference in women who identify postpartum care as important and the proportion that actually obtain care might be explained by barriers to care (e.g., child care, cost, transportation, etc.) or may be due to social desirability bias. Additionally, these researchers found that the most frequent reason for not obtaining services was that women indicated they did not feel sick (85% of non-postpartum visit users) and that a doctor did not tell them to come back for postnatal care (15.5% of non-postpartum visit users) (Dhaher et al., 2008). These findings are similar to those of *The Listening to Mothers III Study* (Declercq et al., 2014). Declercq et al. determined the leading reason women chose not to attend the postpartum visit was that they 'felt fine and did not need to go' (42% of non-postpartum visit users); other women 'felt that they had already completed all of my maternity care' (18%) or reported it was 'too hard to get to the office' (12%) (Declercq et al., 2014).

Three studies examined use of the postpartum visit and initial feelings towards pregnancy and intendedness. Lu & Prentice found that while there was an initial significant association, after adjustment for confounding this association was no longer significant (Lu & Prentice, 2002). Additionally, Hulseley et al. 2000 found no significant association between initial feelings towards pregnancy and postnatal care. Only researchers using PRAMS data found an association: 84.7% of women who did not want to be pregnant attended the postpartum visit compared to 91.1% of women whose pregnancies were intended ($p < 0.001$) (Chu et al., 2007).

Enabling Factors

Current research on enabling factors related to use of postpartum follow-up care appear to focus on family-related factors as defined by Andersen & Newman's model. A review of the relevant articles did not find any research on community-related enabling factors, consequently indicating a need for further research in this area. The findings on family enabling factors are outlined below.

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Only one study found no association between use of prenatal care and postpartum attendance (Hulsey et al., 2000). All other studies found that women with no prenatal care, lower quality of care, or delayed initiation of care were significantly less likely to attend the postpartum visit (Kogan et al., 1990; York et al., 2000; Lu & Prentice, 2002; Chu et al., 2007; Matijasevich et al., 2009). Lu & Prentice found that women who received no prenatal care had 3.39 (1.98, 5.81) times lower odds of attending the postpartum visit compared to women who initiated prenatal care in the first trimester (Lu & Prentice, 2002). Using PRAMS data from 11 states, CDC reported that 65.7% of women with no prenatal care received the postpartum visit, compared to 71.2% of women who initiated prenatal care in the 2nd or 3rd trimester, and 91% of women who initiated care in the 1st trimester (Chu et al., 2007). Similarly, using the Kessner index, Kogan et al. 1990 found that 63.4% of women who received inadequate care attended the postpartum visit compared to 75.7% of women who received intermediate care and 85.5% of women who received adequate care. This apparent association between use of prenatal care and postnatal care suggests that similar factors are likely driving the use of maternity health care services and that interventions related to these factors are likely to have dual benefits, increasing the use of both services (York et al., 2000).

Another enabling factor of importance is household income. From the literature reviewed here, it appears that women with lower household incomes are less likely to attend the postpartum visit (Lu & Prentice, 2002; Bryant et al., 2006; Matijasevich et al., 2009); for example, Lu & Prentice, 2002 found that women with a household income below \$20,000 had 1.51 (1.13, 2.01) lower odds of attending the postpartum visit than women with a household income above \$20,000. As mentioned above in the NQCA findings, insurance status also appears to be significantly associated with attendance at the postpartum visit, in that women with Medicaid are less likely to attend postpartum follow-up care. Verbiest's study of women using University of North Carolina's medical facilities found that 93% of women with private insurance attended the postpartum visit while only 73% of women with no insurance or Medicaid received this visit (Verbiest, 2008). On the other hand, Bryant et al.'s 2006 study of low-income women found no significant association between insurance status and postpartum follow-up care.

Bryant's study also considered two other enabling factors (related to access to health services) associated with use of the postpartum visit: language barriers and housing instability. For both Bryant et al. found the factors to decrease the likelihood of women attending the

postpartum visit, leading to odds ratios for use of the postpartum visit under 1.0. Specifically, women who had difficulty understanding their provider were less likely to attend the postpartum visit (OR = .65 [.44, .97]). Additionally, women with housing instability (measured as two or more moves in the last year) were less likely to attend their postpartum visit (OR = .47 [.25, .89]) (Bryant et al., 2006).

Illness Level (Need)

The need factor with respect to the postpartum visit is not a particular focus of study as it is expected de facto that all women need a postpartum visit with their provider after delivery. However, some women have additional needs beyond the need for basic follow-up care. (Note: this review did not consider particular aspects of postpartum care such as care for postpartum depression or chronic disease in depth but several of the general articles mentioned these considerations as factors in the use of the postpartum visit). Below we summarize these findings.

A study conducted by Weir et al. in 2011 found no significant association between any maternal mental illness, including depression, and use of the postpartum visit, in both the unadjusted and adjusted models. Although not a direct measure of mental health, Bryant et al. (2006) found that 80.9% of women who were treated poorly in pregnancy by family, friends or baby's father attended the postpartum visit compared to 87.8% of women who not treated poorly ($p = .061$).

Three studies found substance use (e.g., alcohol, cigarettes, and drugs) during pregnancy to be associated with decreased use of postpartum care (Chu et al., 2007; Matijasevich et al., 2009; Weir et al., 2011). Matijasevich et al. found that women who smoked under 10 cigarettes per day had 1.33 (1.03, 1.73) times lower odds of attending the postpartum visit and women who smoked over 10 cigarettes a day had 1.65 (1.32, 2.06) times lower odds of attending the visit compared to women who did not smoke during pregnancy (Matijasevich et al., 2009). Additionally, Weir et al. 2011 found that women with a history of substance abuse were significantly less likely to attend the postpartum visit (OR = .40 [.26, .62]). .

Not surprisingly, two studies found that women who delivered via C-section were more likely to attend the postpartum visit (Kogan et al., 1990; Matijasevich et al., 2009). However, two studies found no significant association between delivery method and use of the postpartum visit (Chu et al., 2007; Verbiest, 2008). Of the four studies that examined the association

between preterm birth and postpartum care, none found a significant association (Lu & Prentice, 2002; Bryant et al., 2006; Chu et al., 2007; Verbiest, 2008). Finally, researchers using PRAMS data examined the association between postpartum visit use and self-reported diabetes or hypertension and found that neither were significantly associated with use of the postpartum visit (Chu et al., 2007). Both Bryant et al. 2006 and Weir et al. 2011 assessed the association between women with a history of any chronic health condition or disability and attendance at the postpartum visit, but found opposing results. Bryant et al. found that low-income women with a history of chronic health conditions were more likely to attend the postpartum visit (OR = 2.49 [1.07, 5.80]), while Weir et al. found that women on Medicaid for a ‘work-limiting disability’, as defined by Social Security administration criteria, were less likely to attend the postpartum visit (OR = .54 [.32, .92]).

Implications for Future Practice

Increasing utilization of the postpartum visit is essential to ensuring the health of women and the health of any potential future pregnancies. The Healthy People 2020’s developmental objective to increase the proportion of women giving birth who attend a postpartum visit emphasizes the national focus in this area. If we consider Andersen & Newman’s model for evaluating equitable health care use it is clear that postpartum care utilization is not equitable (Andersen & Newman, 2005). Many factors that are ideally minimized in Andersen & Newman’s equity model were found to be significant predictors of postpartum visit use in at least half of the studies found; these factors included the social structure variables of race/ethnicity, education, and the enabling variables of income and insurance type. Andersen & Newman 2005 argue that enabling factors (e.g., insurance status, income, prior health care utilization such as prenatal care) are those which are the most susceptible to intervention and perhaps represent the areas where resources are best allocated. In addition, research focused on enabling community level factors (e.g., urban vs. rural) should be conducted in order to increase our knowledge of the factors associated with postpartum care use and to ensure that all women are taking advantage of this essential health service.

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Table B-3. Association of Maternal Characteristics with Postpartum Visit Use by Study

Data Source	Kogan et al, 1990	Hulsey et al, 2000	York et al, 2000	Lu & Prentice, 2002	Bryant et al, 2006	Chu et al, 2007	Verbiest, 2008	Matijasevich et al, 2009	Weir et al, 2011
	Massachusetts Maternal and Infant Care	Low-Income Women in Detroit	Low-income African American Women in Mid- Atlantic	Nationally Representative Sample	Low-Income Women Throughout US	PRAMS	Recipient of Prenatal Services at UNC	Women Who Gave Birth in Pelotas, Brazil	Massachusetts Medicaid Managed Care
Predisposing Factors									
Younger Maternal Age	SIG (↓)	NS		NS*	NS	SIG (↓)	SIG (↓)	SIG (↓)	SIG (↓)
Single Marital Status	SIG (↓)	NS		NS*		SIG (↓)	SIG (↓)	SIG (↓)	
Lower Education	SIG (↓)	NS		SIG (↓)	NS	SIG (↓)		SIG (↓)	NS
Minority Race/Ethnicity	SIG (↓)	NS*		NS	NS	SIG (↓)	SIG (↓)	SIG (↓)	NS
Increased Parity	SIG (↓)	SIG (↓)		NS	NS	SIG (↓)	SIG (↓)	SIG (↓)	SIG (↓)
Negative Feelings Towards Pregnancy/Intent		NS		NS*		SIG (↓)			
Enabling Factors									
Poor/No Prenatal Care	SIG (↓)	NS	SIG (↓)	SIG (↓)		SIG (↓)		SIG (↓)	
Lower Household Income				SIG (↓)	SIG (↓)			SIG (↓)	NS
Non-Private Insurance Payer	SIG (↓)			NS*	NS	SIG (↓)	SIG (↓)	SIG (↓)	
Illness Level									
Alcohol/Drug Use During Pregnancy				NS		SIG (↑)		SIG (↑)	SIG (↑)
C- Section Delivery Method	SIG (↑)					NS	NS	SIG (↑)	
Preterm Labor				NS*	NS	NS	NS		
Chronic Health Condition/Disability					SIG (↑)				SIG (↓)

SIG- Factor Significantly Associated with Attending Postpartum Visit, NS- Findings Not Significant

(↑)- Factor Positively Associated with Attendance at Postpartum Visit, (↓)- Factor Negatively Associated with Attendance at Postpartum Visit

**Factor significant in unadjusted model, not significant after adjustment*

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Appendix C

Interventions to Increase Attendance at the Postpartum Follow-up Visit: A Review of the Literature

This literature review was prepared by Katrina Stumbras and Tierra Williams under the supervision of Arden Handler, DrPH, Kristin Rankin, PhD, Sadia Haider, MD, and Rachel Caskey, MD. This document was developed for the Illinois Department of Healthcare and Family Services under grant CFDA93.767 from the US Department of Health and Human Services, Center for Medicare and Medicaid Services. However, these contents do not necessarily represent the policy of either the Illinois Department of Healthcare and Family Services or the US Department of Health and Human Services, and you should not assume endorsement by the state or federal government.

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Introduction

The postpartum period and visit (AAP and ACOG, 2007) provide the critical link between prenatal care and women's preventive health care. Despite the significance of postpartum care, in some populations fewer than 60% of women receive a postpartum visit (IDHFS, 2014). In response to these low follow-up rates, a diverse set of initiatives and interventions have been implemented to increase utilization of the postpartum visit. Examples of these interventions include incentives in the form of gifts or coupons redeemable at the postpartum visit, patient education programs, home visiting services, and assistance with appointment scheduling. While there is limited research available focused on the evaluation of these initiatives, this review aims to summarize and synthesize the results of those studies which have been conducted to date in the United States and similar nations.

Methods

A review of the current literature focused on interventions to increase women's use of the postpartum follow-up visit was conducted using multiple databases including PubMed, CINAHL, TRIP, Uptodate, and Popline. Search terms included: postpartum, postnatal, and internatal with combinations of care, visit, utilization, use, and non-use as well as terms such as intervention, program, initiative, incentive, and home visit. Articles included in the review were

limited to those discussing an evaluation of a specific intervention with the aim of, either directly or indirectly, increasing use of the postpartum follow-up visit. Interventions that did not discuss attendance at the postpartum follow-up visit and alternatively discussed postpartum acute care visits and/or hospitalizations were not included in this review.

In addition to the general review of the content of each study, a quality review of each article was also completed. The quality review tool (Appendix A) included a total of 14 criteria covering the relevant domains of study aims, intervention design, internal validity, external validity, and power. This tool is an abbreviated and adapted version of the *Quality Review Checklist* designed by Handler, Kennelly, and Peacock for review of interventions related to reducing racial/ethnic disparities in reproductive and perinatal outcomes (Handler, Kennelly, & Peacock eds., 2011). Every article was scored based on whether it addressed each of the 14 criteria listed in the quality review tool. Overall quality review scores were determined based on the number of criteria met: for each quality criterion addressed, the article received a single point, for each quality criterion not met one point was deducted, and if the criterion was not reported clearly the article received 0 points. Consequently, the maximum quality score an article could receive was 14 points and the minimum score was -14 points, although none of the articles in this review received an overall negative score.

Discussions of the interventions reviewed in this paper are organized by timing of intervention (i.e., conducted in the antenatal period versus conducted in the postnatal period) as well as by type of intervention. Interventions occurring in the antenatal period included a wide breadth of initiatives including those focused on incentives as well as prenatal care enhancements such as home visiting programs, patient education, and group prenatal care. In the postnatal period interventions included patient education, home visiting, incentives, and/or appointment scheduling initiatives. An overview of these interventions can be found in Tables 1 and 2.

Interventions in the Antenatal Period

Incentive Interventions

Two of the articles evaluated the use of patient incentives introduced in the antenatal period to increase attendance at the postpartum visit. Stevens-Simon et al. (1994) evaluated the impact of the use of incentives on attendance at the postpartum visit for low-income adolescents. Participants were chosen from adolescents in the Colorado Adolescent Maternity Program, all of

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whom were between 14 and 19 years old with low socioeconomic status. A total of 240 participants were enrolled in the study: 108 randomly assigned to the incentive group and 132 to the non-incentive group. Those randomized to the incentive group were informed that they would receive a gift of an infant carrier at the postpartum visit, while the non-incentive group received standard information on the postpartum visit. Researchers defined attendance at the postpartum visit if the visit occurred within 12 weeks of delivery. Data were collected through patient interviews and medical records. Over eighty percent (82.4%) of the young women in the incentive group attended the postpartum visit compared to 65.2% of women in the non-incentive group ($p = .003$) (Stevens-Simon et al., 1994).

The second antenatal intervention utilizing incentives to increase attendance at the postpartum visit was conducted by Laken & Ager (1995). These researchers used two different forms of incentives to encourage attendance for non-adolescent low-income Medicaid-eligible women in Michigan. Two hundred and five women were enrolled in the study and randomly assigned to one of three groups: two incentive groups and one control group ($n = 101$). Fifty-one women in one incentive group were assigned to receive a \$5.00 gift certificate for each prenatal and postpartum appointment kept. The second incentive group included 53 women who were assigned to receive a \$5.00 gift certificate as well as entrance into a \$100 raffle for each appointment kept. Attendance at the postpartum visit was assessed using clinic charts and delivery records. Overall, 55% of women in this study attended their postpartum visit with no significant difference between any of the three groups (Laken & Ager, 1995). Researchers concluded that the incentives had no impact on whether the postpartum appointment was kept because the incentives did not address the underlying reasons women miss their postpartum appointment which include poverty and lack of tangible resources (Laken & Ager, 1995).

The findings from these evaluations (both conducted in the 1990's) showed differing results with respect to the success of incentives. Findings from Stevens-Simon et al. indicate that low-income adolescents may be receptive to the use of a gift for the infant as an incentive in the antenatal period, while the study examining a non-adolescent population (Laken & Ager) found no significant support for use of cash/raffle incentives. The limited and relatively dated studies in this area indicate a need for further research to determine the type of incentive and population most receptive to this form of intervention. Future studies of this type are also needed to address

the concerns introduced by Laken & Ager regarding the underlying factors driving low attendance at the postpartum follow-up in low-income non-adolescent populations.

Quality Review: Antenatal Patient Incentives Interventions		
Author, Year	Quality Review Score (of 14)	Unmet Quality Criteria*
Stevens-Simon et al., 1994	10	Did Not: N/A (All Were Criteria Met [score +1] or Unable to be Determined [score 0])
Laken & Ager, 1995	9	Did Not: Adequately Adjust for Confounding (#9)

(#) Corresponds to question number on Appendix A: *Quality Review Tool*.

*Resulting in a -1 score for the criterion in question.

Enhanced Prenatal Care Interventions

Five of the articles reviewed included a change or enhancement of prenatal care as an intervention to improve maternal health outcomes and practices including use of the postpartum follow-up visit. One intervention evaluated by Belizan et al. (1995) conducted an education and social support intervention for high-risk, pregnant women in Latin America. This intervention consisted of 4 to 6 prenatal home visits by social workers to reinforce the women’s social and emotional support network, to educate the women on pregnancy, and to encourage use of health services including the postpartum visit. These visits took place between 22 and 34 weeks gestation and typically lasted between 1 to 2 hours. Women were eligible for this study if planning to give birth in one of four Latin American hospitals, initiated prenatal care between 15 and 22 weeks with a singleton pregnancy, had no history of chronic disease but met one of the ‘high-risk’ criteria of previous adverse birth outcome, low socioeconomic status, under 17 years of age, smoking or high alcohol intake, or single. These women were randomized to either intervention (n = 1,115) or control (n = 1,120) group. Data were collected by examining medical records and through interviews with mothers during postpartum periods. Researchers found no significant difference in attendance at the postpartum visit between the intervention group and the control group, 36.8% and 32.8%, respectively (Belizan et al., 1995).

Bensussen-Walls & Saewyc (2001) designed an intervention which altered prenatal care to improve maternal and infant outcomes and service utilization in pregnant adolescents. This intervention was tailored to adolescents through the creation of multiple “comprehensive, interdisciplinary teen-centered prenatal care clinics” in two sites. These teen-centered clinics

established care teams including a physician, social worker, health educator, and other professionals as necessary and were designed to fit the schedules of the adolescents with respect to school and transportation limitations. To evaluate the impact of these two clinics in comparison to the traditional model of prenatal care delivered in clinics, researchers completed a retrospective matched-case comparison evaluation. Twenty-five to twenty-seven pregnant women between 13 and 18 years old were selected from each of four clinics (two teen, two traditional) in Washington. Participants from the special teen clinics were matched to those from the traditional clinics on age, parity, home status, juvenile justice involvement, depression, drug use, abuse, ethnicity and trimester of initiated prenatal care. Attendance at the postpartum visit was assessed through retrospective chart reviews in which any indication that a woman attended a 6-8 week visit categorized participants as having attended their postpartum visit. Both teen centers had a 6-8 week postpartum visit attendance rate at 70% or greater (77.8%), while the adult clinics had postpartum visit attendance rates of fewer than 33.3% and 44%. The researchers found that adolescents receiving care at the teen-centered clinics were significantly more likely to attend their postpartum follow-up visit than adolescents who received traditional prenatal care ($p < .05$) (Bensussen-Walls & Saewyc, 2001). The researchers concluded that the increased attendance at the postpartum visit among young women served at the teen clinics may be indicative of increased connectedness between the adolescents and the clinics which encouraged increased continuity of care from the prenatal to the postpartum periods (Bensussen-Walls & Saewyc, 2001).

Three of the articles reviewed examined the effect of group prenatal care, represented by the CenteringPregnancy model, on the use of postpartum follow-up care for diverse populations. The CenteringPregnancy model generally consists of group prenatal care sessions led by a nurse practitioner and health educator. These sessions include health assessment and education and also encourage group cohesiveness and support between the women receiving care together (CHI, 2014). A study by Grady & Bloom (2004) examined healthcare utilization for adolescents attending a CenteringPregnancy program designed specifically for adolescents in St. Louis, Missouri. Grady & Bloom found that, of the 124 adolescents who completed the CenteringPregnancy program, 87% attended the postpartum visit within 8 weeks after giving birth. Data were collected from participants directly and there was no comparison group in this study.

Tandon et al. (2013) completed an evaluation of the CenteringPregnancy program implemented with a low-income Latina population obtaining prenatal care at public health clinics in Palm Beach County, Florida. Eligible participants first agreed to participate in an evaluation and then self-selected into CenteringPregnancy or traditional prenatal care. Researchers used a standardized scripted speech when explaining each of the prenatal care options to avoid influencing participant selection. Of the 291 women who agreed to participate in the research, 199 chose the CenteringPregnancy program and 92 chose the traditional prenatal care model; the latter served as the comparison group. There was no significant difference between the Centering and traditional prenatal care groups with respect to demographic characteristics. Attendance at the postpartum visit was defined as having returned for a postpartum check-up less than or equal to 6 weeks after delivery and assessed by asking women directly. Researchers found that 99% of women in the group prenatal care model attended their postpartum visit within six weeks post-delivery compared to 94% women in the comparison group ($p = .04$) (Tandon et al., 2013).

Similarly, a study conducted by Trudnak et al. (2013) also researched the impact of CenteringPregnancy on postpartum care utilization among a Latina population in the US obtaining prenatal care at a health department clinic. This study used a retrospective review of medical charts for 487 medically low-risk Latina women. Of these, 247 had obtained prenatal care through the CenteringPregnancy model and 240 used traditional prenatal care (Trudnak et al., 2013). Attendance at the postpartum visit was defined as having returned for a postpartum check-up within 8 weeks after delivery and assessed by reviewing patient charts. Researchers found that 86.7% of women in the CenteringPregnancy group attended their postpartum visit compared to 74.6% of those in traditional, individual care; this relationship held after adjustment for initiation of prenatal care, prenatal care adequacy, healthy maternal weight gain, postpartum BMI, method of birth, birth hospital, infant birth weight, gestational age at birth, infant feeding method, and parity (aOR = 2.20 [1.2 – 4.05]) (Trudnak et al., 2013). Trudnak et al. hypothesized that the increased use of the postpartum visit for women participating in CenteringPregnancy may be a result of the cohesiveness and supportive nature of the group with respect to encouraging healthy behaviors (Trudnak et al., 2013).

Overall, the results from the five studies discussed above provide positive but inconclusive evidence for the impact of enhanced prenatal care on use of the postpartum visit. Similar to the antenatal incentive interventions it appears as though the adolescent population

may be particularly amenable to alternative models of prenatal care interventions to increase attendance at the postpartum visit, as exhibited by the interventions conducted by Bensusen-Walls & Saewyc, 2001 and Grady & Bloom, 2004. While Belizan et al.'s home visiting education intervention found no significant improvement, it only included 4-6 home visits suggesting that further investigation is needed on the relationship between the dose of home-based education interventions and the use of the postpartum visit. Finally, CenteringPregnancy evaluations provide support for the effectiveness of group prenatal care in increasing attendance at the postpartum visit, specifically in the Latina population. These findings justify support for further intervention and evaluation in other vulnerable populations using the group prenatal care model.

Quality Review: Antenatal Enhanced Prenatal Care Interventions		
Author, Year	Quality Review Score (of 14)	Unmet Quality Criteria*
Belizan et al., 1995	6	Did Not: Measure Intensity of Exposure (#4), Compare Selected to Target Population (#10), Describe Loss to Follow-Up (#12)
Bensusen-Walls & Saewyc, 2001	9	Did Not: Compare Selected to Target Population (#10), Describe Loss to Follow-Up (#12)
Grady & Bloom, 2004	1	Did Not: Measure Intensity of Exposure (#4), Have Appropriate Comparison Group (#5), Have Appropriate Statistical Tests (#8), Adequately Adjust for Confounding (#9), Describe Loss to Follow-Up (#12)
Tandon et al., 2013	7	Did Not: Measure Intensity of Exposure (#4), Describe Loss to Follow-Up (#12)
Trudnak et al., 2013	7	Did Not: Measure Intensity of Exposure (#4), Compare Selected to Target Population (#10), Describe Loss to Follow-Up (#12)

(#) Corresponds to question number on Appendix A: Quality Review Tool.

*Resulting in a -1 score for the criterion in question.

Combination of Incentive and Patient Education in the Antenatal Period

The Serving Pregnant and Parenting Adolescents' Needs Project in Texas, evaluated by Jones & Mondy (1990), used both incentives and patient education as a part of an initiative designed to encourage pregnant adolescents to keep their postpartum and well-baby appointments. Women who agreed to participate were asked to commit to a minimum of 8 classes on topics such as preparing for labor, postpartum care, and family planning in addition to

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attending traditional prenatal care. Lessons were taught by non-professional volunteer women trained and certified as instructors by the Red Cross. Each participating adolescent was given a gift, ~\$2 in value, for attending each class. In addition to providing gifts for attending educational prenatal visits, each participant was given a certificate during the prenatal period that could be redeemed at her postpartum visit for a layette worth ~\$15 (Jones & Mondy, 1990). Researchers evaluated this initiative using a quasi-experimental design. All participants were under 18 years of age, screened as medically low-risk, and of low socioeconomic status. There were 210 participants total, 94 of whom were considered ‘high-treatment’ given their completion of 8 or more prenatal lessons and 116 of whom were considered ‘low-treatment’ given their completion of fewer than 8 lessons. Both participant groups were compared to 189 comparison subjects from the same population who were not provided the option of participating in the program using data collected from agency record reviews. Jones & Mondy found that 87% of women in the high-treatment group, 73% of women in the low-treatment group, and 71% of women in the comparison group attended their postpartum visit. The women in the high-treatment group were significantly more likely to attend the postpartum visit compared to the low-treatment group ($p < .011$) and the control group ($p < .002$); however, there was no significant difference found between the low-treatment and control groups. Although the authors do not speculate as to whether increased attendance occurred as a result of the incentives or patient education, the findings suggest that incentives combined with participation in a higher number of educational classes may increase use of the postpartum visit for adolescent populations (Jones & Mondy, 1990).

Quality Review: Antenatal Combined Incentives and Education Intervention

Author, Year	Quality Review Score (of 14)	Unmet Quality Criteria*
Jones & Mondy, 1990	11	Did Not: N/A (All Were Criteria Met [score +1] or Unable to be Determined [score 0])

(#) Corresponds to Question Number on Appendix A: Quality Review Tool

*Resulting in a -1 score for the criterion in question.

Interventions in the Postnatal Period

Incentive Interventions

Two of the articles reviewed utilized incentives in the postnatal period to increase uptake of the postpartum follow-up visit. Both studies show increased attendance at the postpartum visit among the women receiving incentives (Smith et al., 1990; Tsai et al., 2011).

Smith et al. (1990) examined the use of differing forms of postpartum incentives to increase attendance at the postpartum visit among an adolescent population. Researchers enrolled 534 postpartum low-income adolescents prior to discharge from a large Southwestern city hospital in the United States and scheduled a postpartum visit for each participant. Forty-three percent of participants were Black, 45% were Hispanic, and 12% were White. Each adolescent was randomly assigned to either one of two intervention groups or a control group (n = 192). One intervention group (n = 149) received a coupon to be redeemed at the postpartum visit for baby formula and the other intervention group (n = 193) received an appointment reminder mentioning a gift to be received at the postpartum visit. Attendance at the postpartum visit was assessed by checking for the participants name with clinic records on the day of her scheduled appointment to determine if present at visit. Although the overall return rate for the postpartum visit was low among the entire sample (27%), the coupon group had the greatest attendance rate at 37% while the gift group and control group showed similar rates at 23% and 22%, respectively (Smith et al.1990). Researchers also found significant differences between Black, Hispanic, and White attendance at the postpartum visit at 31%, 26%, and 14%, respectively ($p < .02$). After stratifying by ethnicity, researchers found that there was no significant difference between incentive type and use of the postpartum visit for Hispanic or white young women. However, Black adolescents in the coupon incentive group were slightly more likely to attend the postpartum visit ($p < .07$) (Smith et al., 1990).

Tsai et al. (2011) also examined the influence of incentives in the postnatal period on attendance at the postpartum visit based on a clinic wide initiative to increase postpartum follow-up care in Honolulu, Hawaii. This intervention was also unique as it aimed not only to increase attendance at the postpartum visit in general but to also increase the frequency and timing of postpartum visits to include an earlier 3-week postpartum visit in addition to the typical 6 week visit. The initiative involved providing postpartum women with a scheduled appointment while at the hospital prior to discharge as well as a gift in which a picture of the woman and her infant

were taken during the first postpartum visit (approximately 3 weeks postpartum) and then presented to the women in a photo album at the second postpartum visit (approximately 7 weeks postpartum). Due to the all-inclusive nature of this initiative, researchers were not able to establish a comparison group within the clinic population with which to evaluate this initiative. Consequently, a retrospective chart review was used to compare those who delivered before initiation of the intervention (n = 106) to those who received the intervention (n = 115). Researchers found that women in the post-intervention implementation group were significantly more likely to attend any scheduled postpartum visit compared to those who delivered before the intervention, with follow-up rates of 86.1% and 71.7%, respectively (p = .012). Additionally, women in the intervention group were more likely to attend both the first and second postpartum visits with the first postpartum visit occurring approximately one-week earlier for those in the intervention group compared to those in the non-intervention group (Tsai et al., 2011).

Although both articles showed an increase in use of the postpartum visit for those receiving incentives, the findings are limited by select populations and the influence of additional interventions. Clearly, the impact of postpartum incentives on the use of the postpartum visit for both the adolescent and non-adolescent populations is an area in need of further investigation.

Quality Review: Postnatal Patient Incentives Interventions

Author, Year	Quality Review Score (of 14)	Unmet Quality Criteria*
Smith et al., 1990	10	Did Not: Adequately Adjust for Confounding (#9)
Tsai et al., 2011	12	Did Not: N/A (All Were Criteria Met [score +1] or Unable to be Determined [score 0])

(#) Corresponds to Question Number on Appendix A: Quality Review Tool

*Resulting in a -1 score for the criterion in question.

Home Visiting Interventions

Two articles reviewed assessed the impact of home visiting programs on use of the postpartum visit. Both of these studies found that women who participated in a postpartum home visiting program were more likely to attend their postpartum visit (Ghilarducci & McCool, 1993; IHPI, 2003).

A study by Ghilarducci & McCool (1993) examined the influence of a single 30 to 60 minute postpartum home visit on attendance at the postpartum visit among low-income patients

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of a New England urban community health clinic. Home visits were completed within 2 weeks of hospital discharge by certified nurse-midwives and included discussion of postpartum care, family planning, and encouragement to attend well-baby and postpartum visits. Due to financial constraints the program was shut down in 1985 and did not resume normal practice again until 1989; as a result, researchers designed a before-after evaluation of the home visiting program using women who gave birth in 1986 when the program was closed as the comparison group (n=42) and women who gave birth in 1989 as the intervention group (n = 39); 61 individuals were not included in this study due to missing or incomplete records and 16 individuals were not included due to a prior severe adverse birth outcome (Ghilarducci & McCool, 1993). Attendance at the postpartum visit was assessed using a retrospective chart review.

Of the women in the comparison group, only 58% kept their original scheduled postpartum follow-up appointment, while 74% of those in the intervention group kept their appointment ($p = .12$) (Ghilarducci & McCool, 1993). All women in the study eventually received a postpartum examination (all women were followed up with by the clinic regularly until visit); however, among those who did not receive a home visit the mean number of missed postpartum appointments was 0.7 (SD = 1.03) and among those who received the home visit, the mean number of missed appointments was significantly lower at 0.3 (SD = 0.61) ($p = .02$) (Ghilarducci & McCool, 1993). Researchers concluded that home visiting not only increases initial attendance at the postpartum visit but also led to better patterns of appointment compliance over time (Ghilarducci & McCool, 1993).

In an effort to increase interconceptional health for high-risk women in Denver, the Interconception Health Promotion Initiative (IHPI) was established in 1995. IHPI established a home-based case management program for women with a previous adverse birth outcome. Women were ideally recruited to the IHPI program prior to discharge from the hospital; otherwise, women were contacted as soon as possible via phone calls, letters and 'drop-in' home visits. Recruited women were followed up to their next pregnancy or for 3 years. The case managers of the program focused education and intervention during the home visits on seven main areas: medical, family planning, lifestyle, relationship issues, life necessities, maternal role, and life course (IHPI, 2003). One hundred sixty-two women were identified as 'completers' of the program in that they completed at least 6 months in the program during the evaluation period. To evaluate the impact of the program these women were compared to women who were eligible

for the program but declined to participate (n = 223). Although this comparison group was not ideal given the substantial differences between the two groups, no alternative comparison group was readily available. Among women who ‘completed’ the IHPI program, 72% attended their postpartum visit, while only 51% of women who ‘declined’ the program attended the visit (IHPI, 2003). No test for significance in postpartum attendance rates was reported.

The evaluations discussed above show suggestive but weak findings for the effect of postpartum home visiting programs on use of the postpartum visit for diverse populations including women considered medically high-risk, a population rarely directly addressed in other interventions. Despite these promising findings with respect to increased use of the postpartum visit, the quality review scores were low to mediocre (see below), indicating a need for more rigorous research to examine the relationship between home visiting programs and the use of postpartum follow-up care.

Quality Review: Postnatal Home Visit Interventions		
Author, Year	Quality Review Score (of 14)	Unmet Quality Criteria*
Ghilarducci & McCool, 1993	7	Did Not: Measure Intensity of Exposure (#4), Show Fidelity of Intervention (#13), Complete Power Analysis (#14)
Interconception Health Promotion Initiative, 2003	0	Did Not: Measure Intensity of Exposure (#4), Adequately Adjust for Confounding (#9), Compare Selected to Target Population (#10), Describe Loss to Follow-Up (#12), Show Fidelity of Intervention (#13), Complete Power Analysis (#14)

(#) Corresponds to Question Number on Appendix A: Quality Review Tool

*Resulting in a -1 score for the criterion in question.

Patient Education Interventions

Two articles focused primarily on postpartum patient education as a means to increase the use of the postpartum visit. Buckley (1990) conducted an evaluation of a nurse practitioner (NP) postpartum intervention in which a NP visited the postpartum mother prior to hospital discharge. The visit included educating women on contraception, postpartum health needs, and the importance of the 6-week postpartum follow-up visit. Women who could not be reached prior to discharge were given the same information via a phone call with the NP within 1 week of discharge. Evaluation of this intervention was completed using a quasi-experimental design

with a convenience sample of women from a high-risk perinatal center in Massachusetts (Buckley, 1990). The comparison group consisted of women at the same center who received no contact from the NP ($n = 25$); the intervention group was made up of 34 women, 23 of whom received the hospital visit and 11 who received a telephone call. Patient appointment records were assessed up to 3 months after project initiation to determine if participants attended their postpartum visit. Among the comparison group only 52% of women attended their postpartum appointment while 85.3% of the intervention group attended their postpartum visit ($p < .02$) (Buckley, 1990). Logistic regression was used to examine whether both the phone call and hospital visit were each significantly associated with increased postpartum attendance. Researchers found that only women who received the hospital NP visit were significantly more likely to attend the postpartum visit ($p < .05$), indicating that the face-to-face component of this intervention may be a driving factor in influencing visit attendance (Buckley, 1990).

Kabakian-Khasholian & Campbell (2007) assessed the impact of patient education on attendance at the postpartum visit through use of an educational booklet on postpartum health, including maternal health issues, breastfeeding, contraception, weight problems, the father's role, and the importance of the postpartum visit. Women from four hospitals in Lebanon were randomized to either the intervention ($n = 198$) or control ($n = 191$) group. At the time of discharge from the hospital, women in the intervention group were given the postpartum health booklet and women in the control group were given a leaflet on child-proofing their homes. Women were asked a close ended question between 6 and 20 weeks postpartum to assess for attendance at the postpartum visit. Researchers found that 85% of women given the postpartum pamphlet attended the postpartum visit compared to 55% of those in the control group ($p < .001$). The authors argue that this intervention is a cheap and effective way to increase attendance at the postpartum visit (Kabakian-Khasholian & Campbell, 2007).

Although these two approaches to patient education (i.e., one-on-one education versus provision of postpartum booklet) were considerably different, both interventions significantly increased attendance at the postpartum visit. The two interventions discussed above are potentially cost effective approaches to providing postpartum women with information regarding postpartum care as a way to increase use of the postpartum visit.

Quality Review: Postnatal Patient Education Interventions

Author, Year	Quality Review Score (of 14)	Unmet Quality Criteria*
Buckley, 1990	8	Did Not: Adequately Adjust for Confounding (#9), Compare Selected to Target Population (#10)
Kabakian-Khasholian & Campbell, 2007	11	Did Not: Compare Selected to Target Population (#10)

(#) Corresponds to Question Number on Appendix A: Quality Review Tool

*Resulting in a -1 score for the criterion in question.

Appointment Scheduling Interventions

Two articles found an association between the scheduling of follow-up visits for postpartum women and attendance at the postpartum visit. Both of these articles were observational studies that were not specifically testing appointment scheduling but rather observed the findings below as a secondary outcome. The study by Kabakian-Khasholian & Campbell, 2007 which provided postpartum educational booklets (see above) also asked women to report if they were given a postpartum appointment before they left the hospital. They found that “the largest difference in the percent reporting a postpartum visit was seen between women reporting being given a postpartum appointment before discharge from hospital and those not reporting such an appointment (86% vs 39%)” (Kabakian-Khasholian & Campbell, 2005). These findings were maintained after adjusting for education, provision of information on maternal health issues, and provision of the postpartum educational booklet, such that women who scheduled an appointment prior to discharge had 6.8 (95% CI: 6.2 – 7.4) times the odds of attending the postpartum visit compared to those who did not schedule an appointment (Kabakian-Khasholian & Campbell, 2005). Similarly, a study by Bryant et al. (2006) examining the factors associated with use of the postpartum visit among low-income U.S. women through in-person interviews with postpartum women who had delivered greater than 6 weeks prior, found that women who received an appointment reminder for their postpartum visit had 2.37 greater likelihood (95% CI: 1.40 – 4.02) of attending the visit when compared to women who received no reminder, after adjusting for maternal age, race, parity and insurance status (Bryant et al., 2006). A quality review score was not calculated for either of these two articles, as neither

evaluated the appointment scheduling or reminders specifically and instead observed these findings as a secondary outcome to their intended research.

Additional Postnatal Intervention

A study by Gunn et al. (1998) examined the impact of changing the timing of the postpartum visit on attendance by providing scheduled appointments for postpartum women while at the hospital for either 1 week post-delivery or the traditional 6 weeks post-delivery. Women were recruited from one rural and one urban hospital in Victoria, Australia and randomized to either the intervention (one-week) or comparison group (six-week). Two hundred thirty-two participants in the intervention group and 243 in the control group were followed up with mail surveys at three months postpartum. The overall response rate at three months was 69.7%, with a 66.7% response rate from the urban hospital and 72.1% from the rural hospital; there was no significant difference in response rate between intervention and control groups. The researchers found that women in the six week group were significantly more likely to attend their postpartum visit compared to women in the early visit group, 88.4% and 76.4%, respectively (p = .001) (Gunn et al., 1998). Additionally, Gunn et al. found that one of the potential reasons fewer women attended the earlier postpartum visit was that many women felt that the one week visit was too early for their internal examination. Gunn et al. comment that this internal examination is not medically indicated, indicating an area in need of further patient education regarding the postpartum visit. This finding supports prior research on the timing and frequency of the postpartum visit which emphasizes a need for the scheduling of visits to be flexible and responsive to the needs of the mother-infant pair (Demott et al., 2006).

Quality Review: Postnatal Additional Interventions

Author, Year	Quality Review Score (of 14)	Unmet Quality Criteria*
Gunn et al., 1998	9	Did Not: Describe Loss to Follow-Up (#12)

(#) Corresponds to Question Number on Appendix A: Quality Review Tool

*Resulting in a -1 score for the criterion in question.

Conclusion

The findings of this literature review show a number of promising interventions to address the low-rates of attendance at the postpartum follow-up visit in both the antenatal and postnatal period. The majority of the articles were given relatively high quality review scores

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indicating that rigorous methods were utilized in evaluating these interventions, thus providing further support for the interventions discussed. Only one initiative, the attempt to schedule earlier postpartum visits (one week postpartum) decreased use of the postpartum visit; three showed no significant difference between control and intervention groups with respect to use of the postpartum visit. For all other interventions (i.e., incentives, home visiting, enhanced prenatal care, and patient education) there was some evidence that these approaches improved attendance at the postpartum visit. Despite these positive findings, no intervention strategy was evaluated more than a few times, many of the evaluations are relatively dated, and a number of studies focused only on select populations (e.g., adolescents, Latinas, etc.). These limitations emphasize a need for further implementation and evaluation of interventions in both the antenatal and postnatal periods to increase use of the postpartum visit. It is recommended that future interventions build on of the successful interventions cited in this review as a way to increase the body of knowledge surrounding these specific initiatives, with the ultimate aim of increasing utilization of the postpartum visit.

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Table C-1. Antenatal Interventions to Increase Attendance at Postpartum Follow-up Visit (PPV)					
Author, Year	Target Population	Intervention Type	Results	Evidence for Results	Quality Review Score*
Stevens-Simon et al., 1994	Low-Income Adolescents in Colorado	Incentives	Women given incentive of infant carrier at PPV more likely to attend PPV compared to control group (82.4% and 65.2%, respectively; $p = .003$).	Randomized Controlled Evaluation	10
Laken & Ager, 1995	Medicaid-eligible Women in Michigan	Incentives	No significant difference in PPV attendance (55% overall) between control groups, women who received \$5.00 gift card or entrance in \$100 raffle for attending visit.	Randomized Controlled Evaluation	9.0
Patient Incentives: Inconclusive Findings, Possible Increase in Attendance for Adolescents Mean Quality Review Score: 9.5					
Belizan et al., 1995	High-risk women from four hospitals in Latin America	Home Visits, Support Services	No significant difference in PPV attendance between control group and women who received intervention (32.8% and 36.8%, respectively).	Randomized Controlled Evaluation	6
Bensussen-Walls & Saewyc, 2001	Adolescents in Washington State	Teen-Centered Prenatal Care	Adolescents in intervention group more likely to attend PPV than adolescents who received traditional prenatal care (70% and 77.8% for adolescent clinics and <33.3% and 44% for adult, $p < .05$).	Retrospective Matched Evaluation	9
Grady & Bloom, 2004	Adolescents in St. Louis, Missouri	Group Prenatal Care	87% of adolescents in group prenatal care (CenteringPregnancy Model) returned for PPV.	Descriptive Evaluation	1
Tandon et al., 2013	Hispanic women in Palm Beach County, Florida	Group Prenatal Care	Women in group prenatal care more likely to attend PPV than comparison group (99% and 94%, respectively; $p = .04$).	Quasi-Experimental Evaluation	7
Trudnak et al., 2013	Spanish-speaking and Hispanic women	Group Prenatal Care	Women in group prenatal care had increased odds of attending PPV compared to women in traditional prenatal care (86.7% and 74.6%, respectively; $aOR = 2.20 [1.2 - 4.05]$).	Retrospective Cohort Evaluation	7
Enhanced Prenatal Care Interventions: Inconclusive Findings, Possible Increase in Attendance for Group Prenatal Care Mean Quality Review Score: 6.0					
Jones & Mondy, 1990	Low-Income Adolescents in Texas	Incentives, Patient Education	Women in high-treatment group (≥ 8 lessons) more likely to attend PPV compared to low-treatment group (< 8 lessons) (87% and 73%, respectively; $p < .011$) and treatment group (87% and 71%, respectively; $p < .002$).	Quasi-Experimental Evaluation	11

*Quality Review Score was calculated by summation of the 14 quality criteria (see Appendix A) such that if an article met the criterion it received 1 point, if it did not meet the criterion it received -1 point, and if the criterion was not addressed it received no point; highest possible score = 14, lowest possible score = -14.

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Table C-2. Postnatal Interventions to Increase Attendance at Postpartum Follow-up Visit (PPV)					
Author, Year	Target Population	Intervention Type	Results	Evidence for Results	Quality Review Score*
Smith et al., 1990	Low-Income Adolescents from Large Southwestern City in U.S.	Incentives	The group receiving a coupon for infant formula had greatest PPV attendance rate (37%) while group receiving a gift at PPV and control group had similar PPV attendance at 23% and 22%, respectively. Differences in PPV attendance only significant for African- American population.	Randomized Controlled Evaluation	10
Tsai et al., 2011	Women who received care at Queen Emma clinic in Honolulu, Hawaii	Incentives, Appt. Scheduled	After implementation of hospital-wide initiative to offer incentives and schedule PPV more women attended PPV compared to those who gave birth in hospital prior to initiative (86.1% and 71.7%, respective; p = .012).	Before-After Evaluation	12
Patient Incentives: Possible Increase in PPV Attendance Mean Quality Review Score: 11					
Ghilarducci & McCool, 1993	Women who received prenatal care at urban community health clinic in New England	Home Visits	74% of women who received a home visit attended the PPV while 58% of women in the control group attended the PPV (p = .12).	Quasi-Experimental Evaluation	7
Interconception Health Promotion Initiative, 2003	Women in Denver, Colorado who experienced a prior adverse birth outcome.	Home Visits	Women who participated in home visit program more likely to keep PPV than women who declined to participate in program; 72% vs. 51%, respectively.	Quasi-Experimental Evaluation	0
Home Visits: Possible Increase in PPV Attendance Mean Quality Review Score: 3.5					
Buckley, 1990	Women who gave birth in Central Massachusetts perinatal center	Patient Education	Women receiving home visits were more likely to attend PPV than women in comparison group (85.3% and 52%, respectively; p < .02).	Quasi-Experimental Evaluation	8
Kabakian-Khasholian & Campbell, 2007	Women who gave birth one of four private hospitals in Lebanon	Patient Education	Women given postpartum pamphlet more likely to attend PPV than control group (85% and 55%, respectively; p < .001).	Randomized Controlled Evaluation	11
Patient Education: Possible Increase in PPV Attendance Mean Quality Review Score: 9.5					
Kabakian-Khasholian & Campbell, 2005	Women who gave birth at one of four private hospitals in Lebanon	Appointment Scheduled at Discharge	Women given a PPV before discharge from hospital were more likely to attend PPV than women who did not schedule PPV (86.3% and 39.2%, respectively; aOR = 6.8 [6.2, 7.4]).	Observational Study	N/A
Bryant et al., 2006	Low-Income women throughout the United States	Appointment Reminder	Women provided an appointment reminder are significantly more likely to attend the PPV than women who did not receive a reminder (91.1% and 80.9%, respectively; aOR = 2.37 [1.40, 4.02]).	Observational Study	N/A
Appointment Scheduling: Possible Increase in PPV Attendance Mean Quality Review Score: N/A					
Gunn et al., 1998	Women who gave birth at one urban and one rural hospital in Victoria, Australia	Earlier PPV	Women with PPV scheduled for 4-6 weeks postpartum more likely to attend PPV than women with PPV scheduled 1 week postpartum (88.4% and 76.4%, respectively; p = .001).	Randomized Controlled Evaluation	9

*Quality Review Score was calculated by summation of the 14 quality criteria (see Appendix A) such that if an article met the criterion it received 1 point, if it did not meet the criterion it received -1 point, and if the criterion was not addressed it received no point; highest possible score = 14, lowest possible score = -14.

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APPENDIX A: Quality Review Tool

STUDY AIM(S)

1. Is the hypothesis/aim/objective of the study clearly defined and does it match with main analysis?
Yes No Unable to Determine/Not Reported Clearly

INTERVENTION DESIGN

2. Are the interventions under study clearly described?
Yes No Unable to Determine/Not Reported Clearly
3. Is intervention based on theoretical or conceptual model either already established/modified or designed by this study's researchers?
Yes No Unable to Determine/Not Reported Clearly
4. Was intensity of exposure to the intervention measured (i.e. dose)? *(If dose isn't relevant, choose Yes)*
Yes No Unable to Determine/Not Reported Clearly

INTERNAL VALIDITY

5. Was the appropriate comparison group (internal or external) used in evaluating the intervention?
If no comparison group, answer 'No'.
Yes No Unable to Determine/Not Reported Clearly
6. Were study participants in the research or evaluation unaware of the study hypotheses?
Yes No Unable to Determine/Not Reported Clearly
7. Were the main outcome measures used accurate (valid and reliable)?
Yes No Unable to Determine/Not Reported Clearly
8. Were the statistical tests used to assess the differences in the main outcome variables between groups appropriate?
Yes No Unable to Determine/Not Reported Clearly
9. Was there adequate adjustment for confounding in the analyses from which the main findings were drawn?
(If RCT and groups were balanced on covariates at the time outcome was measured, answer Yes.)
Yes No Unable to Determine/Not Reported Clearly

EXTERNAL VALIDITY

10. Were study participants who agreed to participate representative of the entire population sampled from?
Yes No Unable to Determine/Not Reported Clearly
11. Were study participants representative of population to which recommendations were made?
Yes No Unable to Determine/Not Reported Clearly
12. Were the characteristics of those lost to follow-up described and compared to those that were not lost to follow-up and considered in limitations section? *(If no loss to follow-up, choose "Yes")*
Yes No Unable to Determine/Not Reported Clearly
13. Was the intervention conducted as described/planned (i.e. fidelity)?
Yes No Unable to Determine/Not Reported Clearly

POWER

14. Did the study mention having conducted a power analysis to determine the sample size needed to detect a significant difference in effect size for one or more outcome measures? *(If study has significant results but did not report conducting a power analysis, select Yes.)*
Yes No Unable to Determine/Not Reported Clearly

SCORING: Yes = 1, No = -1, Unable to Determine/Not Reported Clearly = 0

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Appendix D

A Review of Current Recommendations and Guidelines Related to Counseling to Increase the Use of Postpartum Contraception

This literature review was prepared by Katrina Stumbras, MPH and Amy Solsman under the supervision of Arden Handler, DrPH, Kristin Rankin, PhD, Sadia Haider, MD, and Rachel Caskey, MD. This document was developed for the Illinois Department of Healthcare and Family Services under grant CFDA93.767 from the US Department of Health and Human Services, Center for Medicare and Medicaid Services. However, these contents do not necessarily represent the policy of either the Illinois Department of Healthcare and Family Services or the US Department of Health and Human Services, and you should not assume endorsement by the state or federal government.

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Increased postpartum contraceptive use has important health implications for both the mother and subsequent children by increasing inter-pregnancy and inter-birth intervals and decreasing future unintended pregnancies. As such, counseling for contraception in the postpartum period should be included as general practice for all postpartum women; however, little is known about the most effective way to provide this care (Lopez et al., 2012). In fact, current guidelines and recommendations on counseling for postpartum contraception are inconsistent and limited by a lack of evidence. This review aims to summarize and synthesize the available guidelines, recommendations, and evidence related to counseling for contraceptive use after delivery.

A review of the current literature and electronically published guidelines related to the timing and location of counseling for postpartum contraception was conducted using multiple databases including PubMed, CINAHL, TRIP, Uptodate, and Popline. In addition to the U.S., sources were primarily limited to recommendations from developed nations with a focus on Canada, Australia, the United Kingdom, and other European countries. This was due to both the availability of recommendations from these nations as well as their similarities to the U.S. with respect to culture and the sophistication of their health care facilities/practices, despite somewhat different health care delivery systems. Reference lists of articles and guidelines were used to gather additional sources in an effort to create a more comprehensive search.

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Overall, this review demonstrated that further research is necessary to determine the most appropriate and effective guidelines for the timing and location of counseling for postpartum contraception. The majority of current guidelines and practices are anchored with the traditional postpartum visit and do not necessarily address the potential opportunities of antenatal or immediate postpartum counseling to increase the use of postpartum contraception. Identifying populations with low use of postpartum contraception and establishing guidelines and practices that provide the most effective counseling could have important reproductive health implications by increasing the number of intended pregnancies and decreasing the prevalence of short inter-pregnancy and inter-birth intervals.

Guideline Development and Background

Guidelines for the timing and location of counseling for the use of postpartum contraception were obtained from the United Kingdom's National Institute for Health and Care Excellence (NICE), England's Faculty of Sexual and Reproductive Healthcare (FSRH), the Perinatal Services BC (British Columbia), the World Health Organization (WHO), the American College of Obstetricians and Gynecologists (ACOG), the Centers for Disease Control and Prevention (CDC), and the Association of Reproductive Health Professionals (ARHP). Publication dates range from 2006 to 2013, including the most up-to-date versions of recommendations where available. All guidelines were primarily designed for health care providers interacting with women during the antenatal and postpartum periods, as well as for public health officials and policy makers as applicable. Additionally, these guidelines were designed for women who experienced a generally healthy pregnancy and birth and were not intended to be used for more complex cases.

Guideline Development and Background: International Guidelines

National Institute for Health and Care Excellence (2006): "Routine Postnatal Care for Women and Their Babies". The United Kingdom's NICE guidelines consistently emerged as the most comprehensive set of recommendations related to the postnatal period. These guidelines are designed to fit within a framework centered on the mother-infant dyad. They were developed by the National Collaborating Centre for Primary Care (NCC-PC) under contract from NICE. Of note, the NCC-PC is no longer active; these guidelines were reviewed and updated by the National Clinical Guidelines Centre for Acute and Chronic Conditions (NCGCACC). Initially, a Technical Team gathered information from economic and clinical databases for review by a Guideline Development Group (GDG). Final recommendations were agreed upon by the GDG following comments from relevant stakeholders.

Faculty of Sexual and Reproductive Healthcare (2009): “Postnatal Sexual and Reproductive Health.” The Faculty of Sexual and Reproductive Healthcare (FSRH) produced these recommendations to provide guidance to health professionals on sexual and reproductive health in the postnatal period. FSRH is a faculty of the Royal College of Obstetricians and Gynecologists in England. These guidelines were based on evidence and consensus of expert opinion. The recommendations are graded by A, B, C, or ✓, and correlate to ‘evidence based on randomized control trials’, ‘evidence based on other robust experimental or observational studies’, ‘evidence is limited but the advice relies on expert opinion and has the endorsement of respected authorities’, or ‘a good practice point where no evidence exists but where best practice is based on the clinical experience of the multidisciplinary group’(✓), respectively. The guidelines were formulated via a systematic literature review and several peer reviews by different multidisciplinary groups.

Perinatal Services BC (2011): “Obstetrics Guideline 20 Postpartum Nursing Care Pathway”. The Perinatal Services BC is an agency of the Provincial Health Services Authority, a non-profit organization which aims to increase the quality of healthcare provided by Canadian organizations. These guidelines were designed for nurses addressing the needs of postpartum women and were established to ensure the inclusion of all the necessary and relevant postpartum nursing assessments. These recommendations were compiled and updated based on consensus opinion using the best evidence available as interpreted by a team of health care professionals. Evidence based on clinical experience was also provided by family physicians, pediatricians, obstetricians, and other clinical providers, as needed.

World Health Organization (2011): “Family Planning: A Global Handbook for Providers”. The 2011 printing of the World Health Organization’s Global Handbook includes new guidance and expands upon the 2007 printing of the handbook. The Department of Reproductive Health and Research of WHO convened an expert Working Group and also hosted two technical consultations in 2008, and convened another Working Group and a technical consultation in 2009 to develop new guidance. WHO collaborated with the Johns Hopkins Bloomberg School of Public Health/Center for Communication to provide this evidence-based book for family planning providers, managers, and trainers.

World Health Organization (2013): “Programming Strategies for Postpartum Family Planning.” The WHO collaborated with the United Nations Population Fund (UNFPA), the United States Agency for International Development (USAID) and their development partners to produce this document. The draft of this document was developed during two stakeholder meetings at WHO, as well as during the First Global Symposium For Health Services Research (Switzerland) and the Second International Conference

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on Family Planning (Senegal). Next, during a technical meeting in Washington, D.C. the draft was presented to United States' experts on family planning and expert comments received during this meeting were added to the draft. A synthesis of the literature and the draft were presented to attendees of the final technical consultation at WHO and the document was finalized through a consensus-based process. The document is intended for program planners, managers, and other individuals designing interventions to integrate postpartum family planning into national and sub-national strategies as well as to supplement the *Statement for Collective Action for Postpartum Planning*. The latter urges programs to prioritize the family planning needs of postpartum women in their strategic and operational plans and budgets.

Guideline Development and Background: United States Guidelines

Centers for Disease Control (2011): “Update to CDC’s U.S. Medical Eligibility Criteria for Contraceptive Use, 2010: Revised Recommendations for the Use of Contraceptive Methods During the Postpartum Period.” In 2010 the CDC published *U.S. Medical Eligibility Criteria for Contraceptive Use* (MEC 2010), which provided evidence-based guidelines for choosing types of contraceptive methods. In 2011, revised recommendations to the 2010 guidelines were published in the *Morbidity and Mortality Weekly Report* (July 8, 2011). These revised recommendations are a result of new evidence regarding safe contraceptive use for postpartum women originally published by the WHO. The CDC assessed WHO’s new evidence with the assistance of ad hoc reviewers and released this update to MEC 2010 which included revised recommendations targeted towards U.S. health-care providers.

American Academy of Pediatrics (AAP) and American College of Obstetrics and Gynecologists (ACOG) (2012): “Guidelines for Perinatal Care.” AAP and ACOG have created these guidelines as the basis for the development of local practice and norms. Guideline and recommendation development is based on the most up-to-date scientific information, clinical practice, and expert opinion. The AAP Committee on Fetus and Newborn and the ACOG Committee on Obstetric Practice are responsible for composing, revising, and reviewing these guidelines prior to publication.

Association of Reproductive Health Professionals (ARHP) (2013): “A Quick Reference Guide for Clinicians: Postpartum Counseling.” The ARHP aims to educate health care professionals through evidence-based training and the development of accredited peer-review programs on reproductive health related concepts. This quick reference guide was developed by ARHP to assist health care providers to counsel women during the postpartum period. A clinical advisory committee of six health professionals assembled this evidence-based, peer-reviewed reference guide.

Guidelines for Location and Timing of Counseling for Postpartum

Contraception

The international guidelines regarding counseling for postpartum contraception from the World Health Organization (WHO) state that contraceptive counseling should occur during all postpartum visits including the mother's postnatal appointments at 3 days, 7-14 days, and 6 weeks after birth (2013). The 2011 and 2013 WHO guidelines also recommend starting contraceptive counseling during antenatal care as well as at the hospital or health care facility following birth, before the woman is discharged. Additionally, the 2011 WHO recommendations state that contraceptive counseling might also be coordinated such that the mother's contraceptive counseling occurs with her infant's immunization schedule. Similarly, the Faculty of Sexual and Reproductive Health Care also recommend discussing contraceptive counseling in both the prenatal and postnatal period. They comment that contraceptive advice may be better delivered prenatally in comparison to immediately after birth, but also note that the effectiveness of postpartum education has not yet been established and that these recommendations are based on expert opinion from experience in practice. The other non-U.S. guidelines, from the United Kingdom (NICE) and Canada (Perinatal Services BC), both recommend early discussion of contraception options during the postpartum period. The NICE guidelines recommend discussion between 24 hours and 7 days following birth while the British Columbia recommendations suggest discussion between 72 hours and 7 days after delivery.

U.S. recommendations for counseling for postpartum contraception are mainly tied to the traditional 4 to 6 week postpartum visit. The Centers for Disease Control and Prevention (2011) recommend that contraceptive counseling happen at the delivery hospital prior to discharge or at the postpartum visit. Recommendations from ARHP (2013) and ACOG (2012) advise that contraceptive counseling occur during the antenatal period as well as during the postpartum visit with the mother's primary care provider. ARHP and ACOG recommend that the postpartum visit with contraceptive counseling happen 4-6 weeks after delivery, or earlier.

Comments on Current Guidelines

The majority of the guidelines related to the timing of counseling for postpartum contraception are not based on evidence beyond expert opinion and/or group consensus. Many of the recommendations appear to be primarily tied to established prenatal or postpartum appointments, providing no particular support for this concept beyond convenience for the mother given that an appointment is already set. While convenience is essential in ensuring appropriate access to contraceptive counseling for all women, it is not the only factor to be considered. The lack of research focused on the timing of contraceptive

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counseling, and the timing of postpartum appointments in general, represents a clear gap and limitation in providing women with the optimal care with respect to counseling for postpartum contraception.

In the 2012 Cochrane review of education for contraception for postpartum women the authors state, “we know more about contraceptive methods appropriate for postpartum women than we do about how to help postpartum women choose and use a contraceptive” (Lopez et al., 2012). As a result of the lack in evidence and understanding of effective counseling for postpartum contraception, current practices vary with regard to where and when most women are actually receiving contraceptive counseling. A study published in 1996 by Glasier et al. of postpartum women recruited from a large Scottish teaching hospital found that only 4% of women remembered receiving counseling for postpartum contraception prenatally and between 56% and 84% reported receiving counseling for postpartum contraception by a midwife in the postpartum ward. Fortunately, the majority of women reported some kind of contraception counseling occurring at their 4 to 6 week postnatal check-up (Glasier et al., 1996).

Conversely, a study conducted in a large U.S. urban hospital found that 77% reported discussing contraception with a physician prior to delivery and 87% prior to discharge following delivery (Glazer et al., 2011). These researchers also found that those women who were seen in a Maternal Fetal Medicine practice were the least likely to receive either antenatal or postpartum contraceptive counseling (Glazer et al., 2011). A study of 117,644 Californian women who received publicly-funded health care services after a live birth determined that there were three distinct groups of postpartum women who were missing opportunities for contraceptive counseling in the postpartum period (Thiel de Bocanegra et al., 2013): the 15% of women who were not seen by within 90 days postpartum; the 10% of women who did not receive contraception at their first postpartum visit and were not seen again within 90 days; and, the 33% of women who had more than 1 visit within in 90 days postpartum and never received contraception (Thiel de Bocanegra et al., 2013).

As suggested by the variations in the practice of counseling for postpartum contraception outlined above, many experts and stakeholders are calling for further research and evidence to enhance the effectiveness of counseling to lead to increased use of postpartum contraception. The majority of the current research on postpartum contraception is related to the safety and effectiveness on the timing of initiating specific types of contraception in the postpartum period (e.g., with regard to risk of venous thromboembolism, impact on breastfeeding, expulsion rates of immediate postpartum IUD insertion, etc.). While it is essential to ensure these issues are addressed with regard to initiation of postpartum contraception, guidelines must also consider the specific timing and location of contraceptive counseling. Evidence and arguments for specific timing recommendations on counseling for postpartum contraception are outlined below. We begin by presenting the results of observational studies which discuss antenatal, postnatal, and antenatal plus postnatal contraception counseling. This is followed by expert commentary

and recommendations for counseling in both the antenatal and postnatal periods, counseling during all interactions with a health care provider in the perinatal period, as well as counseling during the immediate postpartum period.

Evidence for Recommendations on Counseling for Postpartum Contraception from Observational Studies

A few studies provide observational evidence related to the relationship between the timing of contraception counseling and postpartum contraception use. Hernandez et al. (2012) utilized Florida's 2004-2006 data from PRAMS to evaluate the impact of reported antenatal contraceptive counseling on postpartum contraceptive use. On the PRAMS survey women are asked: "During any of your prenatal care visits, did a doctor, nurse, or other health care worker talk with you about any of the things listed below?" which includes family planning as a possible response. Women were surveyed between 2 to 9 months postpartum. Researchers found that women who reported receiving prenatal contraceptive counseling had a significantly increased likelihood of using a method of postpartum contraception deemed at least 80% effective by the Food and Drug Administration at the time of the survey compared to those with no prenatal contraceptive counseling (80% and 72%, respectively; $p = .005$). This relationship remained after adjustment for maternal characteristics and risk factors for non-contraceptive use (aOR 1.47 [95% CI 1.10 – 1.96]).

Further support for including antenatal postpartum contraception counseling is found in a study of 182 women who received pregnancy services at a state hospital in Turkey (Yilmazel & Balci, 2013). These researchers found that among this population there was a significant relationship ($p = 0.035$) between women who remembered receiving antenatal contraceptive counseling and those planning on using postpartum contraception (Yilmazel & Balci, 2013). A qualitative study of 30 postpartum women in Chicago found that women were receptive to antenatal contraceptive counseling and preferred receiving contraception information frequently throughout the perinatal period (Yee & Simon, 2011). Per these findings, Yee and Simon recommend frequent counseling discussions using different teaching approaches in the antenatal period with reminders and reinforcement in the immediate postpartum period and at the postpartum visit, if necessary (Yee & Simon, 2011).

A study using PRAMS data from 9,536 postpartum women in Missouri, New York, and New York City found that women who received prenatal contraceptive counseling had 1.53 (1.29 – 1.82) times increased odds of using any method of postpartum contraception by the time of their PRAMS interview (approximately 2 to 6 months postpartum) compared to those who received no prenatal counseling, after adjusting for maternal age, race/ethnicity, education, marital status, type of insurance, pregnancy

intention, parity, breastfeeding status, months postpartum, reporting area, reporting year, and receipt of postpartum counseling (Zapata et al., 2014). Furthermore, this study found that women who received prenatal contraceptive counseling also had 1.51 (1.30 – 1.75) times the odds of using a more effective form of contraception (i.e., sterilization, implant, IUD, shot, pill, patch, or ring) by 2 to 6 months postpartum compared to those who did not receive prenatal contraceptive counseling after adjusting for the above factors. Zapata et al. also found that women who received postpartum contraceptive counseling reported significantly increased likelihood of using any form of contraception compared to those with no postpartum counseling (aOR 1.64 [95% CI 1.34 – 2.00]), after adjusting for maternal age, race/ethnicity, education, marital status, type of insurance, pregnancy intention, parity, breastfeeding status, months postpartum, reporting area, reporting year, and receipt of prenatal counseling. Additionally, these researchers found that those women that received both prenatal and postpartum contraceptive counseling had the highest likelihood of using of postpartum contraception (aOR = 2.74 [2.18-3.45]), after adjusting for the factors above (Zapata et al., 2014).

Another cross-sectional study of 300 postpartum women in Italy provided further support for the use of both antenatal and postpartum contraceptive counseling (Di Giacomo et al., 2013). Di Giacomo found that women who received more information on postpartum contraception either during the prenatal or immediate postpartum period were more likely to report an intention to use contraception in the postpartum period (Di Giacomo et al., 2013). Furthermore, a Cochrane review of interventions to increase postpartum contraception use found that those interventions which used multiple contact points (i.e., home visits, phone calls, multiple provider visits) were the most effective at increasing postpartum contraception uptake (Lopez et al., 2012).

Commentary and Recommendations for Counseling for Postpartum Contraception

Commentary and Recommendations on Counseling in the Antenatal and Postnatal Periods

An important factor addressed in recommendations related to the timing of counseling for postpartum contraception is the timing in resumption of ovulation following birth. Among non-breastfeeding women the average time to first postpartum ovulation is 45 days and can occur as early as 25 days following delivery (Shulman & Kaunitz, 2008). Additionally, approximately two-thirds of women ovulate prior to their first postpartum menstruation (Campbell & Grey, 1993) making menstruation a poor indicator for timing the initiation of postpartum contraception.

In response to the potential for ovulation to occur prior to the traditional 6 week postpartum visit Speroff's *Clinical Guide for Contraception 5th ed.* recommends use of 'The Rule of 3s' when counseling

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on postpartum contraception (Speroff, 2011). The Rule of 3s states, “In the presence of full breastfeeding, a contraceptive method should be used beginning in the third postpartum month. With partial breastfeeding or no breastfeeding, a contraceptive method should begin during the third postpartum week” (Speroff, 2011). To follow this rule, Speroff suggests moving the traditional postpartum visit from 6 weeks to 3 weeks postpartum and encourages providers concerned with the need to complete a postpartum physical exam to do so instead at a 3-month follow-up appointment in accordance with good contraceptive care (Speroff & Mishell, 2008; Speroff, 2011). Shulman and Kaunitz expand upon ‘The Rule of 3s’ recommendation by encouraging initiation of contraceptive counseling in the third trimester of pregnancy (Shulman & Kaunitz, 2008). Shulman and Kaunitz recommend capitalizing on the multiple visits during the prenatal period to individualize counseling on postpartum contraception to meet the needs of the specific woman encompassing her past experiences, medical history, sexuality, and reproductive life plan (Shulman & Kaunitz, 2008).

Similar to Shulman and Kaunitz others recommend that counseling on postpartum contraception occur over multiple sessions in both the antenatal and postnatal periods. Guillebaud et al. argue that earlier postpartum contraceptive counseling is necessary given the risk of early ovulation and that this counseling should coincide with an earlier postpartum visit at four weeks postpartum (Guillebaud et al., 1993). However, these authors also state that this counseling should act as a ‘safety net’ discussion, as counseling should have already occurred during the third trimester or at 30 weeks gestation and then again at a 10 day postpartum home-visit (Guillebaud et al., 1993).

Commentary and Recommendations on Counseling during All Interactions with a Health Care Provider in the Perinatal Period

Another argument for more frequent postpartum contraceptive counseling is the low number of women who return for their postpartum visit (Vernon, 2009). Consequently, Vernon argues that “programs may need to offer information, counseling, and services at all contact points between clients and the maternal health-care system through the complete maternal cycle” such that there exists redundant opportunities for contraception counseling and initiation while the woman is in contact with the health care system (Vernon, 2009). Thiel de Bocanegra et al. take it a step further in recommending that “clinic protocols should facilitate the use of any medical visit during the postpartum period to counsel and dispense contraception, even if the primary reason for the clinic visit is not family planning, including visits to the pediatrician for the infant such that the contraceptive discussion is a part of the infant-visit checklist each time in the first 3 months” (Thiel de Bocanegra et al., 2013).

Commentary and Recommendations on Counseling in the Immediate Postpartum Period

Specific recommendations for contraception counseling in the immediate postpartum period (prior to discharge from delivery hospital) are inconsistent. The immediate postpartum period is a time of

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high emotion and is often when a large amount of information regarding the well-being of the infant is being distributed to the woman. Because of the stress of this period some consider it an inappropriate and most likely ineffective time to discuss contraception with the mother, resulting in a waste of resources and energy (Glasier et al., 1996; Blenning & Paladine, 2005; Shulman & Kaunitz, 2008). Conversely, others argue that for those women who do not interact with the health care system outside of delivery or are unlikely to return for a postpartum visit, the immediate postpartum period provides a unique opportunity to counsel these women to increase use of postpartum contraception (Whiteman et al., 2009; Michie & Cameron, 2013; Zapata et al., 2014).

Conclusion

In general, as conveyed through these commentaries on counseling for postpartum contraception and stated in Seehusen and Schmidt's (2013) review of education focused on the use of postpartum contraception, "the optimal timing and content of [postpartum contraceptive] education programs are not known". Increased postpartum contraception use has the potential to decrease short inter-pregnancy intervals and increase the proportion of intended pregnancies making it an important area for further research. Lacking evidence-based, consistent guidelines on counseling for postpartum contraception has led to the current disjointed counseling practices, as discussed above, and has likely hindered the maximum uptake of effective postpartum contraception.

Table D-1. National and International Guidelines for Counseling related to Postpartum Contraceptive Use

Author, Title	Organization, Location	Year	Guidelines for Timing and Location of Counseling for Postpartum Contraceptive Use	Evidence for Guidelines
International Guidelines				
<i>Demott et al., Postnatal Care: Routine Postnatal Care of Women and Their Babies</i>	National Institute for Health and Care Excellence (NICE), United Kingdom	2006	Recommend discussion of contraception between <u>24 hours to 7 days following delivery</u> . No specific recommendation is made on location.	Expert/Panel Opinion from Experience in Practice
<i>Faculty of Sexual and Reproductive Health Care: Clinical Effectiveness Unit, Postnatal Sexual and Reproductive Health</i>	Royal College of Obstetricians & Gynaecologists, England	2009	Recommend counseling on contraception during both <u>antenatal and postnatal periods</u> . No specific recommendation is made on location.	Expert/Panel Opinion from Experience in Practice
<i>Perinatal Services BC, Obstetrics Guideline 20 Postpartum Nursing Care Pathway</i>	Provincial Health Services Authority, Canada	2011	Recommend discussion of contraception between <u>72 hours to 7 days following delivery and beyond</u> . No specific recommendation is made on location.	Expert Consensus from Presented Evidence
<i>Family Planning: A Global Handbook For Providers</i>	World Health Organization	2011	Recommend counseling begin in <u>antenatal period</u> and continue <u>after delivery, coordinated with infant's immunization schedule</u> . No specific recommendation is made on location.	Expert/Panel Opinion
<i>Programming Strategies for Postpartum Family Planning</i>	World Health Organization	2013	Recommend most opportune time as during the <u>postnatal appointment</u> ; however, additional recommendations made for <u>antenatal care</u> or <u>before discharge at the health care facility</u> where the women gave birth.	Available Literature, Expert/Panel Opinion
United States Guidelines				
<i>U.S. Medical Eligibility Criteria for Contraceptive Use: Revised Recommendations for the Use of Contraceptive Methods During the Postpartum Period</i>	Centers for Disease Control and Prevention	2011	Recommend counseling occur <u>before discharge from delivery hospital or during postpartum visit</u> .	Expert Consensus from Presented Evidence/ Previous Recommendations
<i>Guidelines for Perinatal Care</i>	American Academy of Pediatrics and American College of Obstetrics and Gynecology	2012	Recommend that counseling occur <u>prenatally and at the 4 to 6 week postpartum visit</u> . Recommendation for location is assumed as at physician/midwife office/clinic due to recommendation of timing.	Expert Opinion, and Clinical Practice
<i>A Quick Reference Guide for Clinicians: Postpartum Counseling</i>	Association of Reproductive Health Professionals	2013	Recommend counseling both <u>prenatally and at the six-week (or earlier) postpartum visit</u> . Recommendation for location is assumed as at physician/midwife office/clinic due to recommendation of timing.	Available Literature, Expert/Panel Opinion

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Table D-2. Evidence for Recommendations on Counseling to Increase the Use of Postpartum Contraception: Review of the Literature

Author, Title	Journal/Publisher	Year	Recommendations for Timing and Location of Contraceptive Counseling to Increase the Use of Postpartum Contraception	Evidence for Recommendations
Glazer et al., <i>Postpartum contraception: needs vs. reality</i>	Contraception	2011	Contraceptive counseling can occur in the antenatal or postpartum period, and would ideally result in <u>immediate postpartum</u> LARC placement.	Observational Study and Expert Opinion
Yee & Simon, <i>Urban Minority Women's Perceptions of and Preferences for Postpartum Contraceptive Counseling</i>	Journal of Midwifery & Women's Health	2011	Counseling should include <u>frequent discussions during the antenatal period</u> , further reinforced in the <u>immediate postpartum</u> and at the <u>postpartum visit</u> .	Observational Study and Expert Opinion
Hernandez et al., <i>Is Effective Contraceptive Use Conceived Prenatally in Florida? The Association Between Prenatal Contraceptive Counseling and Postpartum Contraceptive Use</i>	Maternal and Child Health Journal	2012	Counseling should occur during the <u>antenatal period</u> .	Observational Study
Lopez et al., <i>Education for contraceptive use by women after childbirth (Review)</i>	The Cochrane Collaboration	2012	Counseling should occur at multiple contact points (<u>prenatally, post-delivery, and postpartum</u>).	Available Literature
Di Giacomo et al., <i>Woman's contraceptive needs and preferences in the postpartum period: an Italian study</i>	Journal of Clinical Nursing	2013	Increased education and counseling necessary during the <u>prenatal, post-delivery, and postpartum period</u> .	Observational Study
Yilmazel & Balci, <i>Preferences and related factors for postpartum contraception in pregnant women</i>	Iranian Journal of Reproductive Medicine	2013	Counseling should occur during the <u>antenatal period</u> .	Observational Study and Expert Opinion
Zapata et al., <i>Contraceptive counseling and postpartum contraceptive use</i>	American Journal of Obstetrics and Gynecology	2014	Counseling should occur during the <u>antenatal, post-delivery, and postpartum period</u> .	Observational Study and Expert Opinion

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Table D-3. Commentary and Recommendations for Counseling to Increase the Use of Postpartum Contraception: Review of the Literature

Author, Title	Journal/Publisher	Year	Recommendations for Timing and Location of Contraceptive Counseling to Increase the Use of Postpartum Contraception	Evidence for Recommendations
Guillebaud et al., <i>Postpartum Contraception</i>	British Medical Journal	1993	Counseling should occur during the <u>third trimester or around 30 weeks gestation</u> and during a postpartum home visit <u>around 10 days</u> and again at the postpartum visit <u>at or before 4 weeks</u> .	Ovulation Patterns and Expert Opinion
Glasier et al., <i>Who Gives Advice About Postpartum Contraception?</i>	Contraception	1996	Counseling should occur during the <u>antenatal period</u> , the postpartum ward is not an appropriate location for counseling.	Ovulation Patterns and Expert Opinion
Blenning & Paladine, <i>An Approach to the Postpartum Office Visit</i>	American Family Physician	2005	Counseling should occur <u>before the traditional 6 week</u> visit as well as, ideally, during the <u>prenatal period</u> .	Ovulation Patterns and Expert Opinion
Shulman & Kaunitz, <i>Postpartum Contraception</i>	Global Library of Women's Medicine	2008	Counseling should occur <u>during the third trimester</u> (or earlier) and contraception should be provided <u>by 3rd month for fully breastfeeding moms</u> and <u>3rd week for non-fully breastfeeding</u>	Ovulation Patterns and Expert Opinion
Speroff & Mishell, <i>The Postpartum Visit: It's Time for a Change in Order to Optimally Initiate Contraception</i>	Contraception	2008	Counseling should occur at <u>postpartum visit 3 weeks after delivery</u> , especially for non-fully breastfeeding women.	Ovulation Patterns and Expert Opinion
Vernon, <i>Meeting the Family Planning Needs of Postpartum Women</i>	Studies in Family Planning	2009	Counseling should occur at all contact points between a woman and the woman's health care system (<u>prenatally, post-delivery, and postpartum</u>).	Available Literature and Expert Opinion
Speroff, <i>Clinical Guide for Contraception: The Postpartum Period, Breastfeeding, and Contraception</i>	Wolters Kluwer Health/Lippincott Williams & Wilkins	2011	Counseling should be provided <u>by 3rd month for fully breastfeeding moms</u> and <u>3rd week for non-fully breastfeeding</u>	Ovulation Patterns and Expert Opinion
Seehusen & Schmidt, <i>Contraceptive Education for Women after Childbirth</i>	Cochrane for Clinicians	2013	Optimal counseling timing is unknown; consequently, it should be <u>tailored to the needs of the population</u> .	Available Literature and Expert Opinion
Thiel de Bocanegra et al., <i>Postpartum Contraception in Publicly-Funded Programs and Interpregnancy Intervals</i>	Obstetrics & Gynecology	2013	Counseling should occur at all contact points between women and health care system (<u>prenatally, post-delivery, and postpartum</u>).	Expert Opinion

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Appendix E

Interventions to Increase Uptake of Contraception in the Postpartum Period: A Review of the Literature

This literature review was prepared by Katrina Stumbras and Micaella Verro under the supervision of Arden Handler, DrPH, Kristin Rankin, PhD, Sadia Haider, MD, and Rachel Caskey, MD. This document was developed for the Illinois Department of Healthcare and Family Services under grant CFDA93.767 from the US Department of Health and Human Services, Center for Medicare and Medicaid Services. However, these contents do not necessarily represent the policy of either the Illinois Department of Healthcare and Family Services or the US Department of Health and Human Services, and you should not assume endorsement by the state or federal government.

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Introduction

According to 2004 – 2006 Pregnancy Risk Assessment Monitoring System (PRAMS) data from 12 states (Arkansas, Florida, Louisiana, Michigan, Mississippi, Nebraska, New York, North Carolina, Oregon, Rhode Island, South Carolina, West Virginia) and New York City, an estimated 88% of U.S. women at least 2 months postpartum are using some form of contraception (Whiteman et al., 2009). However, only 61.7% of the postpartum women using contraception report using a highly effective method (i.e., sterilization, IUD, shot, pill, patch, and ring), 20% report using a moderately effective method (i.e., condoms), and 6.4% report using a less effective method (i.e., withdrawal, rhythm, diaphragm, sponge, and cervical cap) (Whiteman et al., 2009). Although postpartum contraception counseling and contraception provision should be included in general practice for all postpartum women, little is known about the most effective way to provide this care (Lopez et al., 2012). To address the need for increased access to and use of effective postpartum contraception, a diverse set of initiatives and interventions during the antenatal, immediate postpartum, and postpartum periods have been implemented and evaluated. These interventions include: home visiting services, patient education programs, group prenatal care programs, and enhanced postpartum care. While there is limited research focused on the evaluation of these approaches, this review aims to summarize and synthesize the results of relevant studies which have been conducted to date in the United States and similar nations.

Methods

A review of the current literature focused on interventions to increase uptake of postpartum contraception was conducted using multiple databases including PubMed, Cochrane Library, CINAHL, MedLine, WHO, and Popline. Search terms included: postpartum, postnatal, antenatal, prenatal, perinatal, and internatal with combinations of strategies, program, initiative, utilization, promote, incentive, and intervention. Articles included in this review were limited to those discussing an evaluation of a specific intervention with the aim of, either directly or indirectly, increasing use of postpartum contraception.

In addition to the general review of the content of each study, a quality review of each article was completed. The quality review tool (Appendix A) includes a total of 14 criteria covering the relevant domains of study aims, intervention design, internal validity, external validity, and power. This tool is an abbreviated and adapted version of the *Quality Review Checklist* designed by Handler, Kennelly, and Peacock for review of interventions related to reducing racial/ethnic disparities in reproductive and perinatal outcomes (Handler, Kennelly, & Peacock eds., 2011). Every article was scored based on whether it addressed each of the 14 criteria listed in the quality review tool. Overall quality review scores were determined based on the number of criteria met: for each quality criterion addressed, the article received a single point, for each quality criterion not met one point was deducted, and if the criterion was not reported clearly enough to know whether or not it was met the article received 0 points. Consequently, the maximum quality score an article could receive was 14 points and the minimum score was -14 points.

Discussions of the interventions reviewed in this paper are organized by timing of intervention (i.e., conducted in the antenatal period versus conducted in the postnatal period) as well as by type of intervention. Interventions in the antenatal period include one-on-one prenatal counseling and patient education about postpartum contraception as well as group prenatal care initiatives. In the postnatal period interventions include patient education and counseling, enhanced postpartum care, home visiting programs, and patient incentives. An overview of these interventions can be found in Tables 1 and 2.

Interventions in the Antenatal Period

Patient Education/Prenatal Counseling Interventions

Five of the studies reviewed examined the impact of contraceptive counseling and education by a health care provider in the prenatal period on contraceptive practices in the postpartum period (Smith et al., 2002; Akman et al., 2010; Hernandez et al., 2012; Wilson et al., 2013; Zapata et al., 2014). Smith et al. (2002) evaluated prenatal contraceptive counseling using a randomized control trial in Shanghai, Cape Town, and Edinburgh in which women between 24 to 36 weeks gestation were randomized to receive expert contraceptive counseling prenatally (intervention group) or usual care which only included postnatal contraceptive counseling (control group) (only Edinburgh results are reviewed here due to relevance related to location). Women were mailed follow-up surveys at 16 weeks and 1 year postpartum to determine patterns of contraceptive use and contraception continuation rates. In the Edinburgh population, 171 women from a large maternity hospital were randomized to the intervention group and 214 to the control group. No significant difference in contraception practices was found between the intervention and control group at either 16 weeks or 1 year postpartum (Smith et al., 2002). Researchers found that among the Edinburgh population significantly more women in the intervention group were already or were planning to be sterilized at 16 weeks postpartum compared to the control group (11.8% and 2.8%, respectively; $p < .01$). Despite the fact that many women reported that the prenatal discussion was useful, the prenatal counseling had no impact on general contraception practices.

Another randomized controlled trial evaluated the effectiveness of prenatal counseling on intention to use contraception and actual use of contraception (Akman et al., 2010). Sixty pregnant women attending a university prenatal clinic in Turkey were randomized to the intervention group in which they received 30 minute one-on-one prenatal contraceptive counseling during their third trimester, while 120 women in the control group received an educational leaflet during the prenatal period on the types and timing of postpartum contraception. Both groups were contacted between 6 - 9 months postpartum via a survey and telephone follow-up to assess contraception practices. No statistically significant difference was found between the intervention and control group with regard to intention to use contraception (94% and 86.6%, respectively) or use of postpartum contraception (86% and 76.3%, respectively).

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Three observational studies reviewed for this report used PRAMS data to examine the impact of contraceptive counseling on postpartum contraceptive use. Hernandez et al. (2012) utilized Florida's 2004-2006 data from PRAMS to evaluate the impact of self-reported prenatal contraceptive counseling on postpartum contraceptive use. On the PRAMS survey women are asked: "During any of your prenatal care visits, did a doctor, nurse, or other health care worker talk with you about any of the things listed below?" which includes family planning as a possible response. Women were surveyed between 2 to 9 months postpartum. Researchers found that women who reported receiving prenatal contraceptive counseling had significantly increased likelihood of using a method of postpartum contraception deemed at least 80% effective by the Food and Drug Administration at the time of the survey (80% and 72%, respectively; $p = .005$). This relationship remained after adjustment for maternal characteristics and risk factors for non-contraceptive use (aOR 1.47 [95% CI 1.10 – 1.96]).

Wilson et al. (2013) also utilized PRAMS data to assess the impact of prenatal counseling on postpartum contraceptive use but focused this research on adolescent mothers (aged 15 to 19 years old). These researchers used PRAMS data collected from 2006 to 2008 in 7 states (Arkansas, Missouri, New York, Rhode Island, South Carolina, Tennessee, and West Virginia) and New York City. Researchers found that among adolescents, receipt of prenatal contraceptive counseling was associated with an increase in use of oral contraceptives compared to those who did not receive prenatal counseling (32% and 22%, respectively; $p < .05$) as well as a decreased likelihood of having unprotected sex (9% and 17%, respectively; $p < .05$). Wilson et al. argue that the positive findings with regard to prenatal counseling and oral contraceptive use indicate that prenatal counseling may significantly influence contraception practices and consequently should be improved and enhanced to increase use of LARC among adolescents.

A recent U.S. study using 2004 – 2008 PRAMS data from 9,536 postpartum women in Missouri, New York, and New York City assessed the association between prenatal and postpartum contraceptive counseling and contraception use (Zapata et al., 2014). This information was collected between 2 to 6 months postpartum. Researchers found that women who received prenatal contraceptive counseling had 50% increased odds of using any method of postpartum contraception compared to those who received no prenatal counseling (87% and 76%, respectively; aOR 1.53 [95% CI 1.29 – 1.82]), after adjusting for maternal age, race/ethnicity, education, marital status, type of insurance, pregnancy intention, parity,

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breastfeeding status, months postpartum, reporting area, reporting year, and receipt of postpartum counseling. Additionally, this study found that women who received prenatal contraceptive counseling also had 50% increased odds (aOR 1.51 [95% CI 1.30 – 1.75]) of using a more effective form of contraception (i.e., sterilization, implant, IUD, shot, pill, patch, or ring) by 2 to 6 months postpartum compared to those who did not receive prenatal contraceptive counseling, after adjusting for the above factors.

Although the evaluations discussed above indicate that there may be a positive impact of prenatal counseling on postpartum contraceptive use, the evidence is inconclusive. The randomized trials discussed (Smith et al., 2002 and Akman et al., 2010) both found a larger proportion of individuals in the group who received prenatal counseling using contraception although neither study showed this increase to be statistically significant. However, Akman et al. utilized a control group which also received prenatal contraception education and did not compare these findings to a population with no prenatal contraceptive counseling, perhaps conservatively estimating the impact of prenatal one-on-one counseling. The three observational studies that showed a significant association between prenatal counseling and postpartum contraceptive use were based on retrospective follow-back studies and were potentially biased by recall, such that mothers who used contraception were potentially more likely to remember that they received prenatal counseling and report accordingly (Hernandez et al., 2012; Wilson et al., 2013; Zapata et al., 2014). As a result of these limitations and the small number of studies on contraceptive counseling and patient education in the prenatal period it is clear that further research is needed to determine its impact on postpartum contraception uptake.

Quality Review: Antenatal Prenatal Counseling Interventions		
Author, Year	Quality Review Score (of 14)	Unmet Quality Criteria*
Smith et al., 2002	10	Did Not: Measure Intensity of Exposure (#4)
Akman et al., 2010	4	Did Not: Adequately Adjust for Confounding (#9), Describe Characteristics of Loss to Follow-Up (#12)
Hernandez et al., 2012	10	Did Not: Measure Intensity of Exposure (#4)
Wilson et al., 2013	10	Did Not: Measure Intensity of Exposure (#4)
Zapata et al., 2014	10	Did Not: Measure Intensity of Exposure (#4)

(#) Corresponds to question number on Appendix A: *Quality Review Tool*.

*Resulting in a -1 score for the criterion in question.

Group Prenatal Care Intervention

One of the articles reviewed examined the effect of group prenatal care, represented by the CenteringPregnancy (CP) model, on the use of postpartum contraception. CenteringPregnancy generally consists of group prenatal care sessions led by a health care provider (e.g., nurse practitioner, certified nurse midwife, physician) and health educator. These sessions include health assessment and education and also encourage group cohesiveness and support between the women receiving care together (CHI, 2014). A study by Hale et al. (2014) examined the impact of CenteringPregnancy on use of family planning services in the postpartum period among medically low-risk, Medicaid women in South Carolina. Women self-selected into CP (n=570 in the intervention group; n =3,067 in the control group). Use of family planning services was determined by reviewing participants’ Medicaid billing. Any record of an initial, supply, or counseling family planning visit was determined as a ‘yes’ to use of family planning services. Women who participated in group prenatal care showed greater use of family planning services than those in the control group at 6 months (22.8% and 15.1%, respectively; $p < .05$), 9 months (27.0% and 18.4%, respectively; $p < .05$), and 12 months postpartum (29.3% and 20.4%, respectively; $p < .05$). The authors also used propensity score matching to complete an additional analysis controlling for initial differences in baseline characteristics. After propensity score matching, Hale et al. found that at 6, 9, and 12 months women in CP had higher odds of receiving family planning services than those in the control group (6 months: OR 1.42 [95% CI 1.05 – 1.92]; 9 months: OR 1.43 [95% CI 1.08 – 1.90]; 12 months: OR 1.44 [95% CI 1.10 – 1.90]). Although the findings from this study indicate a potential increase in use of postpartum family planning services among those who received group prenatal care there is not sufficient evidence to establish if participation in CP results in higher actual uptake of postpartum contraception. Further research is needed to expand upon these findings.

Quality Review: Antenatal Group Prenatal Intervention		
Author, Year	Quality Review Score (of 14)	Unmet Quality Criteria*
Hale et al., 2014	10	Did Not: Measure Intensity of Exposure (#4), Participants Representative of Population (#10)

(#) Corresponds to question number on Appendix A: *Quality Review Tool*.

*Resulting in a -1 score for the criterion in question.

Interventions in the Postnatal Period

Patient Education/Postpartum Counseling Interventions

Six articles reviewed for this report discussed initiatives focused on patient education and counseling in the postpartum period (Gilliam et al., 2004; Engin-Üstün et al., 2007; Lee & Yee, 2007; Katz et al., 2011; Lee et al., 2011; Tang et al., 2014; Zapata et al., 2014). These interventions included postpartum contraception education in the form of written, video, and verbal sessions. A study at a University hospital in Turkey evaluated the impact of verbal postpartum counseling by a general practitioner in the postpartum unit during the immediate postpartum period on contraceptive use and satisfaction with counseling (Engin-Üstün et al., 2007). Researchers found that of the 143 women interviewed at both the hospital and 5 months postpartum, 94.4% were satisfied with their contraception counseling in the hospital and that 37.1% intended to use some form of LARC as their postpartum contraception. However at the 5-month interview researchers found that only 23.8% were using the method initially selected and that the majority of women were using a condom or coitus interruptus as contraception.

Katz et al. (2011) evaluated an intervention focused on U.S. urban adolescents in which postpartum adolescents were provided a cell-phone and participated in weekly or bi-weekly phone sessions for 18 months postpartum with counselors of a similar racial-ethnic background. Counseling sessions lasted 35-45 minutes and were designed to provide the adolescents with the skills and knowledge to assess and achieve their own goals. Counselors followed a specific curriculum to improve health knowledge and behaviors with adolescents and to improve health planning and prevent subsequent births. Adolescents were randomized to either the intervention group (n = 124) or the control group (n = 125). Thirty-one percent of adolescents in the intervention group and thirty-six percent in the control group became pregnant again within two years. Researchers found no significant difference in the time to subsequent pregnancy between intervention and control group ($p = .39$).

A study of married postpartum Taiwanese women attempted to use a 'theory-based interactive' program to increase women's postpartum sexual health knowledge, self-efficacy, and contraceptive efficacy (Lee & Yen, 2007). Researchers used the transtheoretical-model to design an intervention that assessed the women's learning stage (i.e., precontemplation, contemplation, preparation, or action) with regard to postpartum sexual health and contraception. This assessment was followed by distribution of an informational pamphlet on postpartum sexual

health and a 10-15 minute one-on-one education session with women based on their learning stage prior to discharge from the delivery hospital. Using a randomized-controlled evaluation design, 84 women received the intervention and 82 women received typical postpartum contraceptive education, including an educational talk and sexual health manual administered in the delivery hospital. Women completed a pre-test, immediate post-test, and 8-week follow-up survey to assess their improvement in sexual health knowledge and contraception self-efficacy, defined as the 'belief in one's capacity to identify a [contraceptive] goal and work toward achieving it' (Lee & Yen, 2007). Only 68 of the intervention group and 65 of the control group were reached for the follow-up interview. Researchers found that 51.8% of women were at the 'contemplation' phase with regard to their postpartum sexual health; they cared about their postpartum sexual health but did not know what information was needed. The intervention showed a greater increase in sexual health knowledge among women exposed to the intervention at both the immediate post-test ($p < .0001$) as well as the follow-up ($p < .0001$) compared to the control group. No significant difference was seen between the intervention and control group for contraceptive self-efficacy during the postpartum period.

In 2011 this study was updated (Lee et al., 2011) with the addition of an educator guide booklet and adjustments to the pamphlet provided to the intervention group. The researchers randomized Taiwanese postpartum women to three groups. Experimental group #1 received the intervention described above ($n = 70$ at baseline, $n = 41$ at 3 months follow-up). Experimental group #2 received only an educational pamphlet ($n = 92$ at baseline, $n = 52$ at 3 months follow-up), and the control group received traditional postpartum contraceptive counseling ($n = 88$ at baseline, $n = 49$ at 3 months follow-up). Women completed a pre-test, immediate post-test, 2-month follow-up, and 3-month follow-up evaluation. Similar to the 2007 findings, Lee et al. 2011 found that sexual health knowledge improved for all postpartum women between the pre- and post- test regardless of experimental or control group status. Unlike the original evaluation of this intervention, contraceptive self-efficacy was significantly greater among group #1 when compared to the control group ($p < .01$) but there was no significant difference between group #1 and the control group with regard to effective contraception use.

Tang et al. (2014) evaluated the impact of a 1-minute postpartum educational script delivered by study research assistants in women's postpartum hospital room prior to discharge on the use of LARC after the 6-week postpartum visit. To evaluate this intervention, researchers

conducted a randomized control trial including baseline interviews and follow-up surveys with women who delivered at a nonprofit hospital in Raleigh, North Carolina. Three hundred and ninety-four women were randomized to receive the LARC script and 403 were randomized to a control group who received no intervention. Although there was a significant difference with regard to interest in LARC after their 6-week visit between the intervention and control groups (31% and 26%, respectively; $p = .01$), there was no significant difference between the two groups with regard to use of any type of contraceptive method ($p = .32$) nor use of LARC after the 6-week postpartum visit (17.6% and 13.3%, respectively; $p = .10$) (Tang et al., 2014). Tang et al. argue for the need for a longer educational script in future interventions.

Another intervention focused on young (25 years old or younger), urban African-American women, sought to increase compliance in the postpartum period with oral contraceptives (OCs) by creating an intervention centered on increasing self-efficacy and knowledge related to OC use (Gilliam et al., 2004). Women enrolled in this study had experienced an unplanned pregnancy and had an interest in using OCs as postpartum contraception. This intervention occurred in the immediate postpartum period, prior to the women's discharge from the delivering hospital. The intervention included one-on-one counseling with a nurse to increase self-efficacy related to use of OCs, an approximately 10 minute videotape of African-American women discussing their experiences taking OCs, and the provision of six informational sheets about taking OCs developed with the input of a focus group (Gilliam et al., 2004). The intervention was evaluated by randomizing interested women into an intervention group ($n = 18$) and control group ($n = 15$) and assessing for compliance with OCs and knowledge about OCs immediately following the intervention, at 6 weeks, 6 months, and 12 months postpartum. Due to attrition only 16 women remained in the study at 1 year, although researchers were able to get information from medical charts for 9 of the participants who were lost to follow-up. The intervention group showed greater knowledge immediately after the intervention compared to the control group; this knowledge was maintained throughout the study. At 12 months postpartum more women in the intervention group were using contraception compared to the control group; however, there was no meaningful difference in repeat pregnancy between the intervention and control groups.

As mentioned in the prenatal interventions section, Zapata et al. (2014) examined PRAMS data from Missouri, New York, and New York City in an observational study assessing

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the association between prenatal and postpartum contraceptive counseling and postpartum contraception use. Researchers found that regardless of receipt of prenatal counseling, women who received postpartum contraceptive counseling reported significantly increased likelihood of using any form of contraception compared to those with no postpartum counseling (aOR 1.64 [95% CI 1.34 – 2.00]). In addition to adjustment for prenatal counseling, authors controlled for maternal age, race/ethnicity, education, marital status, type of insurance, pregnancy intention, parity, breastfeeding status, months postpartum, reporting area, and reporting year.

Due to the different forms of contraceptive education and counseling interventions reviewed as well as outcome measures (i.e., increased knowledge, contraception use, etc.) it is difficult to evaluate and compare the success of these interventions. Verbal educational interventions showed a potential increase in satisfaction with counseling and contraceptive knowledge (Gilliam et al., 2004; Engin-Ustun et al., 2007; Lee & Yen, 2007; Lee et al., 2011). Only Zapata et al.’s review of PRAMS data showed a statistically significant increase in postpartum contraceptive use, although Gilliam et al. (2004) did see an increase in contraceptive use in the verbal intervention group but was limited by a small sample size.

Quality Review: Postnatal Patient Education Interventions		
Author, Year	Quality Review Score (of 14)	Unmet Quality Criteria*
Engin-Üstün et al., 2007	0	Did Not: Have Theoretical/Conceptual Model for Intervention (#3), Measure Intensity of Exposure (#4), Have Appropriate Comparison Group (#5), Have Appropriate Statistical Tests (#8), Adequately Adjust for Confounding (#9), Complete Power Analysis (#14)
Katz et al., 2011	9	Did Not: Describe Characteristics of Loss to Follow-Up (#12), Complete Power Analysis (#14)
Lee & Yen, 2007/Lee et al., 2011	8/9	Did Not: Describe Characteristics of Loss to Follow-Up (#12), Complete Power Analysis (#14)/ Complete Power Analysis (#14)
Tang et al., 2014	8	Did Not: Adequately Adjust for Confounding (#9), Describe Characteristics of Loss to Follow-Up (#12)
Gilliam et al., 2004	9	Did Not: Have Appropriate Statistical Tests (#8), Complete Power Analysis (#14)
Zapata et al., 2014	10	Did Not: Measure Intensity of Exposure (#4)

(#) Corresponds to question number on Appendix A: *Quality Review Tool*.

*Resulting in a -1 score for the criterion in question.

Enhanced Postpartum Care Interventions

Four of the articles reviewed discussed interventions that enhanced typical postpartum care to increase access and awareness of postpartum contraception, among other goals (Rabin et al., 1991; O'Sullivan & Jacobsen, 1992; Erickson, 1994; Simmons et al., 2013). In addition to providing other services, these programs addressed barriers to postpartum contraception use by increasing the postpartum care team to include social workers or personal assistants able to assist women in navigating system obstacles.

Rabin et al. (1991) evaluated a comprehensive postpartum program for women under 20 in New York. Women in the program were provided with care from multiple relevant providers including obstetricians, pediatricians, social workers, and health educators who acted as a team to provide postpartum care to the adolescent. Physicians were available 24-hours to answer questions from adolescents. Additionally, bi-weekly classes on reproductive health and family life were provided until the adolescent turned 20 years old. From 1982 to 1989 there were 498 participants in the comprehensive program; these individuals were compared to 91 adolescents who received care at the hospital's adult obstetric clinic during this time. Seventy-five percent of adolescents in the intervention group attended the program, while only 18% of those in the control group regularly attended the adult clinic. Adolescents in the comprehensive program were significantly more likely to use contraception compared to the control group (85% and 22%, respectively; $p < .0001$) and fewer adolescents in the intervention group (9%) became pregnant again before 20 years old compared to the control group (70%). The researchers emphasized the importance of addressing adolescents' support systems and family life in increasing contraception use and decreasing repeat pregnancies.

O'Sullivan and Jacobsen conducted an evaluation of an intervention designed for low-income, Black postpartum adolescents which aimed to improve their health and health-behaviors focused on themselves and their infants (O'Sullivan & Jacobsen, 1992). In this intervention, individuals were randomized to a control group ($n = 123$), which received traditional infant and postpartum care, or an experimental group ($n = 120$), which received special care in addition to traditional care. The special care included a visit with a social worker in the teen baby clinic at 2 weeks postpartum, to discuss family planning methods and provide referrals to services. Additionally, a pediatrician and nurse practitioner charted the mother's plans for school and contraception so that they could follow-up with the mother. Finally, the special care group

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received education through videotapes, slides, and one-on-one discussions with a nurse practitioner or volunteer covering parenting behaviors, education on infant and self-care, and received continuous follow-up via phone calls and letters if a woman missed an appointment. All participants in the intervention were 17 years old or under, Black, and receiving Medicaid. Researchers found that despite a large dropout rate in both groups, there was a significant difference in the repeat pregnancy rate between the experimental group (12%) and the control group (28%) at 18 months postpartum ($p < .003$).

A study by Erickson (1994) used an intensive case management system to increase the uptake of contraception among postpartum adolescents (age 17 or younger). The intervention was designed to follow these women for three years, with the goal of delaying repeat pregnancy for at least two years through encouragement to return to school, education on acquiring employment skills, increasing English competency, and assistance with other non-medical issues (i.e., transportation, child care, etc.) (Erickson, 1994). Originally, 350 women were recruited for the study with 244 individuals receiving the intervention and 106 assigned to the control group. Of women initially recruited to the study, the majority (87%) were Hispanic, 47% living with or married to significant other, and 86% recently experienced their first birth. Due to extensive attrition, only 37 in the intervention group and 2 in the control group remained by the 2nd year. Erickson found the intervention to be inappropriate for this population because of the lack of adolescent participation stating, “there was often little difference between the services provided to the [intervention group] and the regular family planning care provided to the control group”.

A randomized controlled evaluation by Simmons et al. (2013) attempted to increase use of LARC among low-income postpartum women delivering at an academic hospital. Women in the intervention group received assistance from a personal assistant to remove logistical barriers to receiving contraception during the postpartum period. The personal assistant reached out to women during the first two weeks postpartum to confirm the women’s interest in LARC, provide additional counseling, schedule the postpartum visit, and discuss barriers (i.e. insurance, cost). Twenty-five individuals were randomized to the intervention group and twenty-four to the control group, who received typical postpartum care. At three months postpartum there was no significant difference in LARC placement between the intervention and control group (72% and 67%, respectively; $p = .76$).

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Three of these enhanced postpartum care interventions were implemented in the 1990s and are consequently in need of repeat or revised design and implementation and updated evaluations before further conclusions can be established. These same interventions all focused on adolescent populations and therefore the findings are not generalizable to the postpartum population as a whole. Although two of the studies above show promising findings with regard to increased contraception use and decreased repeat pregnancy among the intervention group (Rabin et al., 1991; O’Sullivan & Jacobsen, 1992), the limitations discussed above as well as inconclusive findings of the second two studies (Erickson, 1994; Simmons et al., 2013) indicate that further research is needed to determine the impact of enhanced postpartum care interventions on postpartum contraception use.

Quality Review: Postnatal Enhanced Postpartum Care Interventions		
Author, Year	Quality Review Score (of 14)	Unmet Quality Criteria*
Rabin et al., 1991	6	Did Not: Measure Intensity of Exposure (#4), Describe Characteristics of Loss to Follow-Up (#12)
O’Sullivan & Jacobsen, 1992	8	Did Not: Measure Intensity of Exposure (#4), Describe Characteristics of Loss to Follow-Up (#12)
Erickson, 1994	-1	Did Not: Clearly Defined Objective (#1), Measure Intensity of Exposure (#4), Have Appropriate Comparison Group (#5), Have Appropriate Statistical Tests (#8), Adequately Adjust for Confounding (#9), Show Fidelity of Intervention (#13), Complete Power Analysis (#14)
Simmons et al., 2013	8	Did Not: Measure Intensity of Exposure (#4), Describe Characteristics of Loss to Follow-Up (#12)

(#) Corresponds to question number on Appendix A: *Quality Review Tool*.

*Resulting in a -1 score for the criterion in question.

Home Visiting Interventions

There were seven studies reviewed which addressed the issue of postpartum contraception uptake as an outcome of home visiting interventions (Kitzman et al., 1997; Olds et al., 2002; Sims & Luster, 2002; Quinlivan et al., 2003; El-Kamary et al., 2004; Black et al., 2006; Barnet et al., 2009). These interventions differed in their target population (e.g., low-income postpartum women, postpartum adolescents, etc.), their use of paraprofessional home visitors or nurse home visitors, and the curriculum used during the home visiting sessions.

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Kitzman et al. (1997) evaluated a nurse home visiting program that occurred during both the prenatal and postnatal period. Women in the intervention group (n =228) were provided home visitation services during pregnancy at 28 weeks and 36 weeks gestation as well as regular home visiting by a nurse until 24 months postpartum. On average, 26 home visits per woman were completed postpartum. Nurses counseled moms on diet, health-behaviors, infant health/development, family planning, employment, and other services. Women in the control group (n =515) received free transportation to appointments, postpartum developmental assessments for infants and referral to services at 6 months, 12 months, and 24 months. The majority of participants were African-American, unmarried, and living in a low-income household. Researchers found that at 24 months, women in the intervention group had significantly fewer pregnancies than the control group (36% and 47%, respectively; $p = .006$).

A home-visiting program targeted at low-income postpartum women in Denver, Colorado was evaluated to determine its impact on a number of maternal and child outcomes including subsequent pregnancies within 24 months postpartum (Olds et al., 2002). Researchers conducted a randomized controlled trial where all participants, including the control group, received developmental screening of their infant and connection to resources starting at 6 months through 24 months postpartum. Additionally there were two intervention groups, each of which received home visiting services starting in the antenatal period and continuing through 24 months postpartum. Women were randomized to the control group (n = 255), an intervention group with home visiting conducted by a nurse (n = 235), or an intervention group with home visiting conducted by a paraprofessional (n = 245). Olds et al. found that there was a trend towards significance with regard to reduced risk of repeat pregnancy within 24 months for those in the paraprofessional group (33%) compared to the control group ($p < .10$) and a significant reduction in repeat pregnancy within 24 months for those in the nurse group (29%) compared to the control group (41%) ($p < .05$).

A study of an adolescent-focused home visiting program, Family TIES, found no significant reduction in subsequent pregnancies within 24 months postpartum (Sims & Luster, 2002). This program targeted low-income pregnant adolescents (age 13 to 19) in Flint, Michigan and randomized them to receive either intensive (home visiting) or standard care. After giving birth, adolescents in the intensive group were provided with weekly home visits by a paraprofessional family advocate. This advocate provided connection to resources in the

community, emotional support, transportation assistance, as well as family planning emphasis and access. The standard group received similar services but on a less intensive scale such that an advocate reached out when able via phone or mail and connected the adolescent to resources when able or absolutely necessary. Ninety-nine of the adolescents completed the 24 months assessment, with 48 in the intervention group and 51 in the standard care group. Researchers found no significant difference in rate of repeat pregnancy within 24 months postpartum for women in the home-visiting group compared to the standard care group (58% and 63%, respectively; $p = .65$).

Quinlivan et al. (2003) used a randomized controlled trial to evaluate the impact of a postpartum home visiting program on contraceptive knowledge and use among low-income, adolescents ($n = 62$ in both intervention and control groups) in Australia. The intervention involved the completion of a home visit by certified nurse midwives at 1 week, 2 weeks, 1 month, 2 months, and 4 months as well as during a 6 month postpartum assessment. At these 1 to 4 hour home visits, midwives discussed breastfeeding skills, infant health, maternal health, contraception needs, social issues (e.g., violence, drug use, etc.), as well as provided referrals to services as needed. Antenatal, pre-intervention knowledge about contraception and plans for contraceptive use was equivalent between the intervention and control groups. At 6 months postpartum, there was a significantly higher level of knowledge about contraception in the intervention group compared to the control group ($p = .017$). Adolescents in the intervention group had about a 30% increased likelihood (OR 1.33 [95% CI 1.07 – 1.64]) of reliably using contraception at 6 months when compared to the control group (Quinlivan et al., 2003).

The impact of the Hawaii Healthy Start's home visiting program by trained paraprofessionals on postpartum contraceptive use was examined using a randomized controlled trial ($n = 373$ in Healthy Start Home Visiting and $n = 270$ in the control group) (El-Kamary et al., 2004). Women were surveyed each year they remained in the program to determine if a repeat birth had occurred. Researchers found no significant difference in repeat birth within 24 months postpartum between those in the home visiting group and those in the control group (21% and 20%, respectively).

An intervention evaluated by Black et al. (2006) examined the impact of a home-based mentoring curriculum for low-income, Black postpartum adolescents on rates of repeat pregnancy within 2 years. This intervention included a 19-lesson curriculum delivered by

mentors focused on increasing self-efficacy and promoting support. It was delivered via home visits with the postpartum adolescent every 2 weeks starting at 3 weeks postpartum. Participants were randomized to either the intervention (n = 87 at baseline/n = 70, at final follow-up visit) or control group (n = 94 at baseline/n = 79, at final follow-up visit). Researchers found that adolescents in the control group had a significantly increased likelihood of experiencing a repeat birth within 2 years postpartum when compared to the intervention group (24% and 11%, respectively; OR 2.45 [95% CI 1.00 – 6.03]).

A 2009 study by Barnet et al. attempted to address the issue of contraception uptake and rapid repeat pregnancy among low-income, Black adolescents in Baltimore through a computer-assisted motivational interview (CAMI) and home visiting intervention. Adolescents in the intervention groups met with their CAMI counselor, a paraprofessional woman, quarterly starting at 6 weeks postpartum through 24 months postpartum during which they completed a computer assessment which determined their stage of change with regard to contraception use and sexual health followed by a 20 minute motivational interviewing session. Approximately half of these participants received only the CAMI intervention (n = 87) while the other half received a CAMI+ intervention which included the CAMI in addition to biweekly home visits with the counselor during which a parent training curriculum was completed (n = 80). Additionally, 68 participants were also randomized to a usual-care control group. Eighteen percent of participants experienced a subsequent pregnancy within 24 months postpartum. After controlling for baseline group differences, participants in the CAMI+ group were significantly less likely to experience a repeat birth ($p < .05$) than the control group. Additionally researchers found that completing 2 or more CAMI sessions in either intervention group (CAMI or CAMI+) resulted in significantly fewer repeat births when compared to the control group.

Many of the evaluations of home visiting programs show promising results with regard to significant reduction in repeat pregnancies or births (Kitzman et al., 1997; Olds et al., 2002; Black et al., 2006; Barnet et al., 2009); however, only two home visiting studies specifically addressed use of contraception (Quinlivan et al., 2003; Black et al., 2006), and only Quinlivan et al. showed a statistically significant increase in contraception use among the intervention group. Furthermore, the three studies only examining repeat births (El-Kamary et al., 2004; Black et al., 2006; Barnet et al., 2009) and not pregnancies do not account for the possibility that differences between the intervention and control group could be overestimated as more individuals in the

intervention group may have accessed abortion services. Additionally, factors such as the type of professional providing the home visiting intervention (i.e., paraprofessional, nurse, certified nurse midwife, etc.) appear to potentially affect the impact of the intervention suggesting that further investigation is needed to determine the effectiveness of home visiting with respect to contraceptive use among postpartum women, adolescents or older women.

Quality Review: Postnatal Home Visiting Interventions		
Author, Year	Quality Review Score (of 14)	Unmet Quality Criteria*
Kitzman et al., 1997	6	Did Not: Measure Intensity of Exposure (#4), Compare Selected to Target Population (#10), Describe Characteristics of Loss to Follow-Up (#12)
Olds et al., 2002	9	Did Not: Participants Representative of Population (#10)
Sims & Luster, 2002	7	Did Not: Complete Power Analysis (#14)
Quinlivan et al., 2003	9	Did Not: Have Theoretical/Conceptual Model for Intervention (#3)
El-Kamary et al., 2004	6	Did Not: Measure Intensity of Exposure (#4), Participants Representative of Population (#10)
Black et al., 2006	11	Did Not: Show Fidelity of Intervention (#13)
Barnet et al., 2009	13	Did Not: N/A (All Were Criteria Met [score +1] or Unable to be Determined [score 0])

(#) Corresponds to question number on Appendix A: *Quality Review Tool*.

*Resulting in a -1 score for the criterion in question.

Additional Miscellaneous Interventions

Stevens-Simon et al. aimed to reduce repeat pregnancy in adolescents by examining three different interventions: ‘Dollar-a-Day’ monetary incentive for each day not pregnant (n = 101), weekly adult-led, peer group sessions on the benefits of avoiding pregnancy and contraception options (n = 24), and a combination of both incentive and group sessions (n = 107) (Stevens-Simon et al., 1997). Researchers recruited adolescents up to 5 months postpartum from an adolescent maternity program as well as from the postpartum unit at a University Hospital in Denver, Colorado and randomized those enrolled to one of the three groups listed above or to the control group (n = 54). Each program was intended to last through 2 years with regular pregnancy testing in all groups. None of those in any of the intervention groups received the full intervention and a portion of both the control and intervention group received none of the

intervention. Although more individuals participated in the intervention among the incentive groups, overall participation was low and no significant difference was seen in repeat pregnancy rates between the intervention and control groups (Stevens-Simon et al., 1997).

Another intervention designed to increase the use of postpartum contraception is the Quick Start Contraception Initiation Method (QSCIM). QSCIM is a model of initiating contraceptive use in patients by starting contraception use on the day of the appointment if a pregnancy test is negative (Stechna et al., 2013). Researchers evaluated the impact of this method on contraception uptake at the 6-week postpartum visit for patients of an urban Federally Qualified Health Center. Medical records for patients seen prior to implementation of QSCIM (n=516) were reviewed and compared to those who received care after the initiation of this method (n=463). The groups were equivalent with regard to demographic variables. Researchers found that a larger proportion of the control group was initially interested in contraception than the intervention group (80% and 75.8%, respectively); however, actual contraception uptake was significantly lower in the control group compared to the intervention group (50% and 76%, respectively; $p < .05$). Ninety-seven percent of those in the intervention group desiring contraception left their appointment with contraception. Additionally, method of contraception used (i.e. pill, LARC, etc.) was more evenly distributed and included more LARC use in the intervention group as opposed to the control group.

In addition to the prenatal and postnatal only evaluations, two studies in this review examined the impact of contraceptive counseling from a health care provider in both the prenatal and postnatal periods on the use of contraception in the postpartum period (Lauria et al., 2014; Zapata et al., 2014). One study of Italian women evaluated the impact of provider counseling in the antenatal and postnatal periods on use of effective contraception at 3 months postpartum (Lauria et al., 2014). Population-based information was collected by the Italian National Institute of Health in 2008/9 and again at 2010/11. Researchers found that those who received family planning counseling by a provider in either or both the prenatal or postnatal period were significantly more likely to use an effective method of contraception than those who had not received counseling. Effective contraceptive methods included: pill, barrier, IUD, sterilization, or lactation amenorrhea method. Outcomes were stratified by residency status, among native Italian women, those who had family planning counseling (either antenatally or postnatally) had higher odds of using effective contraception when compared to those who did not receive counseling

(73.3% and 52.8%, respectively; OR 2.55 [95% CI 2.06 – 3.14]); among immigrant women in Italy, those who received counseling had four times the odds of using effective contraception at 3 months postpartum (75.8% and 45.7%, respectively; OR 4.01 [95% CI 2.40 – 6.70]).

Additionally using PRAMS data, as discussed above, Zapata et al. (2014) also found that those women that received both prenatal and postpartum contraceptive counseling had the highest likelihood of using postpartum contraception (aOR 2.74 [95% CI 2.18 – 3.45]), after adjusting for maternal age, race/ethnicity, education, marital status, type of insurance, pregnancy intention, parity, breastfeeding status, months postpartum, reporting area, and reporting year. Researchers concluded that effective contraceptive counseling should occur during both the prenatal and postnatal periods.

Quality Review: Postnatal Miscellaneous Interventions		
Author, Year	Quality Review Score (of 14)	Unmet Quality Criteria*
Stevens-Simon et al., 1997	8	Did Not: Show Fidelity of Intervention (#13), Complete Power Analysis (#14)
Stechna et al., 2013	9	Did Not: Clearly Explain Intervention (#2)
Lauria et al., 2014	7	Did Not: Clearly Explain Intervention (#2), Measure Intensity of Exposure (#4), Adequately Adjust for Confounding (#9)
Zapata et al., 2014	10	Did Not: Measure Intensity of Exposure (#4)

(#) Corresponds to question number on Appendix A: *Quality Review Tool*.

*Resulting in a -1 score for the criterion in question.

Conclusion

The findings of this literature review show a number of promising interventions to address postpartum contraception uptake. The majority of the articles were given relatively high quality review scores indicating that rigorous methods were utilized in evaluating these interventions, thus providing further support for the interventions discussed. Promising findings were observed for the impact of health care provider counseling in the antenatal or postnatal period, but most significantly if occurred in both periods, on contraception use (Zapata et al., 2014). For nearly all interventions (i.e., prenatal counseling, group prenatal care, patient education, enhanced postpartum care, and home visiting) there was some improvement in the intervention group for some aspect of postpartum contraceptive use. However, fewer than 50%

of the articles reviewed showed statistically significant differences between the intervention and control groups with respect to outcomes related to use of postpartum contraception (i.e., repeat pregnancies, etc.). Of the thirteen studies that specifically examined postpartum contraception use as an outcome, there were three studies that showed significantly increased contraception use associated with antenatal contraceptive counseling/patient education (Hernandez et al., 2012; Wilson et al., 2013; Zapata et al., 2014). One study showed a significant increase in contraception use for patient counseling in the postpartum period (Zapata et al., 2014), one study showed a significant increase in contraception use for an enhanced postpartum care intervention (Rabin et al., 1991), one study showed a significant increase in contraception use associated with postpartum home visiting (Quinlivan et al., 2003), and three additional studies (i.e., Quick Start Contraception Initiation and contraception counseling in both the antenatal and postnatal period) also showed significantly increased use of contraception (Stechna et al., 2013; Lauria et al., 2013; Zapata et al., 2014). Despite these positive findings, few interventions were evaluated with the same outcome measures, many of the evaluations are relatively dated, and a number of studies focused only on select populations (e.g., adolescents, Latinas, etc.). These limitations emphasize a need for further implementation and evaluation of interventions in both the antenatal and postnatal periods to increase uptake of postpartum contraception. Additionally, the majority of the interventions reviewed addressed issues related to contraception counseling or education but did not address actual provision of contraception resulting in a gap in the possible methods for increasing contraception uptake in the postpartum period. Finally, only three of the articles reviewed focused on increasing uptake of LARC in the postpartum period. Given the effectiveness of LARC methods and the consequent beneficial impact of increasing LARC use, implementation and evaluation of interventions focused on increasing LARC use in the postpartum period is essential. It is recommended that future research build on the successful approaches cited in this review to improve the evidence base for interventions to increase postpartum contraceptive use.

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Table E-1. Antenatal Interventions to Increase Uptake of Contraception in the Postpartum Period

Author, Year	Target Population	Intervention Type	Relevant Outcome Measure (s)	Results	Evidence for Results	Quality Review Score*
Smith et al., 2002	Women receiving prenatal care at a large maternity hospital in Edinburgh, UK	Contraceptive Counseling/ Education in Prenatal Period	Patterns of Contraceptive Use, Contraception Continuation Rates	No significant difference in those who received antenatal counseling and those who did not with regard to contraception continuation rates or patterns of contraception use at 16 weeks or 1 year postpartum. More women who received antenatal counseling were or were planning to be sterilized at 16 weeks postpartum compared to those who did not (11.8% and 2.8%, respectively; $p < .01$).	Randomized Controlled Evaluation	10
Akman et al., 2010	Women who attended Marmara University prenatal clinics in Turkey	Contraceptive Counseling/ Education in Prenatal Period	Plan to Use Contraception, Actual Contraception Use at 6-9 Months Postpartum	No significant difference between those who received one-on-one antenatal counseling and those who received educational pamphlet with regard to intention to use contraception (94% and 86.6%, respectively) or use of postpartum contraception (86% and 76.3%, respectively).	Randomized Controlled Evaluation	4
Hernandez et al., 2012	Women who gave birth in Florida between 2004 -2005	Contraceptive Counseling/ Education in Prenatal Period	Use of Effective** Postpartum Contraceptive Method	Women who received antenatal counseling had significantly increased odds of using effective postpartum contraception compared to those who did not report receiving antenatal counseling (80% and 72%, respectively; $p = .005$).	Observational Retrospective Study	10
Wilson et al., 2013	Adolescent women who gave birth between 2006 - 2008 in the U.S.	Contraceptive Counseling/ Education in Prenatal Period	Contraception Use at 2-4 Months Postpartum	Adolescents who received antenatal counseling were significantly more likely to be using contraceptive pills than those who did not report receiving antenatal counseling (32% and 22%, respectively; $p < .05$).	Observational Retrospective Study	10
Zapata et al., 2014	Women who gave birth between 2004 - 2008 in the Missouri, New York, and NYC	Contraceptive Counseling/ Education in Prenatal Period	Contraception Use 2 to 6 Months Postpartum	Women who received prenatal contraceptive counseling reported significantly increased likelihood of using any form of contraception compared to those with no prenatal counseling (87% and 76%, respectively; aOR 1.53 [95% CI 1.29 – 1.82]).	Observational Retrospective Study	10
Prenatal Counseling/Patient Education: Inconclusive Findings, Possible Increase in Uptake Mean Quality Review Score: 8.80						
Hale et al., 2014	Medically low-risk women receiving Medicaid in South Carolina	Group Prenatal Care	Use of Family Planning Services in Postpartum Period	Women who participated in group prenatal care were more likely to have received family planning services than those in individual care by 6 months (22.8% and 15.1%, respectively; $p < .05$), 9 months (27.0% and 18.4%, respectively; $p < .05$), and 12 months postpartum (29.3% and 20.4%, respectively; $p < .05$).	Quasi-Experimental Evaluation	10
Group Prenatal Care: Possible Increase in Use of Services Related to Postpartum Contraception						

*Quality Review Score was calculated by summation of the 14 quality criteria (see Appendix A) such that if an article met the criterion it received 1 point, if it did not meet the criterion it received -1 point, and if the criterion was not addressed it received no point; highest possible score = 14, lowest possible score = -14.

**Contraceptive methods determined at least 80% effective by Food and Drug Administration

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Table E-2. Postnatal Interventions to Increase Uptake of Contraception in the Postpartum Period

Author, Year	Target Population	Intervention Type	Outcome Measure	Results	Evidence for Results	Quality Review Score*
Engin-Üstün et al., 2007	Women who recently gave birth in a University Hospital in Turkey	Postpartum Counseling/ Education Verbal	Satisfaction with Counseling, Method Used at 5 Months	94.4% of women who received contraception education were satisfied with counseling. At 5 months 9.8% of women were using IUDs; majority using condoms or coitus interruptus.	Descriptive Evaluation	0
Katz et al., 2011	Adolescents in urban DC	Postpartum Counseling/ Education Verbal	Repeat Pregnancy within 18 Months Postpartum	No significant difference in repeat pregnancy between intervention and control group at 18 months postpartum (p = .39).	Randomized Controlled Evaluation	9
Lee & Yee, 2007; Lee et al., 2011	Women who recently gave birth in Taiwanese Medical Center	Postpartum Counseling/ Education Verbal	Knowledge, Contraception Self-Efficacy	Women who received the intervention had increased sexual health knowledge compared to the control group (p < .0001). No significant difference was seen in contraception self-efficacy between the intervention and control group. However, an updated evaluation in 2011 showed that the intervention group had significantly increased contraception self-efficacy scores than the control group (p < .01).	Randomized Controlled Evaluation	8/9
Tang et al., 2014	Women who recently gave birth at Raleigh, North Carolina Hospital	Postpartum Counseling/ Education Verbal	Interest in LARC Use, LARC Use at 6-Weeks Postpartum	Women who received the intervention showed a significantly greater interest in LARC than those in the control (31% and 26%, respectively; p = .01). No significant difference was seen in use of LARC at 6-weeks between intervention and control group (17.6% and 13.3%, respectively; p = .10).	Randomized Controlled Evaluation	8
Gilliam et al., 2004	African American women under 25 years old in Chicago	Postpartum Counseling/ Education Multiple Forms	Knowledge, Contraception Use	Women who received contraceptive education showed greater knowledge with regard to oral contraceptive use compared to those in the control group and of those who remained in the study at 1 year postpartum more women in the intervention group were using contraception than the control group (67% and 40%).	Randomized Controlled Evaluation	9
Zapata et al., 2014	Women who gave birth between 2004 - 2008 in the Missouri, New York, and NYC	Postpartum Counseling/ Education	Contraception Use 2 to 6 Months Postpartum	Women who received postpartum contraceptive counseling reported significantly increased likelihood of using any form of contraception compared to those with no postpartum counseling.	Observational Retrospective Study	10
Patient Education: Inconclusive Findings, Possible Increase in Contraceptive Knowledge Mean Quality Review Score: 7.42						
Rabin et al., 1991	Adolescents who received care in New York City	Enhanced Postpartum Care	Postpartum Contraception Use	Adolescents in education program were more likely to use contraception than those in the adult standard program (85% and 22%, respectively; p < .0001).	Observational Evaluation	6
O'Sullivan & Jacobsen, 1992	African American adolescents who gave birth in a large U.S. urban teaching hospital	Enhanced Postpartum Care	Repeat Pregnancy Rate within 18 Months Postpartum	Adolescents in the intervention group were significantly less likely to experience a repeat pregnancy compared to the control group at 18 months (12% and 28%, respectively; p < .003).	Randomized Controlled Evaluation	8
Erickson, 1994	Hispanic adolescents who delivered at hospital in East Los Angeles	Enhanced Postpartum Care	Postpartum Contraception Use	Of those who remained in the program, 68% were using the pill at 6 months and 48% at 12 months.	Descriptive Evaluation	-1
Simmons et al., 2013	Low income postpartum women who delivered at academic hospital	Enhanced Postpartum Care	LARC Placement at 3 Months Postpartum	No significant difference in LARC use at 3 months between the intervention and control group (72% and 67%, respectively; p = .76).	Randomized Controlled Evaluation	8
Enhanced Postpartum Care: Inconclusive Findings, Potential Increase in Postpartum Contraceptive Use Among Adolescent Population Mean Quality Review Score: 5.25						

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Table E-2 Continued. Postnatal Interventions to Increase Uptake of Contraception in the Postpartum Period

Author, Year	Target Population	Intervention Type	Outcome Measure	Results	Evidence for Results	Quality Review Score*
Kitzman et al., 1997	African American women with at least 2 socioeconomic risk factors	Home Visiting	Repeat Pregnancy within 24 Months Postpartum	Women in the intervention group had a lower rate of repeat pregnancy within 24 months postpartum than the control group (36% and 47%, respectively; $p = .006$).	Randomized Controlled Evaluation	6
Olds et al., 2002	Low income women in Denver, Colorado	Home Visiting	Repeat Pregnancy within 24 Months Postpartum	Women who received home visiting from a nurse had significantly less repeat pregnancies within 24 months postpartum than those in the control group (29% and 41%, respectively; $p = .02$).	Randomized Controlled Evaluation	9
Sims & Luster, 2002	Adolescents in Flint, Michigan	Home Visiting	Repeat Pregnancy within 24 Months Postpartum	No significant difference between intervention and control group with regard to repeat pregnancies within 24 months postpartum (58% and 63%, respectively; $p = .65$).	Randomized Controlled Evaluation	7
Quinlivan et al., 2003	Australian adolescents using a public care teenage pregnancy clinic	Home Visiting	Knowledge, Use of Contraception at 6 Months Postpartum	Women in the intervention group had a greater contraceptive knowledge than those in the control group ($p = .017$). More adolescents in the intervention group were reliably using contraception than those in the control group at 6-months postpartum ($p = .007$).	Randomized Controlled Evaluation	9
El-Kamary et al., 2004	Hawaiian women eligible for Healthy Start Programming	Home Visiting	Repeat Birth within 24 Months Postpartum	No significant difference was found between the intervention and control group with regard to repeat births within 24 months postpartum (21% and 20%, respectively).	Randomized Controlled Evaluation	6
Black et al., 2006	Low income, African American adolescents in Baltimore	Home Visiting	Repeat Birth within 24 Months Postpartum	Women in the intervention group had a lower rate of repeat births within 24 months postpartum than those in the control group (11% and 24%, respectively; $p = .05$).	Randomized Controlled Evaluation	11
Barnet et al., 2009	Low income adolescents in Baltimore	Home Visiting	Repeat Birth within 24 Months Postpartum	Women who received the computer program intervention and home visiting showed a lower rate repeat birth within 24 months postpartum (13.8% and 25%, respectively; $p = .08$).	Randomized Controlled Evaluation	13
Home Visiting: Inconclusive Findings, Potential Decrease in Repeat Pregnancies Mean Quality Review Score: 8.71						
Stevens-Simon et al., 1997	Adolescents who gave birth at Denver hospital	Incentives & Group Work	Repeat Pregnancy within 24 Months Postpartum	No significant difference between groups with regard to pregnancy within 24 months postpartum.	Randomized Controlled Evaluation	8
Stechna et al., 2013	Women who received postpartum care at an urban FQHC	Quick Start Contraception Initiation	Contraception Use at Postpartum Visit	Contraception delivery rate at the 6-week postpartum visit was significantly higher in the Quick Start Contraception Initiation group compared to control group (76% and 50%, respectively; $p < .05$)	Before After Evaluation	9
Lauria et al., 2014	Women who live in Italy	Contraceptive Counseling/ Education	Effective Contraception Use at 3 Months Postpartum	Women who received family planning counseling by a provider in either or both the prenatal or postnatal period were significantly more likely to use contraception than those who had not received counseling.	Observational Retrospective Study	7
Zapata et al., 2014	Women who gave birth between 2004 - 2008 in the Missouri, New York, and NYC	Contraceptive Counseling/ Education	Contraception Use 2 to 6 Months Postpartum	Women that received both prenatal and postpartum contraceptive counseling had the highest likelihood of using of postpartum contraception when compared to those who received no counseling, or only prenatal or postpartum counseling.	Observational Retrospective Study	10

*Quality Review Score was calculated by summation of the 14 quality criteria (see Appendix A) such that if an article met the criterion it received 1 point, if it did not meet the criterion it received -1 point, and if the criterion was not addressed it received no point; highest possible score = 14, lowest possible score = -14.

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APPENDIX A: Quality Review Tool

STUDY AIM(S)

15. Is the hypothesis/aim/objective of the study clearly defined and does it match with main analysis?
Yes No Unable to Determine/Not Reported Clearly

INTERVENTION DESIGN

16. Are the interventions under study clearly described?
Yes No Unable to Determine/Not Reported Clearly
17. Is intervention based on theoretical or conceptual model either already established/modified or designed by this study's researchers?
Yes No Unable to Determine/Not Reported Clearly
18. Was intensity of exposure to the intervention measured (i.e. dose)? *(If dose isn't relevant, choose Yes)*
Yes No Unable to Determine/Not Reported Clearly

INTERNAL VALIDITY

19. Was the appropriate comparison group (internal or external) used in evaluating the intervention?
If no comparison group, answer 'No'.
Yes No Unable to Determine/Not Reported Clearly
20. Were study participants in the research or evaluation unaware of the study hypotheses?
Yes No Unable to Determine/Not Reported Clearly
21. Were the main outcome measures used accurate (valid and reliable)?
Yes No Unable to Determine/Not Reported Clearly
22. Were the statistical tests used to assess the differences in the main outcome variables between groups appropriate?
Yes No Unable to Determine/Not Reported Clearly
23. Was there adequate adjustment for confounding in the analyses from which the main findings were drawn?
(If RCT and groups were balanced on covariates at the time outcome was measured, answer Yes.)
Yes No Unable to Determine/Not Reported Clearly

EXTERNAL VALIDITY

24. Were study participants who agreed to participate representative of the entire population sampled from?
Yes No Unable to Determine/Not Reported Clearly
25. Were study participants representative of population to which recommendations were made?
Yes No Unable to Determine/Not Reported Clearly
26. Were the characteristics of those lost to follow-up described and compared to those that were not lost to follow-up and considered in limitations section? *(If no loss to follow-up, choose "Yes")*
Yes No Unable to Determine/Not Reported Clearly
27. Was the intervention conducted as described/planned (i.e. fidelity)?
Yes No Unable to Determine/Not Reported Clearly

POWER

28. Did the study mention having conducted a power analysis to determine the sample size needed to detect a significant difference in effect size for one or more outcome measures? *(If study has significant results but did not report conducting a power analysis, select Yes.)*
Yes No Unable to Determine/Not Reported Clearly

SCORING: Yes = 1, No = -1, Unable to Determine/Not Reported Clearly = 0

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Appendix F

Findings from Key Informant Interviews with Postpartum Women

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Background

The postpartum period is a unique time in a woman's reproductive life as it provides her with the opportunity to transition from a focus on prenatal to preventive care and the time to consider her own reproductive goals and birth spacing. Given its transitional nature, postpartum women are at particularly high risk of unintended pregnancy with 10 – 44% of women having an unintended pregnancy in the first year postpartum (Chen et al., 2010). While some women receive contraception in the hospital after delivery, actual provision varies and most often women do not receive contraception until the six-week postpartum visit. Unfortunately, the timing of the six-week visit is not based on current evidence about women's sexual activity after pregnancy or the need for timely postpartum contraception; thus, over half of women are at risk for a rapid repeat pregnancy (Glazer et al., 2011).

Few studies examine women's utilization of the postpartum visit and estimates for non-attendance at the visit vary (11% – 40%) (Lu & Prentice, 2002; Kabakian-Khasholian & Campbell, 2005; Bryant et al., 2006; Chu et al., 2007; Weir et al., 2011). In one study, 15% of a nationally representative sample of women in 1988 had not had a postpartum visit and in another study, 15% of Healthy Start women in 14 project areas across the nation in 1996 had not had a postpartum visit at six weeks or later (Lu & Prentice, 2002; Bryant et al., 2006). Likewise, among low-income women in Illinois who are Medicaid recipients, fewer than 60% receive a postpartum visit (IDHFS, 2014). Failure to attend the postpartum visit results in a clear gap in women's receipt of health care during this time of transition. As such, it is important to understand why women do not receive postpartum care as well as to understand their preferences for both the receipt of postpartum care and postpartum contraception.

Objective

Researchers at the UIC-SPH undertook a study to determine the perceptions of postpartum women of diverse racial and ethnic backgrounds with respect to barriers to and preferences for the timing and location of the postpartum visit and the receipt of postpartum contraception.

Methods

In-person 15 to 30 minute interviews were completed with 20 postpartum women at the University of Illinois. Women were eligible to participate if they were English-speaking, over 18 years old, and 8 weeks or less postpartum. Nine women were recruited from the mother-baby unit of the University of Illinois at Chicago Hospital and eleven were recruited from the University of Illinois at Chicago outpatient pediatric clinic. In the mother-baby unit, eligibility and interest in participating in the interview were assessed by the mother-baby unit nurse manager. The nurse manager then informed UIC-SPH research assistants that they were able to approach a postpartum woman to obtain consent and complete an interview if the woman was interested. All interviews in the mother-baby unit were completed in the woman's hospital room.

In the pediatric clinic, women were assessed for eligibility and interest and recruited from the waiting room by UIC-SPH research assistants. Women eligible and interested in participating in the interview were able to complete the interview following their child's visit so as to not disrupt the flow of the pediatric clinic. Twenty-four women were approached to participate in the pediatric clinic: eleven agreed to participate and completed an interview, two were not eligible, five agreed to participate but could not be located following their appointment, and six declined participation.

All women received a \$20 Target gift card for their participation in the study. Women were informed that the interview covered their experiences and opinions on care and contraception following the birth of a baby. Research assistants conducted the interviews using an interview guide developed by the project Principal Investigators. The interview guide was divided into 3 sections: postpartum care experiences and expectations; preferences for contraception counseling and care; and, general demographic information. With respect to 'postpartum care experiences and expectations', women were asked about their perceived importance of postpartum care, the location of their postpartum care, satisfaction with their postpartum care, and potential barriers to obtaining postpartum care. In the 'preferences for contraception counseling and care' part of the interview, women were asked to discuss how they perceived the importance of postpartum contraception, barriers to obtaining postpartum contraception, their plans for obtaining contraception, their preferences for the timing and location of receiving postpartum contraceptive education (including the pediatrician's office, specifically), and their preferences for the time and location of receiving postpartum contraception (including the pediatrician's office, specifically). All interviews were recorded and transcribed for analysis. IRB approval for this study was received in July 2014 under UIC-IRB protocol number 2014-0682.

Data Analysis

Once recordings were professionally transcribed, four researchers (AH, KR, RC, SH), independently read through five transcripts each and annotated them noting substantive thoughts and potential codes. Another research team member (VH) then compared and integrated the annotations into a comprehensive set of codes and developed a codebook, which consisted of code names and definitions. Detailed coding of the twenty interviews was then conducted by two team members (VH, EB) using Atlas.ti software. Two transcripts were used to determine inter-rater reliability (92% and 85%); after inter-rater reliability was reached, the twenty transcripts were divided between the two research staff members for final coding.

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From this first cycle of coding, code recurrence was quantified to identify frequency of codes. Quotes of codes with highest frequencies were analyzed to identify themes that were revealed in the data. Once these themes were identified, one team member (VH) performed second cycle coding, where quotes for each code were coded again into more detailed categories. For example, all quotes coded as *Postpartum Visit_ Information Expected* were then further coded into sub-codes that emerged (e.g., birth control options, mental health, woman’s physical health, etc.). Representative quotes that support overarching themes and sub-themes to best describe phenomena were then extracted.

Results

At the time of interview, eleven women had previous births (55%) and nine (45%) had no previous births. Women’s ages ranged from 18 to 43 years (mean=27) and the ages of their newest baby ranged from 1 day to 6 weeks. Race or ethnicity was reported as the following: African American (n=11), Biracial (n=3), White (n=3), Mexican (n=1); one participant refused to report race and one participant’s demographic information was not captured. Highest levels of education obtained were: Some college or currently enrolled in college (n=8), Bachelor’s or Master’s degree (n=4), high school diploma or less (n=5), vocational school (n=1); one participant refused to report education level and one participant’s demographic information was not captured. Eleven women resided with their newest baby’s father. (Table 1)

Table F-1. Women’s Demographics and Characteristics

ID	First Birth (Y/N) N=20	Mom Age (years) N=19	Baby Age N=17	Race/ Ethnicity N=19	Highest Level of Education N=19	Co-Reside with Father (Y/N) N=18
MBU 1	N	40	2 days	African American	Some College	N
PEDS 8	N	24	1 month	Biracial (Mexican & White)	College Graduate	Y
PEDS 9	Y	19	2 weeks	Biracial	Some College	N
MBU 102	N	27	2 days	African American	Some College	N
MBU 2	N	30	1 day	Refused	Refused	Y
MBU 3	N	*	*	*	*	*
MBU 51	Y	23	*	White	High School	Y
MBU 53	N	18	1 day	African American	High School	N
MBU 54	N	39	6 days	African American	Some College	Y
MBU 55	N	20	*	African American	High School	*
PEDS 1	N	24	9 days	Mexican	Vocational School	Y
PEDS 10	Y	25	5 days	African American	Some College	N
PEDS 2	Y	30	1 month	African American	College Graduate	Y
PEDS 3	Y	43	6 weeks	White	Some College	Y
PEDS 4	Y	29	4 days	White	Master’s degree	Y
PEDS 5	N	38	10 days	African American	High School	Y
PEDS 52	Y	18	1 month (twins)	African American	High School	N
PEDS 6	Y	21	3 days	African American	Some College	Y
PEDS 7	N	32	3 weeks	African American	College Graduate	N
MBU 101	Y	19	1 day (twins)	Biracial (Mexican & White)	Some College	Y

*missing data; MBU = Mother Baby Unit; PEDS = Pediatric Clinic

Our findings corroborate and shed some light on previous findings in the literature. The analyses revealed 5 main themes. Women in this sample: 1) support and value care in the postpartum period including the postpartum visit; 2) know what to expect at the postpartum visit with respect to the content of the visit; 3) support the idea of access to contraception as early as possible after delivery if this is what the woman desires; 4) view the postpartum period as a time in which there is a great need for emotional support; and, 5) have varying views about discussion and provision of contraception at the Well Baby Visit.

Theme 1: Women support and value care in the postpartum period including the Postpartum Visit.

Women viewed receiving care during the postpartum period as important both for the assessment of their physical and mental health as well as for enabling them to receive emotional support. While all women perceived the importance of receiving care during this period, there was variability in their preferences with respect to the best time for receiving postpartum care. Some women expressed support for flexibility in the timing of the postpartum visit as well as the site of the postpartum visit.

Sub-theme: Women support the idea of an earlier postpartum visit but also support flexibility in timing to meet women where they are at, both physically and emotionally.

Most women mentioned that they preferred to have the first postpartum visit earlier than 6 weeks; in fact, some stated that waiting until 6 weeks postpartum was too long as complications could arise with both a woman's physical and mental health. A few women mentioned that having the first postpartum visit within 2 to 4 weeks after birth would be ideal. When asked about timing preference for the postpartum visit, one woman said:

I'd say three to four weeks 'cause as a first-time mother you need that at the beginning and it might help a lot of mothers out that wind up going through it...depression. [PEDS 8]

Another woman said:

With my other son, they always told me six weeks. This doctor, he wanted to see me in two weeks. I was, okay, I didn't mind, I think it's better to go see him right away, especially if you don't feel as well. I don't mind...Actually, I feel more comfortable going to a two week appointment than waiting the whole six weeks to actually be seen. God knows what could go wrong. [PEDS 1]

Likewise, a few women saw no barriers with having their first postpartum visit at 6 weeks and felt that it was an appropriate amount of time:

I never thought about that. I think the normal six weeks that they have now is reasonable [to] be able to capture all your thoughts to know what you need to do next. I think the six weeks is fine. [MBU 2]

Sub-theme: Women expressed support for home visits and phone interactions with the health care delivery system during the early postpartum period.

Some women felt that offering postpartum visits in the woman's home or by telephone (in the event that the woman would not need physical care) might help facilitate women's ability to interact with and receive care from their providers during the postpartum period. Additionally, women mentioned that travelling to doctors' offices and clinics with a new baby is often difficult and that home visits or telephone calls would ease some of the burden that women face in attending postpartum visits:

I guess if there was someone in a situation where they didn't have the support, it was just a single mom, themselves and their child, I guess if someone can come into their home or something, that would probably be really convenient. [PEDS 2]

One woman's newborn needed to be monitored due to health concerns after being discharged from the delivery hospital. She expressed the difficulty of attending doctor's appointments during this time and stated how in-home postpartum visits would be of service to her.

At home, it'd be great, because then you're comfortable...Just being at home in general is nice, especially with the baby. We've had to come in twice since being discharged. Every day since baby's been home, we had to come in to the doctor's office. It's been waiting rooms, and it's been people. Baby's stressed out. Baby's four days old. New environment. Even for myself, it's been a lot to take on. I have to get ready. Oh my God, it takes me four times longer to get ready right now because I have all this other stuff going on. Baby's screaming. Body's different. Even just getting cleaned up. Being able to just lounge at home would be incredible. [PEDS 4]

Sub-theme: Women expressed some challenges with attending postpartum visits.

Although most women acknowledged the importance of postpartum visits, many women had not yet scheduled a postpartum visit and expressed some challenges with respect to receiving postpartum care. The main barriers to postpartum visit attendance mentioned were the difficulties of managing a new schedule and the change in lifestyle due to the presence of a new baby as well as not always having childcare available for their other children. Other barriers mentioned were work and school schedules, transportation, and their own procrastination.

One woman explained why she missed her postpartum visit:

I mean it was difficult 'cause I got a baby. She came home from the hospital, and my mind was on her. My focus was on her. Then, the day came. Then, I just—the day went past. It went past...She got admitted to the hospital...They set an appointment, it was all that week. It's just, I forgot because I had to go the hospital to see my kid. It was just—my mind was just everywhere. [PEDS 52]

When asked if she planned to schedule a postpartum visit for herself, another woman who worked and was in school replied:

If I feel like if I'm getting stressed or worried or something, I'll just go to the doctor and

just ask a lot of questions, but if I keep feeling this way, yeah. I would call, but since my first daughter, I didn't need to stress and everything. I don't need the stress with him either. 'Cause I'm a busy person. [MBU 53]

Women mentioned a number of different factors that would facilitate postpartum visit attendance including: having help and support at home, receiving reminders, having a good relationship with providers and staff (feeling comfortable), having childcare, and/or being able to schedule appointments when their other children are in school. Some women also suggested home visits and conducting appointments via telephone as factors that would facilitate postpartum visit attendance.

Theme 2: Women know what to expect at the postpartum visit with respect to the content of the visit.

When asked what type of information and care women expected to receive at the postpartum visit, respondents seemed well informed about the content and focus of the visit. Most women expected to talk about mental health and postpartum depression with their providers, their physical health, and contraceptive options. They also expected to learn about aspects of caring for the baby and to receive social support.

Well, I know the birth control for sure; that was my main concern. I'm pretty sure they're gonna check to make sure everything is going right. The survey to make sure that I'm not depressed or anything. Make sure that everything's okay with the baby and that I'm getting help. [PEDS 8]

Sub-theme: Women understood the importance of attention to physical health including issues related to the pregnancy, delivery, and to chronic health conditions.

Almost all women mentioned that postpartum visits were important to assess their physical health and to make sure that their bodies were healing properly after giving birth. Women with chronic conditions were aware of the impact that those conditions (e.g., diabetes, hypertension) could have on their health; they clearly viewed the postpartum visit as essential to monitoring their health and as an intervention to prevent further complications.

Because I had had gestational diabetes throughout this pregnancy. Make sure I'm not a diabetic. Then... continue to control my high blood pressure. Then to make sure that I'm healthy, so I can live for my other kids. Yeah. [MBU 2]

Just 'cause there's so many complications. You don't really know what your body's supposed to go through. They can totally describe it and make sure everything is normal. [MBU 51]

Because your body changes. One, you don't know the changes in your body after the baby. You could get infections. Something might not go right. You might mess something up after—not saying the whole labor experience, but doing your regular daily lifting stuff or doing stuff around the house, you could mess your body up. [PEDS 6]

Sub-theme: Women understood that contraception is a key discussion in the postpartum period and at the postpartum visit.

Most women believed that a major component of the postpartum visit is a discussion of contraceptive options. Interestingly, some women discussed how the use of contraception is important for a woman's health. Many expressed that they believed a woman is more susceptible to becoming pregnant soon after giving birth; as such, obtaining a method of contraception during the postpartum period prevents unplanned pregnancies, which allows the body to heal, and maintain a woman's health.

[At the postpartum visit] I'm pretty sure he'll just go over what's going on, if I feel okay. Hopefully bring up what do I want to do for contraception. [PEDS 1]

I know she wants to talk about birth control [at the postpartum visit]. At my last [prenatal] appointment, she printed a bunch of the different kinds and types. That's probably gonna be something. [MBU 51]

Birth control, definitely, and just an exam. Yeah. That's what I understand [the postpartum visit] to be. Just like an exam, I guess to just make sure my uterus is contracting as it should be and everything is intact. To discuss birth control options if needed, and I guess how I'm feeling mentally. [PEDS 2]

Sub-theme: Women understood that mental health issues are an important concern in the postpartum period.

Almost all women mentioned that they expected to talk about mental health issues at the postpartum visit, including both general emotional and social support as well as postpartum depression. Some women even viewed the postpartum visit itself as a source of emotional support and viewed health care providers as a resource for support during this often challenging time.

Maybe a little bit of postpartum depression. I feel like it's always—it's postpartum depression they talk about... At the visit, I would hope that we could talk about stuff like that. I feel like from what I've seen, and heard, and even just the things we've talked about with my doctor right after the delivery, it's about depression. "If you feel—" the first thing that's talked about. [PEDS 4]

Because at my age, I might be depressed. I don't know the outcomes after having a baby special—it's been 14 years, so. I need follow-up. I need to know... How soon will I go back to work? How's my body goin'? My mind, especially. [MBU 3]

Theme 3: Women support the idea of access to birth control as early as possible after delivery if a woman desires it including at delivery or discharge from the hospital.

Many women preferred obtaining a method of birth control earlier than the 6-week postpartum visit and many mentioned that provision of a birth control method before being

discharged from the delivery hospital was optimal. Women with this preference felt this was the easiest way to obtain a method of birth control due to having immediate access to providers; they recognized that leaving the hospital with a method of birth control minimizes the risk of unintentional pregnancy. It appears that women do not view getting Long-Acting Reversible Contraception (LARC) at delivery much differently from getting a tubal ligation at delivery. When asked their opinion on the ideal time to obtain a method of contraception some women said:

Probably ideally when you're being discharged, after you had your baby and you're being discharged home. That probably would be the ideal time to get that because obviously everyone doesn't wait until their six-week checkup before they start engaging back in sex. Then a lot of people do end up getting pregnant right away. Personally, I know people that's happened to. Even if you just have something, even if it's just temporary like what you're gonna use in the future. Even if you're just discharged with maybe a month worth of birth control pills or whatever; maybe until you think about what you want to use long-term. [PEDS 2]

It's good to get it as soon as you have the baby or at least know which one you gonna get before you walk up out this hospital. [MBU 1]

It could be easier because I'm already here, and I got the people around that'd be able to do it, so yeah, it'd be easier here opposed to waiting a couple a weeks. Anything could happen in couple a weeks. [MBU 102]

Theme 4: Women view the postpartum period as a time in which there is a great need for emotional support from family and their health care providers.

Women acknowledged that there is a great need for emotional support during the postpartum period and felt that family, as well as their health care providers, both provided this much needed support. As mentioned earlier, some women viewed postpartum visits as a source of emotional support; others mentioned that receiving support from their providers was a major positive aspect of attending the postpartum visit. While it seems natural that women would go to family members for emotional support, it was surprising to learn that women regard providers in this role as well.

Then just emotionally, there's a lot of baggage. Even filtering through how the birth went. Having that support. 'Cause you can have support from your friends. You can have support from your family. But something about having support from someone who is an experienced professional who can actually give you sound advice. [PEDS 4]

Another woman explained:

Say, for instance, that you came to me and I'm telling you I don't have nobody. I don't have nobody to talk to and I come and just pour my heart out to you. You could give me advice on where to go from here or how to do it and how to make me feel. Sometimes people just need it if they don't have it. To me that's good. They help you out, especially when you think you don't have nobody and then you figure, "Okay. I'm down to one thing

of milk. What do I supposed to do?" That right there is good 'cause they give you a lot of pamphlets to help you out where to go to pick stuff up. That's good. [MBU 1]

Theme 5: Women have varying views about discussion/provision of contraception at the Well-Baby Visit (WBV).

(Note: When discussing co-location of contraception services for women at the WBV, our intent was to describe a scenario where another health care provider, aside from the pediatrician, would be available to discuss and provide contraception at the WBV. However, we were remiss in clearly articulating this distinction in some interviews; thus, attitudes about co-location of services in some interviews were interpreted and answered as though the baby's pediatrician would also provide contraception services to women at the WBV. Although we recognize this as a limitation in our data collection methods, this inquiry still yielded some rich and informative data.)

Women had diverse views regarding discussing or obtaining contraception at the same location and time as the Well-Baby Visit (WBV). However, more women seemed in favor of receiving some sort of contraception services at the WBV than not. Some expressed support for the convenience of the integration of health services noting that this approach minimizes doctor appointments and increases convenience. Other women conveyed that it is a good strategy for women who do not plan on following up with their own doctor.

I think it would be good too. Just so you don't have to keep seeing different doctors. If you could just go to one person. They could help your baby and you. It would probably be easier. [PEDS 4]

It would avoid another visit. I could just do everything that I need to do with her to have her appointment, then go and turn around and have my appointment. [PEDS 6]

I think that would be excellent. I really do. It'd be way more easier. You wouldn't have to make so many different appointments with so many different people. [PEDS 8]

Sub-theme: Women clearly articulated the importance of focusing on the baby at the WBV.

While there was support for the co-location of contraceptive counseling and/or services at the WBV due to convenience as described above, when asked about the actual receipt of contraception at the WBV, most women expressed that the WBV should focus on the baby and not on the mother. Some women felt that co-location of services for them and their infants would detract from the care and attention of the baby's needs at the WBV. Women felt like their attention and the providers' attention should be fully focused on the baby. When asked if it would be easier or more difficult to obtain a method of contraception at the WBV, one woman replied:

More difficult, because if I'm going to get my baby a checkup, I don't know how they're gonna react to the shots, or the things that the doctors or nurses gonna do, so I feel like I should just wait and focus just on the baby. [MBU 53]

Another woman stated:

I guess it would be okay, but I'm not really thinking—when I bring her in for her appointment I'm more so thinking about her health and what's going on with her. I'm not really thinking about what's going on with me at that time... It just seems like it—that would be something that you would get when you're going for your own appointment; not something that you would get necessarily when you're coming for your child's appointment. I mean, again, it's not a bad thing. I don't think that it's not helpful, but I just wouldn't expect it. Yeah. I think it'd just be better when you're coming for yourself. [PEDS 2]

Sub-theme: Women valued their relationships with their own providers.

Some women who were opposed to co-location of postpartum contraceptive services with the WBV felt that because a woman's doctor has her medical history, this individual is better informed to counsel women on contraception. One woman stated that a pediatrician talking about birth control at WBV may be viewed as offensive; some women also felt that it would be uncomfortable to discuss contraception with their baby's pediatrician because they do not have an established relationship with that provider. Many women felt strongly that a woman should see her own doctor after giving birth.

You should speak to your own doctor who knows your history. I think it'd be—it's better the way it is now; separate...because your doctor, they do know your history...If I didn't go here, then they wouldn't know my background. The doctor write notes...but it could be something that they wrote that they fail to mention. They'd probably miss it or whatever. I just think it's definitely better to keep it separate. [PEDS 7]

On the other hand, some women expressed that it would be acceptable to have contraceptive services at the WBV if they had a comfortable relationship or rapport with the infant's provider:

It depends on just how they approach—or yeah, how I feel approaching it with that particular person...Yeah, how they react to me. If they're easy-going and laid-back, I'm gonna feel more comfortable talking about it. [MBU 101]

I'd be okay with it. It depends on the doc, who it is. I would feel more comfortable if it was a female. [PEDS 9].

Sub-theme: Timing of Well-Baby Visits may be better to meet contraceptive needs than the timing of the women's visit at six weeks postpartum.

Women stated that co-location of contraception services at the WBV might have the advantage of giving women access to a health care provider before the 6-week postpartum visit. Some women stated that women are more likely to go the doctor or keep appointments for their child as opposed to themselves, so this would especially be beneficial for women who do not follow up with their own providers.

Contraception is something that I was interested in talking to someone about, and doing it

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earlier rather than six weeks...They say it's okay to have sex after six weeks post baby birth. At that point, it's almost too late, 'cause you're already having this appointment. Tomorrow you could be having sex. Yeah, having something earlier, because you're already in the office with the baby two weeks in or whatever. Sure, why not. Again, I wouldn't expect it. If it was something offered, even to do a quick, "How's it going? Here's this stuff going on." Yeah. I would subscribe to that [PEDS 4]

I'd say it seems like a good idea because I'm more so gonna make sure I take my kids to the doctors and—rather than myself. I'm more concerned about them and I'll make sure that I go to their appointments. For me I'll be like, "Okay, well maybe I could put it off a little bit longer," or whatever the case may be. I'll make excuses but for the kids I'll just come in. Then coming in and receiving the information will put it back in my head like, "Okay, I gotta hurry up and get this done." [PEDS 8]

On the other hand, concerns that co-location of services may promote women's non-attendance at their own postpartum visits, thereby causing a neglect of the woman's care, were also expressed. One woman stated:

Regardless, you should be seeing a doctor after you give birth, even if it's for a couple of visits, you should be seeing a doctor. Also too, just being, certain age of a female you should be seeing a doctor regardless for annual testing and stuff. [PEDS 1]

Discussion

Overall, women felt that receiving care during the postpartum period was important; most regarded the postpartum visit as a resource for not only monitoring their physical health, but also as a resource for coping with mental health issues including postpartum depression. Some even viewed the postpartum visit as a source of emotional support with some women actually stating that they relied on their providers for this support. Although women acknowledged the importance of postpartum care, a number of women had not yet scheduled a postpartum visit at the time of the interview. This may be due to the fact that for nine of the women, the time of the interview was too close to the time of the birth of the child and women did not have sufficient time to schedule the appointment. However, when asked why postpartum visits were not yet scheduled, women gave other reasons such as difficulties in scheduling due to work and school, lack of childcare, and dealing with the overall challenges related to having a new baby.

There was a great deal of support for the provision of contraception earlier than the 6-week postpartum visit for women who wished to delay future pregnancies. Overall, women seemed informed about different contraceptive options and supported women being able to obtain a method of birth control before being discharged from the delivery hospital. On the other hand, they viewed obtaining contraception as an essential component of the postpartum visit.

Attitudes about receiving contraception services at the Well-Baby Visit varied. Although most women were in favor of this possibility, some were not, and still others did not express a preference either way. The convenience of not having to go to their own appointment at a different time and place from that of their infant's was the most noted reason for favoring the delivery of contraceptive care at the WBV. However, a number of women felt that receipt of contraceptive services at the WBV would take attention away from the baby; others felt that

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women still need to see their own doctor, and others felt that co-location of services may give women a reason not to attend their own postpartum visits, thereby neglecting their own care.

Conclusion

In conclusion, this study of twenty women's views, related to postpartum contraception and postpartum care, provides a rich set of insights related to postpartum women's view of this critical period. While the assumption is that postpartum care is not valued, this did not seem to be the case among this group of women. However, it is clear that care of the infant seems to be the priority for most women; as such, approaches that increase the flexibility and convenience of postpartum care and access to postpartum contraception are more likely to meet women where they are at and increase the likelihood that they will take advantage of these essential services.

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Table F-1. Key Themes and Quotes from Key Informant Interviews with Postpartum (PP) Women

Main Themes	Sub-Themes	Key Quotes
Women support and value care in the postpartum period including the Postpartum Visit.	Women support the idea of an earlier PP visit but also support flexibility in timing to meet women where they are at, both physically and emotionally.	"With my other son, they always told me six weeks. This doctor, he wanted to see me in two weeks. I was, okay, I didn't mind, I think it's better to go see him right away, especially if you don't feel as well. I don't mind...Actually, I feel more comfortable going to a two week appointment than waiting the whole six weeks to actually be seen. God knows what could go wrong." [MBU 2]
	Women expressed support for home visits and phone interactions with the health care delivery system during the early PP period.	"At home, it'd be great, because then you're comfortable...Just being at home in general is nice, especially with the baby. We've had to come in twice since being discharged. Every day since baby's been home, we had to come in to the doctor's office. It's been waiting rooms, and it's been people. Baby's stressed out. Baby's four days old. New environment. Even for myself, it's been a lot to take on. I have to get ready. Oh my God, it takes me four times longer to get ready right now because I have all this other stuff going on. Baby's screaming. Body's different. Even just getting cleaned up. Being able to just lounge at home would be incredible." [PEDS 4]
	Women expressed some challenges with attending PP visits.	"I mean it was difficult 'cause I got a baby. She came home from the hospital, and my mind was on her. My focus was on her. Then, the day came. Then, I just—the day [of my postpartum visit] went past. It went past...She got admitted to the hospital...They set an appointment, it was all that week. It's just, I forgot because I had to go the hospital to see my kid. It was just—my mind was just everywhere." [PEDS 52]
Women know what to expect at the postpartum visit with respect to the content of the visit.	Women understood the importance of attention to physical health including issues related to the pregnancy, delivery, and to chronic health conditions.	"Just 'cause there's so many complications. You don't really know what your body's supposed to go through. They can totally describe it and make sure everything is normal." [MBU 51]
	Women understood that contraception is a key discussion in the PP period and at the PP visit.	"[At the postpartum visit] I'm pretty sure he'll just go over what's going on, if I feel okay. Hopefully bring up what do I want to do for contraception." [PEDS 1]
	Women understood that mental health issues are an important concern in the PP period.	"Maybe a little bit of postpartum depression. I feel like it's always—it's postpartum depression they talk about... At the visit, I would hope that we could talk about stuff like that. I feel like from what I've seen, and heard, and even just the things we've talked about with my doctor right after the delivery, it's about depression. "If you feel—" the first thing that's talked about." [PEDS 4]
Women support the idea of access to birth control as early as possible after delivery if a woman desires it including at delivery or discharge from the hospital.		"Probably ideally when you're being discharged, after you had your baby and you're being discharged home. That probably would be the ideal time to get that because obviously everyone doesn't wait until their six-week checkup before they start engaging back in sex. Then a lot of people do end up getting pregnant right away. Personally, I know people that's happened to. Even if you just have something, even if it's just temporary like what you're gonna use in the future. Even if you're just discharged with maybe a month worth of birth control pills or whatever; maybe until you think about what you want to use long-term." [PEDS 2]
Women view the postpartum period as a time in which there is a great need for emotional support from family and their health care providers.		"Say, for instance, that you came to me and I'm telling you I don't have nobody. I don't have nobody to talk to and I come and just pour my heart out to you. You could give me advice on where to go from here or how to do it and how to make me feel. Sometimes people just need it if they don't have it. To me that's good. They help you out, especially when you think you don't have nobody and then you figure, "Okay. I'm down to one thing of milk. What do I supposed to do?" That right there is good 'cause they give you a lot of pamphlets to help you out where to go to pick stuff up. That's good." [MBU 1]
Women have varying views about discussion/provision of contraception at the Well-Baby Visit (WBV).	Women clearly articulated the importance of focusing on the baby at the WBV.	"More difficult [to obtain contraception at the well-baby visit], because if I'm going to get my baby a checkup, I don't know how they're gonna react to the shots, or the things that the doctors or nurses gonna do, so I feel like I should just wait and focus just on the baby." [MBU 53]
	Women valued their relationships with their own providers.	"You should speak to your own doctor who knows your history. I think it'd be—it's better the way it is now; separate...because your doctor, they do know your history...If I didn't go here, then they wouldn't know my background. The doctor write notes...but it could be something that they wrote that they fail to mention. They'd probably miss it or whatever. I just think it's definitely better to keep it separate." [PEDS 7]
	Timing of WBV may be better to meet contraceptive needs than the timing of the women's visit at six weeks PP.	"I'd say it seems like a good idea because I'm more so gonna make sure I take my kids to the doctors and—rather than myself. I'm more concerned about them and I'll make sure that I go to their appointments. For me I'll be like, "Okay, well maybe I could put it off a little bit longer," or whatever the case may be. I'll make excuses but for the kids I'll just come in. Then coming in and receiving the information will put it back in my head like, 'Okay, I gotta hurry up and get this done'." [PEDS 8]

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Appendix G

Findings from Key Informant Interviews with Postpartum Providers

This report was prepared by Vida Henderson, Elizabeth Berkeley, and Katrina Stumbras under the supervision of Arden Handler, DrPH, Kristin Rankin, PhD, Sadia Haider, MD, and Rachel Caskey, MD. This document was developed for the Illinois Department of Healthcare and Family Services under grant CFDA93.767 from the US Department of Health and Human Services, Center for Medicare and Medicaid Services. However, these contents do not necessarily represent the policy of either the Illinois Department of Healthcare and Family Services or the US Department of Health and Human Services, and you should not assume endorsement by the state or federal government.

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Background

The postpartum period is a unique time in a woman's reproductive life as it provides the opportunity to transition from a focus on prenatal to preventive care. Given the transitional nature of the postpartum period, postpartum women are at particularly high risk of unintended pregnancy with 10 – 44% of women having an unintended pregnancy in the first year postpartum (Chen et al., 2010). Due to the extraordinarily intense level of the interaction with the health care system for perinatal and postpartum women (i.e., prenatal care, delivery, postpartum care, well-baby visits), the postpartum period is a time when significant efforts can be made by providers to help women recognize/establish their reproductive goals and provide contraceptive counseling to assist women to choose a method appropriate for them, with the ultimate aim of increasing birth spacing and decreasing unintended pregnancies.

Few studies examine provider practice with regard to the postpartum visit and counseling for postpartum contraception. One unpublished study by the 2012 Chicago Maternal Child Health Advisory Committee (CMCHAC) of the Chicago Department of Public Health found great variability across Chicago hospitals regarding postpartum visit recommendations. With respect to timing of the postpartum visit for vaginal deliveries, 87.5% of responding hospitals recommended a postpartum visit at 6 weeks, 6.25% recommended a visit anytime between 2 – 6 weeks, and 6.25% recommend a visit at 4-weeks postpartum (CMCHAC, 2012). Similar studies have concluded that current postpartum guidelines are “inconsistent across jurisdictions, fragmented across disciplines and sectors, and currently do not adequately meet the needs of the population,” which inevitably leads to inconsistent care and practices by health care professionals addressing postpartum women (Schmied et al., 2010, p. 3516). Additionally, these inconsistencies are present in provider counseling for postpartum contraception use. A study conducted in a large U.S. urban hospital found that 77% of postpartum women reported discussing contraception with a physician prior to delivery and 87% prior to discharge following delivery (Glazer et al., 2011). These researchers found that these rates differed by the type of provider, such that those women who were seen in a Maternal Fetal Medicine practice were the

least likely to receive either antenatal or postpartum contraceptive counseling (Glazer et al., 2011).

Recently, approaches which focus on making reproductive life plan counseling routine in all aspects of women's health care such as the CDC's *Reproductive Life Plan Tool* (RLPT) for Health Professionals or Oregon's One Key Question, have been gaining momentum. These tools are designed to provide a simple and quick model for providers to use to initiate a discussion on contraception with their patients. The CDC's *Reproductive Life Plan Tool* encourages women to develop a reproductive life plan by considering their desire to have (additional) children, followed by a series of quick questions regarding their consequent contraception plans to meet their reproductive life plan. Ideally, use of these tools could help address inconsistencies in the delivery of counseling for postpartum contraception and aid in improving postpartum care. As such, it is important to understand provider's perceptions and practices related to postpartum care and contraception and their awareness and interest in using new tools and models (i.e., the RLPT) to address the needs of postpartum women.

Objective

This study aimed to determine providers' (OB-GYN, FP, CNM) current practices during prenatal and/or postpartum care used to assist women to plan and space their pregnancies including: whether they are asking women if they want to have more children and when, whether they are providing contraceptive counseling and provision, and how often/at what time points during the prenatal and postpartum periods these activities are taking place. These interviews also attempted to determine providers' willingness to introduce a modification of *CDC's Reproductive Life Plan Tool for Health Professionals* into their practice. The interviews also sought to determine the attitudes of prenatal care providers, family planning providers, and pediatricians with respect to alternative approaches to the provision of contraceptive services during the early postpartum period, including the provision of family planning services in conjunction with the Well-Baby Visit (WBV).

Methods

In-depth twenty to forty-five minute phone interviews were completed with twelve health care providers. Individuals were eligible to participate in the interview if associated with one of five Chicago university hospital systems and had regular contact with postpartum women in their practice (i.e., obstetricians and gynecologists, pediatricians, certified nurse midwives, family medicine practitioners). All participants were recruited via email, using a list of providers developed by the project's Principal Investigators (PI). Eighty total recruitment emails were sent by two associated PIs (RC, SH) asking the potential participant to follow-up via email with a project research assistant (VH), who scheduled and completed the interview. Eighteen of these individuals indicated that they were interested in participating in the interview by responding to the project research assistant; twelve of these eighteen actually completed an interview.

Starbucks gift cards (\$15) were provided to all participants. Participants were informed that the interview covered their perceptions and practices related to postpartum care and contraception. The research assistant conducted interviews over the phone using an interview guide developed by the research team. The interview guide covered background medical practice

information, current practices and knowledge with regard to the postpartum visit, current practices with regard to contraception counseling, perceived barriers to providing contraception counseling and services, opinions on alternative approaches to the delivery of postpartum contraception services (e.g., counseling during the well-baby visit), and opinions on the CDC's *Reproductive Life Plan Tool*. Prior to completing the interview, participants were asked to review the *CDC's Reproductive Life Plan Tool* on their own. IRB approval for this study was received in July 2014 under UIC- IRB protocol number 2014-0682.

Data Analysis

Audio recordings of interviews were professionally transcribed. Four researchers (AH, KR, RC, SH) independently read through and annotated three transcripts each, noting salient thoughts and concepts revealed in the quotes. These annotations were used to develop a preliminary list of codes and preliminary concepts of emerging themes, which were reviewed and discussed by all team members. A team member (EB) conducted detailed coding of the twelve transcripts using Atlas.ti software. Codes and quotes were analyzed to refine themes, and two team members (VH, KS) reviewed codes and quotes and performed some additional coding, which resulted in further refinement of themes (AH). Quotes that represented themes and sub-themes were extracted to support and describe findings.

Results

Of the 12 providers who participated in the interview, two were pediatricians (one of whom specialized in adolescent medicine), two were certified nurse midwives, one specialized in internal medicine and pediatrics (med-peds), two were family medicine providers, and five were obstetrician/gynecologists (two of whom specialized in family planning).

Table G-1. Provider Type

	ID	Provider Type
1	PROV 1	Pediatrics
2	PROV 2	Pediatrics, Fellowship: Adolescent Medicine
3	PROV 3	Certified Nurse Midwife
4	PROV 4	Obstetrics and Gynecology
5	PROV 5	Medicine-Pediatrics
6	PROV 6	Family Medicine
7	PROV 7	Obstetrics and Gynecology
8	PROV 8	Certified Nurse Midwife
9	PROV 9	Obstetrics and Gynecology, Fellowship: Family Planning
10	PROV 10	Obstetrics and Gynecology, Fellowship: Family Planning
11	PROV 11	Family Medicine
12	PROV 12	Obstetrics and Gynecology

The analysis revealed five main themes: (1) there is health care provider support for the concept of the *Reproductive Life Planning Tool* use in a variety of care settings; (2) there is health care provider support for the Well-Baby Visit to be linked to contraceptive counseling and care although there was not endorsement for a specific way for this to occur; (3) barriers to postpartum contraception reflect the intersection of the women's needs and contexts, insurance coverage, and the ability of the health care delivery system to respond; (4) lack of continuity of care is a major systems issue; and (5) long-acting reversible contraception (LARC) has strong provider support (among this group of providers).

Theme 1: There is health care provider support for the concept of use of the *Reproductive Life Planning Tool* in a variety of care settings.

Providers consistently agreed that the CDC's *Reproductive Life Planning Tool* is a useful approach for addressing contraception and long-term planning with their patients. Most providers, in particular those who already work with postpartum women (i.e., OB/GYN, CNM), agreed that the RLPT is straightforward and does not address issues or concerns much different from their normal practice. Many stated that the tool served as a good starting point for initiating a potentially uncomfortable conversation with a patient who may not anticipate discussing contraception at a given visit.

One family planning provider stated:

In general, I think it's a great idea to have a reproductive life plan. I think it's a great idea. I think it's important because it helps women think about more than just the immediate and putting their current pregnancy in a more long-term context. I think it's important to talk about—talking about contraception in the context of either trying to avoid any future pregnancies or trying to help her plan the timing for her next pregnancy...It's [RLPT] not like that panacea. It's not the only thing, but I think it's a good starting point for discussion about long-term planning with regards to contraception. [PROV 12_OB]

A pediatrician described the potential benefits of using tools such as the RLPT:

I think that if there was a tool or some very easily readable brochure or pamphlet that we could give mothers—I think that's probably where would be the best benefit—the easiest, most feasible and practical thing to implement in the well-baby visits. As we do postpartum depression counseling and screening, we could offer them something to think about family planning. I think that that might be the easiest and feasible and practical way to implement anything like this in well-baby pediatric care. [PROV 1_PED]

Sub-Theme: Some providers indicated that the RLPT is a good reminder to discuss contraception or codifies their practice.

Most of the providers who regularly work with postpartum women stated that using a RLPT is similar to what they already do or should be doing in their current practice; they suggested that it would be a particularly useful reminder for those who do not normally counsel

on contraception or are less comfortable having a conversation about contraception. One provider stated:

I actually think it wouldn't be a bad idea for us to make sure the residents all had it, especially when they are first starting, in their first year of residency. Obviously, I think as they continue along, if they've gotten into the habit of it, they won't need the tool—they won't need the physical tool anymore. They'll still keep the principles in mind.
[PROV 4_OB]

Another agreed:

For someone who doesn't regularly counsel about birth control, it provides good verbiage for how to introduce these topics. [PROV 10_OB]

Other providers who already have conversations about contraception with their patients felt that the RLPT added to and re-affirmed the discussion by encouraging women to think more long-term about their contraceptive plans.

A certified nurse midwife stated:

I think it gets people really thinking about their fertility...I think it gets the conversation going because I do think those can be uncomfortable conversations for some people. I think that it helps move the conversation in the right direction. [PROV 8_CNM]

Sub-Theme: Some providers indicated that the RLPT might be best completed by women (e.g., in waiting room).

Some concerns with use of the RLPT during a regular visit were mentioned primarily by providers who did not typically provide care focused on postpartum women (i.e., pediatricians). These providers felt that the RLPT might be better used as a tool that the woman could complete in the waiting room and that could be later used as a reference for the physician during the visit (to save on time), or as a mechanism for providing the women with a referral to a family planning provider. For example, one pediatrician described using the tool as a form of referral to OB services:

We could use it as either a brochure in the waiting room, or we could even pass it out. Not really delve too deep, but really refer them back to their OB. [PROV 1_PED]

Another physician emphasized the limited time in each visit and again suggested distributing the tool in the waiting room:

I would prefer it as a waiting room brochure, which would allow check-off boxes for issues the patient would like to discuss with the physician. This is easily a 5-minute conversation (or more if the patient is very talkative) within a 20-minute visit. It could be incorporated into Pap visits but these will be less frequent since the advent of HPV vaccine. [PROV 5_PED]

Theme 2: There is health care provider support for the Well-Baby Visit to be linked to contraceptive counseling and care although there was not endorsement for a specific way for this to occur.

(Note: When discussing co-location of contraception services for women at the WBV, our intent was to describe a scenario where another health care provider, aside from the pediatrician, would be available to discuss and provide contraception at the WBV. However, we were remiss in clearly articulating this distinction in some interviews; thus, attitudes about co-location of services in some interviews were interpreted and answered as though the baby's pediatrician would also provide contraception services to women at the WBV. Although we recognize this as a limitation in our data collection methods, this inquiry still yielded some rich and informative data.)

Most providers were supportive of the idea of linking contraceptive care of the mother to the Well-Baby Visit, although with some reservations. Many providers felt that offering contraceptive care to the woman at the WBV is a good approach because it would decrease the number of appointments and it would serve as an opportunity for women who do not schedule or keep postpartum visits to receive some contraceptive services. However, these providers also thought that co-location of care would be difficult to implement due to: 1) additional time requirements of visits that may already be time-constrained; 2) the challenges of having more than one type of provider concurrently available at appointment time and coordinating care; 3) reduced comfort levels of seeing or prescribing for a woman who is not the provider's patient; and, 4) the difficulty it may pose to the woman by having to focus on the baby, as well as herself. Although providers posed many potential barriers, many felt that regardless of the challenges, the WBV serves as an additional opportunity for women to be reminded about obtaining contraceptive care/postpartum care and provides the entrée for pediatricians to issue referrals to women for contraceptive care:

I just think it would be an additional reminder. What people could say is, "Don't forget, having birth control on board is really important, and don't forget to make that postpartum visit," 'cause people will bring their baby back for their one-week visit. They may not always make that postpartum visit, but maybe, "Before you walk out, make sure you make that appointment with your woman's person so you can get your postpartum visit in." It's just having that verbiage, that one line added to the end of their visit as they're leaving that might help a little bit. [PROV 8_CNM]

Sub-Theme: Whatever the model for the linking of contraceptive care to the WBV, there is a need for sufficient time to address women's and baby's issues/concerns.

One of the major impediments to linking contraceptive care to the WBV is concern that there is insufficient time to successfully integrate the dual needs of the mother and infant at the same time and location. Most providers agreed that providing women with as much access to care as possible is valuable to women's health; however, there was also support for the idea that co-location should not be offered at the expense of sacrificing sufficient time to fully address women's needs and the infant's needs.

I think it could be definitely beneficial. There's already so much that we have to do within our well-baby care. I just wonder if it will be very overwhelming, or if there'll even be time to really discuss those issues... I think there would be some pushback

because of feasibility and time. I think that maybe a better way to do it would be to link up OB care and pediatric care better, so that we can directly refer someone, through OB/GYN, for that particular care. [PROV 1_PED]

Many providers felt that although offering contraceptive care at WBVs may be beneficial to the women, there are challenges in terms of feasibility.

I think the logistics would be essentially a little bit challenging trying to figure out who's gonna do that, which OB/GYN, or can it be a physician's assistant, or another advanced practice clinician who could do it. It may be challenging to have a private attending staffed in that clinic. I think it can definitely be done. I think it's probably a good idea for patients, but I think there are a number of things logistically that would have to be worked out. [PROV 12_OB]

Theme 3: Barriers to postpartum contraception reflect the intersection of the women's needs and contexts, insurance coverage, and the ability of the health care delivery system to respond.

When asked about barriers to contraception in the postpartum period, providers consistently mentioned a combination of factors from the patient to the provider to the systems level. On the patient level, women may see different providers during the prenatal and postpartum periods as well as have transportation and childcare limitations. On the provider level, clinical settings vary greatly with respect to the quality of care that women receive and the effort made to ensure that women are appropriately transitioned between care providers and clinical time periods (i.e. prenatal to delivery to postpartum). On a systems level, scheduling practices, hospital policies, and insurance coverage can also facilitate or hinder access to and the quality of postpartum care that women receive. The vast majority of providers interviewed cited insurance restrictions as the largest barrier for patients wishing to receive contraception, particularly LARC methods:

Insurance is a big problem. It's challenging sometimes getting care for patients who are uninsured or who have Medicaid. They can make one follow-up visit, but then care after that one visit is challenging. [PROV 12_OB]

I think the biggest challenge is insurance coverage of long-acting contraception. People that are on labor and delivery and either have insurance that [isn't accepted] or if they have state health insurance, they're unable to get those devices placed before they leave the hospital. [PROV 9_OB]

Some of the systematic issues addressed by participants included policies against intrauterine (IUD) insertion immediately following delivery, difficulty scheduling appointments for the 6-week postpartum follow-up visit, and the limited time providers have with their patients.

For example, one provider stated:

There is currently not a policy in place for [IUDs] immediate post-delivery, and I just think it's a systems issue. I think that we just need to change the policy. It's just policy change, and if we could get there, then I think there'd be lots of people willing to do it. I think one of the concerns is always, "Well, how are we going to bill for that?" It's always seeming to be a billing issue. [PROV 8_CNMM]

This same provider also commented on the limited scheduling:

Oh, also, system barrier, sometimes the schedules aren't open that far out, for whatever reason. I'm not even exactly sure what that is. A patient may call today and say, "I need an appointment in six weeks," and the person on the other line will say, "Well, I'm sorry, but the schedule's not open in six weeks. Call back in a week." The week comes and goes, and two weeks comes and goes, and when you're a brand new mother, sometimes you're exhausted. You don't remember, or there's other things, so I think that that's also an issue. Patients may not be able to obtain the appointment they need right away. [PROV 8_CNMM]

Sub-Theme: Low income, vulnerable women have particular personal contexts that may prevent them from seeking care (i.e., transportation and child care issues; cultural and familial issues).

With particular regard to women, most providers mentioned that transportation and childcare issues might prevent women from seeking or following up on postpartum care. Providers also discussed general contextual and logistical challenges with having a new infant as potential barriers to seeking care.

Of course, some barriers for some of my patients, working in a clinic where our patients have socioeconomic and other social challenges, sometimes transportation is an issue. Sometimes childcare is an issue. They may not be able to get to the clinic or just may be so overwhelmed with whatever it is that's going on in their household to be able to get to the clinic. [PROV 8_CNMM]

I think another issue is maybe transportation, having somebody to watch the baby, or logistic issues for the patient. [PROV 4_OB]

They don't have the transportation. The transportation is difficult. It's expensive and they have to transport a baby now, too. [PROV 3_CNMM]

Other providers mentioned that issues with the systems that serve women also pose barriers, which prevent them from successfully accessing postpartum contraception. In particular, providers mentioned issues with the flow of the clinic, the time these patients must dedicate to attending a visit, and the inability of the physicians to dedicate as much time and effort to services, such as the provision of contraception, as the providers desire.

One provider who works in a clinic that provides care to a primarily Medicaid population stated:

It's the context of their lives and access of care. For things like Depo, if you have an adolescent female on Depo, its oftentimes more convenient for her than say, OCPs [oral contraception pills], but it's also—she has to come into the clinic, get registered, wait to be seen, miss out on whatever else is happening in her life that day. [PROV 5_PED]

Sub-Theme: There are varying views as to who is responsible for women receiving postpartum care: women versus providers versus the system.

Many of the providers indicated that the systems for the delivery of postpartum care are not providing the necessary support for ensuring that postpartum women receive care, whether that is due to limited scheduling options, insurance barriers, or a lack of reminders to schedule and attend the postpartum visit. Because of this system failure, providers recognized that the burden for increasing postpartum visit attendance and postpartum contraception uptake unfortunately falls upon the patient or the individual provider; participants agreed that this is far from ideal.

One provider said:

The ownness is completely on the patient to [schedule and attend the follow-up postpartum visit] and some patients, they get overwhelmed when they get home. They may not have a chance to call and schedule a visit in a timely fashion, so their visit may be delayed. [PROV 4_OB]

Some providers expressed a more systematic approach to ensuring contraception and postpartum care after delivery:

I think that trying to—probably from the hospital, making sure that, at the time of delivery—making sure they are linked in with a postpartum visit with their OB, or if they do not have an OB—if they didn't have prenatal care and they did not have care...that a primary OB or GYN provider is established at the point of delivery. [PROV 1_PED]

Another physician suggested a model that could help lift the burden of ensuring receipt of postpartum contraception from individual providers and instead place the responsibility on a team of providers that would be better able to address the woman's needs:

If theoretically you delegated, it could be a team effort. If physician or provider goes in—if you're interested in contraceptive counseling, you delegate that to a nurse or a pharmacist who then spends another 15 to 20 minutes going over choices. That would be a better—teamwork and team care would be a better model for a woman's contraceptive management rather than just putting it on one provider. Referring to an outside entity is just time wasted on the part of the whole enterprise. [PROV 6_FM]

Theme 4: Lack of continuity of care is a major issue in women's receipt of postpartum care and postpartum contraception.

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Appendix G

For a variety of reasons, the sites and providers where women obtain care may change between the prenatal period, delivery, and the postpartum period leading to major discontinuity and preventing a smooth transition in care between the clinical periods. This change in providers also leads to a significant discontinuity in the flow of information, which in turn affects the quality of care women receive. The many factors that contribute to discontinuity of care include whether a woman is in the public versus private care system, the risk status of the woman, changes in Medicaid coverage, and appointment barriers. Each of these factors appears to contribute to and perpetuate the others, culminating in lapses in women's receipt of postpartum care.

I think there's a problem with discontinuity. I know a lotta times where they receive prenatal care is with a different provider than where they deliver. [PROV 2_PED]

One provider talked about the effects of discontinuity in relation to providing contraception counseling:

As far as the provider, even just like, by the time they deliver, I don't have any of their notes, so I don't even know what they've talked about with their [provider]. Sometimes I'll come on, and I'll just be working a Saturday. The patient delivered two days ago, and she's going home today. She may or may not have had conversations with her previous provider at the place where she didn't deliver. I mean, most likely, these people on the floor who now knew nothing about her and just did her delivery probably haven't talked to her about contraception. Sometimes, by the time I come on, it's almost too late. She's already in the mindset that she's going home today, and that I'm bringing up new issues about, "Well, let's talk about birth control." I think, at that point, then she decides to push it off. [PROV 9_OB]

Some of the providers interviewed worked in multiple settings (for example, some providers worked in private clinics as well as hospitals serving large numbers of Medicaid patients) and these providers felt that there were stark differences in continuity of care for women receiving care in their private versus public practice. One provider described how following up with patients in a private clinic is easier because the care is more personalized and one-on-one:

In the private clinic honestly, there—it's much easier as a private provider to be able to follow up with the patients on a one-to-one basis. When they go home from the hospital remind them to make their follow up appointment. I know them well, so I'm always looking for them at around the six-week mark. They also email me and have my phone number and they text me and that kind of thing, so I think on that level it's much easier. [PROV 4_OB]

This provider also worked in a resident clinic in a public hospital, where the majority of the patients are insured by Medicaid, and contrasted care between the two settings:

I think in the resident clinic particularly, it's difficult to be able to follow the patients up to make sure they come, because there's such a large volume of patients who deliver in the resident clinics and they need to come back for post-partum visits and nobody is

really assigned to follow them up. [PROV 4_OB]

Access to private providers versus public providers is inextricably tied to socioeconomic status. Providers felt that institutions or settings that primarily accept private insurance versus Medicaid often have lower patient loads, which enables providers to spend more time with patients and also facilitates follow-up throughout the perinatal and postpartum periods.

Theme 5: Long-acting reversible contraception has strong provider support (among this group of providers).

Overall providers were supportive of increasing LARC use among their patients and in general. Most providers indicated that the contraceptive choice should be based on what is most desired and beneficial to the patient and some stated that more patients are recognizing the beneficial nature of LARC. One provider stated:

I do feel like there are more and more people going with long-acting reversible contraceptives because of the way it's being presented. You don't have to remember to do anything. You come in; we place it. You're good for five years, or ten years, or three years, depending on the form that they choose. [PROV 8_CNM]

Another provider felt that placing IUDs in the delivery hospital was one method of providing contraceptive care to women who do not follow-up with postpartum care:

Where I trained actually, we had a big problem with follow up, in terms of post-partum contraception and so we would do—put in IUDs in the hospital, before patients left—especially those who had really large challenges for coming back for post-partum care. [PROV 4_OB]

Other providers discussed the importance of increasing the availability, affordability, and accessibility of LARC for women who desired these services, but also remarked on the difficulty of obtaining these services:

I think that some of these things are made too difficult for women. If women need to have IUDs, they should be able to get those IUDs. I think it should be made available. I find it appalling that it's almost easier for a woman to get an abortion than to get an IUD. [PROV 11_FM]

Sub-Theme: Providers are aware of the barriers to use of LARC

Although providers were supportive of LARC use, they recognized that there are a number of significant barriers to women desiring LARC. The majority discussed barriers related to insurance, provider comfort and training in LARC placement, and cultural/social norms surrounding LARC use.

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Most providers felt that insurance coverage was a major barrier to providing LARC to patients. One provider discussed the desire to provide LARC being significantly hindered by the ability to pay for these services, specifically citing barriers related to insurance and billing:

If we knew that we had insurance coverage for all LARC, and we knew that we could bill for LARC separately from the delivery encounter, then we probably would be more likely to place immediate postpartum LARC, and that would increase uptake by decreasing the number of visits that the patient has...I try my best to figure out ways, and talk to them about getting the LARC with me, but I can see where it's hard. I can see where there are many barriers. [PROV 10_OB]

Another provider mentioned that providers are not allowed to place IUDs after delivery per hospital policy. When asked of the rationale behind this policy, the provider said:

I'm not 100 percent—but I believe it was something related to billing and how we bill for the devices in the hospital is something different than how we bill for them in the clinic. The hospital had to stock them, I think there was some issue with pharmacy billing and the clinic and billing—it's something that just didn't match up... I'm not entirely sure, I know that there are different ways that our patients without insurance can get IUDs in the clinic and I don't think that's the same method of obtaining IUDs for us and patients, it depends on the hospital. Even private patients, we can't put in IUDs in...the hospital. [PROV 4_OB]

A few primarily pediatric providers, who also practiced internal or adolescent medicine, mentioned a lack of training and experience for implants and IUD insertion and their limited time to complete this training as a barrier to increasing LARC use among their patients. These providers discussed an interest in providing these services but emphasized the need for increased training:

I haven't started doing IUDs down there 'cause I don't feel like I have enough experience. I like to do 'em when I have some backup...I think people are doing a lotta Depo Provera, and of course, the major problem with Depo is the people don't come back. If we could be putting Nexplanon instead, it would be great. The number of people who do that is restricted by the fact that you have to have a special certificate. [PROV 2_PED]

I think it has to do with the procedural aspect of it more than anything else. It's not that we're against using it [LARC] but that we don't have the faculty training, we don't have the time in our clinic to do those things. [PROV 5_PED]

Additionally, out of concern for patients' safety, some providers prefer to have two pregnancy tests performed before administering LARC, thereby causing the woman to make an additional appointment to obtain LARC:

Some providers will not provide an IUD or an implant on the same day at the initial contraceptive visit. They'll have them come back or something. That, we know, can be a deterrent for women, as a two-step visit for IUD insertion. [PROV 12_OB]

A number of providers mentioned that they would anticipate their patients being hesitant to use LARC due to misconceptions about LARC perpetuated by their social networks. These providers discussed the significance of educating their patients about LARC, but recognized the importance of not minimizing the risks to the patient or convincing them to do anything outside of their comfort levels. One pediatrician stated:

No, we talk about all of it, but many people are hesitant about the LARC. They just don't like the idea of something in their body, or if they're worried about having an IUD insertion, that it's gonna hurt. [PROV 2_PED]

According to providers, it appears that social and cultural influences greatly impact patients' perceptions of the safety and effectiveness of different types of LARC:

I think a lot of women have stories. "My friend had this experience. My mom says this about IUDs. I've [seen] IUDs on TV, as far as lawsuits." I think a lot of people have preconceived notions about IUDs. [PROV 9_OB]

At the patient level, I think it's [LARC (Nexplanon)] still—until they know somebody, they're a little bit nervous about it. Their mothers are less likely to have these methods and/or they may even date from bad old days. It's sort of attaining that critical mass. [PROV 2_PED]

Conclusion

Overall, there was overwhelming support for the use of tools such as the *Reproductive Life Planning Tool* to facilitate contraceptive care and counseling. For providers such as CNMs and OB/GYNs, the RLPT did not differ much from their routine counseling practices, but these providers felt it was useful to get providers in the habit of initiating this discussion with patients and also helps to get conversations started with women. Other providers, particularly pediatricians, suggested that use of the tool might be better for women to complete as opposed to providers. They felt that having the tool in the waiting room would serve as a catalyst for women to think about contraception and family planning. Therefore, depending on the type of practice, tools such as the RLPT can be targeted to either providers or patients and increased availability of such tools may be advantageous to promoting contraceptive care.

Many providers supported the idea of incorporating some aspect of contraceptive care into the WBV, but in highly variable ways. Although many expressed that co-location of services would serve as a beneficial additional opportunity to provide women with contraceptive care, major barriers to feasibility are the time constraints and logistical coordination of different providers. Co-location of services may be more successful in larger settings where there are different types of providers on-site. At a minimum, providers felt like the WBV could be a time for providers, regardless of type, to offer a reminder or referral for contraceptive services.

From providers' perspectives, there are many different barriers that contribute to women's lack of use of postpartum care; these barriers exist at the patient, provider, and system levels. Most providers are supportive of the use of LARC, but recognize there are a number of impediments including insurance coverage issues. Many providers stated that their practices did not stock LARC and sometimes prior authorization was needed before it could be administered or obtained. Moreover, certain LARC methods, like implants, require special certification and

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training, which some providers may not have, requiring women to be referred to another provider or obtaining another method of contraception. Providers also stated that certain administrative policies prevent LARC from being administered at hospitals post-delivery, which may result in a missed opportunity to offer LARC to women who will not follow-up on postpartum visits. Providers recognized the need to educate women on LARC to clarify misconceptions, while still respecting women's autonomy in choosing the contraceptive method that they deem is best for them.

The providers interviewed were very aware of the multiple issues related to the delivery of postpartum care for women. They recognized that the barriers and facilitating factors to ensure that women receive comprehensive postpartum care exist on many levels and that improvement approaches must be multi-faceted. Finally, providers were receptive to exploring new clinical practices (i.e., use of RLPT, co-location of contraception care at WBV) that may widen the reach of postpartum care for women.

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Table G-1. Key Themes and Quotes from Key Informant Interviews with Postpartum Providers

Main Theme	Sub-Themes	Quote
There is health care provider support for the concept of use of the Reproductive Life Planning Tool in a variety of care settings.	Some providers indicated that the RLPT is a good reminder to discuss contraception or codifies their practice.	"For someone who doesn't regularly counsel about birth control, it provides good verbiage for how to introduce these topics." [PROV 10_OB]
	Some providers indicated that the RLPT might be best completed by women (e.g., in waiting room).	"We could use it as either a brochure in the waiting room, or we could even pass it out. Not really delve too deep, but really refer them back to their OB." [PROV 1_PED]
There is health care provider support for the Well-Baby Visit to be linked to contraceptive counseling and care although there was not endorsement for a specific way for this to occur.	Whatever the model for the linking of contraceptive care to the WBV, there is a need for sufficient time to address women's and baby's issues/concerns.	"I think it could be definitely beneficial. There's already so much that we have to do within our well-baby care. I just wonder if it will be very overwhelming, or if there'll even be time to really discuss those issues... I think there would be some pushback because of feasibility and time. I think that maybe a better way to do it would be to link up OB care and pediatric care better, so that we can directly refer someone, through OB/GYN, for that particular care." [PROV 1_PED]
		"I just think it would be an additional reminder. What people could say is, "Don't forget, having birth control on board is really important, and don't forget to make that postpartum visit," 'cause people will bring their baby back for their one-week visit. They may not always make that postpartum visit, but maybe, "Before you walk out, make sure you make that appointment with your woman's person so you can get your postpartum visit in." It's just having that verbiage, that one line added to the end of their visit as they're leaving that might help a little bit." [PROV 8_CNM]
Barriers to postpartum contraception reflect the intersection of the women's needs and contexts, insurance coverage, and the ability of the health care delivery system to respond.	Low income, vulnerable women have particular personal contexts that may prevent them from seeking care (i.e., transportation and child care issues; cultural and familial issues).	"Of course, some barriers for some of my patients, working in a clinic where our patients have socioeconomic and other social challenges, sometimes transportation is an issue. Sometimes childcare is an issue. They may not be able to get to the clinic or just may be so overwhelmed with whatever it is that's going on in their household to be able to get to the clinic." [PROV 8_CNM]
	There are varying views as to who is responsible for women receiving postpartum care: women versus providers versus the system.	"The ownness is completely on the patient to [schedule and attend the follow-up postpartum visit] and some patients, they get overwhelmed when they get home. They may not have a chance to call and schedule a visit in a timely fashion, so their visit may be delayed." [PROV 4_OB]
Lack of continuity of care is a major issue in women's receipt of postpartum care and postpartum contraception.		"I think there's a problem with discontinuity. I know a lotta times where they receive prenatal care is with a different provider than where they deliver." [PROV 2_PED]
Long-acting reversible contraception has strong provider support (among this group of providers).	Providers are aware of the barriers to use of LARC.	"I think a lot of women have stories. "My friend had this experience. My mom says this about IUDs. I've [seen] IUDs on TV, as far as lawsuits." I think a lot of people have preconceived notions about IUDs." [PROV 9_OB]
		"I do feel like there are more and more people going with long-acting reversible contraceptives because of the way it's being presented. You don't have to remember to do anything. You come in; we place it. You're good for five years, or ten years, or three years, depending on the form that they choose." [PROV 8_CNM]

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Appendix H

Findings from the Reproductive Life Plan Tool Pilot Intervention at the Well-Baby Visit

This report was prepared by Katrina Stumbras, MPH under the supervision of Arden Handler, DrPH, Kristin Rankin, PhD, Sadia Haider, MD, and Rachel Caskey, MD. This document was developed for the Illinois Department of Healthcare and Family Services under grant CFDA93.767 from the US Department of Health and Human Services, Center for Medicare and Medicaid Services. However, these contents do not necessarily represent the policy of either the Illinois Department of Healthcare and Family Services or the US Department of Health and Human Services, and you should not assume endorsement by the state or federal government.

Background

The postpartum period is a unique time in a women's reproductive life as it provides the opportunity to transition from a focus on prenatal to preventive care as well as a time to focus on her reproductive goals and birth spacing. Given its transitional nature, postpartum women are at particularly high risk of unintended pregnancy with 10-44% of women having an unintended pregnancy in the first year postpartum (Chen et al., 2010). While some women receive contraception in the hospital after delivery, actual provision varies and most often women do not receive contraception until the six-week postpartum visit. Unfortunately, the timing of the six-week visit is not based on current evidence about women's sexual activity after pregnancy or the need for timely postpartum contraception; thus, over half of women are at risk for a rapid repeat pregnancy (Glazer et al., 2011).

Few studies examine women's utilization of the postpartum visit and estimates for non-attendance at the visit vary (11%-40%) (Lu & Prentice, 2002; Kabakian-Khasholian & Campbell, 2005; Bryant et al., 2006; Chu et al., 2007; Weir et al., 2011). In one study, 15% of a nationally representative sample of women in 1988 had not made it to a postpartum visit and in another study, 15% of Healthy Start women had not had a postpartum visit at six weeks or later, determined from data collected between December 1995 and April 1996 (Lu & Prentice, 2002; Bryant et al., 2006). And among low-income women on Illinois Medicaid fewer than 60% of women receive a postpartum visit (IDHFS, 2014). Failure to attend the postpartum visit results in a clear gap in the provision of important services during this period.

In contrast to the postpartum visit, the Well-Baby Visit (WBV) is highly utilized. In 2011-2012, 90.9% of U.S. infants received visits during the first year of life (NSCH, 2011). The AAP recommends that normal infants have WBVs at 3-5 days post hospital discharge and by one month of age, both of which are in advance of the traditional postpartum visit, with four more visits before one year at two, four, six, and nine months (AAP, 2014). Given the earlier and more frequent use of the Well-Baby Visit compared to the postpartum visit for the woman, the Well-Baby Visit provides an opportunity to discuss

postpartum contraception with mothers who may not otherwise receive this important postpartum information.

Because the focus at the WBV is on the child, birth spacing and contraception are not typical areas of discussion for most pediatricians. To facilitate discussion of contraceptive needs, the Centers for Disease Control and Prevention (CDC) recommends use of a Reproductive Life Plan Tool (RLPT) (Johnson et al., 2006) for all types of practitioners. To date, literature on Reproductive Life Plan Tools has mostly focused on their use in women-focused primary care or family planning settings (Foster et al., 2008; Moos et al., 2008; Bello et al., 2013; Stern et al., 2013; Coffey & Shorten, 2014; Mittal et al., 2014). The objective of this pilot study was to test the feasibility and acceptability of using a simple Reproductive Life Plan Tool (**Appendix A**) by pediatricians at the Well-Baby Visit for postpartum women. Use of a Reproductive Life Plan Tool provides a straightforward way for pediatricians to determine women's need for contraception and refer them to the appropriate services without directly providing contraceptive services.

Reproductive Life Plans and Reproductive Life Plan Tools

Recently, approaches which focus on making reproductive life plan counseling routine in all aspects of women's health care such as the CDC's Reproductive Life Plan Tool (RLPT) for Health Professionals or Oregon's One Key Question, have been gaining momentum. The RLPT used in this study was an adapted version of the CDC's Reproductive Life Plan Tool. The CDC's tool encourages women to develop a reproductive life plan by considering their desire to have (additional) children, followed by a series of quick questions regarding their consequent contraception plans to meet their reproductive life plan.

Our tool (**Appendix A**) used a similar framework to guide pediatricians to facilitate a conversation about contraception with postpartum women during their child's Well-Baby Visit. This tool initiates the conversation by prompting the physician to ask, "As part of your child's care, I ask about plans for future pregnancies because the timing of pregnancies has an impact on your child's health and your health. Do you plan to have any more children in the future?". The woman's response results in the physician asking a series of questions related to the woman's contraceptive plans. The physician is prompted to provide a handout on recommended birth spacing (**Appendix B**) if the woman is interested in having more children and plans to have her next child within 12 months. The physician is prompted to provide a handout on birth control (**Appendix C**) and ask the women if she is interested in receiving a referral to family planning services if the woman is interested in having more children and is not using or is unsatisfied with her current method of birth control, or if the woman is not interested in having more children and is not using a permanent or long-acting reversible method of contraception (LARC).

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Pediatricians were also asked to indicate on the tool if they did not feel comfortable implementing the tool with a particular woman or if the woman was not interested in discussing contraception at the Well-Baby Visit. Finally, the pediatricians were asked to provide some basic data about the woman and their interaction: age of infant (weeks); age of mom (years); insurance status of infant (if known); if anyone other than mom and infant in room during visit; amount of time spent on this form; which handouts provided to mom today.

Methods: Implementing the Reproductive Life Plan Tool Intervention at the WBV

The goal of the Reproductive Life Plan Tool intervention was to have pediatric residents at the University of Illinois at Chicago (UIC) Hospital outpatient pediatric clinics complete the RLPT with a minimum of 50 women at the Well-Baby Visit during the Fall of 2014. Over 25 UIC pediatric residents were introduced to the study and trained to use the adapted Reproductive Life Plan Tool during an hour long lunch session in August 2014. The intervention took place approximately two months following the training and the goal of 50 completed tools was reached after 10 full days and 4 half days of recruitment. The intervention was delivered by the pediatric residents with the mother of any infant 16 weeks or less during the child's visit with the pediatrician. Residents were reminded to complete the tool with any eligible woman at the beginning of their shift as well as throughout the shift by the presence of a study research assistant (RA). After completing a RLPT, the residents handed the tool to an RA who would review it briefly for accuracy and determine if a referral to family planning services was necessary. If the tool indicated that the mother was interesting in a referral to family planning services, the RA would meet with the woman briefly to assist her in filling out an appointment request to University of Illinois' OB/GYN Department using the University of Illinois' Online Appointment Request System. As per the protocols of the appointment request system, the woman would then be contacted by the OB/GYN department within 2 business days to schedule the family planning appointment.

Methods: Assessing Acceptability and Feasibility

The objective of this research was to assess the *acceptability* and *feasibility* of implementing a RLPT from the perspective of the pediatric residents conducting the intervention. In an effort to assess these factors, both quantitative and qualitative information was gathered using an online survey and a focus group session. Through both of these approaches, the pediatric resident participants were encouraged to provide their feedback on the idea of using a RLPT at the WBV, the implementation of the RLPT in actual practice, and the design and structure of the tool.

The online survey was designed as a short questionnaire with both open-ended and Likert-scale questions to be completed by pediatricians who participated in the intervention. The survey was

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distributed by the pediatric residency director via a mass email to all pediatric residents one week following the completion of the intervention. Two follow-up reminder emails were sent in the same format over a two-week period. Resident participation in the survey was entirely voluntary and confidential. The survey data were collected and managed using REDCap electronic data capture tools (Harris et al., 2009), a secure, web-based application designed to support data capture for research studies.

All residents who participated in the intervention were also invited to a one-hour focus group session during which they were provided lunch. Residents were invited to attend this luncheon focus group by the pediatric residency director through a mass email. Participation in the focus group was entirely voluntary. Residents were divided into two groups in two separate rooms to ensure that each resident was given ample opportunity to participate. One focus group was moderated by a principal investigator for the study and the other by a research assistant; both used the same structured focus group guide developed by the research team. Other research assistants took notes during the sessions; the discussions were also taped. Notes from the focus group sessions as well as the session transcriptions were discussed among the research team to establish key findings and common themes reflecting the pediatric residents' perspectives, experiences, and opinions.

IRB approval for this study was received in September 2014 under UIC- IRB protocol number 2014-0682.

Results: Use of the Reproductive Life Plan Tool

A total of 55 Reproductive Life Plan Tools were utilized by pediatric residents with mothers of infants 16 weeks or younger during the three weeks of intervention implementation. Only 5 of these tools were left incomplete as either the resident (n =2) did not feel comfortable completing the tool or the woman (n = 3) declined to discuss the tool during that particular visit. For one of the women who declined, the resident included a comment that the “mom had a tubal ligation, but did not want to discuss it”. Of the providers that felt uncomfortable using the tool, one did not wish to discuss contraception with patients' mothers in general and the other felt the tool was inappropriate to use in one circumstance as the mother was upset during the visit.

Of the 50 women who completed the tool with the pediatric resident, 18% were between 18 and 21 years old, 60% between 22 and 35 years, and 12% over 35 years old. Twenty-three percent of women were less than or equal to 1 week postpartum, 38% were between 2 to 6 weeks postpartum, and 30% were between 7 and 16 weeks postpartum. The majority of infants were on Medicaid at the time of the visit (62%). There was an additional person in the room during the intervention just over half the time (54%). Of those who had an additional individual in the room, this was the father of the infant in almost two thirds of the situations (63%). (**Table 1**)

Reproductive Life Plan Tool

Any mother of an infant 16 weeks of age or younger

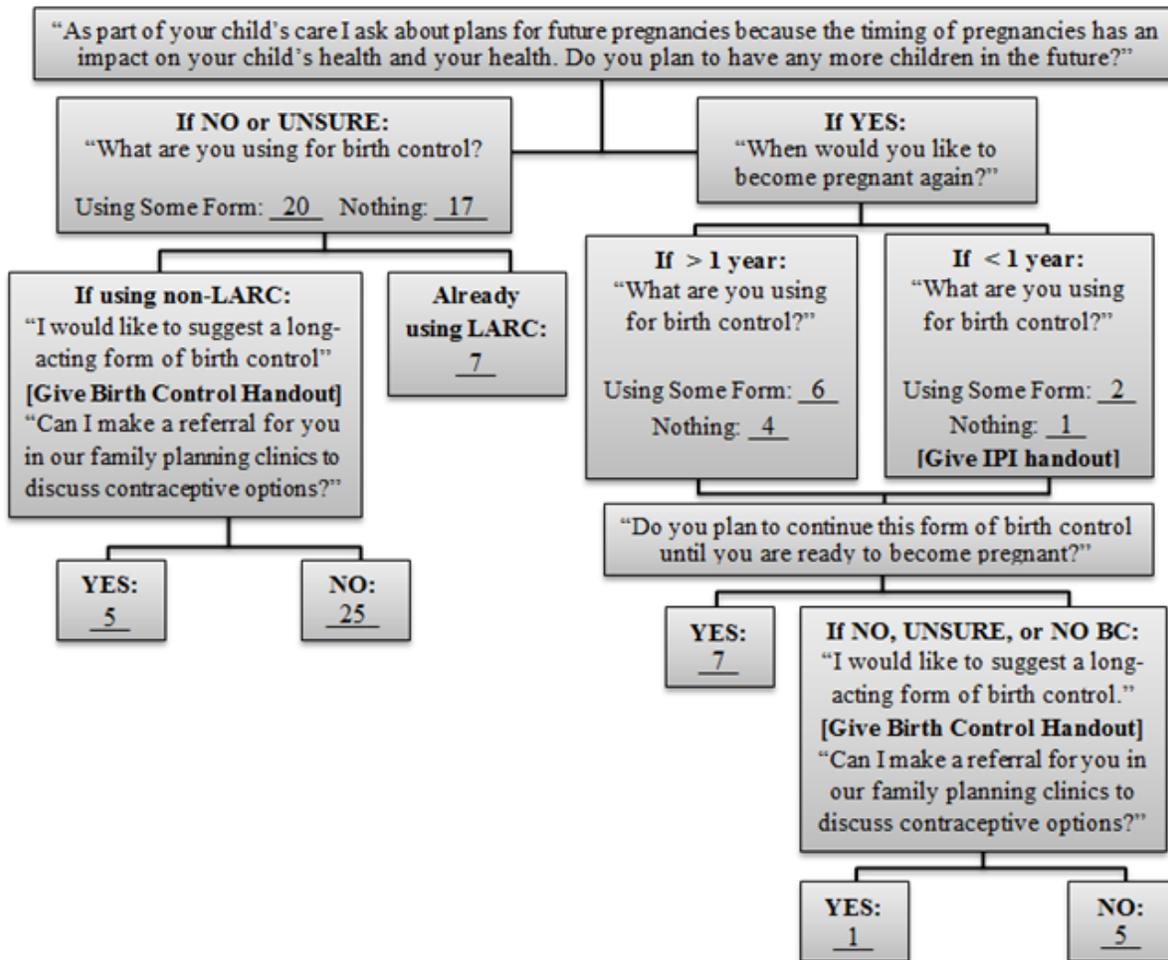


Figure H-1. Replica of Reproductive Life Plan Tool Including Number of Postpartum Women in Each Category (n = 50)

Figure H-1 shows a replica of the tool used during the intervention with the number of individuals who fit in each category displayed in the tool itself. Nearly three-fourths of the women with whom the pediatric residents completed the tool (74%) stated that they were either unsure or not interested in having another child. Of the 13 women who were interested in having another child, three reported the desire to become pregnant again in less than one year. Fifty-four percent of women with whom the RLPT was used reported already using some form of birth control and 8 of these women were using a LARC method (5 IUD, 1 Nexplanon, and 2 non-specified LARC). Nine women reported using a contraceptive injection (e.g., Depo-Provera), 3 using contraceptive pills, 7 using condoms, and one

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mother reported using abstinence. Forty-six percent of the 37 mothers who stated ‘no’ or ‘unsure’ regarding the desire to have more children reported currently using no form of contraception and 38.5% of the 13 mothers who stated ‘yes’ regarding the desire to have more children reported currently using no form of contraception.

Of the 36 women eligible for a referral to family planning services through use of the tool (i.e., women with no current contraception, women who were unhappy with their current contraception, or women who did not intend to have additional children and were not using LARC), 6 (16.7%) accepted the resident’s referral to family planning services and all of these women received a referral through the University of Illinois’ online appointment request system. Among the 30 women who were eligible for a referral to family planning services and turned down the referral, 9 (30%) commented that they already had an appointment scheduled or plan to meet their postpartum contraception needs. Some examples of these comments included, “husband plans to get vasectomy”, “mother has 6 week postpartum visit scheduled and plans to discuss contraception options then”, and “mother has plan to get IUD”.

The majority of residents (68.8%) indicated on the RLPT that it took under 3 minutes to complete it with each mother, 29.2% responded that it took between 3 to 5 minutes to complete, and 2.1% (1 pediatrician) spent 5 to 10 minutes completing the tool with one mother.

Results: Online Pilot Survey to Pediatric Residents

Although 20 online surveys were started by residents, only 14 were completed. Respondents reported feeling comfortable discussing reproductive planning and contraception with their patients’ mothers. On a scale from 1 (not at all comfortable) to 10 (completely comfortable), the average ranking for those who completed the survey was 7.36, with 92.9% of respondents reporting some level of comfort (6 – 10 on above scale). Alternatively, residents’ perceptions of the mother’s comfort with discussing reproductive planning and contraception with the pediatrician was slightly lower on the same scale, with an average of 6.29 and 71.4% responding some level of comfort (6 – 10 on Likert scale).

The majority of residents responded favorably with regard to the actual RLPT used in the intervention (**Table 2**). Over 70% reported that the tool was both easy to follow and understand, while three respondents disagreed with the statements pertaining to the ease of following and understanding the tool. Over three-quarters of respondents (78.6%) disagreed with the statement that the tool was too complicated. Approximately 29% agreed and 43% disagreed with the statement that the tool took too long to implement with each mother. To assess general feasibility, residents were asked if ‘it would be easy to implement the screening tool as part of regular practice.’ The responses to this question were evenly split with 42.9% agreeing with this statement, 42.9% disagreeing, and 2 respondents choosing to neither disagree or agree.

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Residents were also asked if they encountered any challenges in implementing the tool, to which 28.6%, or 4 pediatricians, responded ‘yes’. All four of these individuals cited ‘time constraints’ as the source of these challenges and another additionally commented on the length and wordiness of the tool. When asked about what the residents did not like about the tool specifically, four responded that the tool needed to be simplified or streamlined, two felt the tool distracted from their focus on the child during the visit, and one did not feel confident in their ability to answer questions about contraception initiated from the discussion with the tool. Residents were also asked to report on the positive aspects of using the tool to discuss reproductive planning and contraception. One reported that they “liked the hand-outs to give mom about birth control options”. Five respondents commented on the importance of discussing contraception and the postpartum visit with the mothers of their patients and that this tool served as a good reminder to initiate this conversation.

Results: Pilot Focus Group Sessions with Pediatric Residents

A total of 18 residents attended the focus group sessions (13 in one, 5 in the other). The topics discussed during the focus group sessions included: pediatricians’ comfort with implementing the intervention tool during the WBV, pediatricians’ perception of women’s comfort with providing the RLPT during the WBV, opinions/experiences with intervention/tool, the pediatrician’s role with regard to the postpartum visit, and suggestions for future research and exploration.

Pediatricians’ Comfort with Implementing the Intervention RLPT during Well-Baby Visit

Most pediatric residents described the general idea of discussing birth spacing and reproductive plans with their patients’ mothers at the WBV as an activity with which they were comfortable, although most had not done so previously. The pediatricians did express concern regarding the actual discussion of contraception, and specifically LARC, with their patients’ mothers. In particular, the pediatricians had concerns about not having the time and knowledge to discuss LARC with their patients’ mothers in an effective manner. For example, one resident stated, “One thing I’m just really concerned about is obviously, I wanna bring [LARC] to [the mother’s] attention, but it’s just gonna open up Pandora’s Box, like, ‘LARC, what’s LARC?’ ...”. This resident followed up that it did help to have a handout or information on LARC available to use, but that time constraints in explaining these handouts were still a significant barrier to initiating this discussion.

Pediatricians’ Perceptions of Women’s Comfort with RLPT during the Well-Baby Visit

In general, the focus group participants reported that women were comfortable with pediatricians using the RLPT to discuss their contraception and reproductive needs at their child’s WBV. Pediatricians

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reported that women were generally open and willing to talk on the subject although they noted that few went into further detail than required to answer the questions prompted by the tool. One resident commented, “I wonder if they didn’t go into big discussions ‘cause it was a pediatrician and their kids’ doctor as opposed to their own doctor”. Pediatricians did agree that women’s comfort and willingness to discuss contraception at the Well-Baby Visit was affected by the time of day. The later in the day it was, the less likely women were to engage in a discussion on contraception given the potentially extended wait times and the desire from the patients to complete the visit quickly. Additionally, residents commented that women were less likely to open up if their husbands or partners were in the room.

General Opinions/Experiences about the Intervention and RLPT

In addition to the high level of comfort with the intervention expressed by the pediatric residents, they also stated that the tool was easy to use, self-explanatory, and straightforward. They commented that the tool and intervention served as a good reminder to discuss postpartum care with their patients’ mothers; many believed that they were able to capture women at the WBV who may not have gone to the postpartum visit given the typically lower rates of attendance at the postpartum visit. The pediatricians expressed comfort with including this initiative in their clinic’s normal flow, although with the recognition that it would be lower on the priority list than some other concerns, particularly if there were many issues with the infant.

There were also some concerns and challenges discussed during the focus group session. Residents mentioned the limited time they had with any given patient and the difficulty of fitting an additional ‘thing’ into their already tight schedule. This initiated a conversation about the need to prioritize what is discussed at the Well-Baby Visit. The residents expressed their concern with taking the attention away from the infant and emphasized that their responsibility is to the infant and the infant’s health above all else. One resident stated, “While [postpartum contraception] is important and it is something that we ideally would be able to get through with everything, then again, it’s not necessarily my patient’s health. This would be put at the end of the list. If I have time to get to it, I would get to it, but with the kid in front of me, that’s my priority”. Another resident expressed concern that the intervention would deter the mother from returning for future pediatric visits; there was concern that too much discussion of the mom’s personal choices may damage the relationship between the mother and doctor, making her less likely to return with her infant.

Other challenges addressed by the pediatricians during the focus group sessions included difficulty remembering to complete the tool as well as a lack of familiarity leading to increased time to complete it. Residents also mentioned that the language and prompts within the RLPT were more wordy than necessary. Many residents (particularly the women) stated that they are already comfortable talking

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with their patients about contraception without the tool; they suggested that it would perhaps be more helpful to have a prompt related to contraception on their prompt list, rather than an actual Reproductive Life Plan Tool. Additionally, residents were asked to discuss the feasibility of providing the referral to family planning services as a part of their general practice for interested mothers. Overall, the pediatricians were concerned that this additional task would take time away from other patients. Also, they did not feel it would be possible to find the mothers' information in the appointment system, especially if the mother is not their patient.

The Pediatrician's Role with Regard to the Postpartum Visit

In addition to the discussion about the intervention, the focus group also touched upon the pediatricians' perception and opinions of their role with regard to the postpartum care of their patients' mothers. Residents agreed that the mothers' postpartum visit and contraception needs rarely, if ever, come up during a typical pediatric visit. Some residents stated that a few mothers will bring it up if they had experienced a number of medical issues during pregnancy or delivery or had a cesarean section. Although most residents seemed to agree that postpartum care is important, many were concerned that having the pediatricians play a key role in this care or in reminding women about this care may go outside of the scope of their practice and allotted time. One pediatrician suggested that they should be able to charge for these additional services if expected to provide them.

Suggestions for Improving use of the RLPT

Throughout the focus group discussions, suggested improvements for the implementation of the intervention were provided by the pediatric residents. These suggestions covered the timing and location of the intervention, the individuals who should receive the intervention, and the structure of the RLPT.

Some residents thought that the ideal timing and location of this intervention might be while the mother and infant were still in the hospital prior to discharge. Some pediatricians felt that they would be able to naturally facilitate a conversation with mothers during their newborn's nursery discharge visit; they believed that this conversation would be enhanced by having easy access to the OB providers who would be able to help facilitate a referral. Conversely, some residents felt that although the newborn nursery would be an easy place to conduct this intervention, this may be too early in the postpartum period; women may not yet be able or ready to think or discuss their future plans for children. Residents also suggested possibly expanding the intervention to include mothers of infants up to 1 year old as opposed to only through 16 weeks. Additionally, a number of pediatricians suggested that the combined Medicine-Pediatric clinic at UIC may be a more natural site for this intervention. The Medicine-Pediatric clinic includes residents who are completing their residency training in both internal medicine and

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pediatrics. Women whose infants receive their WBVs at the Med-Peds clinic rather than in the General Pediatric Clinic might be more receptive to a conversation on reproductive and contraceptive needs because providers in Med-Peds are more familiar with contraceptive practices (they care for both adults and children).

Given the limitations of time at the Well-Baby Visit, multiple residents suggested the importance of ‘triaging’ who would be asked information about birth spacing and perhaps targeting those mothers they feel would be most receptive to discussing contraception. In particular, most focus group participants agreed that younger mothers would be most receptive to this intervention as well as would benefit the most from an additional discussion and provision of information about contraception.

Residents also felt that because the RLPT was not placed in the packet of information they currently use with each patient, they sometimes forgot to conduct the intervention at each eligible visit. Residents suggested that the tool be included in their regular information packets or that a prompt related to postpartum contraception be present as a reminder in their template. Residents also suggested possibly having the women fill out the tool on their own while waiting for the WBV or providing the women with a document on the reproductive life plan and contraception options in their infant’s Bright Futures Packet. Finally, in response to the pediatrician’s concerns with the length and wordiness of the tool, the focus group moderators presented a ‘simplified’ version of the tool used in the intervention (**Appendix D**) and asked the residents to provide feedback on this tool. All focus group participants agreed that this simplified tool would be easier to use; none expressed any concern that this simplified tool left out information vital to the intervention. Residents did state that although this RLPT was considerably simpler than the original tool, they did not feel it was the appropriate design or reading level for the women to use on their own as a general handout.

Limitations

Due to the preliminary nature of this pilot study, there were a number of limitations present in both the implementation of the intervention and the evaluation. The first was the substantial delay (approx. two months) between the training of the pediatric residents and actual implementation. This delay was a result of issues outside of the control of the research staff but potentially affected the residents’ familiarity with the RLPT and intervention. Additionally, not every resident was able to attend the training session. As a result, some residents forgot to complete the RLPT with every eligible mother or potentially took a longer amount of time completing the tool at each visit than those who had attended the training.

There were also limitations in the design of the tool itself, such that some women not using LARC were not offered a referral for family planning or recommendation for LARC, despite this being

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the most effective form of contraception. Per the design of the tool, women who intended to become pregnant again and were happy with their current method of birth control were not offered a referral to family planning services or information on LARC, regardless of whether or not they were using a highly effective form of contraception. Finally, as discovered during the focus group sessions it appears as though a number of residents did not use the exact phrasing of the tool, perhaps influencing the referral acceptance rate and resulting in a lack of standardization in how the intervention was conducted. This limits our ability to evaluate the effectiveness of the tool in actually increasing referrals for postpartum contraception use. We are further limited in this assessment because we did not have IRB permission to determine if the family planning referral provided through the online appointment request system actually resulted in attendance at the family planning visit and increased the provision of postpartum contraception. It is also possible that we have underestimated the number of women using long-acting reversible contraception in this population as the UIC Hospital often uses Depo-Provera as a 'bridge-method' for women who are interested in an IUD but unable to receive one immediately postpartum due to Medicaid constraints. Consequently, it is possible that some of the mothers who reported using Depo-Provera may have already established a plan to receive LARC.

Additionally, there are limitations related to the survey and the focus group session. With respect to the online survey, there were 6 individuals who began the survey but did not complete it, potentially biasing the findings depending on their reasons for failing to complete the survey. In the smaller of the two focus group sessions, there were a few late comers who were not able to provide feedback on the earlier questions addressed in the session pertaining to comfort utilizing the tool at the WBV. For both the focus group and online survey it is possible that those who chose to provide feedback were more motivated to do so, such that they were either more strongly opposed or supportive of the intervention. Consequently, the findings reported here may not be as representative of those with a more moderate view of the intervention, perhaps resulting in a conservative or more positive estimate of the acceptability of the intervention. However, we do not consider this a major limitation, particularly with respect to the focus groups, because 18 out of the 20 residents who participated in the intervention also participated in the focus groups.

Finally, given the unique characteristics of every pediatric clinic and practice and the implementation of this intervention with only pediatric residents in a large university medical center, it is not possible to generalize these findings to the general pediatrician population. However, given the positive findings as described above, we would encourage further research in this area to determine if this intervention is acceptable and feasible in multiple pediatric practices.

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Conclusions

The objective of this study was to assess the acceptability and feasibility of pediatricians using a Reproductive Life Plan Tool to initiate a discussion of birth spacing and contraception with postpartum women during the Well-Baby Visit. Findings in this pilot indicate that, despite some concerns, use of the RPLT at the WBV is generally acceptable to pediatric residents with few challenges in implementation. Factors that should be addressed in future explorations focused on use of RLPT at the WBV include the pediatrician's fear of distracting from the focus on the child during the WBV, the amount of time available to introduce yet another topic, and pediatricians' concerns about having to discuss contraception/LARC beyond just providing a referral. Although there were a number of challenges and barriers present in implementing this intervention, the findings indicate that including a RLPT in regular practice at the pediatric Well-Baby Visit is not only feasible but also accepted by pediatric residents as well as postpartum women. Our intent is to use the information gained in this pilot study to refine the intervention and implement it in a larger study. This will support our overall objective of increasing access to postpartum care and contraception, as one strategy for improving health outcomes for women and children.

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Table H-1. Reproductive Life Plan Tool Findings

	Overall n (%)	Maternal Age			Weeks Postpartum			Infant Insurance Status				Anyone in Room
		18 - 21	22 - 35	35+	<= 1	2 - 6	7 - 16	Medicaid	Private	Unknown	None	
Tools Completed	50 (100%)	9 (18%)	30 (60%)	6 (12%)	16 (23%)	19 (38%)	15 (30%)	31 (62%)	12 (24%)	5 (10%)	2 (4%)	27 (54%)
Women Reporting 'Yes' to More Children	13/50 (26%)	0 (0.0%)	11 (84.6%)	1 (7.7%)	6 (46.2%)	6 (46.2%)	1 (7.7%)	6 (46.2%)	6 (46.2%)	1 (7.7%)	0 (0.0%)	10 (76.9%)
Of Women Reporting 'Yes' to More Children, #(%) Reporting Desire to be Pregnant <1 Year ^a	3/13 (23%)	0	3	0	1	1	1	1	2	0	0	3
Of Women Reporting 'Yes' to More Children, #(%) Planning to Continue Current Birth Control	7/13 (53.8%)	0 (0.0%)	6 (85.75)	1 (14.3%)	5 (71.4%)	1 (14.3%)	1 (14.3%)	3 (42.9%)	4 (57.1%)	0 (0.0%)	0 (0.0%)	5 (71.4%)
Of Women Reporting 'Yes' to More Children, #(%) Using LARC Method ^a	2/13 (15.4%)	0	2	0	2	0	0	1	1	0	0	2
Of Women Reporting 'Yes' to More Children, #(%) Using Nothing for Birth Control	5/13 (38.5%)	0 (20%)	4 (40%)	0 (0.0%)	1 (20%)	4 (80%)	0 (0.0%)	3 (40%)	2 (40%)	0 (0.0%)	0 (0.0%)	4 (80%)
Women Reporting 'No/Unsure' to More Children	37/50 (74%)	9 (24.3%)	19 (51.4%)	5 (13.5%)	10 (27%)	13 (35.1%)	14 (37.8%)	25 (67.6%)	6 (16.7%)	4 (11.1%)	2 (5.6%)	17 (45.9%)
Of Women Reporting 'No' to More Children, #(%) Using LARC Method who Reported	6/37 (16.2%)	0 (0.0%)	3 (83.8%)	1 (16.7%)	2 (33.3%)	1 (16.7%)	3 (50%)	3 (50%)	3 (50%)	0 (0.0%)	0 (0.0%)	3 (50%)
Of Women Reporting 'No' to More Children, #(%) Using Nothing for Birth Control	17/37 (45.9%)	6 (35.3%)	8 (82.4%)	2 (11.8%)	6 (35.3%)	7 (41.2%)	4 (23.5%)	10 (58.8%)	1 (5.9%)	4 (23.5%)	2 (11.8%)	8 (82.4%)
Women Offered Referral to Family Planning Services	36/50 (72%)	9 (25%)	20 (55.6%)	4 (11.1%)	9 (25%)	16 (44.4%)	11 (30.6%)	24 (66.7%)	5 (13.9%)	5 (13.9%)	2 (5.6%)	18
Of Women Offered Referral to Family Planning Services, #(%) Who Rejected Referral to Services	30/36 (83.3%)	7 (23.3%)	16 (76.7%)	4 (13.3%)	9 (30%)	13 (43.3%)	8 (26.7%)	19 (63.3%)	4 (13.3%)	5 (16.7%)	2 (6.7%)	14 (46.7%)
Of Women Offered Referral to Family Planning Services, #(%) Accepted Referral to Services	6/36 (16.7%)	2 (33.3%)	4 (66.7%)	0 (0.0%)	0 (0.0%)	3 (50%)	3 (50%)	5 (83.3%)	1 (16.7%)	0 (0.0%)	0 (0.0%)	4 (66.7%)
Women Provided Handout on IPI	12/50 (24%)	4 (33.3%)	7 (58.3%)	0 (0.0%)	3 (25%)	6 (50%)	3 (25%)	7 (58.3%)	2 (16.7%)	2 (16.7%)	1 (8.3%)	9 (75%)
Women Provided Handout on LARC	24/50 (48%)	6 (25%)	16 (66.7%)	1 (4.2%)	5 (20.8%)	12 (50%)	7 (29.2%)	15 (62.5%)	4 (16.7%)	3 (12.5%)	2 (8.3%)	15 (62.5%)

^a % not included for less than 5 subjects

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Table H-2. Responses to Online Pilot Survey to Pediatric Residents

	n	Average Value*	% Agree**	% Disagree**
The screening tool was easy to follow.	14	2.36	71.4%	21.4%
The screening tool was easy to understand.	14	2.29	71.4%	21.4%
The screening tool took too long to implement with each mother.	14	3.21	28.6%	42.9%
The screening tool was too complicated.	14	3.79	14.3%	78.6%
It would be easy to implement the screening tool as part of my regular practice.	14	2.93	42.9%	42.9%

*Responses to each statement were on a scale from 1 (Strongly Agree) to 5 (Strongly Disagree), with 3 representing the option to 'Neither Agree or Disagree'.

**The agree and disagree % above do not add to 100% as there was the option to select 'Neither Agree or Disagree' with each statement.

Appendix A

____ Woman declined to answer questions

____ Provider not comfortable, tool not used

Reproductive Life Plan Tool

Any mother of an infant 16 weeks of age or younger

____ Online referral made

"As part of your child's care I ask about plans for future pregnancies because the timing of pregnancies has an impact on your child's health and your health. Do you plan to have any more children in the future?"

If NO or UNSURE:
"What are you using for birth control?"
Write: _____ Nothing

If using non-LARC:
"I would like to suggest a long-acting form of birth control."
[Give Birth Control Handout]
"Can I make a referral for you in our family planning clinics to discuss contraceptive options?"

If already using LARC:
[STOP]
X here: _____

If YES:
X here: _____

If NO:
X here: _____

Long Acting Reversible Contraception (LARC):
Intrauterine device (IUD): Mirena, Paragard (copper)
Implant (etonogestrel): Nexplanon

Non-LARC Contraception:
Oral Contraceptive Pills (OCPs, "the pill")
Depo-Provera (medroxyprogesterone acetate)
NuvaRing (vaginal ring)
OrthoEvra (transdermal patch)
Condoms

If YES:
"When would you like to become pregnant again?"

If > 1 year:
"What are you using for birth control?"
Write _____
_____ Nothing

If < 1 year:
"What are you using for birth control?"
Write _____
_____ Nothing
[Give IPI handout]

"Do you plan to continue this form of birth control until you are ready to become pregnant?"

If YES:
[STOP]
X here: _____

If NO, UNSURE, or NO BC:
"I would like to suggest a long-acting form of birth control."
[Give Birth Control Handout]
"Can I make a referral for you in our family planning clinics to discuss contraceptive options?"

If YES:
X here: _____

If NO:
X here: _____

Questions:

- Age of infant (weeks): _____
- Age of mom (years): _____
- Insurance status of infant (if known)?
____ Medicaid ____ Private ____ Don't know ____ None
- Was anyone other than mom and infant in room during visit?
____ No ____ Yes, list who _____
- Amount of time spent on this form:
____ <3min ____ 3-5min ____ 5-10min ____ >10min
- Were any handouts provided to mom today:
____ None ____ Birth Control ____ IPI

Notes:

Appendix B

Preconception Peer Education

The Importance of Birth Spacing

What is birth spacing?

Birth spacing is the practice of waiting in-between pregnancies.



How long should you wait after having a child to try and get pregnant again?

It is recommended that each family wait at least a full 18 months after the birth of a child to begin trying to become pregnant with another.

Why is it important to wait at least 18 months?

This allows the mother's body to remain healthy to provide the healthiest and safest pregnancy for the next child. If less time is taken, the mother's body might not be ready to have a healthy child.

What are some problems that could happen if a pregnancy occurs in less than 18 months?

There is an increased risk of having a poor birth outcome and the mother and child's health are both at risk. Another pregnancy in under 18 months is also associated with higher risks of infant death and negative long term effects on the child's health and well-being.

What are some ways that couples can practice birth spacing?

To allow 18 months in-between pregnancies, effective contraceptive methods should be used to prevent pregnancy.

Not waiting the appropriate time is associated with:

Infant Outcomes

- pre-term birth
- low birth weight
- small size for gestational age
- still birth

Maternal Outcomes

- maternal mortality
- induced abortion
- miscarriage



Appendix C



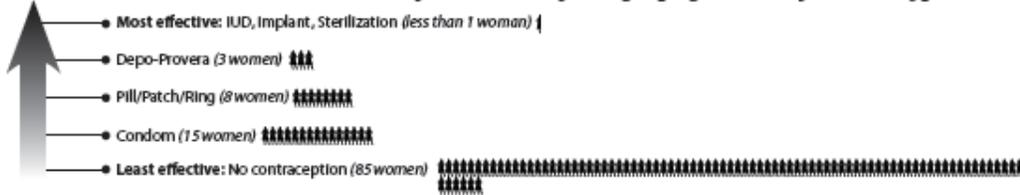
1

Choosing a method: *What matters most to me?*

Cost <i>Varies, but all methods are less costly than pregnancy.</i>	Privacy <i>How private does my method need to be?</i>	I'm Breastfeeding <i>I need a method that is safe for breastfeeding.</i>
Effectiveness <i>How well does it prevent pregnancy?</i>	Convenience <i>How often do I need to think about it?</i>	Other Benefits <i>Many methods reduce bleeding/cramping.</i>

2

Method Effectiveness: *How many women out of 100 get pregnant in 1 year with typical use?*



3

Choose a method and start today

Birth Control Method	How to Use It	What's Good About It	Other Considerations
Implant <i>Implanon</i>	1 plastic rod placed under the skin of the arm	<ul style="list-style-type: none"> Works for 3 years May have lighter or no periods 	<ul style="list-style-type: none"> Can cause irregular bleeding
IUD	<i>Mirena</i>	<ul style="list-style-type: none"> Placed into the uterus by a healthcare provider Works for 5 years Lighter or no periods 	<ul style="list-style-type: none"> May cause spotting at first
	<i>ParaGard</i>	<ul style="list-style-type: none"> Works for 10 years 	<ul style="list-style-type: none"> May make periods heavier May increase cramping
Female Sterilization (Tubes tied) Male Sterilization (Vasectomy)	Healthcare provider surgically cuts tubes to block egg/sperm	<ul style="list-style-type: none"> Permanent 	<ul style="list-style-type: none"> Can't change your mind
Depo-Provera ("the shot")	Injection every 3 months by a healthcare provider	<ul style="list-style-type: none"> Lighter or no periods 	<ul style="list-style-type: none"> May cause irregular bleeding at first
Ring (NuvaRing)	Woman places the ring into the vagina once a month	<ul style="list-style-type: none"> Can be used to regulate your period Less bleeding and cramps with periods 	<ul style="list-style-type: none"> May cause headaches and breast tenderness at first May increase risk of blood clots
Patch (OrthoEvra)	Woman puts a new patch on once a week		
Pill	Woman takes one pill every day		
Progestin-Only Pills ("minipill")	Woman takes one pill every day	<ul style="list-style-type: none"> May cause irregular bleeding 	
Male Condoms	Man puts a new condom on his penis every time he has sex	<ul style="list-style-type: none"> Protects against many sexually transmitted infections, including HIV Easy and cheap to buy Can use for anal and oral sex 	<ul style="list-style-type: none"> Male partner must use every time to be effective Can break or slip off
Female Condoms	Woman puts a new condom into her vagina every time she has sex	<ul style="list-style-type: none"> Some protection against many sexually transmitted infections, including HIV 	<ul style="list-style-type: none"> More expensive than male condoms
Other Methods	<ul style="list-style-type: none"> Breastfeeding Fertility Awareness (Natural Family Planning) Sponge Diaphragm Withdrawal Spermicide 	<ul style="list-style-type: none"> May be best option for some women 	<ul style="list-style-type: none"> Very high failure rate (range from 16-32% of women will get pregnant during 1 year of use)

For more information, go to www.healthteamworks.org

Appendix D

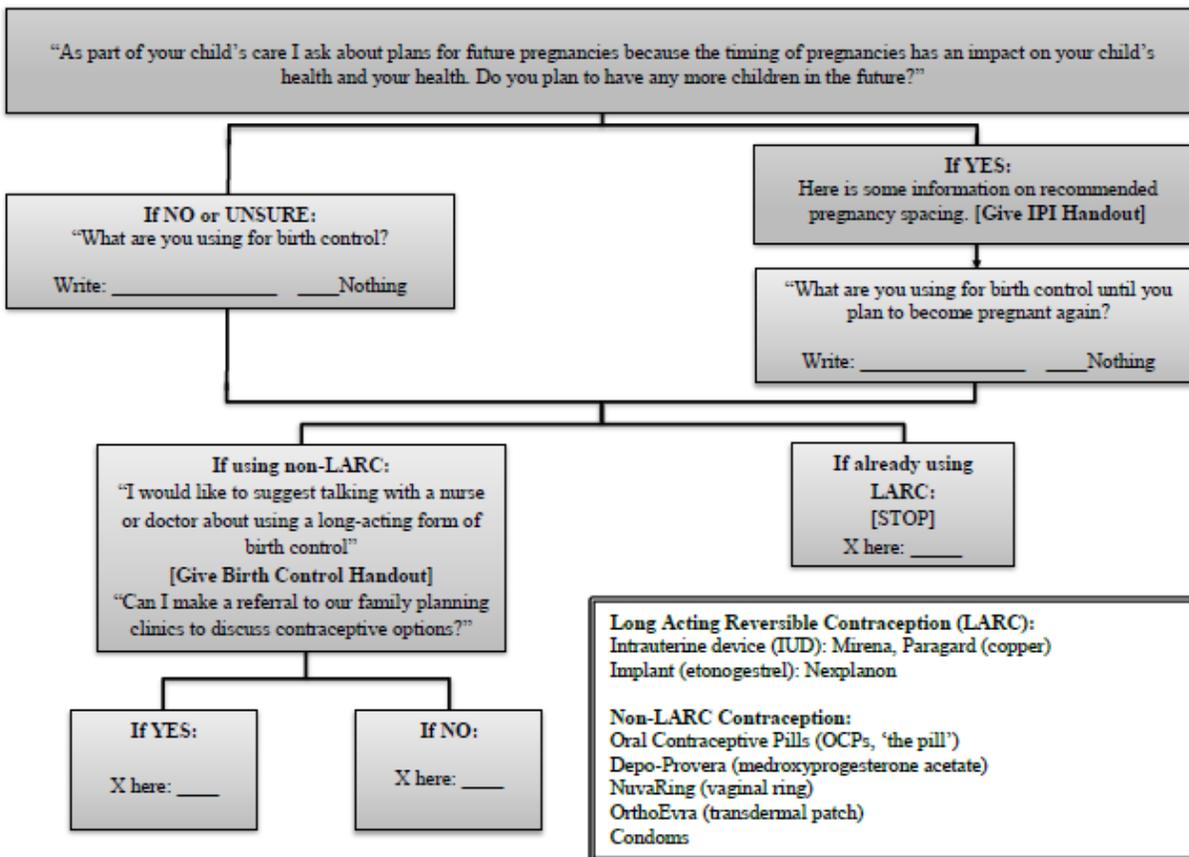
___ Woman declined to answer questions

___ Provider not comfortable, tool not used

Reproductive Life Plan Tool

Any mother of an infant 16 weeks of age or younger

___ Online referral made



Questions:

- Age of infant (weeks): _____
- Age of mom (years): _____
- Insurance status of infant (if known)?
___ Medicaid ___ Private ___ Don't know ___ None
- Was anyone other than mom and infant in room during visit?
___ No ___ Yes, list who _____
- Amount of time spent on this form:
___ <3min ___ 3-5min ___ 5-10min ___ >10min
- Were any handouts provided to mom today:
___ None ___ Birth Control ___ IPI

Notes:

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